

**Part II: Substantive Comments Received During  
Public Comment Analysis Process of the Jonah Infill  
Drilling Project**

**Table II-A. Persons Submitting Comments on the JIDP DEIS**

Submittal ID	Last Name	First Name	Organization	Address	City	State	Zip	Form of Comment	Email Address
E-01	Acri	Armond			Jackson	WY		Email	anacri@blissnet.com
E-02	Anderson	David						Email	andersonda@camerondiv.com
E-03	Archer	Glenn						Email	garcher@pure-energy.com
E-04	Belton	Charlotte			Sheridan	WY		Email	chb@mba-architecture.com
E-05	Bloom	Greg	Kinder Morgan, Inc.	330 South Center, Suite 200	Casper	WY	82601	Email	Greg_Bloom@kindermorgan.com
E-06	Boril	Ronna	Equity Brokers GMAC					Email	rboril@casperforsale.com
E-07	Bower	Roger		PO Box 185	Riverton	WY	82501	Email	rbower@wysbc.com
E-08	Brabec	Dennis	Nerd Gas Company LLC	P.O. Box 3003	Casper	WY	82602	Email	dbrabec@mcmurry.net
E-09	Brause	Ryan		2120 Milleg Lane	Big Piney	WY	83113	Email	ryannshelly2004@yahoo.com
E-10	Bridges	Ben		PO Box 417	Mesquite	NV	89024	Email	benco@mesquiteweb.com
E-11	Bullington	George						Email	georgeb@rmow.com
E-12	Butler	Brandy	EnCana					Email	brandy.butler@encana.com
E-13	Clark	Ron		PO Box 1964	Pinedale	WY	82941	Email	ron.jan.clark@centurytel.net
E-14	Combs	Ralph						Email	ralphc@termoco.com
E-15	Cooper	Stan	State Senator, Sublette/Lincoln/Sweetwater/Uinta	Senate District 14				Email	tolkyn@wyoming.com
E-16	Danze	Jennifer						Email	jdanze@firstam.com
E-17	Delap	Justin						Email	wvknight75@yahoo.com
E-18	Dufek	Eric		369 N. 6th, Apt 2	Laramie	WY	82072	Email	usdduf@hotmail.com
E-19	Erb	Barbara		PO Box 316	Wilson	WY	83014	Email	Barbaraerb@aol.com
E-20	Fandek	John						Email	jl@vcn.com
E-21	Fandek	Lucy						Email	jl@vcn.com
E-22	Hawkins	Sabine			La Barge	WY		Email	sasabine@union-tel.co
E-23	Herz	Barbara	Sierra Club - Teton County	PO Box 211	Moose	WY	83012	Email	CHerzBHerz@aol.com
E-24	Huffman	Clark						Email	clark.huffman@encana.com

**Table II-A. Persons Submitting Comments on the JIDP DEIS (cont'd)**

Submittal ID	Last Name	First Name	Organization	Address	City	State	Zip	Form of Comment	Email Address
E-25	Irons	Forest			Casper	WY		Email	fi@forestirons.com
E-26	Jenkins	Mary			Rock Springs	WY		Email	mary.jenkins@questar.com
E-27	Jensen	Jennifer						Email	Jensenj858@aol.com
E-28	Jetkoski	Maria						Email	stline@uintanet.com
E-29	Jolovich	Bonnie						Email	asterbj325@aol.com
E-30	Kallas	Angelo			Green River	WY	82935	Email	ANGELO_KALLAS@fmc.com
E-31	Kerasote	Ted		PO Box 100	Kelly	WY	83011	Email	tedkerasote@mail.wyoming.com
E-32	Kesselheim	Donn		22 Pheasant Run Dr.	Lander	WY	82520	Email	ouzel@rmisp.com
E-33	Knox	Ben	J.W. Williams, Inc.					Email	bknox@jwwilliams-flint.com
E-34	Kourbelas	Neil	Rock Springs City Council		Rock Springs	WY	82901	Email	nkourbelascouncilward2@hotmail.com
E-35	Larsen	Tori						Email	hopefloats247@msn.com
E-36	Laybourn	Jim		PO Box 11951	Jackson	WY	83002	Email	JimsoozHQ@aol.com
E-37	Leake	Caleb		6568 South Oak Circle	Littleton	CO	80127-5857	Email	leakecaleb@msn.com
E-38	Mapel	Daniel						Email	dmapel@esinet.net
E-39	Marshall	Rick						Email	MTR@ONEWEST.NET
E-40	McKeever	Alice						Email	alicemckeeve@hotmail.com
E-41	Mehle	Patrick		1037 Cypress Circle	Rock Springs	WY	82901	Email	smachine@sweetwater.net
E-42	Morzenti	Steve	Wold Oil					Email	gastech@woldoil.com
E-43	Mosher	James	North American Grouse Partnership					Email	Nagp@grousepartners.org
E-44	Mourer	Echo						Email	emourer@firstam.com
E-45	Organ	Bill		5964 South Kearney Street	Centennial	CO	80111-4233	Email	BVORGAN@aol.com
E-46	Peterson	Ben						Email	blpete3862@aol.com
E-47	Purves	Cathy	Wyoming Wildlife Federation	PO Box 1387	Lander	WY	82520	Email	cap@wyomingwildlife.org
E-48	Rea	Tom		1756 S. Chestnut St.	Casper	WY	82601	Email	trea@trib.com

**Table II-A. Persons Submitting Comments on the JIDP DEIS (cont'd)**

Submittal ID	Last Name	First Name	Organization	Address	City	State	Zip	Form of Comment	Email Address
E-49	Roberts	Luke	Encana		Pinedale	WY	82941	Email	luke.roberts@encana.com
E-50	Roberts	Luke						Email	luke.roberts@encana.com
E-51	Rogers	Suzan		PO Box 3115	Jackson	WY	83001	Email	srogers@blissnet.com
E-52	Routh	Ken		1518 Albany Circle	Rock Springs	WY	82901	Email	
E-53	Sachau	B.		15 Elm St.	Florham Park	NJ	07932	Email	jeanpublic@yahoo.com
E-54	Samuelson	Doug	Wyoming Legislature					Email	dswoyo@wyoming.com
E-55	Sharp	Beverly						Email	bsharp@wyoming.com
E-56	Sims	Jimmy						Email	jhsimsbhc@msn.com
E-57	Sommers	Albert		PO Box 266	Pinedale	WY	82941	Email	sommers1@wyoming.com
E-58	Cluff	Steve		647 Center St.	Evanston	WY	82930	Email	crew688@myway.com
E-59	Thompson	Craig						Email	cthompson@wwcc.wy.edu
E-60	Van Engel	Emily						Email	evanengel@wesleyan.edu
E-61	Volney	Greg						Email	Greg.Volney@encana.com
E-62	Watts	Sean	B&B Oilfield Services					Email	swatts@trib.com
E-63	Weidensee	Derek						Email	survey@rushmore.com
E-64	White	Monte	Encana	317 Agate St.	Rock Springs	WY	82901	Email	monte.white@encana.com
E-65	Williams	Don	Dynamic Drilling Fluids, Inc.	216 16th St., Suite 915	Denver	CO	80202	Email	dwilliams@ddfl.com
E-66	Turner	Mark		6801 West Yale Ave.	Lakewood	CO	80227	Email	
F-01	Hagenstein	Paul		PO Box E	Pinedale	WY	82941	Form	
F-02	Nichols	Nick		2552 CR 118	Boulder	WY	82923	Form	
F-03	Schledwitz	Tom	Caza Drilling	PO Box 17805	Denver	CO	80217	Form	
F-04	Smith	Ron		PO Box 1434	Pinedale	WY	82941	Form	
F-05	Thornhill	Chris		PO Box 2141	Pinedale	WY	82941	Form	
F-06	Volner	Tom		3421 Monterey Dr.	Rock Springs	WY	82901	Form	
FL1-0	*Document Master*							Form Letter 1	
FL1-01	Grimes	Stephen		PO Box 17805	Denver	CO	80217	Form Letter 1	

**Table II-A. Persons Submitting Comments on the JIDP DEIS (cont'd)**

Submittal ID	Last Name	First Name	Organization	Address	City	State	Zip	Form of Comment	Email Address
FL1-02	Hanks	David		PO Box 44	Farson	WY	82932	Form Letter 1	
FL1-03	Jenkins	Mary		2924 Sundance Ln.	Rock Springs	WY	82901	Form Letter 1	
FL1-04	Siddoway	Blaine		355 Birch St.	Green River	WY	82935	Form Letter 1	
FL1-05	Abeyta	Dan		815 Walnut	Rock Springs	WY	82901	Form Letter 1	
FL1-06	Berscheit	Ken		PO Box 1487	Evanston	WY	82930	Form Letter 1	
FL1-07	Carter	Roger		PO Box 1475	Evanston	WY	82930	Form Letter 1	
FL1-08	Castor	Charles		510 Cheyenne Dr.	Rock Springs	WY	82901	Form Letter 1	
FL1-09	Elverud	Edward		50 Valley View Ave.	Evanston	WY	82930	Form Letter 1	
FL1-10	Fauber	Bill		416 Mohawk Dr.	Rock Springs	WY	82901	Form Letter 1	
FL1-11	Halter	Jeffery		PO Box 2493	Rock Springs	WY	82902	Form Letter 1	
FL1-12	Johnson	D.M.		1801 Broadway, Suite 310	Denver	CO	80202	Form Letter 1	
FL1-13	Johnson	Tamara		PO Box 624	Whitehall	MT	59759	Form Letter 1	
FL1-14	Kelley	Scott		351 East 4th South	Green River	WY	82935	Form Letter 1	
FL1-15	Magagna	Michael		1612 Overland	Rock Springs	WY	82901	Form Letter 1	
FL1-16	Mortensen	Danny		2552 N. 500 E.	Vernal	UT	84078	Form Letter 1	
FL1-17	Saavedra, Jr.	Raul		110 Colonial	Evanston	WY	82930	Form Letter 1	
FL1-18	Stevenson	Brett		136 S. 4th W.	Green River	WY	82935	Form Letter 1	
FL1-19	Thornhill	Chris		PO Box 2141	Pinedale	WY	82941	Form Letter 1	
FL1-20	Vincent	Bruce		5957 Champion Rd.	Libby	MT	59923	Form Letter 1	
FL1-21	Wales	Sharon		1030 Thorpe St.	Rock Springs	WY	82901	Form Letter 1	
FL1-22	Zimmerman	Richard		1660 #11 Blair Ave.	Rock Springs	WY	82901	Form Letter 1	
FL1-23	Zumbrennen	Robert		500 South 5th East	Green River	WY	82935	Form Letter 1	
FL1-24	Blake	James		PO Box 1671	Pinedale	WY	82941	Form Letter 1	
FL1-25	Gross	Gary		190 Mesa Dr.	Rock Springs	WY	82901	Form Letter 1	
FL1-26	Hale	Ryan		PO Box 432	Lyman	WY	82937	Form Letter 1	
FL1-28	McGowan	Clifford		PO Box 85	Farson	WY	82932	Form Letter 1	
FL1-29	Prater	Tony			Rock Springs	WY	82901	Form Letter 1	

**Table II-A. Persons Submitting Comments on the JIDP DEIS (cont'd)**

Submittal ID	Last Name	First Name	Organization	Address	City	State	Zip	Form of Comment	Email Address
FL2-0	*Document Master*							Form Letter 2	
FL2-01	Grimes	Stephen		PO Box 17805	Denver	CO	80202	Form Letter 2	
FL2-02	Vincent	Patti		5957 Champion Rd.	Libby	MT	59923	Form Letter 2	
FL2-03	Ballard	Jamie		PO Box 1101	Whitehall	MT	59759	Form Letter 2	
FL2-04	Bersheit	Ken		PO Box 1487	Evanston	WY	82930	Form Letter 2	
FL2-05	Chidester	Jennifer		145 Del Rio Dr.	Evanston	WY	82930	Form Letter 2	
FL2-06	Clark	Ron		PO Box 1964	Pinedale	WY	82941	Form Letter 2	
FL2-07	Cooper	Kenny		1134 Morslee	Evanston	WY	82930	Form Letter 2	
FL2-08	Johnson	D.M.		1801 Broadway, Suite 310	Denver	CO	80202	Form Letter 2	
FL2-09	Kelley	Scott		351 East 4th South	Green River	WY	82935	Form Letter 2	
FL2-10	Magagna	Michael		1612 Overland	Rock Springs	WY	82901	Form Letter 2	
FL2-11	Mortensen	Danny		2552 N. 500 E.	Vernal	UT	84078	Form Letter 2	
FL2-12	Putnam	Phillip		118 Bellview Dr.	Rock Springs	WY	82901	Form Letter 2	
FL2-13	Siddoway	Blaine		355 Birch St.	Green River	WY	82935	Form Letter 2	
FL2-14	Steffen	Dana		206 Marble	Evanston	WY	82930	Form Letter 2	
FL2-15	Stevenson	Brett		136 S. 4th W.	Green River	WY	82935	Form Letter 2	
FL2-16	Thornhill	Chris		PO Box 2141	Pinedale	WY	82941	Form Letter 2	
FL2-17	VanNorman	David		380 Hackberry	Green River	WY	82935	Form Letter 2	
FL2-18	Vavra	Troy		311 Van Buren #1	Rock Springs	WY	82901	Form Letter 2	
FL2-19	Zimmerman	Richard		1660 #11 Blair Ave.	Rock Springs	WY	82901	Form Letter 2	
FL2-20	Zumbrennen	Robert		500 S. 5th E.	Green River	WY	82935	Form Letter 2	
FL2-21	Blake	James		PO Box 1671	Pinedale	WY	82941	Form Letter 2	
FL2-22	Gross	Gary		190 Mesa dr.	Rock Springs	WY	82901	Form Letter 2	
FL2-23	Hale	Ryan		PO Box 432	Lyman	WY	82937	Form Letter 2	
FL2-24	Jenkins	Mary		2924 Sundance Ln.	Rock Springs	WY	82901	Form Letter 2	
FL2-25	McGowan	Clifford		PO Box 85	Farson	WY	82932	Form Letter 2	
FL2-26	Prater	Tony			Rock Springs	WY	82901	Form Letter 2	

**Table II-A. Persons Submitting Comments on the JIDP DEIS (cont'd)**

Submittal ID	Last Name	First Name	Organization	Address	City	State	Zip	Form of Comment	Email Address
FL2-27	Saavedra, Jr.	Raul		110 Colonial	Evanston	WY	82930	Form Letter 2	
FL3-0	*Document Master*							Form Letter 3	
FL3-01	Aarts	Robert		2030 E. 11th Ave, Suite 1202	Denver	CO	80206	Form Letter 3	
FL3-02	Anderson, Jr.	Stephen V.		1416 1st SE, Apt 1	Minot	ND	58701	Form Letter 3	
FL3-03	Archer	Patrick		13 Daisy Ave.	Rock Springs	WY	82901	Form Letter 3	
FL3-04	Arnett	Billy		688 Antelope Dr. #65	Rock Springs	WY	82901	Form Letter 3	
FL3-05	Bostick	E. K.		PO Box 2258	Cody	WY	82414	Form Letter 3	
FL3-06	Boue	Pat		3275 Roosut Way	Rock Springs	WY	82902	Form Letter 3	
FL3-07	Bowen	Ted		PO Box 985	Victor	NH	59875	Form Letter 3	
FL3-08	Callahan	Davie J.		1508 9th St. Apt. 67	Rock Springs	WY	82901	Form Letter 3	
FL3-09	Campbell	Dan		114 First St.	Rock Springs	WY	82901	Form Letter 3	
FL3-10	Cawsey	Jeffrey		403 E. 6th St.	Marbleton	WY	83113	Form Letter 3	
FL3-100	Brewer	Keith		PO Box 1693	Pinedale	WY	82941	Form Letter 3	
FL3-101	Briggs	Mary Alice		PO Box 4427	Marbleton	WY	83113	Form Letter 3	
FL3-102	Brink	Judith		PO Box 582	Pinedale	WY	82941	Form Letter 3	
FL3-103	Broce	James		3079 Yellow Creek Rd. #1508	Evanston	WY	82930	Form Letter 3	
FL3-104	Brown	Bryon		1020 Pinto	Rock Springs	WY	82901	Form Letter 3	
FL3-105	Brown	Gary		625 N. Maybell	Pinedale	WY	82941	Form Letter 3	
FL3-106	Brown	Jason		1526 W. 9th Ave.	Spokane	WA	99204	Form Letter 3	
FL3-107	Brown	Mike		1804 Elk St. #177	Rock Springs	WY	82901	Form Letter 3	
FL3-108	Brown	Patricia		4 Par Ct.	Rock Springs	WY	82901	Form Letter 3	
FL3-109	Buckendorf	Cal		PO Box 2685	Rock Springs	WY	82901	Form Letter 3	
FL3-11	Christopher	Shane		PO Box 4322	Marbleton	WY	83113	Form Letter 3	
FL3-110	Buckner	Douglas		7318 W. Majestic Way	Magna	UT	84044	Form Letter 3	
FL3-111	Buckner	Mike		375 E. 3rd N.	Green River	WY	82935	Form Letter 3	
FL3-112	Bulk	Ben		PO Box 818	Challis	ID	83226	Form Letter 3	

**Table II-A. Persons Submitting Comments on the JIDP DEIS (cont'd)**

Submittal ID	Last Name	First Name	Organization	Address	City	State	Zip	Form of Comment	Email Address
FL3-113	Bundy	Stacey		2621 Popo Agie	Rock Springs	WY	82901	Form Letter 3	
FL3-114	Burch	Steve		4 N. Shoshone Tr.	Boulder	WY	82923	Form Letter 3	
FL3-115	Burdick	James		755 Wilkes Dr.	Green River	WY	82935	Form Letter 3	
FL3-116	Butler	Brandy		12255 Garfield Pl	Thronton	CO	80241	Form Letter 3	
FL3-117	Butner	Joe		PO Box 1564	Pinedale	WY	82941	Form Letter 3	
FL3-118	Byers	Gary		PO box 135	Farson	WY	82932	Form Letter 3	
FL3-119	Byers	Gary	Amerifox Industries, LLC	PO Box 135	Farson	WY	82932	Form Letter 3	
FL3-12	Clawson	Hershell		241 Pinion	Rock Springs	WY	82901	Form Letter 3	
FL3-121	Cagle	H. D., Jr		2425 Cripple Creek	Rock Springs	WY	82901	Form Letter 3	
FL3-122	Campbell	Larry		PO Box 1499	Vernal	UT	84078	Form Letter 3	
FL3-123	Capps	Sandra		PO box 242	Bondurant	WY	82922	Form Letter 3	
FL3-124	Carpenter	Joseph		173 S. Hwy 389	Shoshone	WY	82932	Form Letter 3	
FL3-125	Carroll	George		331 North 100 West	Heber	UT	84032	Form Letter 3	
FL3-126	Carter	Kevin		PO Box 9	Jeguitz	NM	87062	Form Letter 3	
FL3-127	Carter	Roger		PO Box 1475	Evanston	WY	82930	Form Letter 3	
FL3-128	Casias	Michael		3800 Sunset Dr. #46	Rock Springs	WY	82901	Form Letter 3	
FL3-129	Castor	Charles		510 Cheyenne Dr.	Rock Springs	WY	82901	Form Letter 3	
FL3-13	Coble	William		703 C St.	Rock Springs	WY	82901	Form Letter 3	
FL3-130	Castor	Charles H.		510 Cheyenne Dr.	Rock Springs	WY	82901	Form Letter 3	
FL3-131	Cessal	Wayne		PO Box 561	Evanston	WY	82930	Form Letter 3	
FL3-132	Cheaney	Brent		PO Box 488	Pinedale	WY	82941	Form Letter 3	
FL3-133	Cheezum	Sarah		622 Massachusetts Ave.	Rock Springs	WY	82901	Form Letter 3	
FL3-134	Christensen	Michael		PO Box 1814	Rock Springs	WY	82902	Form Letter 3	
FL3-135	Christoffeese	Tera		634 Purple Sage	Rock Springs	WY	82901	Form Letter 3	
FL3-136	Clark	Dallas		1236 Clark St.	Rock Springs	WY	82901	Form Letter 3	
FL3-137	Clark	James		1411 1st St. SE, Apt 1	Minot	ND	58702	Form Letter 3	
FL3-138	Clark	J.T.		PO Box 1964	Pinedale	WY	82941	Form Letter 3	
FL3-139	Clark	Roger		PO Box 4263	Marbleton	WY	83113	Form Letter 3	

**Table II-A. Persons Submitting Comments on the JIDP DEIS (cont'd)**

Submittal ID	Last Name	First Name	Organization	Address	City	State	Zip	Form of Comment	Email Address
FL3-14	Critsek	Darrell		PO Box 369	Rock Springs	WY	82902	Form Letter 3	
FL3-140	Clark	Ronald		PO Box 1964	Pinedale	WY	82941	Form Letter 3	
FL3-141	Clark	Ron		PO Box 1964	Pinedale	WY	82941	Form Letter 3	
FL3-142	Clark	Ty		568 Turret Dr.	Rock Springs	WY	82901	Form Letter 3	
FL3-143	Clayton	Myra		734 D St.	Rock Springs	WY	82901	Form Letter 3	
FL3-144	Cole	Michael		667 Blake St.	Green River	WY	82935	Form Letter 3	
FL3-145	Cole	Thomas		PO Box 4143	Marbleton	WY	83113	Form Letter 3	
FL3-146	Collins	Kathy		2020 Wyoming Dr.	Green River	WY	82935	Form Letter 3	
FL3-147	Colvin	Kary		64 Grass Valley	Evanston	WY	82930	Form Letter 3	
FL3-148	Coneybeer	Daniel		1015 Mountain View, Apt C	Green River	WY	82935	Form Letter 3	
FL3-149	Contreras	Lorenzo		520 Crossbow	Green River	WY	82935	Form Letter 3	
FL3-15	Guzman	Z.		3930 Dorset Ct.	Casper	WY	82609	Form Letter 3	
FL3-150	Cordle	Nathan		518 Walnut St. SE	Rock Springs	WY	82901	Form Letter 3	
FL3-151	Cortes	Mario		PO Box 248	Boulder	WY	82923	Form Letter 3	
FL3-152	Cothorn	Eric		216 N. Fremont	Pinedale	WY	82941	Form Letter 3	
FL3-153	Cox	Boyd		1162 N. 3000 W.	Vernal	UT	84078	Form Letter 3	
FL3-154	Crowder	Kiram		2255 S. Jefferson St., Apt D	Casper	WY	82601	Form Letter 3	
FL3-155	Crowell	Larry		1900 Iowa Cir.	Green River	WY	82935	Form Letter 3	
FL3-156	Cunningham	Jim		1188 Palisades Ct.	Rock Springs	WY	82901	Form Letter 3	
FL3-157	Danze	George		PO Box 158	Boulder	WY	82923	Form Letter 3	
FL3-158	Danze	Jason		PO Box 1592	Pinedale	WY	82941	Form Letter 3	
FL3-159	Danze	Shane		PO Box 964	Pinedale	WY	82941	Form Letter 3	
FL3-16	DePoyster	Jerry		PO Box 3029	Rock Springs	WY	82901	Form Letter 3	
FL3-160	Danze	Travis		PO Box 2202	Pinedale	WY	82941	Form Letter 3	
FL3-161	Datteri	David		218 Hayden Ave.	Evanston	WY	82930	Form Letter 3	
FL3-162	Davis	Dalis		PO Box 1722	Pinedale	WY	82941	Form Letter 3	
FL3-163	Davis	Michael		PO Box 1722	Pinedale	WY	82941	Form Letter 3	

**Table II-A. Persons Submitting Comments on the JIDP DEIS (cont'd)**

Submittal ID	Last Name	First Name	Organization	Address	City	State	Zip	Form of Comment	Email Address
FL3-164	Dean	Andrea		1804 Elk St. #118	Rock Springs	WY	82901	Form Letter 3	
FL3-165	DeFries	Richard		PO Box 1376	Evanston	WY	82930	Form Letter 3	
FL3-166	Delap	Devon, Jr		PO Box 66	Boulder	WY	82923	Form Letter 3	
FL3-167	Dennis	David		116 Chandler Ln.	Evanston	WY	82930	Form Letter 3	
FL3-168	Diaz	Auden		3145 N. Adams	Odessa	TX	79763	Form Letter 3	
FL3-169	Dietrich	Dorian		801 Cedar Ave.	Kemmerer	WY	83101	Form Letter 3	
FL3-17	Doak	Christy		1129 Converse Ct.	Rock Springs	WY	82901	Form Letter 3	
FL3-170	Dimit	Scott		PO Box 3	Big Piney	WY	83113	Form Letter 3	
FL3-171	Dowley	T.J.		370 Burch St.	Green River	WY	82935	Form Letter 3	
FL3-172	Downing	Jonathan		7770 Aztec Dr.	Cheyenne	WY	82009	Form Letter 3	
FL3-173	Dub	Andre		1959 East 900 South	Salt Lake City	UT	84108	Form Letter 3	
FL3-174	Duginski	Richard		1027 Sportsman Loop	Pinedale	WY	82941	Form Letter 3	
FL3-175	Duginski	Sheila		PO Box 1027	Pinedale	WY	82941	Form Letter 3	
FL3-176	Duncan	David		1993 Dewar Dr. #1-129	Rock Springs	WY	82901	Form Letter 3	
FL3-177	Duncan	Wade		300 Trail Dr.	Green River	WY	82935	Form Letter 3	
FL3-178	Dunne	Stephen		3461 E. 15th St.	Casper	WY	82609	Form Letter 3	
FL3-179	Dutra	Cory		174 Junes Ave	Evanston	WY	82930	Form Letter 3	
FL3-18	Dominguez	Normando		45 Purple Sage	Rock Springs	WY	82901	Form Letter 3	
FL3-180	Eldredge	David		272 Waterside Rd.	Heber City	UT	84032	Form Letter 3	
FL3-181	Elkins	Chancy		72 2nd Ave.	Evanston	WY	82930	Form Letter 3	
FL3-182	Ellifritz	Becky		1008 Continental	Rock Springs	WY	82901	Form Letter 3	
FL3-183	Elliott	John		2035 Colorado Dr.	Green River	WY	82935	Form Letter 3	
FL3-184	Ellis	Patricia		PO Box 1177	Pinedale	WY	82941	Form Letter 3	
FL3-185	Ellwood	Bonnie		13475 Monroe St.	Thornton	CO	80241	Form Letter 3	
FL3-186	Ensign	Scott		688 Antelope #66	Rock Springs	WY	82901	Form Letter 3	
FL3-187	Erickson	Bryan		1617 B St.	Rock Springs	WY	82901	Form Letter 3	
FL3-188	Erickson	Douglas		271 Las Flores Dr.	Bakersfield	CA	73305	Form Letter 3	
FL3-189	Erwin	Joe		919 Adams	Rock Springs	WY	82901	Form Letter 3	

**Table II-A. Persons Submitting Comments on the JIDP DEIS (cont'd)**

Submittal ID	Last Name	First Name	Organization	Address	City	State	Zip	Form of Comment	Email Address
FL3-19	Durham	Andrew		3528 Cleveland Dr.	Rock Springs	WY	82901	Form Letter 3	
FL3-190	Estell	Liberty		2502 Otter	Miles City	MT	59301	Form Letter 3	
FL3-191	Etcheverry	Al		PO Box 51	Boulder	WY	82923	Form Letter 3	
FL3-192	Etcheverry	Al		PO Box 51	Boulder	WY	82923	Form Letter 3	
FL3-193	Etcheverry	Al		PO Box 51	Boulder	WY	82923	Form Letter 3	
FL3-194	Ethridge	Greg		7433 S. Clarkson Circle	Centennial	CO	80122	Form Letter 3	
FL3-195	Etzel	Jim		PO Box 2293	Rock Springs	WY	82902	Form Letter 3	
FL3-196	Fairbanks	Eric		PO Box 10	Boulder	WY	82923	Form Letter 3	
FL3-197	Farmer	Scott		180 N. 2nd E.	Green River	WY	82935	Form Letter 3	
FL3-198	Faulkner	Larry		PO Box 1498	Rock Springs	WY	82902	Form Letter 3	
FL3-199	Fear	Jay		PO Box 1085	Pinedale	WY	82941	Form Letter 3	
FL3-20	Erickson	Byron		1040 McMillian Dr.	Belgrade	MT	59047	Form Letter 3	
FL3-200	Feezer	Rusty		1338 Kimberly	Rock Springs	WY	82901	Form Letter 3	
FL3-201	Ferris	Daniel		3 White Dove Dr.	Daniel	WY	83115	Form Letter 3	
FL3-202	Fica	Brennon		PO Box 2682	Rock Springs	WY	82902	Form Letter 3	
FL3-203	Fisher	Vernon		1620 W. 2nd, #42	Rock Springs	WY	82901	Form Letter 3	
FL3-204	Fitzloff	Dan		PO Box 3029	Rock Springs	WY	82901	Form Letter 3	
FL3-205	Floyd	Justin		1830 Idaho St. #12	Green River	WY	82935	Form Letter 3	
FL3-206	Ford	Terence		PO Box 1022	Pinedale	WY	82941	Form Letter 3	
FL3-207	Foster	Randy			Rock Springs	WY	82901	Form Letter 3	
FL3-208	Franklin	Donnie		2032 Carter	Rock Springs	WY	82901	Form Letter 3	
FL3-209	Gaddis	Jade		2002 16th	Wheatland	WY	82201	Form Letter 3	
FL3-21	Evans	Trevor		916 S. 3rd Ave. / PO Box 3053	Mills	WY	82644	Form Letter 3	
FL3-210	Gailey	Marcus		110 Steamboat #24	Rock Springs	WY	82901	Form Letter 3	
FL3-211	Garcia	Alonso		905 W. Spruce	Rawlins	WY	82301	Form Letter 3	
FL3-212	Gardner	Matt		1331 Cornwall	Casper	WY	82609	Form Letter 3	
FL3-213	Garner	John		525 Fremont Ave.	Rock Springs	WY	82901	Form Letter 3	
FL3-214	Garriott	Tim, Jr.		PO Box 2261	Rock Springs	WY	82902	Form Letter 3	

**Table II-A. Persons Submitting Comments on the JIDP DEIS (cont'd)**

Submittal ID	Last Name	First Name	Organization	Address	City	State	Zip	Form of Comment	Email Address
FL3-215	Gebes	Thomas		709 Central	Rock Springs	WY	82901	Form Letter 3	
FL3-216	Gentry	Ray		PO Box 25	Boulder	WY	82923	Form Letter 3	
FL3-217	Gibbs	Debbie		1345 Sage Ct.	Rock Springs	WY	82901	Form Letter 3	
FL3-218	Gilbert	Peter		3400 Hill Ave. #1103	Butte	MT	59701	Form Letter 3	
FL3-219	Gines	Travis		PO Box 3341	Farson	WY	82932	Form Letter 3	
FL3-22	Farrington	Daryl		667 1/2 W. Main St.	Lander	WY	82520	Form Letter 3	
FL3-220	Godfrey	Jonathan		3113 Scott Cir.	Rock Springs	WY	82901	Form Letter 3	
FL3-221	Goodman	R.J.		PO Box 33	La Barge	WY	83123	Form Letter 3	
FL3-222	Gray	Louis		93 Reliance Rd.	Rock Springs	WY	82901	Form Letter 3	
FL3-223	Green	James		4749 C. St.	Cummings	MI		Form Letter 3	
FL3-224	Green	Mark		PO Box 161	Boulder	WY	82923	Form Letter 3	
FL3-225	Grover	Dave		2020 Filmore	Rock Springs	WY	82901	Form Letter 3	
FL3-226	Guffey	Shannon		702 Ludwig St.	Rock Springs	WY	82901	Form Letter 3	
FL3-227	Gunsch	Jay		800 59th	Lander	WY	82520	Form Letter 3	
FL3-228	Gustin	Klay		4840 S. Kove Ln.	Heber City	UT	84032	Form Letter 3	
FL3-229	Gustin	Matthew		835 Mocassin Lane	Rock Springs	WY	82901	Form Letter 3	
FL3-23	Fisher	Brenda		PO Box 1625	Rock Springs	WY	82902	Form Letter 3	
FL3-230	Gutierrez	James		300 W. 123rd St.	Westminister	CO	80234	Form Letter 3	
FL3-231	Gutierrez	Macedonio		166 Foothill Blvd, Lot 6	Rock Springs	WY	82901	Form Letter 3	
FL3-232	Hammers	Sam			Dubois	WY	82513	Form Letter 3	
FL3-233	Hammond	Robert		1210 W. Teton Blvd. #2	Green River	WY	82935	Form Letter 3	
FL3-234	Hampton	William		PO box 1790	Pinedale	WY	82941	Form Letter 3	
FL3-235	Handley	Marcy		123 Tyler	Pinedale	WY	82941	Form Letter 3	
FL3-236	Hardegree	James		5535 W. 18th	Odessa	TX	79763	Form Letter 3	
FL3-237	Harding	David		3810 Swanton Ave.	Casper	WY	82609	Form Letter 3	
FL3-238	Hardman	J.		320 S. Wagonwheel	Green River	WY	82935	Form Letter 3	
FL3-239	Hardy	Mary R.		376 Prospect Dr.	Rock Springs	WY	82901	Form Letter 3	
FL3-24	Fisher	Sharie		PO Box 4263	Marbleton	WY	83113	Form Letter 3	

**Table II-A. Persons Submitting Comments on the JIDP DEIS (cont'd)**

Submittal ID	Last Name	First Name	Organization	Address	City	State	Zip	Form of Comment	Email Address
FL3-240	Hart	Michael		PO Box 42	Story	WY	82842	Form Letter 3	
FL3-241	Hauskjold	Carl		#230 1700 Swanson	Rock Springs	WY	82901	Form Letter 3	
FL3-242	Hawkins	Justin		710 Riverview Dr.	Green River	WY	82935	Form Letter 3	
FL3-243	Hayes	Alan		PO Box 3029	Rock Springs	WY	82901	Form Letter 3	
FL3-244	Heaton	Matt		415 E. St.	Rock Springs	WY	82901	Form Letter 3	
FL3-245	Hendricks	Jodi		PO Box 42	Big Piney	WY	83113	Form Letter 3	
FL3-246	Hendricks	Tom		PO Box 42	Big Piney	WY	83113	Form Letter 3	
FL3-247	Herrmann	Jon		222 Gateway #46	Rock Springs	WY	82901	Form Letter 3	
FL3-248	Hettinger	Ryan		2513 Westridge Dr.	Rock Springs	WY	82901	Form Letter 3	
FL3-249	Hoch	Jerry		1824 Fillmore	Rock Springs	WY	82901	Form Letter 3	
FL3-25	Garduno	Brian		1804 Elk St. #138	Rock Springs	WY	82901	Form Letter 3	
FL3-250	Hocker	Ross		PO Box 848	Pinedale	WY	82941	Form Letter 3	
FL3-251	Hole	Steve			Lyman	WY	82937	Form Letter 3	
FL3-252	Hooks	Jim		PO Box 1148	Pinedale	WY	82941	Form Letter 3	
FL3-253	Hoskins	Chris		152 A. St.	Pinedale	WY	82941	Form Letter 3	
FL3-254	House	Tina		PO Box 1681	Pinedale	WY	82941	Form Letter 3	
FL3-255	Hughes	Darrin		PO Box 174	Boulder	WY	82923	Form Letter 3	
FL3-256	Hughes	Mike		PO Box 366	Big Piney	WY	83113	Form Letter 3	
FL3-257	Hulsey	Guy		710 Saratoga	Green River	WY	82935	Form Letter 3	
FL3-258	Hunter	Roderick		PO Box 72	Daniel	WY	83115	Form Letter 3	
FL3-259	Izatt	Ben		1340 Sage St., Apt 0	Rock Springs	WY	82901	Form Letter 3	
FL3-26	Gibbs	Erin		211 Virginia	Rock Springs	WY	82901	Form Letter 3	
FL3-260	Jacobs	Mike		1375 Goodrich Dr.	Lander	WY	82520	Form Letter 3	
FL3-261	Jenkins	Justin		PO Box 322	Farson	WY	82932	Form Letter 3	
FL3-262	Jenkins	Kent		PO Box 101	Freedom	WY	83120	Form Letter 3	
FL3-263	Jenkins	Trinity		PO Box 322	Farson	WY	82932	Form Letter 3	
FL3-264	Jennings	Beth Ann		PO Box 145	Farson	WY	82932	Form Letter 3	
FL3-265	Jensen	Clyde		830 Hoover St.	Montpelier	ID	83254	Form Letter 3	

**Table II-A. Persons Submitting Comments on the JIDP DEIS (cont'd)**

Submittal ID	Last Name	First Name	Organization	Address	City	State	Zip	Form of Comment	Email Address
FL3-266	Jeppesen	Jarrol, Sr.		PO Box 436	Ft. Bridger	WY	82933	Form Letter 3	
FL3-267	Jerald	Steve		PO Box 991	Pinedale	WY	82941	Form Letter 3	
FL3-268	Johnson	Heath		PO Box 1331	Pinedale	WY	82941	Form Letter 3	
FL3-269	Johnson	Shane		1103 McKinley	Rock Springs	WY	82901	Form Letter 3	
FL3-27	Gray	Jay		1405 California Circle	Green River	WY	82935	Form Letter 3	
FL3-270	Johnson	Shawn		414 S. 5th St.	Douglas	WY	82633	Form Letter 3	
FL3-271	Johnston	Glen		12660 Roosevelt Ln. Apt. E-3	Englewood	CO	80112	Form Letter 3	
FL3-272	Jones	Brandon		PO Box 1727	Pinedale	WY	82941	Form Letter 3	
FL3-273	Jones	Mark		1889 Big Sandy Rd.	Boulder	WY	82923	Form Letter 3	
FL3-274	Jones	Roger		PO Box 142	Farson	WY	82932	Form Letter 3	
FL3-275	Jones	Troy		PO Box 293	Farson	WY	82932	Form Letter 3	
FL3-276	Jones	Troy		58 W. 2nd Ave.	Eden	WY	82932	Form Letter 3	
FL3-277	Kappes	John			Pinedale	WY	82941	Form Letter 3	
FL3-278	Kappes	John L.		50 Reliance Rd., lot 64	Rock Springs	WY	82901	Form Letter 3	
FL3-279	Keefe	Pat		1214 Granada	Casper	WY	82601	Form Letter 3	
FL3-28	Griggs	Alice		PO Box 649	Big Piney	WY	83113	Form Letter 3	
FL3-280	Keelin	Carlos		PO Box 65	Reliance	WY	82943	Form Letter 3	
FL3-281	Kelly	Bill		254 East Fort Big Sandy Road	Boulder	WY	82923	Form Letter 3	
FL3-282	Kelly	Lonnie		2006 Arthur Ave.	Rock Springs	WY	82901	Form Letter 3	
FL3-283	Kemp	Robert		715 Saratoga	Green River	WY	82935	Form Letter 3	
FL3-284	Kessel	Henry		PO Box 763	Bowman	ND	58623	Form Letter 3	
FL3-285	King	Jason		688 Antelope Dr. #23	Rock Springs	WY	82901	Form Letter 3	
FL3-286	Kingsbury	Bret		PO Box 85	Pinedale	WY	82941	Form Letter 3	
FL3-287	Kirk	Kimberly		1024 Oak Way	Rock Springs	WY	82901	Form Letter 3	
FL3-288	Kirkwood	Allan		PO Box 312	Big Piney	WY	83113	Form Letter 3	
FL3-289	Kirkwood	Catherine		PO Box 692	Big Piney	WY	83113	Form Letter 3	
FL3-29	Harjo	Paul		8474 County Rd. J	Lena	WI	54139	Form Letter 3	

**Table II-A. Persons Submitting Comments on the JIDP DEIS (cont'd)**

Submittal ID	Last Name	First Name	Organization	Address	City	State	Zip	Form of Comment	Email Address
FL3-290	Kirkwood	Randy		PO Box 692	Big Piney	WY	83113	Form Letter 3	
FL3-291	Klein	Michael		2 CR 5559	Farmington	NM	87401	Form Letter 3	
FL3-292	Klier	Jared		44 Beaver Rd	Wheatland	WY	82201	Form Letter 3	
FL3-293	Knapp	Paul		PO Box 1004	Pinedale	WY	82941	Form Letter 3	
FL3-294	Knapp	Paul		PO Box 1004	Pinedale	WY	82941	Form Letter 3	
FL3-295	Kouri	Bob		121 Ball Lane	Big Piney	WY	83113	Form Letter 3	
FL3-296	Kubischtan	Arnie		362 4th Ave SW	Dickinson	ND	58601	Form Letter 3	
FL3-297	Kujat	Dane		PO Box 143	Pinedale	WY	82941	Form Letter 3	
FL3-298	Kulp	Linda		613 Walnut	Rock Springs	WY	82901	Form Letter 3	
FL3-299	Taylor	Chris			Green River	WY	82935	Form Letter 3	
FL3-30	Hawkey	James		PO Box 776	Big Piney	WY	83113-0776	Form Letter 3	
FL3-300	Lamoureux	Dennis		PO Box 54	Boulder	WY	82923	Form Letter 3	
FL3-301	Lawson	Garrick		2340 W. Teton Blvd.	Green River	WY	82935	Form Letter 3	
FL3-302	Ledford	Nicole		580 Yellowstone	Rock Springs	WY	82901	Form Letter 3	
FL3-303	Lee	Brent		3481 E. 18th St.	Casper	WY	82609	Form Letter 3	
FL3-304	Lee	Tim		594 W. Flaming Gorge Way	Green River	WY	82935	Form Letter 3	
FL3-305	Lenling	Marlow		1008 McCarty Ave. #D	Rock Springs	WY	82901	Form Letter 3	
FL3-306	Leon	Juan		2245 Cumorah	Green River	WY	82935	Form Letter 3	
FL3-307	Lev	Thomas		1425 E. Teton Blvd. #3	Green River	WY	82935	Form Letter 3	
FL3-308	Leverich	Michael		PO Box 583	Dubois	WY	82513	Form Letter 3	
FL3-309	Linares	Cesar		2245 Cumorah, Apt 4	Green River	WY	82935	Form Letter 3	
FL3-31	Heil	Richard		PO Box 438	Pinedale	WY	82941	Form Letter 3	
FL3-310	Linares	Francisco		2245 Cumorah #4	Green River	WY	82935	Form Letter 3	
FL3-311	Linares	Mario		700 Schultz	Green River	WY	82935	Form Letter 3	
FL3-312	Longmire	Nichole		PO Box 471	Pinedale	WY	82941	Form Letter 3	
FL3-313	Loredo	Javier		1660 Blair Ave #50	Rock Springs	WY	82901	Form Letter 3	
FL3-314	Lowry	Terry		10 Daisy Ave.	Rock Springs	WY	82901	Form Letter 3	

**Table II-A. Persons Submitting Comments on the JIDP DEIS (cont'd)**

Submittal ID	Last Name	First Name	Organization	Address	City	State	Zip	Form of Comment	Email Address
FL3-315	Lusch	John		1804 Elk #49	Rock Springs	WY	82901	Form Letter 3	
FL3-316	Lusk	Jimmie Joe		PO Box 104	Wamsutter	WY	82336	Form Letter 3	
FL3-317	Lusk	Jimmie Joe		PO Box 104	Wamsutter	WY	82336	Form Letter 3	
FL3-318	Lyman	Jon		316 Lexington	Andover	KS	67002	Form Letter 3	
FL3-319	MacGill	Anita		PO Box 2002	Pinedale	WY	82941	Form Letter 3	
FL3-32	Hollis	Charlotte		407 C St.	Rock Springs	WY	82901	Form Letter 3	
FL3-320	Mahan	Rodney		7483 Hwy 789	Lander	WY	82520	Form Letter 3	
FL3-321	Mair	Kerry		124 B Skyline Dr.	Rock Springs	WY	82901	Form Letter 3	
FL3-322	Marincic	Desira		PO Box 184	Cora	WY	82925	Form Letter 3	
FL3-323	Markham	James		1700 Imperial Dr. B111	Rock Springs	WY	82901	Form Letter 3	
FL3-324	Marshall	Rick		PO Box 818	Rock Springs	WY	82902	Form Letter 3	
FL3-325	Martin	Neil		PO Box 1181	Lyman	WY	82937	Form Letter 3	
FL3-326	Martinez	Ramon Jr.		PO Box 102	Farson	WY	82932	Form Letter 3	
FL3-327	Marx	A. Richard		PO Box 148	Farson	WY	82932	Form Letter 3	
FL3-328	Matlock	Rich		1700 Swanson Dr. #156	Rock Springs	WY	82901	Form Letter 3	
FL3-329	Matthew	Steve		4618 Crockett	Midland	TX	79703	Form Letter 3	
FL3-33	Kester	Eric		1700 Imperial Dr., B-308	Rock Springs	WY	82901	Form Letter 3	
FL3-330	Mauch	Josh		688 Antelope Dr. #38	Rock Springs	WY	82901	Form Letter 3	
FL3-331	McAdams	Nathan		PO Box 202	Daniel	WY	83115	Form Letter 3	
FL3-332	McBee	Jamie		PO Box 25	Big Piney	WY	83113	Form Letter 3	
FL3-333	McDonald	Paul		107-60 Promenade Way SE	Calgary	Alberta	T2E3V4	Form Letter 3	
FL3-334	McDonald	Calvin		188 Robinson Ln.	Bedford	WY	83112	Form Letter 3	
FL3-335	McGahey	Brian			Rock Springs	WY	82901	Form Letter 3	
FL3-336	McGuire	Eric		14 Stubbs Ln.	Bozeman	MT	59718	Form Letter 3	
FL3-337	McKellar	Cliff		200 Wild Rose Lane	Rock Springs	WY	82901	Form Letter 3	
FL3-338	McKinney	Loni		409 Reed St.	Rock Springs	WY	82901	Form Letter 3	
FL3-339	McKinzie	T. J.		405 Evans Dr.	Green River	WY	82935	Form Letter 3	
FL3-34	Kettle	Michael		8 N. Monkey Rd.	Glenrock	WY	82637	Form Letter 3	

**Table II-A. Persons Submitting Comments on the JIDP DEIS (cont'd)**

Submittal ID	Last Name	First Name	Organization	Address	City	State	Zip	Form of Comment	Email Address
FL3-340	McLaren	Joan		2720 Briarwood Ln	Rock Springs	WY	82901	Form Letter 3	
FL3-341	McLaren	Neil		2720 Briarwood Ln.	Rock Springs	WY	82901	Form Letter 3	
FL3-342	McLaughlin	Greg		PO Box 271	Pinedale	WY	82941	Form Letter 3	
FL3-343	McMillen	Cathy		PO Box 4025	Marbleton	WY	83113	Form Letter 3	
FL3-344	McMillen	Lance		PO Box 4025	Marbleton	WY	83113	Form Letter 3	
FL3-345	Megahey	Kevin		317 Pinon St.	Rock Springs	WY	82901	Form Letter 3	
FL3-346	Menard	Shannon		1575 S. Riverbend	Green River	WY	82935	Form Letter 3	
FL3-347	McNutt	Nathen		1012 Patten Creek Rd.	Glendo	WY	82213	Form Letter 3	
FL3-348	Meyer	Josh		E1531 Cnty Ln Rd	Luxemburg	WI	54217	Form Letter 3	
FL3-349	Milatovich	George		PO Box 2542	Rock Springs	WY	82902	Form Letter 3	
FL3-35	Keetch	Darren		33 S. Main Bennington	Montpelier	ID	83254	Form Letter 3	
FL3-350	Miller	Chris		118 Falcon Ave.	Mills	WY	82644	Form Letter 3	
FL3-351	Miller	Shane		375 S. Wagon Wheel Dr.	Green River	WY	82935	Form Letter 3	
FL3-352	Mines	Vicki		501 Coldwater Creek Dr.	Rock Springs	WY	82901	Form Letter 3	
FL3-353	Minor	Robert Jr.		332 P St.	Rock Springs	WY	82901	Form Letter 3	
FL3-354	Messier	Andy		Hwy 191	Eden	WY		Form Letter 3	
FL3-355	Mitchell	Shawn		222 Gateway, #153	Rock Springs	WY	82901	Form Letter 3	
FL3-356	Moberly	James		615 N. 5th St.	Douglas	WY	82633	Form Letter 3	
FL3-357	Monroe	Cody		1614 E. Shield	Laramie	WY	82072	Form Letter 3	
FL3-358	Morales	Julian		166 Foothill Blvd.	Rock Springs	WY	82901	Form Letter 3	
FL3-359	Morrison	Dan		1361 Alpine	Rock Springs	WY	82902	Form Letter 3	
FL3-36	Kincaid	Ronald		PO Box 45	Big Piney	WY	83113	Form Letter 3	
FL3-360	Morrison	Linda		1361 Alpine	Rock Springs	WY	82901	Form Letter 3	
FL3-361	Mosbey	Mike		1109 Adams Ave.	Rock Springs	WY	82901	Form Letter 3	
FL3-362	Mullen	Cody		PO Box 14	Boulder	WY	82923	Form Letter 3	
FL3-363	Mullen	John		15 N. Shoshone Tr.	Boulder	WY	82923	Form Letter 3	
FL3-364	Mullen	Stephanie		PO Box 14	Boulder	WY	82923	Form Letter 3	
FL3-365	Mullen	Tillie		604 Gobel St.	Rock Springs	WY	82901	Form Letter 3	

**Table II-A. Persons Submitting Comments on the JIDP DEIS (cont'd)**

Submittal ID	Last Name	First Name	Organization	Address	City	State	Zip	Form of Comment	Email Address
FL3-366	Mullen	Tyler		PO Box 14	Boulder	WY	82923	Form Letter 3	
FL3-367	Mulvaney	James		PO Box 4535	Marbleton	WY	83113	Form Letter 3	
FL3-368	Mumm	William		PO Box 691	Big Piney	WY	83113	Form Letter 3	
FL3-369	Murchison	Larry		PO Box 1893	Evanston	WY	82931	Form Letter 3	
FL3-37	Lane	Natalie		1325 Edgar St.	Rock Springs	WY	82901	Form Letter 3	
FL3-370	Myhre	Brian		4286 S. Cabin Creek Rd.	Casper	WY	82604	Form Letter 3	
FL3-371	Myhre	David		4404 Gray Gable	Laramie	WY	82070	Form Letter 3	
FL3-372	Myhre	Pam		4286 S. Cabin Creek R.	Casper	WY	82604	Form Letter 3	
FL3-373	Nate	Brady		814 Range Rd.	Rock Springs	WY	82901	Form Letter 3	
FL3-374	Nate	Brian		PO Box 122	Cokeville	WY	83114	Form Letter 3	
FL3-375	Nenna	Lisa		PO Box 4069	Marbleton	WY	83113	Form Letter 3	
FL3-376	Newmeyer	Daniel		PO box 865	Green River	WY	82935	Form Letter 3	
FL3-377	Nichols	Lora		Buckskin Crossing Ranch	Boulder	WY	82923	Form Letter 3	
FL3-378	Nielsen	Lewis		310 Wilson	Green River	WY	82935	Form Letter 3	
FL3-379	Nichols	Nick		2552 CR 118	Boulder	WY	82923	Form Letter 3	
FL3-38	Larsen	Howard		10115 50th Ave. NW	Kenmare	ND	58746	Form Letter 3	
FL3-380	Nicodemus	Betty Jo		PO Box 283	Daniel	WY	83115	Form Letter 3	
FL3-381	Niper	Peter		342 N. Park	Casper	WY	82604	Form Letter 3	
FL3-382	Noel	Daniel		1800 Iowa Cr.	Green River	WY	82935	Form Letter 3	
FL3-383	Obley	James		PO Box 506	Big Piney	WY	83113	Form Letter 3	
FL3-384	O'Connell	David		906 Lee St.	Rock Springs	WY	82901	Form Letter 3	
FL3-385	O'Connell	Kevin		34676 Circle Dr.	Pine	CO	80470	Form Letter 3	
FL3-386	Ogle	Floyd		PO Box 374	Pinedale	WY	82941	Form Letter 3	
FL3-387	O'Harrow	Tami		505 W. Virginia	Green River	WY	82935	Form Letter 3	
FL3-388	Oldfield	Joseph	Sweetwater County Commissioner	237 Jade St.	Rock Springs	WY	82901	Form Letter 3	
FL3-389	Organ	Bill		5964 South Kearney St.	Centennial	CO	80111	Form Letter 3	

**Table II-A. Persons Submitting Comments on the JIDP DEIS (cont'd)**

Submittal ID	Last Name	First Name	Organization	Address	City	State	Zip	Form of Comment	Email Address
FL3-39	Lee	Jerry		635 Jefferson	Green River	WY	82935	Form Letter 3	
FL3-390	Ortiz	Charlie		PO Box 248	Boulder	WY	82923	Form Letter 3	
FL3-391	Ortiz	Joaquin		700 Schultz #61	Green River	WY	82935	Form Letter 3	
FL3-392	Ortiz	Jose		PO Box 248	Boulder	WY	82923	Form Letter 3	
FL3-393	Osborn	Linda		2962 E. Phillips Dr.	Centennial	CO	80122	Form Letter 3	
FL3-394	Page	Dana		489 Old Clyde Park Rd.	Livingston	MT	59047	Form Letter 3	
FL3-395	Parkyn	Ted		PO Box 997	Mt. View	WY	82939	Form Letter 3	
FL3-396	Patterson	Jeff		PO Box 1126	Pinedale	WY	82941	Form Letter 3	
FL3-397	Pattison	Timothy		584 Gannett Dr.	Rock Springs	WY	82901	Form Letter 3	
FL3-398	Pechin	Edgar	Pechin Engineering	104E College Court	Rock Springs	WY	82901	Form Letter 3	
FL3-399	Peckler	Matthew		PO Box 3312	Rock Springs	WY	82901	Form Letter 3	
FL3-40	Leftwich	Charles		50 Reliance Rd, Lot 120	Rock Springs	WY	82901	Form Letter 3	
FL3-400	Pedersen	Brian		922 Hays St.	Montpelier	ID	83254	Form Letter 3	
FL3-401	Perotti	R.W.		PO Box 1575	Evanston	WY	82931	Form Letter 3	
FL3-402	Peterson	David		1237 North St.	Reliance	WY	82943	Form Letter 3	
FL3-403	Peterson	Dusty		655 Barnhart	Green River	WY	82935	Form Letter 3	
FL3-404	Pew	Alfess		536 K. St.	Casper	WY	82605	Form Letter 3	
FL3-405	Phillips	Tanya		445 Waggenger St.	Green River	WY	82935	Form Letter 3	
FL3-406	Piaia	Duce		1311 Virginia St.	Rock Springs	WY	82901	Form Letter 3	
FL3-407	Pilch	Scott		107 Mesa Dr.	Evanston	WY	82930	Form Letter 3	
FL3-408	Pinter	Stephen		1423 Canyon Rd.	Kemmerer	WY	83101	Form Letter 3	
FL3-409	Pitts	Andrew		85 S. Harlan St.	Lakewood	CO	80226	Form Letter 3	
FL3-41	Lewis	Douglas		PO Box 472 / 202 Arthur Ave.	Rock Springs	WY	82902	Form Letter 3	
FL3-410	Postema	Steve		1441 S. Nebraska #1	Casper	WY	82609	Form Letter 3	
FL3-411	Powers	Kevin		1804 Elk St. Lot 121	Rock Springs	WY	82901	Form Letter 3	
FL3-412	Price	Darrell		1700 Swanson Dr. #92	Rock Springs	WY	82901	Form Letter 3	
FL3-413	Price	Will		PO Box 196	Fortine	MT	59918	Form Letter 3	

**Table II-A. Persons Submitting Comments on the JIDP DEIS (cont'd)**

Submittal ID	Last Name	First Name	Organization	Address	City	State	Zip	Form of Comment	Email Address
FL3-414	Proa	Jaime		166 Foothill Blvd, #61	Rock Springs	WY	82901	Form Letter 3	
FL3-415	Quickender	Ty		515 Emerald St.	Rock Springs	WY	82901	Form Letter 3	
FL3-416	Quintard	Callie		PO Box 4246	Marbleton	WY	83113	Form Letter 3	
FL3-417	Quintard	Tucker		PO Box 366	Big Piney	WY	83113	Form Letter 3	
FL3-418	Radosevich	Dorothy		210 Virginia	Rock Springs	WY	82901	Form Letter 3	
FL3-419	Rascon	Edmundo Flores		549 W. Colorado		UT	84116	Form Letter 3	
FL3-42	Morley	Deborah		PO Box 425	Big Piney	WY	83113	Form Letter 3	
FL3-420	Ratcliff	Eddie (Rusty)		PO Box 4545	Marbleton	WY	83113	Form Letter 3	
FL3-421	Ratti	Gary		2240 Mountain Rd.	Rock Springs	WY	82901	Form Letter 3	
FL3-422	Rediger-Blackburn	Susan		PO Box 3440	Cora	WY	82925	Form Letter 3	
FL3-423	Reeves	Steve		1012 Oak Way	Rock Springs	WY	82901	Form Letter 3	
FL3-424	Reints	Lloyd		PO Box 871	Pinedale	WY	82941	Form Letter 3	
FL3-425	Richards	Charles		611 Second St.	Rock Springs	WY	82901	Form Letter 3	
FL3-426	Richardson	Robert		34 Jonquil	Casper	WY	82604	Form Letter 3	
FL3-427	Richardson	C. Warren		231 Petersen Rd.	Riverton	WY	82501	Form Letter 3	
FL3-428	Roberts	Jay						Form Letter 3	
FL3-429	Roberts	Mark		PO Box 114	Pinedale	WY	82941	Form Letter 3	
FL3-43	Neill	William		1140 Kentucky St.	Green River	WY	82935	Form Letter 3	
FL3-430	Robinson	Jim		221 W. 1st	Marbleton	WY	83113	Form Letter 3	
FL3-431	Rode	Robert		317 Cedar Ave.	Kemmerer	WY	83101	Form Letter 3	
FL3-432	Rose	Kenneth		688 Antelope Dr. #83	Rock Springs	WY	82901	Form Letter 3	krouth@wyoming.com
FL3-433	Rosendahl	Monte		1303 E. Montana St.	Livingston	MT	59047	Form Letter 3	
FL3-434	Ruch	Jim		2345 Mississippi St.	Green River	WY	82935	Form Letter 3	
FL3-435	Sagrero	Carlos		PO Box 248	Boulder	WY	82923	Form Letter 3	
FL3-436	Salazar	Antonio		PO Box 248	Boulder	WY	82923	Form Letter 3	
FL3-437	Salazar	Jose		PO Box 248	Boulder	WY	82923	Form Letter 3	

**Table II-A. Persons Submitting Comments on the JIDP DEIS (cont'd)**

Submittal ID	Last Name	First Name	Organization	Address	City	State	Zip	Form of Comment	Email Address
FL3-438	Sample	George		87 M&M Dr.	Farson	WY	82932	Form Letter 3	
FL3-439	Sample	Sharon		87 M&M Dr.	Eden	WY	82932	Form Letter 3	
FL3-44	Norviel	Erick		2334 McCanne	Cheyenne	WY	82007	Form Letter 3	
FL3-440	Sanchez	Angelica		1660 Blair Ave. #22	Rock Springs	WY	82901	Form Letter 3	
FL3-441	Sanchez	Roberto		1660 Blair Ave. #22	Rock Springs	WY	82901	Form Letter 3	
FL3-442	Sanders	David		PO Box 367	Big Piney	WY	83113	Form Letter 3	
FL3-443	Schilowsky	Damon		2170 Quailstone Dr.	Taylorville	UT	84118	Form Letter 3	
FL3-444	Schmid	Pat		240 Fairview Lane	Rock Springs	WY	82901	Form Letter 3	
FL3-445	Schmid	Pat		240 Fairview Ln.	Rock Springs	WY	82901	Form Letter 3	
FL3-446	Schmidt	Tom		13 Basco Ave.	Eden	WY	82932	Form Letter 3	
FL3-447	Schubert	Jeff		2013 S. Jackson	Casper	WY	82601	Form Letter 3	
FL3-448	Schultz	Jill		1695 N. Mill Cr. Rd	Casper	WY	82604	Form Letter 3	
FL3-449	Schulze	Denise		1504 Elk St.	Rock Springs	WY	82901	Form Letter 3	
FL3-45	Page	Zack		1180 Trona Dr.	Green River	WY	82935	Form Letter 3	
FL3-450	Sechrist	Eric		PO Box 255	Boulder	WY	82923	Form Letter 3	
FL3-451	Shado	Da-Costa		2908A Plumtree Dr.	Rock Springs	WY	82901	Form Letter 3	
FL3-452	Shepard	Larry			Rock Springs	WY	82901	Form Letter 3	
FL3-453	Sherbrook	Mary Ann		PO Box 301	Big Piney	WY	83113	Form Letter 3	
FL3-454	Sherwood	Robin		PO Box 950	Big Piney	WY	83113	Form Letter 3	
FL3-455	Short	Steve		PO Box 222	Lakespur	CO	80118	Form Letter 3	
FL3-456	Siddoway	Blaine		355 Birch St.	Green River	WY	82935	Form Letter 3	
FL3-457	Simmons	Matthew		PO Box 781	Kirbyville	TX	75956	Form Letter 3	
FL3-458	Skinner	Michael		Comfort Inn, Rm 333	Rock Springs	WY	82901	Form Letter 3	
FL3-459	Skoriz	Danny		3221 Magnolia Dr.	Rock Springs	WY	82901	Form Letter 3	
FL3-46	Parish	Scott		1070 Mo. Va. Rd.	Riverton	WY	82501	Form Letter 3	
FL3-460	Skrbich	Mike		9 Fairway Dr.	Rock Springs	WY	82901	Form Letter 3	
FL3-461	Sleight	Thomas		1620 W. 2nd St.	Rock Springs	WY	82901	Form Letter 3	
FL3-462	Smart	Thomas		159 S. 7th	Montpelier	ID	83254	Form Letter 3	

**Table II-A. Persons Submitting Comments on the JIDP DEIS (cont'd)**

Submittal ID	Last Name	First Name	Organization	Address	City	State	Zip	Form of Comment	Email Address
FL3-463	Smith	Alyssa		PO Box 273	Big Piney	WY	83113	Form Letter 3	
FL3-464	Smith	David L., II		PO Box 273	Big Piney	WY	83113	Form Letter 3	
FL3-465	Smith	Earl Henry III		169 23rd St.	Battle Creek	MI	49015	Form Letter 3	
FL3-466	Smith	Jacquelynn		PO Box 273	Big Piney	WY	83113	Form Letter 3	
FL3-467	Smith	Jake		520 W. State St.	Rawlins	WY	82301	Form Letter 3	
FL3-468	Smith	John		311 Van Buren #4	Rock Springs	WY	82901	Form Letter 3	
FL3-469	Smith	Justine		PO Box 273	Big Piney	WY	83113	Form Letter 3	
FL3-47	Paterniti	Jacob		17010 E. Carlson Dr. Apt. #1533	Parker	CO	80134	Form Letter 3	
FL3-470	Smith	Ron		PO Box 1434	Pinedale	WY	82941	Form Letter 3	
FL3-471	Smith	Terah		PO Box 335	Big Piney	WY	83113	Form Letter 3	
FL3-472	Smith	Terry		PO Box 335	Big Piney	WY	83113	Form Letter 3	
FL3-473	Smonse	Forrest		PO Box 5	Vernal	UT	84078	Form Letter 3	
FL3-474	Smuin	Neldon		PO Box 1499	Vernal	UT	84078	Form Letter 3	
FL3-475	Solis	Ramiro, III		506 San Antonio Ave.	Mission	TX	78573	Form Letter 3	
FL3-476	Sowers	Bryan		115 Freedom	Evanston	WY	82930	Form Letter 3	
FL3-477	Spotted Horse	Elton, Jr.		811 Center St.	Rock Springs	WY	82901	Form Letter 3	
FL3-478	Stead	Dan		23 Shelley Rd.	Boulder	WY	82923	Form Letter 3	
FL3-479	Steffen	Dana		206 Marble Dr.	Evanston	WY	82930	Form Letter 3	
FL3-48	Pedersen	Sally		811 Valley	Rock Springs	WY	82901	Form Letter 3	
FL3-480	Stephenson	Troy		240 Fayette Pole Creek Rd.	Pinedale	WY	82941	Form Letter 3	
FL3-481	Stevens	Mike		411 W. 600 N	Vernal	UT	84078	Form Letter 3	
FL3-482	Stewart	Lloyd		4108 W. Oak	Broken Arrow	OK	74012	Form Letter 3	
FL3-483	Stoddard	Monte		4062 Hwy 411	Fort Bridger	WY	82933	Form Letter 3	
FL3-484	Stout	Gerald		PO Box 35	Farson	WY	82932	Form Letter 3	
FL3-485	Stringfellow	Dustin		PO Box 403	Newton	TX	75966	Form Letter 3	
FL3-486	Strother	Robert		11 W. Buffalo	Pinedale	WY	82941	Form Letter 3	

**Table II-A. Persons Submitting Comments on the JIDP DEIS (cont'd)**

Submittal ID	Last Name	First Name	Organization	Address	City	State	Zip	Form of Comment	Email Address
FL3-487	Suftko	Jo		1695 Sunset	Rock Springs	WY	82901	Form Letter 3	
FL3-488	Swank	Bethany		1700 Imperial Dr. Bldg B #311	Rock Springs	WY	82901	Form Letter 3	
FL3-489	Swann	Gregory		301 Taylor #3	Rock Springs	WY	82901	Form Letter 3	
FL3-49	Prinisle	Kevin		440 Andrews St.	Green River	WY	82935	Form Letter 3	
FL3-490	Tarbet	Matt		423 N. 200 E.	Bennington	ID	83254	Form Letter 3	
FL3-491	Tardoni	Ed		509 Lewis	Rock Springs	WY	82901	Form Letter 3	
FL3-492	Tatman	Rich		PO Box 4097	Marbleton	WY	83113	Form Letter 3	
FL3-493	Telck	James		1660 Blair Ave #45	Rock Springs	WY	82901	Form Letter 3	
FL3-494	Thomas	Eunice		625 N. Maybell	Pinedale	WY	82941	Form Letter 3	
FL3-495	Thompson	Raymond		510 W. Morase	Lewiston	MT	59457	Form Letter 3	
FL3-496	Thompson	Scott		76 Gilcrest Rd.	Marbleton	WY	83113	Form Letter 3	
FL3-497	Thoren	Bradley		PO Box 357	Farson	WY	82932	Form Letter 3	
FL3-498	Thornhill	Chris		PO box 2141	Pinedale	WY	82941	Form Letter 3	
FL3-499	Timmens	Martin		242 Lane 10	Powell	WY	82435	Form Letter 3	
FL3-50	Rends	Craig		E. Riverview Cutoff	Riverton	WY	82501	Form Letter 3	
FL3-500	Tipps	Kenneth		120 W. Garfield	Bozeman	MT	59715	Form Letter 3	
FL3-501	Tomich	Andrew		3600 US Hwy 191N	Eden	WY	82932	Form Letter 3	
FL3-502	Torgersen	Roger		379 Yellowstone Rd.	Rock Springs	WY	82901	Form Letter 3	
FL3-503	Townsend	Chad		PO box 954	Pinedale	WY	82941	Form Letter 3	
FL3-504	Trigg	Jack		817 Valley	Rock Springs	WY	82901	Form Letter 3	
FL3-505	Trujillo	Robert		PO Box 644	Green River	WY	82935	Form Letter 3	
FL3-506	Ulrich	Shirley		Fossil Station #308	Kemmerer	WY	83101	Form Letter 3	
FL3-507	Uptain	Joseph		3171 E. Crest Rd.	West Valley City	UT	84120	Form Letter 3	
FL3-508	Uranker	Gerald		1620 W. 2nd St., #92	Rock Springs	WY	82901	Form Letter 3	
FL3-509	Vega	Oswaldo		PO Box 1965	Pinedale	WY	82941	Form Letter 3	
FL3-51	Sandoval	James		4017 Utah	Butte	MT	59701	Form Letter 3	
FL3-510	Viriden	Frank		PO Box 1972	Rock Springs	WY	82902	Form Letter 3	

**Table II-A. Persons Submitting Comments on the JIDP DEIS (cont'd)**

Submittal ID	Last Name	First Name	Organization	Address	City	State	Zip	Form of Comment	Email Address
FL3-511	Vogel	Matt		534 Highland Ave.	Green River	WY	82935	Form Letter 3	
FL3-512	Volner	Tom		3421 Monterey Dr.	Rock Springs	WY	82901	Form Letter 3	
FL3-513	Volney	Greg		3750 E. 14th St.	Casper	WY	82609	Form Letter 3	
FL3-514	Vouros	Michael		810 N. 8th St.	Montpelier	ID	83254	Form Letter 3	
FL3-515	Wade	Morgan		PO Box 1253	Rock Springs	WY	82902	Form Letter 3	
FL3-516	Wadman	Adam		660 Evers	Green River	WY	82901	Form Letter 3	
FL3-517	Walker	Rich		PO Box 248	Boulder	WY	82923	Form Letter 3	
FL3-518	Walker	Rich		PO Box 248	Boulder	WY	82923	Form Letter 3	
FL3-519	Walker	Scott		1200 Midwest Dr.	Green River	WY	82935	Form Letter 3	
FL3-52	Scott	James		114 3rd St. #3	Rock Springs	WY	82901	Form Letter 3	
FL3-520	Wall	David		10415 W. Coalmine Pl.	Littleton	CO	80127	Form Letter 3	
FL3-521	Walsh	Mark		2505 Silver Creek Dr.	Rock Springs	WY	82901	Form Letter 3	
FL3-522	Wasson	Rockey		PO Box 409	Evanston	WY	82931	Form Letter 3	
FL3-523	Webster	Dan		505 5th W.	Rock Springs	WY	82901	Form Letter 3	
FL3-524	Weil	Paul		335 N. 4th	Lander	WY	82520	Form Letter 3	
FL3-525	Weisgerber	David		5010 E. 20th	Casper	WY	82609	Form Letter 3	
FL3-526	Welch	Mike		PO Box 1086	Evanston	WY		Form Letter 3	
FL3-527	Westenkow	Devin		283 B. Ave.	Evanston	WY	82930	Form Letter 3	
FL3-528	Whicker	Glenn		PO Box 232	Farson	WY	82932	Form Letter 3	
FL3-529	Whicker	Glenn		PO Box 235	Farson	WY	82932	Form Letter 3	
FL3-53	Siegel	Jeanne		PO Box 3029	Rock Springs	WY	82902	Form Letter 3	
FL3-530	Whicker	Richard		PO Box 105	Farson	WY	82932	Form Letter 3	
FL3-531	White	Zane		PO Box 1997	Pinedale	WY	82941	Form Letter 3	
FL3-532	Whitman	Ben		PO Box 4485	Marbleton	WY	83113	Form Letter 3	
FL3-533	Wilkie	Fred		PO Box 1186	Baker	MT	59313	Form Letter 3	
FL3-534	Williams	Allen		1040 Elm Way	Rock Springs	WY	82901	Form Letter 3	
FL3-535	Wilson	Ronald		PO Box 2403	Rock Springs	WY	82901	Form Letter 3	
FL3-536	Winters	Lloyd		PO Box 124	Dubois	WY	82513	Form Letter 3	

**Table II-A. Persons Submitting Comments on the JIDP DEIS (cont'd)**

Submittal ID	Last Name	First Name	Organization	Address	City	State	Zip	Form of Comment	Email Address
FL3-537	Wolffing	Emily		415 Centennial Dr.	Green River	WY	82935	Form Letter 3	
FL3-538	Wood	Carolyn		PO Box 2072	Pinedale	WY	82941	Form Letter 3	
FL3-539	Woods	Terry		604 Meadow Dr.	Rock Springs	WY	82901	Form Letter 3	
FL3-54	Smith	Justin		1804 Elk St. #136	Rock Springs	WY	82901	Form Letter 3	
FL3-540	Workman	Paddy		701 Antelope Dr. #4	Rock Springs	WY	82901	Form Letter 3	
FL3-541	Wright	Jamie		1700 Swanson Dr. #280	Rock Springs	WY	82901	Form Letter 3	
FL3-542	Wright	Ron		3981 Swingle Rd.	Casper	WY	82604	Form Letter 3	
FL3-543	York	Jamison		215 Riverview Dr., Apt E	Green River	WY	82935	Form Letter 3	
FL3-544	York	Tyrell		500 Logan St.	Green River	WY	82935	Form Letter 3	
FL3-545	Zinda	Jim		PO Box 85	Wibaux	MT	59353	Form Letter 3	
FL3-546	Zumbrennen	Robert		500 S. 5th E.	Green River	WY	82935	Form Letter 3	
FL3-547	Zumbrennen	Robert		500 South 5th East	Green River	WY	82935	Form Letter 3	
FL3-548	Cooper	Robert		210 Park Ave.	Oklahoma City	OK	73003	Form Letter 3	
FL3-549	Hernandez	Rogelio		700 Schultz #61	Green River	WY	82935	Form Letter 3	
FL3-55	Stafford	Caryl K.		924 Bonnie Brae	Casper	WY	82601	Form Letter 3	
FL3-550	Alatorre	Jose Enrique		2250 Comorah Way, Apt D.	Green River	WY	82935	Form Letter 3	
FL3-551	Vega	Floro		PO Box 1965	Pinedale	WY	82941	Form Letter 3	
FL3-552	Alatorre	Manuel		700 Schultz #53	Green River	WY	82935	Form Letter 3	
FL3-553	Vega	Arsenio		369 S. Cole	Pinedale	WY	82941	Form Letter 3	
FL3-554	Alatorre	Guillermo		700 Schultz #65	Green River	WY	82935	Form Letter 3	
FL3-555	Loredo	Carmelo		PO Box 2303	Rock Springs	WY	82901	Form Letter 3	
FL3-556	Linares	Alfonso		1930 Alabama St.	Green River	WY	82935	Form Letter 3	
FL3-557	Vega	Jose		PO Box 493	Pinedale	WY	82941	Form Letter 3	
FL3-558	Lopez	Carlos		PO Box 1965	Pinedale	WY	82941	Form Letter 3	
FL3-559	Soria	Sergio		1722 Imperial Dr.	Rock Springs	WY	82901	Form Letter 3	
FL3-56	Stafford	Duane		924 Bonnie Brae	Casper	WY	82601	Form Letter 3	
FL3-560	Torres	Maria		1722 Imperial Dr. #A 105	Rock Springs	WY	82901	Form Letter 3	

**Table II-A. Persons Submitting Comments on the JIDP DEIS (cont'd)**

Submittal ID	Last Name	First Name	Organization	Address	City	State	Zip	Form of Comment	Email Address
FL3-561	Mullen	John		15 N. Shoshone Trail	Boulder	WY	82923	Form Letter 3	
FL3-562	Jones	Mark		1889 Big Sandy Rd.	Boulder	WY	82923	Form Letter 3	
FL3-563	Hocker	Ross		PO Box 848	Pinedale	WY	82941	Form Letter 3	
FL3-564	Kessel	Henry		PO Box 763	Bowman	ND	58623	Form Letter 3	
FL3-57	Sassi	Mike		509 Antelope	Kemmerer	WY	83101	Form Letter 3	
FL3-58	Terrill	Joey		211 Virginia	Rock Springs	WY	82901	Form Letter 3	
FL3-59	Trujillo	Penny		1619 Overlaad Dr.	Rock Springs	WY	82901	Form Letter 3	
FL3-60	Vichi	Michael		PO Box 181	Big Piney	WY	83113	Form Letter 3	
FL3-61	Wylie	Jane		335 H Street, #B	Rock Springs	WY	82901	Form Letter 3	
FL3-62	Yazzie	Albert II		PO Box 25	Houck	AZ	86506	Form Letter 3	
FL3-63	Abeyta	Dan		815 Walnut	Rock Springs	WY	82901	Form Letter 3	
FL3-64	Abodnage	Sharif		134 Magnolia	Rock Springs	WY	82901	Form Letter 3	
FL3-65	Abrahamson	Lynn		6484 S. Jericho Cir.	Centennial	CO	80016	Form Letter 3	
FL3-66	Adams	Loren		1252 Dewar #12	Rock Springs	WY	82901	Form Letter 3	
FL3-67	Aichele	Mike		2111 Rose Ln.	Liberal	KS	67901	Form Letter 3	
FL3-68	Alatorre	Jose		PO Box 248	Boulder	WY	82923	Form Letter 3	
FL3-69	Alatorre	Lorenzo		PO Box 248	Boulder	WY	82923	Form Letter 3	
FL3-70	Alexander	Fred		PO Box 313	Pinedale	WY	82941	Form Letter 3	
FL3-71	Allen	Adam		PO Box 466	Boulder	MT	59632	Form Letter 3	
FL3-72	Alvord	Terry	Sterling Construction MGT, LLC	25 Gannett Dr.	Rock Springs	WY	82901	Form Letter 3	
FL3-73	Amos	Frank		PO Box 172	La Barge	WY	83123	Form Letter 3	
FL3-74	Anderson	Brent		1301 S. Forrest Dr.	Casper	WY	82609	Form Letter 3	
FL3-75	Anderson	John		312 Angle St.	Rock Springs	WY	82902	Form Letter 3	
FL3-76	Anderson	Ralph		2210 Piney Dr.	Big Piney	WY	83113	Form Letter 3	
FL3-77	Andersen	Robert		109 Locust St.	Rock Springs	WY	82901	Form Letter 3	
FL3-78	VOID							Form Letter 3	
FL3-79	VOID							Form Letter 3	

**Table II-A. Persons Submitting Comments on the JIDP DEIS (cont'd)**

Submittal ID	Last Name	First Name	Organization	Address	City	State	Zip	Form of Comment	Email Address
FL3-80	Arcand	Douglas		75 Center St.	Rock Springs	WY	82901	Form Letter 3	
FL3-81	Archer	Glenn		336 Emerson	Evanston	WY	82930	Form Letter 3	
FL3-82	Arndt	Edna		6 Daisy Ave.	Rock Springs	WY	82901	Form Letter 3	
FL3-83	Atchley	Bret		85 Orcutt	Pinedale	WY	82941	Form Letter 3	
FL3-84	Banks	Stephen		605 C St.	Rock Springs	WY	82901	Form Letter 3	
FL3-85	Bartosh	Anita		PO Box 4134	Marbleton	WY	83113	Form Letter 3	
FL3-86	Bates	Rick		PO Box 446	Pinedale	WY	82941	Form Letter 3	
FL3-87	Batmaz	Taner		93 Reliance Rd.	Rock Springs	WY	82901	Form Letter 3	
FL3-88	Beardsly	Steve		1092 Crear Lane	Pinedale	WY	82941	Form Letter 3	
FL3-89	Beaver	Debbie		655 W. 2nd N.	Green River	WY	82935	Form Letter 3	
FL3-90	Belless	Jason		301 Taylor St., Apt 3	Rock Springs	WY	82901	Form Letter 3	
FL3-91	Benge	Fred		PO Box 212	Farson	WY	82932	Form Letter 3	
FL3-92	Benge	Fred		PO Box 212	Farson	WY	82932	Form Letter 3	
FL3-93	Bertram	Terry		6442 Monaco	Commerce City	CO	80022	Form Letter 3	
FL3-94	Bevans	Larry		9343 Notts Court	Lone Tree	CO	80124	Form Letter 3	
FL3-95	Biggins	Michelle		358 Douglas Dr.	Rock Springs	WY	82901	Form Letter 3	
FL3-96	Blaisdell	Ray		3826 Blue Heron	Rock Springs	WY	82901	Form Letter 3	
FL3-97	Bohnet	Lynn		PO Box 418	Pinedale	WY	82941	Form Letter 3	
FL3-98	Bonogafsky	Gary		PO Box 1225	Miles City	MT	59301	Form Letter 3	
FL3-99	Bourgeois	Allen		160 Apache Ave.	Green River	WY	82935	Form Letter 3	
FL4-0	*Document Master*							Form Letter 4	
FL4-01	Ackman	Edward	Advantage Resources, Inc.	1775 Sherman St., Suite 1700	Denver	CO	80203	Form Letter 4	eda@advantage-resources.com
FL4-02	Adair	Patty		18720 W. 60th Ave.	Golden	CO	80403	Form Letter 4	padair@billbarrettcorp.com
FL4-03	Ball	Kenneth	Oxbow Mining LLC	1801 Broadway, Suite 1200	Denver	CO	80202	Form Letter 4	ken.ball@oxbow.com
FL4-04	Barron	Francis	Bill Barrett Corp.	1099 18th St., Suite 2300	Denver	CO	80202	Form Letter 4	fbarron@billbarrettcorp.com

**Table II-A. Persons Submitting Comments on the JIDP DEIS (cont'd)**

Submittal ID	Last Name	First Name	Organization	Address	City	State	Zip	Form of Comment	Email Address
FL4-05	Brown	Mark	Cameron, Northern Rockies District	PO Box 429	Vernal	UT	84078	Form Letter 4	brownm@caerondiv.com
FL4-06	Buckley	Ryan	Evergreen Energy	1512 Larimer St., Suite 1000	Denver	CO	80202	Form Letter 4	rbuckley@evgenergy.com
FL4-07	Castetter	John	Baker Hughes, Inc.	1575 Broadway, Ste 1500	Denver	CO	80202	Form Letter 4	john.castetter@bakeratlas.com
FL4-08	Cavanaugh	Tom	ASCG Inc.	12596 W. Bayaud Ave.	Lakewood	CO	80228	Form Letter 4	tcavanaugh@ascg.com
FL4-09	Clark	Robert	Bear Cub Energy, LLC	1625 Broadway, Ste 2400	Denver	CO	80202	Form Letter 4	rjclark@bearcubenergy.com
FL4-10	Crouch	Jane	White Eagle Exploration	621 17th St. Ste 2255	Denver	CO	80293	Form Letter 4	jcrouch@whiteeagleexpedition.com
FL4-11	Crouch	Marshall	White Eagle Exploration, Inc.	621 17th St. Ste 2255	Denver	CO	80293	Form Letter 4	mcrouch@whiteeagleexpedition.com
FL4-12	Crusius	Julia		1313 Steele St. #706	Denver	CO	80206	Form Letter 4	jmc4576@aol.com
FL4-13	Dolar	Mark	Dolar Energy LLC	935 E. South Union Ave.	Midvale	UT	84047-2393	Form Letter 4	dolarenergy@yahoo.com
FL4-14	Dugan	Thomas	Dugan Production Corp.	PO Box 420	Farmington	NM	87499-0420	Form Letter 4	tommydugan@duganproduction.com
FL4-14	Fielding	Bob	Wellogix, Inc.	2425 West Loop South, Suite 765	Houston	TX	77027	Form Letter 4	bfielding@wellogix.com
FL4-15	Ebener	Richard	Padco, LLC	PO Box 5275	Beverly Hills	CA	90209-5275	Form Letter 4	rebener@e-ecmc.com
FL4-16	Eccleston	Kathleen	Independent Petroleum Assoc. of Mountain States	410 Seventeenth St., Ste 1920	Denver	CO	80202	Form Letter 4	keccleston@ipams.org
FL4-18	Fisher	Robert	Ballard Petroleum Holdings, LLC	845 12th St.	Billings	MT	59102	Form Letter 4	bfisher@ballardpetroleum.com
FL4-19	Franklin	Angela	Pruitt Gushee	1800 Beneficial Life Tower	Salt Lake City	UT	84111	Form Letter 4	alf@pruittgushee.com
FL4-20	Freeman	Joe		3415 S. Clayton Blvd.	Englewood	CO	80113	Form Letter 4	freemanoil@aol.com
FL4-21	Grummon	Mark	Samson Resources	370 17th St.	Denver	CO	80202	Form Letter 4	mgrummon@samson.com
FL4-22	Hanson	Evan		943 E. Conner Ridge Cove	Midvale	UT	84047	Form Letter 4	hehanson@burgoyne.com

**Table II-A. Persons Submitting Comments on the JIDP DEIS (cont'd)**

Submittal ID	Last Name	First Name	Organization	Address	City	State	Zip	Form of Comment	Email Address
FL4-23	Helm	John	Helm Energy Company	6104 E. 32nd St.	Tulsa	OK	74135	Form Letter 4	helmenergy@cox.net
FL4-24	Henke	Darrin		9363 E. Atlantic Place	Denver	CO	80231	Form Letter 4	dhenke@tombrown.com
FL4-25	Hollingshead	Mindy	Bill Barrett Corp	1550 Platte St., #469	Denver	CO	80202	Form Letter 4	mhollingshead@billbarrettcorp.com
FL4-26	Icenogle	Joseph	Fidelity Exploration & Production Company	2585 Heartland Dr.	Sheridan	WY	82801	Form Letter 4	joe.icenogle@fidelityepco.com
FL4-27	Keller	Pete		3933 Garnet Pl.	Highlands Ranch	CO	80126	Form Letter 4	petek@frii.com
FL4-28	Krupp	Dawn	EXCO Resources, Inc.	1775 Sherman St, Suite 2000	Denver	CO	80203	Form Letter 4	dkrupp@excoresources.com
FL4-29	Lewellen	Laura	Lewellen Consulting, Inc.	540 S. Forest St., #6-203	Denver	CO	80246	Form Letter 4	llewellen@earthlink.net
FL4-30	Lockridge	John	Mountain Petroleum Corp	1801 Broadway, Ste 1250	Denver	CO	80202	Form Letter 4	matres@qwest.net
FL4-31	Luneau	Barbara	Schlumberger Data & Consulting Services	6501 S. Fiddler's Green Ste 400	Greenwood Village	CO	80111	Form Letter 4	bluneau@slb.com
FL4-32	McDonald	Nancy		4219 E. Lark Sparrow St.	Highlands Ranch	CO	80126	Form Letter 4	nlmcdonald02@comcast.net
FL4-33	Merritts	Jack	Burns Wall Smith & Mueller, P.C.	303 E. 17th Ave. - #800	Denver	CO	80203	Form Letter 4	jmerritts@bws.com
FL4-34	Nuss	Mike	Caza Drilling	1801 Broadway	Denver	CO	80202	Form Letter 4	mike@cazadrilling.com
FL4-35	Peay	Jim		PO Box 1673	Denver	CO	80201	Form Letter 4	jamespeay@comcast.net
FL4-36	Petrie	David		4054 W. 61st Place	Arvada	CO	80003	Form Letter 4	natashadave@comcast.net
FL4-37	Reinecke	Kurt	Bill Barrett Corp.	1099 18th St., #2300	Denver	CO	80202	Form Letter 4	kreinecke@billbarrettcorp.com
FL4-38	Reisser	Kurt	Kerr-McGee Oil & Gas Corp.	1999 Broadway, Ste. 3600	Denver	CO	80202	Form Letter 4	kreisser@kmg.com
FL4-39	Rogers	Doug	Patterson-UTI Drilling Company, LP	1512 Larimer St., Ste 730	Denver	CO	80202	Form Letter 4	mud_rogers@patenergy.com
FL4-40	Schindler	Troy	Bill Barrett Corp.	1099 18th St.	Denver	CO	80202	Form Letter 4	tschindler@billbarrettcorp.com
FL4-41	Sell	Donald	Bill Barrett Corp.	PO Box 65	Powder River	WY	82648	Form Letter 4	dsell@billbarrettcorp.com

**Table II-A. Persons Submitting Comments on the JIDP DEIS (cont'd)**

Submittal ID	Last Name	First Name	Organization	Address	City	State	Zip	Form of Comment	Email Address
FL4-42	Smith	Marc		2260 S. Clarkson	Denver	CO	80210	Form Letter 4	msmith@ipams.org
FL4-43	Sprinkle	Stan	Sprinkle & Associates, LLC	1520 W. Canal Court, Suite 220	Littleton	CO	80120	Form Letter 4	stan@sprinklefinancial.com
FL4-44	Taylor	Jeane	EOG Resources, Inc.	600 17th St., #1100 North	Denver	CO	80202	Form Letter 4	Jeane_Taylor@eogresources.com
FL4-45	Viviano	Mary		21648 Mountsfield Dr.	Golden	CO	80401	Form Letter 4	MaryViviano@hotmail.com
FL4-46	Wenke	Vickie	Iron Creek Energy Group, LLC	PO Box 2850	Cody	WY	82414	Form Letter 4	vickie@ironcreekenergygroup.com
FL4-47	Wilson	Floyd	Bill Barrett Corp.	1901 Energy Ct., Suite 170	Gillette	WY	82718	Form Letter 4	fwilson@billbarrettcorp.com
FL4-48	Bremner	Andrew		6466 S. Ivy Court	Centennial	CO	82111	Form Letter 4	
FL4-49	Cox	Vaughn	Fidelity Exploration & Production Company	2585 Heartland Dr.	Sheridan	WY	82801	Form Letter 4	
FL4-50	Donato	Scot	Bill Barrett Corp.	1099 18th St. Ste 2300	Denver	CO	80202	Form Letter 4	
FL4-51	Jameson	Glen	Bill Barrett Corp	1099 18th St., Suite 2300	Denver	CO	80202	Form Letter 4	
FL4-52	Paules	Michael		1424 Belford Ct.	Evergreen	CO	80439	Form Letter 4	
FL4-53	Rainbolt	Bill		12410 Sonata Canyon Ln.	Houston	TX	77041	Form Letter 4	
FL4-54	Skaer	Laura	Northwest Mining Association	10 N. Post St., Suite 220	Spokane	WA	99201	Form Letter 4	
FL4-55	Stanberry	Debra		18664 E. Progress Ave.	Centennial	CO	80015	Form Letter 4	
FL4-56	Stewart	Gary	Melange International	475 17th St., Ste 540	Denver	CO	80202	Form Letter 4	
L-01	Adams	Eric	Sweetwater Sportsmen for Fish and Wildlife					Personal Letter	
L-02	Albert	Alex	Schlumberger, US Land Western Region	6501 S. Fiddler's Green Circle, Suite 400	Greenwood Village	CO	80111	Personal Letter	
L-03	Amundson	Jim						Personal Letter	

**Table II-A. Persons Submitting Comments on the JIDP DEIS (cont'd)**

Submittal ID	Last Name	First Name	Organization	Address	City	State	Zip	Form of Comment	Email Address
L-04	Ault	Brian	Ultra Resources, Inc.					Personal Letter	bault@ultrapetroleum.com
L-05	Benge	Fred		PO Box 212	Farson	WY	82932	Personal Letter	
L-06	Boomgaarden	Lynne	Office of State Lands and Investments (WY)	122 West 25th St.	Cheyenne	WY	82002	Personal Letter	
L-07	Bousman	Cotton	EnCana (Rangeland Consultant)					Personal Letter	ckbousman@wyoming.com
L-08	Bousman	Joel			Boulder	WY	82923	Personal Letter	
L-09	Bower	Dru	Petroleum Association of Wyoming	951 Werner Court, Suite 100	Casper	WY	82601	Personal Letter	
L-10	Bremner	Andrew	IPAMS	410 Seventeenth St., Suite 1920	Denver	CO	80202	Personal Letter	
L-11	Brown	David	BP America Production Company	1660 Lincoln St., Suite 3000	Denver	CO	80264	Personal Letter	
L-12	Brus	Cary		3210 Bella Vista	Casper	WY	82601	Personal Letter	
L-13	Burton-Bacheller	Kristine		PO Box 264	Pinedale	WY	82941	Personal Letter	
L-14	Davison	Kathleen	Wyoming Legislature (House)	PO Box 602	Kemmerer	Wy	83101	Personal Letter	
L-15	Degenfelder	D. Steven	Double Eagle Petroleum Co.	PO Box 766	Casper	WY	82602	Personal Letter	
L-16	Delap	Deven		PO Box 2154	Pinedale	WY	82941	Personal Letter	
L-17	DiBrito	Larry		5915 W. 59th St.	Chicago	IL	60638	Personal Letter	
L-18	Donham	Rita		Box 33	Cora	WY	82925	Personal Letter	reetdb@direcway.com
L-19	VOID							Personal Letter	wyoderrick@aol.com
L-20	Erramouspe	John P.	G & E Livestock, Inc.					Personal Letter	
L-21	Erramouspe	John	G&E Livestock, Inc.			WY		Personal Letter	

**Table II-A. Persons Submitting Comments on the JIDP DEIS (cont'd)**

Submittal ID	Last Name	First Name	Organization	Address	City	State	Zip	Form of Comment	Email Address
L-22	Etchepare	John	Wy Dept of Agriculture	2219 Carey Ave.	Cheyenne	WY	82002	Personal Letter	
L-23	Fairbanks	Eric			Boulder	WY	82923	Personal Letter	
L-24	Fear	Betty	Sublette County Commissioners	PO Box 250	Pinedale	WY	82941	Personal Letter	
L-25	Filkins	Marilyn	Sublette County Attorney	PO Box 1010	Pinedale	WY	82941	Personal Letter	
L-26	Freeman	David		706 Muir Ave.	Rock Springs	WY	82901	Personal Letter	
L-27	Freudenthal	Dave	Office of the Governor	State Capitol	Cheyenne	WY	82002	Personal Letter	
L-28	Gagnon	Thomas		PO Box 2643	Rock Springs	WY	82902	Personal Letter	
L-29	Gardner	Cindy			Uinta County	WY		Personal Letter	
L-30	Gosar	A.J.		PO Box 701	Pinedale	WY	82941	Personal Letter	
L-31	George	Gene	Gene R. George & Associates, Inc.	PO Box 2775	Casper	WY	82602	Personal Letter	
L-32	Hajba-Miner	Jacqueline		PO Box 2593	Cody	WY	82414	Personal Letter	
L-33	Harkness	Carol		PO Box 386	Teton Village	WY	83025	Personal Letter	
L-34	Hay	John, III	Rock Springs Grazing Association	PO Box 247	Rock Springs	WY	82901	Personal Letter	
L-35	Hayden-Wing	Larry	Hayden-Wing Associates	2308 South 8th St.	Laramie	WY	82070	Personal Letter	
L-36	Henderson	Leslie		317 College Lane	Rock Springs	WY	82901	Personal Letter	
L-37	Henley	Kenneth	Log Inn Supper Club	529 B Street	Rock Springs	WY	82901	Personal Letter	
L-38	Holdsworth	Kevin		32 West 2nd North	Green River	WY	82935	Personal Letter	
L-39	Howland	Philip		403 NE 10th St.	Abilene	KS	67410	Personal Letter	
L-40	Johnson	Wally	Sweetwater County Commision	80 West Flaming Gorge Way	Green River	WY	82935	Personal Letter	
L-41	Johnston	J. Thomas		PO Box 1877	Pinedale	WY	82941	Personal Letter	
L-42	Jones	Renee		1889 Big Sandy Rd.	Boulder	WY	82923	Personal Letter	

**Table II-A. Persons Submitting Comments on the JIDP DEIS (cont'd)**

Submittal ID	Last Name	First Name	Organization	Address	City	State	Zip	Form of Comment	Email Address
L-43	Justus	J.R.	Shell Exploration & Production Co.	4582 S. Ulster St. Parkway, Suite 500	Denver	CO	80237	Personal Letter	
L-44	Kail	Carmel	Kail Consulting	PO Box 684	Pinedale	WY	82941	Personal Letter	
L-45	Kaumo	Timothy	City of Rock Springs					Personal Letter	
L-46	Kunard	Nylla	Town of Pinedale	PO Box 709	Pinedale	WY	82941	Personal Letter	
L-47	Lemich	George	Greenhalgh, Beckwith, Lemich, Stith & Cannon, P.C.	205 C Street	Rock Springs	WY	82901	Personal Letter	
L-48	Likwartz	Don	Wyoming Oil & Gas Conservation Commission	2211 King Boulevard	Casper	WY	82604	Personal Letter	
L-49	Manatos	Joseph		321 College Lane	Rock Springs	WY	82901	Personal Letter	
L-50	Miller	Neil O.		PO Box 742	Basin	WY	82410	Personal Letter	
L-51	Mineheine	James		555 Yellowstone Rd.	Rock Springs	WY	82901	Personal Letter	
L-52	Morrison	Mary Lou		845 E. 3rd	Casper	WY	82601	Personal Letter	
L-53	Mortensen	Clark	Rat Hole Managers, Inc.	2530 West 1700 South	Vernal	UT	84078	Personal Letter	
L-54	Mortensen	Dan	Rat Hole Managers, Inc.	PO Box 131	Vernal	UT	84078	Personal Letter	
L-55	Mortensen	Kent	Rat Hole Managers, Inc.	PO Box 26	Vernal	UT	84078	Personal Letter	
L-56	Mortensen	Rory	Rat Hole Managers, Inc.	PO Box 131	Vernal	UT	84078	Personal Letter	
L-57	Moseley	Claire	Public Lands Advocacy	1410 Grant St., Suite C-307	Denver	CO	80203	Personal Letter	
L-58	Murphy	Bill	Wyoming Business Alliance	145 S. Durbin, Suite 101	Casper	WY	82601	Personal Letter	
L-59	Myers	James	EnCana					Personal Letter	dryflyjm@aol.com
L-60	Painovich	Mary Ellen	Brokerage Southwest	601 Broadway	Rock Springs	WY	82901	Personal Letter	

**Table II-A. Persons Submitting Comments on the JIDP DEIS (cont'd)**

Submittal ID	Last Name	First Name	Organization	Address	City	State	Zip	Form of Comment	Email Address
L-61	Pendery	Bruce	Wyoming Outdoor Council- Utah Office	444 East 800 North	Logan	UT	84321	Personal Letter	bpendery@pcu.net
L-62	Pope	Bob	Rat Hole Managers, Inc.	PO Box 717	Rock Springs	WY	82902	Personal Letter	
L-63	Puckett	Joe	Rat Hole Managers, Inc.	PO Box 717	Rock Springs	WY	82902	Personal Letter	
L-64	Radke	A. L.		PO Box 1731	Pinedale	WY	82941	Personal Letter	
L-65	Ratner	Jonathan	Western Watershed Project	PO Box 1160	Pinedale	WY	82941	Personal Letter	
L-66	Reynolds	Stephen		427 Sioux Dr.	Cheyenne	WY	82009	Personal Letter	
L-67	Richter	John		PO Box 1443	Pinedale	WY	82941	Personal Letter	
L-68	Robbins	Patricia	Sweetwater Economic Development Assoc.	1400 Dewar Dr., Suite 205A	Rock Springs	WY	82901	Personal Letter	
L-69	Rogers, Jr.	Donald W.						Personal Letter	
L-70	Schmid	Pat		240 Fairview Lane	Rock Springs	WY	82901	Personal Letter	
L-71	Schramm	Donald		422 Lewis St.	Rock Springs	WY	82901	Personal Letter	
L-72	Shipman	Randy	Rocky Mountain Region PFUSA	PO Box 1331	Rock Springs	WY	82902	Personal Letter	
L-73	Smith	Bob						Personal Letter	
L-74	Lewis	Suzanne	Biodiversity Conservation Alliance	PO Box 1512	Laramie	WY	82073	Personal Letter	
L-75	Smith	Robin	Mountaintop Consulting, LLC					Personal Letter	rsmith@mcmurray.net
L-76	Smith	Ty	Lesair Environmental, Inc.	10394 W. Chatfield Ave, Ste. 100	Littleton	CO	80127	Personal Letter	

**Table II-A. Persons Submitting Comments on the JIDP DEIS (cont'd)**

Submittal ID	Last Name	First Name	Organization	Address	City	State	Zip	Form of Comment	Email Address
L-77	Stalling	David	Trout Unlimited, Public Lands Initiative	401 E. Spruce St.	Missoula	MT	59802	Personal Letter	
L-78	Stout	Gerald		PO Box 35	Farson	WY	82932	Personal Letter	
L-79	Surdam	Ronald	Wy State Geological Survey	PO Box 1347	Laramie	WY	82073	Personal Letter	
L-80	Trosclair	Heather			Boulder	WY	82923	Personal Letter	
L-81	Trosclair	Stephen						Personal Letter	
L-82	Walker	Ronald		PO Box 224	Daniel	WY	83115	Personal Letter	
L-83	Wasson	Rockey			Uinta County	WY		Personal Letter	
L-84	Wichers	Bill	Wyoming Game & Fish Dept.	5400 Bishop Boulevard	Cheyenne	WY	82006	Personal Letter	
L-85	Wilkinson	Betty	Flaming Gorge PFUSA	PO Box 1063	Rock Springs	WY	82902	Personal Letter	
L-86	Wilkinson	Betty	Flaming Gorge PFUSA	PO Box 1063	Rock Springs	WY	82902	Personal Letter	
L-87	Williams	Eric	Environomics	203 First St.	Cheney	WA	99004	Personal Letter	
L-88	Wise	Ward						Personal Letter	wyoskier@yahoo.com
L-89	Trapp	Cammy		187 Mesa Drive	Rock Springs	WY	82901	Personal Letter	
L-90	Schopp	John	EnCana Oil & Gas (USA)	370 17th St, Suite 1700	Denver	CO	80202	Personal Letter	
L-91	Caddell	Joseph		740 Mockingbird Lane	Brighton	CO	80601	Personal Letter	
L-92	Delap	Sherril Jo		PO Box 2154	Pinedale	WY	82941	Personal Letter	
L-93	Roberts	Robert E.	Environmental Protection Agency, Region 8	999 18th St., Suite 300	Denver	CO	80202	Personal Letter	
L-94	Mortensen	Rick	Rat Hole Managers, Inc.	PO Box 717	Rock Springs	WY	82902	Personal Letter	

**Table II-A. Persons Submitting Comments on the JIDP DEIS (cont'd)**

<b>Submittal ID</b>	<b>Last Name</b>	<b>First Name</b>	<b>Organization</b>	<b>Address</b>	<b>City</b>	<b>State</b>	<b>Zip</b>	<b>Form of Comment</b>	<b>Email Address</b>
L-95	Thomson	Janice L.	The Wilderness Society	1424 Fourth Ave., Suite 816	Seattle	WA	98101-2217	Personal Letter	
L-96	Keefe	Pat		1214 Granada	Casper	WY	82601	Personal Letter	

**Table II-B. Substantive Comments on the JIDP DEIS**

<b>Submittal ID</b>	<b>Comment Number</b>	<b>Category</b>	<b>Keyword 1</b>	<b>Keyword 2</b>	<b>Keyword 3</b>	<b>Comment Text</b>	<b>BLM Response</b>
E-01	1	A	<b>Air Quality</b>			Each individual well is small source of pollutants, so the current plan ignores the contribution from the well. The problem is that this ignores the cumulative effect of multiple wells. There is already deterioration of air quality in the Pinedale region.	Please see Table 2.3 on page 15 of the AQ TSD (Nov 2004). This table shows the emissions from all the wells. The potential AQ impacts were estimated from these emissions.
E-08	4	D	<b>Performance Objectives</b>	Compensatory Mitigation	Mineral Resources	I recommend the following actions be taken;  1. The completion of the EIS be expedited.  2. Off-site mitigation measures be immediately implemented to help with future disturbance activities with the wildlife habitat improvement.  3. Out-come based objectives be established that allow flexibility for the operator to ensure responsible development of the resource and hold the operator responsible to achieve these objectives.  4. Proceed with maximum development of the resource using the mitigation measures developed in 2 above to compensate for additional disturbance and provide wildlife habitat enhancement.  5. Implement reclamation procedures as rapidly as possible following drilling, completion and pipeline activities.	The completion of the EIS is being undertaken as expeditiously as possible. Regarding the rest of this comment, it is no longer applicable as these issues will be addressed by the new Preferred Alternative in the FEIS.
E-17	2	A	<b>Compliance</b>	Economics	Technical Information	The document mandates multiple impractical regulations associated with development of the field, required closed mud systems for drilling, not practical as the cuttings and flow back frac fluid need to be disposed of onsite in a pit, I guess this does follow along with the direction of the document to move the issues somewhere else, i.e. outside Jonah/Sublette County. The requirement of removal of fluids etc from reserve pits in 60 days is not feasible or economical unless the document is driven towards economically restricting the development activity. The closed mud systems, for drilling and completing the wells, needs to be on an as needed basis when requested by the operator only not as a mandated practice. Restricting the height of spoil/topsoil piles to 3 feet is highly contradicting, as it will cause the unnecessary consumption of acreage. Spoil/topsoil stockpiles are temporary and should not have a height restriction.	This COA is imposed to reduce the size of the pad needed to drill a well and to accelerate the time that interim and/or final reclamation can commence to restore lost wildlife habitat. The COA does provide the Operator the opportunity to demonstrate to the BLM that this procedure is not technically or economically feasible. BLM believes the COA is appropriate, but is revising it for the FEIS to add, "If this timeframe is infeasible on a particular site, the Operators would notify the JIO and fluids would be removed as soon as practical."  This requirement does not preclude cuttings disposal pits.

**Table II-B. DEIS Comments and BLM Responses (cont'd)**

Submittal ID	Comment Number	Category	Keyword 1	Keyword 2	Keyword 3	Comment Text	BLM Response
							Concerning the topsoil comment, see the revised COA in the FEIS.
E-17	3	A	<b>Health / Safety</b>	Technical Information		The pad size restrictions are of inadequate size to safely drill and complete the wells. Central site fracing needs to be on an as needed/when requested by the operator not as a mandated practice. Flare less flow back while currently @ 100% utilization in the Jonah field by EnCana Incorporation, is not the charge of the BLM and can not be mandated by the BLM.	<p>The pad sizes on DEIS page 2-27, Section 2.14.2, bullet No. 2 were used for analysis purposes to determine the potential surface disturbance for the preferred alternative. BLM also believes these to be acceptable guidelines for the Operators to strive to achieve. However, as written in the DEIS, the COA provides little flexibility to address changes in terrain or other unforeseen circumstances. The COA is therefore being modified in the FEIS as follows, "To the extent reasonable and practical, well pad surface disturbance would not exceed 7.0 acres for parent and multi-well pads, 4.0 acres for single-well well pads, and 2.0 acres for satellite well pads, unless the Operator can demonstrate to the satisfaction of the Authorized Officer, on a case-by-case basis, that the size limitation for a given pad would create a significant safety concern for the workers, the public at large, or the environment. These acreages include cut and fill slopes, but do not include access roads and pipelines."</p> <p>Concerning flareless flowback, the emissions from completion flares are, as the commenter indicates, under the jurisdiction of DEQ; however, the effects of flaring noise to wildlife use of adjacent habitat and the surface disturbance associated with flaring operations are under BLM's authority.</p>
E-17	5	A	<b>Air Quality</b>	Analysis		Mandating the use of specific emission type engines for drilling rigs that are not available should not be mandated and should be removed from the document.	The DEIS does not mandate the use of specific emission type engines. Table 3 on page 22 of the Air Quality

**Table II-B. DEIS Comments and BLM Responses (cont'd)**

Submittal ID	Comment Number	Category	Keyword 1	Keyword 2	Keyword 3	Comment Text	BLM Response
							<p>Impact Assessment Supplement (Aug 2005) presents potential visibility impacts in Bridger Wilderness from various levels of emission reduction. These emission reductions could be obtained in a variety of ways.</p> <p>BLM acknowledges that Tier II engines will not be available from manufacturers until 2007. However, Section 5.1.1 uses the phrase "when they become available." Wyoming DEQ has recommended BLM include the Tier-II requirement in its Jonah Infill Record of Decision (March 9, 2005 letter from Director Corra); the wording above provides additional flexibility for the operators, and acknowledges the current lack of availability of Tier II technology engines.</p>
E-23	4	D	<b>Alternatives</b>	Air Quality		<p>Cut to 1000 the number of new wells to be allowed in the Jonah Field.</p> <p>Require that all new wells be dug through diagonal drilling, which at least limits the "footprint" on the land, though it does not help with air pollution.</p>	<p>This number of wells was incorporated into the range of well numbers analyzed in the draft EIS (no new wells [No Action] through 3,100 wells [Proposed Action, A, B, E, F, G, Preferred Alternative]). Requiring all wells to be drilled directionally was analyzed (Alternative B).]</p> <p>The FEIS and ROD will describe mitigation requirements. As Table 3 in the Air Quality Impact Assessment Supplement shows, emission reduction can be attained by a number of ways, including drilling fewer wells per year.</p>
E-23	5	D	<b>Air Quality</b>	On-Site Mitigation		<p>Require that all wells adopt "BACT" (Best Available Control Technology) to limit pollution, as some of the more progressive companies are already doing.</p> <p>Enforce clean air standards rigorously, with better</p>	<p>Each compressor engine undergoes BACT review by WDEQ. The WDEQ-AQD requires BACT be applied in all air quality permits.</p>

**Table II-B. DEIS Comments and BLM Responses (cont'd)**

Submittal ID	Comment Number	Category	Keyword 1	Keyword 2	Keyword 3	Comment Text	BLM Response
						monitoring of air quality (including carcinogens) and adding several more testing sites to the current two.	The State of Wyoming has the authority and responsibility to regulate air quality impacts within Wyoming. The Pinedale Air Quality Task Group makes recommendation on air quality monitoring for the Pinedale Anticline area.
E-23	6	D	<b>Wildlife</b>			Exempt from drilling critical wildlife migration and wintering grounds -- roughly two percent of BLM land near Pinedale. (Over 90 percent is already leased for drilling.)	Crucial winter ranges for big game will continue to have timing restrictions unless otherwise specified.
E-36	4	A	<b>Recreation</b>	Analysis	Livestock/ Grazing	I believe that the negative effects of additional drilling on the quality of life to area residents, in both the areas of air quality, noise and odor, as well as degradation of the area for recreation, livestock grazing, and scenic values have been grossly underestimated in this EIS. Specifically, the assumptions and dollar values given for both hunting and other forms of recreation are unacceptably low and do not truly reflect the actual value of citizen's free time and quality of life as related to recreation activity. I personally can attest that I and everyone that I know find the value of our recreational activity to be at least ten times higher than the values listed on Table 3.53, if not more.	Thank you for your comment. The economic benefits listed in DEIS Table 3.53 depict the estimated dollar value to regional economies. These data represent the dollars generated from the utilization of the available resources. This method of valuation obviously does not completely capture all the values and benefits intrinsic to the enjoyment of the natural environment. Other benefits you described are certainly of great personal and social value. Unfortunately, a dollar value attributable to these benefits was not available for use in this NEPA document. The assumptions relative to hunter distribution in the project area represent the best knowledge available.
E-41	1	D	<b>Wildlife</b>	Compensatory Mitigation		I am generally not a supporter of offsite mitigation, but in this case, it is the best option. At the March 21 meeting, your biologist made the revelation that little is known about grouse habits regarding populating (and abandoning) lek sites. Perhaps a good compromise would be to mitigate the impacts by using some of the money EnCana has previously committed to wildlife projects. I suspect that it would be viable for the operators to dedicate some grant money to researching this aspect. This approach seems to me to have much more potential to ensure the future of the sage grouse than the (most certainly temporary) "avoidance"	Requirements for off-site mitigation will be included in the ROD.

**Table II-B. DEIS Comments and BLM Responses (cont'd)**

<b>Submittal ID</b>	<b>Comment Number</b>	<b>Category</b>	<b>Keyword 1</b>	<b>Keyword 2</b>	<b>Keyword 3</b>	<b>Comment Text</b>	<b>BLM Response</b>
						schemes being proposed to date.	
E-43	1	A	<b>Wildlife</b>	On-Site Mitigation		<p>Impacts to sage grouse have already surpassed those considered likely in the decision documents of 2001. In particular, results of monitoring studies have shown a steady decline in sage grouse lek attendance during each of the four years of development. After denial of appeals for greater protective measures for sage grouse, an unexpected contribution of the Jonah field development so far has been evidence that the half-mile buffers as mitigation around leks are inadequate. Data presented to BLM and operators in March indicate four years of progressive abandonment of monitored leks.</p> <p>Aside from continuing apparently ineffective buffers at leks, the primary mitigation offered with the Infill appears to be the different rates of development in segments of the field and attempts to cluster development to preserve blocks of undisturbed sage habitat. These offer little or no current relief to sage grouse. No specific future plan for habitat and population restoration is included. With no specific plans or performance dates, it seems likely that another listing proposal may precede such restoration if this kind of development continues.</p>	<p>The BLM cannot predict petitions made to the USFWS for listing under the ESA.</p> <p>The sage-grouse habitat and active leks are only a small percentage of available sagebrush habitats within the PFO.</p>
E-43	2	A	<b>Wildlife</b>	Compensatory Mitigation		<p>At its current level of development, and certainly with the Infill, off-site mitigation strategies deserve consideration. No detailed proposals are provided in the EIS and a sound foundation is lacking to plan beyond the narrow boundaries of intensive development. We recommend that a basin-wide geographical information system (GIS) database for sage and related habitats is necessary to allow intelligent formation of specific habitat management strategies. Those should be matched with sage grouse population data on distribution within those habitats to support specific geographically based conservation strategies to manage habitats to sustain strong populations throughout the Upper Green to offset losses at Jonah and other developed sites. Such GIS data will serve all parties and allow the tradeoffs inherent in off-site mitigation.</p>	<p>Requirements for off-site mitigation will be included in the ROD.</p>
E-57	1	A	<b>Livestock/ Grazing</b>	On-Site Mitigation	Alternatives	<p>According to Table 4.19, the Proposed Alternative would potentially affect 673 more AUMs during new construction than the Preferred Alternative. I am not sure how you derived that number, and the document does not clearly state how those potentially affected AUMs will</p>	<p>Please refer to text changes in the FEIS.</p>

**Table II-B. DEIS Comments and BLM Responses (cont'd)**

Submittal ID	Comment Number	Category	Keyword 1	Keyword 2	Keyword 3	Comment Text	BLM Response
						be determined. Any adjustments to grazing AUMs, as a result of the infill project, should be determined through monitoring (Use and Trend), and not through some method which utilizes loss of range acres. If there needs to be an adjustment in AUMs, then that should occur as Temporary Non-Use, and not as Suspended Non-Use. How the grazing program will be handled during the infill process should be clearly established in the Record of Decision.	
E-57	2	A	<b>Livestock/ Grazing</b>	Compensatory Mitigation		I believe all the oil and gas operators involved in the project should be required to mitigate the loss of the vegetative resource and the impacts to livestock permittees who are grazing in the Jonah. Currently, only one operator (EnCana) is interested in the impact the project is having on the range resource and livestock permittees.	Please refer to text changes in the FEIS. BLM will not compensate for lost AUMs. Appropriate mitigations will be included in the ROD.
E-59	2	D	<b>Wildlife</b>	On-Site Mitigation		The "operators" should declare a no-net-loss of wildlife policy for this area. They should hire as many wildlife biologists as necessary to insure that their on-site and off-site habitat enhancement and wildlife mitigations work. Those operator-hired biologists should use as their guide the recently developed WY Game and Fish standards and guidelines for wildlife impact mitigation and the Wildlife Monitoring Task Group Report to the Pinedale Anticline Working Group. The BLM and WY Game and Fish biologists should monitor their activities and studies and present an annual progress report. An independent panel of wildlife experts should be empowered to hear the progress annual report working toward the goal of no-net-loss of wildlife. In addition, this independent panel of wildlife experts [including community representatives] should be empowered to order and direct research necessary to insure that this sustainable wildlife resource is guaranteed in perpetuity to subsequent generations. Further, they would be empowered to direct company wildlife mitigation activities like habitat purchase or other any other means necessary to achieve the goal if, in their sole judgment, satisfactory progress toward that goal is not being made.	Requirements for off-site mitigation will be included in the ROD. This could include oversight groups for wildlife monitoring and research. WGFD is involved in energy development on BLM lands within PFO and has recently made a commitment to hire an Oil and Gas Coordinator position based in Pinedale.
E-59	3	D	<b>Air Quality</b>	On-Site Mitigation		The "operators" should declare a no-net-degradation policy of air quality. Contractors using objective, measurable parameters should do air quality monitoring. The contractors should submit an annual report to the WY Department of Environmental Quality – Air Quality	The BLM will forward your suggestion to the Wyoming Oil & Gas Commission and to the WDEQ.

**Table II-B. DEIS Comments and BLM Responses (cont'd)**

Submittal ID	Comment Number	Category	Keyword 1	Keyword 2	Keyword 3	Comment Text	BLM Response
						<p>Division [DEQ-AQD]. The DEQ-AQD should determine compliance with state and national standards and submit a report to an independent panel of air quality experts including local citizen representatives. This independent panel should be empowered to hear the progress annual report working toward the goal of no-net-degradation of air quality. In addition, this independent panel should be empowered to order and direct research necessary to insure that this sustainable resource is guaranteed in perpetuity to subsequent generations. Further, they would be empowered to direct company air quality mitigation activities like technological or operational solutions to problem or other any other means necessary to achieve the goal if, in their sole judgment, satisfactory progress toward that goal is not being made.</p>	
E-66	2	A	<b>Technical Information</b>	Operator-Committed Practices		<p>One requirement is that operators would use closed drilling systems (no reserve pits) for all wells unless proven on a case-by-case basis that to do so would be technologically or economically infeasible. If reserve pits are approved, Operators would remove/vacuum fluids from reserve pits within 60 days of all wells on a pad being placed into production, to accelerate pit closure and reclamation. Issues with closed drilling systems are as follows:</p> <p>Cost incremental is \$25,000 to \$50,000 per well.</p> <p>Need Cost Effective Alternative for Cuttings Handling -- Burying on Location Requires a Pit.</p> <p>60 days to remove fluids from pit is unreasonable -- Pits are frozen 4 months of year.</p> <p>Increases environmental liability due to transportation and disposal.</p> <p>The existing method of utilizing reserve pits for fluids and drill cuttings is working well, there is not reason to modify this procedure.</p> <p>Should be Operator-Committed Practice where feasible, practical, and economic.</p>	<p>This COA is imposed to reduce the size of the pad needed to drill a well and to accelerate the time that interim and/or final reclamation can commence to restore lost wildlife habitat. The COA does provide the Operator the opportunity to demonstrate to the BLM that this procedure is not technically or economically feasible. BLM believes the COA is appropriate, but is revising it for the FEIS to read, "If reserve pits are approved, Operators would remove/vacuum fluids from reserve pits within 60 days of all wells on the pad being put into production. If this timeframe is infeasible on a particular site, the Operators would notify the JIO and fluids would be removed as soon as practical."</p> <p>This requirement does not preclude cuttings disposal pits.</p>
E-66	3	A	<b>Surface Disturbance</b>	Technical Information		<p>Another requirement is that well pad surface disturbance would be limited to a maximum of 7.0 acres for parent and multi- well pads, 4.0 acres for single-well well pads,</p>	<p>These figures were used for analysis purposes to determine the potential surface disturbance for the preferred</p>

**Table II-B. DEIS Comments and BLM Responses (cont'd)**

Submittal ID	Comment Number	Category	Keyword 1	Keyword 2	Keyword 3	Comment Text	BLM Response
						<p>and 2.0 acres for satellite well pads. These acreages include well pad, access road, pipeline, and topsoil and spoil piles. This specification eliminates operator flexibility to adjust to the needs of the well site. In addition, and I know this from my everyday experience, satellite locations are an unproven technology. Plus we estimate only about 20% of Jonah would be suitable for the matted locations due to topography limitations. The operator should be given more flexibility to make optimum use of allowed surface disturbance.</p>	<p>alternative and were inadvertently included in the draft EIS as a COA. As the commenter correctly asserts, the complexity of the terrain will dictate the amount of cut and fill, which can substantially increase the disturbance size. These figures are, however, good guideline figures for the Operators to strive to achieve. The COA is therefore being modified in the FEIS as follows: "To the extent reasonable and practical, well pad surface disturbance would not exceed 7.0 acres for parent and multi-well pads, 4.0 acres for single-well well pads, and 2.0 acres for satellite well pads, unless the Operator can demonstrate to the satisfaction of the Authorized Officer, on a case-by-case basis, that the size limitation for a given pad would create a significant safety concern for the workers, the public at large, or the environment. These acreages include cut and fill slopes, but do not include access roads and pipelines."</p>
E-66	4	A	<b>Technical Information</b>	Surface Disturbance		<p>Hard-line fracturing processes would be required for all well pads when surface density is = 1 well pad/40 acres, and recommended when well pad surface density is &lt; 1 pad/40 acres. This is not practical at a well spacing of 40 acres. 40-acre locations would probably not be drilled concurrently making centralized fracing impossible. It would result in additional disturbance— it is not feasible to follow roads and pipelines on 40-acre well spacings. This should be an operator committed practice where practical, feasible, and economic. We think that the Hub and Spoke concept will work on the 10-acre satellite concept.</p>	<p>BLM does not have a concern about what type of completion techniques are employed by the Operators. BLM is, however, required under NEPA to eliminate, reduce, or otherwise mitigate impacts to the extent reasonable and practicable, and through other regulations to prevent undue and unnecessary degradation. Where "hard-line" fracturing is technically and economically feasible, it reduces the need for pits or batteries of "frac" tanks on each well pad to handle the discharge of "frac" fluids, thereby reducing to size of the pad needed to drill and complete infill wells. BLM also recognizes that "hard-line" fracturing is an emerging technology and is not a panacea.</p>

**Table II-B. DEIS Comments and BLM Responses (cont'd)**

Submittal ID	Comment Number	Category	Keyword 1	Keyword 2	Keyword 3	Comment Text	BLM Response
							Accordingly, this COA is being modified in the Final EIS to include the following qualifier, “unless the Operator can demonstrate to the satisfaction of the Authorized Officer that centralized fracturing is not reasonable or technically or economically feasible, or that another well completion procedure would create less surface impact.” BLM does not intend to stymie innovation and fully encourages Operators to test and implement new environmentally friendly technologies as they become available and prove successful.
E-66	5	A	<b>Technical Information</b>	Operator-Committed Practices	Health/Safety	Operators would be required to use flareless completions for all wells within the JIDPA unless proven on a case-by-case basis that flareless completions would be unsafe. Points I would like to make on this are the following:  <ul style="list-style-type: none"> <li>• This is not within BLM's jurisdiction—Wyoming DEQ regulates this issue.</li> <li>• Incremental cost of \$50,000/well for Multiple Wells and \$100,000 for single well pads.</li> <li>• Flaring requires pipeline and pipeline quality gas.</li> <li>• It should be Operator-Committed Practice where economically viable, feasible, and safe</li> </ul>	The COA on DEIS page 2-27, bullet No. 4, does not preclude flares. OSHA requires a flare for drilling operations whether it be through a flare-stack or into a earthen pit. The COA does require the use of flareless completions, thereby eliminating the need for large flow-back pits. It also provides a caveat that flareless completions would not be required where and/or when they are proven unsafe. This caveat is being modified in the FEIS to read, “. . . unless proven on a case-by-case basis that flareless completion operations would not be technically or economically feasible or would be unsafe.” The emissions from completion flares are, as the commenter indicates, under the jurisdiction of DEQ; however the effects of flaring noise to wildlife use of adjacent habitat and the surface disturbance associated with flaring operations are under BLM's authority.
E-66	6	A	<b>Mineral Resources</b>	Technical Information	Operator-Committed Practices	Centralization of development and production facilities would be maximized as a requirement in the JIDPA. This is not practical in Area 3 (19% area) - right now there is 40 acre surface spacing. It will require additional	Please see the revised Preferred Alternative and revised COAs in the FEIS.

**Table II-B. DEIS Comments and BLM Responses (cont'd)**

Submittal ID	Comment Number	Category	Keyword 1	Keyword 2	Keyword 3	Comment Text	BLM Response
						<p>disturbance to consolidate facilities, it is not practical to follow roads and it is limited by topography. This will work well in the 10 acre or less spacing in Area 1 (34%) and it will work with the Hub and Spoke Concept. It should be an Operator-Committed Practice where practical, feasible, and economic.</p> <p>The BLM's Preferred Alternative severely restricts Full Field development in one-half of the project area in order to protect "World Class" sagebrush habitat. Up to approximately 19% (118 acres) of new surface disturbance per 640-acre section within a 14,310-acre area (see Map 2.2 in the Draft EIS) will be allowed. This limits the development of this part of the field to 16 parent well pads per section. The wells in this part of the field are lower EUR wells not capable of economically using directional drilling potentially leaving only 16 wells per section to be drilled. This would leave a large amount of gas not being recovered.</p>	
FL1-0	2	A	<b>Wildlife</b>	Surface Disturbance	Alternatives	<p>Everyone agrees that development must have some restrictions. However, impractical limitations harm development without benefiting the public or the environment. For example, the BLM's suggested plan currently prohibits surface activity within a quarter mile of all sage grouse leks, whether they are active or not. Such a restriction should apply only to active sage grouse leks. The BLM should revise its Preferred Alternative to include only necessary and practical limitations on development.</p>	<p>The ¼ mile buffer applies to all "occupied" sage-grouse leks, not just active leks.</p>
FL2-0	3	A	<b>Air Quality</b>	Technical Information		<p>One of the main environmental concerns is air quality. Unfortunately, directional drilling actually poses more risks to air quality than does conventional straight-hole drilling. That's because directional drilling requires more time with rigs running, additional vehicle trips to and from a pad, and additional activity. These and other benefits of straight-hole drilling would be fully considered in the final decision.</p>	<p>BLM is aware of the potentially increased adverse effects to air quality as a result of increased drilling times for directional wells; these impacts will be fully described in the FEIS (See the response to comment L-87-6). Please see table 2.3 on page 15 of the AQTSD (Nov 2004). Alternatives A, C, and D all assume 100% straight-hole drilling. Straight-hole drilling would decrease NOx emissions by about 20%.</p>
FL3-448	2	A	<b>Technical Information</b>			<p>The BLM has impractical requirements regarding removing fluid from the reserve pits within 60 days when 4 months of the year is frozen (winter conditions)</p>	<p>This COA is imposed to reduce the size of the pad needed to drill a well and to accelerate the time that</p>

Table II-B. DEIS Comments and BLM Responses (cont'd)

Submittal ID	Comment Number	Category	Keyword 1	Keyword 2	Keyword 3	Comment Text	BLM Response
							<p>interim and/or final reclamation can commence to restore lost wildlife habitat. The COA does provide the Operator the opportunity to demonstrate to the BLM that this procedure is not technically or economically feasible. BLM believes the COA is appropriate, but is revising it for the FEIS to read, "If reserve pits are approved, Operators would remove/vacuum fluids from reserve pits within 60 days of all wells on the pad being put into production. If this timeframe is infeasible on a particular site, the Operators would notify the JIO and fluids would be removed as soon as practical."</p> <p>This requirement does not preclude cuttings disposal pits.</p>
FL3-462	2	D	<b>Alternatives</b>	Economics	Mineral Resources	Work out a multiple wellpad program on directional drilling. But let's get all the gas out that's available. A tax break for directional multi-wellpads.	<p>Several alternatives have directional drilling components. Alternative B would limit the Operators to 497 well pads; consequently virtually all new wells would have to be directionally drilled. Alternative E would limit the Operator to well pads located on a 1 pad per 40-acre surface spacing grid. All wells drilled to 5-, 10-, and 20-acres bottom-hole spacing would have to be developed directionally drilled from one of the 40-acre surface spacing pads. Alternative F would require directional drilling to develop wells at 5- and 10-acre bottom-hole spacing. Alternative G would require directional drilling to attain 5-acre bottom-hole spacing. Each of these alternatives will, however, leave unrecovered mineral resources in the ground. Offering a tax break for directional drilling is beyond BLM's authority and would require legislative action.</p>

**Table II-B. DEIS Comments and BLM Responses (cont'd)**

<b>Submittal ID</b>	<b>Comment Number</b>	<b>Category</b>	<b>Keyword 1</b>	<b>Keyword 2</b>	<b>Keyword 3</b>	<b>Comment Text</b>	<b>BLM Response</b>
L-04	1	A	<b>Compliance</b>	Air Quality	Performance Objectives	<p>Item: pp. 2-26, First Bullet; Airborne Emissions</p> <p>Comment: This section contains a number of air quality related objectives BLM wants to achieve.</p> <p>The BLM does not have jurisdiction for many of these programs. It is also important that the Wyoming DEQ would be the agency that would work with the USFS on issues involving acid deposition.</p> <p>We also think that air quality performance objectives should only be based on monitoring data not predicted modeling impacts because modeling is too subjective.</p>	<p>BLM recognizes that we have little authority with respect to air quality. However, BLM does have responsibility for air quality. Since BLM has a role in air quality, it is appropriate for BLM to consider air quality measures as objectives.</p> <p>The FEIS will clarify that the performance objectives are based on monitoring, and that the significance criteria are based on modeling.</p>
L-04	2	D	<b>On-site Mitigation</b>	Surface Disturbance	Conditions of Approval	<p>Item: pp. 2-27, 1st Bullet</p> <p>Comment: This requires tracking new surface disturbance every 30 days. This will interfere with field surveying required to permit wells during the potentially limited timeframe provided to stake pads. This also seems like an unduly burdensome requirement unless you have data that shows that construction is outside of that authorized by the approving document. In this case the APD. If it must be tracked, Ultra recommends that it be done on a seasonal basis i.e. once each field season.</p>	<p>BLM believes this is a reasonable requirement. All of the alternatives contain surface disturbance thresholds. Using GPS data collection systems and GIS data management systems is a very effective way to track disturbance and reclamation acreage. While it is BLM's responsibility to account for the disturbance levels relative to the EIS allocations, BLM feels that is appropriate for the Operators to collect and provide the GPS and relevant metadata since they are the entity proposing and carrying out the disturbance actions. BLM also feels the 30-day submission requirement is appropriate.</p>
L-04	3	A	<b>On-site Mitigation</b>	Compensatory Mitigation	Performance Objectives	<p>Item: pp. 2-27, 8th Bullet</p> <p>Comment: This bullet states: "Encourage Operators to participate in and support peer-reviewed research that evaluates impacts from development and effectiveness of applied mitigation." This is an effort to require operators to conduct even more studies and monitor what we are already required to monitor. It is too broad and should be dropped.</p>	<p>BLM disagrees, and the text will remain as is. Note that this item states BLM would "encourage Operators"; it does not state BLM would "require Operators."</p>
L-04	4	D	<b>Technical Information</b>	Economics	Conditions of Approval	<p>Item: pp. 2-28, 1st Bullet</p> <p>Comment: This bullet states: "Operators would begin</p>	<p>This COA is being revised for the FEIS.</p>

**Table II-B. DEIS Comments and BLM Responses (cont'd)**

Submittal ID	Comment Number	Category	Keyword 1	Keyword 2	Keyword 3	Comment Text	BLM Response
						<p>                     piping produced water and condensate from all wells in the JIDPA to appropriate treatment or disposal facilities beginning no later than January 1, 2008; this would supersede previous decisions related to method of condensate disposal." This requirement must include an economic consideration. There are some cases that the amount of water and condensate is so small that the justification for including it into a gathering system cannot be justified. At the same time, those locations would have low traffic volume from haul trucks due to the low volumes of water and condensate produced. In addition, this requirement should only apply to new facilities yet to be built and consideration must be given to extend the 1/1/08 deadline.                 </p> <p>                     Item: pp. 2-28, 1st Bullet                 </p> <p>                     Comment: This requires that each well be treated the same regardless of water volume. There are numerous wells on the fringes that do not produce enough water to warrant this requirement. You also assume that the technology is in place in less than 3 years to accommodate this requirement. Perhaps this is true for some operators but it could be large cost for limited gain for some operators.                 </p>	
L-04	5	A	<b>Conditions of Approval</b>	Compliance	Soils	<p>                     Item: pp. 2-28, 2nd Bullet                 </p> <p>                     Comment: This bullet states: "To eliminate or minimize surface sediment discharge, all well pad and road construction shall comport WDEQ storm water discharge specifications, standards, and permitting requirements. Existing well pads and roads shall be retrofitted to meet this requirement as directed by the Authorized Officer. Based on site-specific analysis, BLM may require more stringent sediment control measures be implemented." This requirement is not necessary because Wyoming DEQ has primacy for the stormwater program in Wyoming. As such, that program would be the applicable requirement and should be stated as such in the FEIS. In addition, the BLM has not completed the model for soil erosion and thus this reference is premature until that project is completed.                 </p> <p>                     Item: pp. 2-28, 2nd Bullet                 </p>	<p>                     Although Wyoming DEQ has primacy for the stormwater program, the BLM has an additional responsibility to maintain the health of the soil and protect watershed function and other related resource values in the project area. To this end, it may be necessary to require more stringent sediment and erosion control measures in unique circumstances to accomplish this objective. The predictive analysis for sediment transport has been completed. At a watershed scale, it demonstrates that soil erosion impacts can be controlled and mitigated, but site-specific impacts may still pose a significant issue to soil, watershed, and other resource values and may need special attention.                 </p>

**Table II-B. DEIS Comments and BLM Responses (cont'd)**

Submittal ID	Comment Number	Category	Keyword 1	Keyword 2	Keyword 3	Comment Text	BLM Response
						<p>Comment: The requirement that all existing well pads and roads be retrofitted to meet zero runoff requirements as directed by the Authorized Officer is not possible to meet. There is no area in Sublette County other than the granite peaks of the Wind Rivers that are even close to zero runoff even without any added surface disturbance. It is virtually impossible to meet zero runoff standards on flat, undisturbed, ground. There are some options to minimize excess runoff that are viable, but the zero runoff goal is not attainable if water moves through a site.</p> <p>Once again, permits from WYDEQ-WQD are applied for and permitted by that agency. This implies that our efforts are satisfactory provided we follow plans laid out in our APD submissions.</p>	<p>BLM is responsible for the condition and management of the federal surface that adjoins the prospective well pads. BLM is therefore required to protect the adjoining lands from actions such as sediment and salt accumulations that would adversely affect the productivity of those lands.</p> <p>In the second part of the comment the commenter incorrectly states that existing well pads and roads must be retrofitted to meet zero run-off. The COA states that existing well pads and roads be retrofitted to meet WDEQ stormwater discharge requirements. Again, this is intended to protect the productive viability of federal lands downslope from the roads and pads and to comport to the requirements of the salinity compact.</p>
L-04	8	F	<b>Wildlife</b>	Conditions of Approval		<p>Item: pp. 2-29, 1st Bullet</p> <p>Comment: The requirement asks that “Surface disturbing and disruptive activities in greater sage-grouse winter concentration areas would be avoided from November 15 through March 14.” The WAFWA Greater Sage-grouse Conservation Assessment, winter habitats for sage-grouse are not limiting.</p> <p>Crawford et al 2004 states that “During winter, sage-grouse utilize medium to tall sagebrush communities (25-8- cm, or 25-25 cm above the snow) on south and west facing slopes (Ihli et al. 1973.; Table 2) ....</p> <p>It continues to say that” Unless snow completely covers sagebrush (Hupp and Braun 1989), severe winter weather conditions have little effect on sage-grouse populations (Call and Maser 1985) and sage-grouse may actually gain weight during the winter months(Beck and Braun 1978)</p> <p>As stated in section 3.2.1.1 on pages 3-52, table 3.17</p>	<p>All management for sage-grouse is appropriate for inclusion in the FEIS.</p>

**Table II-B. DEIS Comments and BLM Responses (cont'd)**

Submittal ID	Comment Number	Category	Keyword 1	Keyword 2	Keyword 3	Comment Text	BLM Response
						<p>and map 3.12 on page 3-53, the low and moderate density sagebrush heights are 7.9 and 9.8 inches respectively. This indicates that the majority of the forage, except along Sand Draw, are not suitable winter foraging areas for sage-grouse.</p> <p>In addition, during severe winters of prolonged, deep snow, there are only a few areas where sagebrush is tall enough to remain available to sage-grouse above the snow. These areas, termed Severe Winter Relief (SWR) Habitats in a study conducted by Hayden-Wing Associates and the Rawlins Office of the BLM, are described in HWA (2004). It is important that these SWR habitats be identified as soon as possible to avoid the unnecessary protection of large areas of winter habitat that are not critical to sage-grouse survival.</p> <p>Except on the SWR areas it would seem that grouse are generally content and gain weight during winter months, have reduced fidelity to home ranges (Welch et al. (1990) cited in Connelly et al. 2004. One is led to wonder why sage-grouse are protected during winter months at all. They are healthy and gain weight during that period as opposed to ungulates which are obviously on the decline during that period of time.</p>	
L-05	2	A	<b>Compliance</b>	Conditions of Approval		<p>The next point I would like to present is the requirement of no flare pits. Without flare pits we will have to work with higher pressures increasing the risk to personnel. Also the BLM does not have authority over flare pits this is under the DEQ.</p>	<p>The comment confuses flareless completions with a lack of flare pits. The limited use of flare pits will still be allowed.</p> <p>The COA on DEIS page 2-27, bullet No. 4, does not preclude flares. OSHA requires a flare for drilling operations whether it be through a flare-stack or into a earthen pit. The COA does require the use of flareless completions, thereby eliminating the need for large flow-back pits. It also provides a caveat, that flareless completions would not be required where and/or when they are proven unsafe. This caveat is being modified in the FEIS to read, "... unless proven on a case-by-case basis that flareless completion operations would</p>

**Table II-B. DEIS Comments and BLM Responses (cont'd)**

<b>Submittal ID</b>	<b>Comment Number</b>	<b>Category</b>	<b>Keyword 1</b>	<b>Keyword 2</b>	<b>Keyword 3</b>	<b>Comment Text</b>	<b>BLM Response</b>
							not be technically or economically feasible or would be unsafe." The emissions from completion flares are, as the commenter indicates, under the jurisdiction of DEQ; however the effects of flaring noise to wildlife use of adjacent habitat and the surface disturbance associated with flaring operations are under BLM's authority.
L-05	3	C	<b>Surface Disturbance</b>	Health / Safety	Conditions of Approval	The next point I would like to make is the requirement of no reserve pits. Without reserve pits the tracking pollutions will at least triple as we will have to haul H2O in as needed and out as they finish with each phase. Also, try to pipe this out causes extreme hazards for leaks, spills, or harmful release of contaminated fluids.	This COA is imposed to reduce the size of the pad needed to drill a well and to accelerate the time that interim and/or final reclamation can commence to restore lost wildlife habitat. The COA does provide the Operator the opportunity to demonstrate to the BLM that this procedure is not technically or economically feasible. This method would result in trucking the recycled drilling mud to another active drilling location and likely involve trucking or piping frac fluids to disposal sites.  This requirement does not preclude cuttings disposal pits.
L-07	1	A	<b>Livestock/ Grazing</b>			My professional opinion is that the DEIS inadequately analyzed the impact to the livestock industry. On pg. 4-132, under 4.5.2, I state that the level of detail with respect to statements about impacts to livestock grazing is inadequate.	Please refer to text changes in the FEIS.
L-07	2	D	<b>Livestock/ Grazing</b>	Public Participation		I comment that the BLM should immediately enter into consultations with the permittees in these affected allotments and that the Final document should reflect the results of those consultations.	The BLM has discussed and continues to discuss these impacts with the permittees. The FEIS will include appropriate mitigations.
L-07	3	A	<b>Livestock/ Grazing</b>	On-Site Mitigation	Public Participation	I also comment that this Draft should have included an extensive narrative describing the intent of the BLM to inter into a Joint/Cooperative Monitoring program with the permittees as soon as this document has been decided. This monitoring program should include technical procedures to evaluate impacts & trends on rangeland resources and economic impacts to ranches that hold the grazing permits in these allotments.	Please refer to text changes in the FEIS.  A monitoring plan will be developed in accordance with guidelines in DEIS Appendix D.

**Table II-B. DEIS Comments and BLM Responses (cont'd)**

<b>Submittal ID</b>	<b>Comment Number</b>	<b>Category</b>	<b>Keyword 1</b>	<b>Keyword 2</b>	<b>Keyword 3</b>	<b>Comment Text</b>	<b>BLM Response</b>
L-07	4	A	<b>Livestock/ Grazing</b>			<p>Please note that Table 4.19 on pg. 4-133 indicates under the preferred alternative that there will be a total loss of 1,410 AUMs with new development and over the lifetime of the project, within the infill area. This is inconsistent with pg. 2-33 Table 2.12 that states there will be a total 1312 AUMs lost. It also inconsistent with pg 4.-136, under 4.5.2.11 that states 1766 AUMs would be "lost". Please provide explanation for these inconsistencies.</p> <p>Also, please provide the rational that 550 AUMs will be the maximum long-term cumulative loss. We are under the opinion that AUMs in addition to current stocking levels will likely become permanently available to permittees after reclamation efforts are successful and complete.</p> <p>On pg. 4-152, please confirm that the statement in item 5 that states that "Compensation for the impact by replacing, or providing substitute resources or environments." Applies to livestock grazing in the Infill Area.</p>	Please refer to text changes in the FEIS. In the Table of Contents, List of Tables, Table 4.19 will be deleted; also Table 4.19 will be deleted from p. 4-133.
L-07	5	D	<b>Livestock/ Grazing</b>	Public Participation	Land Use	Under item 4.8.1, pg. 4-152, we request that the permittees in the allotments affected by this Infill project be invited to serve on any independent advisory board that deals with the issue of compensation and or mitigation of impacts to current multiple uses.	Request acknowledged. A revised oversight group will be discussed in the FEIS and will include appropriate board members.
L-07	6	A	<b>Livestock/ Grazing</b>			On pg. 5-9, please add a bullet to this page to read, "Develop livestock habitat improvement projects designed to increase the stability of ranching operations that depend on the use of federal forage, and intermingled private and State owned forage, in the Infill Area."	<p>The following addition will be made to DEIS Section 5.2:</p> <p>"Develop livestock habitat improvement projects designed to increase the stability of ranching operations that depend on the use of federal forage, and intermingled private and state-owned forage, in the JIDPA.</p> <ul style="list-style-type: none"> <li>• Impacted resources potentially benefited: rangelands</li> <li>• Cost estimate: \$10 to \$20 per acre for improvements"</li> </ul>
L-07	7	F	<b>Livestock/ Grazing</b>			In pg. 3-125, I note that the calculation for the value of an AUM should be done with locally collected data, not from a BLM study done in 2003.	This comment is no longer germane. Under the new Preferred Alternative there will not be a reduction in the

**Table II-B. DEIS Comments and BLM Responses (cont'd)**

Submittal ID	Comment Number	Category	Keyword 1	Keyword 2	Keyword 3	Comment Text	BLM Response
							AUMs for the JIDPA. Please refer to changes in the FEIS.
L-07	8	A	Livestock/ Grazing			Table 4.19 states that the total acres for each allotment are: Stud Horse Butte Common—15590; Sand Draw—31740; Boundary—31994. The boundary allotment is in the Rock Springs district, so I haven't had near the access to the Boundary allotment files as I have on the other two, and am lacking some information. However, the Pinedale Field office allotment files show different numbers of total allotment acreage than the ones stated in the Draft. Sand Draw and Stud Horse Butte allotments are part of the 4-C's voluntary permittee monitoring program. The 4-C's files in the Pinedale office show allotment acreage in Stud Horse Butte—15088; and Sand Draw—32380. This is a difference of 502 for Stud Horse Butte and 640 for Sand Draw. Consider finding the exact acreage for each allotment.	Corrections to the FEIS have been made based on GIS data.
L-07	9	A	Livestock/ Grazing	Surface Disturbance		<p>I cannot find in detail how the calculation of loss of AUMs was conducted. My following comment will attempt to discuss this and provide a detailed approach to accurately calculate the surface disturbance and convert it to an AUM factor.</p> <p>It appears on Table 4.19 on pg. 4-133, that some factor of surface disturbance was applied across the board for each allotment. This approach is simplified, and unscientific. I recalculated the surface disturbance and have much LESS loss of AUMs than what is stated under the preferred alternative in Table 4.19. The following breaks down my calculations</p> <p>The DEIS table 4.19 uses an AUM conversion factor (acres/AUM) for each allotment (Stud Horse Butte Common—8.2 Acres/AUM; Sand Draw—13.2 Acres/AUM; Boundary—10.0 Acres/AUM; Blue Rim Desert 14.6 Acres/AUM) that seems accurate and consistent to my calculations. The AUMs affected by the proposal are a direct calculation from the acres of surface disturbance for each allotment. Therefore I would like to focus on the method for calculating the surface disturbance.</p> <p>On pg. 2-22, the narrative under 2.14, the Draft breaks down the preferred alternative's acres of surface disturbance by the density of well spacing. At 10 acre</p>	Please refer to text changes in the FEIS.

**Table II-B. DEIS Comments and BLM Responses (cont'd)**

Submittal ID	Comment Number	Category	Keyword 1	Keyword 2	Keyword 3	Comment Text	BLM Response
						<p>spacing the Draft states that for each section (640 acres) there would be 214 acres of disturbance; at 20 acre spacing there will be 150 acres surface disturbance per section; and at 40 acre spacing there will be 118 acres of disturbance. For each category of spacing, the disturbance includes a resource road and pipeline. Using these disturbance acres per section, the following tables (Table 1=Sand Draw; Table 2=Stud Horse Butte; Table 3=Boundary) analyze the surface disturbance for each allotment on a section-by- section basis for each well spacing density.</p> <p>[see letter for tables]</p> <p>Table 4.19 indicates that the surface disturbance for each allotment is: Stud Horse Butte Common=3,132 Acres; Sand Draw=10,887 Acres; Boundary=1,945. These numbers are much larger than my numbers calculated in the tables above. The difference in acres between the numbers calculated in the Draft and my tables above for each allotment are: Sand Draw=5532; Stud Horse Butte Common=1778.02; Boundary=1037.2. When each allotment acreage is calculated into AUMs and added together, calculations on a section-by-section basis show a total 662 AUMs affected under the preferred alternative. There is a 748 AUM difference than the 1410 AUMs stated in the Draft. Would you please consider recalculating the acres of surface disturbance on a section-by-section basis for each allotment.</p>	
L-07	10	A	<b>Livestock/ Grazing</b>	On-Site Mitigation	Public Participation	<p>The draft appears to assume that there is no excess forage available for grazing with the proposed increase in surface disturbance due to the drilling activity. During the summer of 2004 I participated in the voluntary and informal monitoring program with the permittees that indicates there is more on the ground forage available than what is currently being grazed. Our collective experience agrees with that; the past 5 years the utilization levels have been at moderate to low level, indicating large amounts of forage are not being consumed. I believe that BLM's own records agree with this.</p> <p>After finishing my calculations showing that there are only 662 AUMs affected, I believe that there is no need</p>	Please refer to text changes in the FEIS.

**Table II-B. DEIS Comments and BLM Responses (cont'd)**

Submittal ID	Comment Number	Category	Keyword 1	Keyword 2	Keyword 3	Comment Text	BLM Response
						for a reduction in AUMs. Also, when the utilization is in the moderate to low level there is no need for reduced grazing. What we need is a possible change in the grazing management such as adding range improvements and working with permittees. Please consider working with the permittees on a monitoring program and improving the management of these grazing allotments.	
L-07	12	D	<b>Livestock/ Grazing</b>	On-Site Mitigation	Vegetation	<p>It is my professional rangeland opinion, that the reclamation standards of 50% restored in 5 years and 80% in 10 years, is not practical and achievable in the Jonah Field. The Jonah field is dominated by the sagebrush ecosystem and based upon my data collected the summer 2004, the total vegetative ground cover is about 30-35%. Sagebrush consists of about 15-20% of the canopy cover. This is very dense and decadent sagebrush. Note that I believe to achieve this density of sagebrush will take approximately 15-20 years. To achieve 50% reclaimed in 5 years barring no drought conditions doesn't seem achievable.</p> <p>The draft does not state on the reclaim standards if the conditions for successful reclamation is based upon aerial or basal ground cover. At current levels of aerial cover of sagebrush (15–20%) is only about 2% basal cover. This level of measurement must be distinguished and understood in the Final EIS.</p> <p>Is the BLM currently conducting range surveys and running transects to determine successful reclamation? I comment that when determining when a site meets reclamation standards, sound rangeland science measurements such as point-intercept transects and collection of baseline data for comparison must be employed, not just an ocular estimate.</p> <p>Consider that livestock grazing can be used as a tool to help ensure successful reclamation. This doesn't mean eliminating grazing, but grazing reclaimed sites at specific times during the growing season to enhance production of those reclaimed areas.</p>	<p>Thank you for your comment.</p> <p>Reclamation success will be based on aerial cover.</p> <p>The BLM will be using the JIO to evaluate reclamation success in the JIDPA. The standards by which reclamation will be judged are contained in the new COAs of the FEIS.</p>
L-08	1	A	<b>Livestock/ Grazing</b>			<p>The JIDP DEIS does an inadequate job of properly analyzing the impact of intense drilling activities on livestock grazing within the affected grazing allotments. The analysis of the loss of livestock AUMs is</p>	<p>Please refer to text changes in the FEIS.</p>

**Table II-B. DEIS Comments and BLM Responses (cont'd)**

Submittal ID	Comment Number	Category	Keyword 1	Keyword 2	Keyword 3	Comment Text	BLM Response
						questionable, and you have not indicated the process you will use to determine the loss of AUMs as they occur, or what action will be taken by BLM as a result of any loss of grazing AUMs. On pg. 4-132, under 4.5.2, I comment that the level of detail with respect to statements about impacts to livestock grazing are inadequate.	
L-08	2	D	<b>Livestock/ Grazing</b>	On-Site Mitigation	Public Participation	I recommend you encourage the development of a cooperative joint monitoring program involving the operators, permittees, and BLM range staff that would include utilization mapping and long term plant community trend transects placed both within the project area as well as on the affected grazing allotments outside the project area. Previous monitoring on these allotments indicates there may be significant amounts of forage not being consumed by either livestock or wildlife. Perhaps by placing more watering facilities in the unused areas of the allotments not affected by intense drilling, you may help offset the impact to the disturbed areas during the reclamation process.	Please refer to text changes in the FEIS.
L-08	4	A	<b>Livestock/ Grazing</b>			On pg. Vi, Under Land Use Impacts, we feel it is premature to state that historic land uses such as livestock grazing will not be as "suitable" as before this Infill Proposal. At this time, the level and intensity of use by livestock during the Infill project has yet to be either evaluated or Decisioned. It may well be that the current level and/or historic levels of livestock use can be sustained throughout the life of this project with additional intensity of management & appropriate mitigation.	Please refer to text changes in the FEIS.
L-08	5	A1	<b>Livestock/ Grazing</b>	Land Ownership	Wildlife	<p>Please add a definition of "Base Property", defined as the lands owned or controlled by the grazing permittee to which the Preference number of Adjudicated federal livestock AUMs are attached.</p> <p>Please add a definition of the term "drought" as defined by the Society for Range Management, "Glossary of Terms, 4th Edition."</p> <p>Please note that the SRM definition does NOT refer to a lack of snowfall having anything at all to do with a drought on rangelands, and that the published literature pertinent to cool season ranges like those in the Pinedale area of Wyoming state that the shortage of</p>	<p>Range improvements can fall into the NSO restriction for certain wildlife habitats or features and are evaluated on a case-by-case basis. BLM Manual 6840 gives guidance on sensitive species management and includes federally listed species and BLM sensitive species.</p> <p>The "base property" definition will be added to the Glossary.</p> <p>The "drought" definition will be added</p>

**Table II-B. DEIS Comments and BLM Responses (cont'd)**

<b>Submittal ID</b>	<b>Comment Number</b>	<b>Category</b>	<b>Keyword 1</b>	<b>Keyword 2</b>	<b>Keyword 3</b>	<b>Comment Text</b>	<b>BLM Response</b>
						<p>water must be fore a time period DURING multiple, sequential, growing seasons to an extent that plant health is adversely affected.</p> <p>Under "No-Surface Occupancy," please clearly state in this definition that range improvements do NOT fall under this definition.</p> <p>Please add a definition of the term "Preference" to be the total number of federal livestock AUMs adjudicated to a grazing permittee of lessee, and includes the sum of both active use and suspended use AUMs.</p> <p>My comment on the definition of "species of concern is that there is NO statutory basis in the Endangered Species Act for a BLM designation of species into a list of "sensitive species". Please remove the reference to "BLM sensitive species" in this definition.</p>	<p>to the Glossary.</p> <p>Response: No Surface Occupancy applies to all surface-disturbing activities.</p> <p>The "grazing preference" definition will be added to the Glossary.</p>
L-08	6	A	<b>Livestock/ Grazing</b>	Conditions of Approval	Surface Disturbance	<p>On pg. 2-29, I believe that the statement in the second bullet that prohibits "surface disturbing activities" outside the 2 mile buffer area from March 1 to July is too restrictive to all legitimate multiple uses. This narrative should clearly state that this prohibition does NOT apply to normal and necessary livestock grazing management activities during that time period.</p>	<p>This COA is standard language from BLM's sage grouse management strategy and is consistent with the requirements of the Pinedale Resource Management Plan. It does not apply to livestock grazing, but would apply to any surface-disturbing activities, such as water well drilling and/or reservoir construction, that support livestock grazing.</p>
L-08	7	A	<b>Livestock/ Grazing</b>			<p>In Table 2.12, pg. 2-33, there is no explanation of how the number of livestock AUMs affected by each Alternative was compiled. In addition, after direct consultations with these permittees, I request that this Draft contain a narrative describing the probable impacts on each livestock permittee as a result of the "loss" of AUMs under each of these Alternatives.</p>	<p>Please refer to text changes in the FEIS. The two lines under Livestock depicting AUMs will be deleted.</p>
L-08	8	A1	<b>Wildlife</b>			<p>On pg. 3066, please add to the narratives on this page, the importance of forbs and insects to the viability of sage grouse chicks.</p>	<p>Noted.</p>
L-08	9	F	<b>Livestock/ Grazing</b>			<p>On pg. 3-125, I comment that the calculation of the value of an AUM should use locally collected data, not a generic BLM study done in 2003. That value should reflect the actual value to each ranching operation.</p>	<p>Please see the response to comment L-07-7</p>
L-08	10	A1	<b>Livestock/</b>			<p>On pg. 3-143, the narrative under 3.8 should state that</p>	<p>BLM will not compensate for loss of</p>

**Table II-B. DEIS Comments and BLM Responses (cont'd)**

Submittal ID	Comment Number	Category	Keyword 1	Keyword 2	Keyword 3	Comment Text	BLM Response
			<b>Grazing</b>			compensatory mitigation plans will be developed for each of the Multiple Uses approved by Congress on federal lands, including livestock, as soon as the Final Plan has been Decided.	AUMs.
L-08	11	E	<b>Livestock/ Grazing</b>	Surface Disturbance		<p>On pg. 4067, please provide the procedure used to determine that an increase of 16,200 acres would be disturbed under the Proposed Action.</p> <p>On pg. 4-72, the narrative under 4.2.1.10 states that the BLM's Preferred Alternative would result in an increase of 8316 acres of surface disturbance. Please provide the procedure used to calculate this number.</p> <p>On pg. 4-136, under 4.5.2.11, please provide the rational for the statements that 1766 AUMs would be "lost".</p> <p>Also, please provide the rational that 550 AUMs will be the maximum long-term cumulative loss. I believe that AUMs in addition to current stocking levels will likely become permanently available to permittees after reclamation efforts are successful and complete. The BLM should encourage a close working relationships between the operators, grazing permittees, and BLM to jointly develop grazing strategies to be used in the reclaimed areas that are workable for the permittees, operators, and BLM range staff.</p> <p>On pg. 4-152, please confirm that the statement in item 5 that states that "Compensation for the impact by replacing, or providing substitute resources or environments." Applies to livestock grazing in the Infill Area.</p>	<p>The determination that the Proposed Action would disturb 16,200 acres was made by the proponent. The BLM does not have the derivation of this number.</p> <p>The calculations used to determine the increase in disturbance for the preferred alternative are contained in DEIS Table 2.11. Please note that this table will be revised in the FEIS.</p> <p>There will be no anticipated reduction of AUMs under the new BLM Preferred Alternative.</p> <p>The BLM will not compensate for lost AUMs.</p>
L-08	12	A1	<b>Livestock/ Grazing</b>			On pg. 5-6, under 5.4.14, please add a bullet that says, "develop a livestock compensation fund to be administered by the State of Wyoming Department of Agriculture." My comment mirrors an existing bullet statement currently in this section with respect to wildlife, and there is no reason why the BLM should discriminate.	BLM will not compensate for lost AUMs.
L-08	13	A	<b>Land Ownership</b>			On pg. 5-8, Conservation Easements should not be considered as any part of off-site mitigation.	Thank you for your comment. As stated in the first paragraph in Section 5.2, <i>Compensatory (Off-Site) Mitigation Ideas</i> : "The use of conservation easements is a type of compensatory mitigation idea that

**Table II-B. DEIS Comments and BLM Responses (cont'd)**

Submittal ID	Comment Number	Category	Keyword 1	Keyword 2	Keyword 3	Comment Text	BLM Response
							could be used to mitigate impacts." The text is not necessarily stating that conservations easements would be used.
L-08	14	A1	<b>On-site Mitigation</b>	Vegetation	Operator-Committed Practices	<p>On pg. 5-9, please add a bullet to this page to read, "Develop livestock habitat improvement projects designed to increase the stability of ranching operations that depend on the use of federal forage, and intermingled private and State owned forage, in the Infill Area."</p> <p>On pgs. B-20 &amp; 21, please include a narrative that states that the number one objective of reclamation is to provide a soil cover of plants as soon as possible and that non-native species are included in the plant mix authority if it would serve that paramount objective of soil protection until such time as natives can be re-established.</p>	<p>The following addition will be made to the DEIS Section 5.2:                      "Develop livestock habitat improvement projects designed to increase the stability of ranching operations that depend on the use of federal forage, and intermingled private and state-owned forage, in the JIDPA.</p> <ul style="list-style-type: none"> <li>• Impacted resources potentially benefited: rangelands</li> <li>• Cost estimate: \$10 to \$20 per acre for improvements"</li> </ul> <p>Pages B-1 through B-21 are Operator-committed measures. BLM cannot mandate that the Operators supply additional Operator-committed measures. Site stabilization is a priority; see the outcome-based performance objective on DEIS page 2-26 and the associated COA on the bottom of page 2-29.</p>
L-08	15	D	<b>Vegetation</b>	On-Site Mitigation		I comment that the seed mixture during reclamation be designed to accomplish the "Desired Plant Communities" as determined by the BLM range staff and permittees. On pg. B-24, please provide the logic for a doubling of the seeding rate on the land areas Stated in the first paragraph. The condition of the seed bed, site by site, is a more important consideration than is the seeding rate.	The BLM agrees that the condition of the seedbed is important. The goal of this direction is to insure successful reclamation even where seedbeds are not optimal, i.e. areas that are steep, rocky or wet. In such areas it is difficult to prepare the seedbed and often not practical to drill-seed. Some seed loss through transport and consumption is expected with broadcast seeding. Doubling the application rate provides a generic solution for these difficult areas.
L-09	5	A	<b>Surface Disturbance</b>	Analysis	Mineral Resources	For this substantive comment, see also: L-10, IPAMs letter.	This comment is no longer applicable. It will be addressed by the

**Table II-B. DEIS Comments and BLM Responses (cont'd)**

Submittal ID	Comment Number	Category	Keyword 1	Keyword 2	Keyword 3	Comment Text	BLM Response
						<p>By limiting new initial surface disturbance to only 19%, restricting the number and size of well pads, the BLM's Preferred Alternative will not allow the Operators to responsibly and efficiently recover the substantial natural gas resource present in the Jonah Infill Project Area. Although the JIDP DEIS suggests that the Preferred Alternative will result in the waste of approximately 71 BCF of natural gas, the BLM recently disclosed, during public meetings in Rock Springs and Pinedale that the Preferred Alternative will actually result in the waste of 761 BCF of natural gas and 7,230,000 barrels of oil.</p>	<p>new Preferred Alternative in the FEIS.</p>
L-10	5	A	<b>Surface Disturbance</b>	Analysis	Mineral Resources	<p>For this substantive comment, see also: L-09, Petroleum Assoc. of Wy. Letter</p> <p>IPAMS believes the BLM's Preferred Alternative unreasonably stifles development in the Jonah Project Area by unnecessarily restricting surface disturbance in the northern part of the Jonah Field. By limiting new initial surface disturbance to only 19%, restricting the number and size of well pads, the BLM's Preferred Alternative will not allow the Operators to responsibly and efficiently recover the substantial natural gas resource present in the Jonah Infill Project Area. Although the JIDP DEIS suggests that the Preferred Alternative will result in the waste of approximately 71 BCF of natural gas, the BLM recently disclosed, during public meetings in Rock Springs and Pinedale, that the Preferred Alternative will actually result in the waste of 761 BCF of natural gas and 7,230,000 barrels of oil.</p>	<p>This comment is no longer applicable. It will be addressed by the new Preferred Alternative in the FEIS.</p>
L-11	3	B	<b>Surface Disturbance</b>	Transportation		<p>Item: pp. 2-22, 2.14 BLM Preferred Alternative; 1st Bullet</p> <p>Comment: Within the first bullet is a reference to "a satellite well pad". The description includes an assumption of 2.0 acres of disturbance including a resource road and gathering pipeline. It is unclear if the 2.0 acres is short term or long-term disturbance. Regardless, it is important to note that 4.0 acres will be necessary for just the well pad in order to drill a satellite well. Also, a road will likely need to be maintained which in our case would need to be an all-weather road. While the pad will be in the interim reclaimed for production, as we describe in other comments, maintaining an all weather road and leaving the anchor area around the</p>	<p>The pad sizes on DEIS page 2-27, Section 2.14.2, bullet No. 2 were used for analysis purposes to determine the potential surface disturbance for the preferred alternative. BLM also believes these to be acceptable guidelines for the Operators to strive to achieve. However, as written in the DEIS, the COA provides little flexibility to address changes in terrain or other unforeseen circumstances. The COA is therefore being modified in the FEIS as follows: "To the extent reasonable and practical, well pad</p>

**Table II-B. DEIS Comments and BLM Responses (cont'd)**

Submittal ID	Comment Number	Category	Keyword 1	Keyword 2	Keyword 3	Comment Text	BLM Response
						<p>wellbore available for well repairs and workovers leads one to believe that surface disturbance may not be as small as anticipated with the satellite well concept. The total acreage disturbance as described here should be closely assessed before pursuing this as part of the FEIS.</p>	<p>surface disturbance would not exceed 7.0 acres for parent and multi-well pads, 4.0 acres for single-well well pads, and 2.0 acres for satellite well pads, unless the Operator can demonstrate to the satisfaction of the Authorized Officer, on a case-by-case basis, that the size limitation for a given pad would create a significant safety concern for the workers, the public at large, or the environment. These acreages include cut and fill slopes, but do not include access roads and pipelines.”</p> <p>This limitation would be monitored through well pad layout and road plans provided with an APD.</p>
L-11	4	A1	<b>Surface Disturbance</b>	Economics	Mineral Resources	<p>Item: pp. 2-24; 2.14 BLM Preferred Alternative; 1st Bullet</p> <p>Comment: The preferred alternative discusses several scenarios of surface disturbance within the JIDPA. One scenario of serious concern to BP reads: “up to approximately 19% (118 acres) new surface disturbance per 640 acre section within a 14,310 acre area (Map 2.2) based on 16 parent well pads per section (as many as 128 well bores per section). There are also two sub-bullets that read: “2,576 acres of new initial disturbance and 716 acres of LOP surface disturbance” with the second sub-bullet reading: “well pad density limitation would be applicable until monitoring data, with up to 10 year trends, conclusively show that denser than 40-acre surface spacing can meet performance-based field development and production objectives.”</p> <p>BP is requesting that the 34% disturbance area be adjusted to include the following sections (currently included in the 19% disturbance area) and more fully described as follows:</p> <p>Section 7 T29N-R108W: S/2 E/2</p> <p>Section 8 T29N-R108W: S/2</p>	<p>This comment is no longer applicable. It will be addressed by the new Preferred Alternative in the FEIS.</p>

**Table II-B. DEIS Comments and BLM Responses (cont'd)**

Submittal ID	Comment Number	Category	Keyword 1	Keyword 2	Keyword 3	Comment Text	BLM Response
						<p>Section 9 T29N-R108W: S/2</p> <p>Section 10 T29N-R108W: S/2</p> <p>Section 11 T29N-R108W: S/2</p> <p>Section 12 T29N-R108W: S/2</p> <p>Section 18 T29N-R107W: All</p> <p>Section 19 T29N-R107W: E/2</p> <p>Section 13 T29N-R108W: All</p> <p>Section 14 T29N-R108W: All</p> <p>Section 15 T29N-R108W: N/2</p> <p>Section 17 T29N-R108W: E/2 E/2</p> <p>Section 19 T29N-R108W: W/2 E/2</p> <p>Section 21 T29N-R108W: W/2</p> <p>Our reasons for this request are based upon a number of factors which are presented below: The 19% disturbance limitation will place BP in a competitive disadvantage. This area encompasses a large percentage of BP acreage and will require directional drilling to be used extensively. BP continues to assess directional drilling techniques to better understand the use of it in the JIDPA. However, to have directional drilling mandated through the use of a 19% disturbance threshold presents technical and economic burdens.</p> <p>There are cost considerations. We have experienced an incremental cost to directionally drill in the JIDPA to range between \$270,000 and \$400,000.</p> <p>To drill directional wells take longer and can lengthen drilling operations by 25%. This could extend drilling operations by 2-3 years compared to vertical wells and defer interim reclamation by the same time frame.</p> <p>Directional drilling does increase mechanical risk and</p>	

**Table II-B. DEIS Comments and BLM Responses (cont'd)**

Submittal ID	Comment Number	Category	Keyword 1	Keyword 2	Keyword 3	Comment Text	BLM Response
						<p>has resulted in the inability to place casing at the bottom of the well in approximately 30% of our directional wells. This can preclude any completions in the lower portion of the well.</p> <p>During completion, complications have been documented in 10% of the wells and when this occurred it extended the time frame for completing the well by a factor of 2 to 3 times longer than average to complete drilling operations.</p> <p>There have been problems with differential sticking in the Fort Union formation. Options to correct this challenge include running intermediate casing through the Ft. Union at a significant cost of between \$670,000 and \$770,000 per well or changing from a water-based mud system to oil-based. The concern for changing mud systems is the added environmental precautions that must be exercised with managing that type of mud system.</p> <p>Loss of reserves is another major concern. This can occur either by not being able to complete in all available pay, due to the casing not being set at bottom, or by potential well locations not being drilled because they will not support the incremental costs associated with directional drilling. BP has estimated that in this area a loss of natural gas resource could range between 300-500 BCF if the 19% disturbance area is not adjusted as requested. This is a significant loss to the federal treasury as well as to the State of Wyoming and Sublette County.</p> <p>This area of the JIDP will, based upon information obtained to date, have poorer reservoir quality than the southern portion of the field. This suggests that this area will require a higher well density to achieve the same recoveries as the southern portion of the field and, because of the poorer reservoir quality, is less able to support the incremental cost of directional drilling. Being required to meet the 19% threshold will preclude achieving similar well densities and ultimately recovering the resources.</p> <p>BP is committed to reducing our surface disturbance</p>	

**Table II-B. DEIS Comments and BLM Responses (cont'd)**

Submittal ID	Comment Number	Category	Keyword 1	Keyword 2	Keyword 3	Comment Text	BLM Response
						<p>footprint. However, the use of directional drilling is a complex technical challenge and an expensive endeavor in the JIDPA. We will continue to address the challenges, but mandating directional drilling is something that must be re-assessed in the preferred alternative. The requested extended area to 34% would encroach near two leks, but still remain sufficiently away from five other identified leks. This request, if accepted, would still leave a 2.5-mile buffer of the 19% disturbance area in the northern portion of the JIDPA. Further, it is important to note that if the 34% disturbance area was extended as requested, an ongoing evaluation of resource impacts, as described in the DEIS, would take place. If those impacts were determined to be significant and adverse, offsite mitigation would be an alternative available to address those concerns. We fully support that approach as an important aspect in re-assessing the preferred alternative and adjusting the disturbance areas as requested.</p>	
L-11	5	A1	<b>Performance Objectives</b>	Air Quality		<p>Item: pp. 2-26, 1st Bullet; Airborne Emissions</p> <p>Comment: This section contains a number of air quality-related objectives BLM wants to achieve. These include avoiding near-field concentrations that exceed WAAQS or NAAQS, avoiding cumulative near-field concentrations greater than PSD Class II increments, avoiding cumulative far-field concentrations in Class I and Class II areas greater than PSD increments, avoiding decreases in visibility in Class I and II areas greater than established standards, avoiding decreases in Acid Neutralizing capacity in sensitive regional lakes greater than USFS levels of acceptable change, avoiding increases in total acid deposition in sensitive areas greater than deposition analysis thresholds; and avoiding cumulative deposition total loadings greater than USFS levels of concern. The BLM does not have jurisdiction for many of these programs. For example, meeting the WAAQS or the NAAQS as well as PSD compliance remains the jurisdiction of the Wyoming DEQ. It is also important that the Wyoming DEQ would be the agency that would work with the USFS on issues involving acid deposition. It would be recommended that these objectives be rewritten to acknowledge the Wyoming DEQ's jurisdiction. Air quality performance objectives should only be based on monitoring data and</p>	<p>BLM recognizes that we have little authority with respect to air quality. However, BLM does have responsibility for air quality. Since BLM has a role in air quality, it is appropriate for BLM to consider air quality measures as objectives.</p> <p>The FEIS will clarify that the performance objectives are based on monitoring, and that the significance criteria are based on modeling.</p>

**Table II-B. DEIS Comments and BLM Responses (cont'd)**

<b>Submittal ID</b>	<b>Comment Number</b>	<b>Category</b>	<b>Keyword 1</b>	<b>Keyword 2</b>	<b>Keyword 3</b>	<b>Comment Text</b>	<b>BLM Response</b>
						not predicted modeling impacts.	
L-11	6	B	<b>Performance Objectives</b>	Soils		<p>Item: pp 2-26, 3rd Bullet</p> <p>Comment: This bullet states: "Maintain sediment erosion (salt and silt discharge rates) at WDEQ- and BLM-acceptable levels." It is important that BLM provide what constitutes "acceptable levels" of sediment erosion. While not clear, the reference to erosion modeling that is being deferred until the FEIS could be a basis for these levels, although this is not stated. Once this has been accomplished, the BLM should work with the operators, with input from the Wyoming DEQ, to identify appropriate Best Management Practices (BMPs) to accomplish this objective. Ultimately, the DEQ has primacy for the stormwater program in Wyoming which is designed to address this issue. Therefore, anything relating to sedimentation controls must defer to DEQ's jurisdiction and responsibility for administering this program.</p>	<p>Erosion and salt discharge rates could be considered excessive if conditions were such that one or more of the Wyoming BLM Standards for Healthy Rangelands or DEQ standards were not being met all or part of the time. With the judicious application of BMPs and cooperation between all parties involved, this standard could easily be met and positively exceeded. The interrelationships between land health, which the BLM does have responsibility and authority for, and water quality, which is the responsibility of the DEQ, means that many land management practices can affect both agencies' areas of responsibility simultaneously.</p> <p>In addition, please see response to comment L04-5 above. As a matter of practice, BLM works with operators and state and federal agencies to craft development and reclamation plans that will appropriately protect soil, water, watershed, riparian, and other resource values.</p>
L-11	7	A1	<b>Performance Objectives</b>	Wildlife		<p>Item: pp. 2-27, 1st Bullet</p> <p>Comment: This bullet states: "Plan development activities and interim and final reclamation to maximize and increase habitat patch sizes and reduce habitat fragmentation for sagebrush-obligate species." This requirement is vague and somewhat confusing. It goes without saying that any interim and final reclamation would serve to reduce any fragmentation since the previous disturbance would be either partially reduced, or in the case of final reclamation, eliminated. This would be better worded to state: "Plan development activities to maximize and increase habitat patch size and reduce habitat fragmentation for sagebrush obligate species taking into account spacing requirements for the Jonah</p>	<p>Mitigation and reclamation efforts should promote larger patches of sagebrush than will exist after development takes place. Larger patches of sagebrush tend to benefit sagebrush-obligate wildlife species more than smaller ones.</p>

**Table II-B. DEIS Comments and BLM Responses (cont'd)**

Submittal ID	Comment Number	Category	Keyword 1	Keyword 2	Keyword 3	Comment Text	BLM Response
						Field.”	
L-11	8	E	<b>Performance Objectives</b>	Noise		<p>Item: pp. 2-27, 2nd Bullet</p> <p>Comment: This bullet states: “Limit any increase in production activity noise levels to 10-decibel or less increase above background noise levels, as measured at noise-sensitive resource locations (e.g., greater sage-grouse leks, occupied raptor nests).” First, a question exists how the noise readings will be taken. There is no information regarding a protocol to follow in taking the readings. For example, are the readings to be taken at the center or the outside edge of a lek or is to be taken at multiple locations in and around the lek then all the numbers averaged? Are wind screens to be used and is a limit on wind speed to be considered? Wind speeds typically over 5 mph are considered by many sound experts too high to avoid interference with obtaining an accurate sound reading. Is an averaging period to be used such as using a 10 or 15 minute duration? It is also important to note that background noise levels vary by time of day and seasonally. How and when are the readings to be taken and how are the variabilities in background noise to be accounted for in determining whether the 10 decibel level is met or exceeded? How will natural variables in sound be reflected in determining a baseline/background reading? Is the “A” weighted scale the sound meter setting for use in taking these readings? These questions and statements demonstrate the need to develop a protocol on how these noise readings are to be taken.</p>	<p>Locations, monitoring techniques, and requirements will be identified in the wildlife monitoring and mitigation plan developed after the ROD is signed.</p> <p>Noise-sensitive resource examples include sage-grouse leks, raptor nests, winter habitats, or other wildlife habitats that, if affected by noise, could result in disruption of an animal's normal behavior.</p> <p>A protocol will be developed in the monitoring plan.</p>
L-11	9	A1	<b>Performance Objectives</b>	Wildlife		<p>Item: pp. 2-27, 3rd Bullet</p> <p>Comment: This bullet states: “Minimize or reduce impacts to sagebrush and other habitats to maintain or minimize losses in the number of male greater sage-grouse on leks, numbers of sagebrush-obligate listed and sensitive species, and other wildlife”. This item is too broad and is not necessary. There are a large number of specific items regarding specific species in the DEIS that are more concise and useful than this language. For example, there are a number of seasonal restrictions in place for specific species that when followed meet this objective. There is no need to place an all-encompassing requirement that really adds very little toward accomplishing what is already being</p>	<p>BLM’s goal is to minimize adverse impacts to wildlife and habitats. These requirements are broad but necessary. Site-specific actions will be evaluated at the time of proposed activities.</p>

**Table II-B. DEIS Comments and BLM Responses (cont'd)**

<b>Submittal ID</b>	<b>Comment Number</b>	<b>Category</b>	<b>Keyword 1</b>	<b>Keyword 2</b>	<b>Keyword 3</b>	<b>Comment Text</b>	<b>BLM Response</b>
						achieved with other specific mitigation. Consequently, this item should be deleted from the FEIS.	
L-11	10	B	<b>Performance Objectives</b>	Wildlife		Item: pp. 2-27, 4th Bullet  Comment: This bullet states: "Maintain or improve currently active big game migration routes." While maintaining is understandable, we are unclear as to what is anticipated for "improving" the routes. We are unaware of any biological criteria in existence for "improving" migration routes. If BLM has recommendations for improvement, these should be presented in the text or in the appendices.	Improvement can mean increasing use or providing a more secure use. No specific recommendations are currently presented, but will be developed in the wildlife monitoring and mitigation plan developed after the ROD is signed.
L-11	11	B	<b>Performance Objectives</b>			Item: pp. 2-27, 5th Bullet  Comment: This bullet states: "Reduce human activity per well pad in the JIDPA below current levels during both the development and production phases." Again, this is a measure that is lacking specific definition. For example, what is considered "human activity"? What is the baseline to compare present human activity compared to future activities? There are already specific measures regarding traffic, car-pooling and telemetry at well sites that are all specific to meeting this objective. This measure has little value in light of the other more specific requirements and should be eliminated in the FEIS.	The commenter is correct in asserting that there are no comprehensive data showing current activity levels in the Jonah Field; however, BLM still believes this is a reasonable and achievable objective. The success or failure of this objective would be measured in the implementation of measures such as remote telemetry, centralized production facilities, crew busing, installation of condensate and/or produced water, etc.
L-11	12	B	<b>Performance Objectives</b>	Water Resources		Item: pp. 2-27, 6th Bullet  Comment: This bullet states: "Prevent contamination of all surface and ground water." It is unclear what criteria would be applied to this measure. Even if it was provided, it would be generated from the Wyoming Department of Environmental Quality since they have jurisdiction for maintaining the quality of surface and groundwater in Wyoming. Therefore, this item is already in existence in the various state regulations administered by the DEQ and should be deleted from the FEIS.	The commenter correctly asserts that the authority to regulate water quality rests with WDEQ, which has jurisdiction for preventing contamination of ground and surface water. BLM still feels that an appropriate objective for the Jonah EIS is not to degrade or interfere with the WDEQ regulations, but rather to augment them. The objective is revised in the FEIS to be more measurable.  While BLM does not have regulatory authority under the Clean Water Act (CWA), it still has the responsibility to ensure that actions it authorizes

**Table II-B. DEIS Comments and BLM Responses (cont'd)**

<b>Submittal ID</b>	<b>Comment Number</b>	<b>Category</b>	<b>Keyword 1</b>	<b>Keyword 2</b>	<b>Keyword 3</b>	<b>Comment Text</b>	<b>BLM Response</b>
							would not knowingly violate the CWA.
L-11	13	A1	<b>Performance Objectives</b>	Technical Information		<p>Item: pp. 2-27, 7th Bullet</p> <p>Comment: This bullet states: "Utilize state-of-the-art technologies to avoid, minimize or mitigate impacts." This measure is too broad and provides no specificity as to how this would be achieved. What some perceive as the state of the art may be economically and technologically infeasible. Therefore, if this measure is to remain in the FEIS, the end of the sentence should include "...if economically and technologically feasible."</p>	See the revised objective in the FEIS.
L-11	14	A1	<b>Performance Objectives</b>			<p>Item: pp. 2-27, 8th Bullet</p> <p>Comment: This bullet states: "Encourage Operators to participate in and support peer-reviewed research that evaluates impacts from development and effectiveness of applied mitigation." This requirement should specify the intentions of the BLM and how this will be accomplished. It is difficult to determine if the operators will be expected to "support" research by being required to incur the costs. There should be caveats as to how this process will be administered to ensure flexibility; otherwise the measure should be stricken from the FEIS. Further, it is imperative that the information be reviewed by the agency to determine if any modifications are warranted. Therefore, an additional sentence should be added that reads: "BLM will review the information on a regular ongoing basis to determine, with input from the operators, where modifications in research plans are warranted."</p>	BLM disagrees, and the text will remain as is. Note that this item states BLM would "encourage Operators"; it does not state BLM would "require Operators."
L-11	15	A	<b>Conditions of Approval</b>	Surface Disturbance	On-Site Mitigation	<p>Item: pp. 2-27, 1st Bullet</p> <p>Comment: This bullet states: "Tracking surface disturbance area would be implemented by Operators, and Operators would provide BLM with federal geographic data committee (FGDC) –compliant metadata and geographic information system (GIS)/global positioning system (GPS) location data for all newly developed facilities and reclaimed areas within 30 days of completion of disturbance and reclamation activities. BLM would randomly verify these data." This requirement requests that surface disturbance areas would be tracked by the operators. It requires that data for all newly developed facilities and reclaimed areas be</p>	BLM believes this is a reasonable requirement. All of the alternatives contain surface disturbance thresholds. Using GPS data collection systems and GIS data management systems is a very effective way to track disturbance and reclamation acreage. While it is BLM's responsibility to account for the disturbance levels relative to the EIS allocations, BLM feels that is appropriate for the Operators to collect and provide the GPS and relevant metadata since they are the

**Table II-B. DEIS Comments and BLM Responses (cont'd)**

Submittal ID	Comment Number	Category	Keyword 1	Keyword 2	Keyword 3	Comment Text	BLM Response
						<p>submitted within 30 days to BLM upon completion of disturbance and reclamation activities. It is recommended the information should only apply to long-term disturbance figures since that should be the ultimate measure of impact. The need to provide this information on all disturbance is not really relevant since the goal should be to track interim and final reclamation figures. Further, why require the information every 30 days? It would be easier and more efficient to catalogue the information once a year rather than every month. Any trends or thresholds could be better tracked in this manner. BP already submits interim reclamation information on an annual basis to the BLM and this would be a continuation of that procedure. We do not believe it is necessary to utilize FGDC/GIS/GPS techniques to track reclamation progress. If BLM feels strongly about acquiring data using site coordinates, then BLM should fund that effort.</p>	<p>entity proposing and carrying out the disturbance actions. BLM also believes the 30-day submission requirement is appropriate.</p>
L-11	16	A	<b>Conditions of Approval</b>	Surface Disturbance	Vegetation	<p>Item: pp. 2-27, 2nd Bullet</p> <p>Comment: This bullet states: "Well pad surface disturbance would be limited to a maximum of 7.0 acres for parent and multi- well pads, 4.0 acres for single-well well pads, and 2.0 acres for satellite well pads. These acreages include well pad, access road, pipeline, and topsoil and spoil piles." These acreage limitations are too small when considering all the activities that are being combined. Of particular concern is the inclusion of topsoil and spoil piles as part of the disturbance figures. These items should not be included because they are typically stored on the perimeter of the cleared pad and do not require vegetation removal. In fact, our experience has shown that once the top soil and spoil material is removed from these areas, re-establishment of vegetation occurs relatively soon. In addition, while BP is striving to reduce our footprint, it is not possible to meet these disturbance figures when including pipelines also because of the varying length that may be needed. It is also questionable to include pipelines anyway considering the fact the disturbance is reclaimed so quickly. Further, the size of wellpad will vary depending upon whether the pad encounters complex terrain where more cut and fill translates to larger locations. Assuming topsoil and spoil material is removed from inclusion in the total disturbance, this section should have a</p>	<p>The pad sizes on DEIS page 2-27, Section 2.14.2, bullet No. 2 were used for analysis purposes to determine the potential surface disturbance for the preferred alternative. BLM also believes these to be acceptable guidelines for the Operators to strive to achieve. However, as written in the DEIS, the COA provides little flexibility to address changes in terrain or other unforeseen circumstances. The COA is therefore being modified in the FEIS as follows: "To the extent reasonable and practical, well pad surface disturbance would not exceed 7.0 acres for parent and multi- well pads, 4.0 acres for single-well well pads, and 2.0 acres for satellite well pads, unless the Operator can demonstrate to the satisfaction of the Authorized Officer, on a case-by-case basis, that the size limitation for a given pad would create a significant safety concern for the workers, the public at large, or the environment. These acreages</p>

**Table II-B. DEIS Comments and BLM Responses (cont'd)**

Submittal ID	Comment Number	Category	Keyword 1	Keyword 2	Keyword 3	Comment Text	BLM Response
						sentence added at the end that reads: "These figures are averages across the field and some variability will be allowed depending upon terrain and other factors." The 2.0 acres is too small for drilling a satellite well and instead 4.0 acres would be necessary.	include cut and fill slopes, but do not include access roads and pipelines."  This limitation would be monitored through well pad layout and road plans provided with an APD.
L-11	17	A	<b>Conditions of Approval</b>	Technical Information		Item: pp. 2-27, 3rd Bullet  Comment: This bullet states: "Hard-line fracturing processes would be required for all well pads when surface density is > 1 well pad/40 acres, and recommended when well pad surface density is < 1 pad/40 acres." This is an emerging technology that is still being evaluated for all-weather application. Until this technique is further evaluated, assuming it will be used on a broad basis is inappropriate. Further, BP is concerned about what BLM is placing as a restriction in a project level EIS regarding completion techniques. If BLM has concerns about what type of completion technique should be used, this should be dealt with at the APD stage and should consider technical and economic feasibility. If adopted, this could potentially eliminate the use of newer technologies that could be less damaging to the environment. Fracturing based upon density then including as an overall field requirement is not necessary and should be eliminated from the FEIS.	BLM does not have a concern about what type of completion techniques are employed by the Operators. BLM is, however, required under NEPA to eliminate, reduce, or otherwise mitigate impacts to the extent reasonable and practicable, and through other regulations to prevent undue and unnecessary degradation. Where "hard-line" fracturing is technically and economically feasible, it reduces the need for pits or batteries of "frac" tanks on each well pad to handle the discharge of "frac" fluids, thereby reducing the size of the pad needed to drill and complete infill wells. BLM also recognizes that "hard-line" fracturing is an emerging technology and is not a panacea. Accordingly, this COA is being modified in the Final EIS to include the following qualifier, "unless the Operator can demonstrate to the satisfaction of the Authorized Officer that centralized fracturing is not reasonable or technically or economically feasible, or that another well completion procedure would create less surface impact."  BLM does not intend to stymie innovation and fully encourages Operators to test and implement new environmentally friendly technologies as they become available and prove successful.
L-11	18	A1	<b>Conditions of Approval</b>	Technical Information		Item: pp. 2-27, 4th Bullet  Comment: This bullet states: "Operators would utilize	The COA on DEIS page 2-27, bullet No. 4, does not preclude flares. OSHA requires a flare for drilling

**Table II-B. DEIS Comments and BLM Responses (cont'd)**

Submittal ID	Comment Number	Category	Keyword 1	Keyword 2	Keyword 3	Comment Text	BLM Response
						<p>flareless completions for all wells within the JIDPA unless proven on a case-by-case basis that flareless completions would be unsafe.” There is no need for the BLM to regulate flareless completions. The Wyoming DEQ is already in the process of developing a rule regarding this practice. This bullet should be either eliminated or be revised to reference Wyoming DEQ jurisdiction.</p>	<p>operations whether it be through a flare-stack or into a earthen pit. The COA does require the use of flareless completions, thereby eliminating the need for large flow-back pits. It also provides a caveat that flareless completions would not be required where and/or when they are proven unsafe. This caveat is being modified in the FEIS to read, “. . . unless proven to the satisfaction of the authorized officer on a case-by-case basis that flareless completion operations would not be technically or economically feasible or would be unsafe.” The emissions from completion flares are, as the commenter indicates, under the jurisdiction of DEQ, however the effects of flaring noise to wildlife use of adjacent habitat and the surface disturbance associated with flaring operations are under BLM’s authority.</p>
L-11	19	A	<b>Conditions of Approval</b>	Water Resources	Surface Disturbance	<p>Item: pp. 2-28, 1st Bullet</p> <p>Comment: This bullet states: “Operators would begin piping produced water and condensate from all wells in the JIDPA to appropriate treatment or disposal facilities beginning no later than January 1, 2008; this would supersede previous decisions related to method of condensate disposal.” This requirement must include economic, operational and environmental considerations. There are some cases that the amount of water and condensate is so small that the justification for including it into a gathering system cannot be justified. At the same time, those locations would have low traffic volume from haul trucks due to the low volumes of water and condensate produced. There would also be concerns about the amount of surface disturbance needed. In addition, this requirement should only apply to new facilities yet to be built and consideration must be given to extend the 1/1/08 deadline until 3 years after the ROD is issued. There should also be a provision to allow exceptions to this requirement.</p>	<p>This COA is being revised for the FEIS.</p>

**Table II-B. DEIS Comments and BLM Responses (cont'd)**

Submittal ID	Comment Number	Category	Keyword 1	Keyword 2	Keyword 3	Comment Text	BLM Response
L-11	20	A1	Conditions of Approval	Water Resources	Soils	<p>Item: pp. 2-28, 2nd Bullet</p> <p>Comment: This bullet states: "To eliminate or minimize surface sediment discharge, all well pad and road construction shall comport WDEQ storm water discharge specifications, standards, and permitting requirements. Existing well pads and roads shall be retrofitted to meet this requirement as directed by the Authorized Officer. Based on site-specific analysis, BLM may require more stringent sediment control measures be implemented." The DEQ has jurisdiction for storm water discharge and permitting requirements. Further, BLM has not completed the model for soil erosion and thus anticipating more stringent requirements is premature until the modeling is completed.</p>	<p>Although Wyoming DEQ has primacy for the stormwater program, the BLM has an additional responsibility to maintain the health of the soil and protect watershed function and other related resource values in the project area. To this end, it may be necessary to require more stringent sediment and erosion control measures in unique circumstances to accomplish this objective. The predictive analysis for sediment transport has been completed. At a watershed scale, it demonstrates that soil erosion impacts can be controlled and mitigated, but site-specific impacts may still pose a significant issue to soil, watershed, and other resource values and may need special attention.</p> <p>BLM is responsible for the condition and management of the federal surface that adjoins the perspective well pads. BLM is therefore required is protect the adjoining lands from actions such as sediment and salt accumulations that would adversely affect the productivity of those lands. The language will therefore remain in the document as written to provide future options. The term "may" was included to indicate that more stringent standards could be applied if needed.</p>
L-11	21	A1	Conditions of Approval	Economics		<p>Item: pp. 2-28, 4th Bullet</p> <p>Comment: This bullet states: "Centralization of development and production facilities would be maximized in the JIDPA." This requirement should include a reference to economic, environmental, and technical feasibility. There could be areas of the field where centralization is not appropriate due to economic and technical factors. In addition, there could be cases</p>	<p>This COA is being revised for the FEIS.</p>

**Table II-B. DEIS Comments and BLM Responses (cont'd)**

Submittal ID	Comment Number	Category	Keyword 1	Keyword 2	Keyword 3	Comment Text	BLM Response
						where environmental sensitivities make central facilities inappropriate (i.e., proximity to sensitive habitat).	
L-11	22	A1	<b>Conditions of Approval</b>	Water Resources		<p>Item: pp. 2-28, 5th Bullet</p> <p>Comment: This bullet states: "All hydraulic structures would be engineered and designed by a certified civil engineer, utilizing hydraulic runoff modeling software, to ensure the structures are stable and erosion is minimized throughout the LOP." This item is questionable for inclusion since this type of structure would be subject to the jurisdiction of the Army Corp of Engineers and Section 404 of the Clean Water Act. If this type of oversight is necessary, it is something that would fall within the primacy of the COE. It should not be included in the FEIS.</p>	<p>Installation of structures within watercourses does require an Army Corp of Engineer's 404 permit. Most installations fall under the national permit, which does not give site-specific design and installation parameters. While COE is responsible for the such actions under the Clean Water Act, BLM is equally responsible for ensuring that undue and unnecessary degradation of public lands DOES NOT occur through improper installation of a culvert or other hydraulic structure; therefore this requirement is appropriate and will be carried into the FEIS.</p>
L-11	23	A1	<b>Conditions of Approval</b>	Soils		<p>Item: pp. 2-28, 6th Bullet</p> <p>Comment: This bullet states: "All engineering for construction would be designed to minimize or mitigate cumulative impacts and minimize sedimentation at the JIDPA boundary." BP recognizes the importance of controlling sediment, but this is regulated by the Wyoming DEQ through the stormwater management program and applicable best management practices.</p>	<p>Although Wyoming DEQ has primacy for the stormwater program, the BLM has an additional responsibility to maintain the health of the soil and protect watershed function and other related resource values in the project area. To this end, it may be necessary to require more stringent sediment and erosion control measures in unique circumstances to accomplish this objective. The predictive analysis for sediment transport has been completed. At a watershed scale, it demonstrates that soil erosion impacts can be controlled and mitigated, but site-specific impacts may still pose a significant issue to soil, watershed, and other resource values and may need special attention.</p> <p>BLM is responsible for the condition and management of the federal surface that adjoins the prospective</p>

**Table II-B. DEIS Comments and BLM Responses (cont'd)**

Submittal ID	Comment Number	Category	Keyword 1	Keyword 2	Keyword 3	Comment Text	BLM Response
							well pads. BLM is therefore required is protect the adjoining lands from actions such as sediment and salt accumulations that would adversely affect the productivity of those of those lands.
L-11	24	A1	<b>Conditions of Approval</b>	Technical Information		<p>Item: pp. 2-28, 7th Bullet</p> <p>Comment: This bullet states: "Operators would utilize closed drilling systems (no reserve pits) for all wells unless proven on a case-by-case basis that to do so would be technologically or economically infeasible. If reserve pits are approved, Operators would remove/vacuum fluids from reserve pits within 60 days of all wells on a pad being placed into production, to accelerate pit closure and reclamation." BP is concerned this requirement is being mandated. BP will commit to consider the use of closed mud systems whenever appropriate, but there may be cases it is not feasible. It is important that closed systems do not eliminate the need to dispose of cuttings. As such, cuttings should be disposed of from the drill pad from where they were generated. Hauling these offsite will cause more traffic and would require a central facility for handling which would result in more surface disturbance. Pits are also crucial to our ability to perform completion operations. The 60-day limit is not appropriate since wintertime operations would not make meeting this obligation feasible or safe and is far too short a period to accomplish this task. Finally, there is no information in the DEIS that justifies imposing this requirement. The drilling mud systems being used by BP are water based and the risk to surface water or groundwater, based upon the nature of the drilling mud, is virtually non-existent. Consequently, we would recommend the following change: "Operators are encouraged to utilize closed drilling mud systems as an option to reserve pits. If operators choose this option, they are allowed to dispose of cuttings onsite using a pit. If reserve pits are used, operators would remove/vacuum fluids within 180 days unless constrained by cold temperatures which would defer the 180 day requirement until such time as weather conditions allow the safe removal of liquids."</p>	<p>This COA is imposed to reduce the size of the pad needed to drill a well and to accelerate the time that interim and/or final reclamation can commence to restore lost wildlife habitat. The COA does provide the Operator the opportunity to demonstrate to the BLM that this procedure is not technically or economically feasible. BLM believes the COA is appropriate, but is revising it for the FEIS to add, "If this timeframe is infeasible on a particular site, the Operators would notify the JIO and fluids would be removed as soon as practical."</p> <p>This requirement does not preclude cuttings disposal pits.</p>
L-11	25	B	<b>Conditions of Approval</b>	Noise		Item: pp. 2-28, 8th Bullet	Thank you for your comment. The NEPA EIS process allows—even

**Table II-B. DEIS Comments and BLM Responses (cont'd)**

Submittal ID	Comment Number	Category	Keyword 1	Keyword 2	Keyword 3	Comment Text	BLM Response
			Approval			<p>Comment: This bullet states: “New compressor sites would be located away from noise-sensitive resources or muffled appropriately to minimum noise standards.” This requirement is too vague. What is the definition of a “noise-sensitive receptor”? This can mean many different things. Further, a reference is made to noise standards. What are the noise standards? We are not aware of any noise standards either BLM or the State of Wyoming has developed. If they are developed, it should be done in a manner that allows a review by the regulated community before they are imposed. Therefore, this bullet should be eliminated until the definition of a receptor or standards are developed through a rulemaking process.</p>	<p>requires—BLM to develop mitigation measures to reduce project-specific impacts even where national or state standards may not exist.</p> <p>Noise-sensitive resource examples include sage-grouse leks, raptor nests, winter habitats, or other wildlife habitats that, if affected by noise, could result in disruption of an animal’s normal behavior.</p> <p>A noise standard that has been used is “no increase in ambient noise levels above 10 dBA.”</p>
L-11	26	A1	Conditions of Approval	Wildlife		<p>Item: pp. 2-28, 10th Bullet</p> <p>Comment: This bullet states: “Well pads, access roads, and other above-ground facilities would not be located within 825 feet of any raptor nest, within 1,000 feet of ferruginous hawk nests, and within 2,640 feet of bald eagle nests.” This requirement must have the word “active” inserted before “raptor nest”, “ferruginous hawk nests” and “bald eagle nests”. Further, a sentence should be included that discusses the procedure to obtain exceptions to these setbacks. It should be noted that it is not uncommon to have a raptor species nest on equipment on one of our locations. In these cases, we would notify the USFWS before disturbing or moving a nest site.</p>	<p>The BLM reserves the right to apply conditions of approval to all nesting habitat. Activity is determined at the APD stage. The exception process is defined in the statewide process and is discretionary. All requests for disruption or disturbance of wildlife habitats and nests must be coordinated with BLM, not USFWS.</p>
L-11	27	F	Conditions of Approval	Wildlife		<p>Item: pp. 2-28, 11th Bullet</p> <p>Comment: This bullet states: “The following seasonal restrictions for activities near active raptor nests/roosting sites/foraging areas would be imposed: February 1 through July 31, within 0.5 mile of all active raptor nests; February 1 through July 31, within 1.0 mile of all active ferruginous hawk nests; February 1 through August 15, within 1.0 mile of all active bald eagle nests; November 1 through April 1, within 1.0 miles of active bald eagle communal winter roosts; and; November 15 through April 1, within 2.5 miles of all bald eagle winter foraging areas.” A concern exists with the bald eagle foraging areas. The 2.5-mile buffer around bald eagle winter</p>	<p>All bald eagle management actions are dictated from the Biological Assessment completed for the project. No exceptions are given for federally listed species.</p>

**Table II-B. DEIS Comments and BLM Responses (cont'd)**

Submittal ID	Comment Number	Category	Keyword 1	Keyword 2	Keyword 3	Comment Text	BLM Response
						<p>foraging areas is excessive. Bald eagles forage up to 17.6 miles between their night roosts and their daytime feeding areas (Swisher 1964). To put a 2.5-mile buffer around such an extensive foraging area would not be reasonable or effective. Bald eagles forage over most of the state of Wyoming during the winter, including the suburbs of some towns, and most of the highway system. Such a 2.5-mile restriction would shut down most of the state of Wyoming during the winter; therefore this restriction should be eliminated from the FEIS. Finally, as above, a statement that exceptions to these seasonal restrictions can be obtained should be included in this bullet.</p>	
L-11	28	A1	<b>Conditions of Approval</b>	Wildlife		<p>Item: pp. 2-29, 1st Bullet</p> <p>Comment: This bullet states: "Surface disturbing and disruptive activities in greater sage-grouse winter concentration areas would be avoided from November 15 through March 14." The current winter use stipulation as we understand it from other areas of Wyoming is to "avoid ephemeral draws dominated by basin big sage greater than 3 feet tall where possible." This language should be adopted in the FEIS to clarify the concept of winter use areas. This language is more closely aligned with what is known about the limited severe winter relief habitat used by the birds during the deepest snows.</p>	<p>Sage-grouse winter habitat goes beyond ephemeral drainages and other habitats you stated.</p>
L-11	29	F	<b>Conditions of Approval</b>	Wildlife		<p>As pointed out in the WAFWA Greater Sage-grouse Conservation Assessment, winter habitats for sage-grouse are not limiting. We suspect Severe Winter Relief habitats may still need to be identified. Until this work is completed, we strongly suggest returning to the previously used sage-grouse winter habitat avoidance criteria of no disturbance in ephemeral drainages where basin big sage is greater than 3 feet tall (Continental Divide/Wamsutter II EIS).</p> <p>Winter is not generally a limiting factor in sage grouse populations (Call and Maser 1985), and, according to Beck and Braun (1978), may gain weight during the winter months. However, during severe winters of prolonged, deep snow, there are only a few areas where sagebrush is tall enough to remain available to sage-grouse above the snow. These areas, termed Severe Winter Relief (SWR) Habitats in a study conducted by Hayden-Wing Associates and the Rawlins Office of the</p>	<p>Winter habitats can be considered limiting and BLM identifies them as habitats that require special management. Efforts to identify and manage special habitats are included in the FEIS.</p>

**Table II-B. DEIS Comments and BLM Responses (cont'd)**

Submittal ID	Comment Number	Category	Keyword 1	Keyword 2	Keyword 3	Comment Text	BLM Response
						BLM, are described in HWA (2004). It is important that these SWR habitats be identified as soon as possible to avoid the unnecessary protection of large areas of winter habitat that are not critical to sage-grouse survival.	
L-11	30	A	Conditions of Approval	Wildlife		<p>Item: pp. 2-29, 2nd Bullet</p> <p>Comment: This bullet states: "Surface-disturbing or disruptive activities in greater sage-grouse nesting and early brood-rearing habitat within 2.0 miles of an occupied lek, or in identified greater sage-grouse nesting and early brood-rearing habitat outside the 2.0-mile buffer, would be prohibited from March 15 through July 15." This very broad statement does not have scientific justification, as it does not attempt to limit the seasonal restriction to habitats actually associated with an active lek or being used by hen sage-grouse.</p> <p>"Nesting and early brood rearing habitat" is broadly defined in the DEIS, the BLM IM and the statewide plan. This broad definition was not intended to be used to preclude activity in sagebrush ecosystems not being used by sage-grouse.</p> <p>The current timing stipulation for nesting sage-grouse is avoidance of the area within a 2-mile radius of a lek from March 15 to June 30. No scientific justification for the extended time line through July 15 has been provided. We recommend it be returned to June 30.</p> <p>The distance to which sage-grouse nesting habitat will be protected outside of the 2mile radius needs to be stated. The way the EIS reads now, nesting habitat could be protected for an indefinite distance beyond the 2-mile radius. An approach for determining how far beyond the 2-mile limit the protection of nesting habitat should extend was presented to the State Director of the Wyoming BLM on October 28, 2004 by Larry Hayden-Wing on behalf of the Petroleum Association of Wyoming. It is recommended that this approach be used for determining the location and amount of nesting habitat that should be protected around leks on the JIDPA. It is also necessary for the DEIS to acknowledge that sage-grouse timing stipulations can be modified or eliminated using exception, waiver, or modification criteria when appropriate surveys conclude no sage-</p>	BLM sage-grouse guidelines are appropriate for managing habitats within the Pinedale Field Office. Recommendations to the state director from PAWG or which are intended for Rawlins are not appropriate for inclusion into the JIDPA.

**Table II-B. DEIS Comments and BLM Responses (cont'd)**

Submittal ID	Comment Number	Category	Keyword 1	Keyword 2	Keyword 3	Comment Text	BLM Response
						grouse activity is occurring.	
L-11	31	A	<b>Conditions of Approval</b>	Social	Wildlife	<p>Item: pp. 2-29, 3rd Bullet</p> <p>Comment: This bullet states: "Surface disturbance and occupancy would be prohibited within 0.25 mile of the perimeter of greater sage-grouse leks, and human activity would be avoided between 8 p.m. and 8 a.m. from March 1 through May 15." We question how BLM will enforce this restriction given the availability of lek locations to bird watchers, the need for livestock operators to move their cattle and flocks of sheep and the need for oil field workers to go to work (generally before 9:00 am). During this three-month period, work in the lives of livestock operators and energy industry employees must continue, even though the grouse are strutting. Further, there should be provisions for obtaining exceptions when the leks are inactive.</p>	<p>Conditions of approval are intended to minimize impacts to sage grouse. The BLM has the authority to limit surface activities and disturbance for permitted activities.</p>
L-11	32	D	<b>Conditions of Approval</b>	Wildlife		<p>Item: pp. 2-29, 4th Bullet</p> <p>Comment: This bullet states: "Operators would inventory greater sage-grouse seasonal habitats within the JIDPA not already inventoried by BLM or WGFD within one year of the ROD for this project; GIS data would be provided to BLM, WGFD, and the JIWG with FGDC-compliant metadata." This requirement is inappropriate to impose on the operators. This is routinely the responsibility of the Wyoming Game and Fish in conjunction with the BLM. There are cases of cooperative arrangements between the industry and the agencies that have taken place which should be the mechanism used in this case.</p>	<p>The BLM can and will require additional information for wildlife locations and habitats when needed.</p>
L-11	33	A1	<b>Conditions of Approval</b>	Wildlife		<p>Item: pp. 2-29, 5th Bullet</p> <p>Comment: This bullet states: "Operators would map prairie dog towns and provide all map data to BLM, WGFD, and the JIWG with FGDC-compliant metadata." We question the need to include this requirement. This was already accomplished previously in association with other Jonah related NEPA analysis. Further, any updates to existing data sets should be the responsibility of the BLM. If industry wants to voluntarily cooperate in this effort that should be an option, but it should not be mandated.</p>	<p>The BLM can and will require additional information for wildlife locations and habitats when needed.</p>

**Table II-B. DEIS Comments and BLM Responses (cont'd)**

Submittal ID	Comment Number	Category	Keyword 1	Keyword 2	Keyword 3	Comment Text	BLM Response
L-11	34	A	<b>Compensatory Mitigation</b>	Conditions of Approval		<p>Item: pp. 2-29, 6th Bullet</p> <p>Comment: This bullet states: "Three active and productive ferruginous hawk nesting territories, two burrowing owl nesting territories, and other raptor nesting territories would be maintained on and adjacent to the JIDPA; to the extent any of these may not be feasible, compensatory mitigation may be appropriate." We are assuming these territories currently exist. A question exists as to how they are to be "maintained" and who is actually doing this evaluation. With the extent of development and the numerous mitigation measures being employed, these areas should be automatically maintained. We are concerned that if they become abandoned, would it be assumed that the cause and effect was with oil and gas and not other environmental factors? While we support the concept of offsite mitigation, some type of monitoring by BLM, or by BLM in cooperation with the operators, should occur so that an accurate cause and effect can be scientifically based.</p>	<p>Anthropogenic impacts are taken into account when raptor nests are abandoned. Although the BLM does not anticipate being able to establish a cause and effect relationship to a specific activity, it must be recognized that actions associated with oil &amp; gas development are a large part of the human impacts in the JIDPA. There is no way to determine ahead of time who would be responsible in these cases or whether there will even be impacts of this nature. The BLM will work cooperatively with the operators and may use compensatory mitigation to maintain program objectives.</p>
L-11	35	A1	<b>Conditions of Approval</b>	Transportation		<p>Item: pp. 2-29, 7th Bullet</p> <p>Comment: This bullet states: "Operator related vehicle and OHV traffic in the JIDPA would be limited to BLM-approved roads/trails and travel on non-all-weather roads would be avoided during saturated soil conditions to avoid impacts from rutting." The reference to all non-weather roads is a concern. There are discussions in the DEIS regarding using two track trails for access to some well sites. If that option is exercised, well problems that occur during wet saturated periods would make corrective action/repair difficult if not impossible. This could be especially of concern if an emergency situation occurred that required immediate access. It should be included in this item additional sentences that read: "Non-all weather roads can be temporarily surfaced or other measures proposed to the authorized officer to obtain access during saturated periods. Emergency situations requiring immediate access are not subject to this guideline, but notification to BLM is required in these cases."</p>	<p>This COA is being revised for the FEIS to read:                      "Project-required traffic in the JIDPA would be limited to BLM-approved roads."</p>
L-11	36	E	<b>Transportation</b>	Conditions of Approval		<p>Item: pp. 2-29, 8th Bullet</p> <p>Comment: This bullet states: "Operators would</p>	<p>This requirement only requires roads/trails that are not currently inventoried. The data will aid both the</p>

**Table II-B. DEIS Comments and BLM Responses (cont'd)**

Submittal ID	Comment Number	Category	Keyword 1	Keyword 2	Keyword 3	Comment Text	BLM Response
						<p>inventory all roads/trails in the JIDPA not already inventoried by BLM within one year of the date of the ROD for this project; GIS data would be provided to BLM, WGFD, and the JIWG with FGDC-compliant metadata.” Why is this being requested of the companies? BLM should have these data readily available in their road/right of way database or with individual APDs. If not, these data sources should be used to accomplish the task by the agency.</p>	<p>Operator and the BLM with road location planning for new well pads.</p> <p>BLM has been requesting this digital data yearly for several years now. BLM has the data on paper located in the individual APDs and right-of-way case files, but for various reasons has not been able to get the operators to provide the electronic data. In order to make a consolidated map for both resource planning and management and emergency medical services, the electronic data is required.</p>
L-11	37	A1	<b>Conditions of Approval</b>	Vegetation	On-Site Mitigation	<p>Item: pp. 2-29, 10th Bullet</p> <p>Comment: This bullet states: “Operators would be responsible for establishing viable site-stabilizing plant growth, as determined by the Authorized Officer, within 2 years of initiation of reclamation. Site-stabilizing plant growth would consist of indigenous species and/or ecologically comparable species as approved by the Authorized Officer. Within 5 years of initiation of reclamation, Operators must establish at least 50%, and within 8 years of initiation of reclamation establish at least 80%, of indigenous vegetative cover and species composition to maintain soil stability and provide nutritional value, palatability, and vegetative structure (i.e., habitat function). The initiation of reclamation would commence within 1 year of drilling and completion of the last well scheduled on a pad. In the event that more than one year would lapse between the drilling of wells on a pad, the Authorized Officer may require temporary site stabilization measures.” While BP understands the importance of reestablishing vegetation for areas no longer needed for our operations, this item fails to recognize variability in weather and precipitation that could make these timeframes difficult to achieve. In addition, if the expectation is to reestablish sagebrush, the timeframes are unrealistic. Therefore, this item should have qualifiers inserted that allow for flexibility and extensions of time due to weather limitations or other uncontrollable events and recognize that some species, such as indigenous sagebrush, will have to fall</p>	<p>BLM believes these are realistic and achievable timeframes. The FEIS will, however, reflect that the requirement is 50% in 5 years and 80% in 8 years of “vegetative basal cover/stocking rates and species composition,” rather than 50% and 80% ground cover that could be construed from the term “vegetation cover.”</p>

**Table II-B. DEIS Comments and BLM Responses (cont'd)**

Submittal ID	Comment Number	Category	Keyword 1	Keyword 2	Keyword 3	Comment Text	BLM Response
						into a different category for completing reclamation.	
L-11	38	A1	<b>Conditions of Approval</b>	Health / Safety		<p>Item: pp. 2-30, 1st Bullet</p> <p>Comment: This bullet states: "Operators would maximize interim (production phase) well pad reclamation (reclaim up to the wellhead, or up to the wellhead and dehydrators and separators on those pads with central production facilities)." First, having vegetation re-established up to fired equipment could present a fire hazard. A buffer should be incorporated for this equipment. Therefore, a correction should be made that specifies a buffer of at least 10 feet be implemented between vegetation and fired equipment (separators, dehydrators, compressors) at central facilities as a safety precaution. Secondly, the anchor pattern around a well at a central facility can be maintained at the operator's discretion for future well workovers.</p>	This COA is being revised for the FEIS. The text will be amended to increase the buffer to a minimum of 20 feet between vegetation and wellheads, facilities, tanks, and spill containment structures on those pads with production facilities
L-11	39	A	<b>Conditions of Approval</b>	On-Site Mitigation		<p>Item: pp. 2-30, 2nd Bullet</p> <p>Comment: This bullet states: "Field-wide interim and long-term reclamation plans would be submitted to BLM for approval no later than one year from the date of this ROD. Site-specific reclamation plans would be incorporated into all Surface Use Plans for APDs and Plans of Development for ROWs. A reclamation quality assurance/quality control monitoring program would be implemented by the Operators until development and interim (production phase) reclamation is completed to BLM standards." The value of requiring field-wide plans seems questionable. As stated in the second sentence, the plans for reclamation are proposed by the operators and then stipulated in individual conditions of approvals for approvals by the BLM. If the quality assurance program is instituted to ensure reclamation is being achieved consistent with conditions of approval, then the need for an overall "plan" cannot be demonstrated.</p>	BLM believes this requirement is reasonable. Exxon effectively instituted a similar process for the Riley Ridge project in the 1980s. The QA/QC process needs a plan to measure success against. The COA will be modified in the FEIS to read, "Operators would submit interim and long-term reclamation plans for their respective areas of operation to BLM for approval no later than 1 year from the date of this ROD."
L-11	40	A	<b>On-Site Mitigation</b>	Economics	Conditions of Approval	<p>2.14.2.1 Resource Monitoring and Surveying</p> <p>BP is always willing to work collaboratively with the BLM and other important stakeholders in performing monitoring and surveying activity in areas where oil and gas development is occurring. In this section of Chapter 2 of the DEIS, it appears to BP that the monitoring and surveying that is being proposed is excessive. It is</p>	Final monitoring strategies, desired outcomes and procedures will be developed by the JIO.

**Table II-B. DEIS Comments and BLM Responses (cont'd)**

Submittal ID	Comment Number	Category	Keyword 1	Keyword 2	Keyword 3	Comment Text	BLM Response
						unclear from the descriptions for each of the proposed monitoring requirements what the rationale was to require monitoring and how the data that is collected will be used by the BLM and others. These points are discussed more specifically in our comments below. BP also believes that it is worth mentioning that monitoring and surveying should be done collaboratively. All options should be pursued to accomplish the monitoring that is finalized with the input of all available operator, agency, and third party resources. This work activity and its cost should not be borne 100% by the operators.	
L-11	41	A1	<b>On-Site Mitigation</b>	Wildlife	Conditions of Approval	Item: pp. 2-30, 1st Bullet  Comment: This bullet states: "Operators would continue supporting existing wildlife studies and monitoring efforts." We would suggest a sentence be added that reads: "Data collected by these efforts will be reviewed by BLM for any changes necessary to the monitoring program."	Changes to the Jonah monitoring program for wildlife will be directed BLM when needed.
L-11	42	A	<b>On-Site Mitigation</b>	Water Resources	Conditions of Approval	Item: pp. 2-30, 2nd Bullet  Comment: This bullet states: "Operators would implement a ground water monitoring program for all water wells in or affected by activities in the JIDPA, with annual reports to BLM, JIWG, WSEO and WDEQ. Wells would be tested annually for general chemical constituents and total petroleum hydrocarbons, using WDEQ-approved methodology." First, why does every well need to be sampled? The current EIS only requires to have to test on an annual basis for those water wells that encountered groundwater less than 300 feet. This should be extended for this EIS. The FEIS should specify what "general chemical constituents" means. We would recommend major cation and anion parameters and TPH (Method 418.1) and VOA Compounds (Method 8260) as a starting point in screening these wells. Second, the MCLs, where established by the State of Wyoming, would be the standards on which the results would be compared against. Lastly, the NEPA document that authorized current development stated that ground water monitoring would only be required for water wells that were identified to have shallow aquifers (<300 feet deep). The criteria for determining the water wells that require sampling and analysis should not	Thank you for your suggestions.  The purpose of the groundwater monitoring program is to assist in monitoring both well integrity and land health, both of which are within the purview of the BLM.

**Table II-B. DEIS Comments and BLM Responses (cont'd)**

Submittal ID	Comment Number	Category	Keyword 1	Keyword 2	Keyword 3	Comment Text	BLM Response
						change as a result of this new NEPA analysis.	
L-11	43	A	<b>Conditions of Approval</b>	Vegetation	Soils	<p>Item: pp. 2-30, 3rd Bullet</p> <p>Comment: This bullet states: "Operators would be required to conduct surveys of soils and vegetation types throughout the JIDPA in coordination with the BLM, and provide survey results to BLM within one year of the ROD for this project." According to information in the DEIS, this has already been accomplished. Therefore, it should be eliminated from the FEIS.</p>	<p>The draft contains some soils and vegetation information; however more thorough and detailed information is needed to formulate appropriate site-specific reclamation and revegetation decisions/ procedures.</p> <p>Portions of the project area have 3<sup>rd</sup> Order soil survey information in the form of historic BLM soil survey data or more general soil data provided by Natural Resources Conservation Service STASGO database. In addition, BLM is currently coordinating with the NRCS to complete a new 3<sup>rd</sup> Order soil survey within the project area. The operator(s) should refer to this data in the course of APDs/EAs site-specific resource investigations to prescribe/select the most appropriate practices, treatments, and BMPs to protect soil resources and minimize erosion. In addition, the current survey effort could be accelerated through cooperation of industry.</p>
L-11	44	A	<b>On-Site Mitigation</b>	Water Resources	Conditions of Approval	<p>Item: pp. 2-30, 4th Bullet</p> <p>Comment: This bullet states: "Operators would be required to conduct sixth-level watershed modeling throughout the JIDPA (including identification of current sediment discharge rates), and provide the results to BLM and WDEQ, contingent on availability of data." It is unclear why this model is being required. Sixth level watershed models are run for large geographic areas. With the scale of this model and the fact its range far surpasses the area encompassing the JIDPA, it should be run by the agencies not the operators. BP is also questioning the need for this level of watershed modeling. With the application of storm water BMPs and with the distance of this project from surface water (New Fork River, Green River, and the Big Sandy River) it</p>	<p>This model has already been run and the data have been quite valuable in answering questions posed by both government agencies and private citizens.</p>

**Table II-B. DEIS Comments and BLM Responses (cont'd)**

Submittal ID	Comment Number	Category	Keyword 1	Keyword 2	Keyword 3	Comment Text	BLM Response
						would seem the questions about impacts would not justify the need for this level of analysis.	
L-11	45	E	<b>On-Site Mitigation</b>	Wildlife	Conditions of Approval	<p>Item: pp. 2-30, 5th Bullet</p> <p>Comment: This bullet states: "Operators would prepare and implement a Sensitive Species Survey and Monitoring Plan for BLM and WGFD approval that would determine the presence, distribution, and population trends of all federally-listed, proposed, candidate, BWS, and other species including amphibians, reptiles, passerine birds, and small mammals, throughout the JIDPA. Monitoring would be conducted annually for the LOP or until BLM determines that additional monitoring is not required. Operators would prepare an annual report for BLM, WGFD, and the JIWG. Survey results would be provided annually to the WyNDD with FGDC-compliant metadata." This is a very open-ended requirement and could be costly. Why is "other species" included in this list? The operators will be conducting an inventory of federally listed, proposed, and BWS. This information will be forwarded to the BLM. At that point the agency should take the responsibility for synthesizing the information, not necessarily the operators. We also take exception to including "candidate species" since those could be subject to a petition that has not yet been subject to peer review through the listing process. Those species should not be given the same level of scrutiny as listed species. Finally, if this monitoring occurs, the monitoring needs to document positive effects and increases in wildlife species, not just deviations from the original condition or species composition.</p>	<p>Additional surveys and studies can and will be required by BLM. With current staffing levels, the BLM cannot adequately complete needed activities for monitoring and analysis. Candidate species are those that have been reviewed by the USFWS and determined to be "biologically or scientifically warranted" for listing under the ESA, but because of other factors (cost, higher priorities) have been "precluded" at the time of review. BLM 6840 Manual gives guidance on sensitive species management and includes candidate species. Monitoring will document all changes in wildlife status or conditions.</p>
L-11	46	A1	<b>On-Site Mitigation</b>	Water Resources	Conditions of Approval	<p>Item: pp. 2-30, 6th Bullet</p> <p>Comment: This bullet states: "Operators would monitor first flush total suspended solids in coordination with WDEQ, BLM, and other agencies." This is a requirement associated with surface discharge under NPDES. This is not being proposed by any of the operators within the JIDPA; therefore, this requirement should be eliminated from the FEIS.</p>	<p>First-flush monitoring was envisioned as a low-cost method of obtaining defensible data by placing low-cost collection vessels at key locations (culverts) and monitoring the amount of suspended sediment in the first flush of runoff events during the life of the project. As reclamation of disturbances becomes successful the numbers will likely prove the success of reclamation efforts on a landscape scale. The cost would be relatively low. This option will be eliminated</p>

Table II-B. DEIS Comments and BLM Responses (cont'd)

Submittal ID	Comment Number	Category	Keyword 1	Keyword 2	Keyword 3	Comment Text	BLM Response
							<p>from the requirements in Section 2.14 but is still available as a voluntary action.</p> <p>As an alternative way to address this concern, the following method will be substituted:</p> <p>“BLM Wyoming Standards for Healthy Rangelands (Appendix A.5) will be used as the measure of land health and reclamation success.”</p> <p>Capability and potential will be taken into account.</p> <p><i>Potential</i> The highest ecological status a riparian-wetland area can attain given no political, social, or economical constraints.</p> <p><i>Capability</i> The highest ecological status a riparian-wetland area can attain given political, social, or economical constraints. These constraints are often referred to as limiting factors.</p>
L-11	47	B	<b>On-Site Mitigation</b>	Wildlife	Conditions of Approval	<p>Item: pp. 2-31, 1st Bullet</p> <p>Comment: This bullet states: “Operators would be required to assist BLM and WGFD in monitoring greater sage-grouse movements to determine if populations are migratory.” This requirement seems vague. What is envisioned by the BLM regarding monitoring “movements” of sage-grouse?. This would be better incorporated into a compensatory/offsite mitigation plan.</p>	<p>The BLM’s national sage-grouse strategy includes a requirement for determining whether populations are migratory or otherwise. Under current workloads, the BLM will need assistance in this effort.</p>
L-11	48	B	<b>On-Site Mitigation</b>	Compensatory Mitigation	Conditions of Approval	<p>Item: pp. 2-31, 2nd Bullet</p> <p>Comment: This bullet states: “In coordination with BLM, Operators would monitor forage utilization on reclaimed areas throughout project development and into the full production phase.” This requirement is excessive and questions exist about how this would be accomplished. This information is critical to understanding the value of</p>	<p>Refer to change in text.</p> <p>Operators would be required to monitor for successful reclamation on disturbed sites. Any impediments to successful reclamation would be reported to BLM and through coordination these would be</p>

**Table II-B. DEIS Comments and BLM Responses (cont'd)**

Submittal ID	Comment Number	Category	Keyword 1	Keyword 2	Keyword 3	Comment Text	BLM Response
						collecting this data. Until more information is available on these aspects, BP cannot support this item.	remedied. Upon determination by BLM and the operators that reclamation objectives had been met, the operator would request release from reclamation responsibilities on site specific basis.
L-11	49	B	<b>On-Site Mitigation</b>	Transportation	Conditions of Approval	Item: pp. 2-31, 3rd and 4th Bullets  Comment: The third bullet states: "Operators would monitor traffic volume on collector roads and provide an annual report to BLM." The fourth bullet states: "Operators would monitor the number of visits to well pads and provide an annual report to BLM." There is no justification given for obtaining this information. Without additional information and justification, we suggest these two items be eliminated from the FEIS.	This requirement was included to gather baseline traffic information in regard to how it relates to wildlife issues and possible future mitigative actions. As such, full time monitoring will not be necessary. Both bullets will be deleted and replaced with the following: "Within 6 months of the Record of Decision, Operators will provide the JIO with estimates for an average number of vehicle trips per day to a representative individual well pad and centralized completion facility."
L-11	50	B	<b>On-Site Mitigation</b>	Conditions of Approval	Noise	Item: pp. 2-31, 5th Bullet  Comment: This bullet states: "Operators would monitor noise near noise-sensitive resources and provide an annual report to BLM." There is no definition as to what are considered "noise sensitive receptors"? In addition, as we stated in our comments on the 2nd bullet on Page 2-27, there are a host of technical considerations that must be developed for a protocol necessary to obtain noise readings not only for one site, but in a manner that will provide some level of consistency between sites. Further, if a "noise sensitive receptor includes raptor nests, then a particular effort would need some additional considerations designed into a monitoring plan. However, monitoring noise at active raptor nests after the young have fledged is not a scientific approach for determining noise levels that are pertinent. If noise is to be monitored, it needs to be done while the raptors are setting up their nest, during incubation, feeding of the young, and fledging of young. Equipment that transmits noise levels at the nest to remote receivers could be set up at nest sites that are likely to be used during the coming nesting season and left in place. Otherwise the noise levels that are documented during	Noise-sensitive resource examples include sage-grouse leks, raptor nests, winter habitats, or other wildlife habitats that, if affected by noise, could result in disruption of an animal's normal behavior.  Locations, monitoring techniques, and requirements will be identified in the wildlife monitoring and mitigation plan developed after the ROD is signed.

**Table II-B. DEIS Comments and BLM Responses (cont'd)**

Submittal ID	Comment Number	Category	Keyword 1	Keyword 2	Keyword 3	Comment Text	BLM Response
						the non-nesting season will not be the same as those that occur during the nesting season. Wind direction will change over time as well as activity and noise levels produced at the well. Until such time as a definition for noise sensitive receptors is developed, and a protocol is developed for taking sound readings for assessing receptors like raptors, we object to an open-ended requirement like this one.	
L-11	51	A	<b>On-Site Mitigation</b>	Wildlife	Conditions of Approval	<p>Item: pp. 2-31, 6th Bullet</p> <p>Comment: This bullet states: "In coordination with BLM and WGFD, Operators would monitor pronghorn antelope numbers on crucial winter ranges north and south of the JIDPA." The need for the proposed monitoring of pronghorn on portions of their crucial winter ranges is not established in the EIS and is not logical as currently described. In fact, other statements in the document contradict the need for such a monitoring program. On page 4-90 it is stated that: "The proposed project would not affect any known pronghorn crucial winter range or bottle necks; therefore, it would not contribute to cumulative impacts to these habitat features." Because the crucial winter ranges used by the pronghorn from the JIDPA are also used by pronghorn from other areas, how will it be possible to identify the animals that come from or pass through the JIDPA? Also, it is stated that: "Therefore, pronghorn numbers on their crucial winter ranges north and south of the JIDPA will be monitored in 2005." However, no crucial winter range located south of the JIDPA is shown on the map on page 3-57 of the EIS. Consequently, this item should be eliminated in the FEIS.</p>	Additional surveys and studies can and will be required by BLM. With current staffing levels, the BLM cannot adequately complete needed activities for monitoring and analysis. Impacts to pronghorn occur from the JIDPA and will be cumulative in nature for the populations and habitats that occur in Sublette County. Winter ranges are dynamic and can change in the future.
L-11	52	A	<b>On-Site Mitigation</b>	Wildlife	Conditions of Approval	<p>Item: pp. 2-31, 7th Bullet</p> <p>Comment: This bullet states: "Operators would monitor nesting of raptors, including ferruginous hawk, bald eagle, and burrowing owl, greater sage-grouse lek attendance; and occurrence of other sagebrush-obligate species." This item is already being performed as part of the annual wildlife monitoring and protection planning work that is currently occurring in the Jonah Field. It should be recognized as such and not be presented as a new requirement.</p>	All wildlife monitoring will be included in the Wildlife Monitoring and Mitigation Plan developed after the ROD is signed.
L-11	53	A	<b>On-Site</b>	Transportation	Site-Specific	Item: pp. 2-31, 1st Bullet	As stated in the guiding paragraph

**Table II-B. DEIS Comments and BLM Responses (cont'd)**

Submittal ID	Comment Number	Category	Keyword 1	Keyword 2	Keyword 3	Comment Text	BLM Response
			<b>Mitigation</b>		Conditions of Approval	<p>Comment: This bullet states: "Convert resource roads to 2-tracks during interim reclamation." This practice may be applicable to other types of oil and gas operations in different areas of the Rocky Mountains, but it should be carefully applied in the JIDPA and remain discretionary with the operators. All weather roads need to be maintained as such. In the absence of all-weather roads, the ability to access wells for workovers and repairs would be precluded during wet periods. If this occurred, wells could be shut-in for extended periods. However, if operators choose to convert roads to two-track trails, those efforts should be recognized as part of reclamation against total long-term disturbance.</p>	<p>preceding the two-track conversion COA, the process would be considered on a site-specific basis and would consider field development and production objectives. Existing roads being used for drilling and well completion operations would not be considered for conversion until all drilling and completion operations associated with a given resource road are finished.</p> <p>The conversion to a two-track could be accomplished in several ways. For example, a graveled all-weather road could be converted by drill seeding the road ditch and travel surface. This will retain all-weather utility of the road. Roads to pads with only a single wellhead and no other facilities could potentially be converted to a conventional two-track with no gravel by completely contouring the road surface and ditches.</p> <p>The amount of a converted two-track that would be considered reclaimed acreage would depend on what the conversion entailed. On a road where the roadbed and ditches are recontoured and seeded, everything but the remaining two-track travel path would be consider reclaimed acreage once it achieves the reclamation success standards. An all-weather graveled road where the ditches and gravel surface remain but are seeded would not be considered reclaimed acreage.</p> <p>See the text revision to this COA in the FEIS.</p>
L-11	54	E	<b>Site-Specific</b>	Visual		Item: pp. 2-31, 3rd Bullet	The BLM recognizes that there are

**Table II-B. DEIS Comments and BLM Responses (cont'd)**

<b>Submittal ID</b>	<b>Comment Number</b>	<b>Category</b>	<b>Keyword 1</b>	<b>Keyword 2</b>	<b>Keyword 3</b>	<b>Comment Text</b>	<b>BLM Response</b>
			<b>Conditions of Approval</b>	Resources		<p>Comment: This bullet states: "Monitor night lighting mitigation effectiveness in coordination with BLM." This item is unclear as to the intent. What standard exists to determine "lighting mitigation effectiveness"? We are not aware of any VRM objectives that relate to nighttime standards. Without this information, we cannot judge the appropriateness of this item.</p>	<p>currently no standards to determine mitigation effectiveness for night lighting. However, the BLM also believes that this is a reasonable concern that must be addressed. The details of how this will be handled will need to be developed through cooperative efforts between the BLM and the operators as the JIDP progresses.</p>
L-11	55	A	<b>Site-Specific Conditions of Approval</b>	Soils		<p>Item: pp. 2-31, 4th Bullet</p> <p>Comment: This bullet states: "Spoil piles would be contoured to blend with surrounding topography and be contemporaneously reclaimed." Spoil piles will be used after pits are dried and interim reclamation begins. Due to the planned compressed time frame for this to occur, the need to perform this level of effort cannot be justified.</p>	<p>The need to contour a given spoil pile, where to place the pile, and shape (contour) of the pile would be identified during the revised BLM/Operator onsite visit. The Operator would then have their surveyor stake the stockpile location and shape on the ground and show it on the pad layout diagram submitted with the APD. There should be very little additional time required.</p>
L-11	56	A	<b>Compensatory Mitigation</b>	On-Site Mitigation	Economics	<p>BP is certainly open and willing to entertain opportunities for the use of compensatory mitigation. However, BP still contends that it should be completely voluntary and the following additional conditions should apply:</p> <p>The analysis that is performed or other scientifically based information that is presented specifically identifies the resource values that may be "significantly" impacted by the proposed level of development.</p> <p>The compensatory mitigation is only required in those situations when mitigation of impacts cannot be accomplished on-site through the use of reasonable and economically viable mitigation techniques.</p> <p>The compensatory mitigation is applied to offset impacts to only those resource values "significantly" impacted to the point of being determined to be unavoidably adverse (i.e. sage grouse habitat negatively impacted by development will result in sage grouse habitat being enhanced offsite).</p> <p>If impacts are determined to be unavoidably adverse and compensatory mitigation is agreed to be necessary,</p>	<p>The BLM agrees. The discussion of compensatory mitigation is being revised in the FEIS.</p>

**Table II-B. DEIS Comments and BLM Responses (cont'd)**

Submittal ID	Comment Number	Category	Keyword 1	Keyword 2	Keyword 3	Comment Text	BLM Response
						<p>there should be a recognition that mitigation on-site is not possible and will not be effective. Therefore, any additional on-site mitigation specific to that resource value, should not be required. Operators should not be asked to pay for on-site mitigation that has been deemed to be ineffective in mitigating the impacts and then also be required to implement potentially costly offsite mitigation as well.</p> <p>BLM must recognize that most development areas include multiple industry operators. Compensatory mitigation may be brought forward by an operator(s) that does not represent all those in a development area. When the compensatory mitigation passes from voluntary to a requirement in a project authorization, the requirement for compensatory mitigation should only impact the operator(s) that included the commitment for off-site mitigation in their plan of development. It should not impact those operators that were not consulted or were consulted and did not agree with the details of the proposal for compensatory mitigation</p>	
L-11	57	A1	<b>Wildlife</b>			<p>Item: pp. 3-63, par. 2</p> <p>Comment: The status and history of the sage grouse in the U.S. and Wyoming are described in a negative and misleading manner. The following facts should be included in this text: "(1)The Fish and Wildlife Service has recently made a determination of not warranted for listing for this species, and (2) Wyoming populations have stopped declining and are still robust enough for the continuation of annual hunting seasons."</p>	Sage-grouse populations have been impacted greatly in the last 100 years. The WAFWA report does a good job of describing these impacts.
L-11	58	A	<b>Air Quality</b>	NEPA	Public Participation	<p>While it is unclear at this time as to the reasons for performing a supplemental analysis for air quality, BP strongly urges BLM to convene a stakeholder work group to provide additional explanation regarding the forthcoming analysis and solicit stakeholder input that could prove valuable toward the supplemental work product.</p>	<p>The Draft EIS indicated the air quality impacts of the Preferred Alternative would be modeled between Draft and Final EIS; the Early Stage Development modeling was requested by the Environmental Protection Agency in order to review and rate the Draft EIS. The lead Jonah Infill operator, EnCana Oil &amp; Gas (USA), has been kept informed in the interim.</p> <p>BLM found the supplemental analysis</p>

**Table II-B. DEIS Comments and BLM Responses (cont'd)**

Submittal ID	Comment Number	Category	Keyword 1	Keyword 2	Keyword 3	Comment Text	BLM Response
							<p>was needed because the first analysis did not analyze the Preferred Alternative, did not include the effects on potential impacts of various levels of emission reduction of the proposed project, and did not adequately analyze the potential impact from increased drilling in the Pinedale area.</p> <p>An interagency group (WDEQ, EPA, USFS, BLM) worked on the supplemental analysis. BLM was not able to include the public before the material was generally released, due to disclosure constraints.</p>
L-11	59	E	<b>Alternatives</b>	On-Site Mitigation	Topography	<p>Item: pp. 4-29, 4.1.3.10 BLM Preferred Alternative</p> <p>Comment: The last sentence of this section concludes that despite the mitigation measures included in Section 2.14, significant impacts may occur to topography. This conclusion must assume that the only mitigation being applied to the project is derived from Section 2.14. Did this conclusion consider all the other mitigation that is included in Appendices A, B, and G? There are a large number of additional mitigation items beyond those discussed in Section 2.14 that would apply to topography. With that being the case, we question the conclusion about impact significance and suggest BLM review the statement in the DEIS.</p>	<p>Mitigations outlined in Section 2.14 can be required by the BLM and included in the ROD. This will incorporate appropriate elements from Appendix A. Those actions listed in Appendix B are voluntary on the part of the operators. Although they may aid in mitigating these effects, they cannot be incorporated into the analysis. Similarly, Appendix G was written as a summary document and to provide a basis for the analysis, not to establish specific procedures. The statement is accurate and will remain in the document. Please note that mitigation options are being revised in the FEIS.</p>
L-11	60	A	<b>Analysis</b>	On-Site Mitigation	Topography	<p>Item: pp. 4-29, 4.1.3.11 Cumulative Impacts</p> <p>Comment: The statement is made in the 3rd paragraph that "significant impacts to topography are anticipated under the Proposed Action and Alternatives A, C, D, F and G." We question this conclusion for the reasons stated above in Section 4.1.3.10 considering the mitigation being proposed that would directly apply to topography. These can be found in Section 2.14 and Appendices A, B, and G.</p>	<p>Please note that the mitigation measures outlined in Section 2.14 do not apply to alternatives other than the Preferred Alternative. In addition, please see the response to comment L-11-59.</p>

**Table II-B. DEIS Comments and BLM Responses (cont'd)**

<b>Submittal ID</b>	<b>Comment Number</b>	<b>Category</b>	<b>Keyword 1</b>	<b>Keyword 2</b>	<b>Keyword 3</b>	<b>Comment Text</b>	<b>BLM Response</b>
L-11	61	A	<b>Technical Information</b>			Item: pp. 4-29 - 4-33, All Subsections  Comment: We have been advised by EnCana that the recovery factor provided by them was not properly applied by the BLM. BP requests that the correct recovery factor be reflected in the FEIS for all alternatives in this section.	Figures in this section will be revised for the FEIS.
L-11	62	A	<b>Analysis</b>	Economics		Item: pp. 4-33, 2nd paragraph Comment: This paragraph contains a sentence regarding earthquake frequency. We question the need to design facilities to withstand the effects of moderate earthquakes. This could be a significant expenditure to design to parameters for a low, and possibly, no risk. With the low probability of an earthquake, the option should remain with the operators and not be imposed.	The sentence will be modified to read, "There are no known active faults within the JIDPA."
L-11	64	E	<b>Alternatives</b>	On-Site Mitigation		Item: pp. 4-49, 5th paragraph  Comment: A reference is made to "additional mitigation measures would be applied to facilitate achievement of specific management objectives and to minimize impacts to resources." Why is this statement only applicable to the preferred alternative? With all the mitigation proposed in the DEIS, including Chapter 5 and Appendix B, sufficient mitigation should exist to enable the same conclusion to be made about the Proposed Action.	The list of operator-committed practices contained in DEIS Appendix B is voluntary on the part of the operators; all of these practices may not be implemented. Chapter 5 contains a list of other mitigation ideas for discussion, but none of these have been committed to or required at this time.  By contrast, DEIS Section 2.14.2 outlines the specific mitigation measures that are part of the BLM Preferred Alternative. In addition, the Preferred Alternative is being revised for the FEIS.
L-11	65	A	<b>Compliance</b>			Item: pp. 4-53, 1st paragraph Comment: A reference is made that accidental contamination is possible, but would be mitigated through a groundwater clean-up program determined by the EPA. This type of remediation would be coordinated by the Wyoming DEQ, not the EPA.	Comment acknowledged. This sentence will be changed to reflect oversight by WDEQ.
L-11	66	A	<b>Water Resources</b>	Technical Information		Item: pp. 4-53, 3rd paragraph  Comment: The last sentence includes a reference to produced water being purified and reused. Currently there are no plans that have identified a produced water purification process that is successful either technically or economically. BP is aware that some companies are	The referenced sentence is itself a reference to Appendix G, where on DEIS page 22 paragraph 2 it was estimated that 10% or more of the water used on a fieldwide basis could come from recycling. It is agreed that technologies that would help to

**Table II-B. DEIS Comments and BLM Responses (cont'd)**

Submittal ID	Comment Number	Category	Keyword 1	Keyword 2	Keyword 3	Comment Text	BLM Response
						considering the options to treat produced water, however nothing definitive has been proposed. BP would like to see a technology that would allow for the purification of produced water so this fluid could be re-used in other oil field applications. BP has tested a couple of treatment technologies with limited success.	increase this effort are desirable. Efforts to improve the amount of water recycling within the JIDPA are applauded. In recognition of the key nature of these technologies, the sentence has been amended to read: "Considerable volumes of produced water could be purified and reused for the project (see Appendix G)."
L-11	67	A1	<b>Water Resources</b>			Item: pp. 4-55, 3rd full paragraph, The Proposed Action  Comment: The second sentence reads: "However, fresher ground water would be consumed and more poor-quality water would be produced because more gas wells would be drilled". While this statement is true, what is the significance of it relative to groundwater. BP's produced water is currently being deep injected, through a permit with the Wyoming Oil and Gas Conservation Commission. We would suggest this sentence be removed from the FEIS.	The referenced sentence is a comparison of the proposed action to other alternatives. Removing the sentence would eliminate a point of comparison and therefore will remain in the document.
L-11	68	A	<b>Analysis</b>	Water Resources	Surface Disturbance	Item: pp. 4-60, 1st full paragraph, BLM Preferred Alternative Comment: A sentence reads "Impacts to surface water resources under the Preferred Alternative would be similar to those described under the Proposed Action and other alternatives; however, impacts are expected to be proportional to the amount of new initial surface disturbance". This conclusion is questionable. It is important to note that impacts based upon initial disturbance are too conservative and likely to overstate impacts. There are a number of reclamation measures, including a reclamation plan, to implement interim reclamation to reduce initial disturbance. While there will be a period before interim reclamation occurs, we would caution against making impact conclusions on short term disturbance and instead emphasize long term reclamation. We would also note that Best Management Practices associated with stormwater management plans can be very effective in reducing sedimentation. It has been shown that reductions of over 50 percent are achievable with the proper installation and maintenance of Best Management Practices (BMPs).  Therefore, it is critically important that reductions in sediment reflect the use of BMPs. By not including the	While the effectiveness of BMPs, rapid reclamation of disturbances and other erosion control practices at reducing the effects of surface disturbance are not in doubt and are key components for all future plans, they were not included in the analysis for the following reasons. <ul style="list-style-type: none"> <li>Erosion control and reclamation practices are not being applied universally throughout the Jonah Field but vary between locations and companies. This makes estimation of their end results on a fieldwide basis difficult.</li> <li>Erosion control methods are evolving rapidly. This is a good thing but it makes it difficult to estimate their final overall effectiveness.</li> <li>Numeric data for the new erosion control/reclamation methods has not been provided</li> </ul>

**Table II-B. DEIS Comments and BLM Responses (cont'd)**

Submittal ID	Comment Number	Category	Keyword 1	Keyword 2	Keyword 3	Comment Text	BLM Response
						<p>sediment reflect the use of BMPs. By not including the effectiveness to the BMPs overstates the impacts from sedimentation; therefore all alternative and the cumulative impacts sections in the FEIS should reflect sedimentation figures from BMPs. We would also note that the model being used for estimating sedimentation should take these BMPs into account.</p>	<p>or is unavailable at this time. This means that any modeling that takes the new methods into account would be operating from unfounded assumptions.</p> <ul style="list-style-type: none"> <li>• There is a need for a comparison between alternatives. Making the assumption that the new erosion control/reclamation methods would be applied equally under all alternatives, the differences between the alternatives remain and the new methods, which are encouraged and appreciated, could be factored out for purposes of comparison.</li> </ul> <p>When sufficient data as to the effectiveness of the new erosion control/reclamation efforts are available, the models could be rerun and new estimates made.</p>
L-11	69	A1	<b>On-Site Mitigation</b>	Compensatory Mitigation		<p>Item: pp. 4-61, 4.1.8.12, Unavoidable Adverse Impacts, 1st paragraph</p> <p>Comment: The first sentence should have the phrase added: "however, the proper use of mitigation and best management practices should reduce these impacts."</p>	<p>The first paragraph of DEIS Section 4.1.8.12 will be changed to read:</p> <p>"Based on the hydrologic modeling, it is anticipated there will be minimal unavoidable adverse impacts to soils and surface water resulting from cumulative events for the LOP. This expectation results from the increase in surface disturbance in watersheds in the JIDPA. These impacts have the potential to reduce water quality in ephemeral drainages during runoff events."</p>
L-11	70	A	<b>Analysis</b>	Noise		<p>Item: pp. 4-62, 4th paragraph</p> <p>Comment: A sentence states that compressor noise would be between 64 and 86 dBA and between 58 and 75 at approximately 1.0 mile away. The noise levels a mile away, using the levels shown from the sites, are incorrect. As stated in this paragraph, with every doubling of distance, you attenuate the noise 6 dBA.</p>	<p>Actual data regarding noise levels were taken from the Luman compressor station (as well as others) as discussed on page 3-48 of the Draft EIS. Readings there were between 69-86 dBA at the station and 58-75 dBA at 1 mile distant.</p>

**Table II-B. DEIS Comments and BLM Responses (cont'd)**

<b>Submittal ID</b>	<b>Comment Number</b>	<b>Category</b>	<b>Keyword 1</b>	<b>Keyword 2</b>	<b>Keyword 3</b>	<b>Comment Text</b>	<b>BLM Response</b>
						Consequently, the levels a mile away would be between 36 and 58 not 58 and 75 as shown. Further, it should be stated that the actual readings could lower when accounting for terrain features.	These data are applicable to the anticipated development in the JIDPA. As terrain is a variable that cannot be predicted and can act to lessen or amplify the impacts, its effects could not be quantified in this discussion.
L-11	71	A	<b>Noise</b>	Analysis		<p>Item: pp. 4-62, 5th paragraph</p> <p>Comment: The statement is made that noise may be heard 20 miles away. The sound mitigation operators are undertaking does not justify this statement. Additionally, if the reference is being made to completion flowback flaring, it should be noted that this particular noise is short term and intermittent and is being mitigated through the use of green completions technology.</p> <p>Another statement is made in the last sentence of this paragraph about the residents concern over project noise and how it affects their quality of life. The DEIS contains no information on which this conclusion is based. If there is no quantitative data to support this statement, it should be removed from the FEIS.</p>	The 20-mile distance is for the impact before mitigation. Not every operator within the JIDPA has committed to green technology.
L-11	72	A	<b>Noise</b>	Air Quality		<p>Item: pp. 4-62, 6th paragraph</p> <p>Comment: This paragraph discusses the distance at which noise and odors would extend away from a source. This statement requires additional justification and should refer to the types of chemicals being used and constituents being produced. Based upon the constituents being produced and chemicals and quantities being used, this seems very unlikely.</p>	The BLM believes no further information is required for the interpretation. A complete listing of the chemicals used and produced by the project is provided in DEIS Volume 2, Appendix G, sub-appendix C. The atmospheric conditions (e.g., high winds) which would cause the quick dispersal of noise and odors are described in DEIS Section 3.1.
L-11	73	A	<b>Noise</b>	Wildlife	Analysis	<p>Item: pp. 4-63, 1st paragraph</p> <p>Comment: The statement that noise has already contributed to the apparent decrease in wildlife on and adjacent to the JIDPA with observed decreases in raptor nesting activity and productivity, male greater sage-grouse lek attendance and sage grouse nesting within the JIDA cannot be justified. In order to make the conclusion that wildlife is being impacted from noise, incremental noise levels from the JIDPA should have</p>	Noise can and does influence wildlife behavior. There are current monitoring efforts that are evaluating noise levels at compressor stations and reports are available from BLM.

**Table II-B. DEIS Comments and BLM Responses (cont'd)**

Submittal ID	Comment Number	Category	Keyword 1	Keyword 2	Keyword 3	Comment Text	BLM Response
						been monitored over time compared to the data on wildlife populations. To our knowledge, this has not been done and thus making an all-encompassing conclusion is not appropriate.	
L-11	74	A	Noise	Analysis	On-Site Mitigation	Item: pp. 4-63, 3rd paragraph  Comment: This paragraph contains a sentence that concludes there will be significant impacts from noise and odor within the JIDPA and vicinity under all alternatives. We completely disagree with this conclusion. To make this conclusion fails to recognize the effectiveness of mitigation that will be used to reduce noise. The EIS does not include quantitative details about the attenuation of noise from mufflers, barriers, and other techniques that will reduce noise at the source. Without this information, concluding that significant impacts will occur is without merit.	Not all impacts can or will be mitigated, especially noise. The JIDPA had very little human-caused noise before development.
L-11	75	A	Analysis	Noise	On-Site Mitigation	Item: pp. 4-65, Preferred Alternative Comment: This subsection states that implementation of measures shown in Section 2.14 would decrease noise and odor impacts. As our comments to Section 2.14 indicated, there are a number of specifics relating to noise mitigation in this section that must be developed before this conclusion can be made. However, we believe that the noise mitigation as described in Appendix B would accomplish the same level of reduction currently proposed in Section 2.14. Therefore, the Preferred Alternative cannot be justified as providing substantially higher impact reduction compared to the Proposed Action.	Noise impacts will be mitigated in all alternatives.  The actual mitigation measures applied will be based on the impacts determined for the project. Since the BLM does not have specific information for each element at this time, this determination cannot be made in advance. When the specifics of the project are proposed the BLM will decide what the appropriate action is.
L-11	76	A	Analysis	Noise		Item: pp. 4-66, Cumulative Impacts Comment: This section states that the CIAA area for noise includes the JIDPA plus a 20 mile buffer as well as a 2.0 mile buffer for odor. As stated previously, there is no technical justification provided nor can we find any reference that supports a 20-mile noise impact area around the JIDPA. We also question the 2.0-mile buffer for odor unless it is based upon the chemical and quantities being used. We would suggest that BLM provide more specific information on how the buffers were established.  The last sentence of this section that cumulative impacts are anticipated to be greatest under the Proposed Action	Twenty miles was used to evaluate the cumulative impacts of noise for the entire field. This figure was used because large compressors will have a large impact zone. Whether it's 20 miles or otherwise, a standard for baseline measurement for cumulative impacts must be established.  Noise is anticipated to be greater for the more wells drilled.

**Table II-B. DEIS Comments and BLM Responses (cont'd)**

<b>Submittal ID</b>	<b>Comment Number</b>	<b>Category</b>	<b>Keyword 1</b>	<b>Keyword 2</b>	<b>Keyword 3</b>	<b>Comment Text</b>	<b>BLM Response</b>
						and Alternative A. This conclusion cannot be supported without first understanding the noise reduction that would be realized by the Operator Committed Practices found in Appendix B, pp. B-8 and B-9.	
L-11	77	A	<b>Analysis</b>	Vegetation	On-Site Mitigation	Item: pp. 4-68, 4.2.1 Vegetation; 4th full paragraph Comment: The statement is made that significant impacts are anticipated to vegetation in the JIDPA through loss of habitat, forage, and soil protection..... Then in the last sentence of the paragraph the statement is made that “Under all alternatives, specific management requirements and mitigation measures would be implemented; therefore, impacts to vegetation would also be relative to the effectiveness of these additional measures”. These two sentences conflict one another. Although we recognize the intent of the last sentence, how can a conclusion that significant impacts will occur until the effectiveness of mitigation measures are assessed. With the amount of mitigation and monitoring being proposed, the impact conclusion being made does not appear to be supportable.	Even with implementation of the standard BLM mitigation guidelines and JIDP-specific requirements including COAs, there will still be a net loss of habitat during the LOP (roads, tank areas, etc.), even with successful reclamation. Thus the two sentences do not conflict. There will be a significant impact to vegetation under all alternatives. The degree of this impact will depend on the success of the reclamation efforts. Successful mitigation will limit the impact to just those expected for the LOP.
L-11	78	A	<b>Transportation</b>	Water Resources	Analysis	Item: pp. 4-73, BLM Preferred Alternative; 3rd full paragraph  Comment: This paragraph refers to direct impacts to waters of the U.S. as a result of road and pipeline crossings. These impacts are short term and temporary. Further, these types of crossings are authorized by rule under Section 404 of the Clean Water Act under the Corps of Engineer’s Nationwide Permit Program provided the terms and conditions of the permit program are met. In the same paragraph, a conclusion is made regarding indirect impacts to wetlands and waters of the U.S. Until the sediment model is run, this conclusion is premature.	The hydrological model had been run and the results will be included in the FEIS. Although the model analyzed for the results of single events, the potential still exists for cumulative effects to occur from multiple small events. This potential will be monitored by the JIO. However, in the last sentence of this paragraph the word “would” will be changed to “could.”
L-11	80	A	<b>Wildlife</b>			Item: pp. 4-76, 2nd and 3rd full paragraphs  Comment: These paragraphs discuss habitat fragmentation. Throughout the EIS, the loss of sagebrush habitat is described as a negative impact because of the effects it could have on sagebrush obligate species. While negative effects on sagebrush obligate species are likely, such disruption of sagebrush habitats will have positive effects on wildlife species that require more open or mixed sagebrush/herbaceous	JIDPA was a sagebrush-dominated community before development and restoration of that community will be a goal of BLM.

**Table II-B. DEIS Comments and BLM Responses (cont'd)**

Submittal ID	Comment Number	Category	Keyword 1	Keyword 2	Keyword 3	Comment Text	BLM Response
						<p>habitats. Habitat modification in itself is not necessarily negative. It is a well-accepted ecological principle that alterations in habitats, including those produced by biotic succession, will make such habitats less suitable for some species while simultaneously making them more suitable for other species (Stiling 1992, Odum 1971, Smith 1974).</p> <p>The modeling results, regarding habitat fragmentation, that are presented in Maps 4.2 through 4.5 illustrate the potential reductions in largely sagebrush habitats on the JIDPA and the text in Chapter 4 describes the projected loss in sagebrush obligate species. What is overlooked in this presentation is the fact that there will be beneficial effects to non-sagebrush obligate species associated with each of these scenarios. Prairie dogs, ground squirrels, burrowing owls, grassland birds (including mountain plovers), and most medium to small mammal species will all benefit from the opening up of the sagebrush monoculture. Also, prey base for raptor species is likely to be increased with the opening up of the sagebrush habitat. This information should be included in the FEIS.</p>	
L-11	81	A	<b>Wildlife</b>			<p>Item: pp. 4-82, Pronghorn</p> <p>Comment: In much of the document, the pronghorn is incorrectly referred to as pronghorn antelope. The pronghorn does not belong to the antelope family whose members have permanent and mostly spiral horns. The pronghorn has deciduous horns that are shed and grown back annually. This correction should be made in the FEIS.</p>	The American pronghorn ( <i>Antilocapra americana</i> ) is commonly referred to as an antelope. The Wyoming Game & Fish Department uses this common term for pronghorn, the public is aware of this term, and it will be continued in the FEIS.
L-11	82	A	<b>Vegetation</b>	Wildlife		<p>Item: Page 4-82, paragraph 1</p> <p>Comment: The potential for impact to pronghorn associated with probable changes to the spring/summer/fall habitat is not accurate because changes in vegetation are likely to be beneficial to pronghorn, not harmful. Both the natural succession that follows disturbance and the re-vegetation of disturbed areas is likely to improve spring/summer/fall pronghorn habitat by increasing the diversity of herbaceous plants. Mature shrubs in this habitat are not of great value to pronghorn, but the young regenerating shrubs will add to the forage diversity and increase the value of this</p>	BLM's goal is the reestablishment of pre-disturbance vegetation. The BLM believes natural vegetation to be the most beneficial wildlife habitat.

**Table II-B. DEIS Comments and BLM Responses (cont'd)**

Submittal ID	Comment Number	Category	Keyword 1	Keyword 2	Keyword 3	Comment Text	BLM Response
						habitat. The evaluation of impacts in this paragraph is more appropriate for crucial winter range than they are for spring/summer/fall habitat. Pronghorn are not sagebrush obligates during the spring, summer, and fall when then eat a wide variety of herbaceous forage plants and relatively little sagebrush (Beale and Smith 1970, Dirschl 1963, Schwartz and Nagy 1976, Irwin et al. 1984).	
L-11	83	A	<b>Wildlife</b>	Vegetation	On-Site Mitigation	Item: Page 4-82, paragraph 2  Comment: In this paragraph it is stated that: "However, as noise and human presence are reduced, pronghorn likely would increase their use of these areas (e.g., during production operations), although probably not to the same extent as prior to disturbance." This conclusion appears to be based upon speculation and is not referenced to a scientific reference. It is not unlikely that use of these areas by pronghorn would increase following the completion of the development phase of the project as an increase in herbaceous vegetation occurs as a result of natural succession and reclamation efforts.	This statement is the professional judgment of numerous wildlife biologists.
L-11	84	E	<b>Wildlife</b>	Analysis		Item: pp. 4-82, paragraph 3  Comment: Although no scientific literature is cited to support the statement, it is stated that: "Because the Jonah Infill Project would disturb pronghorn summer/spring/fall range, it is reasonable to assume that the project would have some adverse impacts to pronghorn populations as a result of direct habitat removal and a reduction in habitat function on areas adjacent to development activities." Based on the lack of scientific evidence to back up this statement and the facts that: (1) pronghorn adapt to human presence and habitat changes, and (2) that the spring/summer/fall habitat is more likely to be improved than impacted, it maybe reasonable to assume that there may not be adverse impacts on pronghorn populations and that there might be positive affects? We would urge the BLM to consider this alternative to the conclusion being made.	This statement is the professional judgment of numerous wildlife biologists.
L-11	85	A	<b>Wildlife</b>			Item: pp. 4-83, paragraph 2  Comment: A conclusion is made that: "some of these movements are likely to be hindered under most, if not	This statement is the professional judgment of numerous wildlife biologists.

**Table II-B. DEIS Comments and BLM Responses (cont'd)**

Submittal ID	Comment Number	Category	Keyword 1	Keyword 2	Keyword 3	Comment Text	BLM Response
						all, of the development alternatives.” Given the proven ability of this species to adapt to human presence, it is not apparent these movements will be negatively modified.	
L-11	86	A1	<b>Wildlife</b>			<p>Item: pp. 4-83, Furbearers, Small Game, and Other Mammals; 2nd paragraph.</p> <p>Comment: the 2nd sentence states that: “The ability of the lands within the JIDPA to support furbearers, small game, and other mammals likely would decrease from current levels due to habitat loss and human disturbance.” This statement does not take into consideration that non-sagebrush obligate species that thrive in open, herbaceous habitats are going to benefit and increase their numbers as sagebrush habitats are reduced. This perspective should be included in the FEIS.</p>	The Jonah field was predominantly sagebrush habitat before development. The BLM’s goal is to reestablish sagebrush habitats.
L-11	87	F	<b>Wildlife</b>	On-Site Mitigation		<p>Item: pp. 4-84, Raptors; paragraph 1</p> <p>Comment: A statement is made that “Reduction in raptor prey species also is likely to occur as a result of the surface disturbance of up to two-thirds of the JIDPA (the amount of disturbance would depend on the alternative).” There is no scientific basis to this statement nor is it an accurate statement. This concern can also be found in the next paragraph of this page. Most of the prey base of the raptor species that occur on the JIDPA is not produced in the sagebrush habitats, but in more open herbaceous habitats. Because these are the habitats that are going to be increased by development, it follows that increases in raptor prey base species is likely to occur. Such an increase in prey base is likely to increase raptor productivity.</p> <p>A comparison of the density of active nests of American kestrels on the Jonah II Project Area (JIIPA) and the Jonah Wildlife Study Area (JWSA) between 2003 and 2004 indicates that prey base density on the Jonah II Project Area may already be increasing. Assessments of TRC raptor data for these two areas and years were conducted by Hayden-Wing Associates and indicate that prey base density for this species may be higher on the JIIPA than on the JWSA.</p> <p>The density of active nests of the American kestrel</p>	All wildlife monitoring will be included in the Wildlife Monitoring and Mitigation Plan developed after the ROD is signed.

**Table II-B. DEIS Comments and BLM Responses (cont'd)**

Submittal ID	Comment Number	Category	Keyword 1	Keyword 2	Keyword 3	Comment Text	BLM Response
						<p>increased dramatically on the JIIPA in 2004. It also increased on the JWSA, but the increase was not as great as on the JIPA. Analyses show that there were approximately the same densities of active kestrel nests per township on the JIIPA in 2003 as there were on the JWSA (0.72 v.0.87, respectively). However, in 2004 there were 2.51 active kestrel nests on the JIIPA and 1.56 active nests on the JWSA. The increase of active kestrel nests on the JIIPA was 248.6% between 2003 and 2004, while the increase during this same time period on the JWSA was 79%. Although the collection data would be required to demonstrate the reason for this difference in nest densities between the two areas, it is not unlikely that the reduction in sagebrush habitats on the JIIPA has increased the prey base for kestrels (grasshoppers are a major prey base item) more than it has increased on the JWSA. Because kestrels eat a lot of insects like grasshoppers, it may be that they are the first raptor species to respond to expected increases in raptor prey base. Insects breed faster than small mammals. In a few more years it is possible that the small mammal population will increase more on the JIIPA than on the JWSA and that there will be a corresponding increase in the density of active nests of other raptor species. Monitoring of raptor densities and small mammal densities on the JIIPA and JWSA should continue so that changes in densities of active raptor nests can be correlated with changes in small mammal densities on the two areas. This type of an approach for monitoring should be included in the FEIS.</p>	
L-11	88	A1	<b>Wildlife</b>			<p>Item: pp. 4-85, 2nd full paragraph; last sentence</p> <p>Comment: The sentence states: "Maintaining large continuous tracts of suitable habitat protected from disturbance is critical to the sustainability of greater sage-grouse populations." This statement seems to be an overstatement of the necessity of large continuous tracts. It is recommended the sentence be re-worded to read: "Maintaining adequate continuous tracts of suitable habitat protected from excessive removal of sage grouse is critical to the sustainability of greater sage grouse populations."</p>	<p>The FEIS will clarify the needs of sagebrush to sage-grouse and other sagebrush obligates.</p>
L-11	89	C	<b>Wildlife</b>			<p>Item: pp. 4-86, Other Birds</p> <p>Comment: Even though the diversity and density of</p>	<p>The Jonah field was predominantly sagebrush habitat before development. The BLM's goal is to</p>

**Table II-B. DEIS Comments and BLM Responses (cont'd)**

Submittal ID	Comment Number	Category	Keyword 1	Keyword 2	Keyword 3	Comment Text	BLM Response
						sagebrush-obligate bird species is likely to occur as a result of the removal of sagebrush habitats, the diversity and density of non-sagebrush obligates will increase concurrently. This mixture of obligate and non-obligate species in the habitat mosaic produced by development could increase the total diversity and density of bird species beyond current levels. Changes such as this should be documented. A negative impact to sagebrush habitat is likely to be a positive impact for non-sagebrush obligate species.	reestablish sagebrush habitats.
L-11	91	F	Wildlife			Item: pp. 4-93, paragraph 1  Comment: The statement is made that “raptors using the JIDPA and CIAA for nesting and foraging would experience continued adverse effects within nesting and foraging territories, which would likely lead to reduction in the regional reproductive success of raptors in the CIAA”. The statement that regional reproductive success of raptors in the CIAA is likely to be reduced is speculation and cannot be substantiated without comparing productivity on an experimental study area that is located on the JIDPA to one or more control study areas that are located outside the JIDPA and away from oil and gas development. Many raptor researchers feel that the availability of prey species is the greatest factor regulating raptor populations (Grant et al. 1991, Galushin 1974, Phelan and Robertson 1978, Smith and Murphy 1979, Smith et al. 1981, and Korpimake 1984).	BLM have recognized impacts to raptor species the utilize sagebrush habitat in the JIDPA. Although this determination is admittedly subjective, it is reasonable to conclude that local declines would contribute to regional declines. Based on the professional observations of the BLM, there is no way to assure that these animals would simply move to or use another location.
L-11	92	E	Wildlife			Item: pp. 4-93, Game Birds; paragraph 3  Comment: If, as stated, “the magnitude of impact resulting from that disturbance is unknown”, how is it possible to say that the “anticipated cumulative effects on the continued apparent decline in regional greater sage-grouse populations would be significant?” To what extent is the apparent decline in regional greater sage-grouse populations due to the extended drought the region is experiencing? This information should be included in the discussion on game birds. According to the Wyoming Game and Fish figures during 2004 (with exception of the Northeast part of the state) populations of sage grouse were found to be increasing. This would suggest the statement regarding a regional decline in greater sage grouse populations is overstated.	This statement is the professional judgment of numerous wildlife biologists.  Sage-grouse are not responding positively to energy development within Sublette County.

**Table II-B. DEIS Comments and BLM Responses (cont'd)**

Submittal ID	Comment Number	Category	Keyword 1	Keyword 2	Keyword 3	Comment Text	BLM Response
L-11	93	A	<b>Wildlife</b>			<p>Item: pp. 4-96, 4.2.3 Threatened, Endangered, Proposed, and Candidate and BLM Wyoming Sensitive Species; 3rd full paragraph</p> <p>Comment: The statement is made that “Significant impacts to BWS species are anticipated within the JIDPA under all alternatives (most notably to sagebrush-obligate species”. The first concern with this statement is a broad all-encompassing comment that would apply to the Wyoming BLM’s sensitive list. This list has a number of species on it and to categorize all of them being significantly impacted is a generalization that should be avoided. As discussed in our comments above, not all sagebrush obligate species will be negatively affected by the project. In fact, one species, the mountain plover, would be an example where their habitat would be improved by the proposed project. To properly assess this situation will require a list of the BWS species and what impacts are attributable to each one from the proposed action. In the absence of this approach and have the information available, this conclusion should not be included in the FEIS or at least be tempered recognizing the variability in impacts depending upon species.</p>	<p>Sensitive species impacts are discussed in Chapter 4 of the FEIS.</p>
L-11	94	A	<b>Alternatives</b>	Operator-Committed Practices		<p>Item: pp. 4.3.10, BLM Preferred Alternative; 2nd paragraph</p> <p>Comment: The first sentence states that under the Preferred Alternative, additional mitigation and monitoring measures would be applied to minimize impacts which refers to Section 2.14. Interestingly, when reviewing Section 2.14, there is not a single item listed that directly refers to Cultural and Historical Resources. Conversely, the Operator Committed Practices have seven measures that would be used in the Proposed Action.</p>	<p>The last sentence in the referenced paragraph states, “Any measure that reduces the volume of surface disturbance or level of human presence has the potential to reduce impacts to cultural resources.” A number of the measures found in DEIS Section 2.14 do reduce the volume of surface disturbance and/or human presence and therefore potentially reduce the impact to cultural/ historical resources.</p> <p>Generally, mitigation of or to cultural resources occurs on a case-by-case basis as significant (National Register-eligible) cultural resources are potentially adversely affected. This scenario is an action common to all alternatives. More holistic cultural</p>

**Table II-B. DEIS Comments and BLM Responses (cont'd)**

<b>Submittal ID</b>	<b>Comment Number</b>	<b>Category</b>	<b>Keyword 1</b>	<b>Keyword 2</b>	<b>Keyword 3</b>	<b>Comment Text</b>	<b>BLM Response</b>
							resource mitigation efforts may be part of a compensatory mitigation package or proposal, however this is still under discussion and/or negotiation.
L-11	95	E	<b>Recreation</b>			<p>Item: pp. 4-137, Recreation; 1st full paragraph</p> <p>Comment: The statement is made that long term displacement or elimination of existing dispersed recreation due to increased levels of gas field development activity is anticipated as well as a conclusion that recreational visitors would likely avoid the JIDPA because of a perceived reduction in the quality of the recreational experience. While these statements could be true, what are the conclusions based upon. Does BLM have data regarding visitor days historically to the area which is now the JIDPA and if so do those numbers support the conclusions in these sentences? Are there studies that support the conclusions in the DEIS that reflect the views of recreationists in the vicinity of the JIDPA. In the absence of this data, we would urge the BLM to use caution regarding the impacts on recreation in the JIDPA.</p>	Thank your for your comment. The BLM has revealed quantitative data where available; however, accurate data specific to recreation use and visitor preferences is nearly always unavailable for large, extensive recreation areas on public lands. The BLM and other land management agencies have, when reliable data were unavailable, relied on related wildlife harvest data, anecdotal input and professional judgment. This methodology, though less desirable, has not been found to be unreasonable or grossly inaccurate.
L-11	96	A	<b>Recreation</b>			<p>Item: pp. 4-139, Cumulative Impacts; 3rd paragraph</p> <p>Comment: The last sentence states that current users may be adversely affected by increase use, over-crowding, and or a feeling that the quality of the recreation experience of solitude has been decreased. This conclusion is very subjective without a reference to a survey or research regarding these impacts. While we can agree that some people may have concerns about development, others may see it differently. With this being the case, it is difficult to justify an adverse conclusion with the subjective nature of perception used by people.</p>	See response to comment L-11-95.
L-11	97	A	<b>Recreation</b>			<p>Item: pp. 4-139, Unavoidable Adverse Impacts</p> <p>Comment: This section concludes that unavoidable adverse impact to recreation will occur due to the likely avoidance of the JIDPA by recreational users. Again, for reasons stated above, concluding that impacts to recreation are adverse appears excessive based upon a subjective set of considerations.</p>	See response to comment L-11-95.

**Table II-B. DEIS Comments and BLM Responses (cont'd)**

<b>Submittal ID</b>	<b>Comment Number</b>	<b>Category</b>	<b>Keyword 1</b>	<b>Keyword 2</b>	<b>Keyword 3</b>	<b>Comment Text</b>	<b>BLM Response</b>
L-11	99	A	<b>Transportation</b>			<p>Item: pp. 4-144; Unavoidable Adverse Impacts</p> <p>Comment: The conclusion in this sentence states that “unavoidable adverse impacts to transportation would occur for the LOP primarily as a result of increased traffic and the expanded road network. There are no statements in this section that support this conclusion. With all the mitigation being proposed and the transportation plan drafted, this conclusion is not supportable.</p>	<p>It is BLM’s strongly held professional judgment that traffic will increase and the road network will need to be expanded in order to select any of the action alternatives proposed. Interim reclamation and the piping of all liquids may result in no unavoidable adverse impacts for the Life of the Project, but short term there will be impacts.</p>
L-11	100	A	<b>Visual Resources</b>	On-Site Mitigation		<p>Item: pp. 4-146 BLM Preferred Alternative; 2nd paragraph</p> <p>Comment: A statement is made in the first sentence regarding additional mitigation and monitoring that would be applied to minimize impacts found in Section 2.14. BLM has also identified additional visual mitigation measures in the section on Operator Committed Practices that are designed to further reduce visual impacts. However, this area is classified VRM Class IV which provides for modification of the landscape. However, the level of visual mitigation ultimately applied in either 2.14 and in the Operator Committed Practices is not commensurate with VRM Class IV. Some of the measures listed in Section 2.14 go beyond these criteria, such as piping water and condensate or centralizing development and production facilities, and should be removed from the proposal.</p>	<p>The majority of mitigation identified is to reduce impacts to numerous resources other than visual resources. Many of these mitigation practices also have the potential to reduce visual impacts both within the project area and cumulative affects area. This is especially applicable for the VRM Class I and II sensitive viewsheds within the CIAA, including regional wilderness resources. The BLM does not require the mitigation you referenced in Section 2.14 solely to reduce impacts to visual resources. You are correct in stating the objective for VRM Class IV allows for major modification of the landscape and may become the major focus of the viewer’s attention. However, every attempt should be made to minimize the visual affects of the development and activities. The BLM believes the standard visual impacts mitigation practices in combination with the additional requirements are reasonable given the complex and interrelated nature of the impacts to the various resources.</p>
L-11	101	A	<b>Visual Resources</b>	Alternatives		<p>Item: pp. 4-147, Cumulative Impacts; 2nd paragraph</p> <p>Comment: A sentence states that all project alternatives within the JIDPA and its incumbent development coupled with other regional developments are visible and</p>	<p>Thank you for your comment. You are correct in bringing to our attention some inaccuracies of this analysis statement. The text will be modified to better represent the potential</p>

**Table II-B. DEIS Comments and BLM Responses (cont'd)**

Submittal ID	Comment Number	Category	Keyword 1	Keyword 2	Keyword 3	Comment Text	BLM Response
						<p>may dominate the viewscape from VRM Class II and III areas, some sections of Hwy 191 and nearby wilderness and wilderness study areas within the CIAA; and concludes that significant cumulative impacts to regional visual resources will occur. Considering the distance of the JIDPA off Hwy 191 and the fact that most of the facilities are located out of the viewshed from Hwy 191, it is difficult to justify this conclusion. Even in cases where smoke or plumes are evident from operations in the JIDPA, these are short term and intermittent and would have no permanent visual impact on VRM Class II or Class III areas nor along Hwy 191. It is recognized from a cumulative aspect that development on the S. Pinedale Anticline could be visible in certain settings, but to conclude that significant cumulative impacts to regional visual resources, taking into account the distance to wilderness areas, appears to be an inappropriate generalization. It is recommended that this conclusion be eliminated from the FEIS.</p>	<p>visual impacts as related to the VRM objectives within the CIAA. However, significant cumulative impacts would occur since existing and potential project-related activities will be noticeable from nearby VRM Class II and I areas.</p>
L-11	102	A	<b>Visual Resources</b>	Air Quality		<p>Item: pp. 4-147, Unavoidable Adverse Impacts</p> <p>Comment: The DEIS states the expansion of gas development facilities, and various development effects (e.g., haze, smoke plumes, nighttime lighting effects on regional star gazing) and associated roads would be an unavoidable adverse impact to visual resources on the JIDPA and at locations where it is visible outside the JIDPA. Considering the Class IV designation to this area and the relative difficulty in viewing the JIDPA other than by the air, this conclusion is not appropriate. We recommend eliminating this finding from the Final EIS.</p>	<p>Thank you for your comment. The analysis accurately represents the incidental, visible off-site effects attributed to intense gas field development. This analysis is based upon casual observations of existing conditions in combination with anticipated increases from project expansion. Proposed mitigation will likely offset some of the off-site visibility impacts, however the effectiveness of this mitigation is largely unknown. Visibility impacts regardless of the VRM Classification will to some extent be unavoidable and adverse. Therefore this disclosure is appropriate and reasonable.</p>
L-11	103	A	<b>On-Site Mitigation</b>			<p>Item: pp. 4-152, 1st paragraph</p> <p>Comment: The statement is made that “The Operators have committed to funding a Cumulative Impacts Mitigation Fund (CIMF) to offset impacts of their proposed Jonah Infill development”. Further, a statement reads: “...Operators have suggested a hypothetical amount of \$850.00 for every acre of new initial</p>	<p>The discussion of compensatory mitigation is being revised in the FEIS. However, compensatory mitigation is voluntary and one of the operators in the Jonah Field has suggested this particular mitigation program. No other suggestions have been received by the BLM. This is</p>

**Table II-B. DEIS Comments and BLM Responses (cont'd)**

Submittal ID	Comment Number	Category	Keyword 1	Keyword 2	Keyword 3	Comment Text	BLM Response
						disturbance authorized in the JIDPA, above a threshold of 11,000 acres.” BP supports the concept of a CIMF associated with the Proposed Action, but BP never suggested agreeing to a dollar amount for new initial surface disturbance above a threshold of 11,000 acres authorized by BLM. However, BP does believe that a dollar per acre of new disturbance may be a mechanism to fund CIMF, but do it without a threshold based upon approved surface disturbance.	not a requirement being imposed by the BLM, and discussions regarding compensatory mitigation will continue to evolve until the ROD is issued.
L-11	104	A	<b>On-Site Mitigation</b>	Air Quality		<p>Item: pp. 5-1, 5.1.1; Air Quality</p> <p>Comment: The following mitigation actions identified in this section include “A HAP assessment at five locations in the JIDPA to assess ambient air concentrations to address public concerns; Work with WDEQ/AQD to evaluate the use of alternate technologies (e.g., condensers on dehydrators, carbon filters on condensate tanks, remote telemetry monitoring) for well pad production facilities (dehydrators, separators, heaters) to reduce emissions from these features and traffic; Use low-pressure gas gathering pipelines to reduce compression needs, recover flash gas lost during processing, and eliminate VOC and HAP emissions when the gas is introduced to the sales gas distribution system; Work with the WDEQ/AQD developing and financing appropriate identification, monitoring, and emissions control procedures for HAPs and other emissions from water treatment/disposal facilities.” These measures are not necessary because Wyoming’s Department of Environmental Quality-Air Quality Division has MACT (Maximum Achievable Control Technology) regulations to address HAP emissions so the need to monitor is not apparent. The other items are all addressed with Wyoming’s minor source BACT (Best Available Control Technology) which requires state of the art controls to be employed through their permitting program. As such, there is no need to include these as additional mitigation.</p>	BLM recognizes that WDEQ employs the MACT and BACT processes as part of their air quality regulatory authority and responsibility. However, HAPs monitoring, as well as the other examples of alternative technologies, are described to inform the public.
L-11	105	A1	<b>On-Site Mitigation</b>	Soils		<p>Item: pp. 5-2, 5.1.4, Soil Resources; 1st Bullet</p> <p>Comment: This item reads: “Site-specific pre-disturbance landscape descriptions, including soils data, plant species composition and cover data, and proposed reclamation seed mixes with application rates.” We understand the value of assessing these characteristics</p>	Please keep in mind that the measures listed in Chapter 5 are not being required by the BLM at this time. If they are deemed beneficial and necessary they may be included in the ROD. Only then would they become a requirement and only for

**Table II-B. DEIS Comments and BLM Responses (cont'd)**

Submittal ID	Comment Number	Category	Keyword 1	Keyword 2	Keyword 3	Comment Text	BLM Response
						to assist in reclamation success. However, we are concerned that this could become a routine requirement for future surface disturbance related permitting. With the reclamation practices that have been achieved, the need for these evaluations should be used in select cases only where special soil considerations would demonstrate value. Therefore, it is suggested to add at the end of the sentence the phrase “when unique site conditions warrant this information.”	the JIDP.  Many operators are already performing these measures. Doing so in the future will help them achieve the objectives of DEIS Sections 2.14.1 and 2.14.2. Adjacent parcels can also be used for such a comparison. There is no need to add language to these suggestions.
L-11	106	A	<b>On-Site Mitigation</b>	Surface Disturbance	Water	Item: pp. 5-3, 1st Bullet  Comment: This item reads: “Hold storm water and snowmelt water in the JIDPA for as long as possible to allow for infiltration, reduce runoff energy and associated sediment loads, using geofabrics, jute netting, spreader dikes, retention ponds, additional armoring of existing water courses, or other techniques”. The intent of this measure is addressed in Section 2.14 and in Appendix B. As stated previously, many of these measures would incur additional surface disturbance such as retention ponds. While the intent is understood, some of the techniques need to be fully understood relative to impacts on other resources before they are implemented.	This is a valid point, but to create a detailed analysis of the wide variety of erosion reduction tools and methods is beyond the scope of this document. Decisions as to which methods to use will be determined on a sight specific basis.
L-11	107	B	<b>On-Site Mitigation</b>	Water Resources		Item: pp. 5-3, 5th Bullet  Comment: This item reads: “Develop and implement an adaptive surface water management plan for the entire JIDPA which could include the NPDES process and consider runoff on a cumulative watershed basis.” We are unsure what the general outline of an adaptive water management plan would be. Details on this plan need to be better developed in order to comment. We are unclear why a NPDES process would need to be developed for the JIDPA. For these reasons, this measure requires additional explanation before we could endorse using it.	It is agreed that further elaboration of this aspect is needed. The development within the JIDPA has a potential to decrease the capacitance of the watersheds through synergistic effects from tightly spaced disturbances. The NPDES program is a DEQ program that works to reduce point-source pollution, including pollutants in stormwater runoff. The proposal was to combine what would normally be individual efforts by the various Operators into the physically practical boundaries of watersheds. It has been determined that development of this management plan as a subsequent effort would allow for a more timely completion of the JIDP EIS NEPA process.

**Table II-B. DEIS Comments and BLM Responses (cont'd)**

<b>Submittal ID</b>	<b>Comment Number</b>	<b>Category</b>	<b>Keyword 1</b>	<b>Keyword 2</b>	<b>Keyword 3</b>	<b>Comment Text</b>	<b>BLM Response</b>
L-11	108	B	<b>On-Site Mitigation</b>	Water Resources	Surface Disturbance	<p>Item: pp. 5-3, 8th Bullet</p> <p>Comment: This item reads: "Consider produced water treatment and/or disposal facilities (e.g., evaporation ponds) on federal surface in the JIDPA". We are not clear why this particular item is being included, as least for now, as an additional mitigation measure. The use of evaporation ponds, while an alternative, would incur additional surface disturbance. Until such time as an alternative to disposal wells is necessary, the justification for pursuing this measure is not evident.</p>	<p>This is an excellent point. The text will be changed to read, "consider all practical methods and technological improvements that would increase the use of recycled water, and decrease fresh water withdrawals, erosion, and salt loading of surface soils and water bodies."</p>
L-11	109	A	<b>On-Site Mitigation</b>	Water Resources		<p>Item: pp. 5-3, 9th Bullet</p> <p>Comment: The item reads: "File all NPDES permits and associated water quality data with the BLM and consult with WDEQ, WGFD, BLM and livestock permittees before any water release." The need for this measure does not exist since there are no plans to file for or acquire an NPDES permit for surface discharge of produced water in the JIDPA.</p>	<p>The National Pollutant Discharge Elimination System (NPDES) program covers stormwater runoff as well as discharged water. Therefore, NPDES permits will be required as more than 5 acres will be disturbed with direct energy-related projects and most likely more than 1 acre from projects that are not directly related to well pad and roads will be disturbed, requiring a stormwater permit.</p>
L-11	110	B	<b>On-Site Mitigation</b>	Water Resources	Surface Disturbance	<p>Item: pp. 5-3, 1st Bullet</p> <p>Comment: This item reads: "In coordination with the BLM, Natural Resources Conservation Service and Sublette County Conservation District, Operators could utilize irrigation at reclamation sites to improve germination and vegetation establishment." It is important that while irrigation could be advantageous, the logistics and costs of accomplishing this task could be significant. There would need to be a plan to transport the water from water sources to the site where it is needed. It would likely require either trucking or piping water, but certainly storage capacity would be a necessity using a tank. This document is attempting to minimize, to the extent practicable, surface type facilities. It is necessary that all aspects of using surface facilities, regardless the reason, receive the same scrutiny of impact evaluation. Therefore, this measure will need additional evaluation before it could be implemented.</p>	<p>EnCana is presently using irrigation as part of enhanced reclamation efforts. The results of this action are being studied.</p>
L-11	111	A	<b>On-Site</b>	Wildlife		<p>Item: pp. 5-4, 1st Bullet</p>	<p>Low-profile tanks will be required</p>

**Table II-B. DEIS Comments and BLM Responses (cont'd)**

Submittal ID	Comment Number	Category	Keyword 1	Keyword 2	Keyword 3	Comment Text	BLM Response
			Mitigation			<p>Comment: This item reads: "Utilization of low-profile tanks within line-of-sight, up to a maximum of 0.5 mile, of greater sage-grouse leks." The use of low-profile tanks must be carefully assessed before being used. Tank sizes are selected based on a number of factors such as safety, production volumes, and, for compatibility with the combustion/incinerator device used to control volatile organic compounds emanating from tank vapors. Therefore, using low profile tanks may not be possible in many cases. Consequently, this item should have the following phrase added to the beginning of the sentence: "To the extent technically feasible..."</p>	within 0.5 mile of a sage-grouse lek.
L-11	112	A	On-Site Mitigation	Wildlife		<p>Item: pp. 5-4, 3rd Bullet</p> <p>Comment: This item reads: "Avoid all raptor nest territories (rather than just active nests) during the nesting season". It is unclear why all raptor sites are being avoided, regardless of whether they are active. We would suggest this item removed from the FEIS.</p>	This requirement will be determined on a case-by-case basis each year based on proposed development activities.
L-11	113	A	On-Site Mitigation	Wildlife		<p>Item: pp. 5-4, 7th Bullet</p> <p>Comment: This item reads: "Inventory the Big Piney white-tailed prairie dog complex for black-footed ferrets and pursue a block clearance of the complex." It is unclear why this measure is being recommended. Page 4-94 of the DEIS states: "Black-footed ferrets are not known to occur, nor are they likely to occur, within the JIDPA, and the JIDPA and vicinity have been block-cleared for ferrets by the USFWS (i.e., surveys for ferrets are not required in the area because the USFWS had concluded that their presence in the area is unlikely) (USFWS 2004)." With this information in the DEIS, this measure should be eliminated from the FEIS.</p>	Additional surveys and studies can and will be required by BLM. With current staffing levels, the BLM cannot adequately complete needed activities for monitoring and analysis
L-11	114	A1	On-Site Mitigation	Cultural Resources		<p>Item: pp. 5-4, 1st Bullet</p> <p>Comment: This item reads: "Develop and implement a research design, discovery plan, and/or cultural resource management plan for the combined areas of the Pinedale Anticline Project Area and JIDPA, and consult with SHPO pursuant to the effect of these plans on affected cultural resources." It is unclear how much industry involvement is necessary for this recommendation, but this is clearly a BLM initiated</p>	BLM agrees in principle with your comment. A Programmatic Agreement is the responsibility of BLM and SHPO. Implementation of a field-wide research design, discovery plans, and in particular any cultural resources management plans for the JIDPA will directly affect how industry implements projects in the JIDPA where cultural resource conflicts

**Table II-B. DEIS Comments and BLM Responses (cont'd)**

Submittal ID	Comment Number	Category	Keyword 1	Keyword 2	Keyword 3	Comment Text	BLM Response
						action in consultation with the SHPO if it is pursued. As such, the measure should be reworded to state the agencies responsibility for accomplishing this task.	exist. BLM believes that most, if not all, the operators in the JIDPA would want to be a party to development of management or discovery plans, because they will be required to adhere to any procedures that are an outgrowth of their finalization.
L-11	115	A	<b>On-Site Mitigation</b>	Cultural Resources		<p>Item: pp. 5-4, 2nd Bullet</p> <p>Comment: This item reads: "Implement larger cultural resource survey areas for site-specific development actions (areas of potential effect)". We do not support this recommendation for a number of reasons. First, enlarging the survey area introduces the risk of discovering sites not within the area of operation, but then possibly being required to treat those sites. Secondly, the cost to survey larger areas cannot be ignored. Third, the area of potential effect has been interpreted any number of different ways, many of which have complicated not only project implementation but consultation with SHPO. Finally, some larger/block cultural resource studies/inventories have been performed in the past in Wyoming, but because of time and the evolution of field review techniques, these studies were eventually deemed unacceptable and dismissed. Until these concerns and questions are better addressed, we cannot support this recommendation.</p>	<p>While BLM ultimately defines the Area of Potential Effect (APE), larger survey areas are optional to operators. Enlarging the survey area does not obligate an operator to "treat" a given site unless the site is within the APE. We are finding that the time involved and cost incurred by industry in executing larger surveys around existing well pads proposed for pad expansion would be eliminated by having a larger survey done initially. As you note, it is a recommendation, not a requirement.</p> <p>We have not "found unacceptable and dismissed" block surveys in the JIDPA. Like any survey, the quality of work performed stands alone. We certainly are willing to meet with any operator to discuss their concerns and answer any questions pursuant to the recommendation.</p>
L-11	117	A1	<b>On-Site Mitigation</b>	Air Quality	Transportation	<p>Item: pp. 5-4, 2nd Bullet</p> <p>Comment: This item reads: "Operators could commit to reduce fugitive dust on all proposed roads to decrease the potential for dust pneumonia in cattle". This is already underway for collector roads that receive the highest volume of traffic and generate the largest volume of dust. As such, this measure would not be considered a new recommendation.</p>	As stated, the operators are currently doing this on collector roads. This mitigation measure as currently written would apply to all proposed roads, which would include local and resource roads. Thus, it is a new recommendation.
L-11	118	A	<b>On-Site Mitigation</b>			<p>Item: pp. 5-6, 2nd Bullet</p> <p>Comment: This item reads: "Fill pipelines with clay or cement slurry at abandonment." The pipelines are typically purged before being left in the ground. There is</p>	It is impractical to fill all lines with cement for abandonment. The BLM Pinedale Field Office has an abandonment plan based on industry standards and practices as well as

**Table II-B. DEIS Comments and BLM Responses (cont'd)**

<b>Submittal ID</b>	<b>Comment Number</b>	<b>Category</b>	<b>Keyword 1</b>	<b>Keyword 2</b>	<b>Keyword 3</b>	<b>Comment Text</b>	<b>BLM Response</b>
						no reason to fill them with clay or cement since there would be nothing remaining in them at abandonment. This measure should be eliminated from the FEIS.	local conditions that provides guidance on pipeline abandonment. The bullet will be removed.
L-11	119	A1	<b>Alternatives</b>	Operator-Committed Practices		Item: pp. 5-6, 1st Bullet  Comment: This item reads: "Implement Operator-committed practices under any approved alternative when not already committed to (see Appendix B, Exhibit B-1) or required by BLM". This item is too open-ended and is not acceptable as worded. It should be eliminated from the FEIS.	Chapter 5 is a list of ideas that could be applied to minimize impacts or facilitate company operations within the JIDPA. The referenced item simply provided the operators and/or the BLM an opportunity to implement innovative ideas that could aid in those objectives. As it is not a commitment by the operators or the BLM to any specific action, it will remain in the FEIS.
L-11	122	A	<b>On-Site Mitigation</b>			Item: pp. 5-7, 5th Bullet  Comment: This item reads: "Investigate the feasibility of providing gas from the JIDPA to area gas users (e.g., local residents and businesses). If applied this measure could provide area residents with reduced natural gas costs, potentially offsetting regional natural gas cost increases to local consumers." It is important to note that the producers in the JIDPA do not market gas once it enters the sales pipeline. This recommendation is out of the control of the JIDPA producers and should not be included in the FEIS.	The comment is appreciated. The bullet point will be removed.
L-11	123	A	<b>Air Quality</b>	Compliance	On-Site Mitigation	Item: pp. 5-1, 5.1.1 Air Quality Comment: The following mitigation actions are identified in this section include "A HAP assessment at five locations in the JIDPA to assess ambient air concentrations to address public concerns; Work with WDEQ/AQD to evaluate the use of alternate technologies (e.g., condensers on dehydrators, carbon filters on condensate tanks, remote telemetry monitoring) for well pad production facilities (dehydrators, separators, heaters) to reduce emissions from these features and traffic; Use low-pressure gas gathering pipelines to reduce compression needs, recover flash gas lost during processing, and eliminate VOC and HAP emissions when the gas is introduced to the sales gas distribution system; Work with the WDEQ/AQD developing and financing appropriate identification, monitoring, and emissions control procedures for HAPs and other emissions from water	Some mitigations that may be redundant with existing regulations are reiterated for the purpose of informing the public of requirements of which they may otherwise be unaware.

**Table II-B. DEIS Comments and BLM Responses (cont'd)**

Submittal ID	Comment Number	Category	Keyword 1	Keyword 2	Keyword 3	Comment Text	BLM Response
						treatment/disposal facilities.” These measures are not necessary because Wyoming’s Department of Environmental Quality-Air Quality Division has MACT (Maximum Achievable Control Technology) regulations to address HAP emissions so the need to monitor is not apparent. The other items are all addressed with Wyoming’s minor source BACT (Best Available Control Technology), which requires state of the art controls to be employed through their permitting program. As such, there is no need to include these as additional mitigation.	
L-11	124	A1	<b>On-Site Mitigation</b>			Item: pp. 5-2, 5.1.4 Soil Resources; 1st Bullet  Comment: This item reads: “Site-specific pre-disturbance landscape descriptions, including soils data, plant species composition and cover data, and proposed reclamation seed mixes with application rates.” We understand the value of assessing these characteristics to assist in the reclamation success. However, we are concerned this could become a routine requirement for future surface disturbance related permitting. With the reclamation practices that have been achieved, the need for these evaluations should be used in select cases only where special soil considerations would demonstrate value. Therefore, it is suggested to add at the end of the sentence the phrase “when unique site conditions warrant this information.”	This item is listed as “additional mitigation opportunities” which implies that it could be implemented on a case-by-case basis as deemed necessary. It is not a “required” mitigation.
L-11	125	B	<b>Water Resources</b>	On-Site Mitigation		Item: pp. 5-3, 5th Bullet  Comment: This item reads: “Develop and implement an adaptive surface water management plan for the entire JIDPA which could include the NPDES process and consider runoff on a cumulative watershed basis.” We are unsure what the general outline of an adaptive water management plan would be. Details on this plan need to be better developed in order to comment. We are unclear why a NPDES process would need to be developed for the JIDPA. For these reasons, this measure requires additional explanation before we could endorse using it.	It is agreed that further elaboration of this aspect is needed. The development within the JIDPA has a potential to decrease the capacitance of the watersheds through synergistic effects from tightly spaced disturbances. The NPDES program is a DEQ program that works to reduce point-source pollution, including pollutants in stormwater runoff. The proposal was to combine what would normally be individual efforts by the various Operators into the physically practical boundaries of watersheds. It has been determined that development of this management plan as a subsequent effort would allow for a more timely completion of

**Table II-B. DEIS Comments and BLM Responses (cont'd)**

Submittal ID	Comment Number	Category	Keyword 1	Keyword 2	Keyword 3	Comment Text	BLM Response
							the JIDP EIS NEPA process.
L-11	126	A	<b>Water Resources</b>	Economics	On-Site Mitigation	Item: pp. 5-3, 7th Bullet  Comment: This item reads: "Maximize recycling of waters utilized and produced for this project and increase capacities to both treat and re-use clean produced water within the field". As mentioned in other comments, recycling is already occurring in the field and the ability to treat and re-use clean produced water within the field will be driven by technological feasibility and economics before the applicability of this measure can be determined.	Noted. Thank you for this comment.
L-11	127	A	<b>Water Resources</b>	On-Site Mitigation		Item: pp. 5-3, 8th Bullet  Comment: This item reads: "Consider produced water treatment and/or disposal facilities (e.g., evaporation ponds) on federal surface in the JIDPA". We are not clear why this particular item is being included, at least for now, as an additional mitigation measure. The use of evaporation ponds, while an alternative, would incur additional surface disturbance. Until such time as an alternative to disposal wells is necessary, the justification for pursuing this measure is not evident.	This is an excellent point. The text will be changed to read, "consider all practical methods and technological improvements that would increase the use of recycled water, and decrease fresh water withdrawals, erosion, and salt loading of surface soils and water bodies."
L-11	128	A	<b>Water Resources</b>	Compliance	On-Site Mitigation	Item: pp. 5-3, 9th Bullet  Comment: The item reads: "File all NPDES permits and associated water quality data with the BLM and consult with WDEQ, WGFD, BLM and livestock permittees before any water release." The need for this measure does not exist since there are no plans to file for or acquire an NPDES permit for surface discharge of produced water in the JIDPA.	The National Pollutant Discharge Elimination System (NPDES) program covers stormwater runoff as well as discharged water. Therefore, NPDES permits will be required as more than 5 acres will be disturbed with direct energy-related projects and most likely more than 1 acre from projects that are not directly related to well pad and roads will be disturbed, requiring a stormwater permit.
L-18	5	C	<b>Social</b>			The impacts upon our cultural community have also been significant to date; the expense of improvements to the county's infrastructure was not accounted for in the previous EIS. Many significant changes to this area were not considered to occur in the previous EIS. This current "draft" may not cover critical issues that have yet to surface.	Between the Draft EIS and the Technical Support Document, there was a concerted effort to add more emphasis on Socioeconomics. Both texts will be further revised for the FEIS.
L-20	1	A	<b>Livestock/</b>			See also: L-21-01	Please refer to text changes in the

**Table II-B. DEIS Comments and BLM Responses (cont'd)**

Submittal ID	Comment Number	Category	Keyword 1	Keyword 2	Keyword 3	Comment Text	BLM Response
			<b>Grazing</b>			Within the Draft, the analysis of the loss of grazing AUMs is very questionable, and there is no solution or process stated indicating what is going to happen to those AUMs. Table 4.19 on 4-133 indicates that there will be a total loss of 1,410 AUMs within the project area. It is unclear how this analysis was done. It appears that some factor of surface disturbance was applied across the board for each allotment. This approach was a simplified, but unscientific approach.	FEIS.
L-20	2	A	<b>Livestock/ Grazing</b>			See also: L-21-02  The draft appears to assume that there is no excess forage available for grazing with the proposed increase in surface disturbance due to the drilling activity. During the summer of 2004 we all participated in a voluntary and informal monitoring program that indicates that there is more on the ground forage available than what is currently being grazed. Our collective experience agrees with that; the past 5 years the utilization levels have been at moderate to low level, indicating large amounts of forage are not being consumed. I believe that BLM's own records agree with this.	Please refer to text changes in the FEIS.
L-20	3	D	<b>Livestock/ Grazing</b>	Water Resources		See also: L-21-03  Based upon my on the ground experience there are areas of the allotments in the project area that are lacking water development. We perceive that by adjusting and improving the management of these grazing allotments using monitoring and range improvements, such as water development, the carrying capacity could be maintained and enhanced. We understand that EnCana and other operators will use a systematic approach to the drilling phase, and that we can work with that approach to manage the distribution of cattle within the allotments.	Water can be developed on BLM grazing allotments through the Range Improvement Permit Application, and through Cooperative Agreement. Results of monitoring can identify suitable locations for projects, and proposals need to undergo NEPA analysis.
L-20	4	B	<b>Livestock/ Grazing</b>	Compensatory Mitigation	Economics	See also: L-21-04  These BLM desert allotments are essential to ranching operations in this valley. The allotments are designed for spring grazing of livestock, as they green up before any other rangelands. In Sublette County, there is very little rangeland available for spring grazing. Therefore, the option of finding alternative spring grazing lands is not	There will be no anticipated reduction in AUMs under the new Preferred Alternative

**Table II-B. DEIS Comments and BLM Responses (cont'd)**

Submittal ID	Comment Number	Category	Keyword 1	Keyword 2	Keyword 3	Comment Text	BLM Response
						<p>available. The bottom line is that these particular allotments have no substitute.</p> <p>While some see cash as fair compensation, it does not have the same affect as using the permit. To lose the ability to use the spring grazing permit will have a ripple effect on the rest of the ranching operations. There is not a fair cash compensation program to mitigate that.</p> <p>The Draft failed to address this ripple effect to the entire ranching operation, community, and business that depend on the ranching industry in the Pinedale area. As ranches lose the ability to graze and are forced to change their operation or sell out and subdivide, the potential for losing open spaces is huge. This multiplier effect also will increase land prices across Sublette County which recently is at the same level and even exceeded Teton County. Therefore, the Draft poorly analyzed the overall impact to Sublette County and Wyoming from the ranching industry by just stating that that there will be a loss of AUMs on the Jonah Field.</p>	
L-21	1	A	<b>Livestock/ Grazing</b>			Identical to L-20-01	Please refer to text changes in the FEIS.
L-21	2	A	<b>Livestock/ Grazing</b>	On-Site Mitigation		Same as L-20-02	Please refer to text changes in the FEIS.
L-21	3	D	<b>Livestock/ Grazing</b>	Water Resources		Same as L-20-03	Water can be developed on BLM grazing allotments through the Range Improvement Permit Application, and through Cooperative Agreement. Results of monitoring can identify suitable locations for projects, and proposals need to undergo NEPA analysis.
L-21	4	B	<b>Livestock/ Grazing</b>	Compensatory Mitigation		Same as L-20-04	Please refer to text changes in the FEIS. Also, see response to comment L-20-04.
L-22	3	A	<b>Livestock/ Grazing</b>			As discussed in Section 4.5.2.11, the cumulative short-term impact of this proposed action is expected to result in the loss of approximately 1,766 AUMs, or a 17.9% reduction in grazing on the combined allotments. We agree that this project will result in the temporary and probably long-term loss of livestock forage and available AUMs. However, how was this anticipated impact	Please refer to text changes in the FEIS.

**Table II-B. DEIS Comments and BLM Responses (cont'd)**

Submittal ID	Comment Number	Category	Keyword 1	Keyword 2	Keyword 3	Comment Text	BLM Response
						<p>derived? There is no discussion as to how these calculations were made.</p> <p>The grazing of domestic livestock in the Boundary Allotment, Blue Rim Desert Allotment, Sand Draw Allotment, and Stud Horse Common Allotment is critical to the economic viability of the affected grazing permittees. These four allotments cover 120,597 acres and contain a total of 9,876 active AUMs. As stated in 4.5.2.2 The Proposed Action, the JIDPA contains a total of approximately 2,604 AUMs or 26% of the total 9,876 permitted AUMs distributed among three grazing allotments (WDA emphasis added). The calculations and statements are incorrect in this section.</p> <p>Since the total AUMs in the Blue Rim Desert Allotment are not included within the JIDPA, we do not believe they can be counted toward determining surface disturbance impact. There will be no significant impact to livestock utilization patterns or AUM reductions of the Blue Rim Desert Allotment as a result of increased gas development in the JIDPA. Therefore, the active AUMs for the Boundary Allotment, Sand Draw Allotment and Stud Horse Common Allotment total 7,050 AUMs. The short-term loss impact is then increased from 17.9% to 25%, and the total AUMs present in the three allotments rises from 26% to 37%.</p>	
L-22	4	A	<b>Livestock/ Grazing</b>			<p>The WDA believes that all AUMs in each allotment should be analyzed for discussion of utilization. The AUMs considered available for utilization in the two most impacted allotments are 4,465 AUMs for the Sand Draw Allotment and 2,303 AUMs for the Stud Horse Allotment, versus the listed 2,324 AUMs and 1,730 AUMs respectively. These figures include all suspended AUMs, which should be included in the discussions.</p>	<p>The Code of Federal Regulations (CFR 4110.3) explains the process for activating suspended AUMs.</p>
L-22	5	D	<b>Surface Disturbance</b>	Transportation		<p>The DEIS calls for up to 16,200 acres of new surface disturbance in the JIDPA, which totals 30,500 acres. This level of impact is enormous, meaning 53% of all JIDPA surface will be disturbed. Impacts of this size tremendously affect the natural resources and environment, as well as contribute to the cumulative negative impacts of all gas development within the Green River basin. Due to this extreme level of impact, the WDA recommends to gas operators that all efforts be made to minimize the impacts on forage, water, air,</p>	<p>The new BLM Preferred Alternative in the FEIS incorporates measures to minimize impacts to livestock/grazing resources.</p> <p>Consolidation of facilities is a component of the Preferred Alternative.</p>

**Table II-B. DEIS Comments and BLM Responses (cont'd)**

Submittal ID	Comment Number	Category	Keyword 1	Keyword 2	Keyword 3	Comment Text	BLM Response
						<p>and the local communities. Any increase in surface disturbance above the proposed levels will contribute to a greater impact on the affected natural resources, including livestock grazing.</p> <p>The WDA recommends that facilities be consolidated to minimize surface and environmental impacts. At the level of development to date, an environmental impact has already occurred. "Spoke and hub" development is one consideration that gas operators can undertake to minimize surface disturbance, traffic, and emissions.</p>	
L-22	6	D	<b>Soils</b>	Surface Disturbance	On-Site Mitigation	<p>The WDA insists any disturbed surface, where applicable, be reclaimed as soon as possible. Once initial drilling has occurred, efforts should be made to reclaim as much as the area immediately, while continuing to allow access to the wellhead for maintenance. It is our desire to have the JIDPA return to the "wellhead in the sagebrush" concept as quickly as possible. To ensure the completion of reclamation, the WDA suggests bonding be increased to cover reclamation costs. This increase in bonding will ensure that reclamation be completed regardless of the gas operator.</p> <p>At any pace of development, the topsoil being removed from one drill pad can immediately be relocated to the reclamation site of a prior pad. This "leapfrogging" of topsoil will allow the soil to remain productive, viable and present, as less will be removed through pile erosion. Every effort should be made to minimize topsoil being removed from a future drill pad site, only to be piled and stored for future use. Leapfrogging of topsoil imitates immediate reclamation and minimizes the surface impacts of drilling. Interim and immediate reclamation protects the natural resource base, predominately forage for wildlife and livestock. Invasive and noxious weed infestations will not allowed to establish and develop a stronghold.</p>	<p>Between the Operator-Committed Mitigation Measures and the BLM-identified mitigations and outcome-based performance objectives in the DEIS, rapid reclamation is a component of most of alternatives analyzed.</p> <p>Thank you for your comment concerning reclamation bonding. BLM requires the Operators to post a bond for each lease for all operations, including reclamation. The amount of the bond can vary, and BLM can and does require bonds to be increased as circumstances warrant.</p> <p>Due to variations in soil types across the Jonah Infill Project Area is not practical to consider "leapfrogging" topsoil on a project-wide basis. You certainly would not want a saline/alkaline soil "leapfrogged" to a non-saline/alkaline site and vice versa. "Leapfrogging" could be addressed on a case-by-case basis at the APD stage.</p>
L-22	8	C	<b>Livestock/ Grazing</b>			<p>Following all projects and project impacts in the JIDPA, the WDA insists that once reclamation projects are successful and complete, the BLM will restore all active grazing to the permittees. The Stud Horse and Sand Draw Allotments should be monitored for the eventual</p>	<p>Please refer to text changes in the FEIS.</p>

**Table II-B. DEIS Comments and BLM Responses (cont'd)**

Submittal ID	Comment Number	Category	Keyword 1	Keyword 2	Keyword 3	Comment Text	BLM Response
						reinstatement of suspended AUMs in the allotments.	
L-22	9	D	<b>Compensatory Mitigation</b>	Livestock/ Grazing		<p>The WDA supports compensatory mitigation discussions between gas operators and livestock permittees to lessen the burden, livestock stress and economic impact to a grazing permittee from this intense development. Such mitigation strategies and costs could include, but are not limited to, the following information:</p> <p>1. Movement of livestock to an open allotment or pasture</p> <p>For producers who desire to maintain their current herd size, an open federal allotment or private pasture may be found and utilized for the actual livestock that are displaced. The producer may also elect to absorb the displaced livestock into a surrounding or adjacent allotment. Where available, a pasture may be rented for the livestock producer. Cost -- additional pasture rental; trucking and freight to a different allotment or pasture; herding; water development; fencing.</p> <p>2. Purchase hay in lieu of allotment use</p> <p>Livestock producers may chose to graze their livestock at home on their hay meadows, and have hay purchased for them for use in lieu of grazing the affected allotment. This activity could serve as a temporary fix until other alternatives are found, or it may serve as a long-term mitigation strategy.</p> <p>Cost -- hay and forage purchase; trucking and freight; feeding and hay handling equipment improvements; water development; fencing; hay storage.</p> <p>3. Monitoring of development impacts</p> <p>Livestock producers may chose mitigation based on direct impacts, which are documented from on-the-ground monitoring. Rangeland monitoring can be used to make both short- and long-term management decisions. Monitoring can include utilization, plant community composition, cover, function, structure and species presence. Compensation can be based on a predetermined value which is placed on the recorded impact. Based on monitoring analysis, range improvements will be constructed. The WDA</p>	<p>The BLM will not compensate for lost AUMs.</p> <p>Please refer to text changes in the FEIS.</p> <p>Water development has always been a solution for improving livestock grazing distribution. Should allotment evaluations indicate a need to do so, water resources can be developed after undergoing the NEPA process.</p>

**Table II-B. DEIS Comments and BLM Responses (cont'd)**

Submittal ID	Comment Number	Category	Keyword 1	Keyword 2	Keyword 3	Comment Text	BLM Response
						<p>recommends the use of the Wyoming Rangeland Monitoring Guide (August, 2001).</p> <p>Cost -- water development; fencing; herding; actual monitoring; permittee time.</p> <p>4. Develop water</p> <p>Poor water distribution is the chief cause of poor livestock distribution on most ranges. In certain allotments in the west, water is the limiting resource for complete utilization of the allotment. By developing water, livestock are able to move throughout the allotment and utilize the forage, without concentrating in one particular area. Water developments in either the affected allotment or surrounding allotments will improve the carrying capacity for livestock. Water could also be developed on the producer's private land to increase AUMs or hay crop yield.</p> <p>Cost -- drilling and maintenance; water development; haying equipment purchase.</p> <p>5. Purchase grazing land for Cattlemen's Association control</p> <p>Gas operators will purchase private land in the area, turn the control over to the local grazing or cattlemen's association, in which they will utilize the land for grazing as displacement occurs in the oil and gas area. This effort will act as a grass bank until AUMs are returned on federal land.</p> <p>Cost -- land purchase; taxes.</p> <p>6. Reimburse the producer for AUM loss</p> <p>To temporarily offset the displacement of livestock due to oil and gas development, negotiate a settlement to reimburse the producer for lost AUMs until grazing resumes. This payment may be for a portion or for all AUMs located within the affected allotment. The reimbursement may continue for the life of the displacement of livestock, and cease following reclamation; upon which time livestock grazing will</p>	

**Table II-B. DEIS Comments and BLM Responses (cont'd)**

Submittal ID	Comment Number	Category	Keyword 1	Keyword 2	Keyword 3	Comment Text	BLM Response
						resume. Cost -- AUM purchase; fencing.	
L-22	10	C	<b>Livestock/ Grazing</b>	Compensatory Mitigation		Mitigation projects performed offsite of the JIDPA will also have a direct impact on livestock grazing. Areas surrounding the JIDPA have already been identified for future offsite mitigation, and these areas have active grazing permits. It is important that compensation be similarly awarded to these permittees, as any offsite mitigation will undoubtedly result in an AUM decrease.	BLM will not compensate for lost AUMs.
L-25	1	A	<b>Social</b>			<p>I am responding to the above document and would like to set the record straight on the information I gave a woman working for TRC Mariah &amp; Associates. I only recently became aware that direct quotes were attributed to me on Page 35 of the above document. I regret ever speaking with this woman and, unfortunately, have no idea what her name was.</p> <p>Sometime in November of 2004, I received an email inviting me to talk with the staff member of TRC Mariah who was preparing the crime section of the socioeconomic Jonah EIS draft. I declined to talk with her as I was just at the beginning of my research for accurate crime statistics for Sublette and Sweetwater Counties and her deadline was close. The only statistic I had was from the second quarter of the DCI Quarterly Crime in Wyoming Report which stated that crime was up 27% in Sublette County and up 36% in Sweetwater County while the State declined 11% during that quarter. I had presented that information to the PAWG Socioeconomic Task Group, of which I am a member. I felt I didn't have enough information, other than anecdotal, to feel comfortable making a statement for Jonah Field.</p> <p>The following month, December of 2004, a woman from TRC Mariah contacted me by telephone at my office about making a statement and I explained to her why I had not. She asked if I would give her some background information on the crime situation and I told her of the above statistic. I have absolutely no idea where she came up with the figure of 80% increase in crime - she certainly did not get that number from me! And as an aside, a further problem I see with that statistic is that she does not define crime. What does "crime" mean as</p>	<p>The narrative on pages 35 and 36 of the Socioeconomic Analysis Technical Support Document (Jan 2005) has been deleted and <u>Section 3.1.5.1 Crime</u> has been changed in its entirety to read as follows:</p> <p>The Wyoming Attorney General Division of Criminal Investigation (DCI) produces annual reports on crime statistics for the State of Wyoming. Crime data are compiled from the Uniform Crime Reporting (UCR) records submitted to the DCI by law enforcement agencies across the state. In 2004, 64 individual law enforcement agencies contributed UCR data that work in jurisdictions representing 97.6 percent of the state's population. The intent of the UCR program is to gather relevant standardized data at the city, county, and state levels where it is used in compilation and analysis of national crime statistics (Wyoming Attorney General 2004).</p> <p>The UCR program defines crime rates as representing the number of crimes in relation to a population of a given jurisdiction (Wyoming Attorney General 2004). As such, crime rates are often used to compare crime in different areas. Serious offenses reported in UCR data are categorized</p>

**Table II-B. DEIS Comments and BLM Responses (cont'd)**

Submittal ID	Comment Number	Category	Keyword 1	Keyword 2	Keyword 3	Comment Text	BLM Response
						<p>she uses it? Arrests? Call-outs by law enforcement? Charges? Convictions? Without defining what is meant by "crime," any figures are meaningless.</p> <p>I told this woman there was an increase in crime that could be attributed to the gas and oil workers present in the county. I told her we were seeing crimes that were more serious in nature and used the example of almost no felonies filed in Sublette County in 2000-2001, per Marilyn Jensen, Clerk of District Court for the Ninth Judicial District for Sublette County, to making approximately one felony arrest per week in 2004. Not all these felonies make it through the judicial system to District Court but nevertheless, there are more serious crimes. And notably, these felonies are certainly not all related to gas and oil workers.</p> <p>I was also very concerned with the statement she made on page 36, "Ms. Filkins also reports gang-like behavior from various drilling and pipeline crews." I told her of two isolated incidents I was working on at that time that involved serious injury to two victims. This was meant in no way to state this was a trend but rather an example of the more serious nature of some of the crimes we were seeing in the office. It is NOT an accurate picture of what is going on in the county.</p> <p>I have found my work with the PAWG Socioeconomic Task Group to be very enlightening. Through our research into the crime in Sublette and Sweetwater Counties and the State as a whole, I have realized that many of the crimes committed by "gas and oil workers" are people who have lived in the state for a number of years prior to the development of Jonah and the Anticline. I reported that to the woman as well.</p> <p>The Casper Star-Tribune reported last week that Sublette County has the second lowest unemployment rate in the nation. That is obviously going to attract people here for work. Locals and out-of-towners alike are working in Jonah and on the Mesa, and at this point, it is almost impossible, and counterproductive I believe, to point fingers as to who is committing the crime, where are they from and for whom do they work.</p>	<p>reported in UCR data are categorized as violent crimes (murder, forcible rape, robbery, and aggravated assault) or as property crimes (burglary, larceny theft, and motor vehicle theft) (Wyoming Attorney General 2004). Crime rates are calculated by dividing the number of offenses by the population and multiplying the result by 100,000. Census estimates for 2004 were used as the base population figures for calculating crime rates.</p> <p>According to the U.S. Justice Department, the national crime rate of violent offenses in 2004 was 465.5 arrests per 100,000 residents; the national crime rate for property crime was 3,517.7 per 100,000 residents (U.S. Justice Department 2004). Compared to national crime rates, Wyoming had a lower crime rate for both violent crimes (228.6) and property crimes (3,352.0) in 2004 (Wyoming Attorney General 2004).</p> <p>Based on information provided in UCR annual reports, crime rates for both violent and property crimes were calculated for Lincoln, Sublette, and Sweetwater Counties. Lincoln County had a violent crime rate of 256.0, higher than the state crime rate but lower than the national crime rate. The county's property crime rate of 1,305.5 was lower than both the state and national rate. Sublette County had a violent crime rate of 405.8 and a property crime rate of 3,531.7; both crime rates were higher than the state crime rates but lower than national crime rates. Violent and property crime rates for Sweetwater County were higher than both the</p>

**Table II-B. DEIS Comments and BLM Responses (cont'd)**

Submittal ID	Comment Number	Category	Keyword 1	Keyword 2	Keyword 3	Comment Text	BLM Response
						<p>I am personally in favor of the natural gas development in Sublette County. Yes, crime has increased, including more serious crimes and more drug crimes, but I feel optimistic that the crime rate can be significantly lowered by the implementation of some of the recommendations of the PAWG Socioeconomic Task Group, such as forming an Operator's Association, continued random testing which is truly random, a zero tolerance for drugs and sharing of positive test results. I have been very impressed with the men representing the operators in the PAWG Socioeconomic Task Group, their willingness to assist the group and their help gathering information that would otherwise not be available to the group.</p> <p>In closing I wish to reiterate that I had a casual conversation with a woman from TRC Mariah Associates for the purpose of some background information - crime is up, it is more serious. I did not give permission for direct quotes and had I any idea I would be quoted, I would have carefully crafted the statements to ensure their accuracy, knowing the importance of their purpose. I apologize for any misunderstanding they may have caused.</p>	<p>Wyoming and national crime rates. Crime rates for Sweetwater County were 598.5 for violent crimes 4,558.0 for property crime.</p> <p>In addition to reporting crime rate offenses, the UCR program reports arrest totals. Table 3.6 provides the number of arrests in Wyoming and in the three-county study area for 1999 to 2004. Data presented in Table 3.6 were compiled from the UCR annual reports from 1999 to 2004. UCR reports arrests by the type of crime committed and the age (adult or juvenile) and gender of the defender. According to UCR data, the number of annual total arrests in Wyoming increased by 368 between 1999 and 2004 (Table 3.6) (Wyoming Attorney General 2004). Arrest totals decreased for the majority of crimes listed in Table 3.6; however; the number of arrests for aggravated assault, burglary, drug offenses, and driving under the influence increased.</p> <p>Overall arrests in Lincoln County decreased from 435 reported arrests in 1999 to 347 reported arrests in 2004. In 2004, crimes associated with the greatest number of arrests were driving under the influence (112), drug abuse violations (55), all other offenses except traffic (42), aggravated assault (35), and other assaults (17) (Table 3.6) (Wyoming Attorney General 2004).</p> <p>Arrests in Sublette County increased from 257 reported arrests in 1999 to 442 reported arrests in 2004. Crimes associated with the greatest number of arrests were all other offenses except traffic (174), driving under the</p>

**Table II-B. DEIS Comments and BLM Responses (cont'd)**

<b>Submittal ID</b>	<b>Comment Number</b>	<b>Category</b>	<b>Keyword 1</b>	<b>Keyword 2</b>	<b>Keyword 3</b>	<b>Comment Text</b>	<b>BLM Response</b>
							<p>influence (110), other assaults (36), drug abuse violations (33), liquor laws (25), and aggravated assault (14) (Table 3.6) (Wyoming Attorney General 2004).</p> <p>In Sweetwater County, arrests decreased from 3,039 reported in 1999 to 2,773 reported in 2004. Crimes associated with the greatest number of arrests in 2004 were all other offenses except traffic (674), driving under the influence (364), drug abuse violations (336) drunkenness (270), and Larceny-Theft (220) (Table 3.6) (Wyoming Attorney General 2004).</p>
L-27	1	B	<b>Air Quality</b>			<p>I understand that the BLM intends to provide additional modeling and air quality analysis to supplement the Jonah DEIS as a result of recent findings, which indicate that the number of drill rigs and the level of emissions are beyond the level analyzed in the Pinedale Anticline Project Area Record of Decision. The Wyoming Department of Environmental Quality Air Quality Division (Air Quality Division) is tasked with ensuring Clean Air Act compliance in the state. In order to allow the Air Quality Division to provide the necessary management oversight, the Jonah DEIS must incorporate analysis not previously completed within the Pinedale Field Office. This analysis must include a current inventory, a cogent monitoring network, a plan for how the monitoring will be analyzed and a plan to modify management practices to adapt to changing circumstances.</p>	<p>The emission inventory modeled in the 2006 analysis, presented in the supplemental AQ reports, updated the emission inventory through March 31, 2004, including drilling in nearby gas fields (Jonah, Pinedale Anticline, South Piney, Riley Ridge, and Jack Marrow Hills).</p> <p>The FEIS and ROD will describe monitoring and mitigation to be applied for air quality.</p>
L-27	5	B	<b>Compensatory Mitigation</b>	Surface Disturbance		<p>The preferred alternative should blend the new off site mitigation instructional memorandum (IM 2005–Dated February 1, 2005) opportunities with vertical hole drilling practices, which EnCana indicates can be done by incorporating a spoke and hub design together with centralized facilities. On the whole, this approach would allow for full development of the reservoir, increase the pace of reclamation of habitat function during the life of the development and limit disturbance to wildlife that is present in the field and dust emissions.</p>	<p>This comment is no longer applicable. It will be addressed by the new Preferred Alternative in the FEIS.</p>
L-27	6	D	<b>Compensatory</b>	Surface	On-Site	<p>Any allowance for increased surface disturbance in the</p>	<p>This comment is no longer</p>

**Table II-B. DEIS Comments and BLM Responses (cont'd)**

<b>Submittal ID</b>	<b>Comment Number</b>	<b>Category</b>	<b>Keyword 1</b>	<b>Keyword 2</b>	<b>Keyword 3</b>	<b>Comment Text</b>	<b>BLM Response</b>
			<b>Mitigation</b>	Disturbance	Mitigation	Final EIS must be accompanied by measures that accelerate reclamation activities immediately after drilling to reduce the exposed footprint. These reclamation measures must be included in the Record of Decision, together with any negotiated terms for offsite mitigation and any defined compensation for other impacted uses.	applicable. It will be addressed by the new Preferred Alternative in the FEIS.
L-30	1	C	<b>Water Resources</b>	On-Site Mitigation		3 acre feet of water is needed to drill each well; therefore monitoring needs to be improved and quantity and quality must be recorded	Thank for your comment. A monitoring program is being continued and improved with this document.
L-31	2	A1	<b>Compensatory Mitigation</b>			<p>Page i, 3rd Paragraph:</p> <p>“Above a certain level of authorized surface disturbance, the Operators have committed to establishing a fund to finance compensatory (off-site) mitigation for impacts that cannot be fully mitigated on-site. Recent communication from the Operators indicates their willingness to consider other methods of implementing compensatory mitigation.”</p> <p>The above language implies that all Operators who are proposing to infill drill within the Jonah Field have agreed to perform compensatory or off-site mitigation. In fact, only a small number of Operators have agreed to perform off-site mitigation. Moreover, the BLM does not have the authority to require Operators to perform off-site mitigation as it is entirely voluntary. See, Instruction Memorandum No. 2005-069 at p. 3.</p> <p>Recommendation:</p> <p>If the BLM is going to state that “Operators have committed to establishing a fund to finance compensatory (off-site) mitigation for impacts that cannot be fully mitigated on site” the agency should identify the Operators who have made this commitment or state that several but not all Operators have made this commitment.</p>	The BLM agrees. The discussion of compensatory mitigation is being revised in the FEIS.
L-31	3	A1	<b>Compensatory Mitigation</b>			<p>Page iii, Proposed Action:</p> <p>“The Operators have committed to various mitigation measures which vary by alternative and propose to fund a Cumulative Impacts Mitigation Fund for offsite</p>	The BLM agrees. The discussion of compensatory mitigation is being revised in the FEIS.

**Table II-B. DEIS Comments and BLM Responses (cont'd)**

Submittal ID	Comment Number	Category	Keyword 1	Keyword 2	Keyword 3	Comment Text	BLM Response
						<p>Compensatory Mitigation (CM) under some alternatives.”</p> <p>The above language implies that all Operators who are proposing to infill drill within the Jonah Field have agreed to perform off-site mitigation. In fact, only a small number of Operators have agreed to perform off-site mitigation. Moreover, the BLM does not have the authority to require Operators to perform off-site mitigation as it is entirely voluntary. See, Instruction Memorandum No. 2005-069 at p. 3.</p> <p>Recommendation:</p> <p>The BLM should identify the Operators who have agreed to perform off-site mitigation.</p>	
L-31	4	A1	<b>Analysis</b>			<p>If the BLM is going to title this section [pp. v-vii] “Environmental Impacts,” then the agency should provide the reader with specific examples of environmental impacts that could result from the Jonah Infill Drilling Project. At the very least, the BLM should refer the reader to Chapter 4, which contains a comprehensive discussion about environmental impacts.</p>	<p>The goal of the Executive Summary is to give the reader a brief overview of the project so that s/he could determine whether to delve into the comprehensive EIS. Adding too much information into this section would defeat that purpose. It is expected that readers who wish to know the details of any section will read the appropriate section of the EIS.</p>
L-31	5	A	<b>Soils</b>			<p>Page v, Soils:</p> <p>“Significant impacts to soils (loss during runoff events, loss of productivity) could occur under all alternatives but are not quantified.”</p> <p>If the BLM has not quantified the impacts to soils, how can it reach the conclusion that those impacts (loss during runoff events, loss of productivity) are significant?</p> <p>Recommendation:</p> <p>The BLM must quantify the impacts to soils before it concludes that loss during runoff events and loss of productivity are significant impacts to soil. According to the BLM, this “quantification” will take place during the draft EIS public comment period and the results will be reported in the final EIS. See, Pg. v. Until then, the BLM should remove the above sentence (Significant impacts</p>	<p>The predictive analysis for sediment transport has been completed. The predictive analysis considered sedimentation associated with significant, <i>individual</i> storm events. At a broad watershed scale, it demonstrates that soil erosion impacts can be controlled and mitigated, but on a more site-specific level impacts may still pose a significant issue to soil, watershed, and other resource values and may need special attention. Also, the report concluded that cumulative erosion effects are possible considering the fact that multiple, significant storm events are likely over the life of the project.</p>

**Table II-B. DEIS Comments and BLM Responses (cont'd)**

Submittal ID	Comment Number	Category	Keyword 1	Keyword 2	Keyword 3	Comment Text	BLM Response
						to soils (loss during runoff events, loss of productivity) could occur under all alternatives but are not quantified.) from the DEIS.	The acceptable, background soil erosion rates are unique to individual sites and soil series. Therefore, typically, site-specific assessments are needed in the course of prescribing appropriate BMPs.
L-31	6	A1	<b>Wildlife</b>			<p>Page vi, Wildlife:</p> <p>“Significant impacts to various wildlife habitats in the JIDPA have already occurred as a result of past and current oil and gas development activity. Wildlife that occurs in the JIDPA which may be impacted by this project include pronghorn antelope, greater sage-grouse, raptors and up to seventeen BLM Wyoming Sensitive (BWS) species (most notably sagebrush obligates).”</p> <p>The above paragraph is confusing.</p> <p>Recommendation:</p> <p>The above paragraph should be removed and replaced with the following paragraph:</p> <p>Significant impacts to various wildlife habitats in the JIPDA have already occurred as a result of past and current oil and gas development activity. Arguably, there may be more impacts to wildlife habitat in the JIDPA as a result of the proposed Jonah Infill Drilling Project. Wildlife that occurs in the JIDPA which may be impacted by the cumulative effects of past and current oil and gas development activity coupled with the proposed infill drilling project include pronghorn antelope, greater sage-grouse, raptors, and up to seventeen BLM Wyoming Sensitive (BWS) species (most notably sagebrush obligates).</p>	<p>Impacts from the current level of oil and gas development have limited the opportunity to manage these habitats for sagebrush obligate species. Consequently, the additional impacts for the infill project will likely strengthen the need for off-site compensatory habitat mitigation. All impacts from the infill project will result in a greater cumulative impact to the area and habitats. Sagebrush obligate species habitat have probably passed a threshold of disturbance and fragmentation that preclude managing the infill for these species, except in the terms of recovery and reclamation of sagebrush habitats.</p>
L-31	7	A1	<b>On-Site Mitigation</b>	Compensatory Mitigation	Compliance	<p>Page vii, Mitigation Measures:</p> <p>Recommendation:</p> <p>This section should include a discussion about the Energy Policy and Conservation Act (EPCA) with particular emphasis on the fact that (1) mitigation requirements must be either statutorily required or scientifically justifiable AND (2) they must be the least</p>	<p>The BLM acknowledges the role of EPCA in this process and has determined that its new Preferred Alternative will be compliant. However, a discussion of this is not needed in the FEIS. Demonstration of this will be made when and if it is needed.</p>

**Table II-B. DEIS Comments and BLM Responses (cont'd)**

Submittal ID	Comment Number	Category	Keyword 1	Keyword 2	Keyword 3	Comment Text	BLM Response
						restrictive means to achieve the desired level of resource protection. See, Draft EIS for the Rawlins Resource Management Plan at pg. 2-8.	
L-31	8	A1	<b>Compliance</b>			<p>Page 1-3, 2nd Full Paragraph:            “Construction, development, production, and abandonment would comply with all applicable federal, state, and county laws, rules, and regulations (see Section 1.3).”</p> <p>Section 1.3 discusses the “Decisions to be Made.” Pg. 1-5. That section has nothing to do with federal, state, and county laws, rules, and regulations. Section 1.4, on the other hand, addresses major permits, approvals and authorized actions necessary to construct, operate, maintain, and abandon project facilities. Pg. 1-6.</p> <p>Recommendation:</p> <p>Since Section 1.3 has nothing to do with federal, state, and county laws, rules and regulations and Section 1.4 addresses major permits, approvals and authorized actions necessary to construct, operate, maintain, and abandon project facilities, see Section 1.3 should be changed to see Section 1.4 in the above sentence.</p>	This reference will be changed in the FEIS to Section 1.4
L-31	9	A1	<b>Compensatory Mitigation</b>	On-Site Mitigation		<p>Page 1-5, Last Paragraph of Section 1.1:</p> <p>In discussing the Energy Policy and Conservation Act (EPCA), the BLM states:</p> <p>That strategy (referring to EPCA) is designed to guide national policy toward energy security, economic expansion, and greater protection of the environment. One of the goals of that strategy is to ensure against energy disruptions by increasing production of domestic sources of natural gas.</p> <p>See, Pg. 1-5.</p> <p>The BLM does not clarify that, pursuant to EPCA, mitigation requirements must be either statutorily required or scientifically justifiable AND they must be the least restrictive means to achieve the desired level of resource protection. See, Draft EIS for the Rawlins Resource Management Plan at pg. 2-8.</p>	The language of DEIS Section 1.1 will be modified to correctly reflect the role of EPCA in the Purpose and Need statement. However, the recommended addition is not appropriate for this part of the EIS. The BLM’s Preferred Alternative will be in compliance with EPCA and demonstration of that will be made if and when it is necessary.

**Table II-B. DEIS Comments and BLM Responses (cont'd)**

<b>Submittal ID</b>	<b>Comment Number</b>	<b>Category</b>	<b>Keyword 1</b>	<b>Keyword 2</b>	<b>Keyword 3</b>	<b>Comment Text</b>	<b>BLM Response</b>
						<p>Recommendation:</p> <p>Based on the above analysis, the last sentence in Section 1.1 should read as follows:</p> <p>To that end, BLM issued mitigation requirements must be either statutorily required or scientifically justifiable AND they must be the least restrictive means to achieve the desired level of resource protection.</p>	
L-31	10	A1	<b>Editorial</b>			<p>Page 1-6, Section 1.4.1:</p> <p>“Operator drilling programs require BLM approval of each well and well pad on federal surface or federal minerals prior to commencement of drilling (see Figure 1.1).”</p> <p>Figure 1.1 is not listed in the List of Figures for this DEIS. See, Pg. xxii.</p> <p>Recommendation:</p> <p>Figure 1.1 should be changed to Table 1.1.</p>	Agreed. In-text reference will be changed to DEIS Table 1.1.
L-31	11	A1	<b>On-Site Mitigation</b>	Compensatory Mitigation		<p>Page 1-9, Section 1.4.1.1:</p> <p>“These mitigation guidelines encompass all aspects of environmental protection.”</p> <p>If these mitigation guidelines (the guidelines in Appendix A) encompass all aspects of environmental protection, why is the BLM requiring further protection such as “Operator-committed practices” and “off-site mitigation?”</p> <p>Recommendation:</p> <p>One can assume the BLM did not intend to make this statement. The BLM should remove the sentence from the DEIS.</p>	Please keep in mind that guidelines are guidance only, and never intended to detail any process. The actual elements of the JIDP require a much greater level of specificity than are encompassed by the guidelines. It is thus possible for the guideline to cover all aspects of environmental protection and yet the DEIS will still require further detail.
L-31	12	A	<b>Water Resources</b>	On-Site Mitigation	Compensatory Mitigation	<p>Page 2-5, 6th Paragraph:</p> <p>“A ground water monitoring program for all water wells in or affected by activities in the JIDPA would be implemented, with annual reports to BLM, Jonah Infill Working Group (JIWG), WSEO, and WDEQ. Water wells would be tested annually for drawdown, general</p>	The protections that are included in standard drilling and completion methods in the JIDPA do provide a level of protection for the fresh water resource, but they are not entirely foolproof. Therefore, the groundwater monitoring program is needed to

**Table II-B. DEIS Comments and BLM Responses (cont'd)**

Submittal ID	Comment Number	Category	Keyword 1	Keyword 2	Keyword 3	Comment Text	BLM Response
						<p>chemical constituents, and total petroleum hydrocarbons, using WDEQ-approved methods.”</p> <p>This groundwater monitoring program mimics the program in the Pinedale Anticline Project Area (PAPA). In the PAPA, the groundwater monitoring program was designed and implemented to protect perched water tables on the Mesa and domestic wells near Pinedale and along the New Fork River. In contrast, there are no perched water tables or domestic wells in the JIDPA. The shallow wells that do exist are used for irrigation, livestock and wildlife and are fully protected by the gas well casing program required by both the BLM and the WOGCC. As a result, no significant impacts to groundwater resources are anticipated under any alternative. See, pg. 4-53. Therefore, there is no basis for requiring a groundwater monitoring program in the JIDPA.</p> <p>Recommendation:</p> <p>Since there is no basis for requiring a groundwater monitoring program in the JIDPA, the BLM should remove, from the DEIS, all groundwater monitoring requirements.</p>	<p>assure that the protection measures are working.</p>
L-31	13	A1	<b>Compensatory Mitigation</b>			<p>Page 2-8, Section 2.6, 1st Paragraph:</p> <p>“Operators have committed to various mitigation measures depending upon alternative (see Appendix B), and propose to establish a Cumulative Impacts Mitigation Fund to mitigate potential adverse impacts in the JIDPA.”</p> <p>The above language implies that all Operators who are proposing to infill drill within the Jonah Field have agreed to perform off-site mitigation. In fact, only a small number of Operators have agreed to perform off-site mitigation. Moreover, the BLM does not have the authority to require Operators to perform off-site mitigation as it is entirely voluntary. See, Instruction Memorandum No. 2005-069 at p. 3.</p> <p>Recommendation:</p> <p>If the BLM is going to state that “Operators have committed to various mitigation measures depending</p>	<p>The BLM agrees. The discussion of compensatory mitigation is being revised in the FEIS.</p>

**Table II-B. DEIS Comments and BLM Responses (cont'd)**

Submittal ID	Comment Number	Category	Keyword 1	Keyword 2	Keyword 3	Comment Text	BLM Response
						<p>upon alternative (see Appendix B), and propose to establish a Cumulative Impacts Mitigation Fund to mitigate potential adverse impacts in the JIDPA” the agency should identify the Operators who have made this commitment.</p> <p>Page 2-8, Section 2.6, 2nd Paragraph:</p> <p>“On January 13, 2005, BLM received a letter from EnCana modifying their Proposed Action relative to compensatory mitigation. In part, the letter states “EnCana is committed to a net positive impact on the environment and resources affected by development in the Jonah Field. EnCana is willing to consider other approaches to mitigation including the funding of and compensatory mitigation measures identified by the Bureau of Land Management I the Draft Environmental Impact Statement for the Jonah Infill Drilling Project (“Jonah Infill DEIS”).”</p> <p>It should be noted that Yates has never submitted written statements to the BLM either supporting or opposing compensatory mitigation. Yates did review the original proposed action submitted by EnCana and submitted comments to EnCana stating that Yates only agreed to voluntary off-site mitigation. Yates will consider off-site mitigation on a case-by-case basis and may decide not to give money to an advisory board.</p> <p>Page 2-11, 1st Sentence:</p> <p>“Operators have identified a number of mitigation/development practices that they would apply during development of the Proposed Action (see Appendix B), including compensatory mitigation.”</p> <p>Recommendation:</p> <p>The BLM should identify the Operators who have “identified a number of mitigation/development practices that they would apply during development of the Proposed Action (see Appendix B), including compensatory mitigation.”</p>	
L-31	14	B	<b>Mineral Resources</b>	Alternatives	On-Site Mitigation	Page 2-22, Section 2.14:	BLM agrees “optimize” was not the appropriate wording. Leaving 761

**Table II-B. DEIS Comments and BLM Responses (cont'd)**

Submittal ID	Comment Number	Category	Keyword 1	Keyword 2	Keyword 3	Comment Text	BLM Response
						<p>“The BLM Preferred Alternative optimizes natural gas recovery while minimizing impacts related to the key issues (see Section 2.1) with outcome-based performance objectives, mitigation and Best Management Practices (BMPs).”</p> <p>Relying exclusively on the unproven assumption that the amount of gas produced under the Preferred Alternative would be similar to Alternative G, the BLM originally estimated that Operators would recover 7,876 BCF of gas under the Preferred Alternative. See, Page 4-31, Table 4.2 and Page 4-32, Section 4.1.4.10. After analyzing actual scientific data, however, the BLM publicly announced that (1) their original recovery estimate (7,876 BCF) under the Preferred Alternative was incorrect and that (2) the agency’s latest and most accurate recovery estimate is similar to Alternative F or 7,186 BCF of gas. Since BLM’s latest recovery estimate is based on actual scientific data and not on an unproven assumption, BLM’s latest recovery estimate is more reliable. As a result, the Preferred Alternative will leave approximately 761 BCF of gas in place. Therefore, the BLM’s Preferred Alternative does not optimize natural gas recovery.</p> <p>Recommendation:</p> <p>While the BLM’s Preferred Alternative may minimize impacts related to the all key issues identified in Section 2.1, it does not optimize natural gas recovery. Recovery is not optimized, under the Preferred Alternative, because of “Surface Disturbance Limitation Areas” (SDLAs) created by the BLM to mitigate the increased surface disturbance under the Proposed Action. See, Page 2-22 and Map 2.2. Interestingly, without the SDLAs, the remaining mitigation requirements under the Preferred Alternative are virtually identical to the mitigation requirements under the Proposed Action. The only key issue the Proposed Action does not expressly address is the increased surface disturbance. Therefore, on its face, the Proposed Action optimizes natural gas recovery and also minimizes impacts related to most of the key issues identified in Section 2.1.</p> <p>Since the Preferred Alternative does not optimize natural</p>	<p>BCF of natural gas in the ground does not conserve the resource, nor does it prevent waste. The wording is amended in the FEIS.</p> <p>Thank you for your comments concerning which alternative should be selected.</p> <p>Your comments concerning reclamation are noted and are reflected in revisions to livestock impacts in the FEIS.</p>

**Table II-B. DEIS Comments and BLM Responses (cont'd)**

Submittal ID	Comment Number	Category	Keyword 1	Keyword 2	Keyword 3	Comment Text	BLM Response
						<p>gas recovery and the Proposed Action, on its face, not only optimizes natural gas recovery, but also minimizes impacts related to most of the key issues identified in Section 2.1, the BLM should adopt the Operator's Proposed Action. This would give Operators an opportunity to show the BLM that a quick pace of development and corresponding reclamation would more than offset any surface disturbance issues raised during scoping. In addition, the BLM could supplement the Proposed Action by classifying any and all surface disturbance mitigation requirements as "additional potential mitigation measures." Then, instead of surface disturbance requirements being mandated by the BLM up front, the Jonah Infill Working Group would (1) be the administrative body, (2) monitor surface disturbance and (3) make a recommendation to the BLM if that group thought instituting a surface disturbance mitigation measure was necessary.</p> <p>Experience has shown, however, that reclamation yields high quality forage for domestic and wild animals as well as forbs for sage-grouse. See, Exhibits A and B (Attached). This high quality forage would replace existing sagebrush and other native plant species thereby eliminating the need for surface disturbance mitigation requirements altogether.</p>	
L-31	15	A1	<b>Alternatives</b>			<p>Page 2-24:</p> <p>"If the Pinedale Anticline Working Group (PAWG) is functioning effectively in 2006, the PAWG charter would be revised to include the Jonah Field in the PAWG's responsibilities during charter renewal in 2006; otherwise the JIWG would continue to function."</p> <p>The PAWG has proven to be a very cumbersome committee; it is a FACA committee, funding of such a committee still appears to be born primarily by the Operators and the efficiency of such a system is not apparent. Jonah Field and the Pinedale Anticline field have different resources that require different mitigations and different drilling and exploration techniques. Also, Jonah Field is in an infill development phase while Pinedale is still in an exploratory phase. Trying to achieve common plans, programs, monitoring and mitigations is not possible.</p>	<p>This discussion has been removed from the Preferred Alternative in the Final EIS.</p>

**Table II-B. DEIS Comments and BLM Responses (cont'd)**

<b>Submittal ID</b>	<b>Comment Number</b>	<b>Category</b>	<b>Keyword 1</b>	<b>Keyword 2</b>	<b>Keyword 3</b>	<b>Comment Text</b>	<b>BLM Response</b>
						<p>Recommendation:</p> <p>The paragraph should be removed from the Jonah Infill Drilling Project DEIS.</p>	
L-31	16	A1	<b>Soils</b>	Water Resources	Performance Objectives	<p>Page 2-26, Section 2.14.1, 3rd Bullet Point:</p> <p>“Maintain sediment erosion (salt and silt discharge rates) at WDEQ- and BLM-acceptable limits.”</p> <p>WDEQ has a storm water permit intended to control erosion and salt and silt discharges. BLM has no authority over storm water runoff from construction sites.</p> <p>Recommendation: The above language should be removed and replaced with the following:</p> <p>Limit sediment erosion through application of WDEQ storm water runoff permit controls.</p>	<p>The interrelationships between land health, which the BLM does have responsibility and authority for, and water quality, which is the responsibility of the DEQ, means that many land management practices can affect both agencies' areas of responsibility simultaneously.</p>
L-31	17	A	<b>Wildlife</b>	Performance Objectives		<p>Page 2-27, 4th Bullet Point:</p> <p>“Maintain or improve currently active big game migration routes.”</p> <p>Recommendation:</p> <p>The BLM should identify the extent to which Operators must “maintain or improve currently active big game migration routes.”</p>	<p>All wildlife monitoring will be included in the Wildlife Monitoring and Mitigation Plan developed after the ROD is signed. This will include specifying migration routes to be maintained or improved.</p>
L-31	18	A	<b>Compliance</b>	Performance Objectives		<p>Page 2-27, 5th Bullet Point:</p> <p>“Reduce human activity per well pad in the JIDPA below current levels during both the development and production phases.”</p> <p>This is an ambiguous and unenforceable objective because the BLM does not provide data showing the “current level of human activity.”</p> <p>Recommendation:</p> <p>The BLM should provide data showing the “current level of human activity.” Furthermore, this would be a voluntary Operator action because the BLM does not</p>	<p>The commenter is correct in asserting that there are no comprehensive data showing current activity levels in the Jonah Field; however BLM still feels this is a reasonable and achievable objective. The success or failure of this objective would be measured in the implementation of measures such as remote telemetry, centralized production facilities, crew busing, installation of condensate and/or produced water, etc. Please refer to the new Preferred Alternative in the FEIS.</p>

**Table II-B. DEIS Comments and BLM Responses (cont'd)**

<b>Submittal ID</b>	<b>Comment Number</b>	<b>Category</b>	<b>Keyword 1</b>	<b>Keyword 2</b>	<b>Keyword 3</b>	<b>Comment Text</b>	<b>BLM Response</b>
						have an authorized method of accounting or enforcement.	
L-31	19	A1	<b>Compliance</b>	Performance Objectives		<p>Page 2-27, 6th Bullet Point:</p> <p>“Prevent contamination of all surface and ground water.”</p> <p>The BLM has no authority to regulate water quality. The Wyoming Department of Environmental Quality (WDEQ) and the Wyoming Oil and Gas Conservation Commission (WOGCC) by agreement with WDEQ have regulations and guidelines in place to prevent contamination of all surface and groundwater.</p> <p>Recommendation:</p> <p>This objective (Prevent contamination of all surface and groundwater) should be removed from the Jonah Infill Drilling Project DEIS.</p>	This comment is no longer applicable. It will be addressed by the new Preferred Alternative in the FEIS.
L-31	20	A1	<b>On-Site Mitigation</b>	Compensatory Mitigation	Performance Objectives	<p>Page 2-27, 8th Bullet Point:</p> <p>“Encourage Operators to participate in and support peer-reviewed research that evaluates impacts from development and effectiveness of applied mitigation.”</p> <p>Yates would support “peer-reviewed research that evaluates impacts from development and effectiveness of applied mitigation” as long as it is voluntary.</p> <p>Recommendation:</p> <p>The BLM should clarify that “peer-reviewed research” is entirely voluntary.</p>	<p>BLM disagrees, and the text will remain as is. Note that this item states BLM would “encourage Operators”; it does not state BLM would “require Operators.”</p> <p>Peer-reviewed means research objectives and research parameters for a soils project would be reviewed by soils specialist/scientists, a wildlife project would be reviewed by wildlife biologists, etc.</p>
L-31	21	A1	<b>Analysis</b>	Conditions of Approval		<p>Page 2-27, Section 2.14.2:</p> <p>“The BLM would impose the following general COAs, mitigation and BMPs on all project authorizations and would consider annual JIWG recommendations to adjust these requirements to meet field development and production objectives throughout the LOP.”</p> <p>Appendix D addresses the Jonah Infill Working Group (JIWG).</p> <p>Recommendation:</p>	This comment is no longer relevant. That JIWG is being removed from the FEIS and replaced by a different oversight group.

**Table II-B. DEIS Comments and BLM Responses (cont'd)**

Submittal ID	Comment Number	Category	Keyword 1	Keyword 2	Keyword 3	Comment Text	BLM Response
						The BLM should cite to Appendix D when it discusses the JIWG.	
L-31	22	A1	<b>Surface Disturbance</b>	Conditions of Approval		<p>Page 2-27, Section 2.14.2, 2nd Bullet Point:</p> <p>“Well pad surface disturbance would be limited to a maximum of 7.0 acres for parent and multi-well pads, 4.0 acres for single-well pads, and 2.0 acres for satellite well pads. These acreages include well pad, access road, pipeline, and topsoil and spoil piles.”</p> <p>The 7.0 acre and 4.0 acre well pad limits would be without reserve pits. Yates does not see the value or the environmental benefit of using closed drilling systems. The reserve pits are lined and WDEQ and the WOGCC have jurisdiction over groundwater.</p> <p>Yates has measured actual single- and multi-well pads and they require a minimum of 2 acres for a single-well pad and 5 acres for a multi-well pad not including the access road and pipeline. Access roads and pipelines should not be included in the calculation because the length of access roads and pipelines vary.</p> <p>Recommendation:</p> <p>The last sentence (These acreages include well pad, access road, pipeline, and topsoil and spoil piles.) should be removed from the above statement.</p>	<p>The pad sizes on DEIS page 2-27, Section 2.14.2, bullet No. 2 were used for analysis purposes to determine the potential surface disturbance for the preferred alternative. BLM also believes these to be acceptable guidelines for the Operators to strive to achieve. However, as written in the DEIS, the COA provides little flexibility to address changes in terrain or other unforeseen circumstances. The COA is therefore being modified in the FEIS as follows: “To the extent reasonable and practical, well pad surface disturbance would not exceed 7.0 acres for parent and multi-well pads, 4.0 acres for single-well well pads, and 2.0 acres for satellite well pads, unless the Operator can demonstrate to the satisfaction of the Authorized Officer, on a case-by-case basis, that the size limitation for a given pad would create a significant safety concern for the workers, the public at large, or the environment. These acreages include cut and fill slopes, but do not include access roads and pipelines.”</p>
L-31	23	A1	<b>Technical Information</b>	Conditions of Approval		<p>Page 2-27, Section 2.14.2, 3rd Bullet Point:</p> <p>“Hard-line fracturing processes would be required for all well pads when surface density is <math>\geq 1</math> well pad/40 acres, and recommended when well pad surface density is <math>&lt; 1</math> pad/40 acres.”</p> <p>Yates is uncertain of the actual definition of “hard-line fracturing processes.” Assuming that it is simply laying surface pipe from one well pad to another well pad, Yates is concerned by this requirement since the economics of their wells on the north margin of the producing area are still unproven.</p>	<p>BLM does not have a concern about what type of completion techniques are employed by the Operators. BLM is, however, required under NEPA to eliminate, reduce, or otherwise mitigate impacts to the extent reasonable and practicable, and through other regulations to prevent undue and unnecessary degradation. Where “hard-line” fracturing is technically and economically feasible, it reduces the need for pits or batteries of “frac” tanks on each well pad to handle the discharge of “frac”</p>

**Table II-B. DEIS Comments and BLM Responses (cont'd)**

Submittal ID	Comment Number	Category	Keyword 1	Keyword 2	Keyword 3	Comment Text	BLM Response
						<p>Recommendation:</p> <p>The BLM should amend the above statement as follows:</p> <p>Where economic and feasible, hard-line fracturing processes would be required for all well pads when surface density is <math>\geq 1</math> well pad/40 acres, and recommended when well pad surface density is <math>&lt; 1</math> pad/40 acres.</p>	<p>fluids, thereby reducing the size of the pad needed to drill and complete infill wells. BLM also recognizes that "hard-line" fracturing is an emerging technology and is not a panacea. Accordingly, this COA is being modified in the Final EIS to include the following qualifier, "unless the Operator can demonstrate to the satisfaction of the Authorized Officer that centralized fracturing is not reasonable or technically or economically feasible, or that another well completion procedure would create less surface impact."</p> <p>BLM does not intend to stymie innovation and fully encourages Operators to test and implement new environmentally friendly technologies as they become available and prove successful.</p>
L-31	24	A1	<b>Compliance</b>	Conditions of Approval	Air Quality	<p>Page 2-27, Section 2.14.2, 4th Bullet Point:</p> <p>"Operators would utilize flareless completions for all wells within the JIDPA unless proven on a case-by-case basis that flareless completions would be unsafe."</p> <p>By requiring Operators to utilize flareless completions, one can assume the BLM is striving to protect air quality. The BLM, however, has no authority to regulate air quality.</p> <p>Recommendation:</p> <p>Since the BLM has no authority to regulate air quality, the above requirement should state:</p> <p>Flareless completions will be utilized when directed by WDEQ/Air Quality Division rules and regulations.</p>	<p>The COA on DEIS page 2-27, bullet No. 4, does not preclude flares. OSHA requires a flare for drilling operations whether it be through a flare-stack or into an earthen pit. The COA does require the use of flareless completions, thereby eliminating the need for large flow-back pits. It also provides a caveat, that flareless completions would not be required where and/or when they are demonstrated to be unsafe. This caveat is being modified in the FEIS to read, ". . . unless proven on a case-by-case basis that flareless completion operations would not be technically or economically feasible or would be unsafe." The emissions from completion flares are, as the commenter indicates, under the jurisdiction of DEQ; however the effects of flaring noise to wildlife use of adjacent habitat and the surface disturbance associated with flaring</p>

**Table II-B. DEIS Comments and BLM Responses (cont'd)**

Submittal ID	Comment Number	Category	Keyword 1	Keyword 2	Keyword 3	Comment Text	BLM Response
							<p>operations are under BLM's authority.</p> <p>The BLM continues to work on guidance regarding the use of flareless completions and what to do in situation where it has been determined that such an operation is not feasible.</p>
L-31	25	A1	<b>Technical Information</b>	Conditions of Approval		<p>Page 2-28, 1st Bullet Point:</p> <p>“Operators would begin piping produced water and condensate from all wells in the JIDPA to appropriate treatment or disposal facilities beginning no later than January 1, 2008; this would supersede previous decisions related to method of condensate disposal.”</p> <p>First, Operators do not dispose of condensate, they sell it. Second, a waste product gathering and disposal system must be economically viable and, therefore, should not be agency mandated. Third, Yates' leasehold is isolated and, therefore, not connected to the existing Jonah Field infrastructure. Until a well is proven commercial, it is common practice for Yates and other Operators to truck all waste products to an appropriate treatment or disposal facility. This prevents the unnecessary surface disturbance and waste resulting from the construction of pipelines to uneconomic wells.</p> <p>Recommendation:</p> <p>The above bullet point should be removed from the Jonah Infill Drilling Project DEIS.</p>	See the revised COA in the FEIS.
L-31	26	A1	<b>Soils</b>	Water Resources	Conditions of Approval	<p>Page 2-28, 2nd Bullet Point:</p> <p>“To eliminate or minimize surface sediment discharge, all well pad and road construction shall comport WDEQ storm water discharge specifications, standards, and permitting requirements. Existing well pads and roads shall be retrofitted to meet this requirement as directed by the Authorized Officer. Based on site-specific analysis, BLM may require more stringent sediment control measures be implemented.”</p> <p>The above paragraph implies that the BLM has the</p>	The commenter correctly asserts that WDEQ-WQD has primacy of the stormwater program in Wyoming. The Condition of Approval is intended to remind the Operators of this requirement. In addition, BLM and BLM-approved actions are obligated to meet the standards of the salinity compact with Mexico. BLM is also responsible for the condition and management of the federal surface that adjoins the prospective well

**Table II-B. DEIS Comments and BLM Responses (cont'd)**

Submittal ID	Comment Number	Category	Keyword 1	Keyword 2	Keyword 3	Comment Text	BLM Response
						<p>authority to impose the WDEQ's rules and regulations. Operators are familiar with the WDEQ's storm water discharge specifications, standards and permitting requirements and they will comply with those regulations. Next, requiring Operators to retrofit existing well pads and roads to meet the WDEQ's storm water discharge requirements is punitive. These requirements are necessary when there is no vegetation to hold the sediment (i.e., during construction), but the need for sediment-control regulation diminishes during the production phase because existing well pads and roads have been partially reclaimed. Last, the BLM does not have the authority to impose or require "more stringent sediment control measures."</p> <p>Recommendation:</p> <p>The above paragraph should be removed from the Jonah Infill Drilling Project DEIS.</p>	<p>pads. BLM is therefore required is protect the adjoining lands from actions such as sediment and salt accumulations that would adversely affect the productivity of those lands.</p>
L-31	27	A1	<b>Technical Information</b>	Conditions of Approval		<p>Page 2-28, 3rd Bullet Point:</p> <p>"Operators would utilize remote telemetry or equivalent technology at all wells to minimize well monitoring trips."</p> <p>Yates supports using remote telemetry to monitor wells. However, this technology is expensive and not always feasible.</p> <p>Recommendation:</p> <p>The above requirement should be amended as follows:</p> <p>Using remote telemetry to monitor wells is voluntary. Where it is economically feasible, Operators should utilize remote telemetry or equivalent technology to minimize well monitoring trips.</p>	<p>See the revised COA in the FEIS.</p>
L-31	28	A	<b>Technical Information</b>	Conditions of Approval	Surface Disturbance	<p>Page 2-28, 4th Bullet Point:</p> <p>"Centralization of development and production facilities would be maximized in the JIDPA."</p> <p>This statement does not consider the effects temperature, pressure, and topography have on fluid flow in pipelines over great distances. Water can freeze in low spots in the pipeline causing equipment failure.</p>	<p>See the revised COA in the FEIS.</p>

**Table II-B. DEIS Comments and BLM Responses (cont'd)**

Submittal ID	Comment Number	Category	Keyword 1	Keyword 2	Keyword 3	Comment Text	BLM Response
						<p>Also, large centralized facilities can create just as much if not more surface disturbance than small satellite facilities at each well pad.</p> <p>Recommendation:</p> <p>Based on the above analysis, the act of centralizing development and production facilities must be voluntary.</p>	
L-31	29	A	<b>Technical Information</b>	Conditions of Approval		<p>Page 2-28, 5th Bullet Point:</p> <p>“All hydraulic structures would be engineered and designed by a certified civil engineer, utilizing hydraulic runoff modeling software, to ensure the structures are stable and erosion is minimized throughout the LOP.”</p> <p>Recommendation:</p> <p>The BLM should identify the structures that are included in “all hydraulic structures.”</p>	See the revised COA in the FEIS.
L-31	30	A	<b>Technical Information</b>	Conditions of Approval	Water	<p>Page 2-28, 7th Bullet Point</p> <p>“Operators would utilize closed drilling systems (no reserve pits) for all wells unless proven on a case-by-case basis that to do so would be technologically or economically infeasible. If reserve pits are approved, Operators would remove/vacuum fluids from reserve pits within 60 days of all wells on a pad being placed into production, to accelerate pit closure and reclamation.”</p> <p>It would appear the only reason for requiring closed drilling systems is to protect groundwater quality. Once again, the BLM does not have the authority to regulate water quality. Next, Yates does not see the value in requiring Operators to utilize closed drilling systems when reserve pits are constructed with heavy-duty liners that fully contain all fluids. Finally, requiring Operators to remove/vacuum fluids from reserve pits within 60 days of all wells on a pad being placed into production will add considerable expense to individual wells costs. The pits are fenced and flagged to prevent wildlife entry. While BLM may desire quick pit closure, Yates is unable to determine the environmental advantage. Also, weather can affect an Operator’s ability to remove/vacuum fluids from reserve pits within a set time.</p>	<p>This COA is imposed to reduce the size of the pad needed to drill a well and to accelerate the time that interim and/or final reclamation can commence to restore lost wildlife habitat. The COA does provide the Operator the opportunity to demonstrate to the BLM that this procedure is not technically or economically feasible. BLM believes the COA is appropriate, but is revising it for the FEIS to read, “If reserve pits are approved, Operators would remove/vacuum fluids from reserve pits within 60 days of all wells on the pad being put into production. If this timeframe is infeasible on a particular site, the Operators would notify the JIO and fluids would be removed as soon as practical.”</p> <p>This requirement does not preclude cuttings disposal pits.</p>

**Table II-B. DEIS Comments and BLM Responses (cont'd)**

<b>Submittal ID</b>	<b>Comment Number</b>	<b>Category</b>	<b>Keyword 1</b>	<b>Keyword 2</b>	<b>Keyword 3</b>	<b>Comment Text</b>	<b>BLM Response</b>
						<p>Recommendation:</p> <p>The above paragraph should be removed from the Jonah Infill Drilling Project DEIS.</p>	
L-31	31	A	<b>Wildlife</b>	Conditions of Approval		<p>Page 2-29, 1st Bullet Point</p> <p>“Surface-disturbing and disruptive activities in greater sage-grouse winter concentration areas would be avoided from November 15 through March 14.”</p> <p>The term winter concentration area is poorly defined. It cannot simply include stands of sagebrush.</p> <p>Recommendation:</p> <p>The BLM should provide a definition or an explanation of the term winter concentration area.</p>	<p>“Winter concentration area” is defined by WGFD and is included in the BLM’s National Sage-Grouse Strategy.</p>
L-31	32	A	<b>Wildlife</b>	Conditions of Approval		<p>Page 2-29, 4th Bullet Point:</p> <p>“Operators would inventory greater sage-grouse seasonal habitats within the JIDPA not already inventoried by BLM or WGFD within one year of the ROD for this project; GIS data would be provided to BLM, WGFD, and the JIWG with FGDC-compliant metadata.”</p> <p>What does “inventory” mean? What is the extent of an “inventory?” Seasonal habitats are poorly defined.</p> <p>Recommendation:</p> <p>The BLM should explain what it means when it says, “Operators would ‘inventory’ greater sage-grouse seasonal habitats...” Also, the BLM should further define the term seasonal habitats.</p>	<p>“Inventory” in this context means to identify, map, and attribute seasonal habitats.</p> <p>All wildlife monitoring will be included in the Wildlife Monitoring and Mitigation Plan developed after the ROD is signed.</p> <p>Seasonal habitats have been defined by the Wyoming Game and Fish Department. For a copy of this memo, please contact the BLM PFO.</p>
L-31	33	A	<b>Wildlife</b>	Conditions of Approval	On-Site Mitigation	<p>Page 2-29, 5th Bullet Point:</p> <p>“Operators would map prairie dog towns and provide all map data to BLM, WGFD, and the JIWG with FGDC-compliant metadata.”</p> <p>Pursuant to EPCA, mitigation requirements must be either statutorily required or scientifically justifiable AND they must be the least restrictive means to achieve the</p>	<p>Additional surveys and studies can and will be required by BLM. With current staffing levels, the BLM cannot adequately complete needed activities for monitoring and analysis.</p>

**Table II-B. DEIS Comments and BLM Responses (cont'd)**

Submittal ID	Comment Number	Category	Keyword 1	Keyword 2	Keyword 3	Comment Text	BLM Response
						<p>desired level of resource protection. See, Draft EIS for the Rawlins Resource Management Plan at pg. 2-8. In this case, it is important to point out that prairie dogs are not a protected species. Therefore, the above mitigation requirement is neither statutorily required nor scientifically justifiable.</p> <p>Recommendation:</p> <p>Since the above mitigation requirement (Operators would map prairie dog towns and provide all map data to BLM, WGFD, and the JIWG with FGDC-compliant metadata) is neither statutorily required nor scientifically justifiable, the BLM should remove it from the Jonah Infill Drilling Project DEIS.</p>	
L-31	34	A1	<b>Wildlife</b>	Compensatory Mitigation	Conditions of Approval	<p>Page 2-29, 6th Bullet Point:</p> <p>“Three active and productive ferruginous hawk nesting territories, two burrowing owl nesting territories, and other raptor nesting territories would be maintained on and adjacent to the JIDPA; to the extent any of these may not be feasible; compensatory mitigation may be appropriate.”</p> <p>The above paragraph implies that if the enumerated raptor nesting territories on and adjacent to the JIDPA cannot be maintained, the BLM will require compensatory mitigation. It is well established that compensatory or off-site mitigation is entirely voluntary. See, Instruction Memorandum No. 2005-069 at p. 3.</p> <p>Recommendation:</p> <p>Since it is well established that compensatory or off-site mitigation is entirely voluntary, the BLM should remove the following statement from the above paragraph.</p> <p>... to the extent any of these may not be feasible; compensatory mitigation may be appropriate.</p> <p>Also, there are established seasonal restrictions for raptor nests. If those restrictions prove inadequate by monitoring then the JIWG should determine if the seasonal restrictions should be modified.</p>	<p>The discussion of compensatory mitigation is being revised in the FEIS.</p>

**Table II-B. DEIS Comments and BLM Responses (cont'd)**

Submittal ID	Comment Number	Category	Keyword 1	Keyword 2	Keyword 3	Comment Text	BLM Response
L-31	35	A1	<b>Surface Disturbance</b>	On-Site Mitigation	Conditions of Approval	<p>Page 2-30, 2nd Bullet Point:</p> <p>“Field-wide interim and long-term reclamation plans would be submitted to BLM for approval no later than one year from the date of this ROD. Site-specific reclamation plans would be incorporated into all Surface Use Plans for APDs and Plans of Development for ROWs. A reclamation quality assurance/quality control monitoring program would be implemented by the Operators until development and interim (production phase) reclamation is completed to BLM standards.”</p> <p>Future drilling in the JIDPA is based on the success and economics of previous drilling and production. Due to this economic uncertainty, a field wide interim and long-term reclamation plan would have to be generic rather than site specific. Monitoring of the success of reclamation is a responsibility of the BLM as the regulatory agency.</p> <p>Recommendation:</p> <p>The above paragraph should be removed from the Jonah Infill Drilling Project DEIS.</p>	<p>BLM believes this requirement is reasonable. Exxon effectively instituted a similar process for the Riley Ridge project in the 1980s. The QA/QC process needs a plan to measure success against. The COA will be modified in the FEIS to read, “Operators would submit interim and long-term reclamation plans for their respective areas of operation to BLM for approval no later than 1 year from the date of this ROD.”</p> <p>While there always a level of uncertainty with oil and gas development, there is certainly less uncertainty in an infill project, where the numbers of well pads and approximate locations allow the Operators to develop relatively specific interim and final reclamation plans for their given areas of operation.</p>
L-31	36	A	<b>Analysis</b>	Conditions of Approval		<p>Page 2-30:</p> <p>“Some of the aforementioned seasonal and surface use restrictions may not match those listed in Appendix A. Those provided for this BLM Preferred Alternative incorporate recent changes in agency guidance regarding wildlife restrictions.”</p> <p>Recommendation:</p> <p>If the BLM is going to incorporate seasonal and surface use restrictions into its Preferred Alternative that do not coincide with the BLM’s Standard Mitigation Requirements listed in Appendix A, the BLM should cite the “agency guidance” that allows it to supplement and/or amend the standard seasonal and surface use restrictions listed in Appendix A.</p>	<p>The guidance that allows BLM to apply, modify, or not apply seasonal and surface use restrictions that do not coincide with BLM’s Standard Stipulation/Mitigation Requirements listed in Appendix A rests within NEPA that directs BLM to analyze, disclose, and to the extent possible mitigate anticipated impacts. In order to do this BLM must tailor the mitigation to meet the circumstances, conditions, and impacts associated with a given project. The restrictions listed in the Draft EIS do this.</p> <p>Additional guidance that allows BLM to apply, modify, or not apply seasonal and surface use rests within the Introduction to the BLM’s Standard Stipulation/Mitigation</p>

**Table II-B. DEIS Comments and BLM Responses (cont'd)**

Submittal ID	Comment Number	Category	Keyword 1	Keyword 2	Keyword 3	Comment Text	BLM Response
							Requirements themselves. Please refer to the first paragraph under section A.1 of Appendix A.]
L-31	38	A1	<b>Compliance</b>	Water Resources	Conditions of Approval	<p>Page 2-30, Section 2.14.2.1, 2nd Bullet Point:</p> <p>“Operators would implement a ground water monitoring program for all water wells in or affected by activities in the JIDPA, with annual reports to BLM, JIWG, WSEO, and WDEQ. Wells would be tested annually for general chemical constituents and total petroleum hydrocarbons, using WDEQ-approved methodology.”</p> <p>This language implies that the BLM has the authority to regulate water quality. In fact, pursuant to the Clean Water Act, the Wyoming Department of Environmental Quality (WDEQ) is charged with regulating water quality.</p> <p>Recommendation:</p> <p>On page 2-5, the Jonah Infill Drilling Project DEIS states:</p> <p>Operators would comply with all appropriate federal, state, and local laws and regulations, and all appropriate permits from the appropriate regulatory agency would be obtained before proceeding.</p> <p>See, pg. 2-5.</p> <p>Mandating that Operators, “comply with all appropriate federal, state, and local laws and regulations” appropriately addresses all the groundwater monitoring requirements the BLM is proposing in the above paragraph. Therefore, the 2nd bullet point (Pg. 2-30, Section 2.14.2.1) should be removed from the DEIS.</p>	<p>The purpose of the groundwater monitoring program is to assist in monitoring both well integrity and land health, both of which are within the purview of the BLM.</p> <p>The commenter correctly asserts the authority to regulate water quality rests with WDEQ. Requiring implementation of a groundwater monitoring program does not imply BLM has the authority to regulate water quality; however, under NEPA, BLM is required to determine/ analyze the affects of a project on the environment. Monitoring is one of the tools available to evaluate impacts. Based on the outcome of the monitoring, BLM would consult with WDEQ to determine any needed enforcement or abatement actions. This requirement is consistent with a requirement on the Pinedale Anticline. WDEQ is water monitoring Task Group for the Pinedale Anticline EIS.</p>
L-31	39	A1	<b>Soils</b>	Water Resources	Conditions of Approval	<p>Page 2-30, Section 2.14.2.1, 4th Bullet Point:</p> <p>“Operators would be required to conduct sixth-level watershed modeling throughout the JIDPA (including identification of current sediment discharge rates), and provide the results to BLM and WDEQ, contingent on availability of data.”</p> <p>Conducting watershed modeling and determining current sediment discharge rates is an academic endeavor and has no basis. WDEQ requires storm water runoff</p>	<p>The predictive analysis for sediment transport on a watershed basis has been completed. The predictive analysis considered sedimentation associated with significant, <i>individual</i> storm events. At a broad watershed scale, it demonstrates that soil erosion impacts can be controlled and mitigated, but on a more site-specific level impacts may still pose a significant issue to soil, watershed,</p>

**Table II-B. DEIS Comments and BLM Responses (cont'd)**

Submittal ID	Comment Number	Category	Keyword 1	Keyword 2	Keyword 3	Comment Text	BLM Response
						<p>discharge permits and has established protective measures to prevent sedimentation pollution of state waters.</p> <p>Recommendation:</p> <p>The above language should be removed from the Jonah Infill Drilling Project DEIS.</p>	<p>and other resource values and may need special attention. Also, the report concluded that cumulative erosion effects are possible considering the fact that multiple, significant storm events are likely over the life of the project.</p> <p>In regard to stormwater discharge permits issued by WDEQ, this permit relates to sedimentation that reaches state waters and has no direct bearing on BLM's requirement to ensure erosion does not adversely impact public lands (but may not reach perennial waters). However, since watershed modeling has already been performed, the requirement as stated in this bullet will be removed from the FEIS.</p>
L-31	40	A1	<b>On-Site Mitigation</b>	Wildlife	Conditions of Approval	<p>Page 2-30, Section 2.14.2.1, 5th Bullet Point:</p> <p>“Operators would prepare and implement a Sensitive Species Survey and Monitoring Plan for BLM and WGFD approval that would determine the presence, distribution, and population trends of all federally-listed, proposed, candidate, BWS, and other species including amphibians, reptiles, passerine birds, and small mammals, throughout the JIDPA. Monitoring would be conducted annually for the LOP or until BLM determines that additional monitoring is not required. Operators would prepare an annual report for BLM, WGFD, and the JIWG. Survey results would be provided annually to the WyNDD with FGDC-compliant metadata.”</p> <p>The USFWS regulates federally listed, proposed and candidate species not the BLM. Also, the WGFD has no approval authority over Operator’s actions relative to federal lands. If the Operators voluntarily prepare a monitoring plan, then BLM must supply an analysis of the monitoring data to the Operators on an annual basis. Operators should not be required to conduct monitoring for monitoring sake.</p> <p>Recommendation:</p>	<p>All wildlife monitoring will be included in the Wildlife Monitoring and Mitigation Plan developed after the ROD is signed. WGFD is a cooperator in all energy-related activities on BLM lands state-wide, per MOU. Their involvement is warranted and required. BLM is responsible for compliance with all laws and regulations on BLM lands.</p>

**Table II-B. DEIS Comments and BLM Responses (cont'd)**

Submittal ID	Comment Number	Category	Keyword 1	Keyword 2	Keyword 3	Comment Text	BLM Response
						The above paragraph should be removed from the Jonah Infill Drilling Project DEIS.	
L-31	41	A1	<b>Water Resources</b>	Compliance	Conditions of Approval	<p>Page 2-30, Section 2.14.2.1, 6th Bullet Point:                      “Operators would monitor first flush total suspended solids in coordination with WDEQ, BLM, and other agencies.”</p> <p>What does this requirement mean? Monitor suspended solids in what fluid? If this is relative to water quality this is a WDEQ issue covered by the storm water runoff discharge permit.</p> <p>Recommendation:</p> <p>This requirement should be removed from the Jonah Infill Drilling Project DEIS.</p>	<p>First-flush monitoring was envisioned as a low-cost method of obtaining defensible data by placing low-cost collection vessels at key locations (culverts) and monitoring the amount of suspended sediment in the first flush of runoff events during the life of the project. As reclamation of disturbances becomes successful the numbers will likely prove the success of reclamation efforts on a landscape scale. The cost would be relatively low. This option will be eliminated from the requirements in Section 2.14 but is still available as a voluntary action.</p> <p>As an alternative way to address this concern, the following method will be substituted:                      “BLM Wyoming Standards for Healthy Rangelands (Appendix A.5) will be used as the measure of land health and reclamation success.”                      Capability and potential will be taken into account.</p> <p><i>Potential</i>                      The highest ecological status a riparian-wetland area can attain given no political, social, or economical constraints.</p> <p><i>Capability</i>                      The highest ecological status a riparian-wetland area can attain given political, social, or economical constraints. These constraints are often referred to as limiting factors.</p>
L-31	42	A1	<b>Wildlife</b>	On-Site Mitigation	Conditions of Approval	<p>Page 2-30, Section 2.14.2.1, 7th Bullet Point:                      “Operators would be required to assist BLM and WGFD in monitoring greater sage-grouse movements to determine if populations are migratory.”</p>	<p>Additional surveys and studies can and will be required by BLM. With current staffing levels, the BLM cannot adequately complete needed activities for monitoring and analysis.</p>

**Table II-B. DEIS Comments and BLM Responses (cont'd)**

<b>Submittal ID</b>	<b>Comment Number</b>	<b>Category</b>	<b>Keyword 1</b>	<b>Keyword 2</b>	<b>Keyword 3</b>	<b>Comment Text</b>	<b>BLM Response</b>
						<p>This is an academic effort. Operators should only voluntarily monitor wildlife to determine impacts caused by oil and gas activity.</p> <p>Recommendation:</p> <p>This requirement should be removed from the Jonah Infill Drilling Project DEIS.</p>	
L-31	43	A1	<b>Livestock/ Grazing</b>	On-Site Mitigation	Conditions of Approval	<p>Page 2-30, Section 2.14.2.1, 8th Bullet Point:</p> <p>“In coordination with BLM, Operators would monitor forage utilization on reclaimed areas throughout project development and into the full production phase.”</p> <p>It is unclear who or what would utilize the forage. BLM sets the reclamation requirements and type of forage; therefore, BLM should monitor forage utilization.</p> <p>Recommendation:</p> <p>This requirement should be removed from the Jonah Infill Drilling Project DEIS.</p>	Thank you for your comment. Also refer to text changes in Chapter 3 regarding joint cooperative monitoring.
L-31	45	A1	<b>Wildlife</b>	On-Site Mitigation	Conditions of Approval	<p>Page 2-30, Section 2.14.2.1, 12th Bullet Point:</p> <p>“In coordination with BLM and WGFD, Operators would monitor pronghorn antelope numbers on crucial winter ranges north and south of the JIDPA.”</p> <p>This is an academic effort. Operators should only voluntarily monitor wildlife to determine impacts caused by oil and gas activity.</p> <p>Recommendation:</p> <p>This requirement should be removed from the Jonah Infill Drilling Project DEIS.</p>	Additional surveys and studies can and will be required by BLM. With current staffing levels, the BLM cannot adequately complete needed activities for monitoring and analysis.
L-31	47	A1	<b>Visual Resources</b>	Site-specific Conditions of Approval		<p>Page 2-31, Section 2.14.3, 2nd and 3rd Bullet Points:</p> <p>Jonah Field cannot be seen from Wyoming State Highway 191. There are no residences in the Jonah Infill Drilling Project Area. What is the purpose of minimizing the light within and from the field and how would you determine the effectiveness of that requirement.</p>	Nighttime lighting has two issues; one is human visibility/light pollution. Portions of the JIDPA along the top of Yellow Point Ridge and to the south of Yellow Point Ridge are visible from an 8- to 10-mile segment of Highway 191. Night lighting

**Table II-B. DEIS Comments and BLM Responses (cont'd)**

Submittal ID	Comment Number	Category	Keyword 1	Keyword 2	Keyword 3	Comment Text	BLM Response
						<p>Recommendation:</p> <p>This requirement should be removed from the Jonah Infill Drilling Project DEIS.</p>	<p>associated with drill rigs, completion operations, and other such activities are especially visible from the highway (note this is a federal highway, not a state highway).</p> <p>The other issue is the impact to wildlife. Based on a presentation by Ms. Melissa M. Grigione titled, "Turning Night into Day: The Effects of Artificial Night Lighting on Endangered and Other Mammal Species" given at a Conference on the Ecological Consequences of Artificial Night Lighting in February 2002 (<a href="http://www.urbanwildlands.org/conference.html">www.urbanwildlands.org/conference.html</a>), the consequences of artificial lighting include general disruptions in daily activity cycles, and reductions in dispersal, foraging, and reproductive opportunities.</p> <p>Application of the night lighting restriction for activities in the JIPD is consistent with the same requirement for operations on the Pinedale Anticline. The restriction is appropriate for the JIPD project; accordingly, BLM will retain the restriction and will carry it forward into the Final EIS.</p>
L-31	48	A1	<b>Compensatory Mitigation</b>			<p>2.14.4 Compensatory Mitigation:</p> <p>"In lieu of the proposed Cumulative Impacts Mitigation Fund, the BLM Preferred Alternative recommends that, where appropriate and consistent with BLM policy, Operators voluntarily seek BLM-approved CM projects aimed at alleviating on-site mitigation concerns."</p> <p>The above language implies that compensatory or off-site mitigation is voluntary, but it does not clearly state that.</p> <p>Recommendation:</p> <p>The BLM should clearly state, in the above paragraph,</p>	<p>The BLM agrees. The discussion of compensatory mitigation is being revised in the FEIS.</p>

**Table II-B. DEIS Comments and BLM Responses (cont'd)**

<b>Submittal ID</b>	<b>Comment Number</b>	<b>Category</b>	<b>Keyword 1</b>	<b>Keyword 2</b>	<b>Keyword 3</b>	<b>Comment Text</b>	<b>BLM Response</b>
						that compensatory mitigation is entirely voluntary.	
L-31	49	A	<b>Surface Disturbance</b>	On-Site Mitigation		<p>Page 2-33, Table 2.12:</p> <p>Under “Disturbance Volume” it would be more appropriate to label the two categories as short-term disturbance and long-term disturbance.</p> <p>Under “Habitat Loss All Species” no credit is given for reclamation which would provide habitat for several of the listed species.</p> <p>Recommendation:</p> <p>Yates would recommend that credit be granted for immediately reclaimed areas such as pipeline ROWs and pad reclamation. Then the volume of human presence decreases from initial drilling and completion to production. BLM should illustrate how the change of human presence is reflected in the numbers. As an example, livestock forage loss is listed in long-term v. short-term. BLM should use the same comparison for habitat loss.</p>	<p>Thank you for your comment concerning “Disturbance Volume.” BLM considers it a matter of semantics as to whether the categories should be called Total Surface Disturbance and Life of Project (LOP) Disturbance or long-term and short-term. The FEIS will use total disturbance and Project LOP Disturbance.</p> <p>Concerning reclamation credits, see the revised Preferred Alternative in the FEIS.</p>
L-31	50	A	<b>Editorial</b>			<p>Chapter 3, In General:</p> <p>The maps and figures shown in Chapter 3 provide no references as to the source of the information.</p> <p>Recommendation:</p> <p>Yates would recommend that the BLM provide a reference cite for all maps and figures derived from other published information or from personal communications.</p>	<p>References for the figures, tables and maps will be updated as follows:</p> <p>Map 3.1- Source: BLM            Figures 3.2 – 3.4- Source: Cooperative Institute for Research in the Atmosphere (2003)            Figures 3.5 &amp; 3.6- Source: BLM (Data from NADP[WY06] and CASTNET[PND165])            Figures 3.7 – 3.10- Source: BLM (Data from WARMS, Pinedale)            Map 3.2- Source: BLM            Maps 3.3 – 3.4- Source: BLM (Based on data from the Wyoming Geographic Information Science Center, 2003)            Figures 3.11 – 3.12- Source: EnCana            Map 3.5- Source: BLM            Map 3.6- Source: BLM (Based on</p>

**Table II-B. DEIS Comments and BLM Responses (cont'd)**

Submittal ID	Comment Number	Category	Keyword 1	Keyword 2	Keyword 3	Comment Text	BLM Response
							<p>data from Munn &amp; Arneson, 1999)  Map 3.7- Source: BLM (Based on data from ERO Resources (1988) &amp; BKS Environmental (2003))  Map 3.8- Source: BLM  Maps 3.9- Source: BLM (Based on data from the Wyoming Geographic Information Science Center, 2003)  Table 3.13- Source: Data from the Wyoming Geographic Information Science Center, 2003  Map 3.10- Source: HydroGeo, Inc. (2004)  Map 3.11- Source BLM (Based on data from the Wyoming Geographic Information Science Center (2003) &amp; TRC Mariah (2001))  Map 3.12- Source: BLM (Based on data from TRC Mariah, 2001)  Map 3.13- Source: BLM (Including data from Wyoming Game &amp; Fish Dept, 2001)  Map 3.14- Source: BLM  Map 3.15- Source: BLM (Based on data from TRC Mariah, 2004)  Map 3.16- Source: BLM  Map 3.17- Source (Based on data from TRC Mariah, 2004)  Map 3.18- Source: BLM  Map 3.19- Source (Based on data from TRC Mariah, 2004)  Map 3.20- Source: BLM  Figure 3.14- Source: BLM  Table 3.50- Source: BLM  Maps 3.21 – 3.24- Source: BLM</p>
L-31	51	A1	<b>Water Resources</b>			<p>Page 3-41, Surface Water Quality, 1st Paragraph:   While all of the named and unnamed streams in the JIDPA are Class 3b surface waters, most of these streams would not in fact support or sustain communities of aquatic life. The 3b classification was mandated by WDEQ as directed by the EPA in a reclassification in</p>	<p>This is DEQ purview. Until the stream classification is changed, they will be treated as their present designation.</p>

**Table II-B. DEIS Comments and BLM Responses (cont'd)**

Submittal ID	Comment Number	Category	Keyword 1	Keyword 2	Keyword 3	Comment Text	BLM Response
						<p>2001. All streams in Wyoming are assumed to have aquatic life until proven otherwise by a Use Attainability Analysis.</p> <p>Recommendation:</p> <p>The BLM should amend the paragraph to include the fact that the 3b classification is not proof that aquatic life communities exist.</p>	
L-31	52	A	<b>Wildlife</b>			<p>Page 3-57, Map 3.13:</p> <p>This map does not provide a reference to the source of the migration routes shown. It is difficult to understand how such a short distance (3 to 10 miles) can be considered a migration route. It is also interesting to note that two (2) migration routes are shown to connect crucial winter range to the JIDPA. Did these routes exist before the Jonah Natural Gas Field (JNGF) was discovered or are they the result of reclamation (increased water and forage) within the JNGF?</p> <p>Recommendation:</p> <p>The BLM should provide a reference to the source of data. The BLM should also explain the significance of the very short migration routes.</p>	<p>Route information was provided by WGFD.</p> <p>Routes vary, but the ones identified are defined and used by WGFD for managing, assessing, and determining impacts to pronghorn populations.</p>
L-31	53	A	<b>Compensatory Mitigation</b>	Analysis		<p>Page 4-2, Last Paragraph:</p> <p>“Considerable natural gas development has already occurred within the Jonah Infill Drilling Project Area (JIDPA) as approved in past NEPA documents (BLM 1998b, 2000b), and impacts from this past development would continue for approximately 63 years without any further development authorizations. Most impacts associated with this project, therefore, would involve increases in the magnitude and/or duration of impacts previously described in past NEPA documents (BLM 1997a, 2000a). Additionally, preliminary research and monitoring results indicate significant adverse impacts to many area resources have already occurred with existing development and mitigation requirements. Therefore, BLM is proposing to increase on-site mitigation efforts with a particular focus on reclamation, and recommend initiation of compensatory mitigation (CM) as appropriate and consistent with BLM policy.”</p>	<p>Much of this research is from within the BLM and based upon the professional judgment of its staff whose job it is to make such observations. Additional results are from the preliminary work done on this document. As such it is fair and accurate for the BLM to include these comments without having to detail those observations.</p> <p>The location of this discussion within the EIS is also appropriate. It would add clutter to the Executive Summary and defeat the purpose of that portion of the document to add it there.</p> <p>Regarding the comments on compensatory mitigation, that discussion is being revised in the FEIS and should address these</p>

**Table II-B. DEIS Comments and BLM Responses (cont'd)**

Submittal ID	Comment Number	Category	Keyword 1	Keyword 2	Keyword 3	Comment Text	BLM Response
						<p>The above paragraph provides a theme for the entire Jonah Infill Drilling Project DEIS:</p> <p>Operators who are proposing to infill drill within the Jonah Natural Gas Field, Sublette County, Wyoming, can expect significant increases in on-site mitigation and reclamation requirements coupled with an increased pressure from BLM to perform compensatory mitigation.</p> <p>The BLM's justification for this hard-line approach is as follows:</p> <p>Most impacts associated with this project would involve increases in the magnitude and/or duration of impacts previously described in past NEPA documents (BLM 1997a, 2000a).</p> <p>AND</p> <p>Preliminary research and monitoring results indicate significant adverse impacts to many area resources have already occurred with existing development and mitigation requirements.</p> <p>Unfortunately, the BLM does not provide the preliminary research or monitoring results supposedly showing the significant adverse impacts that have already occurred with existing development and mitigation requirements. The BLM also fails to provide any guidance on whether the increased mitigation requirements it is proposing under the Jonah Infill Drilling Project would apply to wells within the project area that are not "infill" wells. Finally, the last sentence in the above language implies that compensatory or off-site mitigation may be required and, therefore, is not voluntary. In fact, compensatory mitigation is entirely voluntary.</p> <p>The BLM will approach compensatory mitigation on an "as appropriate" basis where it can be performed onsite and on a voluntary basis where it is performed offsite. See, Instruction Memorandum No. 2005-069 at p. 2;</p> <p>Offsite mitigation is to be entirely voluntary on the part of the applicant. See, Instruction Memorandum No. 2005-</p>	<p>FEIS and should address these concerns.</p>

**Table II-B. DEIS Comments and BLM Responses (cont'd)**

Submittal ID	Comment Number	Category	Keyword 1	Keyword 2	Keyword 3	Comment Text	BLM Response
						<p>069 at p. 3.</p> <p>The BLM may identify other offsite mitigation opportunities to address impacts of the project proposal, but is not to carry them forward for detailed analysis unless volunteered by the applicant. See, Instruction Memorandum No. 2005-069 at p. 3.</p> <p>Recommendation:</p> <p>Since the above paragraph provides a theme for the entire DEIS, it should be at the beginning of the document preferably in the "Mitigation Measures" section of the Executive Summary. There should also be a chapter in the DEIS dedicated to showing the preliminary research and monitoring results the BLM relied upon to reach its conclusion that significant adverse impacts to many area resources have already occurred with existing development and mitigation requirements. Next, the BLM should state that the increased mitigation requirements proposed under the Jonah Infill Drilling Project only apply to wells that are truly infill between existing wells and not to extension wells beyond the perimeter of existing wells. Last, pursuant to Instruction Memorandum No. 2005-069, the BLM must clarify that compensatory mitigation is entirely voluntary.</p>	
L-31	54	A1	<b>Alternatives</b>			<p>Page 4-33, Section 4.1.4.12:</p> <p>"Under the No Action Alternative and Alternatives B through F, there would be..."</p> <p>Recommendation:</p> <p>The above sentence should be amended as follows:</p> <p>Under the No Action Alternative, the Preferred Alternative and Alternatives B through F, there would be...</p>	<p>The removal of minerals from the Jonah Field under the Proposed Action, DEIS Alternatives A and G, and the BLM Preferred Alternative are all approximately the same when compared to the other alternatives. As such, the wording is appropriate, as it is to provide the comparison between alternatives. However, this language will be changed in the FEIS to accommodate other changes in the document.</p>
L-31	55	A1	<b>Analysis</b>			<p>Page 4-36, Section 4.1.6.10:</p> <p>"In terms of duration of development (and thus exposure to potential indirect impacts such as vandalism, and conversely, beneficial discoveries), the Preferred Alternative is comparable to most of the other alternatives under the 250 well/year development</p>	<p>Vandalism is provided as one example of a potential impact that could occur; it was not the intention of this sentence to outline all the potential impacts to paleontological resources that could result from the Preferred Alternative. Such impacts</p>

Table II-B. DEIS Comments and BLM Responses (cont'd)

Submittal ID	Comment Number	Category	Keyword 1	Keyword 2	Keyword 3	Comment Text	BLM Response
						<p>scenario;"</p> <p>Theft is another potential indirect impact.</p> <p>Recommendation:</p> <p>The above sentence should be amended as follows:</p> <p>In terms of duration of development (and thus exposure to potential indirect impacts such as vandalism and theft, and conversely, beneficial discoveries), the Preferred Alternative is comparable to most of the other alternatives under the 250 well/year development scenario...</p>	<p>are outlined under Section 4.1.6. As that is the case, no additional examples are needed in this sentence.</p>
L-31	56	A	<b>Soils</b>	Analysis		<p>Page 4-37, Section 4.1.7:</p> <p>"Significant impacts to soils are anticipated under all project alternatives."</p> <p>On Page v of the Executive Summary, the BLM states that significant impacts to soils are not quantified. See, Executive Summary, Page v. If the BLM has not quantified the impacts to soils, how can it reach the conclusion that "significant impacts to soils are anticipated under all project alternatives?"</p> <p>Recommendation:</p> <p>The BLM must quantify the impacts to soils before it concludes that significant impacts to soils are anticipated under all project alternatives. According to the BLM, this "quantification" will take place during the draft EIS public comment period and the results will be reported in the final EIS. See, Pg. v. Until then, the BLM should remove the above sentence (Significant impacts to soils are anticipated under all project alternatives.) from the DEIS.</p>	<p>The predictive analysis for sediment transport has been completed. The predictive analysis considered sedimentation associated with significant, <i>individual</i> storm events. At a broad watershed scale, it demonstrates that soil erosion impacts can be controlled and mitigated, but on a more site-specific level impacts may still pose a significant issue to soil, watershed, and other resource values and may need special attention. Also, the report concluded that cumulative erosion effects are possible considering the fact that multiple, significant storm events are likely over the life of the project.</p> <p>The acceptable, background soil erosion rates are unique to individual sites and soil series. Therefore, typically, site-specific assessments are needed during the APD/EA process to quantify effects and prescribe appropriate BMPs.</p>
L-31	57	A1	<b>Water Resources</b>	Compliance	Analysis	<p>Page 4-51, 1st Full Paragraph:</p> <p>"Impacts to surface or ground waters would be significant 1) if water quality declined (e.g., from sedimentation, accidental spills, or cross-aquifer mixing)</p>	<p>The language will remain as it is. The proposed change does not define a timeframe for upgrading contaminated waters.</p>

**Table II-B. DEIS Comments and BLM Responses (cont'd)**

Submittal ID	Comment Number	Category	Keyword 1	Keyword 2	Keyword 3	Comment Text	BLM Response
						<p>such that existing WDEQ water quality classes (WDEQ 1990) would be downgraded...”</p> <p>A discharge into an aquifer containing Class I, II, III or Special (A) Groundwater of the State which results in concentrations in excess of standards shall be permitted if post-discharge water quality can be returned to water quality standards or better quality. Wyoming Department of Environmental Quality, Water Quality Rules and Regulations, Chapter 8, Page 6.</p> <p>Therefore, an overall decline in water quality within the JIDPA would not be a significant impact if the overall water quality within the JIDPA was restored to pre-infill drilling water quality or better after infill drilling was complete.</p> <p>Recommendation:</p> <p>The BLM should incorporate the WDEQ’s rule regarding water quality decline or downgrading. The above language would then read as follows:</p> <p>Impacts to surface or ground waters would be significant 1) if water quality declined (e.g., from sedimentation, accidental spills, or cross-aquifer mixing) such that existing WDEQ water quality classes (WDEQ 1990) would be downgraded AND could not be later upgraded to existing or pre-project WDEQ water quality classes or better.</p>	
L-31	58	A	<b>Soils</b>	Water Resources	Analysis	<p>Page 4-51, Last Paragraph:</p> <p>“Impacts to surface water from development generally would result from increased runoff from disturbed areas, and it is assumed that with increased surface disturbance acreage, there would be a corresponding decrease in water quality (increased sediment loads in runoff waters) and increased runoff rates.”</p> <p>The above sentence implies that the increased surface disturbance associated with the Jonah Infill Drilling Project is going to adversely affect the water quality in both perennial and intermittent streams. However, the Jonah Infill Drilling Project DEIS states, “drainages within the JIDPA flow only periodically in response to rain and</p>	<p>The predictive analysis for sediment transport on a watershed basis has been completed and no addition modeling is anticipated. The predictive analysis considered sedimentation associated with significant, <i>individual</i> storm events. At a broad watershed scale, it demonstrates that soil erosion impacts can be controlled and mitigated, but on a more site-specific level impacts may still pose a significant issue to soil, watershed, and other resource values and may need special attention. Also, the</p>

**Table II-B. DEIS Comments and BLM Responses (cont'd)**

Submittal ID	Comment Number	Category	Keyword 1	Keyword 2	Keyword 3	Comment Text	BLM Response
						<p>snowmelt events, having extended periods of no flow (most of the year)." See, Page 3-41. With successful reclamation and the construction of sediment retention/catchment areas where needed, only minor amounts of project-related runoff sediments are anticipated to reach perennial surface waters. See, Page 4-51. Therefore, the increased surface disturbance associated with the Jonah Infill Drilling Project will not adversely affect the water quality in perennial streams.</p> <p>Recommendation:</p> <p>Since the increased surface disturbance associated with the Jonah Infill Drilling Project will not adversely affect the water quality in perennial streams, the BLM should clarify that "surface water" in the above sentence, means water in intermittent or ephemeral drainages. Likewise, Operators should not be required to conduct modeling of ephemeral drainages (See, Last Full Sentence on Page 4-51) within the JIDPA because the surface water in those drainages is intermittent and "only minor amounts of project-related runoff sediments are anticipated to reach perennial surface waters."</p>	<p>report concluded that cumulative erosion effects are possible considering the fact that multiple, significant storm events are likely over the life of the project.</p>
L-31	59	A1	<b>Water Resources</b>	Compliance		<p>Page 4-53, 1st Paragraph:</p> <p>"Accidental contamination is possible but would be mitigated through a groundwater clean-up program, the scope of which would be determined by the EPA should a reportable incident occur (see Appendix G)."</p> <p>Recommendation:</p> <p>The BLM should replace EPA in the above sentence with WDEQ.</p>	<p>Agreed. The change will be made.</p>
L-31	60	A1	<b>Soils</b>	Water Resources	Analysis	<p>Page 4-61, Section 4.1.8.12:</p> <p>Since "only minor amounts of project-related runoff sediments are anticipated to reach perennial surface waters" (Page 4-51) and "no significant impacts to ground water resources are anticipated under any alternative" (Page 4-53), there should be no "unavoidable adverse impacts" to surface or groundwater as a result of the increased surface disturbance associated with the Jonah Infill Drilling Project.</p>	<p>This text is being revised based on the hydrologic modeling. Please see the response to comment L-11-69.</p>

**Table II-B. DEIS Comments and BLM Responses (cont'd)**

<b>Submittal ID</b>	<b>Comment Number</b>	<b>Category</b>	<b>Keyword 1</b>	<b>Keyword 2</b>	<b>Keyword 3</b>	<b>Comment Text</b>	<b>BLM Response</b>
						<p>Recommendation:</p> <p>Under the “Unavoidable Adverse Impacts” section, the BLM should state:</p> <p>There are no unavoidable adverse impacts to surface or groundwater as a result of the increased surface disturbance associated with the Jonah Infill Drilling Project.</p>	
L-31	61	A1	<b>Water Resources</b>			<p>Page 4-69, 3rd Full Paragraph:</p> <p>“Indirect impacts to wetlands, waters of the U.S, and/or riparian areas would occur as a result of increased sediment deposition in these areas.”</p> <p>This sentence implies that all surface waters in and around the JIDPA will be impacted by increased sediment deposition. However, with successful reclamation and the construction of sediment retention/catchment areas where needed, only minor amounts of project-related runoff sediments are anticipated to reach perennial surface waters. See, Page 4-51. Therefore, not all surface waters in and around the JIDPA will be impacted by the increased sediment deposition.</p> <p>Recommendation:</p> <p>Since not all surface waters in and around the JIDPA will be impacted by the increased sediment deposition, the BLM should refine the above sentence.</p>	This is a legitimate point. The word “would” will be changed to “could.”
L-31	62	A	<b>Editorial</b>			<p>Page 4-89, Section 4.2.2.9:</p> <p>Recommendation:</p> <p>“Figure 4.5” should be “Map 4.5.”</p>	Alternative G, to which this section referred, has been eliminated from final analysis.
L-31	63	A	<b>Livestock/ Grazing</b>	On-Site Mitigation		<p>Page 4-100, Section 4.2.4.2:</p> <p>“The Proposed Action would result in the direct removal of forage from approximately 2,415 acres (242 AUMs) initially, and 715 acres (72 AUMs) for the LOP within the 519,541-acre LCHMA.”</p>	Please refer to text changes in the FEIS.

**Table II-B. DEIS Comments and BLM Responses (cont'd)**

<b>Submittal ID</b>	<b>Comment Number</b>	<b>Category</b>	<b>Keyword 1</b>	<b>Keyword 2</b>	<b>Keyword 3</b>	<b>Comment Text</b>	<b>BLM Response</b>
						<p>Pipeline ROWs and other reclaimed areas within the JIDPA will provide higher quality forage in less acreage. Therefore, there would be a net gain in sustainable forage and AUMs.</p> <p>Recommendation:</p> <p>In the above acreage and AUM analysis, the BLM should account for higher quality forage in reclaimed areas within the JIDPA.</p>	
L-31	64	A	<b>Economics</b>	Wildlife	On-Site Mitigation	<p>Page 4-120, Section 4.4.2:</p> <p>“The Proposed Action could result in a present value loss of economic activity from recreation of \$2.4 million, hunting of \$1.0 million, and grazing of \$6.6 million over the LOP.”</p> <p>In its loss of economic activity calculations, the BLM did not consider project-related roads that enable hunters to access previously inaccessible areas. In addition, the BLM did not account for reclaimed areas within the JIDPA that provide high quality forage for wildlife as well as domestic animals.</p> <p>Recommendation:</p> <p>The BLM must consider the above scenarios because they will offset the loss of economic activity numbers.</p>	<p>Chapter 4 of the FEIS states the reasoning behind the analysis completed. There is no problem with access for hunters within JIDPA. Reclaimed areas do not compensate completely for native forage lost.</p> <p>An increased number of roads may be viewed by some as a negative impact on their recreational experience, while others may view it as a positive impact. Also, the improvement in forage would have to be quantified and then tied back to an increase in carrying capacity for both domestic livestock and wildlife. After that is done, the increased carrying capacity for wildlife would need to be tied to both non-consumptive and consumptive user days before the economic impacts could be estimated. In addition, to create a more balanced analysis, BLM could quantify the non-market values associated with the various alternatives being considered. But this would require a costly and time-consuming survey that is currently beyond the scope of this analysis.</p>
L-31	65	A	<b>Livestock/ Grazing</b>	On-Site Mitigation		<p>Page 4-134, Section 4.5.2.2:</p> <p>“Under the Proposed action, LOP AUM loss would increase from the No Action Alternative by approximately 393 AUMs.”</p>	<p>Please refer to text changes in the FEIS.</p>

**Table II-B. DEIS Comments and BLM Responses (cont'd)**

Submittal ID	Comment Number	Category	Keyword 1	Keyword 2	Keyword 3	Comment Text	BLM Response
						<p>Pipeline ROWs and other reclaimed areas within the JIDPA will provide higher quality forage in less acreage. Therefore, there would be a net gain in sustainable forage and AUMs.</p> <p>Recommendation:</p> <p>In the above acreage AUM analysis, the BLM should account for higher quality forage in reclaimed areas within the JIDPA.</p>	
L-31	66	A1	<b>Compensatory Mitigation</b>			<p>Page 4-151, Section 4.8:</p> <p>This section addresses compensatory mitigation. For example, "CM may be considered after other forms of on-site mitigation, including best management practices, have been analyzed." Pg. 4-152. It does not, however, state that compensatory mitigation is entirely voluntary.</p> <p>Recommendation:</p> <p>In Section 4.8, the BLM should clarify that compensatory mitigation is entirely voluntary.</p>	The BLM agrees. The discussion of compensatory mitigation is being revised in the FEIS.
L-31	67	A1	<b>Compensatory Mitigation</b>			<p>Page 4-152, Section 4.8.1, 1st Sentence:</p> <p>"The Operators have committed to funding a Cumulative Impacts Mitigation Fund (CIMF) to offset impacts of their proposed Jonah Infill development."</p> <p>The above language implies that all Operators who are proposing to infill drill within the Jonah Natural Gas Field have committed to funding a Cumulative Impacts Mitigation Fund to offset environmental impacts. In fact, not all Operators have made this commitment or intend to make this commitment.</p> <p>Recommendation:</p> <p>If the BLM is going to state that "Operators have committed to funding a Cumulative Impacts Mitigation Fund (CIMF) to offset impacts of their proposed Jonah Infill development," the agency should identify the Operators who have made this commitment.</p>	The BLM agrees. The discussion of compensatory mitigation is being revised in the FEIS.
L-31	68	A	<b>On-Site</b>	Compensatory	On-Site	Page 5-1, Section 5.1:	As explained in the introduction to

**Table II-B. DEIS Comments and BLM Responses (cont'd)**

Submittal ID	Comment Number	Category	Keyword 1	Keyword 2	Keyword 3	Comment Text	BLM Response
			<b>Mitigation</b>	Mitigation	Mitigation	<p>Section 5.1 provides a summary of mitigation and monitoring actions that could be applied to the project via the ROD or by JIWG recommendation to further minimize adverse impacts or verify the presence, extent or absence of anticipated impacts. See generally, Pg. 5-1. The BLM does not, however, provide the analysis to show that the additional mitigation opportunities listed in Section 5.1 are (1) either statutorily required or scientifically justifiable and (2) they are the least restrictive means to achieve the desired level of resource protection. In short, there is no way of knowing whether the BLM applied the principles derived from EPCA which calls into question the validity of the additional mitigation opportunities listed in Section 5.1.</p> <p>Recommendation:</p> <p>It is imperative for BLM to show that the additional mitigation opportunities listed in Section 5.1 are either statutorily required or scientifically justifiable AND they are the least restrictive means to achieve the desired level of resource protection.</p>	Chapter 5, these actions may or may not be implemented in the ROD. At this time they are ideas and concepts that could be included if deemed worthy. Until that time no additional level of detail is required. It would clutter the analysis to develop all these ideas fully when they may not be needed.
L-31	69	A1	<b>Wildlife</b>			<p>Page 5-4, Section 5.1.7, 1st Bullet Point:</p> <p>“Utilization of low-profile tanks within line-of-sight, up to a maximum of 0.5 mile, of greater sage-grouse leks;”</p> <p>This requirement is not listed in the most recent sage grouse instruction memorandum and Operators have never been required to do this.</p> <p>Recommendation:</p> <p>The BLM should remove the above restriction from the Jonah Infill Drilling Project DEIS.</p>	All management for sage-grouse is appropriate for inclusion in the FEIS.
L-31	70	A1	<b>Transportation</b>			<p>Page 5-5, Section 5.1.11, 4th Bullet Point:</p> <p>“Operators could jointly develop and submit for BLM approval road maintenance and use agreements designating road development, maintenance, and use requirements by each Operator.”</p> <p>Road maintenance and use agreements are confidential.</p>	Operators in the past have been required to enter into maintenance agreements. They, the operators, have submitted copies of the agreements to BLM. If the operators consider these agreements confidential they should state so when submitting to the BLM.

**Table II-B. DEIS Comments and BLM Responses (cont'd)**

<b>Submittal ID</b>	<b>Comment Number</b>	<b>Category</b>	<b>Keyword 1</b>	<b>Keyword 2</b>	<b>Keyword 3</b>	<b>Comment Text</b>	<b>BLM Response</b>
						<p>Recommendation:</p> <p>The BLM should remove the above bullet point from the Jonah Infill Drilling Project DEIS.</p>	
L-31	71	A1	<b>Hazardous Materials</b>	Health / Safety		<p>Page 5-6, Section 5.1.13, 1st Bullet Point:</p> <p>“Provide the BLM with copies of field- or lease-specific SWPPPs, SPCCPs, Spill Response Plans, and Emergency Response Plans.”</p> <p>The only plans Operators submit to BLM are SWPPPs when requested. BLM does not have the authority to either approve or deny these plans.</p> <p>Recommendation:</p> <p>The BLM should remove the above bullet point from the Jonah Infill Drilling Project DEIS.</p>	<p>This requirement will stand. The BLM is not approving or denying these documents. By REVIEWING the documents we are assuring the meet the minimum standards for environmental protection. DOI policy requires each Bureau to be prepared for and be able to respond to oil discharges and hazardous substances releases. Any plans, whether BLM or industry created, must address those concerns. Consequently, BLM has to be able to review industry documents as they relate to emergency contingencies.</p>
L-31	72	A1	<b>Land Ownership</b>			<p>Page 5-6, Section 5.1.14, 2nd Bullet Point:</p> <p>“File valid copies of access and/or surface use agreements between Operators and the private surface owner with APDs and/or ROW grants with the BLM for all future development proposals on private surface with BLM mineral estate.”</p> <p>Access and/or surface use agreements are confidential.</p> <p>Recommendation:</p> <p>The BLM should remove the second bullet point in Section 5.1.14 from the Jonah Infill Drilling Project DEIS.</p>	<p>Agreed; this bullet will be removed. There is only one private section within JIDPA and it already has all the access it needs.</p>
L-31	73	A1	<b>Compensatory Mitigation</b>			<p>Page 5-7, Section 5.2:</p> <p>Section 5.2 contains a list of compensatory mitigation ideas that “could be undertaken to mitigate for impacts within the JIDPA that cannot be fully mitigated on-site...” Pg. 5-7. The BLM does not, however, state that compensatory mitigation is entirely voluntary.</p> <p>Recommendation:</p> <p>When discussing compensatory mitigation, the BLM</p>	<p>The BLM agrees. The discussion of compensatory mitigation is being revised in the FEIS.</p>

**Table II-B. DEIS Comments and BLM Responses (cont'd)**

<b>Submittal ID</b>	<b>Comment Number</b>	<b>Category</b>	<b>Keyword 1</b>	<b>Keyword 2</b>	<b>Keyword 3</b>	<b>Comment Text</b>	<b>BLM Response</b>
						should always make it clear that compensatory mitigation is entirely voluntary.	
L-31	74	A1	<b>On-Site Mitigation</b>			<p>Page A-1, Introduction:</p> <p>“These guidelines are primarily for the purpose of attaining statewide consistency in how requirements are determined for avoiding and mitigating environmental impacts and resource and land use conflicts. Consistency in this sense does not mean that identical requirements would be applied for all similar types of land use activities that may cause similar types of impacts. Nor does it mean that the requirements or guidelines for a single land use activity would be identical in all areas.”</p> <p>The above paragraph identifies the primary purpose of the Wyoming BLM Mitigation Guidelines.</p> <p>Recommendation:</p> <p>Since the above paragraph identifies the primary purpose of the Wyoming BLM Mitigation Guidelines, it should be moved from the “Introduction” section to the “Purpose” section. The “Introduction” section would then include the remaining two (2) paragraphs.</p>	The content of this paragraph is introductory. Although the word “purpose” is used in reference to the goals of the standard mitigation measures, the following information does not explain the purpose of the guidelines as is addressed under that subtopic. There is no need to change this information.
L-31	75	A1	<b>On-Site Mitigation</b>	Compensatory Mitigation		<p>Page A-1, Introduction:</p> <p>Recommendation:</p> <p>The “Introduction” section should also address the Energy Policy and Conservation Act (EPCA). Pursuant to EPCA, the Wyoming BLM Mitigation Guidelines must be either statutorily required or scientifically justifiable AND they must be the least restrictive means to achieve the desired level of resource protection.</p>	EPCA is discussed in Chapter 1 in the DEIS. It is not necessary for it to be discussed again in Appendix A.
L-31	76	A1	<b>Editorial</b>			<p>Page A-2, Mitigation Guidelines, Surface Disturbance Mitigation Guideline:</p> <p>Recommendation:</p> <p>Near the bottom of Page A-2, the BLM refers to (1a through 1e). Therefore, the enumerated conditions on Page A-2 should be a, b, c, d and e not bullet points.</p>	The reference is vestigial, with this language having been derived from the PFO RMP. The bullet points will be changed to a–e for consistency with RMP guidance.

**Table II-B. DEIS Comments and BLM Responses (cont'd)**

Submittal ID	Comment Number	Category	Keyword 1	Keyword 2	Keyword 3	Comment Text	BLM Response
L-31	77	A	Wildlife	Compliance		<p>Page A-3, Mitigation Guidelines, Wildlife Mitigation Guideline:</p> <p>From the Wyoming BLM Mitigation Guidelines, sage grouse nesting habitat restrictions are in effect from February 1 to July 31 –</p> <p>To protect important greater sage grouse nesting habitat, activities or surface use will not be allowed from February 1 to July 31 within certain areas encompassed by the authorization.</p> <p>See, Appendix A, pp. A-3 and A-4.</p> <p>In contrast, Instruction Memorandum No. WY-2004-057 shows that sage grouse nesting habitat restrictions are in effect from March 1 to July 15 –</p> <p>Sage-grouse leks: Avoid human activity between 8 p.m. and 8 a.m. from March 1 – May 15 within ¼ mile of the perimeter of occupied sage-grouse leks.</p> <p>Sage-grouse nesting/early brood-rearing habitat: Avoid surface disturbing and disruptive activities in identified sage-grouse nesting and early brood-rearing habitat outside the 2-mile buffer from March 15 – July 15.</p> <p>See, Instruction Memorandum No. WY-2004-057, Statement of Policy Regarding Sage-Grouse Definitions and Use of Protective Stipulations and Conditions of Approval at pg. 5.</p> <p>In this case, the sage grouse nesting habitat restrictions (Restrictions) found in Instruction Memorandum No. WY-2004-057 take precedent over the Restrictions found in the Wyoming BLM Mitigation Guidelines because the purpose of Instruction Memorandum No. WY-2004-057 is to provide general guidance and consistency for sage-grouse management on BLM administered Public Lands in the state. Id.</p> <p>Recommendation:</p> <p>Since the Restrictions found in Instruction Memorandum No. WY-2004-057 take precedent over the Restrictions</p>	<p>All management for sage-grouse is appropriate for inclusion in the FEIS.</p>

**Table II-B. DEIS Comments and BLM Responses (cont'd)**

<b>Submittal ID</b>	<b>Comment Number</b>	<b>Category</b>	<b>Keyword 1</b>	<b>Keyword 2</b>	<b>Keyword 3</b>	<b>Comment Text</b>	<b>BLM Response</b>
						found in the Wyoming BLM Mitigation Guidelines, the Restrictions in the Wyoming BLM Mitigation Guidelines should be amended so that they are only in effect from March 1 to July 15.	
L-31	78	A1	<b>Editorial</b>			<p>Page A-3, Mitigation Guidelines, Wildlife Mitigation Guideline:</p> <p>Recommendation:</p> <p>At the bottom of Page A-3, the BLM refers to (2a and 2b) and 2c. Therefore the enumerated conditions on Page A-3 should be a, b, c, d and e not bullet points.</p>	These references are vestigial, the language having been derived from the PFO RMP. Even though some of the language has been changed, for consistency with the RMP the paragraphs, <u>not</u> the bullet points, will be lettered a–d.
L-31	79	A	<b>Wildlife</b>			<p>Page A-4, Mitigation Guidelines, Wildlife Mitigation Guideline:</p> <p>“The same birds often require protection from disturbance from November 15 through April 30 while they occupy winter concentration areas.”</p> <p>The term winter concentration area is poorly defined. It cannot simply include stands of sagebrush.</p> <p>Recommendation:</p> <p>The BLM should provide a definition or an explanation of the term winter concentration area.</p>	“Winter concentration area” is defined by WGFD and included in the BLM’s National Sage Grouse Strategy.
L-31	80	A	<b>Paleontology</b>			<p>Page A-5, Mitigation Guidelines, Cultural Resource Mitigation Guideline:</p> <p>“Mitigation of paleontological and natural history sites will be treated on a case-by-case basis.”</p> <p>Recommendation:</p> <p>Paleontological sites should not be addressed in the cultural resource mitigation section.</p>	This is a valid comment. Paleontological resources are NOT covered by the same laws and policies as cultural resources. The second sentence of the last paragraph in A.1.3 will be removed.
L-31	81	A1	<b>Technical Information</b>	Operator-Committed Practices		<p>Not all Operators have committed to the enumerated practices in Appendix B. If the BLM is going to discuss Operator-committed practices, it should identify the Operators who have committed to these practices.</p>	<p>The following language will be added to the second paragraph on DEIS page B-1:</p> <p>“It should be noted that all operator-committed practices are voluntary and that not all operators in the</p>

**Table II-B. DEIS Comments and BLM Responses (cont'd)**

Submittal ID	Comment Number	Category	Keyword 1	Keyword 2	Keyword 3	Comment Text	BLM Response
							Jonah Field have committed to undertake these measures.”
L-31	82	A1	<b>Analysis</b>	Operator-Committed Practices		<p>Page B-1, 1st Paragraph:</p> <p>“... and Operators have committed to the implementation of these programs and polices under the Proposed Action and various alternatives (see environmental impact statement [EIS] Section 2.15)”</p> <p>Assuming EIS Section 2.15 refers to Section 2.15 of the Draft EIS, Jonah Infill Drilling Project, that section discusses the alternatives that were considered and eliminated from detailed study. It does not discuss implementation of Operator committed programs and policies under the Proposed Action and various alternatives.</p> <p>In addition, if the environmental programs and policies that are presently in place have prevented environmental harm within the Jonah Natural Gas Field and Operators have already made the commitment to implement these same programs and policies under their Proposed Action, then what is the purpose of the BLM’s Preferred Alternative which may not provide greater environmental protection and certainly limits gas production?</p> <p>Recommendation:</p> <p>The BLM should review Section 2.15 and if that section does not apply, it should cite to the correct section(s). In looking at Chapter 2, the BLM is probably referring to Sections 2.6 through 2.14.</p>	<p>The citation of Section 2.15 is correct. It refers to the final paragraph of that section which discusses how mitigation measures were factored into the alternatives. The last sentence in that paragraph refers back to Appendix B.</p> <p>The operator-committed practices outlined in Appendix B are voluntary. It cannot be assumed that they will necessarily be implemented, although as noted on page 2-24 of the Draft EIS, the BLM would recommend that they be put into place. The advantage of the BLM Preferred Alternative, as outlined in Section 2.14 <i>et seq.</i>, is that it will require specific mitigation measures and still balance the use of various resources in the JIDPA.</p> <p>In addition, there will be a new Preferred Alternative in the FEIS.</p>
L-31	83	A1	<b>Editorial</b>	Operator-Committed Practices		<p>Page B-1, 6th Paragraph:</p> <p>“Exceptions to Operator-committed practices may be granted if a thorough analysis by the BLM determines that the resource(s) for which the measure was developed would not be impacted by the proposed project (see EIS Section 1.3.1.4).”</p> <p>There is no Section 1.3.1.4 in the Jonah Infill Drilling Project DEIS.</p> <p>Recommendation:</p>	<p>Agreed. The in-text reference will be changed to Section 1.4.1.1.</p>

**Table II-B. DEIS Comments and BLM Responses (cont'd)**

Submittal ID	Comment Number	Category	Keyword 1	Keyword 2	Keyword 3	Comment Text	BLM Response
						The BLM should cite to the correct section in the above sentence.	
L-31	84	A1	<b>Compliance</b>	Operator-Committed Practices		<p>Page B-1, 6th Paragraph:</p> <p>“Exceptions to Operator-committed practices may be granted if a thorough analysis by the BLM determines that the resource(s) for which the measure was developed would not be impacted by the proposed project (see EIS Section 1.3.1.4).”</p> <p>The BLM is going to allow modifications to Operator-committed practices. However, the agency will only allow modifications “if a thorough analysis by the BLM determines that the resource(s) for which the measure was developed would not be impacted by the proposed project.”</p> <p>Recommendation:</p> <p>Since the BLM is going to allow modifications to Operator-committed practices, the agency should be consistent and apply the test derived from the Energy Policy and Conservation Act (EPCA). The above language should read as follows:</p> <p>Exceptions to Operator-committed practices may be granted if the practice is not statutorily required or scientifically justifiable OR if the practice is not the least restrictive means to achieve the desired level of resource protection.</p>	<p>The BLM acknowledges the EPCA procedures. However, even though many of the Operator-committed measures and the EIS derived COAs are not individually and/or specifically required by a specific statute, they were developed to mitigate impacts within the Jonah Field and as such are rooted in NEPA. This language allows for the incorporation of the proper standard, including EPCA, at the time the application for modification of the operator-committed practice.</p> <p>BLM also acknowledges that the Operator has the lease-granted right to develop the hydrocarbon resource; consequently, the exception criteria are being expanded in the FEIS.</p>
L-31	85	A1	<b>Wildlife</b>	On-Site Mitigation	Operator-Committed Practices	<p>Page B-2, No. 2:</p> <p>Recommendation:</p> <p>The “Wildlife Monitoring/Protection Plan” and “annual wildlife reports” are joint Operator efforts not individual APD efforts. Therefore, the BLM should remove them from the language in No. 2.</p>	All wildlife monitoring will be included in the Wildlife Monitoring and Mitigation Plan developed after the ROD is signed.
L-31	86	A1	<b>Analysis</b>	Operator-Committed Practices		<p>Page B-2, No. 3:</p> <p>Recommendation:</p> <p>The BLM should remove, and any other clearance specified by BLM, from the last part of No. 3. Also, it is</p>	As the need for specific inventories and/or clearances will depend on the project component, it is not possible to specify in advance what those will be or how they should be accomplished. Implementation of this

**Table II-B. DEIS Comments and BLM Responses (cont'd)**

<b>Submittal ID</b>	<b>Comment Number</b>	<b>Category</b>	<b>Keyword 1</b>	<b>Keyword 2</b>	<b>Keyword 3</b>	<b>Comment Text</b>	<b>BLM Response</b>
						difficult for Operators to commit to the various inventories in No. 3 when the BLM is not specific as to what these inventories are or what they entail.	measure will be site-specific. As that is the case, the item will be carried forward in the FEIS.
L-31	87	A1	<b>Air Quality</b>	Compliance	Operator-Committed Practices	Page B-3, No. 10: “Necessary air quality permits to construct, test, and operate facilities would be obtained from the Wyoming Department of Environmental Quality/Air Quality Division (WDEQ/AQD). All internal combustion equipment would be kept in good working order.” Recommendation: Operator-committed practice No. 10 should be in italics because the BLM does not have the authority to regulate air quality and Operator-committed practices that are outside the jurisdiction of the agency are identified as italicized text.	The BLM agrees. This measure will be italicized in the FEIS.
L-31	88	A1	<b>Air Quality</b>	Compliance		Page B-3, No. 12: Recommendation: The term BLM should be removed from No. 12 because the BLM does not have the authority to regulate air quality.	Disagree. BLM is involved in “determining regional NOx emission levels...”
L-31	89	A1	<b>On-Site Mitigation</b>	Operator-Committed Practices		Page B-4, No. 18:  Recommendation:  The BLM should insert the term where practical between the word contours and the word at in No. 18.	The Items in DEIS Appendix B are Operator-Committed Measures. BLM agrees with the wording as listed. The requirement remains.
L-31	90	A1	<b>On-Site Mitigation</b>	Operator-Committed Practices		Page B-5, No. 26:  Recommendation:  The BLM should clarify that Operators only monitor erosion control and revegetation efforts on a voluntary basis.	The Items in DEIS Appendix B are Operator-Committed Measures. BLM agrees with the wording as listed. The requirement remains.
L-31	91	A	<b>Soils</b>	Operator-Committed Practices	On-Site Mitigation	Page B-6, No. 33:  Recommendation:  The BLM should provide a reference cite for the requirements and goals of erosion control structures and culverts.	This is an Operator-Committed Measure, but relates to the third objective (i.e., bullet 3) in DEIS Section 2.14.1.
L-31	92	A1	<b>Editorial</b>			Page B-6, No. 35:  Recommendation:	The word no to will be changed not.

**Table II-B. DEIS Comments and BLM Responses (cont'd)**

Submittal ID	Comment Number	Category	Keyword 1	Keyword 2	Keyword 3	Comment Text	BLM Response
						The word no should be changed to not.	
L-31	93	A1	<b>Water Resources</b>	Hazardous Materials	Compliance	Page B-6, No. 36:  Recommendation:  The BLM does not have authority to regulate. No. 36 should be in italics.	Agreed. Text has been italicized.
L-31	94	A1	<b>Water Resources</b>	Compliance	Operator-Committed Practices	Page B-7, No. 38:  “... Operators would treat diverted water in detention ponds prior to release to meet applicable state or federal standards.”  AND  “If water is discharged into an established drainage channel, the rate of discharge would not exceed the capacity of the channel to convey the increased flow without creating erosion induced channel adjustments. Waters that do not meet applicable state or federal standards would be evaporated, treated, or disposed of at an approved disposal facility.”  The BLM does not have the authority to regulate how Operators handle produced water.  Recommendation:  The above language should be in italics.	Onshore Order No. 8 under 43 CFR 3160 gives BLM regulatory authority for managing produced water from wells on federal leases. This does not mean that state agencies such as WDEQ or WOGCC do not also have regulatory authority. The text will remain as presented in the DEIS.
L-31	95	A	<b>Water Resources</b>	Hazardous Materials	Operator-Committed Practices	Page B-8, Nos. 46 and 47:  By referring to EnCana, the language in 46 and 47 implies that Operators must follow EnCana’s plans. Operators do not have to follow EnCana’s plans.  Recommendation:  The BLM should not refer to EnCana in Nos. 46 and 47. If the BLM does cite to EnCana’s plans, the agency should clarify that Operators do not have to follow a particular company’s plans.	Agreed. References here to EnCana plans have been deleted.
L-31	96	A1	<b>Water Resources</b>	Compliance		Page B-8, No. 50:	Text will be changed to:

**Table II-B. DEIS Comments and BLM Responses (cont'd)**

<b>Submittal ID</b>	<b>Comment Number</b>	<b>Category</b>	<b>Keyword 1</b>	<b>Keyword 2</b>	<b>Keyword 3</b>	<b>Comment Text</b>	<b>BLM Response</b>
			<b>Resources</b>			<p>Recommendation:</p> <p>No. 50 should be in italics and approved with each authorization and through the prompt reclamation of disturbances should be removed and replaced with according to SWPPP under WDEQ jurisdiction. The amended paragraph would read as follows:</p> <p>Increased sedimentation impacts to surface waters would be avoided or minimized through construction and erosion control practices according to SWPPP under WDEQ jurisdiction.</p>	<p>"Increased sedimentation impacts to surface waters would be avoided or minimized through construction and erosion control practices according to a SWPPP under WDEQ jurisdiction. Operators would comply with BLM Wyoming Standards for Healthy Rangelands."</p>
L-31	97	A1	<b>Water Resources</b>	Compliance	Operator-Committed Practices	<p>Page B-8, No. 51:</p> <p>"Operators would conduct complete water quality analyses (e.g., pH, alkalinity, total dissolved solids (TDS), oil and grease, benzene, etc.) on all newly developed water wells. Additionally, annual water quality testing at new and existing project-required water wells would be implemented to detect water quality changes, and in the event adverse changes are noted, Operators would work with the BLM on developing and implementing appropriate corrective actions. Water well drilling and quality analysis reports would be submitted by October 1 of each year to the BLM Pinedale Field Office (PFO), SEO, and WDEQ/ WQD for review."</p> <p>The BLM does not have the authority to regulate water quality and groundwater will not be impacted by the Jonah Infill Drilling Project. Therefore, there is no basis for requiring groundwater monitoring.</p> <p>Recommendation:</p> <p>Operator-committed practice No. 51, above, should be removed from the Jonah Infill Drilling Project DEIS. In the alternative, No. 51 should be in italics.</p>	<p>The commenter correctly asserts the authority to regulate water quality rests with WDEQ. Requiring implementation of a groundwater monitoring program does not imply BLM has the authority to regulate water quality; however, under NEPA, BLM is required to determine/analyze the effects of a project on the environment. Monitoring is one of the tools available to evaluate impacts. Based on the outcome of the monitoring, BLM would consult with WDEQ to determine any needed enforcement or abatement actions. This requirement is consistent with a requirement on the Pinedale Anticline. WDEQ is water monitoring Task Group for the Pinedale Anticline EIS.</p> <p>Item 51 will be shown in italics in the FEIS.</p>
L-31	98	A1	<b>Wildlife</b>	Operator-Committed Practices		<p>Page B-9, No. 54:</p> <p>Recommendation:</p> <p>The language, within specified setbacks and timing stipulations, should be inserted between restricted and proximal. The amended paragraph would read as follows:</p>	<p>The intent was to specify location or proximity, regardless of what term is used. The recommended text will be included in the FEIS.</p>

**Table II-B. DEIS Comments and BLM Responses (cont'd)**

Submittal ID	Comment Number	Category	Keyword 1	Keyword 2	Keyword 3	Comment Text	BLM Response
						Construction, drilling, completion, testing, and production facility installation activities would be seasonally restricted, within specified setbacks and timing stipulations, proximal to active raptor nests during the nesting period and in greater sage-grouse breeding and nesting areas.	
L-31	99	A1	<b>Water Resources</b>	Compliance	Operator-Committed Practices	Page B-10, Nos. 64 and 65:  Recommendation:  Operator-committed practices 64 and 65 should be in italics.	Agreed. Nos. 64 and 65 have been italicized.
L-31	100	A1	<b>Wildlife</b>	On-Site Mitigation	Operator-Committed Practices	Page B-11, No. 69:  Recommendation:  The last sentence in No. 69 should read as follows:  The plan would be incorporated into the Operator field operations manual or handbook, a copy of which would be kept on-site or with Operator personnel when on-site in the JIDPA.	Noted. The recommended text will be included in the FEIS.
L-31	101	A1	<b>Wildlife</b>	Operator-Committed Practices		Page B-11, No. 70:  Recommendation:  The following sentence:  If violations are discovered, the offending employee or contractor would be disciplined and may be dismissed by Operators and/or prosecuted by WGFD.  should be removed from No. 70.	The BLM cannot determine employment of individuals by private companies. But if violators continue to be employed, future restrictive or other management actions may need to be taken. This is a common statement in most energy field development documents.
L-31	102	A1	<b>Analysis</b>	Operator-Committed Practices		Page B-12, No. 72:  Recommendation:  The BLM should insert the word unleashed in front of the word dogs.	This is one of the operator-committed measures and as such cannot be arbitrarily changed by the BLM.
L-31	103	A1	<b>Wildlife</b>	Operator-Committed Practices		Page B-13, No. 81:  Recommendation:	Determination of activity status of raptor nests will be completed at the proposed activity level analysis. All

**Table II-B. DEIS Comments and BLM Responses (cont'd)**

Submittal ID	Comment Number	Category	Keyword 1	Keyword 2	Keyword 3	Comment Text	BLM Response
						<p>The BLM should insert the word active after the word known. The amended sentence would read as follows:</p> <p>Well pads, pipelines, and associated roads would be selected and designed to avoid disturbance to known active raptor nest sites.</p>	raptor nests will receive some sort of protection.
L-31	104	A	<b>Wildlife</b>	Operator-Committed Practices		<p>Page B-13, Nos. 87-91:</p> <p>Recommendation:</p> <p>The BLM should state why the mountain plover practices/guidelines still apply since the USFWS determined that mountain plovers do not warrant listing.</p>	Mountain plovers are a BLM sensitive species and management practices and guidelines are still valid for the JIDPA.
L-31	105	A	<b>Wildlife</b>	Operator-Committed Practices		<p>Page B-15, Nos. 92-94:</p> <p>Since white-tail prairie dogs are not warranted for listing, why are Operators required to avoid surface disturbance in prairie dog towns?</p> <p>Recommendation:</p> <p>The Operator-committed practices (Nos. 92-94) should be removed from the Jonah Infill Drilling Project DEIS.</p>	White-tailed prairie dogs are a BLM sensitive species and management practices and guidelines are still valid for the JIDPA.
L-31	106	A1	<b>Cultural Resources</b>	Operator-Committed Practices		<p>Page B-17, No. 109:</p> <p>Recommendation:</p> <p>The BLM should insert the term in the area of concern between the word activities and if. The first sentence in No. 109 would then read as follows:</p> <p>Operators would halt construction activities, in the area of concern, if previously undetected cultural resource properties are discovered during construction.</p>	BLM understands and agrees with the intent of your comment, however the language in the EIS is based on some specific language in the historic preservation regulations (36 CFR 800). BLM therefore chose not to insert the term "area of concern." Sometimes, early shutdown prevents more substantial impact to a discovered site, with easier resolution of the conflict. In practice, our procedure has been to only cease construction activities where the discovery took place in the Jonah Field or elsewhere.
L-31	108	A	<b>Visual Resources</b>	Operator-Committed Practices		<p>Page B-19, No. 132:</p> <p>Recommendation:</p> <p>The JIDPA is a Class IV area so No. 132 is</p>	Thank you for your comment. Item 132 listed under Operator-committed mitigations represents standard mitigation regardless of the VRM classification. Careful siting, which

**Table II-B. DEIS Comments and BLM Responses (cont'd)**

Submittal ID	Comment Number	Category	Keyword 1	Keyword 2	Keyword 3	Comment Text	BLM Response
						unnecessary. The BLM should remove Operator-committed practice No. 132 from the Jonah Infill Drilling Project DEIS.	includes topographical screening of facilities and other design features that compliment the characteristic landscape and reduce visual impacts should always be considered. The BLM realizes the practices detailed in item No. 132 are not practical or warranted for most situations given the existing conditions within the project area. However, instances may arise where extra efforts are needed to reduce visual impacts in a given area. Therefore, based upon site-specific resource conditions and other values, the operator should consider all reasonable options available to mitigate visual impacts.
L-31	109	A	<b>Analysis</b>			<p>Page D-2, Section III:</p> <p>Section III identifies the goals and objectives of the adaptive management process. This list of goals and objectives is generated by the BLM after reviewing recommendations from the JIWG Task Groups. Unfortunately, the BLM does not explain this process in Section III.</p> <p>Recommendation:</p> <p>Section III should include an explanation of how the list of goals and objectives of the adaptive management process is generated. The BLM is responsible for generating this list not the JIWG. The JIWG simply makes recommendations to the BLM.</p>	This comment is no longer relevant. That JIWG is being removed from the FEIS and replaced by a different oversight group.
L-31	110	A1	<b>Editorial</b>			<p>Page I of Appendix G:</p> <p>Referring to the Transportation Plan, Reclamation Plan and Hazardous Materials Management Summary as Appendices A, B, and C, respectively, is confusing because Volume 2 of the DEIS already has Appendices A, B, and C.</p> <p>Recommendation:</p> <p>Appendices A, B, and C should be Supplements A, B,</p>	The names of these appendices to DEIS Appendix G will be revised.

**Table II-B. DEIS Comments and BLM Responses (cont'd)**

Submittal ID	Comment Number	Category	Keyword 1	Keyword 2	Keyword 3	Comment Text	BLM Response
						and C.	
L-31	111	A1	<b>Editorial</b>			<p>Transportation Plan, Page A-2, Map A-1.1:</p> <p>Recommendation:</p> <p>The South Anticline Road which intersects Rim Road in T30N, R108W and Highway 191 in T29N, R107W on Map A-1.1 is a collector road and should be shown in bold print on Map A-1.1 similar to Rim and Luman Roads.</p>	This map will be updated to reflect this information.
L-31	112	A1	<b>Transportation</b>			<p>Transportation Plan, Page A-57:</p> <p>On Pages A-57 – A-58 the BLM discusses road maintenance agreements including terms and conditions dictated by the agency. See generally, Pages A-57 – A-58. Ironically, the BLM has no authority to dictate the terms and conditions of these agreements because the agency is not a party to the contract.</p> <p>Maintenance agreements are usually binding contracts between companies that deal with road maintenance. The BLM generally does not enter into maintenance agreements with companies. The preferred approach is for companies to work together and adjudicate maintenance agreements amongst themselves.</p> <p>Page, A-57.</p> <p>Recommendation:</p> <p>Since the BLM has no authority to dictate the terms and conditions of these agreements, the road maintenance agreement section (A-8.0 MAINTENANCE AGREEMENTS) should be removed from the Jonah Infill Drilling Project DEIS.</p>	The BLM is not dictating terms or conditions of the road maintenance agreements in this section. The BLM is showing the general public what is usually in a road maintenance agreement. This section states that the BLM does not enter into maintenance agreements with the companies. The companies would work amongst themselves and would provide BLM with copies of the agreements.
L-31	113	A1	<b>On-Site Mitigation</b>	Operator-Committed Practices		<p>Reclamation Plan, Pages B-4 – B-6:</p> <p>The language on Pages B-4 – B-6 and the flow chart (Figure B-4.1) on Page B-10, implies that an Operator's reclamation bond will not be released until "permanent revegetation" has been achieved. See generally, Pages B-4 – B-6 and Figure B-4.1. This can take up to 10 years. Id. at Page B-5. In most, if not all, cases the BLM releases reclamation bonds shortly after reclamation not</p>	See the revised reclamation process in the FEIS for revised reclamation standards. Traditionally, reclamation has concentrated on stabilizing the disturbed area and little consideration was given to restoring wildlife habitat function. Due to the potential for very intensive development in the Jonah Field, the focus for reclamation is on

**Table II-B. DEIS Comments and BLM Responses (cont'd)**

Submittal ID	Comment Number	Category	Keyword 1	Keyword 2	Keyword 3	Comment Text	BLM Response
						<p>after “permanent revegetation.”</p> <p>Recommendation:</p> <p>The BLM should clarify the language on Pages B-4 – B-6 and the flow chart (Figure B-4.1) on Page B-10 to reflect the fact that reclamation bonds are released shortly after reclamation not after “permanent revegetation.”</p>	<p>restoring habitat function in conjunction with site stabilization. Bonds will not be released until the prescribed standards are met.</p>
L-31	114	A1	<b>Hazardous Materials</b>	Water Resources	Compliance	<p>Hazardous Materials Management Summary, Page C-9:</p> <p>“If oil-based drilling fluids are used, these fluids would be contained in a closed system (a series of tanks) to prevent their release to the environment.”</p> <p>It would appear the only reason for requiring closed drilling systems is to protect groundwater quality. The BLM does not have the authority to regulate water quality. Furthermore, Yates does not see the value in requiring Operators to utilize closed drilling systems when reserve pits are constructed with heavy-duty liners that fully contain all fluids.</p> <p>Recommendation:</p> <p>The above sentence (If oil-based drilling fluids are used, these fluids would be contained in a closed system (a series of tanks) to prevent their release to the environment.) should be removed from the Jonah Infill Drilling Project DEIS.</p>	<p>BLM has decided the most appropriate management approach for oil-based fluids will be to address specific guidance (COAs) in each EA. Thus, the language in question has been changed to:</p> <p>“If oil-based fluids are used, appropriate environmental protection will be addressed in site-specific Environmental Assessments (EAs). These may include, but are not limited to, closed systems, pit liners, netting, and monitor wells.”</p>
L-31	115	A1	<b>Hazardous Materials</b>			<p>Hazardous Materials Management Summary, Page C-27:</p> <p>At the bottom of Page C-27 and continuing over to Page C-28, the BLM refers to several Operator -specific hazardous material (hazmat) plans implying that Yates, for example, must comply with EnCana’s “spill response plan” or McMurray Oil’s “Storm Water Pollution Prevention Plan.” While it may be convenient for the BLM that all Operators utilize the same hazmat plan each Operator, including Yates, has its own hazmat plan, which has proven to be just as effective as EnCana’s and/or McMurray’s.</p> <p>Recommendation:</p>	<p>Text introductory to each cited plan at bottom of page C-27 has been amended to read:</p> <p>“Each Operator would prepare and implement, as necessary, the following plans and/or policies (parenthetical references below are to documents BLM considers an appropriate example of each type of plan; Operators may choose to develop their own versions of the following plans):”</p>

**Table II-B. DEIS Comments and BLM Responses (cont'd)**

Submittal ID	Comment Number	Category	Keyword 1	Keyword 2	Keyword 3	Comment Text	BLM Response
						Since each Operator has its own hazmat plan, which has proven to be just as effective as EnCana's and/or McMurry's, the BLM must clarify, within the management policy and procedure section (C-11.0 MANAGEMENT POLICY AND PROCEDURE), that Operators will be allowed to utilize their own hazmat plans and/or policies.	
L-34	2	C	<b>Compensatory Mitigation</b>			RSGA has concern for the introduction of compensatory mitigation in the DEIS. The scope of the resource conflicts have not been sufficiently demonstrated in the document to justify compensatory mitigation as a solution for the resource conflicts described. Compensatory mitigation could be utilized to assist county agencies and local communities with infrastructure and socio-economic issues. It is also not clear in the DEIS if there is consensus among the Jonah operators that compensatory mitigation is consistently supported.	DEIS Section 5.1.11 notes compensatory mitigation concepts that are applicable to transportation concerns. Also, Section 5.2 presents several off-site mitigation ideas that deal with infrastructure and socioeconomic issues. More ideas may be incorporated before the FEIS. Please also note that the discussion of compensatory mitigation is being revised for the FEIS.
L-34	3	C	<b>Compensatory Mitigation</b>			p. i, 3rd para: Discussion of off-site mitigation should have been delayed until completion of the DEIS analysis. Introducing off-site mitigation in the early stages of will significantly change the attitude of agencies in the analysis of oil and gas development. The agencies will now anticipate a willingness of industry to offer compensation in addition to mitigation on site. Reliance on "recent communication with operators" as a basis of compensatory mitigation is not a good rationale to design alternatives or mitigation in a DEIS. If the current operators change, the new operators may not be receptive to the concept, and anticipated off-site mitigation might not occur.  Recommendation: Deflate the discussion on off-site mitigation, as it implies extraordinary mitigation that is voluntary may not materialize. History will demonstrate that a change of operators, personalities, and management style will occur, including within BLM.	The analyses were not performed with the idea that off-site mitigation would occur. As noted in the introduction to Chapter 5, these ideas are not included in the BLM Preferred Alternative. However, the public should be aware that it might be possible to use compensatory mitigation as a means of reducing some of the significant impacts.
L-34	4	D	<b>Analysis</b>	Surface Disturbance		ENVIRONMENTAL IMPACTS, p. v and vi, All paragraphs: There will be significant surface disturbance in the Jonah Field. However, this should not be the basis of a conclusion that there will be significant environmental impacts, or even significant resource conflicts. Other oil and gas developments have occurred in western Wyoming where terrains and habitats that	Since there will be significant surface disturbances in the JIDPA, this will by necessity lead to significant effects on environmental resources that rely on those disturbed areas (e.g., vegetation). Please be careful not to imply any degree of impact to the

**Table II-B. DEIS Comments and BLM Responses (cont'd)**

Submittal ID	Comment Number	Category	Keyword 1	Keyword 2	Keyword 3	Comment Text	BLM Response
						<p>were far more difficult to mitigate, and they were successfully completed. The significance of Jonah Field disturbance is less than experienced elsewhere in western Wyoming, but this DEIS implies the significance is far greater than prior developments and extra ordinary mitigations are justified. The facts do not support this conclusion. Hopefully, the significance of Jonah Field and the complexity of resource conflicts are not inflated because new BLM staff is introduced to oil and gas development in Wyoming.</p> <p>In western Wyoming the Exxon LaBarge Project, the Chevron Carter Creek, and the AMOCO Whitney Canyon oil and gas developments included significant resource conflicts. The BLM standard stipulations used today were in part created during the NEPA analysis and development of those projects, and they are more than adequate for the Jonah Field.</p> <p>Recommendation: Incorporate discussion of other oil and gas developments and include the success of those developments with existing standard practices.</p>	<p>word “significant”. Under NEPA, an impact is either significant or its not; there are no degrees of significance. As noted on page 4-1 of the DEIS, the use of adjectives was avoided because the EIS is an analytical document. Therefore some impacts may be much more harmful than others, but they may both be significant depending on the resource involved and the RMP. Neither should the fact that there are significant impacts be automatically construed to imply that there are significant resource conflicts, although that may be the case in some instances. If there are, they will be outlined.</p> <p>Although the BLM standard stipulations were considered adequate at the time other projects were approved, the mitigation process is continually evolving and improving. This is acknowledged in Section 2.2. The BLM Preferred Alternative will incorporate the most appropriate mitigations known at this time and will continue to refine these based on experience.</p> <p>No comparison to other sites is implied or should be made. BLM believes that comparing the proposed Jonah Infill with the potential for 20-, 10-, or even 5-acre well pad densities to other projects in western Wyoming would be like comparing apples and oranges. While all of the projects involve significant resource conflicts, none of the other projects come close to the surface occupation densities and habitat fragmentation potentials that the Jonah Infill will potentially reach. This is not too say many to the Jonah Infill impacts cannot be</p>

**Table II-B. DEIS Comments and BLM Responses (cont'd)**

Submittal ID	Comment Number	Category	Keyword 1	Keyword 2	Keyword 3	Comment Text	BLM Response
							mitigated, but it is far more difficult to mitigated impact from a 5-acre surface spacing project than it is on a 640-acre surface spacing project like the Exxon LaBarge Project.
L-34	5	A1	<b>Surface Disturbance</b>	Compliance		<p>Authorizing Actions, p. 1-9, para 1.4.1.1: The Wyoming BLM Mitigation Guidelines and Practices for Surface Disturbing and Disruptive Activities is often cited in the DEIS. However, recently there has been an inordinate emphasis on Disruptive Activities (Ref: Jack Morrow Hills Activity Plan and Rawlins RMP DEIS). There is concern and confusion with the new emphasis on Disruptive Activities, and how the BLM will implement new interpretations. There is no definition of Disruptive Activities in this DEIS. In other BLM Field Offices, disruptive activities are now interpreted to include herding of livestock, land surveying, and other necessary tasks that require persons to be in an area 2 hours, or more. This definition is not acceptable, and assumed to not be intended for Jonah Field.</p> <p>Recommendation: Define Disruptive Activities and disclose how restrictions will be applied. Explain any difference in definition as referenced in the Green River and Pinedale RMPs.</p>	The definitions will be included in the glossary of the FEIS.
L-34	6	A	<b>Compensatory Mitigation</b>			<p>PROPOSED ACTION, p. 2-8, Last para: The establishment of the Cumulative Impacts Mitigation Fund should have been delayed until the DEIS was completed. It now appears that there were conclusions made prior to the DEIS analysis that the disturbance will be a significant impact. The reference to values of \$850 per acre is improper in the DEIS, especially in the introductory chapters, and prior to analysis of the impacts. There is no obvious basis for these values. There is potential to impact the ability of the oil and gas industry, utilities, and local governments to conduct routine business and acquire surface rights for easements and other property rights for needed infrastructure across private and Public Land. It may influence what BLM charges for rights-of-way rental. It will interrupt the willing buyer and willing seller approach to land acquisition and appraisal.</p> <p>Recommendation: Remove the reference of \$850 per</p>	This comment is no longer applicable. It will be addressed by the new Preferred Alternative in the FEIS.

**Table II-B. DEIS Comments and BLM Responses (cont'd)**

Submittal ID	Comment Number	Category	Keyword 1	Keyword 2	Keyword 3	Comment Text	BLM Response
						acre, and subsequent reference in the alternatives.	
L-34	7	A	<b>Analysis</b>			<p>ALL DISCUSSIONS: The various tables and data imply a degree of accuracy that violates the mathematical law of significant figures. The DEIS estimates of acres, miles, numbers, etc. must reflect the realistic precision of the estimates. It is implied that the precision of the data in the DEIS is to the nearest 1 acre of disturbance, 1 mile of pipeline or road, 1 well bore or well pad, or 1 year of production. This is a false sense of skill of the BLM ability to estimate these developments. At best, a reliable estimate may only be to the nearest 10, not 1, and definitely not to 0.1. This correction is needed to avoid issues as there may be literal translation of the data in the future.</p> <p>Recommendation: Provide realistic estimates, and remove implied precision of estimates. The precision implied in the tables is misleading. Provide a disclaimer for the accuracy of the numbers and the techniques that developed them.</p>	<p>As the conclusions in the EIS are estimates and not decision records, the concerns expressed in this comment should not be an issue. Specific information will be contained in the individual Applications for Permit to Drill (APDs), and an appropriate degree of accuracy should be achievable with modern technology.</p> <p>In addition, many of these figures will be modified by a new preferred alternative in the FEIS</p>
L-34	8	D	<b>On-Site Mitigation</b>	Conditions of Approval		<p>General Conditions of Approval, BMPs, p. 2-27, para 2.14.2, Item 1. The BLM will demand that the operators provide GIS data for everything occurring in the Jonah Field. This is a significant fiscal commitment for the operators and a huge workload for their consultants. There is no discussion regarding quality control of the data. History of BLM requests for similar data indicates that the data will not be utilized or maintained into the future, and it will not be available to the public.</p> <p>Requests for detailed GIS and monitoring data is a reflection of current individual staff interests within BLM, and seldom reflect new BLM capabilities or policy. Capabilities to utilize the data often change with individuals, there no long-term commitment to develop or maintain the data. The operators should be careful to commit to providing this data, as the next BLM request will be to furnish the individual with expertise to utilize it.</p> <p>Recommendations: The need for GIS data to micro manage and analyze the Jonah Field surface disturbance is not justified to meet management objectives. The status of disturbance in Jonah Field is best provided by actual field observation. Perhaps remote sensing or aerial photographs could be provided</p>	<p>BLM believes this is a reasonable requirement. All of the alternatives contain surface disturbance thresholds. Using GPS data collection systems and GIS data management systems is a very effective way to track disturbance and reclamation acreage. While it is BLM's responsibility to account for the disturbance levels relative to the EIS allocations, BLM feels that is appropriate for the Operators to collect and provide the GPS and relevant metadata since they are the entity proposing and carrying out the disturbance actions. BLM also feels the 30-day submission requirement is appropriate.</p>

**Table II-B. DEIS Comments and BLM Responses (cont'd)**

Submittal ID	Comment Number	Category	Keyword 1	Keyword 2	Keyword 3	Comment Text	BLM Response
						on periodic basis, and BLM could do the interpretation and photogrammetric analysis as needed for their purposes.	
L-34	9	D	<b>Health / Safety</b>	Technical Information	Conditions of Approval	<p>Item 2. Statements to set limitations to 7.0 acres, 4.0 acres for well pad size are dangerous and create permitting conflicts. How would such a limitation be reviewed and monitored? Would new technologies be incorporated in to these limitations? Future down-hole treatments or drilling operations might require additional space. Future safety regulations could require more space ...</p> <p>It is the responsibility of the operators to define what facilities are needed, and BLM is responsible to analyze the impacts.</p> <p>Recommendations: Eliminate the reference to restrictions to size of well pad surface disturbance. Utilize typical drawings and site-specific judgment to address issues with well pad size. Well pad size may be assumed for analytical purposes, but should not evolve to become a rule.</p>	<p>The pad sizes on DEIS page 2-27, Section 2.14.2, bullet No. 2 were used for analysis purposes to determine the potential surface disturbance for the preferred alternative. BLM also believes these to be acceptable guidelines for the Operators to strive to achieve. However, as written in the DEIS, the COA provides little flexibility to address changes in terrain or other unforeseen circumstances. The COA is therefore being modified in the FEIS as follows, "To the extent reasonable and practical, well pad surface disturbance would not exceed 7.0 acres for parent and multi-well pads, 4.0 acres for single-well well pads, and 2.0 acres for satellite well pads, unless the Operator can demonstrate to the satisfaction of the Authorized Officer, on a case-by-case basis, that the size limitation for a given pad would create a significant safety concern for the workers, the public at large, or the environment. These acreages include cut and fill slopes, but do not include access roads and pipelines."</p> <p>This limitation would be monitored through well pad layout and road plans provided with an APD.</p>
L-34	10	A1	<b>Water Resources</b>	Compliance	Conditions of Approval	p. 2-28, Item 2. The incorporation of WDEQ storm water discharge specifications is questionable. The requirements in these specifications may be counter productive. The introduction of miles of bright orange plastic silt fences could be a cure worse than the disease. Standard BLM stipulations have proven workable and successful is many oil and gas developments. Addition of WDEQ requirements is not	The language will remain. There are methods of correcting erosional problems that do not involve orange plastic silt fence. Compliance with DEQ regulations is standard practice.

**Table II-B. DEIS Comments and BLM Responses (cont'd)**

Submittal ID	Comment Number	Category	Keyword 1	Keyword 2	Keyword 3	Comment Text	BLM Response
						<p>justified to meet objectives in the standard stipulations. Good construction practice will prevent accelerated erosion. Statements that BLM may require more stringent control measures is of concern, these requirements must be disclosed.</p> <p>Recommendations: Eliminate the voluntary requirements of WDEQ. Eliminate the wording that BLM can require more stringent control measures.</p>	
L-34	11	A1	<b>Transportation</b>	Conditions of Approval		<p>p. 2-28, Items 5 and 6. The civil engineering design requirements for minor drainage structures are overkill. In practice, the design of minor drainage structures is not a professional effort. 18- and 24-inch culverts are the common culverts installed. They are repaired or replaced as they fail. They generally fail as a result of poor installation, not by failure to predict run-off. To require full design and minimum risk of failure will result in roads that are far more complex than required, and there will be significant additional cost and disturbance. The operator should decide the risk management for minor drainage structure failures. The hydrologic data provided in drainage design software will result in larger culvert sizes typical of highway design, and will be far too large for typical gas field needs and small drainages. The key to good drainage control is related to spacing, and proper drainage ditch construction, rather than size of individual culverts. Road damage in Jonah Field is easy to repair. A washed out culvert is not a disaster.</p> <p>The narrative and objective of item 6 is not clear.</p> <p>Recommendation: Reconstruct or eliminate this item. By practice, this requirement far exceeds BLM's own engineering practice for minor culverts in BLM roads.</p> <p>Eliminate item 6.</p>	<p>This requirement does not require a civil engineer to design every individual structure on an individual basis. Standard drawings and installation practices are generally acceptable. However, the standard drawings need engineering approval and an engineering review of installed structures is also required.</p>
L-34	12	A	<b>On-Site Mitigation</b>	On-Site Mitigation	Conditions of Approval	<p>Resource Monitoring and Surveying, p. 2-30, para 2.14.2.1: The level of this data is overkill for the Jonah Field. It provides a level of information not necessary for millions of acres of adjacent Public Land. This level of resource information is to a detail that BLM cannot justify for routine land management decisions. If the data were provided, BLM would not have the staff or skills to use it. The few thousand acres in the Jonah Field does not justify the effort and burden on the industry, or BLM staff,</p>	<p>The BLM disagrees. The only way we can truly evaluate the impacts of actions like the Jonah Infill is to monitor the results.</p> <p>The operators are contributing to the impacts and therefore need to support the monitoring and evaluation</p>

**Table II-B. DEIS Comments and BLM Responses (cont'd)**

Submittal ID	Comment Number	Category	Keyword 1	Keyword 2	Keyword 3	Comment Text	BLM Response
						to coordinate the gathering of the data. These requirements exceed requirements often required in a mine plan.  Recommendations: Eliminate the requirement to have the oil and gas operator furnish resource inventories and watershed modeling. If challenged, the data would be subject to review and rejection for not meeting certain standards or procedures. If the data is needed, BLM should collect it, not delegate the gathering of it.	evaluation.
L-34	13	A	<b>Water Resources</b>			Figure 3.12, p. 3-27 Typical Braided Stream  Recommendation: This picture is not representative of the Jonah Field.	This is a picture of what is believed to be conditions similar to what may have occurred during the formation of the producing geological layers. It is not meant to represent the present condition of the JIDPA.
L-34	15	A	<b>Soils</b>	Surface Disturbance		SOILS, p. 4-37, 2nd para: The discussion of erosion does not illustrate prevention of accelerated erosion, i.e., rilling and headcutting. Accelerated erosion is generally the term to describe impact of a development that may result in erosion events that are in addition to the natural, or preexisting, erosion process. Disturbance that may create accelerated erosion should not be allowed if cannot be prevented. The discussion references increased erosion and it is not clear how that equates to prevention of accelerated erosion. The discussion on modeling may be of academic interest but may have little practical value. It will be difficult to segregate natural, pre-existing, and current erosion. Literature review or sponsorship of a graduate study may be worthy of consideration to supplement current knowledge. It is reasonable to anticipate improvement of the soil loss potential as the land is reclaimed, especially with the high density of sites.  Recommendation: The topic of accelerated erosion needs to be incorporated. The need for modeling the dynamics of erosion in the Jonah Field in not necessary for the DEIS. It could add irrelevant data to the Final EIS.	The predictive analysis for sediment transport has been completed. The predictive analysis considered sedimentation associated with significant, <i>individual</i> storm events. At a broad watershed scale, it demonstrates that soil erosion impacts can be controlled and mitigated, but on a more site-specific level impacts may still pose a significant issue to soil, watershed, and other resource values and may need special attention. Also, the report concluded that cumulative erosion effects are possible considering the fact that multiple, significant storm events are likely over the life of the project.  The acceptable, background soil erosion rates are unique to individual sites and soil series. Therefore, typically, site-specific assessments are needed during the APD/EA process to quantify effects and prescribe appropriate BMPs.
L-34	16	A	<b>Vegetation</b>	On-Site Mitigation		WILDLIFE AND FISHERIES, p. 4-76, 2nd para: This paragraph implies that disturbed sagebrush may take up to 90 years to be established. This is a grossly	Treatment with chemicals does not equate to blading and destroying sagebrush. Sagebrush has proven to

**Table II-B. DEIS Comments and BLM Responses (cont'd)**

Submittal ID	Comment Number	Category	Keyword 1	Keyword 2	Keyword 3	Comment Text	BLM Response
						<p>inaccurate. Near the Jonah Field are numerous old sagebrush spray projects completed by BLM in the 1960's. Many thousands of acres were treated with 2-4D, and equivalent chemicals. Large stands of sagebrush were eradicated. In the late 1970's, less than 20 years after treatment, dense stands of sagebrush reestablished in the treatment areas. Numerous disturbed sites and pipelines exhibit good regeneration of sagebrush in Sublette County, and throughout Wyoming.</p> <p>Recommendation: Revise the narrative to reflect actual local experience.</p>	<p>be difficult to reestablish without intensive reclamation techniques.</p>
L-34	17	A	<b>Wildlife</b>			<p>Pronghorn Antelope, p. 4-82, 1st para: The reference to 90 to 110 years for sagebrush to reach pre-disturbance productivity is inaccurate, see comments above. In the Jonah Field, ranchers, Wyoming Game and Fish, and BLM cooperated to operate water wells, after the livestock grazing period, in order to provide late summer and early fall water for antelope. This cooperative project started in the early 1970's. Prior to that date, there were few resident antelope in the area.</p> <p>Recommendation: Revise the narrative to reflect actual local experience.</p>	<p>All management for pronghorn is appropriate for inclusion in the FEIS.</p>
L-34	18	C	<b>Livestock/ Grazing</b>	Water Resources		<p>LIVESTOCK/GRAZING MANAGEMENT, p. 4-132, ALL paras: The impacts to livestock grazing are unclear. The Jonah Field occupies only a portion of the several grazing allotments. The history of grazing issues in these allotments is the lack of water. With the increased development, the operators could agree to supplement existing water wells in and adjacent to the Jonah Field. Additional water would increase distribution of livestock to mitigate loss of forage near existing water wells in the Jonah Field.</p> <p>Recommendation: Revise to reflect the benefits of oil and gas operators sharing water with livestock operators.</p>	<p>Water can be developed on BLM grazing allotments through the Range Improvement Permit Application, and through Cooperative Agreement. Results of monitoring can identify suitable locations for projects, and proposals need to undergo NEPA analysis.</p> <p>Also, there are existing instances where the operators have assisted permittees in developing waters, and it typically involves minor environmental analysis from BLM.</p>
L-34	19	C	<b>Transportation</b>			<p>TRANSPORTATION, pp. 4-143-4, ALL paras: The increased traffic could be mitigated if there is an attempt to include professional evaluation of the road networks required. It is inconceivable than only 8 new miles of collector roads are envisioned to support 353 new wells.</p>	<p>By definition, a collector road provides access to large blocks of land. Since this is an infill project most of the collector roads (Luman, North Jonah, Windmill, Burma) are in</p>

**Table II-B. DEIS Comments and BLM Responses (cont'd)**

Submittal ID	Comment Number	Category	Keyword 1	Keyword 2	Keyword 3	Comment Text	BLM Response
						<p>This implies less than adequate input in the transportation planning of the network of roads. The BLM and operators must continue to work closely with WYDOT to anticipate situations that create safety issues for Highway 191N. It is doubtful that the improvement of the Luman and Burma roads will increase the recreational opportunities in Jonah. Eventually, Sublette County may have to react to industry and declare the Luman and Burma Roads as county roads. Eventually, county roads will link together the Jonah, Pinedale Anticline and Mesa road systems.</p> <p>Recommendation: BLM and operator should conduct professional engineering evaluation of the traffic density and patterns. If additional collector roads are needed, then they should be designated and designed to handle the traffic and loads.</p>	<p>place. Most new roads will be local or resource roads. If additional collector roads are needed they will be professionally engineered.</p>
L-34	21	A	<b>Soils</b>	On-Site Mitigation		<p>Soil Resources, p. 5-2, para. 5.1.4: The discussion to add additional soil analysis is not justified. There are decades of experience and thousands of permits issued with successful reclamation based on field judgment and experience. The use of fertilizers is not recommended in arid land reclamation. The recommended actions are common in mining permits, but they have proven to be unnecessary in oil and gas operations.</p> <p>Recommendation: Eliminate the discussion.</p>	<p>Portions of the project area have 3<sup>rd</sup> Order soil survey information in the form of historic BLM soil survey data or more general soil data provided by Natural Resources Conservation Service STASGO database. In addition, BLM is currently coordinating with the NRCS to complete a new 3<sup>rd</sup> Order soil survey within the project area. The operator(s) should refer to this data in the course of APDs/EAs site-specific resource investigations to prescribe/select the most appropriate practices, treatments, and BMPs to protect soil resources and minimize erosion. In addition, the current survey effort could be accelerated through cooperation of industry.</p>
L-34	22	A	<b>Vegetation</b>	Soils	On-Site Mitigation	<p>Vegetation, Including TEP&amp;C: p. 5-3, para 5.1.6: This discussion presents concepts proven invalid in other areas. Removal of topsoil has proven to be the most practical assurance that it will be saved, not contaminated with sub soil, and reapplied. Scalping and ripping have proved to be not as successful, and the reclaimed facilities are often permanently visible, especially when deep ripping occurred. Deep ripping tends to bring subsoil's to the surface. Irrigation of semi-</p>	<p>The BLM agrees with some of the concerns expressed in this comment.</p> <p>In addition, please see the response to comment L-90-174.</p>

**Table II-B. DEIS Comments and BLM Responses (cont'd)**

<b>Submittal ID</b>	<b>Comment Number</b>	<b>Category</b>	<b>Keyword 1</b>	<b>Keyword 2</b>	<b>Keyword 3</b>	<b>Comment Text</b>	<b>BLM Response</b>
						<p>arid land disturbance is not practical or logical, and conflicts with use of native species. Irrigation and deep ripping techniques are typical requirements for mining permits, and are not required for semi-arid land oil and gas operations. The need for plots and studies of sagebrush is redundant to data available in the academic literature and existing government reports.</p> <p>Recommendation: Eliminate the discussion.</p>	
L-34	23	A	<b>Visual Resources</b>			<p>Visual Resource: p. 5-5, para 5.1.12: If the BLM can not justify a position for a Visual Resource Management Specialist, then the operator should not be influenced into furnishing one. If this resource skill is truly needed, it can be provided from within the BLM organization. The BLM has a management process to consider and justify new positions, and a DEIS is not apart of that process.</p> <p>Recommendation: Eliminate the request.</p>	See response to comment number L-90-191.
L-34	24	A	<b>Health / Safety</b>	Hazardous Materials		<p>Health and Safety/Hazardous Materials: p. 5-6, para 5.1.13: This discussion is redundant to existing regulations. Installation of gates and locks in open public land is not feasible, or realistic, for controlling access. This approach is common to mining operations areas where access is restricted.</p> <p>Recommendation: Eliminate the discussion.</p>	Agreed. This measure has been deleted from the list.
L-34	25	A	<b>Land Ownership</b>			<p>Other Actions: pp. 5-6, 7, para 5.1.14: These recommendations are redundant to other discussion. BLM has no need to know the details of surface use agreements between industry and landowners. BLM has no authority to discuss acquisition of rights on private land. The amount of private land is nil, it is not an issue in the Jonah Field. Experience in Jonah II would demonstrate that BLM would not utilize electronic data. The request to provide gas to local residents and businesses is probably illegal, or at least conflicts with other regulations.</p> <p>Recommendation: Eliminate the discussion, it reduces the creditability of the DEIS. The narrative in a DEIS should reflect the professionalism, understanding, and knowledge of the authors, operators, and agency. Chapter 5 destroys that image.</p>	The second, third, and ninth bulleted items under DEIS Section 5.1.14 will be removed.

**Table II-B. DEIS Comments and BLM Responses (cont'd)**

<b>Submittal ID</b>	<b>Comment Number</b>	<b>Category</b>	<b>Keyword 1</b>	<b>Keyword 2</b>	<b>Keyword 3</b>	<b>Comment Text</b>	<b>BLM Response</b>
L-34	26	A	<b>Surface Disturbance</b>	Compliance		<p>Wyoming BLM Mitigation Guidelines for Surface Disturbing and Disruptive Activities: p. A-1: Appendix A is supposed to be the source of anticipated mitigation measures to be applied to oil and gas operations. They are generally accepted and understood. The DEIS includes Chapter 5 that goes beyond Appendix A, and often repeats many provisions of Chapter A. Appendix A is not regulation, it is a internal policy and guideline. One problem with Appendix A is there is no definition of Disruptive Activities and how the restrictions will be applied to casual use and necessary tasks. The term Surface Disturbance is understood with out definition, but the term Disruptive Activities seems to require definition.</p> <p>Recommendation: Include a definition of disruptive activities in the DEIS. Disclose how restrictions will be applied in Jonah Field. It is assumed they will be consistent with oil and gas developments immediately adjacent to Jonah Field.</p>	See the response to comment L-34-05.
L-34	27	A1	<b>Surface Disturbance</b>			<p>Mitigation Guidelines: p. A-2, para 1: In practice, BLM staffs have interpreted the clause,...Surface disturbance will be prohibited... to mean No Surface Occupancy. This is a management issue for BLM to resolve. The issues related to the six bullet items do not prohibit surface occupancy in these areas, but it is required that a plan must be presented and approved that addresses these issues.</p> <p>Recommendation: Clarify that the clause cited does not mean No Surface Occupancy.</p>	See the revised Surface Disturbance Mitigation Guideline in the FEIS.
L-34	28	A	<b>Compliance</b>	Operator-Committed Practices		<p>General: Appendix B has added a factor to the DEIS that will impact development and operating procedures in other areas. The risk with Appendix B is other BLM offices will consider these committed practices as state of the art and begin to incorporate recite them, in addition to standard stipulations, in other authorizations. The purpose of including Appendix B is unclear, as many of the statements are included in existing regulations, On-Shore Orders, and the standard operating procedures listed in the References. Appendix B appears to be a list of topics that outlines the operators understanding of the requirements and intent of the various agency instructions, regulations, and</p>	<p>The introduction to Appendix B discusses the purpose for the material. It also notes that a number of these measures would be included in the ROD; only then would they be required by the project. Those practices that are outside the jurisdiction of the BLM are noted in italicized text so there is no confusion as to the BLM's authority.</p> <p>The inclusion of this list is important for the public to know what is being</p>

**Table II-B. DEIS Comments and BLM Responses (cont'd)**

Submittal ID	Comment Number	Category	Keyword 1	Keyword 2	Keyword 3	Comment Text	BLM Response
						<p>guidelines included in the References. There is no need to document the operator's interpretation of the rules. To present the outlines in Appendix B is confusing for the reader, and is redundant information.</p> <p>Some of the items may lack authority to implement, or may violate other regulations. The risk for the operator is the BLM will take these commitments literal. Later, if the operator requests a waiver of the commitment, due to changing conditions, the BLM may reject the waiver because the operator has already committed to them. If field practice invalidates some of the concepts, or illustrates excessive costs, it may be difficult to change the committed practice ...</p> <p>The operators must be careful when allowing documentation in a DEIS of commitments to specific management practices beyond standard lease stipulations, as it may eliminate flexibility built into the standard stipulations.</p> <p>Appendix B contains 142 committed practices. Many of these are stipulated in leases or other documents, and have been standard practice for years. To repeat these in Appendix B serves no purpose, and may add confusion. The conditions of approval in APDs and ROWs control the work—not Appendix B. In order to be useful, Appendix B needs to be rewritten to eliminate redundant comments, and eliminate those items covered in approval documents. Site-specific conditions of approval may conflict with Operator Committed Practices. It is interesting that there is no discussion of the detailed committed practices for the drilling and production phase, probably because few would relate and understand them.</p> <p>The utility of a document similar to Appendix B is questionable, because there is a presumption that it all necessary tasks and procedures are included, which would never occur. Federal contracts no longer attempt to list every regulation and task, rather it is required that the contractor know and implement all regulations relative to the industry. There is no need to introduce a shopping list of every detail related to surface disturbance for oil and gas operations in the DEIS.</p>	<p>done to protect natural resources. Operators have committed to these practices.</p> <p>Since the only required mitigations will be those stipulated in the ROD, the inclusion of this information will not affect operators for the JIDP.</p> <p>BLM acknowledges that there is a risk that Operator-committed practices could become requirements in future EISs and planning documents, but such inclusion would only happen where the practice or measure would eliminate, reduce, or minimize given impacts in that EIS or land use plan. Also, please note that many of the items in DEIS Appendix B are recapitulations of mitigation typically required by BLM.</p>

**Table II-B. DEIS Comments and BLM Responses (cont'd)**

Submittal ID	Comment Number	Category	Keyword 1	Keyword 2	Keyword 3	Comment Text	BLM Response
						<p>Recommendation: Reconsider the need for, and the wording, in Appendix B. Incorporate a disclaimer that operating procedures may change in the future. State that the operator commitments are examples of goals and guidelines, and not specifications for the tasks. An option is to encourage the operator to publish separate internal operating procedures and policy document. The DEIS could then reference the operator's document. If the operator needs to change internal operating procedures there would be no need to consult with or get approval of BLM, but the reference to the document would still be valid and current.</p>	
L-34	29	A	<b>Soils</b>	On-Site Mitigation	Operator-Committed Practices	<p>SOILS: p. B-5, Items 24 and 25: The discussion and commitment to scalping rather than removing topsoil is poor judgment. There is too much evidence that proves that removal and saving of topsoil is necessary for successful reclamation. Scalping and deep ripping creates visible subsoil contamination of the surface. The practice of saving topsoil in earthwork construction is standard practice. This was implemented in BLM oil and gas operations over 30 years ago. Prior to 1970's, little or no topsoil was saved, as evidenced by the thousands of miles of seismograph trails visible in the west. The concept of pipelines following roads to minimize disturbance is not fact. This concept was introduced, at suggestion of archeologists, to avoid having to clear another right-of-way, there was no objective to minimize surface disturbance. Just the opposite occurs, because the width of disturbance doubles, as pipelines adjacent to roads seldom heal as fast as isolated pipelines, and they are generally longer. It also introduces safety issues.</p> <p>Item 27: This item conflicts with item 24.</p> <p>Item 28: The extensive wildlife restrictions forces winter work.</p>	<p>DEIS Page B-5 states the Operators would use scalping where practical. The practice is certainly not the right approach for all pipelines, roads or well pads. However, reclamation studies currently ongoing in the JIDPA indicate that soil nutrient levels and rooting depth are deeper the 6 inches of topsoil typically removed.</p> <p>Concerning seismic lines: most of the lines visible were never rehabilitated. To be effective, the scalping method needs to remove the vegetative layer, stockpile it, deep-rip the area compacted by the surface-use activity to restore soil aeration and root penetration capability, and spread the scalped vegetation in combination with seeding.</p> <p>Item 24 and 27 are complementary. Item 27 states, "Sufficient topsoil or other suitable material to facilitate revegetation would be segregated . . ." One of the other "suitable materials" would be scalped vegetation.</p> <p>Concerning wildlife restrictions and winter work: Much of the Jonah Field</p>

**Table II-B. DEIS Comments and BLM Responses (cont'd)**

Submittal ID	Comment Number	Category	Keyword 1	Keyword 2	Keyword 3	Comment Text	BLM Response
							is not encumbered by winter wildlife restrictions. Regardless, Item 28 pertains to construction with frozen materials. It is possible to construct roads and well pads during frozen conditions and get adequate compaction to support winter traffic and drilling operations. However, when frozen material thaws, whether it is compacted or not the rigidity created by the interlocked water crystals is lost. This results in muddy, rutted roads and well pads. As spring runoff water passes over these rutted/less compacted soils, erosion and off-site sedimentation occurs.
L-34	30	A	<b>Transportation</b>	Health / Safety	Operator-Committed Practices	p. B-9, Item 65: The emphasis that all road crossings will cross perpendicular to channels may be counter productive, or create other design problems. Channel crossings are site-specific examinations during the design phase. The real objective to cross channels at right angles is to minimize the length of structures, and therefore minimize cost. To insist on only right angle crossings may introduce safety issues in the centerline design. There is no need to address this detail of instructions because it is required that professional engineers will be responsible for the design of roads and they need the flexibility to do the proper job without unnecessary sideboards.	Thank you for your comment. Professional engineers will be responsible for the design of roads. If a professional engineer raises a safety concern about crossing perpendicular to flow, there is the flexibility to look at alternatives.
L-35	1	A	<b>Vegetation</b>	Wildlife	Conditions of Approval	Habitat Modification  Throughout the EIS, the loss of sagebrush habitat is described as a negative impact because of the effects it could have on sagebrush obligate species. While negative effects on sagebrush obligate species are likely, such disruption of sagebrush habitats will have positive effects on wildlife species that require more open or mixed sagebrush/ herbaceous habitats. Habitat modification in itself is not necessarily negative. It is a well-accepted ecological principle that alterations in habitats, including those produced by biotic succession, will make such habitats less suitable for some species while simultaneously making them more suitable for other species (Stiling 1992, Odum 1971, Smith 1974).	JIDPA was a sagebrush-dominated community before development and restoration of that community will be a goal of BLM. Although these efforts may also benefit other generalist species that is not part of the objective.

**Table II-B. DEIS Comments and BLM Responses (cont'd)**

Submittal ID	Comment Number	Category	Keyword 1	Keyword 2	Keyword 3	Comment Text	BLM Response
						The modeling results, regarding habitat fragmentation, that are presented in Maps 4.2 through 4.5 illustrate the potential reductions in largely sagebrush habitats on the JIDPA and the text in Chapter 4 describes the projected loss in sagebrush obligate species. What is overlooked in this presentation is the fact that there will be beneficial effects to non-sagebrush obligate species associated with each of these scenarios. Prairie dogs, ground squirrels, burrowing owls, grassland birds (including mountain plovers), and most medium to small mammal species will all benefit from the opening up of the sagebrush monoculture. Also, prey base for raptor species is likely to be increased with the opening up of the sagebrush habitat.	
L-35	2	A	<b>Wildlife</b>	On-Site Mitigation	Conditions of Approval	Page 2-30, bullet #5.  Any monitoring of wildlife species on the JIDPA should be directed at documenting changes, both beneficial and negative, to the various species. Such studies should be designed so as to determine cause and affect relationships and include control areas so that differences between control sites and the JIDPA and be statistically tested.	All wildlife monitoring will be included in the Wildlife Monitoring and Mitigation Plan developed after the ROD is signed.
L-35	3	A	<b>Wildlife</b>	Surface Disturbance	Analysis	Page 4-83, Furbearers, Small Game, and Other Mammals, par.2.  I don't think that the following statement is supportable: "The ability of the lands within the JIDPA to support furbearers, small game, and other mammals likely would decrease from current levels due to habitat loss and human disturbance." This statement does not take into consideration that non-sagebrush obligate species that thrive in open, herbaceous habitats are going to benefit and increase their numbers as sagebrush habitats are reduced.	This statement is the professional judgment of numerous wildlife biologists.  The Jonah field was predominantly sagebrush habitat before development. The BLM's goal is to reestablish sagebrush habitats.
L-35	4	A	<b>Wildlife</b>	On-Site Mitigation		Page 4-86, Other Birds.  Even though the diversity and density of sagebrush-obligate bird species is likely to decrease as a result of the removal of sagebrush habitats, the diversity and density of non-sagebrush obligates will increase concurrently. This mixture of obligate and non-obligate species in the habitat mosaic produced by development could increase the total diversity and density of bird	The Jonah field was predominantly sagebrush habitat before development. The BLM's goal is to reestablish sagebrush habitats.

**Table II-B. DEIS Comments and BLM Responses (cont'd)**

Submittal ID	Comment Number	Category	Keyword 1	Keyword 2	Keyword 3	Comment Text	BLM Response
						species beyond current levels (Patton 1992, Boyce and Cost 1978). Changes such as this should be documented. A negative impact to sagebrush habitat is likely to be a positive impact for non-sagebrush obligate species.	
L-35	5	A	Wildlife			Pronghorn  In much of the document, the pronghorn is incorrectly referred to as the "pronghorn Antelope". The pronghorn is not an antelope and this misconception should not be perpetuated in the EIS. The pronghorn does not belong to the antelope family whose members have permanent and mostly spiral horns. The pronghorn has deciduous horns that are shed and grown back annually.	The American pronghorn ( <i>Antilocapra americana</i> ) is commonly referred to as an antelope. The Wyoming Game & Fish Department uses this common term for pronghorn, the public is aware of this term, and it will be continued in the FEIS.
L-35	6	A	Wildlife	Surface Disturbance	Analysis	Page 4-82, par. 1  Both the natural succession that follows disturbance and the re-vegetation of disturbed areas is likely to improve spring/summer/fall pronghorn habitat by increasing the diversity of herbaceous plants. Mature shrubs in this habitat are not of great value to pronghorn, but the young regenerating shrubs will add to the forage diversity and increase the value of this habitat. The evaluation of impacts in this paragraph is more appropriate for crucial winter range than they are for spring/summer/fall habitat. Pronghorn are not sagebrush obligates during the spring, summer, and fall when then they eat a wide variety of herbaceous forage plants and relatively little sagebrush (Beale and Smith 1970, Dirschl 1963, Schwartz and Nagy 1976, Irwin et al. 1984). Therefore, the potential for impact to pronghorn associated with probable changes to the spring/summer/fall habitat has been misrepresented in the EIS, in that the changes in vegetation that occur are likely to be beneficial to pronghorn, not harmful.	Pronghorn are considered sagebrush obligates and the analysis is therefore appropriate.
L-35	7	A	Wildlife	Noise	Analysis	Page 4-82, par. 2  In this paragraph it is stated that: "However, as noise and human presence are reduced, pronghorn likely would increase their use of these areas (e.g., during production operations), although probably not to the same extent as prior to disturbance." (Emphasis added). This is sheer speculation and is not referenced to a scientific reference. It is not unlikely that use of these	This statement is the professional judgment of numerous wildlife biologists.

**Table II-B. DEIS Comments and BLM Responses (cont'd)**

Submittal ID	Comment Number	Category	Keyword 1	Keyword 2	Keyword 3	Comment Text	BLM Response
						areas by pronghorn would increase following the completion of the development phase of the project as an increase in herbaceous vegetation occurs as a result of natural succession and reclamation efforts.	
L-35	8	F	<b>Wildlife</b>	Analysis	Surface Disturbance	<p>Page 4-82, par. 3</p> <p>Although no scientific literature is cited to support the statement, it is stated that: "Because the Jonah Infill Project would disturb pronghorn summer/spring/fall range, it is reasonable to assume (emphasis added) that the project would have some adverse impacts to pronghorn populations as a result of direct habitat removal and a reduction in habitat function on areas adjacent to development activities." Based on the lack of scientific evidence to back up this statement and the facts that: (1) pronghorn adapt to human presence and habitat changes (Reeve 1984, Segerstrom 1982), and (2) that the spring/summer/fall habitat is more likely to be improved than impacted (Beale and Smith 1970, Dirschl 1963, Schwartz and Nagy 1976, Irwin et al. 1984), why is it not just as reasonable to assume that there may not be adverse impacts on pronghorn populations and that there might be positive affects?</p>	<p>This statement is the professional judgment of numerous wildlife biologists.</p> <p>The local WGFD office has observed and documented decreases in pronghorn use within the vicinity of the Jonah field since development has taken place.</p>
L-35	9	A	<b>Wildlife</b>	Analysis		<p>Page 4-8, par 2.</p> <p>No basis is offered for the contention that: "—some of these movements are likely to be hindered under most, if not all, of the development alternatives." Given the proven ability of this species to adapt to human presence, I think that it is unlikely that these movements will be negatively modified.</p>	<p>This statement is the professional judgment of numerous wildlife biologists.</p>
L-35	10	A	<b>Wildlife</b>	Compensatory Mitigation	Analysis	<p>Proposed Wildlife Protection Measures and page 2-31, bullet #6</p> <p>The need for the proposed monitoring of pronghorn on portions of their crucial winter ranges is not established in the EIS, and is not logical as currently described. In fact, other statements in the document contradict the need for such a monitoring program. On page 4-90 it is stated that: "The proposed project would not affect any known pronghorn crucial winter range or bottle necks; therefore, it would not contribute to cumulative impacts to these habitat features." Because the crucial winter ranges used by the pronghorn from the JIDPA are ALSO</p>	<p>All wildlife monitoring will be included in the Wildlife Monitoring and Mitigation Plan developed after the ROD is signed.</p> <p>Winter ranges for pronghorn are dynamic and change based on numerous factors, including weather, habitat conditions, and disruptive activities.</p>

**Table II-B. DEIS Comments and BLM Responses (cont'd)**

Submittal ID	Comment Number	Category	Keyword 1	Keyword 2	Keyword 3	Comment Text	BLM Response
						<p>used by pronghorn from other areas, how will it be possible to identify the animals that come from or pass through the JIDPA? Also, it is stated that: "Therefore, pronghorn numbers on their crucial winter ranges north and south of the JIDPA will be monitored in 2005." However, no crucial winter range located south of the JIDPA is shown on the map on page 3-57 of the EIS.</p>	
L-35	11	F	<b>Wildlife</b>	Surface Disturbance	Analysis	<p>Raptors</p> <p>Page 4-84, par. 1</p> <p>No scientific reference is cited for the statement that: "Reduction in raptor prey species also is likely to occur as a result of the surface disturbance of up to two-thirds of the JIDPA (the amount of disturbance would depend on the alternative)." This is not an accurate statement since most of the prey base of the raptor species that occur on the JIDPA is not produced in the sagebrush habitats, but in more open herbaceous habitats. Because these are the habitats that are going to be increased by development, it follows that increases in raptor prey base species is likely to occur. Such an increase in prey base is likely to increase raptor productivity.</p> <p>A comparison of the density of active nests of American kestrels on the Jonah II Project Area (JIIPA) and the Jonah Wildlife Study Area (JWSA) between 2003 and 2004 indicates that prey base density on the Jonah II Project Area may already be increasing. Assessments of TRC raptor data for these two areas and years were conducted by Hayden-Wing Associates and indicate that prey base density for this species may be higher on the JIIPA than on the JWSA.</p> <p>The density of active nests of the American kestrel increased dramatically on the JIIPA in 2004. It also increased on the JWSA, but the increase was not as great as on the JIIPA. Analyses show that there were approximately the same densities of active kestrel nests per township on the JIIPA in 2003 as there were on the JWSA (0.72 v.0.87, respectively). However, in 2004 there were 2.51 active kestrel nests on the JIIPA and 1.56 active nests on the JWSA. The increase of active kestrel nests on the JIIPA was 248.6% between 2003</p>	<p>The Jonah field was predominantly sagebrush habitat before development. The BLM's goal is to reestablish sagebrush habitats. Our goal is intended to reestablish raptor species that commonly use sagebrush habitats.</p>

**Table II-B. DEIS Comments and BLM Responses (cont'd)**

<b>Submittal ID</b>	<b>Comment Number</b>	<b>Category</b>	<b>Keyword 1</b>	<b>Keyword 2</b>	<b>Keyword 3</b>	<b>Comment Text</b>	<b>BLM Response</b>
						and 2004, while the increase during this same time period on the JWSA was 79%. Although the collection data would be required to demonstrate the reason for this difference in nest densities between the two areas, it is not unlikely that the reduction in sagebrush habitats on the JIIPA has increased the prey base for kestrels (grasshoppers are a major prey base item) more than it has increased on the JWSA. Because kestrels eat a lot of insects like grasshoppers, it may be that they are the first raptor species to respond to expected increases in raptor prey base. Insects breed faster than small mammals. In a few more years it is possible that the small mammal population will increase more on the JIIPA than on the JWSA and that there will be a corresponding increase in the density of active nests of other raptor species. Monitoring of raptor densities and small mammal densities on the JIIPA and JWSA should continue so that changes in densities of active raptor nests can be correlated with changes in small mammal densities on the two areas.	
L-35	12	F	<b>Wildlife</b>	Analysis		Page 4-93, par. 1  The statement that regional reproductive success of raptors in the CIAA is likely to be reduced is speculation and can not be substantiated without comparing productivity on an experimental study area that is located on the JIDPA to one or more control study areas that are located outside the JIDPA and away from oil and gas development. Many raptor researchers feel that the availability of prey species is the greatest factor regulating raptor populations (Grant et al. 1991, Galushin 1974, Phelan and Robertson 1978, Smith and Murphy 1979, Smith et al. 1981, and Korpimake 1984).	The Jonah field was predominantly sagebrush habitat before development. The BLM's goal is to reestablish sagebrush habitats, which includes raptor species associated with those habitats.
L-35	13	F	<b>Wildlife</b>			The 2.5-mile buffer around bald eagle winter foraging areas is excessive. Bald eagles forage up to 17.6 miles between their night roosts and their daytime feeding areas (Swisher 1964). To put a 2.5-mile buffer around such an extensive foraging area would not be reasonable or effective. Bald eagles forage over most of the state of Wyoming during the winter, including the suburbs of some towns, and most of the highway system. Such a 2.5-mile restriction would shut down most of the state of Wyoming during the winter.	The 2.5-mile foraging buffer is around bald eagle nests; other foraging areas are less. The BLM must prohibit "take" under the ESA, which includes disrupting eagle foraging behavior regardless of whether the area has been identified as a known foraging area.
L-35	14	A	<b>Wildlife</b>			Page 5-4, Section 5.1.7, bullet #3.	All management for raptors as stated

**Table II-B. DEIS Comments and BLM Responses (cont'd)**

Submittal ID	Comment Number	Category	Keyword 1	Keyword 2	Keyword 3	Comment Text	BLM Response
						To “avoid all raptor nest territories (rather than just active nests) during the nesting season” would be very difficult and perhaps impossible to do. The collective area on the JIDPA that falls within raptor territories is vast and would be difficult to avoid. Additionally, the size and shape of these territories change from year to year depending on things such as prey base density and the proximity of other nesting raptors. The avoidance radii for some raptor species (ferruginous hawk) are already large enough (one-square mile) to include the raptor’s territory. The protective radii have been designed to protect raptors during the nesting season and extending this protective buffer zone to include the raptor’s entire territory is not necessary.	is appropriate for inclusion in the FEIS.
L-35	15	A1	<b>Wildlife</b>	On-Site Mitigation		Page 5-4, Section 5.1.7, bullet #5  Is it the intent of this measure to “modify” or “increase” wildlife protective measures in response to new information? If it is truly the intent to “modify”, the words “increase or decrease” should be substituted for the word “modify”. If it not the intent to decrease wildlife protective measures, the word “modify” should be changed to “increase”.	“Modify” is appropriate due to the as-yet unknown nature of such changes.
L-35	16	A	<b>Wildlife</b>	On-Site Mitigation	Noise	The suggestion that noise be monitored at active raptor nests after the young have fledged is not a scientific approach for determining noise levels that are pertinent. If noise is to be monitored, it needs to be done while the raptors are setting up their nest, during incubation, feeding of the young, and fledging of young. Equipment that transmits noise levels at the nest to remote receivers could be set up at nest sites that are likely to be used during the coming nesting season and left in place. Otherwise the noise levels that are documented during the non-nesting season will not be the same as those that occur during the nesting season. Wind direction will change over time as well as activity and noise levels produced at the well.	All wildlife monitoring will be included in the Wildlife Monitoring and Mitigation Plan developed after the ROD is signed.
L-35	17	F	<b>Wildlife</b>			Page 3-63, par. 2.  The status and history of the sage grouse in the U.S. and Wyoming are described in a very negative and misleading manner. The following facts should be included in this text: (1) the Fish and Wildlife Service has	Sage-grouse populations have been impacted greatly in the last 100 years. The WAFWA report does a good job of describing these impacts.  As for the second comment, sage-

**Table II-B. DEIS Comments and BLM Responses (cont'd)**

Submittal ID	Comment Number	Category	Keyword 1	Keyword 2	Keyword 3	Comment Text	BLM Response
						<p>recently made a determination of “not warranted for listing” for this species, and (2) Wyoming populations have stopped declining and are still robust enough for the continuation of annual hunting seasons.</p> <p>Page 4-93, Game Birds, par. 3.</p> <p>Since, according to data compiled by the WGFD, males per lek in all but the northeast region of the state increased in 2004, I don't think that it is accurate to say that impacts of unknown magnitude on the JIDPA would produce significant effects on a regional sage grouse population that increased in 2004. Whatever changes in sage-grouse numbers that occurred on the JIDPA during 2004 did not prevent the regions population from increasing in numbers.</p>	<p>grouse leks within Jonah that have development within 2 miles have seen a significant decline in lek attendance; most are no longer active. The sage-grouse within and around the JIDPA are included in sage-grouse management guidelines for the PFO.</p>
L-35	18	F	<b>Wildlife</b>	Vegetation		<p>Winter is not generally a limiting factor in sage grouse populations (Call and Maser 1985), and, according to Beck and Braun (1978), may gain weight during the winter months. However, during severe winters of prolonged, deep snow, there are only a few areas where sagebrush is tall enough to remain available to sage-grouse above the snow. These areas, termed Severe Winter Relief (SWR) Habitats in a study conducted by Hayden-Wing Associates and the Rawlins Office of the BLM, are described in HWA (2004). It is important that these SWR habitats be identified as soon as possible to avoid the unnecessary protection of large areas of winter habitat that are not critical to sage-grouse survival. The habitat characteristics for SWR habitats described in HWA (2004) could be used as general criteria for identifying comparable habitats on the JIDPA.</p>	<p>Winter can be a limiting factor for sage-grouse and is identified as such by the WGFD and the BLM's National Sage Grouse Strategy.</p> <p>All wildlife monitoring will be included in the Wildlife Monitoring and Mitigation Plan developed after the ROD is signed.</p>
L-35	19	F	<b>Wildlife</b>	Conditions of Approval		<p>Page 2-29, bullet #2 and Monitoring and Protection Measures</p> <p>The distance to which sage-grouse nesting habitat will be protected outside of the 2-mile radius needs to be stated. The way the EIS reads now, nesting habitat could be protected for an indefinite distance beyond the 2-mile radius. An approach for determining how far beyond the 2-mile limit the protection of nesting habitat should extend was presented to the State Director of the Wyoming BLM on October 28, 2004 by Larry Hayden-Wing on behalf of the Petroleum Association of Wyoming. It is recommended that this approach be used</p>	<p>These recommendations are not specific to this project and are not warranted here.</p>

**Table II-B. DEIS Comments and BLM Responses (cont'd)**

Submittal ID	Comment Number	Category	Keyword 1	Keyword 2	Keyword 3	Comment Text	BLM Response
						for determining the location and amount of nesting habitat that should be protected around leks on the JIDPA.	
L-36	3	A1	<b>Air Quality</b>			<p>5.1.1 Air Quality                      The last bullet in 5.1.1 doesn't make any sense. Was it intended to read something like "Use hydrogen to power internal combustion engines, and use alternative energy sources such as solar and wind instead of internal combustion engines"? Anyway it is interpreted this statement doesn't make any practical sense ... Perhaps at sometime in the future hydrogen will be a viable fuel. But, at present the amount of resources (i.e. natural gas, coal, gasoline, etc.) required to produce hydrogen is greater than if the resource were applied directly to the work. The bullet should be deleted.</p>	BLM recognizes that alternative energy is not currently practical for most applications.
L-43	1	B	<b>Air Quality</b>	On-Site Mitigation	Analysis	<p>Our primary concern with the Jonah Infill Drilling DEIS is the air quality sections and supporting documentation. The document does not take into account several "mitigation measures" that were implemented by the Wyoming Department of Environmental Quality, Air Quality Division in the last year. This includes revisions to Air Quality Division's Chapter 6, Section 2 Oil and Gas Production Facilities Permitting Guidance (July 28, 2004) and new requirements for well completions in the Jonah &amp; Pinedale Anticline Gas Fields. Both of these new requirements will and have significantly reduced VOC and NOx emissions. The BLM should have considered in the Draft EIS ongoing mitigation measures in their analysis. Emissions, such as VOCs, have been significantly overstated thereby leading to erroneous impact modeling and calculated ozone levels from the alternatives.</p> <p>Further, some base emission assumptions found in Table 2.1, Single-Well Construction Emission Summary for both Straight and Directionally Drilled Wells, appear to be overstated by an order of magnitude. The emissions for completion and testing indicate 57.62 tons of VOC per well for this activity. Even if the operator was not applying green completion techniques, the value seems to be in error.</p>	<p>The referenced mitigation measures were implemented by WDEQ-AQD <i>after</i> the air quality modeling and the Jonah Project emissions inventory were completed. In order to keep the alternative impacts comparable, the Preferred Alternative modeling done between draft and final EIS used the same assumptions as the original modeling of alternatives A through G. However, it should be noted that the effects of those new mitigation requirements, if the commenter is referring to permitting of flared completions, were factored into the analysis in the range of alternatives. Modeling is admittedly conservative; in other words, modeling tends to overestimate impacts—but the models used are those accepted by the Federal Land Management agencies and the Environmental Protection Agency.</p> <p>BLM will attach Chapter 6, Section 2 Oil and Gas Production Facilities Permitting Guidance (July 28, 2004) to the FEIS.</p> <p>The tons per year VOC emissions shown in Table 2.1 for completion</p>

**Table II-B. DEIS Comments and BLM Responses (cont'd)**

Submittal ID	Comment Number	Category	Keyword 1	Keyword 2	Keyword 3	Comment Text	BLM Response
							and testing were typed incorrectly and should be listed as 0.05 TPY. VOC emissions were not modeled; therefore this correction would not affect the modeled impacts.
L-44	1	B	<b>Social</b>	Analysis		To be an accurate and reputable document, the DEIS should use the very latest socioeconomic and demographic data available. This is particularly so owing to the magnitude of recent socioeconomic changes in the analysis area. Table 3.24 of the DEIS, for example, presents 2000 data as the most recent, however 2004 income and employment data are available through various State departments and should be used. Similarly, Table 3.25 ends at 2000 Census figures, but 2004 Wyoming Department of Employment figures are available and should be used. In Table 3.26, the housing statistics presented end in 2002, but more recent data have been published by the Wyoming Housing Database Partnership. Cost of living data presented in Table 3.28 ends two years ago, but updated figures are published every few months. This pattern continues throughout the socioeconomic portions of the document... Updated statistics should be found and incorporated throughout.	The data have been updated as appropriate, if determined relevant to the analysis of impacts of the alternatives in the FEIS and Technical Support Document.
L-44	2	E	<b>Economics</b>	Analysis		Page 4-109 of the DEIS states that, "BLM defines a significant change as any change that would result in a 15% or greater change of any affected factor." Why is the 15% figure used here while a 10% change of selected socioeconomic indicators is considered significant by the PAPA FEIS? Is there any time frame associated with this percent change threshold?	The significance criteria are derived from PAPA DEIS (BLM 1999b). Both the Jonah FEIS and Socioeconomic Technical Support Document will be revised to reflect this.
L-44	3	B	<b>Economics</b>	Analysis		The estimated average earnings per created job listed at page 4-112 does not appear to be in line with Wyoming Department of Employment data regarding wages by industry sector. Please give the rationale for this estimate.	The direct earnings are derived from input from private industry and the secondary impacts are estimated based on IMPLAN runs specific to each alternative analyzed.
L-44	4	A	<b>Social</b>	Analysis		The meaning of paragraph 2 on page 4-116 regarding crime is unclear. If you are saying that crime (both incidence and rate) is expected to increase, it should be so stated.	The narrative on page 4-116 of the DEIS has been changed from:  "Crime could increase in the study area as a result of greater affluence among the residents of the study area. However, the population in the study area is not anticipated to increase in the long-term as a result

**Table II-B. DEIS Comments and BLM Responses (cont'd)**

Submittal ID	Comment Number	Category	Keyword 1	Keyword 2	Keyword 3	Comment Text	BLM Response
							<p>of this project; therefore, no project-specific increase in crime is anticipated. However, because of the demographics of the laborers attracted to oil and gas development and production, the existing crime situation, which is already affecting the CIAA, may be incrementally increased by the project.”</p> <p>to:</p> <p>“Moreover, as previously mentioned, the population in the study area is not anticipated to increase in the long-term as a result of this project. But because of the demographics of the laborers attracted to oil and gas development and production coupled with a record of increasing criminal activity already affecting the CIAA, the project will likely result in an incremental increase in crime.”</p>
L-44	5	A1	<b>Analysis</b>			<p>Statements that 'x factor may be incrementally increased by the project' are uninformative, indolent, and insulting to the reader.</p> <p>Do you use the term 'incrementally' to imply 'slightly'? Word-search and get rid of this term. A plain indication of magnitude will be more meaningful than 'incrementally'. If the federal official is to make an informed decision, anticipated impacts need to be explained to the maximum extent possible.</p>	<p>In all cases the estimates made and the impacts calculated are the most conservative applicable to the alternative. Thus the maximum extent has been included in the EIS. Realistically, though, there will be incremental changes to the project, both increases and decreases, depending on field conditions. Such comments are meant to acknowledge these real-world conditions.</p> <p>As noted on page 4-1 of the Draft EIS, the use of adjectives in general has been avoided, and “incrementally” is not meant to imply “slightly.”</p>
L-44	9	B	<b>Analysis</b>	Economics	Social	<p>The assertions on page 4-128 that "There would be avoidable adverse impacts to socioeconomics as a result of the proposed project," and "Impacts could be reduced by implementation of suggested mitigation measures" are certainly intriguing, but left the reader</p>	<p>The wording in Section 4.4.12 has been updated based on new analysis. Please consult the FEIS.</p>

**Table II-B. DEIS Comments and BLM Responses (cont'd)**

Submittal ID	Comment Number	Category	Keyword 1	Keyword 2	Keyword 3	Comment Text	BLM Response
						rather hanging. Please reference here where these suggested measures are and also where in the document it is explained how and to what extent impacts would be reduced by their application.	
L-46	1	B	<b>Economics</b>	Social	Analysis	<p>The BLM has authorized the selling of land leases to gas exploration companies that have affected the communities. The affect of this has created a socio-economic "impact" as defined by the BLM in the 1999 EIS PAPA, which is referenced as follows:</p> <p>"For socioeconomic resources, a significant impact is defined as follows: 1. Increased demand for housing resulting from project activities, which exceeds supply. 2. Short or long-term increases in demand for local government facilities or services which exceed existing capacity and are not offset by adequate revenues from continued exploration and development; or 3. A 10 percent change in County Government revenues or in county-wide employment.</p> <p>Below are a few quantifiable measures of the impact thus far:</p> <p>Rents have increased 33 percent last year, and housing prices have increased 50 percent from 2000 to 2003, and 28 percent from 2003 to 2004.</p> <p>There has been a 360% increase year to year in multi-family housing building permits in Pinedale.</p> <p>There are 250 new lots in two years within a one-mile radius of Pinedale and growing.</p> <p>Sewer and water well contamination is a major concern. The sudden growth has pushed Pinedale into needing a larger sewer lagoon. This project has an estimated cost exceeding \$2.3 million. The Town of Pinedale has approximately another \$6 million in needed infrastructure.</p> <p>Increased heavy truck traffic (due to the gas fields) in town has caused potholed streets. Projected cost of repair \$3.3 million.</p> <p>Incidents have occurred such as hazardous chemical</p>	<p>The significance criteria are derived from the PAPA DEIS (BLM 1999b); both the Jonah FEIS and Socioeconomic Technical Support Document have been revised to reflect this. Also, the wording in DEIS Section 4.4.12 has been changed from:</p> <p>There would be avoidable adverse impacts to socioeconomics as a result of the proposed project.</p> <p>to:</p> <p>There would be no unavoidable short-term or long-term adverse impacts to socioeconomics as a result of the proposed project.</p> <p>The wording on pages 4-116 and 4-117 of the JIDP DEIS and Page 265 of the Socioeconomic Technical Support Document (Jan 2005) has been changed from:</p> <p>While it is possible that there may be some increase in the study area population as a result of jobseekers coming to the area, such an increase in population would not place an undue burden on existing infrastructure. For instance, nearly 32% of the housing in Sublette County is vacant, although the habitability of this vacant housing is unknown (see Table 3.8). No housing shortages are anticipated. However, if there were an increase in the population, increased demand would</p>

**Table II-B. DEIS Comments and BLM Responses (cont'd)**

Submittal ID	Comment Number	Category	Keyword 1	Keyword 2	Keyword 3	Comment Text	BLM Response
						<p>spills, on main town through fares. Such an incident could have been catastrophic had it gone into local Pine Creek.</p> <p>Tanker trucks that are carrying hazardous materials are being parked in residential neighborhoods. We have pictures of this.</p> <p>There is noted overcrowding in the elementary school. Twenty-six new kids in grades K-5 in 2004-5. This issue on whether to move the 5th grade to the middle school to accommodate the growth has caused a "rift" in the community.</p> <p>Emergency services are severely stretched; "volunteer firemen are desperately needed" -- Wes Johnson, Fire Chief.</p> <p>The local Sheriff's department is having trouble-keeping officers, as they can't afford to buy or rent a home in the area.</p> <p>The local economy is having trouble diversifying. Why? There are very few places for visitors to stay because the gas industry has the rooms booked up.</p> <p>It is clear from the BLM's own definition, that the "socio-economic" impacts have been severe...</p> <p>Currently, the BLM's Jonah (gas field) Infill report concludes that additional socioeconomic impacts will not occur. The data does not support this conclusion. Impacts have occurred as quantifiably measured as shown above and the increased development will bring even more impact... We would like for the BLM to ask the operators what they plan to do to mitigate the socioeconomic impacts and how to minimize those impacts. We need to know population demographics so as to plan for such things as:</p> <p>sewer capacity</p> <p>water capacity</p> <p>street maintenance</p>	<p>likely cause an increase in housing prices (rental costs and home sale prices). Additionally, increased affluence in the study area is likely to cause an increase in the demand for higher-quality housing, which could result in increased housing construction projects. This would result in increased ad valorem tax revenues to local governments. It could also make it more difficult for some individuals to obtain satisfactory housing within affordable price ranges, which would have an effect on those individuals. Impacts to housing already being experienced by the affected communities may be incrementally increased by the Project as a result of increases in population. Plans are underway to build another motel in town and several mancamps are currently under discussion by area operators for permitting to alleviate some of the pressures on housing. Several multi-unit housing developments are under discussion.</p> <p>to:</p> <p>Population in the study area may increase as a result of increased employment opportunities generated both directly and indirectly by the JIDP, affecting the availability of housing. To illustrate the point, Pinedale is currently facing a housing shortage and any additional pressure would exacerbate an already tight housing market. Moreover, if population were to increase, the increased demand for housing would likely put even more upward pressure on already high housing prices (rental costs and home sales prices).</p>

**Table II-B. DEIS Comments and BLM Responses (cont'd)**

Submittal ID	Comment Number	Category	Keyword 1	Keyword 2	Keyword 3	Comment Text	BLM Response
						school impacts	Additionally, increased affluence in the study area is likely to cause an increase in the demand for higher-quality housing, which could result in increased housing construction projects. This could make it more difficult for some individuals to obtain satisfactory housing within affordable price ranges.
L-57	4	A	<b>Compliance</b>	Wildlife	Conditions of Approval	In addition, BLM is unduly shifting its responsibility as the land management agency to the operators. Some examples include the requirement of operators to inappropriately conduct inventories and surveys that are the agency's responsibility, such as inventorying sage grouse habitat that has not yet been covered by an ongoing cooperative effort between BLM and the Wyoming Game and Fish Department, and monitoring sage grouse to determine whether they are a migratory species. BLM also expects industry to map prairie dog towns and provide all map data to BLM, WGFD, and the JIWG with FGDC-compliant metadata. Ironically, Map 3.15 shown on page 3-60 clearly identifies prairie dog towns in the project area. However, the USFWS has provided the State of Wyoming a map of showing block clearances for black-footed ferret areas where there are no prairie dog towns. Re-inventorying is obviously unwarranted. BLM also indicates that the operators must survey soils and vegetation types and provide the results to BLM within one year. However, BLM has already mapped these resources as shown on maps 3.6 on page 3-32 and map 3.7 on page 3-34. BLM even goes so far to state on Page 2-30 that "Operators would continue to support existing wildlife studies." We question BLM's legal authority to require operator participation in such studies because they must be agreed to voluntarily by the operators; and, if they determine the studies are not worthy of support (e.g., lack of unbiased biological findings), operators must not suffer reprisal by BLM. These and many other proposed requirements go beyond reasonableness and must be eliminated.	Additional surveys and studies can and will be required by BLM. With current staffing levels, the BLM cannot adequately complete needed activities for monitoring and analysis. The USFWS memo the commenter refers to does not give clearances because of no prairie dogs. That is incorrect.
L-61	1	B	<b>Analysis</b>	On-Site Mitigation	Compensatory Mitigation	The BLM has not yet disclosed all of the environmental impacts resulting from the proposed action and has not provided sufficient mitigation for those impacts that are disclosed.	Every attempt was made to utilize the most recent information available while acknowledging that data collection continues to progress during the process of compiling a

**Table II-B. DEIS Comments and BLM Responses (cont'd)**

Submittal ID	Comment Number	Category	Keyword 1	Keyword 2	Keyword 3	Comment Text	BLM Response
						<p>The BLM must present the environmental impacts of the proposed project based on the most up-to-date information in the most consistent and clear way to facilitate public comment. Instead, the BLM published an analysis based on already outdated information in a document that is confusing and contradicts itself.</p>	<p>document as involved as the Draft EIS. This is a part of the reason why additional air information is being provided in a supplemental document. However, it is not possible for this document to be continually revised.</p> <p>Based on the information available at the time of the analysis, the BLM has disclosed all reasonable impacts from the different alternatives and has and will continue to provide the appropriate mitigations for those impacts within the realm of its authority.</p>
L-61	2	F	<b>NEPA</b>	Alternatives		<p>The BLM Failed to Properly Consider Alternatives as Mandated by NEPA</p> <p>A bedrock requirement of NEPA is the duty to consider a reasonable range of alternatives. NEPA requires that federal agencies provide an evaluation of each alternative to the proposed action in every environmental impact statement. ... A cursory examination of alternatives is insufficient; each alternative must be evaluated in detail. See Alaska Wilderness Recreation &amp; Tourism v. Morrison, 67 F.3d 723, 729 (9th Cir. 1995) (stating that "the existence of a viable but unexamined alternative renders an environmental impact statement inadequate").</p>	<p>The BLM believes it has adequately considered all reasonable alternatives as required by NEPA, and that the DEIS discusses those alternatives that were rejected and why. In addition, the discussion of alternatives will be revised in the FEIS.</p>
L-61	3	A	<b>Air Quality</b>	Alternatives		<p>BLM failed to model air quality impacts for four alternatives, including the BLM's own Preferred Alternative.</p> <p>The BLM included nine alternatives in the DEIS, including Alternatives A through G, the Proposed Action and the BLM's Preferred Alternative. DEIS at 2-8 to 2-27. However, of these nine different alternatives, air quality impacts from four alternatives were not reported because they were not modeled. AQTSD [Air Quality Technical Support Document] at 6-7. Surprisingly, the BLM's own Preferred Alternative is one of the four alternatives not modeled in the DEIS. AQTSD at 6-7.... The BLM provided only a range of air quality levels for its Preferred Alternative and the three other alternatives</p>	<p>As was stated in the draft EIS, the Preferred Alternative air quality impacts were modeled and presented in the supplemental information issued for public review and comment on August 9, 2005, and will be presented again in the final EIS.</p> <p>BLM fulfilled CEQ/NEPA requirements by modeling the air quality impacts of a full range of development and mitigation scenarios. As stated above, the draft EIS indicated the Preferred Alternative air quality impacts would</p>

**Table II-B. DEIS Comments and BLM Responses (cont'd)**

Submittal ID	Comment Number	Category	Keyword 1	Keyword 2	Keyword 3	Comment Text	BLM Response
						that were not modeled. DEIS at Appendix F. However, a range is insufficient because even small changes in emissions can have significant results. Small changes between the alternatives could cause a criteria pollutant to exceed the ambient air quality levels in one alternative and not in another. Because air quality analyses require a level of preciseness unlike other impacts, it is essential the BLM adequately model the Preferred Alternative.	be modeled between the draft and final EIS due to time constraints, and that modeling has been done and is available to the public for review and comment.
L-61	4	A	<b>Public Participation</b>	Air Quality		BLM must provide for public comment on the model results.  Once the air quality modeling is finished for the Preferred Alternative, the BLM must release the modeling results to the public and provide for a sufficient public comment before the project progresses further. The BLM cannot simply include the modeling results for the Preferred Alternative in the final EIS and not provide for public comment. Air quality impacts are one of the biggest impacts of the Jonah Infill project. It is clear the BLM's Preferred Alternative impacts air quality differently than the other alternatives. The public must understand how the BLM's preferred plan of developing the Jonah Field will impact the air quality in the Pinedale area and beyond in comparison to the other alternatives.	Public comments are due on the supplemental AQ information on 07 October 2005.
L-61	5	B	<b>Wildlife</b>	Alternatives	Analysis	BLM failed to provide an alternative minimizing wildlife impacts. Although the DEIS contains no fewer than eight alternatives, DEIS at 2-11 to 2-26, every one of these alternatives fails to meet the basic objective of avoiding excessive loss of wildlife habitat within the JIDPA [Jonah Infill Development Project Area]. With the exception of Alternative B, the alternatives fail to seriously consider the use of directional drilling from existing well pads as a means of minimizing negative direct and indirect impacts of drilling. The alternatives proposed also fail to give any consideration to structuring development over time (such as phased development, developing one part of the project area then moving to another only once reclamation is successful) as a means of reducing negative impacts. In particular, the BLM fails to provide a justification for why its Preferred Alternative meets the ostensible purposes of this project any better than the other alternatives (particularly relatively less invasive alternatives, such as Alternative B).	The No Action Alternative is the best action to minimize impacts to wildlife habitats.  The remainder of the comment regarding the Preferred Alternative will be addressed by the new Preferred Alternative in the FEIS, which will include elements of progressive reclamation.
L-61	6	B	<b>Air Quality</b>	Analysis	Technical	The BLM's air quality modeling is flawed due to the	The BLM did not "determine

**Table II-B. DEIS Comments and BLM Responses (cont'd)**

Submittal ID	Comment Number	Category	Keyword 1	Keyword 2	Keyword 3	Comment Text	BLM Response
					Information	<p>inadequate background levels used for the criteria pollutants. The BLM added emissions from the near-field analysis from the proposed action to background concentrations to determine conformance with the National Ambient Air Quality Standards/Wyoming Ambient Air Quality Standards (NAAQS/WAAQS). AQTSD at 27. However, because the background concentrations are non-representative of the existing situation in the Pinedale area, the BLM cannot adequately analyze whether or not the federal or state ambient levels are being violated.</p> <p>The BLM assumed that existing sources are reflected in background concentrations of the pollutants measured. The BLM must not blindly rely on background levels as representing actual emissions without supporting its choice of a background level monitor. If the monitor is not properly placed or otherwise not reflective of existing source emissions, the background concentration received from such monitor will be useless. Background air monitoring data is usually combined with cumulative source modeling analysis to ensure all currently emitting sources are taken into account and to determine compliance with ambient levels. If the modeled source is not isolated, then modeling of existing sources is necessary to determine the potential contribution of background sources. See Section 9.2.1 of 40 C.F.R. Part 51, Appendix W.</p> <p>An examination of the background levels the BLM chose for the Jonah DEIS shows that the BLM cannot support its decision to assume background concentrations accurately reflect the emissions of area sources. For background levels of CO, the BLM used nearly 20-year-old data collected at Ryckman Creek by Amoco. AQTSD at 27, Table 31, Footnote 1. Clearly, significant changes in terms of natural gas development and population increases have occurred since the late 1970s in this area. For PM10 and PM2.5, the BLM used background assumptions measured four years ago at the Emerson building in Cheyenne, over 300 miles from the Jonah Field. AQTSD at 64, Table 4.3. The BLM also used Emerson building data for PM10 and PM2.5 levels for far-field analysis. AQTSD at 64; Table 4.3. Cheyenne has different air quality levels due to different</p>	<p>conformance with the NAAQS/WAAQS.” The WDEQ is the agency with the regulatory authority to determine compliance with AQ standards. BLM compared the potential total concentrations (background + project + RDF + RFFA) with the NAAQS/WAAQS to put the potential concentrations in perspective and to provide information.</p> <p>The background levels used in the Jonah Infill air quality impact modeling are those levels approved by WDEQ-AQD based on their monitoring. An independent analysis of background levels that was conducted recently by the Environmental Protection Agency indicates the WDEQ-AQD background data may overestimate background emission levels, but also indicates that emissions from the Jonah Infill project will still not cause exceedance of NAAQS or WAAQS.</p> <p>BLM appreciates the concern that the monitored background concentrations are not representative of the Pinedale area. However, NEPA requires BLM to use the best available information. Please see EPA’s description of the representativeness of the NO2 concentrations. Also, monitoring of non-criteria pollutants in the Pinedale area is consistent with the presented background data.</p> <p>BLM recognizes that the CO data are old. Since high CO concentrations are associated mainly with car and truck traffic, most CO monitors are</p>

**Table II-B. DEIS Comments and BLM Responses (cont'd)**

Submittal ID	Comment Number	Category	Keyword 1	Keyword 2	Keyword 3	Comment Text	BLM Response
						<p>geographical location, different sources and emitters and different wind patterns. A background level from a location hundreds of miles away cannot estimate the level of background pollutants to the level of preciseness needed in this analysis.</p> <p>The BLM did not adequately explain why it used the Amoco data or the Emerson building data. It could be the most convenient, the lowest level, or the best available to the BLM at this point. Only one statement in a footnote was given to explain the PM10 and PM2.5 levels. AQTSD at 27, Table 3.1, Footnote 4. Interestingly, the background levels of ozone—which are likely the most spatially and temporally representative of the background concentrations given—showed that 70% and 94% of the NAAQS/WAAQS are already consumed for 1-hour concentrations and 8-hour concentrations respectively.1 AQTSD at 27.</p> <p>In the final EIS, the BLM must explain its decision to use the background levels it chose. The BLM should also include a qualitative explanation of the differences and similarities between the background levels it included and the presumed Pinedale area levels. If the background levels cannot be supported, the BLM must prepare an emissions inventory of existing sources rather than relying on background concentrations.</p>	<p>located in urban areas. The Ryckman Creek data were the best CO data available. BLM will estimate CO emission from BLM sources in the Pinedale RMP.</p> <p>The PM data from Cheyenne were chosen because PM10 and PM2.5 are both monitored at that site.</p>
L-61	7	A	Air Quality	Analysis		<p>Despite restricting its analysis to 3,100 wells and stating 3,100 is the limit throughout the DEIS, the BLM has inappropriately inserted language attempting to authorize more wells beyond 3,100. For the Preferred Alternative, the BLM clearly states that 3,100 wells is not a limit and no particular pace will be required. DEIS at 2-26.</p> <p>For the Proposed Action, the BLM states that drilling would continue until “the total number of proposed wells have been drilled, the natural (Footnote: Note that the BLM decided not to use the background ozone concentration it reported here in its near-field analysis. (See Section II.d., infra.) Gas resources in the field have been fully developed, or economic conditions are such that it is no longer profitable to drill additional wells.” DEIS at 2-10. “Or” is the operative word in this sentence; if more gas is recoverable after 3,100 wells are</p>	<p>The BLM determined that 3100 wells was the appropriate estimation for the purposes of the analysis. As long as the operators do not exceed the air emissions thresholds established by the BLM &amp; WDEQ the actual number of wells drilled will be based upon the demands of field development. No additional NEPA analysis will be required.</p>

**Table II-B. DEIS Comments and BLM Responses (cont'd)**

Submittal ID	Comment Number	Category	Keyword 1	Keyword 2	Keyword 3	Comment Text	BLM Response
						<p>completed, more wells would be allowed.</p> <p>NEPA requires the BLM to analyze the environmental impacts of its proposed actions, which is 3,100 wells in this situation. If further wells are needed beyond the 3,100 predicted now, additional NEPA documentation would be required to analyze the impacts of the additional wells. The BLM is seemingly attempting to constrict its air quality modeling to only the impacts of 3,100 wells while at the same time leaving enough ambiguity in the DEIS language to authorize more wells, if it is later deemed necessary. The BLM must clarify this section and set a specific limit for well numbers in order to have a meaningful air impacts section. Without a well limit, the air quality analysis is merely perfunctory and appropriate mitigation cannot be required because the true emissions of the proposed action are not known.</p>	
L-61	8	A	<b>Air Quality</b>	Technical Information		<p>The BLM used inaccurate assumptions for drill rig engine emissions, engine horsepower and drilling pace when determining emissions in the DEIS. The flawed assumptions caused the BLM to drastically underestimate NOx emissions contrary to actual NOx emissions in the Pinedale Anticline Field Area. These inaccuracies impact in-field, near-field, visibility and the cumulative air quality analysis.</p> <p>It is essential the BLM use the most up-to-date information on NOx, much of which was developed within the BLM Pinedale Field Office. The BLM must be consistent in its use of assumptions for drilling or if the assumptions are not correct for Jonah, to explain why different data were not used.</p>	<p>Drill rig engine data were provided by companies operating within the JIDPA. NOx emissions from these engines were calculated using emission factors developed by EPA, either from EPA's AP-42 document or from EPA's Tier emission standards.</p> <p>The BLM PFO is not aware of additional data that was not used in the air quality modeling.</p>
L-61	9	A	<b>Analysis</b>	Technical Information		<p>The BLM assumes that of 20 drill rigs operating per year in JIDPA, ten will have Tier I engines and ten will have Tier II engines. AQTSD at 52-53, Table 4.2, Footnote 5. This is slated to begin when drilling begins in 2005. DEIS at 2-10. However, this is impossible since Tier II drill rig engines are not even available on the market. Pers. Comm. Pinedale BLM, 3/15/05. Also, currently most operators in Jonah use standard diesel engines and only some use Tier I drill rig engines. Pers. Comm. Pinedale BLM, 3/15/05. The Environmental Protection Agency, recognizing the Tier II unavailability on the market, is not requiring operators to use Tier II drill rig engines until 2008.</p>	<p>The variation in Tier 0, I or II engines was to achieve the range of analysis needed to meet NEPA requirements, not an implication that those percentages would be utilized from the beginning of the project. It is reasonable to expect that at some point during the LOP similar percentages will be in place in the field.</p>

**Table II-B. DEIS Comments and BLM Responses (cont'd)**

Submittal ID	Comment Number	Category	Keyword 1	Keyword 2	Keyword 3	Comment Text	BLM Response
						<p>The difference in NOx emissions from Tier II engines and standard engines is significant and completely ignored by the BLM in the DEIS. For a 1,000 horsepower drill rig engine, there was a 489 tons/year net reduction in NOx emission using a Tier II rig engine instead of a standard drill rig engine. Questar Year-Round Drilling Proposal Environmental Assessment (Questar EA) at 4-26, Table 4-1. There will likely be several years of drilling before Tier II engines are implemented, which translates into thousands of tons of additional NOx per year that has not been accounted for in the DEIS.</p> <p>The EPA requirements for Tier I and Tier II engines and the current standard drill rig engine used on the Jonah Field were obvious and available to the BLM prior to the release of the Jonah DEIS. If the BLM is requiring cleaner engines before they are publicly available and before they are mandatory for the Jonah Field, the details of this requirement should be made clear in the FEIS and be legally enforceable. The BLM cannot assume operators will voluntarily implement Tier II engines before 2008. While we encourage the BLM to pursue requiring Tier II engines earlier than mandated by the EPA, we are assuming that the BLM is instead drastically understating the level of NOx emissions from the Jonah Field drilling rigs.</p> <p>The BLM must revise their assumptions to reflect that several years of the use of standard diesel engines will occur before Tier II engines are required and report the air quality results of that difference.</p>	
L-61	10	A	<b>Technical Information</b>	Analysis		<p>The BLM assumes 20 drill rigs will be operating per year in the Jonah Field. AQTSD at 51. It is not clear whether this pace is based on current activity in the Jonah Field or if it is an estimate. The BLM recently determined that in the Pinedale Anticline Project Area in the summer of 2004, four times as many drill rigs were actually operating beyond that anticipated. Questar EA at 3-20. With a higher number of drilling rigs operating than anticipated, the NOx levels were significantly higher. Questar EA at 3-20.</p> <p>The BLM should not make the same mistake with Jonah. The BLM should ensure that the 20 drill rig assumption</p>	<p>Thank you for your comment. Based on information provided by the Operators for the Proposed Action, BLM feels the 20-rig assumption is valid. The scenario of 20 drilling rigs operating continuously was used to estimate a 250 well per year development rate.</p>

**Table II-B. DEIS Comments and BLM Responses (cont'd)**

Submittal ID	Comment Number	Category	Keyword 1	Keyword 2	Keyword 3	Comment Text	BLM Response
						is correct for the Jonah Field on the ground. If the drill rig pace is higher than 20 on the ground, the NOx levels in the DEIS should be altered accordingly.	
L-61	11	A	<b>Analysis</b>	Air Quality	Technical Information	<p>The BLM assumes operators will use two drill rig engines at 800 horsepower and one at 500 horsepower in the Jonah field. AQTSD at B-11, Table B.1.7. However, the BLM recently stated that the usual power of drill rig engines is 3,000-5,000 horsepower. Questar EA 3-20. The use of higher horsepower engines drastically increases the level of NOx emitted; emissions of NOx are triple between a 1,000 horsepower engine and a 3,000 horsepower engine. Questar EA, 4-26, Table 4-1.</p> <p>For Jonah, the BLM should acknowledge the new information from the Questar EA and ensure that the 800 horsepower assumption it is making for the Jonah Field is accurate. If the 3,000-5,000 horsepower engine is the typical engine used in Jonah, the BLM must revise its analysis accordingly.</p>	<p>New air quality information has been incorporated into the supplemental technical support document that will more accurately reflect the JIDP.</p> <p>DEIS drill rig engine assumptions were provided from operators in the JIDPA. Operators in other fields may require different equipment.</p> <p>The DEIS and AQIAS (Aug 2005) assumed 2,100 hp for straight-hole drilling and 2,600 hp for directional drilling.</p>
L-61	12	A	<b>Air Quality</b>	Technical Information	Analysis	<p>Ozone, a criteria pollutant, is formed as a result of a photochemical reaction involving VOCs and NO2 in a 21.6 ratio. AQTSD at 38-39. The ozone background levels alone—without taking into account any new emissions from the Jonah Field—are 70% and 94% of the NAAQS/WAAQS for 1-hour concentrations and 8-hour concentrations respectively. AQTSD at 27. This leaves very little room to add new emissions from Jonah without violating the state and federal ambient standards.</p> <p>With the other criteria pollutants, the BLM added the expected emissions from Jonah to the background concentration to determine if ambient standards would be violated.<sup>2</sup> With ozone, that approach would have left only 10 µg/m<sup>3</sup> for 8-hour concentration and 66 µg/m<sup>3</sup> for the 1-hour concentration for Jonah emissions before ambient levels would violate the NAAQS/WAAQS. AQTSD at 27. (Footnote: The problems with this approach are highlighted in Section II.a., supra.)</p> <p>However, with ozone, the BLM used the Scheffe method to calculate the ozone emissions from Jonah development and relied on a significantly lower background concentration than it reported in Table 3.1 in</p>	<p>The estimated ozone concentration calculations will be presented in the FEIS. The Project will not contribute to or cause any violations of the ambient ozone air quality standards.</p>

**Table II-B. DEIS Comments and BLM Responses (cont'd)**

Submittal ID	Comment Number	Category	Keyword 1	Keyword 2	Keyword 3	Comment Text	BLM Response
						<p>the AQTSD. The reported ozone background levels in Table 3.1 were 169 µg/m<sup>3</sup> for 1-hour and 147 µg/m<sup>3</sup> for 8-hour concentrations. AQTSD at 27, Table 3.1. The BLM instead used 75.2 µg/m<sup>3</sup> as background for both 1-hour and 8-hour in the Scheffe method, approximately 50% lower than the reported background concentrations. AQTSD at 40.</p> <p>With the much lower background level of 75.2 µg/m<sup>3</sup>, the Jonah proposed action avoids violating the NAAQS/WAAQS by a mere 3.5 µg/m<sup>3</sup>. AQTSD at 40, Table 3.7. If the Table 3.1 background levels were used, both 1-hour and 8-hour concentrations of ozone would have clearly violated the NAAQS/WAAQS. AQTSD at 27, Table 3.1; AQTSD at 39.</p> <p>The BLM stated that it used the 75.2 µg/m<sup>3</sup> background level to avoid overestimating the level of ozone in the Scheffe model. AQTSD at 39. However, further explanation is needed due to the fact the NAAQS/WAAQS are not violated by an extremely small margin. Because exceeding levels of NAAQS/WAAQS is an important threshold, the BLM should more clearly explain why Table 3.1 background levels were not used and why the much lower background level was used instead.</p> <p>Problems with the BLM's treatment of ozone may be further exacerbated by its underestimation of NO<sub>x</sub> as described above. See Section II.c, supra. Because ozone is, in part, dependent on NO<sub>x</sub> for formation, higher NO<sub>x</sub> levels may translate into higher ozone levels. The BLM should redo its O<sub>3</sub> analysis to incorporate any changes in NO<sub>x</sub> emissions predictions based on using the accurate drill rig engine emissions and appropriate engine horsepower assumptions discussed above.</p>	
L-61	13	A	<b>Analysis</b>	Air Quality	Technical Information	<p>The BLM must ensure the discussion of air quality is consistent. The narrative in the DEIS often does not match the AQTSD. The BLM must make the DEIS in its entirety consistent and understandable in order for clear management and less confusion down the road.</p> <p>For instance, the BLM states that all well pads must be less than 7 acres. DEIS at 2-27. However, some of the</p>	<p>The BLM believes the AQTSD and DEIS are consistent; however the AQTSD provides considerable additional information not included in the DEIS. Further, the DEIS and AQTSD supplements identify additional information relative to the Preferred Alternative.</p>

**Table II-B. DEIS Comments and BLM Responses (cont'd)**

Submittal ID	Comment Number	Category	Keyword 1	Keyword 2	Keyword 3	Comment Text	BLM Response
						<p>alternatives exceed this limit. DEIS at 2-13. NEPA does not allow for analysis of impossible alternatives, and the BLM must clarify that the 7 acre limitation will be exceeded for certain alternatives. Second, BLM states that all the mitigation measures described in the DEIS may not match those in Appendix A of the DEIS. DEIS at 2-30. To avoid confusion as to the mitigation measures required, the BLM must clarify the differences and make Appendix A and the DEIS consistent with one another. Also, the BLM states that flareless completions will be required unless proven unsafe on a case-by-case basis. DEIS at 2-27. However, the air quality modeling specifically took into account well flaring and the resulting emissions. AQTSD at 52-53. The BLM included varying estimates of the time required for development operations and total life-of-field (LOF). In the AQTSD, development operations were from 5-42 years and total LOF from 43-85 years. AQTSD at 5. However, later in the AQTSD, the BLM estimated 4-28 years for drilling and 30-50 for LOF. AQTSD (Air Quality Impact Assessment Protocol) at 4.</p> <p>The BLM must ensure the DEIS is consistent with itself and with its supporting documents like the AQTSD. An inconsistent document will cause confusion in the future and does not provide clear direction for management of the Jonah Field.</p>	<p>The clause regarding inconsistencies with Appendix A has been removed.</p> <p>The duration of the drilling period varied in the DEIS analyses based upon the development parameters identified for each specific alternative and within some alternatives based upon the number of wells drilled per year. The duration of development is consistent within each alternative in the FEIS.</p> <p>Concerning the pad size, the size does vary to an extent by alternative. The figures on page 2-27 of the DEIS apply specifically to the Preferred Alternative.</p> <p>Concerning the differences in the DEIS between page 2-30 and Appendix A: Alternative A applies to all alternatives. The items on pages 2-27 through 2-31 apply to the Preferred Alternative.</p> <p>Concerning flareless completions: The COA on DEIS page 2-27, bullet No. 4, does not preclude flares. OSHA requires a flare for drilling operations whether it be through a flare-stack or into an earthen pit. The COA does require the use of flareless completions, thereby eliminating the need for large flow-back pits. It also provides a caveat that flareless completions would not be required where and/or when they are proven unsafe. This caveat is being modified in the FEIS to read “. . . unless proven on a case-by-case basis that flareless completion operations would not be technically or economically</p>

**Table II-B. DEIS Comments and BLM Responses (cont'd)**

Submittal ID	Comment Number	Category	Keyword 1	Keyword 2	Keyword 3	Comment Text	BLM Response
							feasible or would be unsafe.” The emissions from completion flares are, as the commenter indicates, under the jurisdiction of DEQ; however, the effects of flaring noise to wildlife use of adjacent habitat and the surface disturbance associated with flaring operations are under BLM’s authority.
L-61	14	A	<b>Air Quality</b>	Analysis		<p>The cumulative emissions inventory is a critical part of the Jonah Infill air quality analysis because it determines the impact of Jonah development along with other development in the area. The cumulative impacts analysis must be more than perfunctory and must provide a useful analysis of the cumulative impacts of past, present and future projects. See <i>Klamath-Siskiyou Wildlands Center v. BLM</i>, 387 F. 3d 989 (9th Cir. 2004).</p> <p>The BLM failed to prepare an appropriate cumulative emissions inventory by failing to accurately look at the emissions from Jonah in combination with other sources in the area. The BLM failed to delineate an appropriate modeling domain and did not acknowledge the current state of air quality in the area. The BLM did not include the appropriate regional sources and emissions levels in its cumulative or regional emissions inventory. The BLM also underestimated the reasonably foreseeable development of the area.</p>	<p>This comment has been addressed in the Air Quality Impact Assessment Supplement (Aug 2005), which is available for review on the BLM website or at the BLM PFO.</p> <p>In that document, the modeling domain for the analysis of the early stage development in 2006 included the Pinedale Anticline, Jack Morrow Hills, Riley Ridge and South Piney areas along with the Jonah Infill.</p> <p>This commenter has also submitted a subsequent letter that includes review of the additional air quality materials including the supplement, and further discussion may be provided in the BLM response to those comments.</p>
L-61	15	A	<b>Air Quality</b>	Analysis		<p>The Council on Environmental Quality (CEQ) regulations require the BLM to define the context of the action in order to properly determine the significance of the project’s effects. 40 C.F.R. 1508.27(a). An element of context is geographic scope. Id. For the Jonah Infill, the BLM failed to delineate an appropriate geographic scope in its modeling domain resulting in flawed air quality far-field, cumulative and visibility analyses.</p> <p>The BLM did not extend the modeling domain far enough to encompass all sources relevant to the air quality levels resulting from Jonah development. EPA guidance states that the analysis should include sources at least 50 to 80 km beyond both the receptors (i.e. Class I areas) and sources being modeled. AQTSD at 54. This distance is even greater with large sources such as coal-fired power plants that could be located up to</p>	<p>The modeling domain that was used was developed primarily for estimating impacts at the Bridger, Fitzpatrick, and Popo Agie Wilderness areas and for the Wind River Roadless area, i.e. the areas that were identified through the stakeholders group process as areas that could potentially be adversely affected by the JDP pollutant emissions. The domain follows IWAQM and FLAG guidance for these Class I and sensitive areas. Specifically, the domain extends more than 50 kilometers beyond sources and receptors of concern, and is appropriately sized in</p>

**Table II-B. DEIS Comments and BLM Responses (cont'd)**

Submittal ID	Comment Number	Category	Keyword 1	Keyword 2	Keyword 3	Comment Text	BLM Response
						<p>300 km away but still have a significant impact on the Pinedale Field Office area.</p> <p>By delineating a small modeling domain, the BLM did not capture all the sources impacting the same areas as the Jonah Field development. The Class I Washakie and Fitzpatrick Wilderness Areas are receptors affected by the Jonah Field development but the modeling domain does not appear to extend the requisite 50-80 km beyond the areas. AQTSD at 3, Map 1.2. For instance, both Class I areas are significantly impacted by development in the Powder River Basin, but the modeling domain includes only a sliver of the Powder River Basin development area. DEIS at 4-23; AQTSD at 3, Map 1.2. Also, sources in Utah, Montana and elsewhere in Wyoming are likely to impact these areas but were not included in the modeling domain. See also, Section III.c., infra.</p> <p>The BLM includes several sentences about how a qualitative discussion of the impacts of the Powder River Basin development will be included in the FEIS. However, many other sources are also excluded in the modeling domain and all must be quantitatively analyzed. Since it is clear sources beyond those included in the modeling domain are impacting the Bridger Wilderness Area and other Class I areas, the BLM must extend the modeling domain used in the DEIS.</p>	<p>accord with the EPA Guideline on Air Quality Models (EPA, 2003; see pg. 468) and the IWAQM Phase 2 Summary Report (EPA, 1998; see pgs. 10, 18). Please note that the modeling domain show in the DEIS extends more than 200 km in all directions from the JIDP area.</p> <p>Furthermore, this modeling domain is adequate for estimating project related and cumulative impacts at the other distant sensitive areas (Teton and Washakie Wilderness Areas, Grand Teton and Yellowstone National Parks), since meteorological conditions that could potentially transport JIDP emission to these areas are contained within the modeling domain.</p> <p>References</p> <p>EPA. 2003. Guideline on Air Quality Models. 40 CFR, Part 51, Appendix W, pg. 468. July 1.</p> <p>EPA. 1998. Interagency Workgroup on Air Quality Modeling (IWAQM) - Phase 2 summary Report and Recommendations for Modeling Long Range Transport Impacts. EPA-454/R-98-019. Office of Air Quality Planning and Standards. Research Triangle Park, NC. December.</p>
L-61	16	A	<b>Analysis</b>	Air Quality		<p>The BLM included only sources permitted between January 1, 2001 and June 30, 2003 in its cumulative emissions inventory. The start date of 2001 was chosen as the base year without sufficient explanation in the DEIS. The BLM selected the end date because it was— at that time—contemporary with the air quality report published in October of 2003. AQTSD (Air Quality Impact Assessment Protocol) at 9. The 2003 report stated that “if significant schedule changes occur as the</p>	<p>Significant schedule changes occurred following completion of the emissions inventory and during completion of the dispersion modeling analysis, and following the review and comment on the air quality analysis protocol by state and federal agencies. Revision of the analysis would have required</p>

**Table II-B. DEIS Comments and BLM Responses (cont'd)**

Submittal ID	Comment Number	Category	Keyword 1	Keyword 2	Keyword 3	Comment Text	BLM Response
						<p>analysis progresses, the cutoff dates will be adjusted to ensure that no data is unreasonably excluded from the analysis." AQTSD (Air Quality Impact Assessment Protocol) at 9.</p> <p>Since 2003, there have been several years of maximum drilling in the Pinedale area. Drill rigs on the Pinedale Anticline have averaged 32 per year rather than the 8 per year anticipated just three years earlier. Drilling in the Jonah field has continued at full throttle. Rampant development in the Powder River Basin has continued. Several large coal-fired power plants for Wyoming and Utah have been proposed and permits are in process. Despite that the 2003 end date does not include these sources, the BLM has not altered the cutoff date of the cumulative emissions inventory. The BLM must alter its analysis to include these new sources and others since 2003 in order to present a full picture of air quality in the Pinedale area.</p> <p>c. Current sources affecting air quality were not properly analyzed</p> <p>The BLM did not include all sources that are currently affecting air quality in the Pinedale area and affecting the same Class I areas as development in the Jonah Field. The BLM analyzed only the change in emissions between 2001 and 2003 rather than analyzing actual emissions. The BLM left out many sources without justification, and new information was not taken into account. The BLM provided little explanation supporting its decision to model the air quality cumulative impacts in this manner and did not adequately explain how the emissions levels were determined.</p> <p>Using the change in emissions rather than actual emissions, the BLM drastically lowered the emissions levels analyzed. This method results in many sources that are emitting the same level of emissions from year to year to be excluded from the analysis. For instance, in Wyoming only 34 sources were included in the regional inventory summary and 693 were excluded. AQTSD at 24, Table 2.4. Only seventeen sources were included from Colorado and Idaho and 126 from Utah. AQTSD at 24, Table 2.4.</p>	<p>restarting the review and meeting process and delayed publication further.</p> <p>The analysis was complete prior to release of the Questar Winter Drill EA and prior to many permit actions. However, those could not be foreseen during completion of the analysis.</p> <p>BLM preferred the analysis of actual emissions from permitted sources and proposed to use actual emissions when a minimum of 1 year of actual data was available (AQTSD, Appendix A, June 2005, page 12). However, upon review of available state agency information, actual emissions for most sources were not kept on file by those agencies. As a result, to retain consistency and to ensure that sources were modeled at the maximum levels at which they could potentially operate, permitted emission rates were utilized.</p> <p>The methodology used to develop the cumulative emissions inventory is described in AQTSD Appendix A, Section 2.2.</p> <p>Negative emission rates indicate a permitted reduction in emissions, and were modeled as described in AQTSD, Appendix A, (June 2005) page 12, and Appendix C.</p> <p>It was necessary to define an inventory cutoff date to allow the modeling analysis to proceed. Detailed information on the inventory period and its derivation may be found in AQTSD Appendix A, Section</p>

**Table II-B. DEIS Comments and BLM Responses (cont'd)**

Submittal ID	Comment Number	Category	Keyword 1	Keyword 2	Keyword 3	Comment Text	BLM Response
						<p>The few sources that are included in the inventory have surprisingly low emissions and in several cases like PM10, even negative emissions are reported. AQTSD, page 24, Table 2.4. The BLM cited to an appendix in support of the source determination but the appendix simply listed the individual source without explaining the negative emissions and other emissions numbers. AQTSD at 24, C-11, C-12.</p> <p>Even with the small number of sources the BLM included, it did not gather accurate and up-to-date emission levels. Emissions information from 2004 shows that there were permitted increases of 371 tons per year of NOx at Solvay Chemicals in Sweetwater County and 350 tons per year of NOx at compressor stations located in Sublette County. Southwest Wyoming NOx Emission Tracking Report, 12/6/2004. These permitted increases should have been included in the emissions inventory, and there were likely other increases as well.</p> <p>The BLM failed to include appropriate levels of emissions for the Pinedale Anticline in the current source emissions inventory. In November of 2004 in the Questar EA, the BLM showed an increase in NOx emissions over twice that authorized in the Pinedale Anticline EIS. DEIS at 4-23. This EA was published more than three months before the Jonah Infill EIS was released. The BLM did not take the Pinedale Anticline emissions into account because “air quality is complex and time consuming” and therefore it “was not possible to quantify potential impacts of these increased NOx emissions in this DEIS.” DEIS at 4-23. However, the BLM had over three months to incorporate this data into its air quality analysis. This information is essential to include in the modeling because the Anticline will impact many if not all of the same areas as development in Jonah. The information was readily available as it was prepared by the Pinedale Field Office.</p> <p>The BLM excluded many sources as “developed” and therefore did not separately include those emissions in the Jonah Infill cumulative analysis. AQSTD, page 24, Table 2.4; AQSTD at 22. The BLM states that the developed portions of these projects are assumed to be</p>	<p>2.2, and AQTSD Appendix C.</p> <p>PM10 and PM2.5 background levels were provided by WDEQ-AQD as the most representative available for this region.</p> <p>Permit files for all Wyoming permitted sources were examined to determine inclusion or exclusion in the inventory based on the criteria developed and set forth in AQTSD Appendix A, Section 2.2, and Appendix C. Table C.8 lists permitted sources excluded from the inventory and the reasons for their exclusion.</p> <p>The inventory methodology under which Wyoming permitted wells &lt;3 tpy were excluded from the permitted sources inventory, and assumed to be included under the WOGCC inventory, is described in AQTSD Appendix C, Section C-1-4. AQTSD Appendix C, Section C.1.2 documents the inclusion of WOGCC sources through December 31, 2002, and that 2003 data was not yet available from WOGCC at the time of the analysis. Because the permitted source inventory end date was June 30, 2003, six months of WOGCC well permits were unaccounted for.</p>

**Table II-B. DEIS Comments and BLM Responses (cont'd)**

Submittal ID	Comment Number	Category	Keyword 1	Keyword 2	Keyword 3	Comment Text	BLM Response
						<p>reflected in the monitored ambient background or the state-permitted source inventory. AQSTD at 22.</p> <p>For instance, part of the Jonah Infill II project not elsewhere taken into account was considered “developed” in the emissions inventory. AQTSD at C-40, Table C.12. In other words, the BLM believed that PM10 emissions from hundreds of wells in the Jonah Field did not need to be considered because the background levels from Cheyenne from two years ago adequately account for all the emissions. This is illogical on its face. The background emissions are clearly non-representative and not substantiated in any way, See Section II.a. supra, and so necessarily cannot account for the emissions of developed projects, especially projects like the Jonah field and the Pinedale Anticline that are relatively recent and progressing at an unprecedented rate, and which in the case of Jonah are the subject of this very DEIS.</p> <p>Alternatively, the BLM believed that the emissions from “developed” projects like part of the Jonah Infill project were accounted for in the state-permitted source inventory. However, the state-permitted source inventory contained only 34 sources total for all of Wyoming. AQTSD at 24, Table 2.4. The Jonah Field wells at issue alone exceed 34 sources, much less the addition of all other sources in Wyoming that should be included in the state-permitted inventory. The logic used by the BLM for “developed” sources is facially inadequate and is not satisfactorily explained in the DEIS.</p> <p>The BLM excluded other sources with “low” emissions. Hundreds of sources with emissions less 3 tons per year were excluded in the DEIS. AQTSD at C-24 to C-35, Table C.8. Some of these sources were producing wells and were excluded because the BLM assumed the emissions would be encompassed in the Wyoming Oil and Gas Conservation Commission (WOGCC) emission levels. AQTSD at C-35. However, the WOGCC information only included wells permitted as of 2002, nearly three years before the Jonah DEIS was prepared. AQTSD at C-3. During the past three years, drilling in Wyoming has continued at full throttle but these wells are not accounted for in the emissions inventory.</p>	

**Table II-B. DEIS Comments and BLM Responses (cont'd)**

Submittal ID	Comment Number	Category	Keyword 1	Keyword 2	Keyword 3	Comment Text	BLM Response
						<p>As a result of inappropriately excluding sources and improperly accounting for emissions that were included, the BLM's emissions inventory underestimated emissions for its cumulative analysis. The BLM must revisit the emissions inventory and include all appropriate sources and use accurate assumptions when determining emissions levels for the sources.</p>	
L-61	17	A	<b>Air Quality</b>	Analysis		<p>NEPA requires the BLM to consider not only current emissions but also emissions from sources that are expected in the near future in the region—otherwise known as “reasonable foreseeable development” or RFD. 40 C.F.R. § 1508.7. Cumulative air quality analyses must include RFD in order to have an accurate picture of air quality. An accurate RFD determination for Jonah must include all sources that affect the same areas affected by Jonah development. BLM failed to include the proper sources within and outside of Wyoming in its RFD determination.</p> <p>In the Jonah DEIS, the BLM defined RFD as Wyoming industrial sources that are NEPA-approved projects but not yet developed or not yet authorized NEPA projects for which air quality analyses were in progress. AQTSD at 22, C-5. The BLM defined reasonable foreseeable future action (RFFA) as the undeveloped portions of already permitted sources. AQTSD at 14, 22.</p> <p>For the RFD, the BLM included only Wyoming sources and arbitrarily excluded all sources from Utah, Colorado, Idaho and Montana. AQTSD at 22. All sources from those states are excluded despite the fact such sources may impact the same areas as the development in Jonah. For example, the BLM excluded significant sources in the Vernal, Utah area, the Price, Utah area, the Colorado Roan Plateau area and the Powder River Basin sources in Montana. Other major sources were also excluded, including the proposed Unit 2 at the Bonanza power plant in northeast Utah and the proposed Unit 4 at the Hunter power plant in Utah both of which will likely impact southwestern Wyoming. The permitted Roundup power plant and the Hardin Generating Station, both in southeastern Montana, were also not included but may affect similar Class I areas as Jonah development.</p>	<p>Two Elk was not included because its permit was issued after the inventory end date.</p> <p>The stakeholders group decision was made to include only RFD from Wyoming primarily due to the fact that industrial development on BLM was larger in Wyoming than those portions of Utah within the inventory/modeling domain, and Wyoming industrial development was significantly closer to the Bridger Wilderness area, the primary area of interest.</p> <p>Any proposed power plant expansions in Utah that were permitted prior to the inventory end date were included in the analysis.</p> <p>Atlantic Rim and Seminoe Road project emissions had not been quantified by the operators or NEPA contractors at the time the Jonah modeling analysis was conducted.</p>

**Table II-B. DEIS Comments and BLM Responses (cont'd)**

Submittal ID	Comment Number	Category	Keyword 1	Keyword 2	Keyword 3	Comment Text	BLM Response
						<p>The BLM's exclusion of non-Wyoming sources is inconsistent with its current inventory source determination. The BLM admitted that sources in Utah, Colorado and Idaho impact the same area as Jonah because it included sources from these states in its inventory of current sources. AQTSD at 24, Table 2.4. If these sources did not affect the same areas as Jonah, the BLM would have excluded them from the current source inventory. The BLM must expand the RFD to include those projects in other states that will affect the same areas as development in Jonah.</p> <p>The inventory for RFD for sources within Wyoming is also flawed. The BLM included only 47 sources as RFFA and 42 sources as RFD. AQTSD at 24, Table 2.4. Many potential NEPA projects that should have been considered as RFD—like the Atlantic Rim Project EIS and the Seminoe Road project—were excluded because no emissions were quantified. AQTSD at C-40, Table C.12. Also, the BLM did not include the proposed Two Elk power plant to be located in the Powder River Basin of Wyoming, which was reissued a permit in May of 2003. The inventory should have also included those sources which submitted complete PSD permit applications but which have not yet been permitted.</p> <p>The BLM cannot so easily avoid its duty under NEPA to analyze the cumulative impacts of Jonah development. The BLM cannot simply avoid including sources because full emissions studies are not completed or exclude sources without justification. For both Atlantic Rim and Seminoe, the scoping notices gave some estimates of the levels of development, which could have been used for at least a qualitative estimate of emissions. The BLM gave no indication why it excluded the other sources like the Two Elk power plant.</p> <p>NEPA requires the BLM to include relevant information unless the costs of obtaining it are "exorbitant." 40 C.F.R. § 1502.22(a). Here, the BLM made no claim regarding the efforts it would take to obtain the information or that the cost was exorbitant. The BLM has not properly rationalized its decision to exclude these sources and it must take the time to gather the</p>	

**Table II-B. DEIS Comments and BLM Responses (cont'd)**

Submittal ID	Comment Number	Category	Keyword 1	Keyword 2	Keyword 3	Comment Text	BLM Response
						appropriate information and include it in a revised RFD and RFFA determination.	
L-61	18	A	Air Quality	Analysis		<p>The BLM must conduct its cumulative air quality analysis in the context of the current air quality situation in the Pinedale area. The BLM failed to adequately acknowledge previous air quality analyses and information showing that air quality in Wyoming is already being significantly affected from current rates of development in Wyoming. See also Section II, supra. The BLM even de-emphasized the information in the DEIS that showed significant impacts to visibility in its No Action analysis. The BLM must acknowledge the state of air quality in the Pinedale area and contemporary information showing unanticipated levels of certain pollutants and significant impacts.</p> <p>The BLM should consider the Jonah development in light of already existing air quality impairment. The Record of Decision for the Pinedale Anticline Project Area (PAPA ROD) states that if caps on NOx emissions from PAPA are exceeded, additional cumulative air quality review is necessary. PAPA ROD at 16. In November of 2004, the BLM published NOx levels showing the current levels nearly triple the PAPA ROD NOx caps. Questar EA at 3-20—3-21; 4-26. It also showed visibility impairment to Class I areas in the Bridger-Teton National Forest. The BLM did not take this information into account in the Jonah DEIS. Clearly, the BLM cannot use the Jonah cumulative air quality analysis to satisfy its PAPA ROD responsibility to undergo a new air quality review because the Jonah DEIS does not even include the increased NOx levels that triggered the need for new review in the first place.</p> <p>The BLM, in an agreement with the DEQ and other agencies signed after the PAPA ROD, committed itself to track NOx emissions in the Pinedale area. However, the BLM failed to abide by its agreement until this fall when the levels of NOx were suddenly found to be triple that authorized in the PAPA ROD. Questar EA at 3-20—3-21; 4-26. Clearly, if the BLM had adhered to its agreement to track NOx, the increasing levels of NOx would have been discovered before this fall. It is our understanding that the BLM is currently retroactively compiling the data for NOx tracking from 2000 to 2005.</p>	<p>BLM found the supplemental analysis needed because the first analysis did not adequately analyze the potential impact from increased drilling. Also, the first analysis did not analyze the preferred alternative nor include the effects on potential impacts of various levels of emission reduction of the proposed project.</p> <p>A description of the NOx tracking will be included in the FEIS and in the ROD.</p>

**Table II-B. DEIS Comments and BLM Responses (cont'd)**

Submittal ID	Comment Number	Category	Keyword 1	Keyword 2	Keyword 3	Comment Text	BLM Response
						We encourage the completion of that compilation and urge the BLM to remain current with its NOx tracking responsibilities from now on. The BLM does not acknowledge this tracking responsibility in the Jonah DEIS but the need for accurate tracking remains and should be acknowledged and reaffirmed in the Jonah DEIS.	
L-61	19	A	<b>Analysis</b>	Air Quality		The BLM must acknowledge that not approving the Jonah Infill DEIS would still allow for visibility impairment of several Class I areas. The No Action Alternative in the Jonah DEIS shows visibility impairment from cumulative emissions at the Bridger Wilderness and the Wind River Roadless Area. AQTSD at F-295, Table F.10.19. In other words, even when no wells from the Jonah Infill proposed action are developed, there is still significant impairment to visibility. The BLM must incorporate this information into its determination of appropriate mitigation measures and consider its actions in the context of already impaired air quality.	The BLM can apply mitigation to the proposed project only. BLM appreciates that cumulative visibility impacts are a great concern, but BLM's authority is limited to disclosure of cumulative impacts and the level of emission reduction required to avoid potential significant impacts.
L-61	20	A	<b>Analysis</b>	Air Quality		The BLM failed to include any measurement of production and construction PM10 emissions in far-field emissions determination. AQTSD at 68. Only PM2.5 emissions were included. AQTSD at 68. The BLM supported this decision with documentation that suggested PM10 particles would tend to settle out near the emissions source. AQTSD at 68. However, the supporting documentation does not state that all PM10 particles settle out. Therefore, the BLM most likely underestimated the level of PM10 emissions at far-field locations. This would affect visibility levels as well as compliance with NAAQS/WAAQS.	PM10 from all project activities was included in all far-field modeling analyses. The fraction of the PM10 that is greater than PM2.5 from production and construction traffic emissions (i.e., mechanically generated road dust emissions) was not included based on supporting scientific documentation. However, the PM2.5 fraction of the PM10 was included in the far field estimates. Please refer to AQTSD for more information.  Other NEPA AQ analyses (i.e., Pinedale Anticline, 1999) showed negligible potential PM10 far-field concentrations.
L-61	21	A	<b>Analysis</b>	Air Quality		The BLM failed to comply with NEPA by not adequately describing mitigation measures for Jonah development. The BLM must consider mitigation measures like limiting activities that contribute to emissions, requiring emission controls on sources or requiring the off-setting of emissions to ensure the net emissions remain below applicable a certain thresholds. The BLM fails to	The FEIS and ROD will describe AQ mitigation requirements.  Table 3 on page 22 of the AQIAS (Aug 2005) presents potential visibility impacts in Bridger Wilderness from various levels of

**Table II-B. DEIS Comments and BLM Responses (cont'd)**

Submittal ID	Comment Number	Category	Keyword 1	Keyword 2	Keyword 3	Comment Text	BLM Response
						<p>adequately consider any of these types of mitigation.</p> <p>The BLM briefly described operator-proposed compensatory mitigation in the DEIS. DEIS at 4-152. However, the specifics of the proposal are not final and only tentative mitigation measures were included in the DEIS. For the Proposed Action, the BLM listed the mitigation measures but does not quantify the emissions reduction. DEIS at 5-1 to 5-7; 2-25. The BLM also did not commit the mitigation measures listed in Chapter 5 to any particular alternative and instead only states that “any of the listed actions may be required or recommended under any alternative.” DEIS at 5-1. Without quantification of emissions reduction, there is no way the decision-maker can determine whether one alternative will safeguard air quality better than another.</p> <p>The BLM failed to consider the possibility of phased development in Jonah as a potential mitigation measure. Because visibility impairment is already occurring in Class I areas that will also be impacted by Jonah, see Section III.e., supra, the BLM should analyze the possibility of delaying further development until currently emitting sources are completed. The BLM should also consider the possibility of a cap on certain emissions that would avoid further visibility impairment of Class I areas and acid deposition in sensitive watersheds. The cap on emissions increases would provide a threshold beyond which only offsets for new emissions would be allowed.</p> <p>The BLM should reevaluate the mitigation measures in the DEIS and quantify the air quality benefits of each proposed measure. The BLM should consider the implementation of a cap on emissions increases necessary to safeguard visibility of Class I areas and sensitive lakes. Mitigation measures in the DEIS are especially important because the BLM is approving the Jonah Infill project at a time where air quality values in the Pinedale area and beyond are already impaired.</p>	<p>Wilderness from various levels of emission reduction. These emission reductions could be obtained in a variety of ways, including drilling fewer wells per year.</p> <p>BLM prefers to leave the choice of mitigation measure to the industry. BLM has analyzed the potential effect of various levels of emission reduction because the resulting air quality is what matters.]</p>
L-61	22	A	<b>Analysis</b>	Compliance		<p>The Federal Land Policy and Management Act (FLPMA) requires the BLM to “take any action necessary to prevent unnecessary or undue degradation of the [public] lands.” 43 U.S.C. § 1732(b) (emphasis added). This specific, mandatory, non-discretionary standard</p>	<p>The BLM has incorporated all FLPMA provisions and requirements into the DEIS and acknowledges its responsibility in this regard. No other response is necessary.</p>

**Table II-B. DEIS Comments and BLM Responses (cont'd)**

Submittal ID	Comment Number	Category	Keyword 1	Keyword 2	Keyword 3	Comment Text	BLM Response
						<p>requires BLM to ensure that both unnecessary degradation and undue degradation of the public lands does not occur due to the oil and gas drilling. See <i>Mineral Policy Center v. Norton</i>, 292 F.Supp.2d 30, 41-43 (D.D.C. 2003). While the “unnecessary” prong of this twofold requirement may relate to the economics of oil and gas drilling and industry standard practices, the “undue” degradation prong relates to impacts that are environmentally excessive. See <i>id.</i> at 41. As noted, the unnecessary or undue degradation clause of FLPMA imposes a specific, mandatory duty on the BLM to do whatever is necessary to protect the public lands from excessive environmental degradation. Because this duty is mandatory, BLM is not required to permit surface disturbance as proposed or desired by a lessee; it retains authority—and indeed an obligation—to condition development so as to prevent both unnecessary degradation or undue degradation. 43 C.F.R § 3101.1-2.</p> <p>The unnecessary or undue degradation clause of FLPMA must serve as a bedrock for all analyses in the Jonah DEIS. It is crucial to recognize that unnecessary or undue degradation must be prevented; the DEIS must provide that both prongs of this standard are met. Clearly, the BLM bears a heavy responsibility before it can authorize activities that may degrade the public lands.</p> <p>BLM’s duty to prevent unnecessary or undue degradation (“UUD”) under FLPMA is mandatory, and BLM must, at a minimum, demonstrate compliance with the UUD standard. See <i>Sierra Club v. Hodel</i>, 848 F.2d 1068, 1075 (10th Cir. 1988) (the UUD standards provide the “law to apply” and “imposes a definite standard on the BLM.”). In this case, and in the context of BLM’s decision to allow additional development in the Jonah Field, the agency is under a statutory obligation to demonstrate compliance with the UUD standard and show that impacts from oil and gas development will be mitigated and therefore not cause undue or unnecessary degradation to important and protected resources contained in the Jonah Field. See e.g., <i>Kendall’s Concerned Area Residents</i>, 129 IBLA 130, 138 (1994) (“If unnecessary or undue degradation cannot be prevented by mitigation measures, BLM is required to</p>	

**Table II-B. DEIS Comments and BLM Responses (cont'd)**

Submittal ID	Comment Number	Category	Keyword 1	Keyword 2	Keyword 3	Comment Text	BLM Response
						<p>deny approval of the plan.”).</p> <p>BLM has not adopted these methods to avoid degradation of the environment and has not demonstrated how UUD will otherwise be prevented for the Jonah Field with the drilling of thousands of new wells and the creation of new roads, pipelines and other surface impacts from gas development. The agency’s failure to demonstrate compliance with FLPMA’s UUD standards is arbitrary, capricious, and an abuse of discretion.</p>	
L-61	23	A	<b>Public Participation</b>	Analysis		<p>If the BLM’s preferred alternative is chosen, a working group made up of citizens, government experts and industry representatives will be established to make recommendations for the Jonah Infill project. DEIS at 2-24. It appears the Jonah working group will be similar to the Pinedale Anticline Working Group (PAWG), and if the PAWG is functioning effectively, the PAWG would take over responsibility for the Jonah Field in 2006. DEIS at 2-24.</p> <p>Before the BLM approves a working group for the Jonah Infill project, it must evaluate the effectiveness of the PAWG. First, funding has been a persistent issue with the PAWG as it is unclear who is paying for the mitigation measures the PAWG recommends. For Jonah, the BLM seems to have further confused the issue. It states that the Jonah Infill working group will “make every effort to develop innovative funding sources for monitoring activities....including use of volunteers, seed money/matching funds, grants, etc. [The working group] will not depend solely on the JIDPA oil and gas Operators for funding.” DEIS at D-5. It is unreasonable to assume that significant monitoring and mitigation funding can be “raised” by members of working groups. The BLM should have mitigation and monitoring funding available and be supplemented with funding from the Operators who are causing the need for mitigation in the first place.</p> <p>The BLM must determine whether the Pinedale Anticline Working Group will be able to handle the additional workload of the Jonah Infill. While the industry and government agency members of the working groups are being paid to attend the meetings, the citizen members</p>	<p>This comment is no longer relevant. That JIWG is being removed from the FEIS and replaced by a different oversight group.</p>

**Table II-B. DEIS Comments and BLM Responses (cont'd)**

Submittal ID	Comment Number	Category	Keyword 1	Keyword 2	Keyword 3	Comment Text	BLM Response
						<p>are not. In order to avoid an unbalanced advisory committee, the BLM must ensure that adequate representation on the task groups and working group can be achieved. The BLM must provide further details regarding the Jonah Infill Working Group in the FEIS.</p>	
L-61	24	A	<b>Analysis</b>			<p>The BLM stated that no amendment was necessary for the Pinedale Resource Management Plan (RMP) for the Jonah Infill proposed development. DEIS at 1-5. The BLM determined this despite the fact it admits that the Jonah Infill project would add more wells than included in the reasonably foreseeable development projection in the Pinedale Anticline amendment to the Pinedale RMP. DEIS at 1-5.</p> <p>The BLM further justifies its determination that an amendment is not necessary by stating surface disturbance levels are below those in the Anticline amendment to the Pinedale RMP, which was 6,300 acres. DEIS at 1-5. However, the surface disturbance of both the proposed action and the BLM's preferred alternative appear to exceed the 6,300 limit for RFD surface disturbance in the RMP amendment. DEIS at 2-6, Table 2.1; DEIS at 1-5.</p> <p>Also, the BLM states that all "existing RMP objectives would be met" with the Jonah Infill development obviating the need for a RMP amendment. DEIS at 1-5. However, as shown in Sections I-III above, the DEIS showed significant and unavoidable impacts to air quality values like visibility and sensitive watersheds, which are not objectives included in the RMP.</p> <p>The Jonah Infill project represents a major change to the existing Pinedale RMP and an amendment to the Pinedale RMP is necessary.</p>	<p>The PFO RMP states that proposed actions would be considered in conformance if they: (1) are specifically provided for in the plan; (2) are consistent with the provisions, guidelines, and objectives of the plan; or (3) are not specifically prohibited and are not inconsistent with objectives and other actions which are provided for in the plan. Although the Project differs from the RFD estimates contained in the PFO RMP and the ROD, it remains consistent with expectations and objectives in the plan.</p> <p>It should be noted that projections of RFD are based upon the best data available at the time and the professional judgment of the estimators. Although every effort is put forth in developing these estimates, actual development may differ from the projections, either more or less, as new information about the project area becomes available. However, key elements of the PFO RMP remain in place, i.e. areas prohibited from surface disturbance continue to remain withdrawn and only areas previously opened for development are included in the JIDPA.</p> <p>Post-LOP, when full reclamation has occurred (habitat function is restored to 80% of pre-project levels), management within the JIDPA boundary would conform to all RMP objectives. Resource conditions within the JIDPA boundary during infill development and production</p>

**Table II-B. DEIS Comments and BLM Responses (cont'd)**

Submittal ID	Comment Number	Category	Keyword 1	Keyword 2	Keyword 3	Comment Text	BLM Response
							<p>may not be in full conformance with the RMPs; specifically air quality may be impacted at levels slightly above current conditions. However, management objectives would be met within the Field Office as a whole during JIDPA development and production.</p>
L-61	25	F	<b>Analysis</b>	Wildlife		<p>The Jonah Infill Project Area provides important habitat for a number of wildlife species. Most significant for purposes of recreation as well as project-related impacts are pronghorn antelope and greater sage grouse. While the Jonah Infill DEIS unequivocally reflects very high levels of negative impacts to their respective habitats—levels that exceed the maximum thresholds recommended by the Wyoming Game and Fish Department (WGFD)—the DEIS fails to provide adequate information to understand the true extent of those impacts, fails to adopt recommended measures to alleviate them, and, most puzzlingly given the extent of the impacts, recommends foregoing any commitment of resources for compensatory mitigation.</p> <p>The BLM must also take into account new information on the impact of natural gas development on wildlife. The Wilderness Society’s new report—“Wildlife at a Crossroads”—provides up-to-date and relevant information the BLM should incorporate into its assessment of wildlife and wildlife habitat impact analyses for the Jonah project. The report investigates the transportation network in the Pinedale Field Area and analyzes the impact of roads on sage grouse and other wildlife. The BLM should confirm in the FEIS that it utilized this report in its analysis for the Jonah Field.</p>	<p>New wildlife information will be included in the FEIS. Transportation management will be included in the FEIS. Fragmentation analysis was considered, but due to the intense nature of development it was not used. The FEIS will consider minimizing impacts to wildlife habitats, including minimizing fragmentation.</p>
L-61	26	A	<b>Wildlife</b>	Analysis		<p>The JIDPA is located at the core of the north sub-unit of the Sublette Herd Unit for pronghorn antelope. DEIS at 3-56. This herd is already below 85% of WGFD’s population objective, and has been adversely affected in recent years by low fawn/doe ratios and drought conditions and low forage production. Id. Although federal land management action cannot eliminate drought, it directly influences other important factors that contribute to pronghorn habitat condition, behavior, and population levels. 2.5% of this herd unit’s crucial range has already been directly disturbed. Id. BLM, however,</p>	<p>Chapter 4 of the FEIS states the reasoning behind the analysis that was conducted. Requirements for off-site mitigation will be included in the ROD.</p>

**Table II-B. DEIS Comments and BLM Responses (cont'd)**

Submittal ID	Comment Number	Category	Keyword 1	Keyword 2	Keyword 3	Comment Text	BLM Response
						<p>fails to provide any information as to (a) what proportion of this crucial habitat's effectiveness has been lost, given that the impact of disturbance on pronghorn extends beyond the immediate footprint of development, or (b) what this loss of crucial habitat means for the behavior of pronghorn or crucial factors relating to population trends, including fawning rates and fawn survival.</p> <p>With a population already below objective and under stress from drought, BLM now proposes an extraordinarily dense level of development directly in the path of documented pronghorn migration routes (DEIS at 3-57, Map 3.13)....</p> <p>...Unfortunately, the DEIS neither provides adequate scientifically credible information with which to assess the effects of this development, nor adequately provides for mitigation (either on-site or off-site) of this impact. BLM, for example, fails to discuss the recommendations of the Wyoming Game and Fish Department, the supporting science behind those recommendations, or the Department's refutation of BLM's accepted myths regarding wildlife "adaptation" to development in migration corridors: Long-term displacement of wildlife from preferred habitats and disruption of migration routes could, in the extreme case, extirpate "migration memory" that required several thousand years to evolve. Each successive cohort of young ungulates learns the locations of suitable winter habitats and migration routes from older, experienced females that lead them (e.g., Baker 1978, Mackie et al. 1998:44). Extended disruptions of migration or habitat use can result in loss of learned behavior from entire cohorts of young animals, breaking the tradition of migration to the most suitable winter habitats.</p> <p>Minimum Recommendations for Development of Oil and Gas Resources within Crucial and Important Wildlife Habitats on BLM Lands 8 (Sept. 10, 2004). The Jonah Infill DEIS plainly involves extreme levels of development within and immediately adjacent to documented pronghorn migration routes. The DEIS, however, despite acknowledged existing stresses on the Sublette herd, fails to provide adequate scientifically credible data about the potential extent of this</p>	

**Table II-B. DEIS Comments and BLM Responses (cont'd)**

Submittal ID	Comment Number	Category	Keyword 1	Keyword 2	Keyword 3	Comment Text	BLM Response
						phenomenon, or, most importantly, how its long-term effect might be alleviated, if that is even possible.	
L-61	27	A	Analysis	Wildlife		<p>As BLM acknowledged in the DEIS, the greater sage grouse has been extirpated from two states, and is in serious decline across its range. DEIS at 3-63. Central and western Wyoming, including the JIDPA, represent one of the species' "last strongholds." Id. Nevertheless, the species has experienced regional declines as high as 73% in Wyoming as well. Id. "Changes in the sagebrush-dominated areas where birds typically reside," including "fire, plant invasions, land conversions, urbanization, livestock grazing, energy development, noise, and others," are principal factors in this decline. Id. Unfortunately, the Jonah Infill Project continues this trend of eliminating habitat for a declining population, while failing to ameliorate this destruction through protection or restoration of habitat. As the DEIS acknowledges: Data from the JIDPA and for the entire Green River Basin show declines in male greater sage-grouse attendance at leks. Additionally, declines appear to be occurring at a faster rate in areas with oil and gas development (WGFD unpublished data; personal communication, December 2004, with Dean Clause, WGFD Biologist). Declines in lek attendance likely indicate a reduction in the regional population. . . . Site-specific surveys of the JIDPA conducted over the last few years indicate that while the area is still used for nesting and summer and winter foraging, use of the area by greater sage-grouse continues to decline. This decline is likely due in part to the increased loss of habitat resulting from oil and gas development. DEIS at 3-63 (emphasis added). Despite this acknowledgment, the BLM's preferred alternative only accelerates this habitat loss, and inexplicably rejects any commitment of resources for measures that might compensate for this loss by protecting or restoring other habitat for the species.</p> <p>Like many other BLM projects, the Jonah Infill project employed BLM's standard state-wide lease stipulations and conditions of approval for sage grouse habitat: a buffer zone of a mere 0.25 mile around occupied leks, and seasonal limitations on initial drilling within two miles of a lek and in breeding, nesting, and wintering areas. As BLM acknowledges, however, "these [timing] stipulations</p>	<p>Sage-grouse have seen a recent increase in lek attendance and estimated birds in 2004-2005. The Jonah Infill project will only affect a small number of sage grouse leks within the Pinedale Field Office. Although these leks are important, the local and regional populations will not be highly impacted. Even without the infill project, at 40-acre spacing it is highly possible that these leks will become unoccupied or abandoned. The BLM is working on adjacent habitats to lessen the impact from the infill and possibly provide more suitable habitat for displaced birds.</p>

**Table II-B. DEIS Comments and BLM Responses (cont'd)**

Submittal ID	Comment Number	Category	Keyword 1	Keyword 2	Keyword 3	Comment Text	BLM Response
						<p>do not preclude exploration and development from occurring in nesting and wintering habitat outside of the timing restriction dates, and therefore, habitat is not protected from development." DEIS at 3-66 to 3-67 (emphasis added). With admirable candor, BLM admits that "[g]iven the noted decline in greater sage-grouse use of the JIDPA, existing protection measures within the JIDPA appear to be inadequate." DEIS at 3-67. Unfortunately, this candor is not matched by a commitment to either (a) minimize impacts from further drilling within the JIDPA, such as might arguably be achieved through Alternative B; or (b) compensate for the decline within the JIDPA by ensuring added protection and/or restoration of other sage grouse habitat.</p>	
L-61	28	A	<b>Wildlife</b>	Analysis		<p>Although NEPA does not require BLM to achieve complete certainty regarding the environmental impact of a proposed project, the Act does require all federal agencies to make every reasonable effort to obtain the requisite information to make an informed and environmentally sound decision. 42 U.S.C. § 4332(2)(C). CEQ's regulations implementing NEPA expressly mandate that "[i]f . . . incomplete information relevant to reasonably foreseeable significant adverse impacts is essential to a reasoned choice among alternatives and the overall costs of obtaining it are not exorbitant, the agency shall include the information in the environmental impact statement." 40 C.F.R. § 1502.22(a) (emphasis added). The agency is excused from gathering information only if "the overall costs of obtaining it are exorbitant or the means to obtain it are not known." In that case, the regulations require disclosure of the missing information, its relevance, a description of existing information, and the agency's evaluation of that existing information. 40 C.F.R. § 1502.22(b).</p> <p>The Jonah Infill DEIS, while reflecting to some extent information obtained during monitoring associated with past and ongoing operations in the field, still does not provide the basic information about habitat resources needed for an informed evaluation of the costs of the extraordinary density of proposed development. With respect to sage grouse habitats apart from leks, for example, the proposed operating measures provide that "Operators would inventory greater sage-grouse</p>	<p>Chapter 4 of the FEIS states the reasoning behind the analysis that was conducted.</p>

**Table II-B. DEIS Comments and BLM Responses (cont'd)**

Submittal ID	Comment Number	Category	Keyword 1	Keyword 2	Keyword 3	Comment Text	BLM Response
						<p>seasonal habitats within the JIDPA not already inventoried by BLM or WGFD within one year of the ROD for this project; GIS data would be provided to BLM, WGFD, and the JIWF with FGDC-compliant metadata.” DEIS at 2-29. Similarly, the DEIS provides that ““Important greater sage-grouse wintering habitat within the Jonah and Anticline Fields and surrounding areas currently is being identified by the BLM in cooperation with WGFD. Identification of sage-grouse wintering areas will be based, at least in part, on aerial winter sage-grouse surveys.” DEIS at 3-67. The time for this information, under CEQ’s NEPA’s regulations, is not after sage grouse habitat is developed at levels of 19% to 34% total ground disturbance. NEPA requires that BLM acquire at least a basic understanding of the resources at stake before taking action. Here, particularly given the high yields of the Jonah Field to date, BLM has not even begun to make a showing that the costs of obtaining the information are exorbitant, particularly relative to the benefits already reaped by lessees. Moreover, the existence of concrete measures to obtain the necessary information after the fact clearly indicates that the means to obtain it are known; simply the will to obtain it in time to do anything with it is lacking.</p> <p>The Jonah Infill DEIS also fails to provide useable information regarding the efficacy of the mitigation measures it does rely upon (save for the acknowledgment that existing measures have already to date been unsuccessful in stemming sage grouse declines). “It is assumed that the application of identified mitigation and protection measures would reduce impact levels; however, the efficacy of many mitigations is unknown. Therefore, no quantitative variation in impact levels based upon the application of variable mitigations is provided.” DEIS at 4-2. Although NEPA and its implementing regulations certainly do not require quantitative certainty in all cases, this concession reflects the basic problem with BLM’s approach here. BLM is rushing ahead to authorize unique densities of development, without understanding the effect to which its standard mitigation measures can alleviate impacts even from lesser levels of development.</p>	
L-61	29	A	<b>Wildlife</b>	Analysis		As BLM noted, governing federal and State land use	The BLM will include compensatory

**Table II-B. DEIS Comments and BLM Responses (cont'd)**

Submittal ID	Comment Number	Category	Keyword 1	Keyword 2	Keyword 3	Comment Text	BLM Response
						<p>plans establish, the following objectives for wildlife and fisheries: "To maintain, improve, or enhance the biological diversity of all plant and wildlife species while ensuring healthy ecosystems; To conserve and develop recreational resources for the benefit of present and future generations; To consider wildlife migration corridors, crucial winter ranges, and other important habitats when evaluating land use proposals" Jonah Infill DEIS at 4-75. The proposed action will confound each one of these objectives. By authorizing extreme levels of disturbance to sagebrush ecosystems, pronghorn migration corridors, and sage grouse crucial habitats, it will impair native ecosystems without any reliable guarantee of adequate reclamation, eliminate entirely a significant recreation resource for the foreseeable future, and fail entirely to ensure the viability of pronghorn migration corridors and important sage grouse habitats. This extreme level of impact implicates BLM's duty to prevent unnecessary and undue degradation of the Jonah Field. See Section V., supra.</p> <p>Presumably in response to the exceptionally high levels of negative environmental impact, and the exceptional profitability of the Jonah Field, the field's operators have themselves proposed resources for compensatory (including off-site) mitigation of environmental impacts. "Operators have committed to various mitigation measures . . . and proposed to establish a Cumulative Impacts Mitigation Fund to mitigate potential adverse impacts in the JIDPA. While details are emerging, one form of financing the fund could be to deposit a particular dollar amount for every acre of new initial surface disturbance in the JIDPA above a certain acreage threshold." DEIS at 2-8. Although we are hesitant to endorse offsite mitigation as a cure-all for impacts that could otherwise reasonably be avoided, we recognize that, under certain circumstances, full exploitation of one resource (i.e., the gas resources underlying the Jonah Field) may result in unavoidable and excessive damage to other resources (here, wildlife habitat and recreational opportunity). Under such circumstances of extreme impact, WGFD recommendations expressly call for compensatory mitigation as a means of reducing net, if not onsite, impact. Where, as here, extreme impact thresholds for saqe grouse are to be exceeded, WGFD</p>	<p>mitigation in the ROD as deemed necessary and in accordance with BLM policy. In addition, the language regarding compensatory mitigation is being revised for the FEIS and will be more specific about the relationship between project actions and mitigation requirements.</p>

**Table II-B. DEIS Comments and BLM Responses (cont'd)**

Submittal ID	Comment Number	Category	Keyword 1	Keyword 2	Keyword 3	Comment Text	BLM Response
						<p>recommends as follows: Opportunities may exist to partially offset the loss of nesting and brood-rearing habitat by implementing habitat treatments in appropriate locations outside the well field. This type of mitigation is exceedingly difficult and expensive to accomplish effectively, and should not be looked upon as a prescriptive solution to authorize high-density well fields in important sage grouse habitat. The most effective strategy is to avoid high-density developments. Only if this is not reasonable, plan effective habitat treatments in locations that minimize the loss of habitat function for the grouse population affected by the field development. Minimum Recommendations at 22 (emphasis added).</p> <p>Inexplicably, however, BLM prefers to reject any concrete commitment of resources for compensatory mitigation. "In lieu of the proposed Cumulative Impacts Mitigation Fund, the BLM Preferred Alternative recommends that, where appropriate and consistent with BLM policy, Operators voluntarily seek BLM-approved CM projects aimed at alleviating on-site mitigation concerns." DEIS at 2-31. Given the cost and complexity of effective offsite mitigation, a vague suggestion that operators may, at some undefined future point, voluntarily seek approval for undefined future measures, is no substitute whatsoever for a concrete commitment of resources to fund an independently-supervised compensatory mitigation fund.</p>	
L-61	30	A	<b>Wildlife</b>	Analysis		<p>FLPMA requires that BLM land use plans be consistent with officially approved resource-related plans of State, local, and tribal governments. 43 U.S.C. § 1702(c)(9); see also 43 C.F.R. § 1610.3-2. Site-specific actions, such as the Jonah Infill Drilling Project, must in turn be consistent with BLM land use plans. 43 U.S.C. § 1732(a); 43 C.F.R. § 1610.5-3(a). The Jonah Infill Drilling Project, however, is inconsistent with two important resource-related state policies.</p> <p>First, the Jonah Infill Drilling Project, particularly without guaranteed compensatory mitigation, plainly violates Wyoming's official "no net habitat loss policy." It is the official policy of the Wyoming Game and Fish Commission that crucial habitat for wildlife species within the State should be managed to prevent "any loss of</p>	Requirements for off-site mitigation will be included in the ROD.

**Table II-B. DEIS Comments and BLM Responses (cont'd)**

Submittal ID	Comment Number	Category	Keyword 1	Keyword 2	Keyword 3	Comment Text	BLM Response
						<p>habitat function.” Wyoming Game and Fish Commission Policy No. VII H (April 28, 1998) at 138. Some modification of crucial habitat is permitted but only if “habitat function is maintained (i.e., the location, essential features, and species supported are unchanged).” As BLM acknowledges in the DEIS, identified pronghorn migration corridors and essential sage grouse habitat will be significantly and adversely affected by the Jonah Infill project.</p> <p>Second, the proposed Jonah Infill project is inconsistent in a great many respects with WGFD’s recent Minimum Recommendations for Development of Oil and Gas Resources within Crucial and Important Wildlife Habitats on BLM Lands (Sept. 10, 2004) (“Minimum Recommendations”).</p> <p>WGFD’s Minimum Recommendations, relying on extensive scientific literature and agency expertise, catalogue a number of crucial and important habitats, and establish three levels of impact thresholds (moderate, high, and extreme) based on the specific factors relevant to the functions of each type of crucial or important habitat. The Jonah Infill project will affect two important categories of priority habitat: (1) identified pronghorn migration corridors (DEIS at 3-56 to 3-57); and (2) sage grouse leks, nesting and brood-rearing complexes, and winter habitat (DEIS at 3-63, 3-67).</p> <p>WGFD’s Minimum Recommendations determine the “impact thresholds” for these habitats based on two “quantitative measures—density of well locations and cumulative acres of disturbance per section.” Minimum Recommendations at 9. For sage grouse habitat, the “extreme impact” threshold is met by densities of greater than 16 wells, or 80 acres of disturbance, per 640-acre section. Although BLM’s description of varying alternatives using different measures obscures direct comparison, it quickly becomes evident that the majority of the alternatives, including the BLM Preferred Alternative, fall well above the threshold for “extreme impact.” Under the BLM Preferred Alternative, even the least-impacted of the three designated areas of impact, the “19% disturbance area,” will see levels of direct disturbance of 118 acres/section—well above the 80-</p>	

**Table II-B. DEIS Comments and BLM Responses (cont'd)**

Submittal ID	Comment Number	Category	Keyword 1	Keyword 2	Keyword 3	Comment Text	BLM Response
						acre threshold for "extreme impact." DEIS at 2-22 to 2-24.	
L-61	31	A	<b>Wildlife</b>			WGFD recommends that new power lines be buried and that existing lines be retrofitted by being buried or by installing perch guards to prevent their use as raptor perches. Minimum Recommendations at 17. There does not appear to be a BLM practice responsive to this recommendation.	All management for raptors is appropriate for inclusion in the FEIS.
L-61	32	A	<b>Wildlife</b>	Noise		<p>WGFD recommends avoiding human and vehicular activity between 8:00 p.m. and 8:00 a.m. from March 1 through May 15 within a quarter mile of an occupied lek. Minimum Recommendations at 18. There does not appear to be a BLM practice responsive to this.</p> <p>WGFD recommends that, in order to avoid disturbing auditory displays, anthropogenic sources of continuous or frequently intermittent noise should be limited from March 1 through May 15. Minimum Recommendations at 18. There is no BLM requirement on this matter. BLM, however, acknowledges that "[i]t is likely that noise already has contributed to the apparent decrease in wildlife use on and adjacent to the JIDPA (see Section 4.2.2.), with observed decreases in raptor nesting activity and productivity, male greater sage-grouse lek attendance and sage-grouse nesting within the JIDPA having been reported over the past several years (TRC Mariah 1999, 2001a, 2001b, 2002, 2004a). Data also suggest that noise may contribute to disturbance and/or departure of greater sage—grouse from area leks.") DEIS at 4-63.</p>	All management for sage-grouse is appropriate for inclusion in the FEIS.
L-61	33	A	<b>Wildlife</b>	Noise	Operator-Committed Practices	<p>WGFD recommends limiting, to the extent reasonable, anthropogenic sources of continuous or frequently intermittent noise from March 15 to July 15. Again, BLM does not directly address noise limitations.</p> <p>WGFD recommends avoiding surface disturbing activities and geophysical surveys in nesting and early brood-rearing habitat (within or without a two-mile buffer surrounding a lek) from March 15 through July 15. Minimum Recommendations at 18. Operators would "avoid optimal greater sage-grouse nesting habitats, where practical." DEIS, Appendix B, at B-16. Table A.3 indicates a standard stipulation of "no surface-disturbing activity" within suitable nesting habitat or within a two-</p>	All management for sage-grouse is appropriate for inclusion in the FEIS.

**Table II-B. DEIS Comments and BLM Responses (cont'd)**

Submittal ID	Comment Number	Category	Keyword 1	Keyword 2	Keyword 3	Comment Text	BLM Response
						<p>mile buffer surrounding a lek. DEIS, Appendix A, at A-11. However, “[g]iven the noted decline in greater sage-grouse use of the JIDPA, existing protection measures within the JIDPA appear to be inadequate.” DEIS at 3-67.</p> <p>Similarly, the WGFD recommends that sites for construction be selected such that they will not disturb “suitable nest cover or brood-rearing habitats” within two miles of an occupied lek, or identified nesting and brood-rearing habitats outside of the two mile perimeter. The BLM does not mention construction sites specifically, and BLM’s two-mile timing restriction for initial construction fails to protect disturbance of nest cover or brood-rearing habitat from destruction by construction during periods not covered by the timing stipulation.</p>	
L-61	34	B	<b>Wildlife</b>	Social		<p>WGFD recommends avoiding placement of well pads, roads and other well field facilities on mapped winter habitats, or within a 200 meter buffer surrounding such habitat. Human and equipment activity is to be avoided in and within 200 meters of such habitat between November 15 and March 14. Minimum Recommendations at 19. Table A.3 indicates a restriction of “no surface-disturbing activity” from November 15 to March 14 within identified winter habitat. DEIS at A-11. No mention is made of a buffer.</p>	All management for sage-grouse is appropriate for inclusion in the FEIS.
L-61	35	F	<b>Wildlife</b>	Operator-Committed Practices		<p>The WGFD also provides additional prescriptions depending upon the impact threshold reached in a habitat area. We focus here on the prescriptions specified for “highly” and “extremely” impacted areas of sage-grouse habitat, including leks and their</p> <p>two-mile buffers and nesting and brood-rearing habitat outside of the two-mile buffer zone. These prescriptions do not apply to winter habitat, because there is a blanket prohibition on wells et al. in or within 200 meters of such habitat, regardless of impact threshold. In “high impact” areas, the WGFD additionally recommends:</p> <ul style="list-style-type: none"> <li>• Directional drilling, to the extent reasonable, in order to reduce the density of well locations and roads and associated activity. Minimum Recommendations at 20. In the DEIS, operators commit to “utilize directional drilling to access resources beneath the 0.25-mile active greater sage-grouse lek buffers if reserves beneath</li> </ul>	WGFD is a cooperator with BLM on energy development on BLM lands, and their recommendations will be given consideration in the FEIS.

**Table II-B. DEIS Comments and BLM Responses (cont'd)**

Submittal ID	Comment Number	Category	Keyword 1	Keyword 2	Keyword 3	Comment Text	BLM Response
						<p>these locations are deemed economic” and to “utilize directional drilling to access resources beneath the 600-ft wide (or tall sagebrush-dominated) buffer associated with the Sand Draw protection areas if deemed economic.” DEIS at B-16 (emphasis added). These operator-committed practices thus seem to be radically more limited than being applied “to the extent reasonable.” They do not commit operators to utilizing directional drilling within the two-mile buffer zone surrounding leks.</p> <ul style="list-style-type: none"> <li>• Clustered development, by locating well pads, facilities and roads together in the least sensitive areas. Minimum Recommendations at 20. The EIS does not appear to address such “clustered development,” except to say vaguely that operators are committed to locate and design well pads, roads, pipelines and other facilities “to minimize disturbances to areas of high wildlife habitat value.” DEIS at B-11.</li> <li>• Condensate removal. The Minimum Recommendations, at 20, recommend removal of condensate by piping, rather than trucking offsite, and provides recommendations for timing of truck traffic, if necessary, within sage grouse habitat. The DEIS does not appear to address these recommendations at all.</li> <li>• Remote monitoring in order to cut down on travel by persons and vehicles for the purpose of manually inspecting and reading instruments. Minimum Recommendations at 20. The DEIS fails to address remote monitoring.</li> <li>• Development of a travel plan that minimizes frequency of trips on well field roads. Minimum Recommendations at 20. The DEIS fails to provide for such a travel plan.</li> <li>• Gating and closing of all newly constructed roads to public travel. Minimum Recommendations at 20. This does not appear to be addressed in the EIS.</li> </ul> <p>The WGFD also recommends as a kind of “worst-case” alternative the use of the kind of off-site mitigation measures and development of a mitigation trust account discussed briefly in the DEIS but rejected, without</p>	

**Table II-B. DEIS Comments and BLM Responses (cont'd)**

Submittal ID	Comment Number	Category	Keyword 1	Keyword 2	Keyword 3	Comment Text	BLM Response
						<p>explanation, by BLM.</p> <p>In “extreme impact” areas, the WGFD recommends, in addition to all of the management practices and mitigation prescriptions applicable to “high impact” areas, the following measures:</p> <ul style="list-style-type: none"> <li>• Developing well fields in smaller, incremental phases.</li> <li>• Implementing habitat treatments outside the well field.</li> </ul> <p>It is with regard to these two key recommendations for ameliorating the effects of extreme impact that the Jonah Infill DEIS, as discussed above, fails most glaringly short of state policies. Contrary to WGFD recommendations, the BLM does not consider any type of phased or incremental development for the field in its alternatives, and its preferred alternative inexplicably rejects any commitment of resources that would ensure beneficial habitat preservation or treatment outside the affected well field.</p>	
L-61	36	A	<b>Wildlife</b>	Analysis		<p>The WGFD recommends that for migration corridors of less than half a mile in width, there should be “no surface occupancy,” while for broader migration corridors, further constriction should be avoided and well-field density should not exceed four well locations per section. Minimum Recommendations at 23. No plan in the EIS contemplates density of less than 16 wells per section. The EIS is evasive on the degree to which the pronghorn migration corridor in the JIDPA might be affected. The EIS notes that the corridor is greater than a mile wide and contends it will not be disturbed. DEIS at 4-83. However, it also says in the same section that movements of pronghorn through the JIDPA “are likely to be hindered under most, if not all, of the development alternatives.” Id. In plain fact, the BLM simply lacks adequate scientific data to determine with any certainty the probable effect on migration corridors, and is simply embarking on an uncontrolled, unmonitored experiment on the existing pronghorn population.</p> <p>We strongly urge BLM, prior to approving any further drilling within the already heavily-impacted Jonah Field, to work closely with WGFD as well as other interested parties to incorporate, to the maximum extent possible,</p>	<p>WGFD is a cooperator with BLM on energy development on BLM lands, and their recommendations will be given consideration in the FEIS.</p>

**Table II-B. DEIS Comments and BLM Responses (cont'd)**

Submittal ID	Comment Number	Category	Keyword 1	Keyword 2	Keyword 3	Comment Text	BLM Response
						all WGFD recommendations for preventing or, where necessary, alleviating impacts to high-value habitats such as pronghorn migration corridors and sage grouse essential habitats. Only by actively and fully implementing these measures, including compensatory mitigation as well as practices within the field, can BLM avoid inconsistency with state policy and unnecessary and undue degradation of federal resources.	
L-61	37	A	<b>Technical Information</b>	Mineral Resources	Mineral Resources	<p>See Section IX of Letter for detailed analysis.</p> <p>Overall conclusion regarding recoverable resources.</p> <p>This analysis demonstrated the following facts: 1.) The DEIS conclusions concerning reductions in recoverable reserves due to directional drilling are grossly inaccurate. 2.) The DEIS claim that two factors (a frequent inability to drill and case the lower 1,000 feet of Lance formation and well economics) will cause Alternative E to lose 36% of the gas reserves that would otherwise be recoverable under EnCana's "Proposed Action" is statistically impossible. 3.) In no case could the these two factors result in a loss of more than about 6.5% and even that number is a significant stretch. 4.) Because BLM has a responsibility to take "any" action necessary to prevent unnecessary or undue degradation of the public lands, and since the public lands will clearly be severely degraded under BLM's preferred alternative, and since EnCana and other operators in the JIDPA will reap very large profits from their operations even if directional drilling is used, BLM must require and maximize the use of directional drilling in the JIDPA so as to meet its duties under the FLPMA. [see Section IX of letter for detailed analysis.]</p>	<p>Thank you for your comment. NEPA mandates that an EIS or environmental assessment (EA) analyze a reasonable range of alternatives. Per this requirement, directional drilling is addressed as a component of several alternatives in the Draft EIS. Alternative B would almost exclusively require directional drilling. Even the Preferred Alternative has a directional drilling component. Also, please note that the draft EIS analyzes the impacts of all of the alternatives. It does not select any given alternative to implement. Frequently, the implemented action is a composite of two or more of the alternatives analyzed. In addition, please note that while directional drilling would potentially reduce surface disturbance impacts, it also potentially increases air quality impacts and lengthens the disruptive activities period due to the longer time required to drill a directional well.</p>
L-64	1	A	<b>Technical Information</b>	Air Quality		<p>Emissions: Although BLM/Operators/modeling estimates and/or assumptions result in little or no impacts greater than allowed limits for various pollutants; and considering that current determinations from recent monitoring, without extensive time, for limited areas, are reported as "about 3-times previous expectations"; why not start by requiring best scientific/available technology for all equipment applications/practices in all operations</p>	<p>[Thank you for your comment. Such ideas continue to be considered. However, because of the continual development of technology for implementing the JIDP, the BLM prefers to leave the choice of mitigation measure to the industry. BLM also recognizes that WDEQ</p>

**Table II-B. DEIS Comments and BLM Responses (cont'd)**

<b>Submittal ID</b>	<b>Comment Number</b>	<b>Category</b>	<b>Keyword 1</b>	<b>Keyword 2</b>	<b>Keyword 3</b>	<b>Comment Text</b>	<b>BLM Response</b>
						(engines/emitters, etc.) (drilling/Completion/ Operating/ Transporting Equipment) (Like scrubbers/ catalytic converters/ turbochargers / heat recovery-conversion/ etc.), in addition to the new low emission engines which may not exist or occur for all applications.	employs the BACT processes as part of their air quality regulatory authority and responsibility. The FEIS and ROD will describe mitigation and COAs to be applied for air quality.
L-64	2	A	<b>Technical Information</b>			Pipeline Testing: Regarding general operations write-up in Section 2.9 on page 30 of Exhibit-G, DEIS Volume 2, pressure testing with natural gas (air or other gas) is not considered a safe practice; pressure testing is usually performed with liquid to prevent catastrophic occurrences in event of pipeline rupture or from explosion (including any necessary repair.)	Thank you for your comment. Testing with natural gas is an accepted practice, but also note that the text in Appendix G does not require this method, rather references testing with natural gas and/or water.
L-64	3	A1	<b>Technical Information</b>			Flexibility: It is commendable that BLM process will maintain a site specific and case-by-case application/review/approval (or modify or reject) basis for all development/ operational/ impacts/ disturbances as discussed in Section 1.3 on page 1-5 and Section 2.14.1 on page 2-26, Chapters 1 and 2 of DEIS Volume 1 (besides elsewhere), working with operators and other agencies and with new technologies/ developments as such become applicable (and they with BLM); yet activating immediate remedial mitigation/ reclamation when situation / indication/ functions are evident or ended (as presented in various discussions elsewhere).  Revisions: However, it seems that a statement or provision be added to explicitly require provisions of the new RMP to supercede allowances under this infill plan DEIS/EIS/ROD, in event such RMP or parts thereof be determined contrary to allowances for this infill plan.	RMPs cover large areas and are designed to be broad in scope, resources allocations, and resource decisions. Project-specific EISs, such as the JIDP EIS, are more location specific and make site-specific allocations/decisions. Due to the broad, overarching basis of the RMP process, it is unlikely that the RMP revision would change any of the more site-specific decisions/allocations made through the JIDP EIS.
L-64	4	A1	<b>Alternatives</b>			Also, regarding discussion of BLM Preferred Alternative in Section 2.14 on page 2-22 of said Chapter 2, specifically the "34% (214-acre) new disturbance" paragraph, it seems that a subparagraph should be added stating the same "well pad density . . . 10 year trends . . . 40 acre . . . Production objectives" subparagraph as also stated for the "24% (150 acre)" and "19% (118 acre)" parts on page 2-24 (at top and about 1/4 page down); and my comments below about "well density" also relate to the said "40 acre surface spacing" part of said subparagraph.	This comment is no longer applicable. It will be addressed by the new Preferred Alternative in the FEIS.
L-64	5	A1	<b>Analysis</b>			Furthermore, a statement or provision should be added	The BLM notes in Section 1.3 of the

**Table II-B. DEIS Comments and BLM Responses (cont'd)**

<b>Submittal ID</b>	<b>Comment Number</b>	<b>Category</b>	<b>Keyword 1</b>	<b>Keyword 2</b>	<b>Keyword 3</b>	<b>Comment Text</b>	<b>BLM Response</b>
						to explicitly state that this particular infill plan EIS evaluation (for Jonah) and related drilling/ development/ spacing does not set any specific precedent(s) and will not by itself, in part or total, extend elsewhere within the PRA without a site-specific/ stand-alone procedure as conducted for this infill plan or as provided by the final new RMP.	DEIS that even within the JIDPA, no specific actions are approved by this document and each component must be approved on a site-specific basis. Since this applies within the JIDPA, there should be no reasonable implication that any part of this document will apply outside the area.
L-64	6	A	<b>Analysis</b>			Well Density: Although BLM statement at end of Section 2.14 near top of page 2-26 that "BLM will not regulate number of wells or pace of development," this well development/ productivity vs. well density for the field/ reservoir question is the basis for all alternatives / disturbances / impacts/ mitigation related to Decisions about operator(s) proposal(s). ... Maybe some of your considerations for Questar proposal are relevant to this infill plan and, vice-versa, some considerations for this plan are relevant to Questar activity, either/both of which may result in reconsideration / amendments for these drilling plans and/or the forthcoming new RMP which provisions should override any contrary provisions of these recent drilling plans because new RMP is the "master" plan (although delayed being completed / issued).	This comment is no longer applicable. It will be addressed by the new Preferred Alternative in the FEIS.  In addition, please note that the JIDP EIS is not being tiered off of any Questar work.
L-65	1	A	<b>Air Quality</b>	Analysis		Given the importance of air quality as an issue we were disappointed by the quality of the analysis. We found that the sheer size of the analysis obscured critical flaws which vitiate the usefulness of the DEIS to accurately portray and analyze the impacts of this project. We are aware of the pressure the BLM is under to complete this process but that is no excuse for such a misleading and inaccurate document. This observation applies not only to the main DEIS but to the Air Quality Technical document prepared by TRC prostituting themselves for industry. The inputs TRC used in modeling are clearly bogus and the results inaccurate and misleading, even with the predicted significant impacts to visibility and other parameters.	BLM is working on making the AQ sections of BLM's NEPA documents more readable for the public. BLM will provide templates for these AQ sections that are geared toward the general reader, simplify and summarize results of dispersion modeling, and constrain technical details to the AQTSD. Please contact Susan Caplan at the BLM Wyoming State Office for more information on the AQ templates.  The modeling utilizes current science and the most current modeling tools and methods available.
L-65	4	A	<b>Public Participation</b>	NEPA	On-Site Mitigation	On p. v. of the Executive Summary it mentions that the Preferred Alternative (PA) would require monitoring and surveying. Previous NEPA processes on the Pinedale FO have included such measures many or most of which	Much of this comment is no longer applicable. It will be addressed by the new Preferred Alternative in the FEIS.

**Table II-B. DEIS Comments and BLM Responses (cont'd)**

Submittal ID	Comment Number	Category	Keyword 1	Keyword 2	Keyword 3	Comment Text	BLM Response
						<p>have been totally ignored, for instance the NOx tracking reports, etc. The public can have little confidence in the BLM with such a poor track record. With this poor track record, a review of past mitigation measures, requirements, etc. and their effectiveness and implementation must be included in the Supplemental DEIS.</p> <p>On the same page it states that AQRV impacts modeling will be run during this comment period and will be included in the FEIS. This does not allow public review of this modeling and therefore violates NEPA. In addition the DEIS states the similarity of the PA with another Alternative which also was not modeled which was said was similar to another Alternative that was modeled. This kind of logic that A is similar to B and B is similar to C, therefore A is similar to C is false and unsupported.</p>	<p>FEIS. However, it should be noted that the new air quality supplement is completed and has been made available for public review.</p>
L-65	5	A	<b>Soils</b>	NEPA		<p>Under the Soils section of this page is it also mentions that no modeling of soils impacts was done and will be included in the DEIS for all alternative. Having no soils impacts modeling, given the highly sensitive soils in the area and poor revegetation capabilities is a major issue. To include no quantitative analysis of this in the DEIS and thus providing no public review of this significant issue is a violation of NEPA.</p>	<p>The predictive analysis for sediment transport has been completed. The predictive analysis considered sedimentation associated with significant, <i>individual</i> storm events. At a broad watershed scale, it demonstrates that soil erosion impacts can be controlled and mitigated, but on a more site-specific level impacts may still pose a significant issue to soil, watershed, and other resource values and may need special attention. Also, the report concluded that cumulative erosion effects are possible considering the fact that multiple, significant storm events are likely over the life of the project.</p> <p>The acceptable, background soil erosion rates are unique to individual sites and soil series. Therefore, typically, site-specific assessments are needed during the APD/EA process to quantify effects and prescribe appropriate BMPs.</p>
L-65	6	B	<b>On-site Mitigation</b>			<p>P 2-10 5-10 years for reclamation: No data is presented to support this claim. In the precipitation regime and soil</p>	<p>This estimate is based on the professional judgment and</p>

**Table II-B. DEIS Comments and BLM Responses (cont'd)**

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						types of the project area 20-40 years is more realistic. In the FEIS please provide supporting evidence to support your conclusions.	experience of BLM Pinedale Field Office personnel. The text will be amended.
L-65	7	A	<b>Air Quality</b>	On-Site Mitigation	Conditions of Approval	P 2-30-31: Even though air quality is the most significant impact from this proposal, there is no listing for required air quality monitoring even though this list gets to the level of detail as requiring operators to monitor forage utilization on reclaimed areas. This level of ignoring the critical issues is unacceptable.	AQ monitoring requirements will be described in the FEIS and in the ROD.
L-65	8	B	<b>Air Quality</b>	Analysis		Table 2.12: This table does not say what the current number of days of impairment of visibility are. This is critical information to analyze the impacts. Please provide this information in the SDEIS.	The potential current (year 2006) number of days of significant visibility impacts is described in Chapter 3 of the Air Quality Impact Assessment Supplement (Aug 2005). Please see table 5 on page 28 for a summary of the potential visibility impacts.
L-65	9	A	<b>Air Quality</b>	Analysis	NEPA	P 3-4 p.6: The DEIS states "air quality monitoring has not been conducted within the JIDPA, air quality monitoring for the most relevant pollutants has been conducted and determined to be representative of the CIAA." Gas development has been going on within the Jonah field for nearly a decade and yet no air quality monitoring has been done. This lack of even the most basic project monitoring is a strong indictment of BLM management and calls into question if any of the proposed monitoring will be conducted as laid out in the DEIS. In addition, this ambiguous sentence above basically states that even though we have done nothing in the Jonah area there is other data that "is representative" of the area. What is left to small footnotes is that this data was collected as far back as the mid 1970s, with some in the early 1980's, the most recent data was from 2001 in Green River, about 70 miles south of the project area. A reasonable peer review of the data used as background concentrations would find that this data collected elsewhere in the state up to 30 years ago does not represent air quality in the Jonah field today. This is one of the fundamental flaws in the data input to the model, which vitiates the results of all modeling and is a violation of NEPA.	AQ monitoring has occurred near the Bridger Wilderness since the 1980's, including concentrations, visibility and atmospheric deposition. An AQ monitoring station was installed in the Jonah filed in November of 2004, as well as in Boulder and Daniel.  Please also see response to comment L-61-6.
L-65	10	B	<b>Air Quality</b>			Figure 3.1: Why does this wind rose not contain data through 2003 as mentioned on the previous page?	Although the meteorological monitoring site operated through 2003, at the time of the analysis only data through 2002 was QA/QC'd and

**Table II-B. DEIS Comments and BLM Responses (cont'd)**

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							available.
L-65	11	A	<b>Analysis</b>			Map 3.1: This map does not contain all the projects going on in the domain area such as the 300 well proposal in the Wind River basin.	The Wind River EA was included in the modeling analysis. The Wind River EIS was not proposed for development at the time of the Jonah analysis.
L-65	12	B	<b>Analysis</b>			Figure 3.7: Where is the data from mid 2001 to present? Since much of the development has occurred from 2000 on this information is critical. If there is some QA issue the data should be presented with caveats.	The data used for this figure were available at the time of the analysis. Air quality information has since been revised and is being presented in the updated technical supplemental document (August 2005).
L-65	13	A	<b>Water Resources</b>			P 3-41: Here again the BLM leaves critical information out until the FEIS in violation of NEPA. This hydrologic modeling is key to understanding the impacts of the proposal. Without this information the NEPA analysis is vitiated.	A hydrologic model of potential sediment contributions was run after the JIDP DEIS was released and is available for public review.
L-65	14	A1	<b>Analysis</b>	Technical Information		<p>P 4-1: "Overestimation" There are many aspects of the AQ modeling and inputs that would point to a major underestimation not overestimation, rendering that statement unsupported. Two major flaws which severely underestimate impacts are the modeling of 1/2 Tier I and 1/2 Tier II drill rig engines. Since there is not a requirement to use these engines the changes of them being used is slim. The new diesel engine regulations only require engines manufactured after January 1, 2007 to meet Tier II requirements. Since Tier II emit approximately 75% less emissions than standard diesel engines this mistake has major impacts on the results of all modeling. Another major flaw is the fact that current emissions from PAPA were not included. The combination of these two major errors vitiates the entire modeling effort. If these emissions were accounted for, ozone would be well over NAAQS and WAAQS with the much greater NOx available for transformation to ozone.</p> <p>Because of these major errors we are not able to accurately analyze the DEIS.</p>	<p>The decision to assume a 50/50 split between Tier I and Tier II drill rigs was based upon a reasonable expectation of their use over the LOP. In addition, different ranges were included in the air quality analysis.</p> <p>Emissions from the Pinedale Anticline Project Area (PAPA) are included in the updated inventory that includes data through 2004.</p>
L-65	15	A	<b>Analysis</b>	NEPA		P 4-2: In p 8 it is stated that even without this infill, the project would last another 63 years. In the Jonah II ROD it states LOP as 30-50 year. What is the difference between then and now that would allow an additional 25-45 years of LOP? Was this ever analyzed in any NEPA	The estimations included in the Jonah II ROD were based on available knowledge at the time and best professional judgment. This comment notes that fact that the

**Table II-B. DEIS Comments and BLM Responses (cont'd)**

Submittal ID	Comment Number	Category	Keyword 1	Keyword 2	Keyword 3	Comment Text	BLM Response
						<p>document? If not, why not?</p> <p>In this same paragraph, it is stated "preliminary research and monitoring results indicate significant adverse impacts to many area resources have already occurred with existing development and mitigation requirements."</p> <p>The above sentence is very important in that it demonstrates:</p> <ol style="list-style-type: none"> <li>1) The impacts of previous projects are more widespread and severe than was analyzed in any NEPA document, meaning that previous NEPA was poorly done and underestimated impacts.</li> <li>2) The mitigation measures in place in previous projects are insufficient, ineffective, and probably poorly enforced, applied and implemented.</li> </ol> <p>These 2 reasons are sufficient for the BLM to conduct updated NEPA on previous projects and analyze what went wrong, and what needs to be done to correct the situation. This feedback information would then be used to inform the current NEPA process to avoid the same mistakes. I would also bet that these impacts being found through the limited research and monitoring that the BLM has done were clearly laid out in public comments to the previous NEPA processes, which the BLM at the time chose to ignore.</p> <p>This kind of grudging pro forma attitude towards NEPA requirements on BLM's part is shameful.</p>	<p>implementation of these actions was other than expected. Realistically this is likely to occur in other situations. NEPA has no requirement to revisit these projects and re-document the status of the actions. However, the BLM continues to watch such projects and benefit from the experience gained.</p> <p>As noted in the comment, the BLM has learned that standard mitigations may not be sufficient for the JIDP and so has incorporated additional measures into the new Preferred Alternative. The BLM will also continue monitoring the results and along with a revised oversight group to consider revisions to the JIDP.</p> <p>There is no NEPA process for revisiting and/or revising previous projects and their analyses, so no such work will be done.</p>
L-65	16	A	<b>Analysis</b>	NEPA		<p>P 4-5: Additional processing facilities: Just because these facilities may need WDEQ permits does not absolve the BLM from need to examine these effects. It would be comparatively easy to make these obvious calculations. By not doing so the BLM vitiates this DEIS and violates NEPA.</p>	<p>It is not possible to quantitatively analyze the effects of something that does not yet exist. As noted, these projects are speculative in nature so no data are available for study. Nonetheless, to be thorough in considering RFD, the DEIS acknowledges that the facilities may exist in the future. Noting that WDEQ will be responsible for permitting these facilities assures that reader that they will be appropriately regulated if they are built.</p>

**Table II-B. DEIS Comments and BLM Responses (cont'd)**

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L-65	17	B	<b>Technical Information</b>			Table 4.1: This table lists decaview impacts at the 1.0 dv level even though the agency in charge of this parameter considers .5 dv as a significant impact. Please review this in the SDEIS. Also what are existing impacts under no action?	Potential visibility impacts were compared to 0.5 dV in tables contained in Section F.8 of the Air Quality Technical Support Document. The BLM considers 1.0 dV as the significance criterion for visibility. Comparisons to 0.5 dV were included as a courtesy to the USFS.
L-65	18	B	<b>Analysis</b>	Air Quality		P 4-7: "Production related emission of SO2 and PM10 were not modeled..." Why not?	The construction or production phase of JIDPA development that produced the highest emission rate of any pollutant was the phase analyzed in the near-field analysis. For SO2 and PM10, construction produced the highest level of emissions; therefore, production-related emissions were not modeled, construction-related emissions were.
L-65	19	A	<b>Air Quality</b>	Analysis		P 4-8: We are confused by the various rig days listed throughout this document, 23, 22 or 29 or 19 was used in the AQ Tech doc. The difference in NOx emissions between these are significant.	Drilling activities for straight-hole wells were assumed to be 19 days and drilling activities for directionally drilled wells were assumed to be 23 days. Annual emissions calculations assumed these durations. All modeling analyses assumed drilling activities lasted 8760 hours per year. The scenario of 20 drilling rigs operating continuously was used to estimate a 250 well per year development rate (WDR), 12 drilling rigs operating continuously was used to estimate a 150 WDR, and 6 drilling rigs operating continuously was used to estimate a 75 WDR. Straight and Directional drilling emissions were included in the analyses.
L-65	20	A	<b>Analysis</b>	Air Quality		P 4-9: Please explain why visibility would be clearer in the Wilderness than along the front from Pinedale to south of Boulder. Since the same air mass travels over both, we are confused by this.	The air column over a residential area contains anthropogenic pollutant emissions from sources such as traffic, wood stoves, and furnaces. A PSD Class I area such as the Bridger Wilderness Area would not have any emissions sources. The residential

**Table II-B. DEIS Comments and BLM Responses (cont'd)**

Submittal ID	Comment Number	Category	Keyword 1	Keyword 2	Keyword 3	Comment Text	BLM Response
							sources, although they many be minor in many rural areas are still larger than that of the non-populated Class I areas. In addition the Class II areas are generally closer to industrial pollutant sources and the pollutants are not as dispersed in the transported air mass as they are once the air mass reaches a Class I area. Thus it would be expected that the visibility in the Class II of Boulder would more degraded than the visibility in the Bridger Class I area.
L-65	21	B	<b>Analysis</b>	Air Quality		P 4-10: Even the estimates from the currently flawed modeling show impacts above regulatory limits for PM10 and NO2. What mitigation and monitoring is the BLM requiring that will keep levels of these two pollutants below these levels? What mitigation and monitoring measures will the BLM take to insure .5 dv visibility limits are not exceeded?	<p>Potential concentrations are below NAAQS. The PSD Increment Consumption Analysis being done by WDEQ will determine the status of NO2 increment consumption in Bridger for 2002.</p> <p>Table 3 on page 22 of the AQIAS (Aug 2005) presents potential visibility impacts in Bridger Wilderness from various levels of emission reduction. These emission reductions could be obtained in a variety of ways, including drilling fewer wells per year.</p>
L-65	22	A	<b>Analysis</b>			<p>P 4-11: Current field development in the Jonah is far different that what was analyzed in the Jonah II EIS, also the impacts and level of development of the PAPA is very different than what was analyzed (HP of engines, pace, number of rigs etc.) therefore the statements in 4.1.2.1 are false and unsupported.</p> <p>In addition, what mitigation and monitoring measures will the BLM require to insure that deposition impacts do not exceed DAT?</p>	<p>The Jonah II EIS is the appropriate reference document for the No Action Alternative. The DEIS makes no implication that the levels are the same as anticipated in the document, but rather notes that the impacts are similar to those analyzed and are reflected in that document.</p> <p>In DEIS Section 2.14.1, one of the performance objectives is to maintain airborne emissions at or below levels to prevent deposition in sensitive areas greater than the Deposition Analysis Threshold (DAT). The exact monitoring and appropriate mitigation would depend on the project</p>

**Table II-B. DEIS Comments and BLM Responses (cont'd)**

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							component. The performance objectives will be revised in the new Preferred Alternative for the FEIS.
L-65	23	A	<b>Analysis</b>			<p>Section 4.1.2.11: This entire section is unclear. What about sources before 2001? The definitions of RFD and RFFA are so narrow as to eliminate obvious "reasonably foreseeable development" These definitions are not in line with accepted definitions for these terms. The result of this excessively narrow definition is that many impacts to AQ are excluded, thus making an artificially underestimated analysis of impacts.</p> <p>This section goes on to state that "Recent estimation of NOx emissions..." The conclusion of this paragraph is false and unsupportable.</p>	<p>The approached to air quality used in this NEPA process was to model the effects of known sources after 2001 and then add those potential impacts to monitored background results. This process is efficient and cost-effective yet still accounts for pre-2001 sources via the monitoring results.</p> <p>State-permitted emissions sources that received permits within 18 months prior to January 1, 2001 but were not yet operating on January 1, 2001 were included in the modeling as RFFA.</p> <p>RFFA and RFD were defined in a manner that would account for future development while still providing quantifiable data for modeling. Projects that are completely speculative cannot be modeled but are still acknowledged in the section. The paragraph referred to in the second part of the comment is a statement of current conditions; no conclusion is made.</p>
L-65	24	A	<b>Analysis</b>			Section 4.1.2.12: "Unavoidable Adverse Impacts" These listed impacts are not unavoidable. They could be mitigated through measures required. This is in violation of NEPA, FLPMA, and MUSYA.	These concerns are being further addressed the air quality supplemental document. To the extent possible, visibility impacts will be mitigated.
L-65	25	A	<b>Surface Disturbance</b>	Analysis		<p>P 4-52: "Compacted areas could reduce ..." yet elsewhere in the DEIS it is stated that 66% of the project area will be disturbed by earth moving equipment thereby compacting 66% of the area.</p> <p>P 4-95: "nor increased turbidity or sedimentation..." Even though the protect will disturb and compact 66% of the area, hundreds of miles of new roads and thousands of acres of new well pads, we have found nothing in the</p>	See revised text in Section 4.2.3 for Threatened, Endangered, Proposed, Candidate, and BLM-Wyoming Sensitive Species in the FEIS.

**Table II-B. DEIS Comments and BLM Responses (cont'd)**

Submittal ID	Comment Number	Category	Keyword 1	Keyword 2	Keyword 3	Comment Text	BLM Response
						DEIS that would lead to a reasoned conclusion as in the above quote. Please supply the reasoning in the Supplemental DEIS for public review.	
L-65	26	B	Wildlife			P 4-96: Please provide the basis for the conclusion that the project will not further push these species towards federal listing.	Federal listing is the discretion of the USFWS, which has not indicated that these practices will lead to listing.
L-65	27	A	Social	Analysis		P 4-116: This entire section is absurd. No "undue burden on existing infrastructure." Does the writer of this DEIS happen to live in Sublette County? Do they read the newspapers? 32% of the housing are second homes and therefore to say that these are vacant and therefore available is absurd and misleading. "No housing shortages are anticipated." If there currently was no shortage why are the motels filled with residents?	<p>The wording on pages 4-116 and 4-117 of the JIDP DEIS and Page 265 of the Socioeconomic Technical Support Document (Feb 2005) has been changed from:</p> <p>"While it is possible that there may be some increase in the study area population as a result of jobseekers coming to the area, such an increase in population would not place an undue burden on existing infrastructure. For instance, nearly 32% of the housing in Sublette County is vacant, although the habitability of this vacant housing is unknown (see Table 3.8). No housing shortages are anticipated. However, if there were an increase in the population, increased demand would likely cause an increase in housing prices (rental costs and home sale prices). Additionally, increased affluence in the study area is likely to cause an increase in the demand for higher-quality housing, which could result in increased housing construction projects. This would result in increased ad valorem tax revenues to local governments. It could also make it more difficult for some individuals to obtain satisfactory housing within affordable price ranges, which would have an effect on those individuals. Impacts to housing already being experienced by the affected communities may be incrementally increased by the</p>

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							<p>Project as a result of increases in population. Plans are underway to build another motel in town and several mancamps are currently under discussion by area operators for permitting to alleviate some of the pressures on housing. Several housing developments are also being planned.”</p> <p>to:</p> <p>Population in the study area may increase as a result of increased employment opportunities generated both directly and indirectly by the JIDP, affecting the availability of housing. To illustrate the point, Pinedale is currently facing a housing shortage and any additional pressure would exacerbate an already tight housing market. Moreover, if population were to increase, the increased demand for housing would likely put even more upward pressure on already high housing prices (rental costs and home sales prices). Additionally, increased affluence in the study area is likely to cause an increase in the demand for higher-quality housing, which could result in increased housing construction projects. This could make it more difficult for some individuals to obtain satisfactory housing within affordable price ranges.</p>
L-65	28	A	<b>Analysis</b>			Section 4.9: This section is woefully inadequate and indefensible. Please do a more thorough analysis in the SDEIS.	This section is appropriate and covers known commitments of resources. Without further explanation from the commenter, no additional response to this comment is possible.
L-65	29	A	<b>Analysis</b>			Section 4.10: Here again the section is absurd and inadequate. Short-term, we are told, is the 110 years of the project and long-term is after the completion of this	The LOP noted in DEIS Table 2.2 is likely to be 76 years, after which complete reclamation is to occur.

**Table II-B. DEIS Comments and BLM Responses (cont'd)**

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						110-year period.	Compared to the total time these resources have been used and will continue to be used, it is appropriate to consider the LOP to be short term.
L-65	30	A1	<b>Analysis</b>	On-Site Mitigation	Compensatory Mitigation	<p>P 5-1: p 1 uses the word "could" This lack of requirement with the use of "shall" undercuts the usefulness of the described mitigation and monitoring. In addition, the process is further vitiated by the fact that analyzing impacts based on unenforceable mitigation measures violates NEPA. "HAP assessment ..." No details are given as to when, where, how.</p> <p>Mitigation must include a scientifically defensible emissions cap for all emissions listed in the DEIS along with a scientifically defensible monitoring program.</p>	As explained in the first paragraph, Chapter 5 outlines possible mitigation measures that could be implemented for the JIDP but are only conceptual at this time. None of these measures are being required—nor would any be until a ROD is signed—so the use of the word “shall” would be inappropriate to the DEIS. Also, since these measures have not been incorporated into the analysis for the Preferred Alternative, as noted, no details are needed at this time.
L-65	31	B	<b>Air Quality</b>			P B-3: #12 Where are these emission levels located in the DEIS. We could not find any such item. Further, explain the logic that adherence to previous levels is no longer applicable.	The “emission level” in #12 refers to the NOx emission that was assumed for the AQ analysis of the Pinedale Anticline. The ROD stated that AQ in the Pinedale area would be re-analyzed when emissions reached that level. The AQ analysis in the Jonah DEIS (including supplemental information) presents those analyses.
L-65	32	B	<b>Soils</b>	Analysis		P B-7: No map of stabilized dunes or erosion prone or high salinity soils overlaid with the 66% disturbance areas. Please provide this in the SDEIS.	<p>This information is contained in the DEIS. Map 3.3 shows the location of the stabilized dunes. Map 3.7 and Table 3.12 show the locations of high salinity soils.</p> <p>In addition please note:</p> <ul style="list-style-type: none"> <li>- Information on DEIS page B-7 is supplied by the operators; no additions to this information are made by the BLM.</li> <li>- The new Preferred Alternative will not include the 66% disturbance area.</li> </ul>
L-65	33	A1	<b>Operator-Committed Practices</b>	On-Site Mitigation	Compensatory Mitigation	P B-15: "with operator approval" must be deleted to make these valid mitigation requirements.	See revised text in Appendix B in the FEIS.

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L-65	34	E	<b>Analysis</b>			P C-20: What has the BLM done regarding EPA comment in Point #6?	Discussions with the EPA have occurred and their concerns are incorporated in the air quality supplemental document.
L-65	35	A	<b>Public Participation</b>			Section D: The idea of creating an entire new set of working groups and task groups for each field is impractical and ineffective. Such small groups are guaranteed to fail as their purview is not comprehensive enough to address the issues at hand. We strongly suggest a SW Wyoming Regional group comprised of all of the players.	This comment is no longer applicable. It will be addressed by a new oversight group in the FEIS.
L-65	36	E	<b>Air Quality</b>			Section F-1: Given the major underestimation of NOx emissions both for the field and for the surrounding area it is clear that PSD levels will be exceeded. What will the BLM require to keep from exceeding PSD for NOx?	Comparisons of impacts derived in the AQ analyses to the PSD increment are included for informational use only and do not represent a regulatory PSD increment consumption analysis. Such a regulatory analysis is the regulatory authority and responsibility of the WDEQ. The WDEQ has undertaken an extensive analysis and modeling study designed to obtain the best possible estimate of the cumulative NO2 PSD increment consumption from sources impacting southwestern Wyoming. The final results should be available from WDEQ in late 2005 or early 2006. The FEIS and ROD will describe mitigation to be applied for air quality.
L-65	37	E	<b>Air Quality</b>			Table F-6: As stated previously, given the underestimated NOx emissions O3 levels will be significantly higher than the DEIS modeling, which will exceed NAAQS and WAAQS. What will the BLM require to insure that these Standards are not exceeded?	The BLM does not determine conformance with the NAAQS/WAAQS. The WDEQ is the agency with the regulatory authority to determine compliance with air quality standards based on monitored concentrations. The FEIS and ROD will describe mitigation to be applied for air quality.
L-65	38	B	<b>Analysis</b>			Table F-7: Without background level added this chart is of little value to the DEIS. Please include background levels monitored actually in the field in 2004 and 2005. Also we do not understand how the Preferred alternative	Background levels are not needed for the proper understanding of this table. The purpose is to compare the impacts of the various alternatives

**Table II-B. DEIS Comments and BLM Responses (cont'd)**

<b>Submittal ID</b>	<b>Comment Number</b>	<b>Category</b>	<b>Keyword 1</b>	<b>Keyword 2</b>	<b>Keyword 3</b>	<b>Comment Text</b>	<b>BLM Response</b>
						could have HAPs levels about 1/4 to 1/3 of the Proposed action. Please explain.	based on direct project sources. The data can later be added to existing levels to determine the increment for the alternative. The Preferred Alternative reduces HAP levels by establishing performance-based objectives, utilizing state-of-the-art technologies, and requiring flareless completions.
L-65	39	A	<b>Analysis</b>	Air Quality		Table F-33 and 34: These tables gives information in less than 1.0 dv's which is not applicable. The agency in charge of protecting Class I visibility is the Forest Service and they have determined a change of less than .5 dv is the limit. Please correct this in the SDEIS so that a more accurate review of impacts can occur.	BLM appreciates that USFS has the jurisdictional authority to protect visibility in the Bridger Wilderness and that USFS prefers to use the .5 dv threshold. Please see the AQTSD and the AQTSDS to see comparisons of potential visibility impact the .5 dv threshold. BLM prefers to use the FLAG threshold of 1 dv to define a potential significant impact to visibility.
L-65	40	A	<b>Analysis</b>			AQTSD General Comment: Because the modeling assumptions are scattered through the document it is difficult to understand these basic and critical assumptions. Please provide a comprehensive chart with all modeling assumptions and model switch settings in the SDEIS.	This document is complete and no changes will be made.
L-65	41	B	<b>Analysis</b>			AQTSD Map 1.2: This map does not list the Wind River EIS project nor any of the major fields in NW CO or NE UT.	AQTSD (Nov 2004) Map 1.2 does not represent every field modeled in the analysis. See Appendix C, Table C-12 for details.
L-65	42	B	<b>Analysis</b>			AQTSD P-7: Study Task #2 is not included in the DEIS. Please provide this in the SDEIS.	The regional air emissions inventory mentioned in Task 2 is described in detail in the AQTSD and included in all cumulative modeling analyses.
L-65	43	B	<b>Analysis</b>	Air Quality		AQTSD Table 3.5: This table needs to be expanded to include NOx from the current Jonah field and the PAPA.	Table 3.5 is intended to show the potential emissions from the proposed project.
L-65	44	A	<b>Analysis</b>			AQTSD Table 3.7 and 3.1: Table 3.1 lists O3 background levels of 169 and 147 for 1 and 8 hour respectively, yet Table 3.7 uses 75.2 as the background. Please explain this major difference.	There is no Table 3.7 in the AQTSD (Feb 2005). Table 3.7 in the DEIS uses the same data as Table 3.1 in the AQTSD. It is unclear what the intent of this comment was.

**Table II-B. DEIS Comments and BLM Responses (cont'd)**

<b>Submittal ID</b>	<b>Comment Number</b>	<b>Category</b>	<b>Keyword 1</b>	<b>Keyword 2</b>	<b>Keyword 3</b>	<b>Comment Text</b>	<b>BLM Response</b>
L-65	45	B	<b>Analysis</b>			AQTSD P-42: Please provide a chart comparing assumptions used for control of tanks and dehy units with what is currently on the ground in the field.	Input data for tanks and dehy units are included in Section 2.1.2 and Table 2.2.
L-65	46	B	<b>Analysis</b>			AQTSD Table 3.10: Please expand this critical footnote with an addition chart to present this information.	As the added effects of multiple chemicals are not understood it is not possible to add a chart with this information.
L-65	47	A	<b>Analysis</b>	Air Quality		AQIAP P 12: "Mobile source emissions..." This assumption is clearly false in that background concentration data was as old as 1978 and none of it was collected near the field. The most recent data for any parameter was 2001, which is before the massive expansion of Jonah and PAPA. Most of the parameters were from the 1970s and 1980s measured a long distance from the field. Please correct this major error in the SDEIS.	WDEQ determines the background concentrations.
L-65	48	A	<b>Analysis</b>			AQIAP Table B.1.8 and 9: These two tables list rig operations at 19 days, yet on P 5 of this main document it states 23 days. Which was actually used in modeling and impact analysis as the difference is significant (nearly 20%).	Drilling activities for straight-hole wells were assumed to be 19 days, and 23 days for directionally drilled wells. Annual emissions calculations assumed these durations. All modeling analyses assumed drilling activities lasted 8,760 hours. The scenario of 20 drilling rigs operating continuously was used to estimate a 250 well per year development rate (WDR), 12 drilling rigs operating continuously, a 150 WDR, and 6 drilling rigs operating continuously, a 75 WDR. Straight and directional drilling emissions were included in the analyses.
L-65	49	A	<b>Analysis</b>	Air Quality		AQIAP Table C.9: This lists NOx emissions for the entire county as 1.66 tpy yet C.10 lists 9 tpy just from Jonah production. Please clarify.	Table C-9 lists NOx emissions by county for non-Jonah field wells. Table C-10 lists emissions from Jonah field wells.
L-65	50	E	<b>Analysis</b>	Public Participation		Please send us a full copy of any comments submitted by the EPA during this process. If we need to submit a FOIA request for these records please let us know.	Comment acknowledged.
L-66	3	A	<b>Social</b>	Analysis		In Section 3.4.5.1 Crime in the Socioeconomics section, Marilyn Filkins, Sublette County Attorney is quoted regarding crime statistics and "gang-like behavior from	The narrative on pages 35 and 36 of the Socioeconomic Analysis Technical Support Document (Jan

**Table II-B. DEIS Comments and BLM Responses (cont'd)**

Submittal ID	Comment Number	Category	Keyword 1	Keyword 2	Keyword 3	Comment Text	BLM Response
						<p>various drilling and pipeline crews.” According to personal communication with Marilyn, she disputes these quotes as representative of her views. She should be contacted again in order to get clarification for this misinformation.</p>	<p>2005) has been deleted and <u>Section 3.1.5.1 Crime</u> has been changed in its entirety to read as follows:</p> <p>The Wyoming Attorney General Division of Criminal Investigation (DCI) produces annual reports on crime statistics for the State of Wyoming. Crime data are compiled from the Uniform Crime Reporting (UCR) records submitted to the DCI by law enforcement agencies across the state. In 2004, 64 individual law enforcement agencies contributed UCR data that work in jurisdictions representing 97.6 percent of the state’s population. The intent of the UCR program is to gather relevant standardized data at the city, county, and state levels where it is used in compilation and analysis of national crime statistics (Wyoming Attorney General 2004).</p> <p>The UCR program defines crime rates as representing the number of crimes in relation to a population of a given jurisdiction (Wyoming Attorney General 2004). As such, crime rates are often used to compare crime in different areas. Serious offenses reported in UCR data are categorized as violent crimes (murder, forcible rape, robbery, and aggravated assault) or as property crimes (burglary, larceny theft, and motor vehicle theft) (Wyoming Attorney General 2004). Crime rates are calculated by dividing the number of offenses by the population and multiplying the result by 100,000. Census estimates for 2004 were used as the base population figures for calculating crime rates.</p>

**Table II-B. DEIS Comments and BLM Responses (cont'd)**

Submittal ID	Comment Number	Category	Keyword 1	Keyword 2	Keyword 3	Comment Text	BLM Response
							<p>According to the U.S. Justice Department, the national crime rate of violent offenses in 2004 was 465.5 arrests per 100,000 residents; the national crime rate for property crime was 3,517.7 per 100,000 residents (U.S. Justice Department 2004). Compared to national crime rates, Wyoming had a lower crime rate for both violent crimes (228.6) and property crimes (3,352.0) in 2004 (Wyoming Attorney General 2004).</p> <p>Based on information provided in UCR annual reports, crime rates for both violent and property crimes were calculated for Lincoln, Sublette, and Sweetwater Counties. Lincoln County had a violent crime rate of 256.0, higher than the state crime rate but lower than the national crime rate. The county's property crime rate of 1,305.5 was lower than both the state and national rate. Sublette County had a violent crime rate of 405.8 and a property crime rate of 3,531.7; both crime rates were higher than the state crime rates but lower than national crime rates. Violent and property crime rates for Sweetwater County were higher than both the Wyoming and national crime rates. Crime rates for Sweetwater County were 598.5 for violent crimes 4,558.0 for property crime.</p> <p>In addition to reporting crime rate offenses, the UCR program reports arrest totals. Table 3.6 provides the number of arrests in Wyoming and in the three-county study area for 1999 to 2004. Data presented in Table 3.6 were compiled from the UCR annual reports from 1999 to 2004. UCR reports arrests by the type of</p>

**Table II-B. DEIS Comments and BLM Responses (cont'd)**

Submittal ID	Comment Number	Category	Keyword 1	Keyword 2	Keyword 3	Comment Text	BLM Response
							<p>crime committed and the age (adult or juvenile) and gender of the defender. According to UCR data, the number of annual total arrests in Wyoming increased by 368 between 1999 and 2004 (Table 3.6) (Wyoming Attorney General 2004). Arrest totals decreased for the majority of crimes listed in Table 3.6; however; the number of arrests for aggravated assault, burglary, drug offenses, and driving under the influence increased.</p> <p>Overall arrests in Lincoln County decreased from 435 reported arrests in 1999 to 347 reported arrests in 2004. In 2004, crimes associated with the greatest number of arrests were driving under the influence (112), drug abuse violations (55), all other offenses except traffic (42), aggravated assault (35), and other assaults (17) (Table 3.6) (Wyoming Attorney General 2004).</p> <p>Arrests in Sublette County increased from 257 reported arrests in 1999 to 442 reported arrests in 2004. Crimes associated with the greatest number of arrests were all other offenses except traffic (174), driving under the influence (110), other assaults (36), drug abuse violations (33), liquor laws (25), and aggravated assault (14) (Table 3.6) (Wyoming Attorney General 2004).</p> <p>In Sweetwater County, arrests decreased from 3,039 reported in 1999 to 2,773 reported in 2004. Crimes associated with the greatest number of arrests in 2004 were all other offenses except traffic (674), driving under the influence (364), drug abuse violations (336)</p>

**Table II-B. DEIS Comments and BLM Responses (cont'd)**

Submittal ID	Comment Number	Category	Keyword 1	Keyword 2	Keyword 3	Comment Text	BLM Response
							drunkenness (270), and Larceny-Theft (220) (Table 3.6) (Wyoming Attorney General 2004).
L-66	4	B	Livestock/ Grazing			a recent personal communication survey of the grazing permittees and other area ranchers seems to suggest that the availability of replacement spring grass is readily available. An evolving assumption that it will be impossible to reach reclamation goals in the project area should not be the dominant conclusion, at least until additional monitoring can be done this summer to determine utilization of the grazing resource by the permittees. I would strongly encourage BLM to cooperate with the permittees and EnCana in a project/allotment monitoring program to add data to the baseline before final decisions are made regarding the suspension of AUMS in the area.	Please refer to text changes in the FEIS.
L-69	1	A	Livestock/ Grazing	Analysis		Within the draft, the analysis of the loss of grazing AUMs is very questionable. There is no solution or process stated concerning the present or future availability of these AUMs. Table 4.19 on 4-133 indicates that there will be a total loss of 1,140 AUMs within the project area. The analysis for the total loss of 1140 AUMs was not clearly explained nor does it appear to be a scientific approach. It appears that some factor of surface disturbance was applied. Worth noting, surface disturbance from cattle use can result in the planting and fertilization of grass seed. This benefit to the land would be lost if these 1410 AUMs were no longer available.	Please refer to text changes in the FEIS.
L-69	3	A	Livestock/ Grazing	Vegetation		These BLM desert allotments are essential to my ranching operation. This fact merits restating. The allotments are designed to offer spring grazing for livestock because they green up before any other rangelands. Moderate to low level utilization has left the permit area at the end of the use period with far more ground forage than is being grazed off. In Sublette County, there is very little pastureland or meadowland available for spring grazing. Therefore, the option of alternative spring grazing is not available. There is no substitute for these particular allotments.	Please refer to text changes in the FEIS.
L-72	2	F	Social	Economics		To update our social and economic comment of May 5, 2003 regarding 68 FR 12100 and related to 40 C.F.R. §§ 1508.14, 1508.8, 1508.7 and direct and indirect effects at § 1502.16 and based on § 1502.14 we now submit that Sweetwater County School District #1's enrollment	The education attachments in this comment have been included as reference material for the FEIS. Data have been updated throughout the Technical Support Document and

**Table II-B. DEIS Comments and BLM Responses (cont'd)**

Submittal ID	Comment Number	Category	Keyword 1	Keyword 2	Keyword 3	Comment Text	BLM Response
						<p>increased by 124 students as of November 3, 2003 (attached) and Sweetwater County School District #2's enrollment is currently stable. Both Districts had anticipated further loss of student enrollment according to projections based in part on employment and area birthrates (Both Districts update enrollment monthly.)</p> <p>After review of what BLM and Contractor for the Jonah Infill Drilling Project has accrued for the EIS thus far, we could not discern any of our May 5, 2003 substantive comment with our public education attachments as being utilized for purposes of the region's economic profile. This is of great concern to our membership; many of whose families are dependent on federal lands natural resource conservation and developments. We again insist that this information be included so that the public may better understand the social impact of federal lands planning congruent to biophysical analyses when they are significantly interrelated whether directly or indirectly.</p>	FEIS when determined to be appropriate and relevant to the analysis of impacts of the alternatives.
L-72	3	A	<b>Analysis</b>			<p>On May 15, 2003 (68 FR 27429, 05/20/03), President Bush amended Executive Order 13212 (66 FR 28357, 05/22/01) Actions to Expedite Energy-Related Projects. BLM at the November 13 meeting in Pinedale stated that BLM must submit this process to yet another Notice of Intent (NOI) due the amount of information garnered during the current scoping time. BLM stated that this was on advice from the Council on Environmental Quality (CEQ) and the Department of Interior.</p> <p>BLM did not offer in-depth explanation for this new proposed action and when questioned if the above-mentioned Executive Order was taken into consideration, appeared not to be aware of such an Order from the President. BLM however, did state that the "timeliness" of the EIS would not be hindered by such action of publishing another NOI. RMRPFUSA does not fully understand how this new proposal cannot lengthen the period of time until a Record of Decision is signed and disagree with BLM that a new NOI needs to be mandated.</p>	It is unclear from this comment which NOI is being referred to and during what timeframe. However, all NOIs have been published in the Federal Register and the schedule for the FEIS and ROD continues to be maintained. No delays are expected at this time.
L-72	4	A	<b>NEPA</b>			RMRPFUSA also reiterates that the Jonah Infill Project does not require BLM to wait until the Pinedale Resource Management Plan revision is completed. Both can be accomplished concurrently. The Jonah Infill Project is merely an ongoing site-specific project to be	The BLM agrees. Completion of the JIDP documents is proceeding.

**Table II-B. DEIS Comments and BLM Responses (cont'd)**

Submittal ID	Comment Number	Category	Keyword 1	Keyword 2	Keyword 3	Comment Text	BLM Response
						considered.	
L-72	5	F	<b>Analysis</b>			<p>During the interim time of the BLM's original NOI of March 13, 2003, the White House Task Force on Energy Project Streamlining through the CEQ published in the federal register (68 FR 44950, 07/31/03) a notice for a meeting proposing the Rocky Mountain Energy Council (RMEC) to assist energy development issues. AT that time, three functions for the RMEC were identified:</p> <ol style="list-style-type: none"> <li>1. To develop Federal/State partnerships for the long-term management of renewable and non-renewable energy resources on State and Federal public lands.</li> <li>2. To allow more forward looking and strategic planning - on a regional basis -- for the environmentally responsible development, production, and distribution of the Nation's valuable energy resources.</li> <li>3. To develop processes for early collaboration and consultation among the State and Federal Agencies responsible for managing, authorizing, consulting on, reviewing, or certifying renewable and non-renewable energy projects on public land.</li> </ol> <p>Since that time, several meetings have occurred to set protocols and assign lead federal employees and western state personnel to administrate the RMEC. RMRPFUSA inquired at the November 13,2003 Pinedale meeting if RMEC was at all involved with the Jonah Infill Project. We found it disheartening that BLM was not receptive or was at the time unknowledgeable on who, what, and/or why RMEC might be of assistance when viewing this project from a regional or national aspect. <a href="http://www.etf.energy.gov">Http://www.etf.energy.gov</a></p>	As this is a local BLM project, it does not have regional or national significance. As such, there are no regional or national implications resulting from this decision. There is no need to include the RMEC in these discussions.
L-72	6	A	<b>Social</b>	Economics	Analysis	<p>Through research of environment impact studies (EIS) from the past 20 years we have found more often than not, when federal agencies determine site-specific project planning or resource management planning that entails an EIS, that the natural and physical environment generally is given more weight than the relationship of the people effected by the same environment. This could have been a result of the phrase, "This means that economic or social effects are not intended by themselves to require preparation of an [EIS]" (40 CFR § 1508.14).</p>	Between the Draft EIS and the Technical Support Document, there was a concerted effort to add more emphasis on Socioeconomics. Both texts will be further revised for the FEIS.

**Table II-B. DEIS Comments and BLM Responses (cont'd)**

Submittal ID	Comment Number	Category	Keyword 1	Keyword 2	Keyword 3	Comment Text	BLM Response
						<p>RMRPFUSA maintains that if a project is major enough to achieve a full EIS determination, then the human environment should be comprehensive. In the instance of the Jonah Infill Drilling Project as well as the Pinedale Resource Management Plan revision, which is concurrent, BLM as lead agency is directed to discuss all environmental effects, whether economic or social and natural or physical. Both environments are interrelated to not only Sublette County, but to other neighboring counties and communities.</p> <p>The words "effects" and "impacts" are synonymous (40 CFR § 1508.8). They can be either direct or indirect and meld with the human environment. They can also be "cumulative" when inclusive of ecological (such as the effects on natural resources and on the components, structures, and functioning of affected ecosystems), aesthetic, historic, cultural, economic, social, or health.</p> <p>"Cumulative impact" (40 CFR § 1508.7) can result from individually minor but collectively significant actions taking place over a period of time that has impact on the environment. RMRPFUSA requests that BLM place equal emphasis across the entire range of the "human environment".</p>	
L-72	7	F	<b>Economics</b>	Social	Analysis	<p>Sweetwater County School District #1 enrollment beginning in September 1991 was a high of 6079 students compared to September 2002 enrollment of 4236 students. This appears to be a cumulative result of factors relating to the human environment, and an economic or social impact, which is not recorded in any Bureau of Land Management EIS to date in the State of Wyoming. Because a community or regions' social health is generally proportional to school enrollments, RMRPFUSA wishes the following cumulative report be taken into account during any planning procedure that merits a full EIS (attached, listed here for the reader).</p> <p>[See letter for detailed analysis]</p> <p>BLM might judge that the above is beyond the scope of the Jonah Infill Drilling Project. However, RMRPFUSA contends that any project that might become an integral component of the revision of the Pinedale Resource</p>	<p>The underlying reasons for these declines are beyond the scope of this analysis.</p>

**Table II-B. DEIS Comments and BLM Responses (cont'd)**

Submittal ID	Comment Number	Category	Keyword 1	Keyword 2	Keyword 3	Comment Text	BLM Response
						<p>Management Plan then the school enrollments are a pertinent piece of information to be included in this EIS and taken into consideration for the RMP.</p> <p>Here is our reasoning why: Many, if not most, of the major minerals service contractors working in Sublette County are centered in Rock Springs, Wyoming. This can also be said of their employees. (But this is not to forget the increasing employment, retention of older local businesses, and new businesses created by the McMurry Jonah field to include all surrounding communities, counties, and three states.) In 1999, Sweetwater County's total of all taxes levied equaled \$75,449,465; 2000 = \$76,626,032; 2001 = \$93,884,666; and 2002 = \$93,192,391. Over 80 percent of this was mineral related.</p> <p>Generally the BLM considers "significance criteria" when evaluating social impacts to include long-term trends and fluctuations of total employment, total earnings, and mineral ad valorem taxes associated with natural gas production. It is our contention, however that the input-output models (applied by BLM and the University of Wyoming) that historically have been utilized in determining this portion of the human environment need also take into account long term trends associated with the stability of surrounding communities. By imputing the above four overall factors, one might conclude that the economy in Sweetwater County was growing. If one takes student enrollment for the above levied tax years and places it into the mix, something doesn't add up on the community stability side of that equation.</p> <p>BLM will receive comments portending to guide southwest Wyoming's economy into a more diverse sector heavy in tourism at the expense of mineral development. While tourism is a necessary component of any economy, the long-term trend of tourism, as a sole provider of infrastructure will state otherwise, both in per capita income and number of school age children; two principal indicators that dissimilar business interests look at when contemplating moving into an area to set up shop.</p> <p>With Sweetwater County School District #1 closing or</p>	

**Table II-B. DEIS Comments and BLM Responses (cont'd)**

Submittal ID	Comment Number	Category	Keyword 1	Keyword 2	Keyword 3	Comment Text	BLM Response
						<p>consolidating 5 schools, any project that can be balanced for the overall well-being of our national interest and local community stability should be combined and viewed in the positive with mitigating factors for perceived "intrinsic" values that do not take into consideration the economics and cumulative impacts that result from ignoring long-term decreasing school enrollment figures and aging demographics.</p>	
L-74	1	A	<b>NEPA</b>	Public Participation	Analysis	<p>In many places throughout the DEIS the BLM has failed to provide the necessary modeling of the impacts of the proposed action and alternatives. As one example, in the last paragraph on page 3-41, BLM advises that runoff condition modeling will be performed during the comment period for the DEIS. BLM states that it will obtain the modeling during the comment period on the DEIS. This does, however, preclude the required public scrutiny during this phase of the NEPA process. As another example, modeling for air quality control is sorely missing for the majority of alternatives, including the BLM proposed alternative.</p> <p>In addition to preventing public scrutiny, the lack of modeling means that the BLM is unable to develop the best alternatives to the proposed action in the DEIS. The BLM must make certain assumptions in its development of proposed alternatives without the scientific analysis needed to support them. We wonder if BLM isn't simply guessing about the environmental impacts of the proposed action. The fact that scientific analysis hasn't been done does not excuse BLM from the requirements of NEPA. It seems unlikely that the modeling required could be done during the comment period due to such a short time. We are very concerned that the final EIS will be issued without the necessary and mandatory scientific analysis required by NEPA.</p> <p>The BLM has consistently stated that it wants specific scientific information from the public, yet BLM fails to present scientific analysis and modeling upon which the public can comment.</p> <p>Ultimately, of course, it is not better documents but better decisions that count. 40 CFR 1500.1. It is not about writing the best report, although that is important. It is about making the best decision with regard to</p>	<p>In order to issue the DEIS in a timely manner, it was decided that the modeling efforts which were already ongoing could continue during the public comment period. Some of these, like the hydrological modeling, have now been completed and the associated document is available for review at the BLM office. These analytical documents will provide the basis for the analyses in the FIES and ultimately lead to the JIDP determination.</p>

**Table II-B. DEIS Comments and BLM Responses (cont'd)**

Submittal ID	Comment Number	Category	Keyword 1	Keyword 2	Keyword 3	Comment Text	BLM Response
						protecting public lands. The BLM simply cannot make the best decision regarding the proposed action without the best scientific analysis to support it.	
L-74	2	A	<b>Air Quality</b>	NEPA		<p>The BLM in its discussion of effects on the environment posits that, "{A}n assessment of project impacts on climate is beyond the scope of this analysis and is therefore not discussed further in this EIS." DEIS, at p. 3-4. NEPA specifically requires agencies to "... recognize the worldwide and long-range character of environmental problems." 42 USC Sect 4332. Natural gas exploration, development and production all disgorge vast quantities of pollutants into the air and water. It seems particularly obvious that the effects of the proposed action on climate are critical and warrant a hard look by BLM. For BLM simply to brush off all inquiry because it is "beyond the scope of the analysis" is not only irresponsible, but also a violation of its mandate under NEPA.</p> <p>Biodiversity Conservation Alliance insists that BLM conduct the appropriate inquiry, "which will insure that presently unquantified environmental amenities and values may be given appropriate consideration in decision-making" in the proposed action. 42 USC Sect. 4332. For a discussion of the impact of climate impacts on alpine areas of the Wind River Range, adjacent to the JIDPA, see the article in the Journal of Geophysical Research footnoted below [footnote: David L. Naftz et al., Ice Core Evidence of Rapid Air Temperature Increases Since 1960 in Alpine Areas of the Wind River Range, Wyoming, United States, Journal of Geophysical Research, July 9, 2002].</p>	An assessment on Climate Change is beyond the scope of the analysis at this time. BLM may include an estimate of CO2 emissions from gas operations in the FEIS, but it is not currently required to do so.
L-74	3	A	<b>Analysis</b>	Alternatives		"In managing the public lands the Secretary shall ... take any action necessary to prevent unnecessary or undue degradation of the lands." 43 USC Sect. 1732(b). The regulations interpreting this part of FLPMA define "unnecessary or undue degradation" as "impacts greater than those that would normally be expected from an activity being accomplished in compliance with current standards and regulations and based on sound practices, including use of the best reasonably available technology." 43 CFR Sect. 3802.0-5(1). Clearly with this broad brush stroke Congress has given BLM authority (indeed, the duty) to place stipulations on drilling projects in order to prevent unnecessary or undue degradation of	This comment is no longer applicable. It will be addressed by the new Preferred Alternative in the FEIS.

**Table II-B. DEIS Comments and BLM Responses (cont'd)**

Submittal ID	Comment Number	Category	Keyword 1	Keyword 2	Keyword 3	Comment Text	BLM Response
						<p>public lands. Such stipulations can be utilized even if they render a proposed action unfeasible or uneconomical (BLM Instruction Memorandum 92-67).</p> <p>The BLM in June 2004 adapted its own "best management practices" (BMP) policy which it defines as "innovative, dynamic, and improved environmental protection practices applied to oil and natural gas drilling and production to help ensure that energy development is conducted in an environmentally responsible manner." More specifically, BMPs seek to reduce the area of disturbance and use other techniques to minimize environmental effects, thereby reducing impacts to wildlife habitat, scenic quality, water quality, and other resources. BLM Wyoming Website.</p> <p>The only alternative that BLM has developed in the DEIS which incorporates any BMPs is the BLM Preferred Alternative. Out of seven different proposed alternatives, only one alternative seeks to reduce impacts to the environment by the use of BMPs. Allowing oil and gas drilling without BMPs, should one of the other six alternatives be adopted in the Record of Decision, would most certainly create undue and unnecessary degradation to the public lands involved.</p> <p>Undue and unnecessary degradation will also occur in all alternatives except Alternatives B and E because no directional drilling will be required. The priority of Alternative B is to minimize surface disturbance by allowing no new well pads. On the other end of the spectrum, Alternative A seeks to minimize directional drilling and provides no balance at all between gas recovery and other resource protection. DEIS p. 2-11. The environmental impacts to raptor nest sites, greater sage-grouse leks, white-tailed prairie dog colonies, pygmy rabbits, and pronghorn antelope migration corridors, among other important considerations, under Alternative A would be devastating.</p> <p>"Undue and unnecessary degradation means impacts greater than those that would normally be expected from an activity being accomplished in compliance with current standards and regulations based on sound practices, including use of the best reasonably available</p>	

**Table II-B. DEIS Comments and BLM Responses (cont'd)**

Submittal ID	Comment Number	Category	Keyword 1	Keyword 2	Keyword 3	Comment Text	BLM Response
						<p>technology." 43 CFR Sect 3802.0-5(1) ... The current Wyoming Oil and Gas Conservation Commission standard for spacing of natural gas wells is 160-acre spacing, or four wells per square mile. The 160-acre spacing is the tightest commonly practiced well spacing in Wyoming, and tighter spacing is unusual. The proposed action seeks well spacing of at least 1 pad every 10 acres. In some instances the well spacing will be every five acres under the proposed action - wells practically touching each other. Clearly, even 40-acre well spacing is much tighter than the impacts "that would normally be expected" from the standard amount of surface impact for natural gas production in Wyoming. The proposed increase in surface disturbance by tighter well spacing constitutes "unnecessary and undue degradation" under FLPMA. By use of directional drilling, as proposed in Alternative B, surface disturbance and impacts to the environment would be minimized, thus avoiding "unnecessary and undue degradation."</p>	
L-74	5	A	<b>Alternatives</b>	Performance Objectives	On-Site Mitigation	<p>Under the BLM Preferred Alternative, outcome-based performance objectives would be used. Field development and production would be based on the use of performance objectives to allow maximum flexibility for Operators while providing long-term protection for other resources. One of the specific outcome-based performance objectives is to, "utilize state-of-the-art technologies to avoid, minimize, or mitigate impacts." DEIS, at p. 2-27. Several recommendations in the BLM Preferred Alternative, however, fly in the face of this objective.</p> <p>The BLM Preferred Alternative recommends permitting the maximum number of wells on 5-acre spacing – 3,597 wells – the same number requested in the proposed action. We believe this recommendation is totally irresponsible and fails to utilize state-of-the-art technology. In addition, it is not in keeping with the mandates of NEPA and FLPMA because it would create an excessive number of new well pads, roads and other auxiliary facilities, thus exacerbating already existing problems in JIDPA with habitat loss and fragmentation, pronghorn migration, impacts on animal and plant species, etc. With the requirement of directional drilling from existing well pads, as proposed in Alternative B, state-of-the-art technology methods would be practiced</p>	<p>Thank you for your comment. NEPA mandates that an EIS or environmental assessment (EA) analyze a reasonable range of alternatives. Per this requirement, directional drilling is addressed as a component of several alternatives in the Draft EIS. Alternative B would almost exclusively require directional drilling. Even the Preferred Alternative has a directional drilling component. Also please note that the draft EIS analyzes the impacts of all of the alternatives. It does not select any given alternative to implement. Frequently, the implemented action is a composite of two or more of the alternatives analyzed. Also, please note that while directional drilling would potentially reduce surface disturbance impacts, it also potentially increases air quality impacts and lengthens the disruptive activities period due to the longer time required to drill a directional well. The wording of this outcome-</p>

**Table II-B. DEIS Comments and BLM Responses (cont'd)**

Submittal ID	Comment Number	Category	Keyword 1	Keyword 2	Keyword 3	Comment Text	BLM Response
						and surface disturbance and environmental impacts would be minimized. As much as 80% less new surface disturbance would occur with the use of directional drilling.	based performance objective has, however, been changed in the Preferred Alternative in the FEIS.
L-74	6	F	<b>Analysis</b>	Surface Disturbance	Alternatives	<p>In his comments to the Rawlins RMP DEIS, professional geo-scientist Kenneth R. Kreckel details how directional drilling can significantly reduce surface impacts from gas recovery operations by vastly increasing the surface spacing of well pads [footnote: Kreckel, K.R. 2005. Kenneth R. Kreckel's comments on the Rawlins Resource Management Plan Draft Environmental Impact Statement Focusing on Oil and Gas Operations. Casper, WY]. With over 30 years of experience with major energy companies in the Rocky Mountain region, Kreckel argues that not only is the impact to the environment significantly reduced, but it can be done in a way that cost to producing companies is minimal and sustainable. <b>1.</b> Kreckel demonstrates in his comments that the oil and gas industry is capable of easily reaching and producing from well pads spaced one per 640 acres (one square mile) [footnote: Id., p. 1]. While Kreckel's comments were directed toward the Great Divide area, they are equally applicable to JIDPA.</p> <p><b>2.</b> The use of S-turn directional drilling has already been used with good success for approximately 54 wells in the Jonah Field, in places where NSO stipulations or steep topography preclude vertical wells. <b>3.</b> On the Pinedale Anticline Project, one well pad hosts 13 wells, while another hosts 10 wells. Indeed, Shell Oil Company has proposed drilling 32 wells from a single pad next year. <b>2</b> That the industry has already drilled and completed 54 (or more) directional wells in the Jonah Field argues that operators believe that this type of technology is economically feasible. <b>4.</b> The operators for the proposed action argue that there is a trend in Wyoming to reduce well spacing in order to increase recovery of the gas resource [footnote: Reservoir Management Services, Inc. July 2003. Jonah Infill Drilling Project Evaluation for Directional Drilling, prepared for EnCana Oil and Gas (USA) Inc., p. 5]. <b>1.</b> This may be true for EnCana, but it obviously is not true for many other operators who have been using directional drilling technology for years. In December 2003, approximately 40% of the total wells in the United States were directionally drilled [footnote: Id.,</p>	<p>1. BLM agrees with the commenter and Mr. Kreckel that it is possible to drill directional wells with distances (offsets) greater than one mile; some directional wells have been drilled with offsets of more than 30,000 feet. However, the directional wells with large offsets were drilled to formations (both carbonates and sandstones) with pay zones that have large areal extents, that can be hundreds of feet thick, and that have large reserves. Jonah Field has similarities to the reservoirs described above: the producing horizon at Jonah Field ranges from 3,000 to 5,000 feet thick, the productive area comprises nearly 30,500 acres, and Jonah Field contains at least 10.5 TCF of natural gas and associated condensate. However, there is a major difference between the Jonah Field and the natural gas reservoirs amenable to long-offset directional drilling. The Lance pool at Jonah Field consists of multiple sandstones ranging from two to 30 feet thick and areal extents ranging from less than 2.5 acres to as much as 25 acres. These sandstone bodies are not interconnected, each sandstone body is separate reservoir encased in shale and/or separated from other sandstone bodies by shale and mudstone. In addition there are literally thousands of these sandstone bodies randomly stacked within the entire thickness of the Lance pool. Pressure tests on some of the 20-, and 10-acre wells indicate that some of the sandstone bodies have lower pressures indicating depletion by</p>

**Table II-B. DEIS Comments and BLM Responses (cont'd)**

Submittal ID	Comment Number	Category	Keyword 1	Keyword 2	Keyword 3	Comment Text	BLM Response
						<p>at p. 16].</p> <p>5. It is incomprehensible that the industry is embracing this technology while the BLM is recommending vertical drilling with massive numbers of well pads (3597). If BLM had required directional drilling in the Jonah Field, there would be about 100 well pads, instead of over 3000 which BLM endorsed.</p>	<p>nearby offset wells, but many of the sandstone bodies exhibit original or virgin pressures that indicate that the sandstone bodies have not been penetrated by nearby wells.</p> <p>2. The Jonah Field operators have drilled more than 140 s-shaped directional wells. However, these directionally drilled wells were not drilled to determine the economic feasibility of directional drilling; the purposes of drilling directional wells was to determine if directional drilling in the "Lance Pool" was technically feasible and to identify some of the potential pitfalls. In addition, these directional wells were not drilled solely to avoid NSO stipulations, nor to avoid steep topography.</p> <p>3. Although both Jonah Field and Pinedale Anticline produce from the "Lance pool", the reservoir characteristics are different. First, the reservoir is deeper at the Pinedale Anticline than at Jonah Field. Second, the reservoir is thicker at the Pinedale Anticline than at Jonah Field. Third, individual reserves at the Pinedale Anticline are larger, and therefore, the drainage areas are larger. Fourth, there is a greater potential for differential sticking in the rocks above the "Lance pool" at the Pinedale Anticline (the rocks above the "Lance Pool" are under pressured in respect to the "Lance Pool" and they have much higher porosity and permeability than the "Lance Pool". Therefore, because of the above factors, the Pinedale Anticline operators have to set an intermediate casing. The increased drilling costs of setting intermediate casings are offset by the</p>

**Table II-B. DEIS Comments and BLM Responses (cont'd)**

Submittal ID	Comment Number	Category	Keyword 1	Keyword 2	Keyword 3	Comment Text	BLM Response
							<p>larger available reserves per well. This additional drilling cost also may make 10- and 5-acre infill well drilling in the Pinedale anticline uneconomical.</p> <p>4. The first half of this statement is only partially correct. Nearly all of the operators recognize the need for decreased well-bore spacing to extract the optimum amount of the resource thereby conserving the resource and to prevent waste.</p>
L-74	7	A	<b>Alternatives</b>	Mineral Resources	Mineral Resources	<p>The foregoing analysis [see section entitled "EnCana's Directional Drilling Analysis Is Flawed" in letter for detailed analysis] demonstrated the following facts:</p> <ol style="list-style-type: none"> <li>1. The Draft EIS conclusions concerning reductions in recoverable reserves due to directional drilling are grossly inaccurate.</li> <li>2. The Draft EIS claim that two factors (a frequent inability to drill and case the lower 1,000 feet of Lance formation and well economics) will cause Alternative E to lose 36% of the gas reserves that would otherwise be recoverable under EnCana's "Proposed Action" is statistically impossible.</li> <li>3. In no case could these two factors result in a loss of more than about 6.5% and even that number is a significant stretch.</li> </ol>	<p>BLM has studied pages 6 to 19 of the subject remarks and has concluded that the commenter(s) used flawed logic in their analysis. The main flaw is their assumption that the EURs have a Gaussian distribution. Because of this assumption, all of the rest of their analyses are flawed. The report titled "Analysis of Respondent's Comments to the JIPD DEIS Questioning BLM's Estimate of Unrecovered Resources", by Reservoir Management Services, Inc., dated July 21, 2005 has an excellent discussion of the distribution of EURs in Jonah Field. Figure 2 of the report shows that EUR distribution is lognormal and is skewed to the left. If the 10- and 20-acre infill wells are added to the 40-acre wells, the left skew will be even more pronounced.</p>
L-74	8	E	<b>Wildlife</b>	Analysis	Alternatives	<p>The BLM acknowledges that significant impacts to various wildlife habitats in the JIDPA have already occurred as a result of past and current oil and gas development activity. It is anticipated that additional impacts to some species will occur. Only under BLM Preferred Alternative are impacts "somewhat diminished." DEIS, at p. vi. Why is the BLM Preferred Alternative the only alternative which provides for any protection of the various species? There is no</p>	<p>The comments regarding the Preferred Alternative will be addressed by the new Preferred Alternative in the FEIS. Chapter 4 of the FEIS states the reasoning behind the analysis that was conducted.</p>

**Table II-B. DEIS Comments and BLM Responses (cont'd)**

Submittal ID	Comment Number	Category	Keyword 1	Keyword 2	Keyword 3	Comment Text	BLM Response
						<p>explanation for this blatant oversight of protections for wildlife. These requirements should be mandatory in all alternatives, and most definitely in the final Record of Decision.</p> <p>The BLM obscures the extent of expected impacts to wildlife and plant species. When BLM states that the impacts will be "somewhat diminished" under its Preferred Alternative, this is misleading. What BLM failed to say is that the impacts will eliminate virtually every living creature in JIDPA during LOP. With the exception of Alternative B, the alternatives fail to seriously consider the use of directional drilling from existing well pads as a means of minimizing direct and indirect impacts of drilling. The alternatives proposed also fail to give any consideration to structuring development over time (such as phased development, developing one part of the project area then moving to another only once reclamation is successful) as a means of reducing negative impacts.</p> <p>We are gravely concerned that the protections provided in any alternative will only "somewhat diminish" the significant impacts to wildlife. These impacts will be cumulative to the significant impacts that have already occurred. The cumulative impacts will be devastating to wildlife over the LOP. The DEIS fails to provide adequate information to understand the true extent of those impacts, fails to adopt recommended measures to alleviate them, and, given the extent of the impacts, recommends foregoing any commitment of resources for compensatory mitigation.</p> <p>Significant habitat fragmentation already exists in the JIDPA. Permitting the maximum proposed vertical wells and/or permitting well spacing less than 40 acres would cause severe habitat fragmentation. The Wilderness Society published an excellent discussion of the effects of roads on habitat in the Upper Green River Valley, which includes the JIDPA [footnote: The Wilderness Society, February 2005. Wildlife at a Crossroads: Energy Development in Western Wyoming. Washington, DC].</p>	
L-74	9	E	<b>Analysis</b>	Wildlife	Alternatives	The Wyoming Game and Fish Department has already documented impacts of oil and gas development on pronghorn antelope in the Jonah Field area. In response	The JIDPA does not contain any crucial winter habitats for pronghorn. This is the only "crucial" designation

**Table II-B. DEIS Comments and BLM Responses (cont'd)**

Submittal ID	Comment Number	Category	Keyword 1	Keyword 2	Keyword 3	Comment Text	BLM Response
						<p>to the influx of wells, roads and auxiliary facilities already existing in the area, pronghorns have shifted their range. We are gravely concerned that the addition of 3100 vertical wells in the JIDPA will create an area that is [un]inhabitable by pronghorns in the future. This area also contains part of the longest migration corridor for pronghorns in North America. The proposed action and the BLM Preferred Alternative would create complete disruption, not just "somewhat diminished" disruption, of this historic corridor. Use of directional drilling could partially mitigate the impacts of the project.</p> <p>Pronghorn numbers within the JIDPA have generally declined since 1994 and currently do not meet the WGFD population objectives. Drought conditions have contributed to poor body condition, poor fawning rates, and poor overwinter fawn survival. DEIS, at p. 3-56. The increased activity in the JIDPA will have further significant impacts on pronghorns during the LOP.</p> <p>We would pose these questions which the BLM has failed to address: (a) What proportion of this crucial habitat's effectiveness has been lost, given the impact of disturbance on pronghorn extends beyond the immediate footprint of development, and (b) what does the loss of crucial habitat means for the behavior of pronghorn and their population trends, including fawning rates and fawn survival?</p>	<p>given to pronghorn by BLM and WYGF. Most disruption of movement will be because of roads and traffic, mainly arterial roads. The main infrastructure for the JIDPA exists. There are still adequate movement corridors outside JIDPA and no apparent "major disruption" has been documented. Directional drilling will not reduce traffic.</p>
L-74	10	F	Wildlife	Analysis		<p>In April 2003 The Committee for the High Desert, American Lands Alliance, Biodiversity Conservation Alliance, The Center for Native Ecosystems, and the Oregon Natural Desert Association, filed a petition to list the pygmy rabbit under the Endangered Species Act (ESA). Due to drastic declines of its historic range, the pygmy rabbit has occupied habitat in Wyoming which is crucially important to survival and success of the species. This habitat is threatened by the oil and gas boom. Action on the petition is pending.</p> <p>The best habitat areas for the BLM Wyoming Sensitive (BWS) pygmy rabbit and the pygmy rabbit itself, occur both on and adjacent to the JIDPA. The ability of habitats in the JIDPA to support pygmy rabbits likely would decrease due to continued habitat disturbance, habitat fragmentation, and direct mortality. DEIS, at p. 4-</p>	<p>Impacts to pygmy rabbits from fragmentation are unknown. Efforts to maintain occupied pygmy habitat will be undertaken through site-specific review of surface-disturbing activities.</p>

**Table II-B. DEIS Comments and BLM Responses (cont'd)**

Submittal ID	Comment Number	Category	Keyword 1	Keyword 2	Keyword 3	Comment Text	BLM Response
						<p>95. Yet the BLM has failed to incorporate appropriate protection measures into its DEIS to protect the species and its habitat. The BLM in its "mitigation measures," states that the proposed surface disturbance represents up to 67% of the JIDPA, and some unknown portion of the undisturbed habitat likely would suffer a reduction in use because of its proximity to human activity. Increased human activity would displace some species from areas near project features. DEIS, at p. 4-83. ... When project features include vertical well spacing of 5 acres, it is hard to imagine any place in JIDPA where wildlife could survive.</p> <p>In addition, recreational hunter harvest of small game and shooting of prairie dogs and other small non-game animals are anticipated to increase as a result of increased access to the JIDPA. DEIS, at p. 4-83. The increased mortality experienced by small mammal populations also would have a cumulative impact on the predator species that depend upon them for prey. DEIS, at p. 4-91. The BLM notes all the above impacts in passing, and then has the audacity to state for the record that these impacts "are anticipated to be less than significant." DEIS, at p. 4-91.</p> <p>The pygmy rabbit is highly sensitive to habitat fragmentation. We reiterate that the impacts will be major; they will be devastating.</p>	
L-74	11	A	<b>Wildlife</b>	Alternatives		<p>While BLM has recognized its obligation to provide protection for the greater-sage grouse, the proposed measures are totally inadequate. Recent counts of greater-sage grouse have shown a continuing decline of the numbers [footnote: Braun, C.E. March 2005. Comments on Sage-Grouse Issues Draft Environmental Impact Statement for the Rawlins Resource Management Plan, Tucson, AZ]. The BLM-recommended avoidance of surface disturbance or occupancy within 1/4 mile of sage-grouse leks is inadequate. The recommended avoidance buffer should be 3 miles [footnote: Id., at p. 8].</p> <p>If vertical well spacing less than 40 acres is permitted and directional drilling technology is not required, the impacts to the greater-sage grouse will be devastating. It is likely the greater-sage grouse populations in JIDPA</p>	All management for sage-grouse is appropriate for inclusion in the FEIS.

**Table II-B. DEIS Comments and BLM Responses (cont'd)**

Submittal ID	Comment Number	Category	Keyword 1	Keyword 2	Keyword 3	Comment Text	BLM Response
						will be extirpated under the Proposed Alternative.	
L-74	12	A	<b>Wildlife</b>	Alternatives		<p>The impacts of oil and gas development in the Jonah Field have already been seen. Of the 35 known raptor nests in the JIDPA, only 7 were occupied in 2004. Nine of the 35 are considered active because they have been occupied at least once in the last 3 years. DEIS, at p. 3-58. Ferruginous hawks are among the most sensitive species to human disturbance. Yet if suitable nesting habitat of raptors is determined to be unoccupied by raptors, development may be allowed in those areas, potentially precluding future use of the areas by nesting raptors. DEIS, at p. 4-83. Coupled with this is the reduction in raptor prey species also likely to occur as a result of the surface disturbance of up to 67% of the JIDPA. DEIS, at p. 4-84.</p> <p>While the BLM states that the proposed project is likely to result in fewer nest initiations, increased nest site abandonment and/or reproductive failure, and decreased productivity of successful nests (DEIS, at p. 4-84), we believe the impacts, both direct and cumulative, will more likely devastate raptor populations in the JIDPA.</p>	All management for raptors is appropriate for inclusion in the FEIS.
L-74	13	A	<b>Wildlife</b>	Alternatives	On-Site Mitigation	<p>The Big Piney Complex of the white-tailed prairie dog would appear to overlap the JIDPA. Therefore the BLM is obligated to monitor and conserve this Wyoming BLM sensitive species. As a Wyoming BLM sensitive species, the white-tailed prairie dog must be managed at least as protectively as Candidates for Endangered Species Act listing. BLM Manual. No proposed alternative in the DEIS addresses protection measures for this sensitive species, with the exception of some vague requirements in the BLM Preferred Alternative. DEIS, at p. 2-30. In this alternative operators would be required to prepare a Sensitive Species Survey and Monitoring Plan and to prepare an annual report of survey and monitoring results. While we have no quarrel with these requirements, we do have a problem that they will occur after the fact. The required public scrutiny is again precluded.</p> <p>We are concerned that there will not be adequate protection for this species. Without adequate protections, habitat destruction and fragmentation, as well as increased mortality, that are expected as a result of the</p>	All requirements for black-footed ferrets will be adhered to, including surveying of prairie dog towns within the Big Piney Complex, as will the other conservation measures outlined in the Biological Assessment.

**Table II-B. DEIS Comments and BLM Responses (cont'd)**

Submittal ID	Comment Number	Category	Keyword 1	Keyword 2	Keyword 3	Comment Text	BLM Response
						<p>JIDP, may contribute to a need to list the white-tailed prairie dog under the EAS [sic, ESA].</p> <p>Other species that are ESA listed and Wyoming BLM sensitive species, such as the ferruginous hawk, burrowing owl, swift fox, and black-footed ferret, may be affected by the failure to conserve the Big Piney Complex. Although the black-footed ferret does not currently inhabit the JIDPA, the area may have value for the survival and recovery of the species through future reintroduction efforts [footnote: USFWS 1989. Black-footed Ferret Survey Guidelines for Compliance with the Endangered Species Act]. DEIS, at p. 3-70. This has not been addressed at all in the DEIS.</p>	
L-74	14	A	Analysis	Wildlife		<p>NEPA's purpose is to maintain a national "look before you leap" policy in regard to all major federal actions. Congress' intent in establishing this objective was to avoid uninformed agency decisions that could have serious environmental consequences. Thus, NEPA's mandate is that all federal agencies analyze the likely effects of their actions, as well as address the potential alternatives. "Agencies are to perform this hard look before committing themselves irretrievably to a given course of action so that the action can be shaped to account for environmental values. NEPA Sect. 102(2)c requires the agency to consider numerous factors [including] irreversible commitments of resources called for by the proposal." <i>Sierra Club v. Hodel</i>, 848 F.2d 1068 (10th Cir. 1988) ... NEPA provides procedural protections for resources at risk by requiring analysis of impacts before substantial decisions are made that set development in motion. See <i>Conservation Law Foundation v. Watt</i>, 560 F. Supp. 561, 581 (D. Mass. 1983), <i>aff'd</i> by <i>Massachusetts v. Watt</i>, 716 F. 2d 946 (1st Cir. 1983).</p> <p>In this case, BLM will approve the drilling of some 3100 wells, together with the construction of miles of roads and pipelines, plus ancillary facilities. DEIS, at p. 2-6. Yet the BLM does not know the exact location of the wells. This will be left to the discretion of the operators. The magnitude of the impacts to many resources inherent to this project depend on where exactly the roads, pipelines, and wells are built. Impacts to prairie dog colonies depend on how many roads and wells are</p>	<p>Performance objectives and mitigations to prevent unnecessary impacts to wildlife in the JIDPA are outlined in DEIS Sections 2.14.1 through 2.14.3. These measures are designed to provide the protections suggested in this comment without necessitating the specifying of locations for individual wells, something that is beyond the scope of this document and the BLM's authority. Based on these restrictions, it has been possible to provide a meaningful analysis of potential impacts for the various alternatives in the DEIS.</p> <p>Cumulative impacts from the JIDP along with other area projects, such as the Pinedale Anticline, are considered for each resource in the appropriate cumulative impacts section if relevant. To some degree it is necessary for some of these analyses to be qualitative since the exact nature of the cumulative impact may not be known at this time. Nonetheless, the best effort was put forth to address these concerns.</p> <p>This document is only intended to address actions within the JIDPA. Actions outside that boundary are not</p>

**Table II-B. DEIS Comments and BLM Responses (cont'd)**

Submittal ID	Comment Number	Category	Keyword 1	Keyword 2	Keyword 3	Comment Text	BLM Response
						<p>built in or adjacent to prairie dog colonies. Impacts to sage grouse depend on how many wells and roads are built within 2-3 miles of sage grouse leks. Impacts to antelope depend largely on how many roads and wells are built on their crucial winter ranges. Thus, BLM cannot be considered to have taken a "hard look" at the impacts of this project without laying out a spatially explicit plan of construction and operations. It is impossible for BLM to provide a meaningful analysis of impact severity without first determining where the wells and roads will be located, specifically, and what relationship they will have spatially with ecologically important habitats.</p> <p>As discussed above, the cumulative impacts of oil and gas development will be devastating to wildlife and plant species. While we applaud efforts in the BLM Preferred Alternative to require faster restoration and reclamation, they will not be sufficient.</p> <p>The DEIS analysis totally fails to consider the impacts of the original Jonah Field and Pinedale Anticline Projects. The impacts of these existing projects, as well as reasonably foreseeable development (e.g., Big Piney coalbed methane project) create additional layers of impacts which are cumulative. In addition, there are potential impacts on adjacent lands. Can the BLM guarantee that the proposed action impacts will not spread beyond the JIDPA? The BLM itself states that 70% of the adjacent lands are already leased.</p> <p>The BLM needs to take a hard look at the cumulative impacts on pronghorn migration, sage-grouse populations, raptors, and other sensitive species.</p>	<p>within the scope of this analysis beyond impacts discussed in the various cumulative impact assessments.</p> <p>The cumulative impacts for the species listed will be addressed in the FEIS.</p>
L-74	15	A	<b>Air Quality</b>	Analysis		<p>The scientific analysis for air quality issues in the DEIS is sorely deficient. The data for the air quality models was collected in 2000. Since 2000 mass development of oil and gas development activity has occurred and impacted the area. None of this is taken into account in the DEIS. What modeling was done completely ignores the impacts of the original Jonah Field and the Pinedale Anticline development activity. Nor does it take into consideration the future impacts of new development expected throughout the region.</p>	<p>The emission inventory modeled in the cumulative analysis represents emissions within the study domain through June 30, 2003. The 2006 analysis presented in the AQIAS updated the emission inventory through March 31, 2004, including drilling in the nearby gas fields (Jonah, Pinedale Anticline, South Piney, Riley Ridge and Jack Morrow Hills).</p>

**Table II-B. DEIS Comments and BLM Responses (cont'd)**

Submittal ID	Comment Number	Category	Keyword 1	Keyword 2	Keyword 3	Comment Text	BLM Response
						<p>Of the nine different alternatives proposed in the DEIS, air quality impacts from four alternatives were not reported because they were not modeled. AQTSD at 6-7. Interestingly, the BLM's own Preferred Alternative is one of the four alternatives not modeled in the DEIS. AQTSD at 6-7. There are obviously different impacts, such as the number of wells permitted and surface disturbance, which would be expected from the different alternatives. These differences are likely to affect the air quality in unique ways under each individual alternative.</p> <p>The ability to closely compare different alternatives to the Preferred Alternative is especially important in the air quality arena. The BLM provided only a range of air quality levels for its Preferred Alternative and the three other alternatives that were not modeled. DEIS at Appendix F. However, a range is insufficient because even small changes in emissions can have significant results. Small changes between alternatives could cause a criteria pollutant to exceed ambient air quality levels in one alternative and not in another. Because air quality analyses require a level of preciseness unlike other impacts, it is essential the BLM adequately model all the alternatives, and specifically the BLM Preferred Alternative.</p> <p>All the monitoring for the air quality analysis was done prior to the oil and gas boom in the Upper Green River Valley. The levels of pollutants today as a result of oil and gas development is vast compared to the conditions which existed in 1975-1988.</p> <p>The BLM has not engaged in the critical environmental analysis which is required by NEPA. BLM indicates this will be included in the final EIS. That is too late. This information is needed at this stage of the process in order for the required public scrutiny can be valid.</p>	<p>BLM modeled the preferred alternative, including various levels of emission reduction, in the supplemental AQ reports.</p> <p>WDEQ determined the monitoring data that best represented the background conditions in the Jonah area.</p>
L-74	16	A	<b>Land Use</b>	On-Site Mitigation	Compensatory Mitigation	<p>The FLPMA requires that public lands be managed on the basis of "multiple use and sustained yield." 43 USC 1702(a) and (c). The current uses for the JIDPA include recreation, hunting, birding, and livestock grazing. Essentially the BLM has foreclosed the concept of multiple use in the Jonah Field area, including JIDPA. For the estimated 100 years the development and production will last, plus an additional estimated 90-100</p>	<p>Thank you for your comment. FLPMA does not provide a definition of undue and unnecessary degradation. Lacking a finite definition, the EIS analyses the impacts to resources and the benefits of the proposed natural gas infill drilling project. In addition, FLPMA</p>

**Table II-B. DEIS Comments and BLM Responses (cont'd)**

Submittal ID	Comment Number	Category	Keyword 1	Keyword 2	Keyword 3	Comment Text	BLM Response
						<p>years for reclamation to occur to replicate the present conditions, the public lands will be withdrawn from use by man or beast. There will be no multiple use of these lands because there will be nothing left to use. At the end of 200 years, assuming reclamation does occur and is successful, what will there be to begin again.</p> <p>Under the nine proposed alternatives, only Alternatives B and E will not constitute unnecessary and undue degradation under FLPMA.</p> <p>In past experience with oil and gas development on public lands, the lessees have been very slow to perform their reclamation duties. Other lessees have gone bankrupt and left the general public to pay for reclamation of public lands. We strongly urge that strict requirements be placed on the operators to reclaim all lands to the fullest extent possible and at the earliest possible time during the LOP. We also urge BLM to require a compensation mitigation fund which will be realistic and adequate to assure all parts of the project are monitored, reclaimed and mitigated. We also strongly support the posting of a bond by the operators which would be used to complete reclamation in the event of default by the operators.</p>	<p>certainly does not require that all uses be maintained in all areas simultaneously, but that various resource values be managed so that they are utilized in the combination that will best meet the present and future needs of the American people.</p> <p>BLM does not have the authority to require a compensation mitigation fund. Such a fund must be voluntary on the Operators part.</p> <p>Concerning reclamation bonding, BLM requires the Operators to post a bond for each lease for all operations, including reclamation. The amount of the bond can vary, and BLM can require that the bond be increased as circumstances warrant.</p>
L-75	5	F	Wildlife	On-Site Mitigation		<p>As a final thought for BLM to include when considering the operator's Proposed Action, please reference "Greater Sage Grouse Population to Natural Gas Development in Western Wyoming: Are Regional Populations Affected by Localized Disturbances?" Matthew J. Holloran; Stanley H. Anderson:</p> <p>"Braun et al. (2002) suggest that the oil and gas industry should mitigate for habitat and population decreases associated with mineral extraction activities, considering potential cumulative effects [e.g., livestock impacts to surrounding landscapes (Kuipers 2004), habitat treatment consequences (Slater 2003)]. Additionally, mitigation measures aimed at increasing not only productivity in but carrying capacity of surrounding areas could be important because of potential density-dependent difficulties (i.e., nest spacing influences on nest success probabilities; M.J. Holloran, unpublished information) arising from artificially high populations caused by the shifting of some of the juvenile cohort.</p>	<p>All management for sage-grouse is appropriate for inclusion in the FEIS. The Jonah field was predominantly sagebrush habitat before development. The BLM's goal is to reestablish sagebrush habitats.</p>

**Table II-B. DEIS Comments and BLM Responses (cont'd)**

Submittal ID	Comment Number	Category	Keyword 1	Keyword 2	Keyword 3	Comment Text	BLM Response
						<p>Mitigation measures aimed at minimizing the negative numerical consequences of gas development to regional sage-grouse populations implies a refugia approach to species conservation. By protecting and enhancing these reservoir populations surrounding the developing gas field, mitigation theoretically ensures that sage-grouse will be present to recolonize the field following reclamation. However, this approach requires lengthening the time-frame between the development of additional gas fields surrounding the one currently under construction to the life-expectancy of the original field, thus ensuring that surrounding refugia areas are maintained (individual gas well life-expectancy estimated at 25 to 40 years for the types of formations encountered in the Pinedale Anticline area; Wyoming Oil and Gas Conservation Commission, personal communication 2005). Following reclamation of the existing field, the area then potentially becomes a refuge for reservoir populations associated with the next gas field slated for development.”</p>	
L-76	1	A	<b>Air Quality</b>	Analysis		<p>We are aware that there have been concerns raised to a public level associated with air quality in the area. However, the DEIS and the supporting technical documents demonstrate that air quality will continue to meet acceptable regulatory levels. In addition, the results of the air quality analysis associated with this development should be considered conservative. The following supports this comment:</p> <p>The volatile organic compounds (VOC) and hazardous air pollutants (HAP) emissions projected and analyzed in the DEIS should be considered conservative. This air quality analysis does not take into account the additional emission reductions associated with the Wyoming Air Quality Division’s new guidance addendum that took affect July 2004. The projected “emissions associated with production” used in the DEIS air quality analysis were based on the data from the existing development, however; the new addendum requires control on lower emitting facilities, the control must be installed earlier and must stay on longer. This indicates that the emissions used in the analysis are conservative and that the actual emissions would be lower than those projected.</p>	<p>The WDEQ-AQD revised oil and gas guidance was not released until after completion of the field emissions inventory and modeling, and therefore was not utilized. Lower emissions potentially associated with facilities meeting the requirements of this guidance would result in lower impacts.</p>

**Table II-B. DEIS Comments and BLM Responses (cont'd)**

Submittal ID	Comment Number	Category	Keyword 1	Keyword 2	Keyword 3	Comment Text	BLM Response
						Due to the joint efforts of the oil and gas producers in the area and the Wyoming Air Quality Division (WAQD), the emissions from “completion operations” should be lower than those evaluated in the DEIS. After working together on this issue, the WAQD requested “Well Completion Air Permit” applications from oil and gas operators in the Jonah/Pinedale Anticline area. Based on the information from the WAQD, they will issue a general permit that will require the use of best practices associated with completion operations, designed to lower emissions and reduce potential impacts. This new regulated practice will ensure the emissions associated with well completion operations is lower than those projected in the DEIS.	
L-77	1	A	<b>Alternatives</b>	On-Site Mitigation	Compensatory Mitigation	<p>The following are comments on the Jonah Infill Drilling Project DEIS as submitted by Trout Unlimited and its Public Lands Initiative.</p> <p>TU-PLI has significant concerns about not only the data contained in this document, but also the contradictions within the document, the lack of meaningful mitigation to minimize surface disturbance beyond the standard requirements, and the ease with which the BLM admits “significant impact” from proposed activities with no apparent sense of responsibility to minimize that impact.</p>	<p>The BLM will incorporate appropriate mitigation measures as needed into the ROD. In some cases this could include additional measures to mitigate surface disturbances—such as pad design to prevent runoff and erosion, etc. A number of the measures in DEIS Appendix B may also be included.</p> <p>The EIS provides an honest assessment of whether impacts will result from the Preferred Alternative. In order to balance the differing missions of the BLM—including responsible mineral recovery—some disturbance will be necessary. The NEPA process helps guide decision-makers to try and minimize unnecessary disturbance.</p> <p>Without specific examples regarding data, contradictions, or impacts, this comment cannot be further addressed.</p> <p>In addition, the FEIS will contain a new Preferred Alternative.</p>
L-77	2	A	<b>Analysis</b>			1. BLM estimates and bases its mitigation analysis on the assumption that the projected wells would be drilled and produce for approximately 40 years and the Life of the Project would be up to 110 years. In the first Jonah EIS (1998), the BLM estimated that the wells would be	Forty years would be the time it would take to drill the wells at a rate of 75 wells per year as outlined in Table 2.1 of the DEIS. The table contains the range of 75-250 wells

**Table II-B. DEIS Comments and BLM Responses (cont'd)**

Submittal ID	Comment Number	Category	Keyword 1	Keyword 2	Keyword 3	Comment Text	BLM Response
						drilled and produced over 15 years, and in reality, that was accomplished in 7 years. This document states that 250 wells/year would be allowed to be drilled. With a maximum of 3100 wells, that is a drilling span of 12.5 years – not 40 years, with serious impacts happening within those first 12.5 years. While the drilling could occur over 40 years, the onus is on the BLM to reveal to the public what the predicted impacts are in the first 12.5 years, as this document would allow, if finalized as is.	per year. It is expected that the actual rate will be somewhere between those two levels, depending on the economic situations of the operators and the availability of equipment. Impact analyses were performed taking this range into account; therefore the analysis requested in this comment has already been included in the DEIS.
L-77	3	A	<b>Surface Disturbance</b>	Alternatives		2. It is stated that the Proposed Action includes 3100 additional wells on up to 16,200 acres of new disturbance. However, that Alternative is not included in the Table 2-1, the first table in the document which presents to the public the comparison of impacts from the various alternatives.	The Proposed Action is included in Table 2.1. The table shows a total disturbance of 20,409. This figure is a combination of the proposed 16,200 acres of new disturbance and 4,209 acres of existing disturbance. The Proposed Action is further detailed in Table 2.4. Those details should resolve any differences between the text description of the Proposed Action and what is contained in Table 2.1 (e.g., Total Acres Surface Disturbance includes existing disturbance).
L-77	4	A1	<b>NEPA</b>	Analysis		3. The BLM states in the abstract that “Standard field development and production procedures would be followed”, while there is nothing standard about this field in Wyoming at all. There is no other field in Wyoming that allows 10 acre surface spacing, with the option of 5 acre bottom-hole spacing. This document allows up to 4 times the current pace of drilling and development in this field, with no acknowledgement of pacing that activity. The BLM has a responsibility under NEPA to minimize impacts on federal resources, and yet nothing in this document indicates that the BLM is going beyond its standard procedures to attempt to minimize impacts.	Every development project is unique and requires the proper review and documentation. Hence the need for the NEPA process, such as is being done in this instance. However, the use of standard procedures should not be construed to imply that the unique features of the Jonah Field have not been taken into account. The DEIS documents these concerns and has addressed them in a way specific to the JIDP.
L-77	6	A	<b>Wildlife</b>	Compensatory Mitigation		Wildlife Mitigation Fund: It is first described on page iii that the operators would consider establish of a Cumulative Impacts Mitigation Fund for offsite Compensatory Mitigation. It states as proposed, the fund could be based on a per/acre amount for the level of surface disturbance authorized. The reality is the impacts to wildlife and the ecosystem are far greater than the footprint. It is disingenuous of the BLM to even	Requirements for off-site mitigation will be included in the ROD.

**Table II-B. DEIS Comments and BLM Responses (cont'd)**

Submittal ID	Comment Number	Category	Keyword 1	Keyword 2	Keyword 3	Comment Text	BLM Response
						allow this minimal offer to be considered as a credible trust fund and this should be noted in the Executive Summary. The public has witnessed in the 30,000 acres of the Jonah Field a current evacuation of all active sage grouse leks – regardless of the fact that not every acre of the field is disturbed. Operators should be required to fund this Account on a production amount or in another manner that more accurately compensates the state and the federal citizens for the impacts to these resources caused by gas extraction. The BLM should be required to analyze different funding mechanism and their pros and cons, as well as to seek public comment on different funding mechanisms, as a part of this NEPA document, rather than simply accepting and presenting the minimal amount offered by the operators.	
L-77	7	A	<b>Analysis</b>	Water Resources		Topography/Water: It is stated on page v that “Surface water resources down-channel from the JIDPA could be significantly affected during run-off events under all alternatives.” This could significantly impact the fisheries in the area and nowhere in the document could we find where this impact was attempted to be minimized, not in the least way of requiring close-pit drilling operations that would eliminate surface water discharge. TU-PLI believes this is an alternative to surface disposal that should be revealed and considered in the FEIS.	Surface discharge of produced water, drilling muds, or other associated fluids to flow connected channels should not occur under any alternative. The statement was in reference to the amount of surface disturbance that could occur with the intensity of development. Rapid reclamation of disturbed sites and other enhanced erosion control methods are being undertaken in the Jonah field to address this concern. BLM Wyoming Standards for Healthy Rangelands (Appendix A.5) will be used to help protect fisheries resources throughout the life of the field. If closed-pit drilling or other appropriate methods are required to meet those standards, then they shall be used.
L-77	8	A	<b>Air Quality</b>	Public Participation		We have tremendous concerns with regards to inappropriate air quality analysis including inaccurate assumptions and purposefully underestimated impacts. The BLM states on page v that “Modeling of air quality and air quality-related value impacts from the BLM Preferred Alternative will be run during the DEIS public comment period and reported in the final EIS.” This is completely inappropriate and disingenuous of the BLM to so blatantly show disregard for the public comment that is intended for a draft document. If this is allowed to	BLM modeled the preferred alternative, including various levels of emission reduction, in the supplemental AQ reports.  BLM modeled the current (2006) conditions, including drilling in the gas fields in the Jonah area (Jonah, Pinedale Anticline, Riley Ridge, South Piney and Jack Morrow Hills)

**Table II-B. DEIS Comments and BLM Responses (cont'd)**

Submittal ID	Comment Number	Category	Keyword 1	Keyword 2	Keyword 3	Comment Text	BLM Response
						<p>continue, the data will be provided in the Final document, which only requires a 30-day review period by the public. Given the significant impacts that are proposed (up to 46 days of visibility impairment compared to 11 days currently), the public deserves far more notice and time for analysis than what would be permitted after a Final EIS is released.</p> <p>In addition, the document states that all Air quality analysis was based on assumptions included in the 2000 PAPA analysis, which have proven to be grossly underestimated, given the profuse level of activity. The PAPA document predicted 4 times less the amount of drilling activity, and the impacts associated with that lesser amount of drilling. To simply pick up and repeat those lower predictions, when reality has proven them to be underestimated, is inappropriate and biased toward continuing to reveal underestimated impacts. (For instance, the PAPA ROD estimated 693.62 tons of NOx emissions, while the Questar Wintertime Drilling EA revealed 1895.26 actual tons of NOx emissions.) It is the responsibility of the BLM to base this impact analysis on the most currently known figures – not an outdated EIS, even though it is the most recent.</p> <p>The BLM also appears to intend to authorize 3100 new wells for drilling in advance of knowing the impacts to Wyoming's NOx PSD increment. The State DEQ is currently performing a new emissions inventory to determine where the state is with regards to NOx emissions, and then modeling runs to attempt to predict impacts based on different development scenarios. The DEQ is only doing this activity now because the BLM neglected to do the NOx emission tracking it was obligated to do in the 2000 PAPA-ROD. Although it is unfortunate that the BLM did not honor this responsibility and now forces the DEQ to belatedly perform the task, it is not the obligation of the public to bear additional consequences to the airshed – that could be mitigated – simply because the BLM declined to do its job. The BLM must consider authorizing a much smaller number of rigs in order to avoid drilling interruption for the Jonah operators, but to preserve its legal options for future mitigation that may be required based on final revelation of the true impacts.</p>	<p>South Piney and Jack Morrow Hills).</p> <p>The decision by WDEQ to perform a regulatory PSD increment consumption analysis is not related to BLM's NOx tracking. A regulatory PSD increment consumption analysis is the regulatory authority and responsibility of the WDEQ. As such, the WDEQ has undertaken an extensive analysis and modeling study designed to obtain the best possible estimate of the cumulative NO2 PSD increment consumption from sources impacting southwestern Wyoming. The final results should be available from WDEQ in late 2005 or early 2006.</p> <p>BLM will describe requirements of NOx tracking in the FEIS and ROD.</p> <p>Ozone monitoring has occurred near the Bridger Wilderness since the 1980s at the CASTNet site near Fremont Lake. Reference method ozone monitoring was installed in the Jonah Field in January 2005, near Boulder in February 2005, and near Daniel in July 2005.</p> <p>BLM has no intention of ignoring the nitrogen deposition data. The applicable level of acceptable change for lake chemistry is compared with potential decreases to ANC. All potential changes to ANC are below the LAC. Ongoing work by the federal land managers may produce a threshold for nitrogen deposition in lakes.</p>

**Table II-B. DEIS Comments and BLM Responses (cont'd)**

Submittal ID	Comment Number	Category	Keyword 1	Keyword 2	Keyword 3	Comment Text	BLM Response
						<p>TU-PLI is particularly concerned that this DEIS allows this project alone to double the ozone emissions to the point of bringing the local level up to 98% of the ozone national standard allowed in this area.</p> <p>TU-PLI is very alarmed with the USFS data showing a steady increase in NOx deposition in the high alpine lakes, and the fact that this BLM document ignores that data and proposes not mitigation to attempt to reverse that trend. NOx emission increases in high alpine lakes impact the Ph of these lakes and their ability to function as healthy fisheries. These emission increases are precursors to acid rain, an issue that TU has fought mightily throughout the northeastern portion of the country and does not relish the idea of facing similar circumstances in the Rocky Mountain West. This alone is a factor that is grossly underestimated in the DEIS and the BLM shows very little concern for finding mitigation to reduce this trend.</p>	
L-77	9	A	Soils	NEPA	Public Participation	<p>Soils: The Executive Summary notes that modeling to quantify soil impacts will also be run during the DEIS and results will be reported in the FEIS. Impacts to resources are supposed to be analyzed and presented to the public in the DEIS – not afterwards. It appears that the BLM is attempting to end-run the public process and simply publish an insufficient Draft document that does not provide the public the intended information, and they assume that will be acceptable as long as the impacts are ultimately revealed in the FEIS. The BLM seems to misunderstand the intent of NEPA which is to not only show the impacts, but work with the public to attempt to generate means to minimize those impacts.</p>	<p>The predictive analysis for sediment transport has been completed. The predictive analysis considered sedimentation associated with significant, <i>individual</i> storm events. At a broad watershed scale, it demonstrates that soil erosion impacts can be controlled and mitigated, but on a more site-specific level impacts may still pose a significant issue to soil, watershed, and other resource values and may need special attention. Also, the report concluded that cumulative erosion effects are possible considering the fact that multiple, significant storm events are likely over the life of the project.</p> <p>The acceptable, background soil erosion rates are unique to individual sites and soil series. Therefore, typically, site-specific assessments are needed during the APD/EA process to quantify effects and prescribe appropriate BMPs.</p>

**Table II-B. DEIS Comments and BLM Responses (cont'd)**

Submittal ID	Comment Number	Category	Keyword 1	Keyword 2	Keyword 3	Comment Text	BLM Response
L-77	10	A	Social	Economics		<p>The ES states that “This project is not likely to create additional, new significant impacts.” It is hard to find a genuine thread of truth in that statement given the BLM proposes to increase drilling rigs by 4 times up to 250 wells drilled per year. Do they not predict that 4 times the number of workers would be required to accomplish this goal, and with that worker population increase, an increase in traffic, crime, drug use and abuse and housing shortages that are occurring with the current workforce? To ignore even the possibility of an increase in these socioeconomic impacts – and the presentation of potential impacts -- and instead state that the public will be better off because of the increased mineral royalties paid to the state is not only laughable but inconsiderate of the public.</p>	<p>The wording on DEIS page 4-128 has been changed from:</p> <p>There would be avoidable adverse impacts to socioeconomics as a result of the proposed project.</p> <p>to:</p> <p>There would be no unavoidable short- or long-term adverse impacts to socioeconomics as a result of the proposed project.</p> <p>The wording on pages 4-116 and 4-117 of the JIDP DEIS and Page 265 of the Socioeconomic Technical Support Document (Jan 2005) has been changed from:</p> <p>While it is possible that there may be some increase in the study area population as a result of jobseekers coming to the area, such an increase in population would not place an undue burden on existing infrastructure. For instance, nearly 32% of the housing in Sublette County is vacant, although the habitability of this vacant housing is unknown (see Table 3.8). No housing shortages are anticipated. However, if there were an increase in the population, increased demand would likely cause an increase in housing prices (rental costs and home sale prices). Additionally, increased affluence in the study area is likely to cause an increase in the demand for higher-quality housing, which could result in increased housing construction projects. This would result in increased ad valorem tax revenues to local governments. It could also make it more difficult for</p>

Table II-B. DEIS Comments and BLM Responses (cont'd)

Submittal ID	Comment Number	Category	Keyword 1	Keyword 2	Keyword 3	Comment Text	BLM Response
							<p>some individuals to obtain satisfactory housing within affordable price ranges, which would have an effect on those individuals. Impacts to housing already being experienced by the affected communities may be incrementally increased by the Project as a result of increases in population. Plans are underway to build another motel in town and several mancamps are currently under discussion by area operators for permitting to alleviate some of the pressures on housing. Several housing developments are also being planned.</p> <p>to:</p> <p>Population in the study area may increase as a result of increased employment opportunities generated both directly and indirectly by the JIDP, affecting the availability of housing. To illustrate the point, Pinedale is currently facing a housing shortage and any additional pressure would exacerbate an already tight housing market. Moreover, if population were to increase, the increased demand for housing would likely put even more upward pressure on already high housing prices (rental costs and home sales prices). Additionally, increased affluence in the study area is likely to cause an increase in the demand for higher-quality housing, which could result in increased housing construction projects. This could make it more difficult for some individuals to obtain satisfactory housing within affordable price ranges.</p>
L-77	11	A	<b>Compensatory Mitigation</b>	Operator-Committed		Voluntary mitigation measures: While this is touted as a net benefit to the proposed development, there is no	As needed, and as appropriate and consistent with BLM policy, the

**Table II-B. DEIS Comments and BLM Responses (cont'd)**

<b>Submittal ID</b>	<b>Comment Number</b>	<b>Category</b>	<b>Keyword 1</b>	<b>Keyword 2</b>	<b>Keyword 3</b>	<b>Comment Text</b>	<b>BLM Response</b>
				Practices		mention of BLM enforcement of these voluntary measures. In addition, upon complete review of Appendix B which outlines the operator voluntary measures, at least 98% of those measures are already required by current BLM standards and procedures. There is, in reality, a minimal amount of new and voluntary mitigation offered by the operators to develop this field.	operator-committed practices outlined in Appendix B will be included in the ROD and thus be mandatory.  It is not necessary that the mitigation measures all be new, but rather that they be appropriate to the JIDP.
L-77	12	A	<b>Analysis</b>			Page 1-4 states that it is important to allow the operators up to 10 acre spacing in order to "prevent drainage of federal minerals by wells located on adjacent non-federally owned minerals." Since the document reveals that of the 30,500 acres in the Jonah field, only 1,920 are owned by the state (.065 of the field) and 640 acres are owned privately (.02 of the field), it hardly appears that preventing drainage is a significant concern.	DEIS Page 1-4 makes no comment regarding well spacing. Part of the purpose and need of this project is to allow for the removal of federally owned minerals from federally owned lands before they are drained to off-site sources. Meeting this purpose and need does not necessitate any particular well spacing.
L-77	13	A	<b>Analysis</b>			Page 1-5 concludes that the impacts from the 3100 additional proposed wells are within the range of the impacts allowed under the current RMP. This is disingenuous as the current RMP includes impacts that are allowed from currently permitted levels of activity in the PAPA that have not yet been drilled – but are allowed. If the Jonah operators are allowed to use under this EIS that increment of allowable impacts that was permitted for the PAPA operators, when those operators reach full potential, there will be no more room for impacts and more analysis will be required or the public will be forced to accept more impacts. Any new predicted impacts must be included in a revised RMP – or wait until the RMP revision that is underway is completed.	DEIS Page 1-5 makes no conclusions regarding impacts from the JIDP other than outlining possible total acres of disturbance from this and other projects. A comparison is made of the expectations contained in the RMP vs. actual development. The conclusion is that the JIDP fits within the existing RMP objectives even though the actual number of wells is beyond the expected RFD. This does not imply the utilization of any increment from the Pinedale Anticline project.
L-77	14	B	<b>Alternatives</b>	Compensatory Mitigation	On-Site Mitigation	Page 1-9: Section 1.4.1.1: The document states: "With the exception of five specific mitigations excluded from Alternative A, the standard Wyoming BLM mitigation guidelines are applied to all alternatives analyzed in this EIS." The BLM needs to reveal what the five specific mitigations are that were excluded and explanation as to why they were excluded.	The five specific mitigation guidelines are outlined in Appendix A, Section A.1. All five were omitted from Alternative A. The purpose was to provide a basis for comparison of the other alternatives if no mitigation guidelines were applied and drilling was allowed everywhere in the Jonah Field.
L-77	15	A	<b>Public Participation</b>			The DEIS proposes development of another Adaptive Management group to address specific circumstances of the Jonah Field. Since there is already an Adaptive	This comment is no longer applicable. It will be addressed by a new oversight group in the FEIS.

**Table II-B. DEIS Comments and BLM Responses (cont'd)**

Submittal ID	Comment Number	Category	Keyword 1	Keyword 2	Keyword 3	Comment Text	BLM Response
						Management group in place for the Pinedale Anticline, the development of a second group has inherent problems: 1) it begins to tax a community of 1000 year-round residents to find a second group of capable individuals willing to donate significant time to participate on another AM group when one group could easily address the impacts of both fields simultaneously, rather than individually; 2) it causes undue competition and possible conflict between the two groups, depending on their final make-up; 3) the development of a second group overly-burdens the state, local and federal representatives which are already serving on the PAPA Adaptive Management group, and will have to provide similar data in a second set of meetings every other month.	new oversight group in the FEIS.
L-82	1	A1	<b>Editorial</b>			Given that the BLM is under obligation to provide the public with informative explanations of actions contemplated which will impact the region's environment, this document falls far short in fulfilling that obligation as an information vehicle. The impacts are indeed addressed but they are spread throughout the document in an almost coded form. It would have been far better to summarize them point by point in a straight forward, no holds barred section in the form of a broader summary chapter which opens the document for the reader. Furthermore, all figures, charts, and images would be more usefully incorporated in a separate volume so the reader could lay it out beside the text volume and use the two side by side. A possible approach might be to consolidate in the appendix volume all Volume 1 figures, images, and charts thereby making up an appendix of their own.	The document has been prepared in accord with the Recommended Format contained Sec. 1502.10 of the CEQ Regulations for preparing environmental impact statements. Impacts are addressed in the appropriate sections according to the subject being discussed. Every attempt was made to place figures, maps, and other supporting information as close as possible to the portion of the text in which they are discussed, although in areas where a lot of data is presented this may be several pages. That being the case, no changes to the document are recommended.
L-82	2	A1	<b>Analysis</b>			Additionally, I find the presence of various statements and sections in the document to be inappropriate and verging on, if not actually constituting, pro-industry advocacy. On page 4-1 of chapter 4, "Environmental Consequences and Mitigation Measures", second para., the declaration is made that the "...EIS is an analytical document..." and for that reason defers from the use of adjectives such as "moderate," "low," and "negligible." However, on page 1-4 of the "Introduction," the writers see fit to engage in non-analytical speculation that by developing domestic reserves of natural gas "...the U.S. .. [maintains its]...national security. I submit that BLM has no expertise whatsoever to judge what impact the	The appropriate portions of Chapter 1 will be modified to reflect these concerns.

**Table II-B. DEIS Comments and BLM Responses (cont'd)**

Submittal ID	Comment Number	Category	Keyword 1	Keyword 2	Keyword 3	Comment Text	BLM Response
						Jonah Infill project (by inference) will have on national security.	
L-82	4	A1	<b>Editorial</b>			The "Infrastructure" section on page 3-101 contains a factual error ... Sublette county is credited with three airports. Close reading reveals that the Big Piney-Marbleton airport is counted twice; in truth, there are only two commercial airports in Sublette County.	Paragraph 2 on DEIS page 3-101 will be changed to read "two airports." Paragraphs 1 and 2 on DEIS page 3-102 will both be changed to reflect the fact that Big Piney and Marbleton share an airport.
L-82	7	A1	<b>Compliance</b>	Analysis	Conditions of Approval	BLM has been quick to claim on the one hand that it cannot require operators to do anything in the way of adopting actions or methods to minimize environmental consequences. Yet conversely, in Section 2.0 of Volume 1, BLM makes claims that it would "...impose the following general COAs [Conditions of Acceptance], mitigation and BMPs on all project authorizations" (Section 2.14.2, Vol.1, pp2-27 thru2-30) whereupon it lists 27 action items. Sections 2.14.2.1 and 2.14.3 go on to "require" and "impose" additional resource monitoring and surveying activities as well as site-specific additional COAs, and mitigation and BMPs (pp.2-30 and 2-31). However, before this is declared, it is effectively negated by Section 1.4.1.1, page 1-9 which states in para. 3 that "Upon request by the applicant, an exception to the lease stipulation or COA may be granted by the BLM following on-site review to see if the exception is warranted."	It is unclear what portion of the DEIS is being referenced in the first part of this comment, so no response is possible. Regarding the review for exception to lease stipulations or Conditions of Approval (COAs), it should not be assumed that such exceptions would automatically be granted. As noted in the language, this will only occur "if the exception is warranted." Although this may sometimes be needed, it will not always be the case. This does not effectively negate the benefits from the measures specified in 2.14 <i>et seq.</i>  BLM cannot unilaterally add new stipulations to existing leases. A lease is a binding contract between the Operator and the BLM. BLM, through the NEPA process, can and does routinely place COAs, such as seasonal restrictions for crucial big game winter range, sage grouse nesting, etc., to post-lease actions, such as APDs, to minimize the environmental impacts of the action. BLM also retains the authority to grant exceptions to lease stipulations and/or COAs where conditions warrant. This does not negate the validity or the value of the COAs listed in Chapter 2 of the DEIS.
L-82	9	A	<b>Analysis</b>	Performance		Chapter 2, Section 2.14.1, "Outcome Based	It is not clear whether this comment

**Table II-B. DEIS Comments and BLM Responses (cont'd)**

Submittal ID	Comment Number	Category	Keyword 1	Keyword 2	Keyword 3	Comment Text	BLM Response
				Objectives		<p>Performance Objectives," page 2-26 demonstrates BLM's main concern to be that of "...implementing industry accomplishment of meeting performance objectives and to allow maximum flexibility for operators to utilize innovation to maximize gas recovery while protecting ... other resources ..." BLM should be focusing on protecting the environment first and letting industry worry about maximized results of recovery. There are several statements of environment protection objectives but few specifics that appear binding on either BLM or industry. The objective of avoiding Wyoming Air Quality exceedences, PSDs and Class I visibility decreases seem to be empty intentions in light of the Clean Air Act, 42 U.S.C. 7474, Section 165 part 8(d)(2)(A) through (C) (ii):</p> <p>...</p> <p>A close reading of this portion of the Clean Air Act appears to signal that the stated objectives in the EIS just quoted may be insufficient and perhaps even violations on the part of BLM and Forest Service. The provision in (C)(i) placing upon the operator the responsibility of demonstrating "that emissions...will not cause or contribute to concentrations which exceed the maximum allowable increases for a class I area" is being circumvented by the BLM in that the BLM is the entity which is engaged in such demonstrations; this would seem to constitute a conflict of interest and a compromise of BLM's land stewardship responsibilities.</p>	<p>has been taken from an earlier version of the DEIS, but the phrase "implementing industry accomplishment of" does not appear in the DEIS. Nonetheless, the BLM has the obligation to responsibly balance the various uses of federal lands under its jurisdiction. While this includes the protection of the environment, it also includes the reasonable and responsible extraction of mineral resources. Neither object should automatically overrule the other. The goal of the Preferred Alternative is to balance these uses appropriately.</p> <p>Although the objectives outlined in DEIS Section 2.14.1 have been established by the BLM, the responsibility for implementing them and monitoring their results will be placed upon the operators. As such, the Preferred Alternative should not be a violation of the provisions of the Clean Air Act nor is it a conflict of interest on the part of the BLM.</p>
L-82	12	F	Air Quality	Analysis		<p>While the wind rose depicted in Figure 3.1 on page 26 generally agrees with my own research from 2003 through 2004, I caution against full reliance upon measurements from one location and from so far in the past. My own database has been accumulated from two years of hourly measurements at the Big Piney AMOS station (see Appendix 1 attached hereto as an example) as well as daily observations at my home 30 miles north for some 7 years. Also, I have begun collecting mid-day values from the recently activated Jonah-EnCana and Boulder-Shell stations; unfortunately, these observations are "spotty" due to the fact that the readings are not archived for batch access...Furthermore, both stations went through a period of poor reliability regarding uninterrupted operation. Initial comparisons of the two stations show worrisome departures from each other and from both the Big Piney and Pinedale airport</p>	<p>The wind rose depicts the winds in the Jonah Field and these meteorological data were also used to model pollutant impacts within the Jonah Field (near-field analysis). The windfields developed for the far-field analyses included meteorological data from 55 surface stations within or near the entire modeling domain, which would account for variability in the meteorological data throughout the modeling domain.</p>

**Table II-B. DEIS Comments and BLM Responses (cont'd)**

Submittal ID	Comment Number	Category	Keyword 1	Keyword 2	Keyword 3	Comment Text	BLM Response
						<p>monitoring stations.</p> <p>My own research shows that in 2003 there was a high degree of month-to-month variability in wind behavior which is shown by the "lobe" nature of wind direction versus speed (see Appendix 2 attached hereto). (Please note, all wind rose figures I have included herein are reversed from the standard convention in that all wind bars show the direction TOWARD which the winds are blowing instead of FROM which they are blowing...) The year of 2004 seemed to be a much less variable wind direction year but even so, a non-statistical graphing of the year's directional trends for winds of all speeds shows that they travel toward the four Class I regions from 20% to 52% of any one month in a year (Figure 1). Not that the relatively high sun angle period between April and August when photo conversion of haze precursors is most efficient is also the time of highest occurrence of wind travel toward the Class I areas.</p> <p>[See letter for detailed analysis. Appendix 1, "Example Weather Data from Big Piney Airport AMOS Facility" and Appendix 2, "Wind Speed History for Part of 2003."]</p>	
L-82	14	F	<b>Air Quality</b>	Analysis	Conditions of Approval	<p>In the document, "Introduction to Visibility" (William C. Malm, Air Resources Div., National Park Service, CIRA-NPS Visibility Program, Colorado State University) Section 6.2.1 declares sulfate and carbon species to be the single largest contributor to visibility reduction. The Finlayson-Pitts textbook cited earlier also states that "The major source of SO<sub>2</sub> is the combustion of sulfur-containing fuels." Additionally, since internal combustion processes creates NO<sub>x</sub> emissions, it seems logical and appropriate for BLM to include in its list of COAs a requirement for operators to contract drilling service providers who are willing to rapidly transition to the use of diesel engines which comply with EPA Tier 1-3 and ultimately Tier 4 emission standards. Furthermore, a COA requiring drillers to use low sulfur fuel should be included.</p>	<p>Thank you for this suggestion. The BLM will consider it.</p> <p>The FEIS and ROD will describe mitigation and COAs to be applied for air quality.</p> <p>Tier III will not apply to most drilling rig engines due to their smaller horsepower, and Tier IV emission levels are not required until 2012. Some operators are currently investigating the use of, or actually testing, rigs and rig engines that will reduce emissions to Tier II or even Tier IV levels.</p>
L-82	15	F	<b>Analysis</b>	Air Quality		<p>The previous discussion has been offered as evidence to support the argument that additional wells in the thousands pose a serious threat to the issue of air quality in the near field and the far field. This view has been articulated in a U.S. Department of Energy report</p>	<p>BLM appreciates that dispersion modeling is a complicated business. However, BLM has no intention of relying solely on modeling to address air quality issues. Modeling is one</p>

**Table II-B. DEIS Comments and BLM Responses (cont'd)**

Submittal ID	Comment Number	Category	Keyword 1	Keyword 2	Keyword 3	Comment Text	BLM Response
						<p>titled "Rocky Mountain States Natural Gas: Resource Potential and Prerequisites to Expanded Production" (U.S. Department of Energy Office of Fossil Energy, Washington, D.C. 20585, 202-586-5600, www.fossil.energy.gov September 2003   DOE/FE-0460). This document includes the following comment:</p> <p>Regional air quality. Maintaining the pristine air of the Rocky Mountain States -- especially around the national parks and forests of Wyoming -- poses a special challenge. Small changes in air quality can have noticeable effects, especially on visibility. The region is valued for its striking vistas and scenery, but the ability to see these sights over long distances has degraded over time as air emissions have increased from a number of sources, including traffic, urban development, and industrial activities. Natural gas development is one of these activities. Some Federal and State agencies as well as environmentalists have expressed concern about the contribution of natural gas drilling, producing, and transportation to the increase of particulates in the atmosphere, leading to lower visibility and "regional haze." Of particular concern are emissions such as dust from service roads and nitrogen oxides from compressors, which can travel long distances and sometimes transform chemically to impair visibility. However, the combination of emissions, transport, weather, atmospheric chemistry, and deposition is extremely complicated, making it difficult to understand and predict the contribution of natural gas development to regional air quality.</p> <p>The last sentence serves well to point out the folly of currently relying too heavily upon modeling of empirically un-validated regional air quality models. Furthermore, it should underscore the inadvisability of basing upon those modeling results precipitous decision making that will commit three generations of local residents to the end results of such decisions.</p>	<p>tool, along with emission inventories and tracking, monitoring, significance criteria and mitigation.</p>
L-82	16	A1	<b>Alternatives</b>			<p>Amend last sentence of par. 2, Section 2.2 "Development of Alternatives" to read "All alternatives analyzed in this EIS have attempted to address the likelihood of new technological advances, and requires the inclusion of new technologies as they become available" (i.e., replace "encourages" with "requires").</p>	<p>Without prior knowledge of what the new technologies might include, it is not possible to require them before they become available. Some newer technologies may produce unwanted secondary impacts, prove to be less</p>

**Table II-B. DEIS Comments and BLM Responses (cont'd)**

Submittal ID	Comment Number	Category	Keyword 1	Keyword 2	Keyword 3	Comment Text	BLM Response
							effective than existing technologies, or be so fiscally prohibitive as to make mineral recovery from the Jonah Field impractical. However, the BLM will encourage operators to incorporate new technologies that are reasonable to implement.
L-82	17	A1	<b>Analysis</b>			In every instance where the word "would" is used in connection with enforcement and compliance, replace it with the word "will." There should be a stronger mandatory tone that offers minimal opportunity for more lenient interpretation.	The word "would" is used in the future tense to indicate that these measures are dependent upon which actions will be authorized in the ROD. The ROD will use the word "will" when the decision is rendered.
L-82	18	A1	<b>Analysis</b>	Compensatory Mitigation		On page 2-31, Section 2.14.4 "Compensatory Mitigation," change the language regarding BLM recommendations re. operators' voluntary seeking out of BLM-approved cumulative mitigation projects to alleviate on-site mitigation concerns to reflect mandatory requirements for same.	The comment is no longer applicable. The discussion of compensatory mitigation is being revised in the FEIS.
L-82	21	A1	<b>Compliance</b>	Analysis	Conditions of Approval	Add to the COAs provisions requiring compliance with Tier 1-3 and Tier 4 emission standards for diesel engines that power drill rigs and also add a COA requiring drill rig operators to utilize low sulfur fuel.	BLM may include a COA that will require operators to comply with potential visibility impact thresholds.
L-84	2	F	<b>Wildlife</b>	Compensatory Mitigation		<p>It is apparent that impacts to wildlife have already occurred from the existing Jonah Field development. Most, if not all, of the existing Jonah Field has already reached the "extreme" threshold as identified and defined in our agency's document "Recommendations for Development of Oil and Gas Resources within Crucial and Important Wildlife Habitats, December 6, 2004". That document recommends that, with the existing level of development on the Jonah Field, the impacts should be mitigated through compensatory (off-site) mitigation to replace wildlife habitat function currently lost. The additional level of development proposed in the DEIS for the Infill Project adds considerable support for the need for off-site mitigation of wildlife impacts.</p> <p>With a development the size of the Jonah Infill Project area, it needs to be recognized that in the absence of habitat improvements in adjacent off-site areas, the predicted habitat loss will result in significant losses to wildlife populations. This includes not only high profile</p>	Requirements for off-site mitigation will be included in the ROD.

**Table II-B. DEIS Comments and BLM Responses (cont'd)**

Submittal ID	Comment Number	Category	Keyword 1	Keyword 2	Keyword 3	Comment Text	BLM Response
						species like sage grouse, but BLM sensitive species as well. Surrounding habitat, in its current condition, will not be able to absorb the animals displaced from the large Project area. As an example, the DEIS has already documented this in Table 3.18 on page 3-66 for the decrease in sage grouse lek attendance in and adjacent to the Jonah Field over the last 4-5 years, and supports this in the environmental consequences analysis on page 4-84. The DEIS also notes the potential pronghorn migratory route blockage.	
L-84	3	A	<b>Compensatory Mitigation</b>	Wildlife		<p>We recognize that the Operator-proposed Compensatory Mitigation items found on page 4-152 are not intended to be a final course of action, and that eventual mitigation requirements and funding are yet to be finally determined. We assume the mitigation that eventually becomes part of the Final EIS and ROD will be guided by the new Interim Offsite Compensatory Mitigation Instruction Memorandum (No. 2005-069), which became available after the DEIS was finished. In the eventual implementation of that IM, we will continue to recommend an initial off-site mitigation approach of habitat improvements adjacent to the Project area at a rate of 3:1 (3 acres of mitigation:1 acre of disturbance). This assumes that a 33% improvement in habitat quality may be possible in adjacent areas, and while the exact level of improvement is currently unknown, this ratio can serve as a reasonable starting point until future monitoring data can more precisely define it. The ROD should allow for adjusting the mitigation ratio through the LOP as the ratio becomes better defined.</p> <p>The initial ratio should be applied regardless of the number of acres disturbed, and should begin, at the latest, as soon as the level of ground disturbance makes off-site mitigation necessary. If possible, mitigation should begin prior to foreseeable development impacts, as this would reduce the lag time between impacts to habitat and the availability of additional mitigation habitat, thus reducing impacts to wildlife through time.</p>	Mitigation is addressed in the following ways: on-site/in-kind, off-site/in-kind, on-site/out-of-kind, off-site/out-of-kind. Commitments for off-site mitigation will be contained in the ROD and expected to be completed. If 3:1 ratio is committed to, then that is what will be required. Impacts could easily require mitigation at greater than a 3:1 ratio.
L-84	4	D	<b>Wildlife</b>	Livestock/ Grazing	Compensator y Mitigation	We recognize and support the Compensatory Mitigation Ideas included in the DEIS (Section 5.2, page 5-7). Additionally, we recommend selecting a large area (preferably unleased for minerals) and identify both grazing strategies and habitat improvement strategies that would combine to improve habitat function within	Requirements for off-site mitigation will be included in the ROD.

**Table II-B. DEIS Comments and BLM Responses (cont'd)**

Submittal ID	Comment Number	Category	Keyword 1	Keyword 2	Keyword 3	Comment Text	BLM Response
						that area of BLM Lands. There is currently an identified unleased area that could serve that purpose. Improvements could be performed that would benefit both wildlife and livestock, and the area could feasibly be classified in the RMP revision as a Special Management Area for the LOP.	
L-84	5	A1	<b>Analysis</b>	Public Participation		<p>It should be clearly stated that the necessary monitoring the Working Group recommends, and BLM agrees to, will be funded by industry. This should include any special studies that may become necessary during the LOP.</p> <p>We do not support the Working Group eventually becoming a FACA-chartered group. It is in the best interest of the objectives of the Working Group to maintain a more nimble, informal group representing the managers and agency spokespersons for the affected land uses in the Project area. Input from others could more easily be funneled through the interagency group than by using the formal and usually burdensome FACA process to accomplish that same result.</p>	This comment is no longer applicable. The JIWG is being removed from the FEIS and replaced by a different adaptive management group.
L-84	6	A	<b>Compensatory Mitigation</b>	Compliance		A comprehensive monitoring plan will be necessary to adequately describe the impacts and effectiveness of mitigation for this large, intense, long-term development. Adaptive management reaction to monitoring information will need to be assured. These items will need to be specifically addressed in the ROD, and implemented as Conditions of Approval.	Wildlife monitoring and extensive air quality monitoring are already included in the plan. As noted in Chapter 5, additional monitoring measures may be included in the ROD as needed.
L-84	7	A	<b>Wildlife</b>			We assume the sage grouse protection measures noted in Section 2.14.2, page 2-29 will be reviewed and aligned with the new BLM sage grouse Instruction Memorandum that is currently in the final stages of preparation.	Correct, unless otherwise stated.
L-84	8	A1	<b>Wildlife</b>	On-Site Mitigation	Conditions of Approval	In Section 2.14.2.1, page 2-30, we recommend the first bullet "Operators would continue supporting existing wildlife studies and monitoring efforts" be expanded to include any other studies that BLM determines as necessary during the LOP. It is very possible that unforeseen issues may arise and need to be monitored over the very long term of this Project. It is also very likely that comprehensive studies that include the Jonah Project area may also need to be undertaken to support future region-wide BLM planning efforts in the Pinedale	<p>All wildlife monitoring will be included in the Wildlife Monitoring and Mitigation Plan developed after the ROD is signed.</p> <p>Additional surveys and studies can and will be required by BLM. With current staffing levels, the BLM cannot adequately complete needed activities for monitoring and analysis.</p>

**Table II-B. DEIS Comments and BLM Responses (cont'd)**

Submittal ID	Comment Number	Category	Keyword 1	Keyword 2	Keyword 3	Comment Text	BLM Response
						Field Office area.	
L-84	9	A	<b>On-site Mitigation</b>	Compensatory Mitigation	Conditions of Approval	In Section 2.14.2.1, monitoring of mitigation efforts, especially including off-site mitigation, should be definitively required, as it will be very necessary to determine the results of mitigation and to plan the most efficient methods of accomplishing future mitigation during the LOP.	This comment is no longer applicable. It will be addressed by the new Preferred Alternative in the FEIS.
L-84	10	A	<b>Analysis</b>			There is a lot of confusion over the numbers of wellpads, acres of disturbance, and spacings throughout the document. As one example, in the Executive Summary, 10-acre well-pad spacings are noted. In Section 2.14, it is stated that reactions to the performance objectives would require up to a 10-year trend in monitoring data before well-pad density limitation could be denser than 40-acre surface spacing, and in this same section on page 2-26, it is stated that BLM would not regulate the number of wells. It is not clear what is being analyzed or what will be permitted.	This comment is no longer applicable. It will be addressed by the new Preferred Alternative in the FEIS and a revised Executive Summary.
L-84	11	B	<b>Analysis</b>			In Section 2.14.1, Outcome-Based Performance Objectives, pages 2-26 and 2-27, the objectives are generally qualitative and do not lend themselves to meaningful monitoring. For example, "Maximize centralization of development and production facilities" is vague and appears to be reliant on industry decisions rather than on a defined result for other resources. In reality, if required to be done properly, this item could result in a very significant decrease in wildlife impacts, both spatially and through the LOP. While we appreciate the intent of the objective, it would be more meaningful if thresholds that would require these actions could be outlined.	Where possible, such as with the air quality objectives, quantitative requirements are included. Other objectives such as the one noted in the comment are by their nature qualitative and will depend on the site-specific details of the project component. As noted in Section 1.3, each action under this EIS will still require review and approval by the BLM.
L-84	12	A1	<b>Analysis</b>			In Section 2.14.2, page 2-28, the first bullet says that operators will begin piping water and condensate from all wells no later than January 1, 2008, yet the fourth bullet says operators would "maximize" centralization of production facilities. We are not clear whether all new production, both old and new production, or neither old nor new production will be centralized before that date. We are not clear what "maximize" means.	It is the intent of the Preferred Alternative that all water and condensate be piped to centralized treatment facilities. The fourth bullet encourages using the fewest number of centralized facilities possible. To "maximize" this centralization means to bring gas, condensate, etc. from as many wells as is reasonable to one treatment facility. The FEIS will include language that also applies a standard

**Table II-B. DEIS Comments and BLM Responses (cont'd)**

<b>Submittal ID</b>	<b>Comment Number</b>	<b>Category</b>	<b>Keyword 1</b>	<b>Keyword 2</b>	<b>Keyword 3</b>	<b>Comment Text</b>	<b>BLM Response</b>
							of feasibility to this objective.
L-84	13	A	<b>Wildlife</b>			In Section 2.14.2, page 2-28, it appears that the last two bullets regarding raptors nest distances are in conflict.	One is an activity buffer; the other is for surface occupancy.
L-84	14	A	<b>On-site Mitigation</b>	Compensatory Mitigation		In Section 2.14.4, page 2-31, it should be clarified who is ultimately responsible for meeting mitigation requirements if a mitigation fund is utilized (the operator, the BLM, or a third-party operator who actually does the mitigation).	BLM is ultimately responsible for ensuring the mitigation is completed. See the revised text in the FEIS.
L-85	2	E	<b>Compensatory Mitigation</b>	Analysis		<p>Since off-site mitigation does not literally mitigate on-site cumulative impacts, by what authority does BLM have to include such within the JIDP? The answer to this question must be made evident in the published JIDP draft EIS.</p> <p>-- The State of Wyoming's land mass encompasses 97,914 square miles, of which, less than .05 percent comprises JIDP's total surface. What is the percent cumulative impact of JIDP to area outside of the Focus Area?</p> <p>-- Instruction Memorandum 2003-233, Integration of the Energy Policy and Conservation Act (EPCA) Inventory Results into the Land Use Planning Process, states that, "...and, (3) to outline a strategy for integrating the EPCA inventory results into land use plans."</p> <p>--A comparison must be made if consequences of mitigation adversely impacts valid and existing rights.</p>	<p>The BLM's authority for using off-site mitigation is IM 2005-069.</p> <p>Cumulative impacts have been addressed for each resource according to its appropriate Cumulative Impact Assessment Area (CIAA). Calculating a percentage of impact as compared to the State of Wyoming is not particularly useful or valid; a political boundary is not sufficiently resource-specific.</p> <p>The FEIS Preferred Alternative will be in compliance with EPCA. Demonstration of this will be made when and if it is needed.</p> <p>Compensatory mitigation, and specifically off-site mitigation, will take into account other land rights. As noted in the ideas in Chapter 5, such mitigation would likely occur where there are no other or compatible property uses to ensure that the mitigation is successful.</p>
L-85	3	A	<b>Compensatory Mitigation</b>			Off-site mitigation should not be analyzed specific to the JIDP EIS, as this is a project within an EPCA Focus land use plan area, i.e., IM 2003-233, "Identify off-site mitigation opportunities or other management options outside Focus Areas that will mitigate for the development inside the Focus Areas." The Pinedale Resource Management Plan (RMP) falls under the content and context of IM 2003-233 and that time-sensitive RMP is the appropriate integration point for off-site mitigation discussion per attachment 2 of the Instruction Memorandum. Applicant committed measures for off-site mitigation should be considered	As noted in the DEIS, the plan will remain in compliance with the RMP. Project approvals and their associated mitigation measures will also be in compliance with the RMP. So long as all actions remain in compliance with the RMP they should also comply with the EPCA.

**Table II-B. DEIS Comments and BLM Responses (cont'd)**

Submittal ID	Comment Number	Category	Keyword 1	Keyword 2	Keyword 3	Comment Text	BLM Response
						and administered on a voluntary basis.	
L-86	1	E	NEPA	Analysis		<p>The Jonah DEIS does not document the scientific basis to support the assumption that sage grouse and sagebrush are or will be adversely affected by energy development. Drilling and production have taken place within this same 30,000 acres for 14 years, the EIS does not find that the “least restrictive” measures are consistent with energy development and resource protection, as required by national BLM directives designed to implement the National Energy Policy Executive Orders, without any formal record of irreversible effects unassociated with gas production from the reserve.</p> <p>Amazingly, this plan fails to comply with national direction and policy, in particular the Energy Policy Conservation Act (EPCA). The Jonah Infill project should not have been dropped from any considerations officially committed to administratively under the EPCA since the plan was still in its infancy of development and brought to the Pinedale BLM Field Office’s attention early during the NEPA process. We would like an explanation as to why the Pinedale FO did not address conditions provided by the EPCA during energy development planning and if the Pinedale FO or Wyoming BLM State Office sent the required reporting of such to their respective Washington D.C. offices.</p>	<p>The BLM believes that the scientific basis to support the DEIS’s determinations regarding sage grouse and sagebrush is well documented. No further information regarding these issues is needed.</p> <p>Under the 2000 Energy Policy and Conservation Act (EPCA), several task forces were established by Presidential Executive Order. One of these the White House Energy Task Force was tasked with monitoring agencies' progress in meeting provisions of the EPCA by tracking proposed domestic energy development by environmental impact statement preparation (E.O. 13212). The projects that would be monitored were selected from candidates nominated by representatives from the oil and gas industry in 2001. The Jonah Infill Drilling Project was not proposed until September 2002 so it is not specifically being tracked or monitored by the White House Energy Task Force. Therefore, the BLM was not required to make reports of this project in this regard to its national headquarters nor to the White House Energy Task Force.</p> <p>Also under the provisions of EPCA a National Energy Policy Development Group recommended that a National Energy Policy have the primary goal of developing and increasing domestic energy supplies. The BLM was directed to note at the initiation of NEPA process to state whether the proposal would meet the goals or objectives of the President’s National</p>

**Table II-B. DEIS Comments and BLM Responses (cont'd)**

Submittal ID	Comment Number	Category	Keyword 1	Keyword 2	Keyword 3	Comment Text	BLM Response
							<p>Energy Plan. As stated in the March 2003 Notice of Intent to prepare an environmental impact statement for the Jonah Infill Drill Project, " The purpose of this project is to extract and recover natural gas from the Jonah Field by allowing the operators to provide clean burning fuel for distribution to consumers...this project would meet the goals and objectives of the Preseident's National Energy Plan by diversifying domestic energy supplies, improving and accelerating environmental protection and strengthening America's energy security. "</p> <p>In January 2003, to comply with EPCA, the Departments of Agriculture, Energy and Interior prepared and issued its findings in "Scientific Inventory of Onshore Federal Lands' Oil and Gas Resources and Reserves, and the Extent and Nature of Restrictions or Impediments to their Development." In comparison to other locations within the Study Area, the Greater Green River Study Area estimated the gas development potential to be medium low to low for the Jonah Field (Figure 2p, pg. 2-22).</p>
L-87	4	A	<b>Livestock/ Grazing</b>			The Draft incorrectly makes the blanket assumption that the Proposed Action or similar levels of development mean large-scale reductions in AUMs are necessary. This is simply not the case.	Please refer to text changes in the FEIS.
L-87	5	A	<b>Alternatives</b>	Social	Economics	Many of the economic benefit projections in the Socioeconomic section are incorrect because they are based on the mistaken assumption that all directional wells will be drilled, seemingly regardless of cost. This mistaken assumption is particularly problematic with respect to the Preferred Alternative. The Draft puts forth the notion that the Preferred Alternative would create a	The magnitude of the economic impacts is a function of the anticipated drilling. And assuming the anticipated number of wells drilled by alternative represents the limit on the drilling for that alternative, the economic impacts are correctly

**Table II-B. DEIS Comments and BLM Responses (cont'd)**

Submittal ID	Comment Number	Category	Keyword 1	Keyword 2	Keyword 3	Comment Text	BLM Response
						greater amount of economic activity than would the Proposed Action or Alternative G. That is not the case, because invariably many of the directional wells would not meet economic criteria and thus would not be drilled. The Proposed Action will, in the end, result in significantly more economic activity than will the Preferred Alternative – more jobs, more tax revenue and more purchases of goods and services.	portrayed in the DEIS. Please note, however, that the BLM Preferred Alternative is being revised for the FEIS.
L-87	6	A	<b>Air Quality</b>	Analysis		<p>The Draft does not adequately address the fact that directional drilling will result in significantly more air emissions than will straight-hole drilling. This should be reflected in the Final EIS.</p> <p>Also for the Final, please address the fact that natural gas is one of the cleanest forms of energy available. At the Pinedale and Rock Springs public meetings, it was noted that one of the air quality factors was haze, etc. from places such as Salt Lake City and the West Coast. If those urban centers were to use more natural gas, arguably their emissions could be reduced, offsetting the relatively tiny amount of that emitted through the production of the gas at the Jonah Field.</p>	<p>The FEIS will describe the trade-off associated with directional drilling: benefit to wildlife vs. cost to air quality. For example, the following text will be added as the second to Section 2.8:</p> <p>“Although directional drilling would minimize surface disturbance and thereby benefit wildlife and other resources, it would also increase air emissions by approximately 20%. Thus, Alternative B could have a greater impact on air quality resources.”</p>
L-90	4	A	<b>Alternatives</b>	Performance Objectives		The BLM should focus and clarify the Preferred Alternative to include only reasonable outcome-based performance objectives.	This comment will be addressed by the new Preferred Alternative in the FEIS.
L-90	6	A	<b>Mineral Resources</b>	Analysis		BLM inappropriately relied upon economic predictions and the use of speculative advances in technology in order to assume that the BLM's Preferred Alternative would not result in significant waste of the resource.	This comment is no longer applicable. It will be addressed by the new Preferred Alternative in the FEIS.
L-90	7	A	<b>Analysis</b>			Currently, the Executive Summary contains a number of mistakes, incorrect statements, and unsupported conclusions. EnCana suggests the following revisions for incorporation into the JIDP Final EIS: First, on page iii of the Executive Summary, the BLM must revise the description of the Proposed Action in light of EnCana's revised Voluntary Compensatory Mitigation Proposal. As discussed in more detail below, EnCana has revised the earlier proposal put forth by BP America (“BP”) and EnCana which funded off-site mitigation at the rate of \$850 per acre, assuming at least 11,000 acres of new initial surface disturbance was approved in the ROD for the JIDP. Further, the Executive Summary should make	This comment is no longer applicable. It will be addressed by the new Preferred Alternative in the FEIS.

**Table II-B. DEIS Comments and BLM Responses (cont'd)**

<b>Submittal ID</b>	<b>Comment Number</b>	<b>Category</b>	<b>Keyword 1</b>	<b>Keyword 2</b>	<b>Keyword 3</b>	<b>Comment Text</b>	<b>BLM Response</b>
						it clear that the original compensatory mitigation proposal was supported by EnCana and BP America, not all of the operators in the JIDPA.	
L-90	8	A	<b>Analysis</b>			BLM must ... remove any and all statements suggesting that the BLM's Preferred Alternative will result in fewer adverse impacts than any of the other proposed alternatives through the use of "management requirements and monitoring." The BLM has not analyzed or provided any information demonstrating that the management requirements and monitoring allegedly associated with the Preferred Alternative will lessen impacts.	This comment is no longer applicable. It will be addressed by the new Preferred Alternative in the FEIS.
L-90	9	A	<b>Analysis</b>	Surface Disturbance		Page v of the Executive Summary the BLM's Preferred Alternative is incorrectly described as authorizing 7,804 acres of new surface disturbance. The description of the Preferred Alternative in Chapter Two, as well as Table 2.11 on page 2-25, states that the Preferred Alternative authorizes 8,316 acres of new surface disturbance.	This comment is no longer applicable. It will be addressed by the new Preferred Alternative and Executive Summary in the FEIS.
L-90	10	A	<b>Analysis</b>	Surface Disturbance		The description of the Preferred Alternative suggests that it would authorize three "different surface disturbance allowances per section." The BLM has since informed the Operators that the BLM did not intend to impose a surface disturbance restriction on each section, so long as the overall disturbance within each of the three areas or "zones" remains below the level authorized and analyzed. Thus, for example, surface disturbance within one particular section of the 19% surface disturbance zone could exceed 19%, so long as the overall average for the rest of the zone remained below 19%. The BLM should correct this issue in the Executive Summary, the description of the Preferred Alternative in Chapter Two, and throughout the document.	This comment is no longer applicable. It will be addressed by the new Preferred Alternative in the FEIS.
L-90	11	A	<b>Analysis</b>	Wildlife		The summary of Wildlife impacts potentially resulting from infill drilling on page vi of the Executive Summary incorrectly confuses the discussion of impacts to habitat and species. What may constitute a significant impact to habitat may not actually result in significant impacts to a species which underutilizes that habitat. Conversely, a significant impact may occur to a species without a corresponding impact to that species' habitat.	Impacts to habitats and species are discussed in Chapter 4 of the FEIS.
L-90	12	A	<b>Analysis</b>	Wildlife		The Executive Summary unequivocally states that impacts to wildlife are the "result of past and current oil	Impacts to habitats and species are discussed in Chapter 4 of the FEIS.

**Table II-B. DEIS Comments and BLM Responses (cont'd)**

Submittal ID	Comment Number	Category	Keyword 1	Keyword 2	Keyword 3	Comment Text	BLM Response
						and gas development activity” without any studies that establish cause and effect, and ignoring other potential contributing factors such as the severe five-year drought the area is still experiencing.	These include other factors influencing wildlife.
L-90	13	A	<b>Analysis</b>	Wildlife		It is misleading for the BLM to assert, without studies or authority of any kind, that the Preferred Alternative will necessarily reduce impacts to wildlife and wildlife habitat.	It is reasonable to conclude that with the additional mitigations and performance measures incorporated into the new Preferred Alternative that impacts to wildlife would be reduced. These measures will reduce the effect of surface disturbance and other impacts, which will assist wildlife in reclaiming the JIDPA during and after the LOP.
L-90	14	A	<b>Analysis</b>	On-Site Mitigation		The JIDP DEIS asserts that implementation of a Reclamation Plan which was prepared for the project, would “mitigate potential impacts,” which are expected to be significant “in some areas.” This assertion, however, is not supported by analysis of any kind.	The Reclamation Plan was specifically designed to mitigate potential impacts. In addition, the DEIS demonstrated the potential for significant impacts in some areas. As such, no change is needed in the document.
L-90	15	A	<b>Analysis</b>	Economics		The Socioeconomic Impacts summary is also misleading. First, the document states that significant impacts have already occurred as a result of oil and gas development in the area. Then, on page 4-1 of the JIDP DEIS the BLM states that “[i]mpacts are considered adverse unless identified as beneficial.” Thus, the summary incorrectly suggests that the economic impacts of development have been adverse. Second, the Executive Summary states that the JIDP is not expected to create “new significant impacts.” This statement is not supported either by the BLM’s discussion in Chapter 4 or the Draft Technical Support Document for the Jonah Infill Drilling Project (BLM/TRC 2005). Both documents suggest significant increases in annual job equivalents, economic activity, and “substantial revenue for state, county, and local governments, as well as area school districts.” See JIDP DEIS, pg. 4-113. The summary of socioeconomic impacts must be substantially revised in the Final EIS to also emphasize the beneficial socioeconomic impacts of the JIDP.	This language has been revised in the FEIS. Social and economic impacts should be identified but not categorized as adverse or beneficial. In other words, the impacts should be identified and quantified where possible but not categorized because what is considered beneficial to one group may be considered adverse to another.  There are only two remaining instances of the use of the word benefit in the analysis discussion of Section 4.4 and both are appropriate. The word adverse is not used in the analysis discussion.
L-90	16	A	<b>Analysis</b>			The language on page 1-1, paragraphs 1 and 4, of the JIDP DEIS suggest that the Operators have proposed an expansion of the existing Jonah Field. The document	Since the JIDP does expand the boundaries of the previous Jonah Field II Project, as noted in the

**Table II-B. DEIS Comments and BLM Responses (cont'd)**

Submittal ID	Comment Number	Category	Keyword 1	Keyword 2	Keyword 3	Comment Text	BLM Response
						<p>also notes that “[e]xpanded development is proposed in portions of Townships 28 and 29 North (T28N-T29N), Range 107, 108, and 109 West.” Finally, in paragraph 4 on page 1-1, the BLM asserts that “The proposed Project is a major expansion of existing natural gas development operations. . . .” These statements are misleading because the reader would misunderstand that the Operators have proposed an expansion of the existing Jonah Field rather than infill operations within the boundaries of the existing field.</p>	<p>second paragraph, the language used in this section is accurate. In addition, the reader can immediately refer to DEIS Map 1.1 on the next page to visualize the boundaries of the JIDP. No changes to the document are needed.</p>
L-90	17	A1	<b>Analysis</b>			<p>The first sentence on page 1-1 should be redrafted as follows:</p> <p>The U.S. Department of the Interior (USDI), Bureau of Land Management (BLM) Pinedale Field Office (PFO), and Rock Springs Field Office (RSFO) have received a proposal from EnCana Oil and Gas (USA) Inc. (EnCana), BP America Production Company (BP America), and other companies (referred to as “Operators”) for infill drilling and development operations within the existing boundary of the Jonah Field located in south-central Sublette County approximately 32 miles southeast of Pinedale, 28 miles northwest of Farson, and 1.5 to 11.0 miles west of U.S. Highway 191 (Map 1.1).</p>	<p>See the above response for comment L-90-16.</p>
L-90	18	A	<b>Analysis</b>			<p>In the fourth paragraph on page 1-1, the JIDP DEIS suggests that natural gas development operations were initially proposed and considered in the “Jonah Field II Natural Gas Project EIS (BLM 1997a, 1998a) and its Record of Decision (ROD) (BLM 1998b) and subsequently revised by the Environmental Assessment (EA), Finding of No Significant Impacts (FONSI), and Decision Record for the Modified Jonah Field II Project (BLM 2000a, 2000b).” This statement fails to acknowledge the fact that development in the Jonah Field was initially analyzed in the McMurry Oil Company Jonah Prospect Field Natural Gas Development Environmental Assessment (BLM 1994) and approved by the McMurry Oil Company Jonah Prospect Field Natural Gas Development Decision Record and Finding of No Significant Impact (BLM 1994). Because the JIDP EIS is the fourth NEPA document analyzing the impacts of natural gas development in the Jonah Field, the Final EIS should specifically reference, tier from, and</p>	<p>The BLM determined that the new action was significantly different from the previous actions and therefore required a new NEPA assessment. This provided an opportunity to update the analysis of the impacts. Since this document is not tiered off of previous NEPA documentation, no references to these previous analysis are needed beyond those already contained in the DEIS.</p>

**Table II-B. DEIS Comments and BLM Responses (cont'd)**

Submittal ID	Comment Number	Category	Keyword 1	Keyword 2	Keyword 3	Comment Text	BLM Response
						incorporate these earlier documents.	
L-90	19	A	Analysis			<p>The Council on Environmental Quality (“CEQ”) regulations implementing NEPA require an agency to “specify the underlying purpose and need to which the agency is responding” in the Purpose and Need section of an EIS. 40 C.F.R. § 1502.16 (2004). The Purpose and Need section of the JIDP DEIS fails to meet this standard because it suggests the BLM is addressing matters which are beyond the scope of the JIDP EIS. Specifically, the “bullet points” on pages 1-3 and 1-4 of the JIDP DEIS are inaccurate and misleading.</p> <p>For example, the second “bullet point” in Section 1.1, page 1-4, suggests the BLM is addressing oil and gas leasing in the JIDP DEIS. On the very same page, however, the JIDP DEIS states that all federal mineral lands within the JIDPA have been leased. Further, because the BLM is not amending or revising the Resource Management Plan for the Pinedale Resource Area, see JIDP DEIS, pg. 1-5, opening or closing lands to oil and gas leasing is beyond the scope of the JIDP DEIS. The third bullet point in Section 1.1, the second bullet on page 1-4, is equally problematic. The purpose of the JIDP DEIS is to analyze and evaluate the potential impacts of the approval of additional natural gas development in the Jonah Field, not to “consider the conservation and enhancement of natural resources with the economic benefits of resource development.” Not only is this statement ambiguous, it does not address the purpose of the Operators’ Proposed Action. While the BLM is required to consider the impacts to other natural resources as a result of additional development, it is not required to analyze matters beyond the scope of this document. The third and fourth bullets on page 1-4 are equally inappropriate because they appear to address land use planning decisions not a project level NEPA disclosure document. As already noted, the BLM is not amending or revising the Pinedale RMP through this EIS. Finally, the last bullet point on page 1-4 suggests that the “purpose and need” of the document is to “plan uses that encourage energy conservation.” Not only is the conservation of energy resources beyond the scope of the Proposed Action, it is beyond the jurisdiction of the BLM.</p>	<p>All of the bullet points in the DEIS are within the scope of the BLM’s responsibility and are required to be considered by NEPA. A review of the law will show that all these aspects of resource development and its impacts, as well as its continued coordination with relevant land use plans, must be considered. The comment tries to focus the document only on the physical specifics of the oil and gas drilling without accounting for the ramifications of the project as a whole. As a result the outlook of the comment is too narrow. The bullets represent the proper implementation of NEPA, and as such will remain.</p>

**Table II-B. DEIS Comments and BLM Responses (cont'd)**

<b>Submittal ID</b>	<b>Comment Number</b>	<b>Category</b>	<b>Keyword 1</b>	<b>Keyword 2</b>	<b>Keyword 3</b>	<b>Comment Text</b>	<b>BLM Response</b>
L-90	20	A1	<b>Analysis</b>			As currently drafted, the Purpose and Need section of the JIDP DEIS invites potential administrative and legal challenges because it improperly implies the JIDP DEIS considers and analyzes subjects which are beyond the scope of the JIDP DEIS and even outside of the BLM's authority and jurisdiction. The BLM should delete all of the "bullet points" on pages 1-3 and 1-4 of the JIDP EIS.	See the response to comment L-90-19.
L-90	21	A	<b>Compliance</b>			In the opening paragraph of Section 1.3, page 1-5, the JIDP DEIS states that the "decision the BLM will make as a result of analysis presented in this EIS is whether to allow, and under what conditions to allow, the development, operation, maintenance, and reclamation of expanded development . . . on federal lands in the JIDPA." As the BLM is aware, once federal oil and gas leases are issued without no surface occupancy stipulations, and in the absence of a nondiscretionary statutory prohibition against development, the BLM cannot completely deny development on the leasehold. See, e.g., National Wildlife Federation, et al., 150 IBLA 385, 403 (1999). Only Congress has the right to completely prohibit development once a lease has been issued. Western Colorado Congress, 130 IBLA 244, 248 (1994). Thus, in the JIDP EIS the BLM's decision is limited to developing and fashioning mitigation strategies and measures designed to reduce or eliminate adverse environmental impacts. See National Wildlife Federation, et al., 150 IBLA at 403 (1999).	As noted in the comment, this decision applies to "expanded development." Although it is true that the development already approved cannot be prohibited, it is within the BLM's authority to determine whether to allow additional infill development even where a lease has already been issued. There is no suggestion in this language that the BLM would attempt to completely prohibit development where it has already been authorized.
L-90	22	A	<b>Compliance</b>			In the Final EIS, the BLM should discuss the fact that an oil and gas lease is a contract between the federal government and the lessee, and that the lessee has certain rights thereunder. See Mobil Oil Exploration & Producing Southeast, Inc. v. United States, 530 U.S. 604, 620 (2000) (recognizing that lease contracts under the Outer Continental Shelf Lands Act give lessees the right to explore for and develop oil and gas); Oxy USA, Inc. v. Babbitt, 268 F.3d 1001, 1006-7 (10th Cir. 2001) (noting that the Tenth Circuit has long held that federal oil and gas leases are contracts). The BLM made the decision to make lands within the JIDPA available for leasing in the Resource Management Plan for the Pinedale Resource Area ("Pinedale RMP") and previously elected to issue the subject leases within the JIDPA, and should disclose this information in the Final EIS in order to avoid potential confusion for the public.	The DEIS is very clear in disclosing the fact that all lands within the JIDPA have been leased. There is no attempt to suggest that this can in any way be changed or revoked. Further discussion of the contractual issues is not needed for the analyses and would be counter to CEQ regulations encouraging focused documents.

**Table II-B. DEIS Comments and BLM Responses (cont'd)**

Submittal ID	Comment Number	Category	Keyword 1	Keyword 2	Keyword 3	Comment Text	BLM Response
L-90	23	A	Compliance			<p>In the third paragraph of Section 1.3, page 1-5, the JIDP DEIS states that the Pinedale RMP was “updated” in the ROD for the Pinedale Anticline Oil &amp; Gas Development Project. The JIDP DEIS suggests that the reasonably foreseeable development scenario (“RFD”) for the Pinedale Resource Area was “updated” to include the development of an additional 1,944 new oil and gas wells in the Pinedale Resource Area. ...</p> <p>Because the IBLA determined that the RFD for the Pinedale RMP was not “updated” by the Pinedale Anticline ROD, the BLM should delete this statement and any reference to the “updated” RFD in the JIDP DEIS. (Similar statement contained in Section 1.4.1.2 on page 1-9 of the JIDP DEIS.) Rather, the BLM should simply note that the RFD scenario does not establish a point past which further exploration and development is prohibited, Wyoming Outdoor Council, 164 IBLA at 99, and although the RFD contained in the EIS accompanying the Pinedale RMP has been exceeded, the BLM has prepared additional NEPA analysis documenting, describing, and analyzing the potential environmental impacts of oil and gas development in the Pinedale Resource Area.</p>	<p>The PFO is not aware of any determination by the IBLA that the RFD for the Pinedale RMP was not updated by the PAPA ROD. Section 1.4.1.2 has been updated to discuss RFD and compliance with the Pinedale RMP.</p>
L-90	24	A	Compliance	On-Site Mitigation		<p>Page 1-9 of the JIDP DEIS suggests that the document included as Appendix A to the JIDP DEIS represents the “standard set of guidelines and post-lease COAs that apply to all surface disturbing activities in Wyoming.” In fact, the document does not represent a set of BLM standard mitigation measures, but appears to be a sample set of guidelines intended for incorporation into RMPs across the State of Wyoming as individual RMPs are updated. As plainly noted in the language on page A-1, the guidelines are not intended as mandates for all future surface disturbing activities, but are guidelines to be “used in the RMP EIS process as a tool to help develop the RMP alternatives and to provide a baseline for comparative impact analysis in arriving at the RMP decisions.” See Appendix A, pg. A-1. Thus, the language in Appendix A itself demonstrates that it was not intended for inclusion in a project level oil and gas EIS which is already governed by stipulations included in the individual oil and gas leases included in the project area and the language of the existing RMP.</p>	<p>As is noted repeatedly in this comment, Appendix A contains guidelines. The comment also recognizes that these guidelines are not mandates. Section 2.14.2 of the DEIS notes that the final mitigation measures specified in the ROD may not always match these guidelines. Why this should preclude the inclusion of this information in the EIS is unclear. In fact, this information is one of the references used in preparing the document. No changes to the document are needed.</p>

**Table II-B. DEIS Comments and BLM Responses (cont'd)**

<b>Submittal ID</b>	<b>Comment Number</b>	<b>Category</b>	<b>Keyword 1</b>	<b>Keyword 2</b>	<b>Keyword 3</b>	<b>Comment Text</b>	<b>BLM Response</b>
L-90	25	A	<b>Compliance</b>	On-Site Mitigation		In addition, several of the so-called BLM standard guidelines are inconsistent with the existing Pinedale RMP. For example, several of the wildlife mitigation guidelines on page A-3 are similar to, but different than those included in the Pinedale RMP or even Appendix A-1 of the Pinedale RMP. See Pinedale RMP/ROD, Appendix A-1. For example, the prohibition on surface disturbing activities within one mile of bald eagle winter use areas, listed in Table A.3 on page A-11 of the JIDP DEIS, is not contained within, and therefore not in conformance with, the Pinedale RMP. All resource management authorizations and action must conform to the existing RMP. 43 C.F.R. § 1610.5-3(a) (2004).	See the response to L-90-24. The fact that all authorizations must comply with the RMP is acknowledged.
L-90	26	A	<b>Analysis</b>			The inclusion of Appendix A is confusing to the public and misleading because it contains numerous references to RMPs and the EIS accompanying the RMP. The BLM should either (1) remove Appendix A and all references thereto in the Final EIS or (2) include a copy of Appendix A-1 from the Pinedale RMP, the governing mitigation guidelines for the Pinedale Resource Area, and explain that the Appendix represents potential stipulations which may be included in individual oil and gas leases or as potential conditions of approval for specific authorizations. If the BLM keeps Appendix A as currently drafted, the BLM must explain that Appendix A is only a list of potential stipulations and conditions of approval which may be applied in the JIDPA if and when they are included in the Record of Decision and revised RMP for the Pinedale Resource Area. The Final EIS should also explain that, in some cases, the BLM's ability to impose conditions of approval is limited by the terms of the particular oil and gas lease in question and by the BLM's own regulations. See 43 C.F.R. 3101.1-2 (2004).	The introduction to Section A.1 is very thorough in explaining the purpose of the standard stipulations and mitigation requirements and how they are incorporated in the JIDP implementation process. Since the ROD will specify the requirements for the JIDP, there will not be any confusion during the project.
L-90	27	A1	<b>Analysis</b>			With its comments, EnCana has provided the BLM a "red-lined" version of Chapter Two which incorporates both the detailed revisions disclosed below as well as other proposed minor modifications. See EnCana Appendix 2, Revised Chapter Two.	This comment is no longer applicable. It will be addressed by the new Preferred Alternative in the FEIS.
L-90	28	A1	<b>Analysis</b>			Issue 2 identified on page 2-2 of the JIDP DEIS is inaccurately labeled "pace of development." Even a brief review of the description of this issue demonstrates that the primary "concern" identified is the socioeconomic impact the Proposed Action would have	The pace of the development will directly affect the number of workers needed and the timeframe during which the will reside in the area. All these factors impact socioeconomics.

**Table II-B. DEIS Comments and BLM Responses (cont'd)**

Submittal ID	Comment Number	Category	Keyword 1	Keyword 2	Keyword 3	Comment Text	BLM Response
						on the regional, state, and national economies. Although the pace of development may affect the socioeconomic impacts of the project, the pace of development is only one small part of the larger socioeconomic picture which includes several other factors including commodity price, resource quantities, supply and demand, geopolitical relations, and even international trade. It would be more appropriate, and more consistent with the nature of the scoping comments received by the BLM, to simply identify Issue 2 as Socioeconomics.	Since the tile goes on to include the phrase “associated regional socioeconomic effects,” the concerns contained in this comment have already been addressed. As such no change to the document is needed.
L-90	29	A	<b>Alternatives</b>			Although the BLM suggests that the “Proposed Action and other action alternatives meet the purpose and need for the project,” pg. 2-4, several of the alternatives analyzed by the BLM do not meet the purpose and need of the proposal because they would necessarily result in the waste of significant natural gas resources, or would otherwise be impractical or ineffective ...and should not have been analyzed in detail.	NEPA requires that alternatives be analyzed to ensure that all reasonable options are considered and a balanced use of public resources is achieved. Although some alternatives would recover more mineral resources than others, this objective has to be balanced against other uses of BLM lands. It is not required that the maximum amount of natural gas be extracted from the Jonah Field if this would cause significant harm to other resources.
L-90	30	A	<b>Analysis</b>			The JIDP DEIS inappropriately includes several operator-committed practices, requirements from prior approvals, and proposed mitigation techniques and practices, as features common to all alternatives. Several of the so-called Features Common to all Alternatives are actually beyond the jurisdiction of the BLM or beyond the scope of the agreements previously made by the Operators. Further, just because one or more of the operators have agreed to a particular mitigation or monitoring requirement, the BLM should not assume it will be applied universally in the Jonah Field.	Only two of the features listed in Section 2.3 are outside the control of the BLM, and one of these is required by laws administered by other governing agencies. The other is a reasonable expectation that was assumed for the purpose of analyzing the alternatives. The first paragraph on DEIS page 2-5 recognizes the fact that not all operator-committed practices can be required by the BLM, but those that can and are reasonable will be included in the ROD.
L-90	31	A	<b>Analysis</b>	On-Site Mitigation	Water	Contrary to the implication on page 2-5, the Operators have not agreed to fund and implement a “ground water monitoring program for all water wells in or affected by activities in the JIDPA.” Although water quality monitoring of groundwater wells permitted and drilled by the Operators less than 300 feet deep was a	The monitoring of the groundwater in the JIDPA is not a voluntary issue. It is a COA that will apply to all operators under the FEIS. When incorporated in the ROD, operators will be required to comply with this

**Table II-B. DEIS Comments and BLM Responses (cont'd)**

Submittal ID	Comment Number	Category	Keyword 1	Keyword 2	Keyword 3	Comment Text	BLM Response
						requirement under the Modified Jonah II Decision Record, see Modified Jonah II Decision Record, pg. A-1, the BLM attempts to greatly expand the scope and required annual reporting of this requirement. This requirement is vague and ambiguous because the BLM has not defined either the scope or the nature of the groundwater monitoring program. Further, this requirement is unnecessary given the fact that the JIDP DEIS itself notes that infill development in the JIDPA would not cause significant groundwater depletion and that the potential for contamination is low. See JIDP DEIS, pgs. 4-51 – 4-52. The BLM has additionally failed to define which water wells would be “affected” by activities in the JIDPA or how the BLM would determine if water wells are “affected.”	program.  As with other BLM projects in this area, WDEQ groundwater standards will apply and will be used to determine if an aquifer has been impacted.
L-90	32	A	<b>Compliance</b>	Water Resources	On-Site Mitigation	BLM does not have regulatory authority over groundwater in the State of Wyoming. The Wyoming State Engineer’s Office has authority over the permitting of groundwater wells and the Wyoming Department of Environmental Quality (“DEQ”) has regulatory authority for prevention and cleanup of contamination of water. Neither the Wyoming State Engineer’s Office nor the Wyoming DEQ require the type of monitoring the BLM assumes will take place under any alternative, including the No Action Alternative.	The purpose of the groundwater monitoring program is to assist in monitoring both well integrity and land health, both of which are within the purview of the BLM.
L-90	33	A	<b>On-site Mitigation</b>			Next, the JIDP DEIS suggests that the Operators would submit to BLM for approval a “reclamation plan” under any of the proposed alternatives. The JIDP DEIS, however, already contains a reclamation plan in Appendix G. The Final EIS for the JIDP should explain how the reclamation plan currently included in the JIDP DEIS would function with the reclamation plan discussed on page 2-5 of the JIDP DEIS.	DEIS Appendix G would serve as a guide and template for the Operators to develop intern and long-term reclamation plans specifically tailored to their areas of operation.
L-90	34	A	<b>On-site Mitigation</b>	Wildlife		BLM has significantly expanded the Operators’ requirement to monitor wildlife in the JIDPA without the agreement of the Operators or a discussion of the need for such monitoring. As the BLM is aware, the Operators have funded wildlife monitoring since 1996 in an area of nearly 300 square miles surrounding the JIDPA. Annual monitoring reports have been compiled and supplied to the BLM. In the Jonah II ROD, the operators voluntarily committed to fund this monitoring for a five-year period and that requirement was included in the Jonah II ROD. The obligation ended in 2003 and operators have	Additional surveys and studies can and will be required by BLM. With current staffing levels, the BLM cannot adequately complete needed activities for monitoring and analysis.

**Table II-B. DEIS Comments and BLM Responses (cont'd)**

Submittal ID	Comment Number	Category	Keyword 1	Keyword 2	Keyword 3	Comment Text	BLM Response
						voluntarily continued to fund increased levels of wildlife monitoring since that time because the data would have not been obtained otherwise. BLM has now, however, included wildlife monitoring as a “feature common to all alternatives” and has modified it to include burrowing owl nesting activity, greater sage-grouse lek attendance, (this was originally a BLM/WGFD responsibility per the 1998 Jonah II ROD) and “occurrence of other sagebrush-obligate species.” The BLM has incorrectly identified this as an operator-committed practice and assumed that additional monitoring would occur under all Alternatives. As part of EnCana’s Voluntary Compensatory Mitigation Proposal, EnCana would agree to increased wildlife monitoring under several of the proposed Alternatives.	
L-90	35	A	<b>Analysis</b>	Alternatives		Although the BLM is required to include the No Action Alternative by NEPA, and although the No Action Alternative is a useful comparative tool, the BLM should clearly inform the public that selection of the No Action Alternative would not meet the purpose and need of the proposed action, would be inconsistent with the BLM’s mandate to encourage natural gas production from federal lands, and would be contrary to the National Energy Policy and Executive Order 13211, 66 Fed. Reg. 28355 (May 18, 2001).	As noted in the comment, the No Action is required by NEPA to be analyzed and compared to the other alternatives. In some cases it may be the case that the No Action alternative best meets the purpose and need. To make the comparison objective, it should not be stated from the outset that any alternative does not qualify. Since the No Action alternative was not preferred, the concerns of this comment are not warranted.
L-90	36	A	<b>Compensatory Mitigation</b>			The description of the Proposed Action should be updated to include a description of EnCana’s revised Voluntary Compensatory Mitigation Proposal, which is described in detail in Appendix 1 these comments.	This comment is no longer applicable. It will be addressed by the new Preferred Alternative in the FEIS.
L-90	37	A1	<b>Technical Information</b>	Economics		<p>The second sentence in the second full paragraph on page 2-10 fails to accurately relate the nature of the risks associated with directional drilling in the Jonah Field. The sentence should be redrafted as follows:</p> <p>The Operators’ experience in the Jonah Field, after drilling more than 150 directional wells, demonstrates that the use of directional drilling is not economically feasible in every situation. Drilling and completion costs for directionally drilled wells are approximately \$270,000 to \$470,000 or 15% to 30% greater than a conventional vertical well. In fact, EnCana’s actual drilling costs for</p>	<p>Thank you for your comment, but the BLM believes that the paragraph acknowledges these concerns without providing the reader unnecessary information. The sentence states that directional drilling is more expensive and may leave uncovered gas.</p> <p>The new Preferred Alternative will provide the operators the flexibility to maximize recovery of the resource</p>

**Table II-B. DEIS Comments and BLM Responses (cont'd)**

<b>Submittal ID</b>	<b>Comment Number</b>	<b>Category</b>	<b>Keyword 1</b>	<b>Keyword 2</b>	<b>Keyword 3</b>	<b>Comment Text</b>	<b>BLM Response</b>
						2003 (after drilling 24 directional wells and 33 vertical wells) demonstrate directional drilling costs increased by more than \$400,000 per well as compared to a vertical well. Further, the Operators' experience, as reported to the Wyoming Oil and Gas Conservation Commission and reflected in the Evaluation of Directional Drilling Technical Document referenced in the JIDP DEIS, demonstrates that directional drilling in the Jonah Field leads to inadequate resource recovery due to an inability to set casing at the bottom of the hole. In the Jonah Field, an average of 362 mmcf per well cannot be recovered when, as a result of directional drilling, casing cannot be set to the bottom of the wellbore.	while minimizing their costs.
L-90	38	B	<b>Technical Information</b>			EnCana has included, as EnCana Appendix 3 to these comments, additional information regarding actual drilling and completion costs in the Jonah Field from 2003.	Thank you for your comment.
L-90	39	A	<b>Alternatives</b>			The Minimize Directional Drilling alternative is useful from a NEPA standpoint to disclose the potential impacts of development if all surface restrictions and limitations were removed. However, the BLM cannot implement Alternative A because the BLM cannot approve management actions which are not in conformance with the governing RMP, the Pinedale RMP. 43 C.F.R. § 1610.5-3(a) (2004). The Pinedale RMP restricts operations within specified distances, and during specific times of the year, of raptor nests and sage grouse leks and nesting areas. See Pinedale RMP (BLM 1988), pg 10. The JIDP Final EIS should disclose not only that the BLM is prohibited from selecting Alternative A, but that the Operators neither requested its inclusion nor proposed operations as outlined in Alternative A.	Alternative A was included in the analysis to provide a basis for comparison to other alternatives. Its inclusion was considered reasonable by the BLM on this basis, but it was clearly eliminated because of concerns such as those outlined in the comment. Its inclusion in no way implies that it was either requested by or proposed by the operators. Since the operator's proposal is clearly outlined before the discussion of Alternative A, there is no need for further explanation of the alternative.
L-90	40	A1	<b>Alternatives</b>			EnCana urges the BLM to "rename" this alternative [Alternative A] o more accurately describe its purpose which was not to disclose or analyze the impacts of "minimized" directional drilling, but rather to disclose the impacts of an alternative that maximized resource recovery by eliminating all surface use restrictions.	BLM agrees. The title of Alternative A will be changed to "Maximize Mineral Resource Recovery."
L-90	41	A	<b>Alternatives</b>			The very basis of Alternative B, directionally drilling 3,100 new wells from the 497 existing well locations, is inherently flawed and impractical. For example, there are areas as large as five square miles within the JIDPA that do not contain existing facilities; the Operators would be required to drill up to three miles directionally to recover	Concerns such as those outlined in the comment resulted in Alternative B not being chosen as the preferred alternative. However, its inclusion for comparison is an important part of the NEPA process. As this is the

**Table II-B. DEIS Comments and BLM Responses (cont'd)**

Submittal ID	Comment Number	Category	Keyword 1	Keyword 2	Keyword 3	Comment Text	BLM Response
						the natural gas resource in those sections. It would be economically infeasible and may be technically impossible to directionally drill those distances from existing well pads. This will result in large areas of the JIDPA remaining undrilled, and the waste of significant natural gas resource.	case, no additional response to this comment is needed.
L-90	44	A	<b>Alternatives</b>			Alternative C and Alternative D unreasonably restrict the number of wells authorized in the Jonah Field. The Operators' reservoir modeling, analysis from the State of Wyoming, and experience in the Jonah Field demonstrate that approximately 3,100 new wells would be necessary to adequately recover the natural gas resource in the JIDPA. The BLM's own analysis demonstrates that between 390 and 1,290 BCF of natural gas and 3,740,000 and 12,260,000 barrels of oil (condensate) would not be recovered under Alternative C and Alternative D. As such, neither Alternative C nor Alternative D meet the purpose and need of the proposed federal action, are inconsistent with the BLM's obligations under the Mineral Leasing Act, the National Mining and Minerals Policy Act of 1970, and the Federal Onshore Oil and Gas Leasing Reform Act, and would be contrary to the National Energy Policy and Executive Orders 13211, 66 Fed. Reg. 28355 (May 18, 2001).	This comment is no longer applicable. Alternatives C and D will not be considered for final analysis in the FEIS.
L-90	45	A	<b>Alternatives</b>			Alternative E and Alternative F unreasonably restrict the number of well locations constructed in any particular section within the JIDPA and require extensive directional drilling. The difficulties associated with directional drilling are noted above, and discussed in detail in the Jonah Infill Drilling Project Evaluation of Directional Drilling. The Operators' reservoir modeling, analysis from the State of Wyoming, and experience in the Jonah Field demonstrate that approximately 64 wellbores per section (10 acre down-hole spacing) would be necessary to adequately and efficiently recover the natural gas resource in the JIDPA. The BLM's own analysis demonstrates that between 761 and 1,645 BCF of natural gas and 7,230,000 and 15,630,000 barrels of oil (condensate) would not be recovered under Alternative E and Alternative F. As such, neither Alternative E nor Alternative F meet the purpose and need of the proposed action, are inconsistent with the BLM's obligations under the Mineral Leasing Act, the National Mining and Minerals Policy Act of 1970, and the Federal Onshore Oil and Gas Leasing Reform Act, and	This comment is no longer applicable. Alternatives E and F will not be considered for final analysis in the FEIS.

**Table II-B. DEIS Comments and BLM Responses (cont'd)**

Submittal ID	Comment Number	Category	Keyword 1	Keyword 2	Keyword 3	Comment Text	BLM Response
						would be contrary to the National Energy Policy and Executive Orders 13211, 66 Fed. Reg. 28355 (May 18, 2001).	
L-90	46	A	<b>Alternatives</b>			<p>As currently drafted, the implementation of the BLM's Preferred Alternative would be unduly restrictive, and inherently unworkable. EnCana has identified five areas of general concern with the BLM's Preferred Alternative. First, the document imposes far too many overly prescriptive measures which will unduly restrict operations and lead to less development and recovery in the JIDPA. For example, rather than limiting the overall surface disturbance in the field and allowing the Operators the maximum flexibility to develop the field within such limitations, the BLM attempts to regulate everything from the size of the well pad to the type of fracturing or "fracing" method to be utilized. Second, many of the BLM's proposed requirements and conditions of approval are so vague and ambiguous it will not only be impossible for the Operators to comply with the requirements, such requirements may also significantly increase the possibility of administrative challenges or litigation by individuals or groups opposed to additional development in the JIDPA. Third, several of the requirements imposed by the BLM are either outside of BLM's jurisdiction, such as air quality and air emissions, or simply contrary to existing BLM regulations, policies, or other laws. Fourth, many of the monitoring and mitigation requirements proposed by the BLM are excessive and/or unnecessary. EnCana understands the importance of monitoring the impacts of development on wildlife, and has even committed to monitoring requirements beyond those currently required by the BLM, but does not believe the BLM should use the Operators' request for infill development in the Jonah Field as a "blank check" for additional studies and monitoring requirements, especially when such requirements may not be related to impacts of development in the Jonah Field. Finally, the BLM's Preferred Alternative unduly and unreasonably restricts surface disturbance in large areas of the Jonah Field. Although EnCana may be able to utilize directional drilling where necessary, practical, and economic, the BLM assumes that directional drilling can be widely used in the Jonah Field despite the technical studies and empirical evidence demonstrating the limitations of</p>	<p>The Preferred Alternative has been revised for the Final EIS. Revisions were based on these and other comments, BLM internal discussions, and input from cooperating agencies. While each of these five areas of general concern have been considered, due to the need to address input from a variety of interests and to respond to direction from regulatory agencies and BLM policy, all concerns in this particular comment may not have been addressed as the commenter wished.</p>

**Table II-B. DEIS Comments and BLM Responses (cont'd)**

Submittal ID	Comment Number	Category	Keyword 1	Keyword 2	Keyword 3	Comment Text	BLM Response
						directional drilling in this particular field.	
L-90	48	A	<b>Analysis</b>			The description of the BLM's Preferred Alternative on page 2-22 suggests that the Preferred Alternative "optimizes natural gas recovery while minimizing impacts related to the key issues." This assertion, however, is not supported by the analysis in the JIDP DEIS. The BLM incorrectly assumes that the recovery factors for the Preferred Alternative will be approximately the same as those for Alternative G, despite the fact that the Preferred Alternative severely restricts surface disturbance in the northern portion of the Jonah Field and will require extensive directional drilling. The BLM has since indicated that the Preferred Alternative would lead to the waste of 761 BCF of natural gas and 7,230,000 barrels of oil (condensate). As such, the Preferred Alternative clearly does not "optimize natural gas recovery," or address the BLM's key issue regarding the need to "maximize natural gas recovery from the field."	This comment is no longer applicable. It will be addressed by the new Preferred Alternative in the FEIS.
L-90	49	A	<b>Analysis</b>			The description of the Preferred Alternative also asserts that the Preferred Alternative will minimize impacts related to the key issues with outcome-based performance objectives, mitigation, and Best Management Practices. See JIDP DEIS, pg. 2-22. The unquantified reduction of impacts the BLM alleges will occur under the Preferred Alternative could potentially be achieved under any of the Alternatives simply by establishing specific objectives for wildlife, contemporaneous and innovative interim and final reclamation, and habitat improvement and monitoring through EnCana's Voluntary Compensatory Mitigation Proposal. It is disingenuous for the BLM to assume or suggest that the impacts of development can only be reduced under the Preferred Alternative.	This comment is no longer applicable. It will be addressed by the new Preferred Alternative in the FEIS.
L-90	50	A	<b>Alternatives</b>	Surface Disturbance		The BLM's description of the 34% surface disturbance area ("Zone One") in the southern portion of the JIDPA does not provide the Operators the flexibility needed to effectively recover the natural gas resource. Although the total amount of new initial surface disturbance proposed in Zone One is likely adequate, the BLM unreasonably restricts operations in other ways.  First, the BLM limits new initial surface disturbance on a section-by-section basis rather than the average across	The Preferred Alternative has been modified for the FEIS. As part of that modification, surface disturbance is no longer restricted by Zone or by 640-acre section. Surface disturbance calculations have been recalculated based on new information, and further clarification has been provided regarding the use of conceptual spatial arrangements

**Table II-B. DEIS Comments and BLM Responses (cont'd)**

Submittal ID	Comment Number	Category	Keyword 1	Keyword 2	Keyword 3	Comment Text	BLM Response
						<p>all of Zone One. See JIDP DEIS, pg. 2-22 (authorizing “[u]p to approximately 34% (214 acres) new surface disturbance per 640-acre section within a 14,390-acre area.”) (emphasis added). In order to provide the Operators with the maximum flexibility, see Section 2.14.1, the BLM should not limit surface disturbance section by section, but should instead measure disturbance across the entire area as a whole. Doing so will allow the Operators the flexibility needed to develop the much-needed natural gas resources, while still protecting other resource values.</p> <p>Second, as currently drafted, the Preferred Alternative unreasonably limits the size, density, number, and type of well pad or locations or wells that can be developed in any particular section. The language on page 2-22 appears to limit the operators to 16 parent well pads of not more than 7.0 acres of surface disturbance, including roads and gathering lines, and 48 satellite well pads of not more than 2.0 acres, including roads and gathering lines. Not only does that provision significantly limit the Operators’ flexibility, it is inconsistent with the language on page 2-26 which states that the BLM would not regulate the number of wells under the Preferred Alternative. See JIDP DEIS pg. 2-26 (stating that “BLM would not regulate the number of wells or the pace of development under this alternative.”). Further, limitation on the size of well pad size is unduly restrictive and impractical. Topography and vegetation often dictate the size of and access to a well location.</p> <p>Finally, the BLM has incorrectly calculated the surface disturbance which would be authorized in Zone One. (34% of 14,390 = 4,893). The JIDP DEIS incorrectly states on page 2-22 that the Preferred Alternative would authorize 4,667 acres of new initial surface disturbance in Zone One. Although EnCana believes the BLM intended the 34% disturbance to include well locations and other disturbances listed in Table 2.11, the description of the new initial surface disturbance on page 2-22 is unclear.</p> <p>In the Final EIS, the BLM should remove the limitation of new initial surface disturbance by section and remove limitations on the type or number of well pads or wells</p>	<p>as tools for analysis, rather than as physical restrictions for the actual development.</p>

**Table II-B. DEIS Comments and BLM Responses (cont'd)**

Submittal ID	Comment Number	Category	Keyword 1	Keyword 2	Keyword 3	Comment Text	BLM Response
						<p>which can be developed in any particular section. EnCana suggests that the entire description of Zone One on page 2-22 be deleted and replaced with the following language:</p> <p>Up to 34% new initial surface disturbance within the 14,390-acre area. The BLM would not limit the size, density, number, or type of new well pads or new locations, or new wells within the 34% disturbance area, so long as the Operators are meeting all of the outcome-based performance objectives identified in Section 2.14.1.</p> <p>See EnCana Appendix 2, Revised Chapter Two.</p>	
L-90	51	A	<b>Alternatives</b>	Surface Disturbance		<p>The description of the 24% disturbance area ("Zone Two") in the south, south-east portion of the Jonah Field has the same basic problems associated with Zone One. The BLM should not limit new initial surface disturbance by section, but should instead measure new initial surface disturbance across the entire area (Zone Two) as a whole. For the same reasons as discussed above, the BLM should not limit or mandate the size, density, number, and type of well pads or locations or well pads that can be developed in any particular section.</p>	<p>This comment is no longer applicable. It will be addressed by the new Preferred Alternative in the FEIS.</p>
L-90	52	A	<b>Alternatives</b>	Surface Disturbance		<p>Finally, the BLM has incorrectly calculated the surface disturbance which would be authorized in Zone Two. (24% of 520 = 125). The JIDP DEIS incorrectly states on page 2-22 that the Preferred Alternative would authorize 117 acres of new initial surface disturbance in Zone Two. Although EnCana believes the BLM intended the 24% disturbance to include well locations and other disturbances listed in Table 2.11, the description of the new initial surface disturbance on page 2-22 is unclear and misleading.</p>	<p>This comment is no longer applicable. It will be addressed by the new Preferred Alternative in the FEIS.</p>
L-90	53	A	<b>Alternatives</b>	Surface Disturbance		<p>If the BLM includes Zone Two in the Final EIS, EnCana suggests that the entire description of Zone Two on page 2-22 be redrafted as follows:</p> <p>Up to 24% new initial surface disturbance within the 520-acre area. The BLM would not limit the size, density, number, or type of new well pads or new locations, or new wells within the 24% disturbance area, so long as the Operators are meeting all of the outcome-based performance objectives identified in Section 2.14.1.</p>	<p>This comment is no longer applicable. It will be addressed by the new Preferred Alternative in the FEIS.</p>

**Table II-B. DEIS Comments and BLM Responses (cont'd)**

Submittal ID	Comment Number	Category	Keyword 1	Keyword 2	Keyword 3	Comment Text	BLM Response
L-90	54	A	Alternatives	Surface Disturbance	Performance Objectives	<p>The descriptions of Zone Two and Zone Three additionally contain the following misleading and unnecessarily restrictive language: “well pad density limitation would be applicable until monitoring data, with up to ten-year trends, conclusively shows that denser than 40-acre surface spacing can meet performance-based field development and production objectives.” See JIDP DEIS, pg. 2-24. First, 10 year data and monitoring trends are not necessary to determine “development and production objectives.” The Operators’ reservoir modeling and their experience in the Jonah Field demonstrate that at least 20-acre downhole spacing will be necessary to develop the natural gas resource in Zone Two. The Wyoming Oil and Gas Conservation Commission authorized 10-acre spacing in the Jonah Field in recognition of its unique geologic features. The BLM has not provided any information or analysis indicating either that the resource can be recovered with 40-acre surface spacing, or identified, with specificity, the benefits or reduced impacts associated with limiting surface disturbance to 40-acre spacing. Second, the statement as drafted is unnecessarily confusing and poorly phrased. To the extent the BLM was attempting to state that 40-acre surface spacing would be enforced until “monitoring data, with up to ten-year trends, conclusively shows” that the Operators are meeting all of the outcome-based performance objectives, the BLM has not effectively communicated its intent. Third, it is unreasonable for the BLM to severely restrict surface spacing or density in this portion of the Jonah Field. The JIDP DEIS does not identify any wildlife or other resource uses, such as sage grouse leks or raptor nests, within this portion of the Jonah Field that could be adversely affected absent 40-acre spacing. The BLM has failed to provide any qualitative or analytical support for its decision to limit surface density. Finally, limitations on surface density are contrary to the intent and alleged spirit of the BLM’s outcome-based performance objective strategy which is to provide maximum flexibility for the Operators, while still protecting specific resource values. Rather than limiting surface density, or requiring the Operators to provide and develop ten years of monitoring data, which, incidentally, is approximately the same length of time as drilling activities are expected to occur in the JIDPA, the</p>	<p>The three-zone concept has been removed from the Preferred Alternative for the FEIS.</p>

**Table II-B. DEIS Comments and BLM Responses (cont'd)**

Submittal ID	Comment Number	Category	Keyword 1	Keyword 2	Keyword 3	Comment Text	BLM Response
						BLM should maximize the Operators' flexibility and allow them to develop the resources appropriately, under the guidance provided by the BLM's outcome-based performance objectives.	
L-90	55	D	<b>Alternatives</b>	Surface Disturbance	Performance Objectives	Given the relatively small size—less than one section—of the JIDPA included within Zone Two, and the lack of any identified wildlife or other significant conflicting resource values within Zone Two, EnCana recommends revising the Preferred Alternative to eliminate Zone Two entirely and incorporate those lands into Zone One. This change would only constitute an increase of 52 acres, or 0.17% of the JIDPA. As the BLM is aware, Zone Two does not contain any significant vegetative communities, JIDP DEIS, pg. 3-50 - 3-53, prairie dog colonies, JIDP DEIS, pg 3-60, raptor nests, JIDP DEIS, pg. 3-62, sage-grouse leks, JIDP DEIS, pg. 3-65, or other resources which justify limitations on new initial surface disturbance. The irregular size, lack of contiguous land, and the increased administrative difficulties and management requirements associated with monitoring and implementing Zone Two, further support the incorporation of the Zone Two areas into Zone One. Additionally supporting the incorporation of Zone Two into Zone One is the fact that the JIDP DEIS does not identify a single discernable benefit from managing Zone Two with less new initial surface disturbance than Zone One. Rather, according to statements made by the BLM at the public meetings, Zone Two was established solely in response to a potential downhole spacing map provided by EnCana and included in the JIDP DEIS as Map 2.1 in Exhibit G. Although Map 2.1 indicates that infill spacing within Zone Two is estimated at 20-acre spacing, the BLM need not prohibit surface disturbance in that area unnecessarily. Rather, the BLM should maximize the Operators' flexibility and allow them to develop the resources appropriately, under the guidance provided by the BLM's outcome-based performance objectives.	The three-zone concept has been removed from the Preferred Alternative for the FEIS.
L-90	56	A	<b>Alternatives</b>	Surface Disturbance		The Preferred Alternative unreasonably restricts surface disturbance in the northern part of the Jonah Field by limiting new initial surface disturbance to 19% by section ("Zone Three"). As with the description of Zones One and Two, the BLM should not limit new initial surface disturbance by section, but should instead measure new initial surface disturbance across the entire area (Zone	This comment is no longer applicable. It will be addressed by the new Preferred Alternative in the FEIS.

**Table II-B. DEIS Comments and BLM Responses (cont'd)**

Submittal ID	Comment Number	Category	Keyword 1	Keyword 2	Keyword 3	Comment Text	BLM Response
						Three) as a whole to allow the Operators the flexibility needed to develop the much-needed natural gas resources, while still protecting other resource values. Further, as currently drafted, the Preferred Alternative unreasonably limits the size, density, number, and type of well pads or locations that can be developed in any particular section.	
L-90	57	A	<b>Alternatives</b>	Surface Disturbance		The BLM's decision to limit surface disturbance in Zone Three was apparently based, at least partially, on the mistaken belief that the natural gas resource in Zone Three could be effectively recovered with more widely spaced wells. As clearly expressed on Map 2.1 in Exhibit G, EnCana's reservoir modeling, as well as its extensive experience in the Jonah Field, demonstrates a very high certainty of the need for 10-acre, and a moderate to high certainty of the need for five-acre, downhole spacing across the entire northern section of the Jonah Field. Based on current information regarding original gas in place and well performance in Zone Three, it is believed that Map 2.1 is still accurate. The BLM should be aware, however, that recovery factors in Zone Three vary significantly from those in Zones One and Two resulting in a lower ultimate recovery factor per well. Recovery factors are a function of rock properties and affect the area a single well can effectively drain. Recovery factors are the fraction of the original gas in place which can be produced over the life of a single well. Because the recovery factors in Zone Three are believed to be generally lower than recovery factors in other parts of the field, the need for some 10-acre downhole-spaced wells is increased, not decreased.	The three-zone concept has been removed from the Preferred Alternative for the FEIS.
L-90	58	A	<b>Alternatives</b>	Surface Disturbance		BLM also bases the Preferred Alternative's limitation on surface disturbance in Zone Three on the incorrect assumption that the Operators were not interested in infill development within Zone Three. This assumption is also incorrect. First, EnCana's own petrophysical modeling indicates that the original gas in place in the northern section of the JIDPA is equivalent to the original gas in place in the southern portion of the JIDPA. Thus, there are significant gas reserves in Zone Three. Second, the constraints imposed by the previous authorizations for development in the JIDPA have limited the Operators' ability to construct new locations in the Jonah Field. Third, to date, the Operators have focused operations in the southern portion of the Jonah Field in	The three-zone concept has been removed from the Preferred Alternative for the FEIS.

**Table II-B. DEIS Comments and BLM Responses (cont'd)**

Submittal ID	Comment Number	Category	Keyword 1	Keyword 2	Keyword 3	Comment Text	BLM Response
						order to gain a better understanding of the ultimate downhole spacing that may be required to recover the natural gas resource. Fourth, given the lower recovery factors in Zone Three, there is less economic incentive to develop Zone Three because less gas is recovered from each well. The economic limitations associated with development in Zone Three will only be exacerbated if the BLM mandates directional drilling in Zone Three by unreasonably limiting new initial surface disturbance.	
L-90	59	A1	<b>Alternatives</b>	Surface Disturbance	Performance Objectives	Given the factors discussed above demonstrating the need for additional development in Zone Three, and the lack of existing facilities in Zone Three, EnCana suggests the description of Zone Three on page 2-24 be redrafted as follows: "Up to 40% new initial surface disturbance within the 14,310-acre area. The BLM would not limit the size, density, number, or type of new well pads or new locations, or new wells within the 40% disturbance area, so long as the Operators are meeting all of the outcome-based performance objectives identified in Section 2.14.1."	The three-zone concept has been removed from the Preferred Alternative for the FEIS.
L-90	60	D	<b>Alternatives</b>	Surface Disturbance		Finally, however the BLM elects to define Zones One, Two, and Three, EnCana encourages the BLM to redraft Map 2.2 on page 2-23 in the Final EIS so that the boundaries of each of the zones are more uniform, falling upon quarter section lines. Even if the boundaries are redrawn, it will be difficult, if not impossible, for the Operators and the BLM to efficiently monitor surface disturbance across the various zones. EnCana has included as EnCana Appendix 5 a revised version of Map 2.2 which incorporates the revisions EnCana outlined above, and more accurately reflects EnCana's petrophysical modeling. Additional data regarding EnCana's petrophysical modeling and original gas-in-place modeling has been submitted.	The three-zone concept has been removed from the Preferred Alternative for the FEIS.
L-90	61	C	<b>Alternatives</b>			EnCana is not opposed to the creation of an interagency working group, so long as the working group remains exempt from the Federal Advisory Committee Act ("FACA") and so long as the Operators are not required to fund the operations of the Jonah Infill Working Group. EnCana strongly objects to either the creation of a FACA working group for the Jonah Infill Drilling Project or, worse yet, amending the PAWG charter to include the Jonah Field and this project. See JIDP DEIS, pg. 2-24. Experience has already demonstrated that the PAWG is	This discussion has been removed from the Preferred Alternative in the Final EIS.

**Table II-B. DEIS Comments and BLM Responses (cont'd)**

Submittal ID	Comment Number	Category	Keyword 1	Keyword 2	Keyword 3	Comment Text	BLM Response
						not functioning effectively, and adding additional operators, additional lands, and additional potential issues will only exacerbate existing problems. The increased administrative burdens and costs of administering and utilizing a FACA chartered committee are not justified by any benefits associated with a FACA chartered advisory committee.	
L-90	63	A1	<b>Performance Objectives</b>	Air Quality		The first performance objective identified in the Preferred Alternative relates to airborne emissions and lists a series of benchmarks regarding Wyoming Ambient Air Quality Standards, PSD increments, and decreases in visibility in regional Class I airsheds. EnCana believes it is unwise for the BLM to select a performance objective which relates to matters beyond its jurisdiction. As the BLM is aware, and in fact acknowledges in the JIDP DEIS, the BLM does not have any legal or regulatory authority over air quality or air emissions. Regulatory authority over air quality is solely vested with the State of Wyoming, through the Department of Environmental Quality ("DEQ"), and the Environmental Protection Agency ("EPA"). Although it is appropriate for the BLM to identify potential mitigation measures which may be enforced by other agencies, the BLM cannot attempt to enforce or regulate such matters. Because the BLM cannot regulate air quality, it is impractical, and potentially illegal, for the BLM to attempt to exercise jurisdiction over such matters. In the Final EIS, EnCana encourages the BLM to select only performance objectives which are within its jurisdiction and authority. Attempting to regulate matters which are beyond its control sets the BLM and the Operators up for potential legal and administrative challenges.	BLM recognizes that we have little authority with respect to air quality. However, BLM does have responsibility for air quality. Since BLM has a role in air quality, it is appropriate for BLM to consider air quality measures as objectives.
L-90	64	A	<b>Air Quality</b>	Performance Objectives		Further, the performance objective relating to air quality is currently vague and ambiguous. Specifically, it appears that the BLM and the Operators will not be able to meet all of the air emission thresholds or objectives under any of the current alternatives, including the BLM's Preferred Alternative. For example, Table 4.1, on page 4-6 of the JIDP DEIS, indicates that visibility impacts of more than a deciview will occur in the Bridger Wilderness Area between 8 and 11 days per year under any Alternative but the No Action Alternative. The BLM must reconsider any attempt to include air emissions as a performance objective.	No AQ objective uses emissions as a metric. Objectives are that potential AQ impacts are below significance criteria. The FEIS and ROD will describe the objectives in more detail in the mitigation section.

**Table II-B. DEIS Comments and BLM Responses (cont'd)**

Submittal ID	Comment Number	Category	Keyword 1	Keyword 2	Keyword 3	Comment Text	BLM Response
L-90	65	A1	<b>Performance Objectives</b>			<p>The second performance objective, pg. 2-26, regarding the centralization of facilities, is generally acceptable to EnCana. As currently drafted, however, the performance objective is unreasonably restrictive and impractical. Requiring centralized facilities may actually require greater surface disturbance in portions of the JIDPA because of topography and other constraints. Further, the requirement is unreasonably vague because it does not clearly state that it applies only to new facilities, not existing facilities. The BLM does not have the authority to require modifications to existing facilities at this time. Finally, centralized facilities only become practical and efficient when 10-acre or less surface density is authorized and may become an important "tool" to reduce LOP surface disturbance. This performance objective should be redrafted as follows: "Utilize techniques to centralize new development and production facilities where feasible and practical."</p>	<p>See the revised COA in the FEIS.</p>
L-90	66	A1	<b>Performance Objectives</b>	Soils		<p>The third proposed performance objective, regarding sediment erosion and salt and silt discharge rates, pg. 2-26, is also unreasonably vague and may subject the Operators to conflicting requirements. First, the objective is unreasonably vague because the JIDP DEIS does not identify what sediment erosion rates are acceptable to the BLM and the Wyoming DEQ. Second, storm water pollution and prevention controls are exclusively within the jurisdiction of the Wyoming DEQ and the EPA. Although it may be appropriate for the BLM to identify reasonable mitigation measures even if they are beyond the BLM's authority, the BLM should not attempt to regulate matters which are beyond its jurisdiction. Any attempt to do so may create additional legal and administrative challenges, and may subject the Operators to conflicting requirements. Finally, the JIDP DEIS does not demonstrate that soil erosion or salt loading is currently or will be a significant problem in the JIDPA. Until the BLM completes the ongoing soil modeling and analysis, it is premature for the BLM to create an outcome-based performance objective related to soils and soil erosion. If the ongoing soil modeling demonstrates that soil erosion and salt loading will be a concern in the JIDPA, EnCana suggests the following language: "Maintain sediment erosion (salt and silt discharge rates) at levels permitted by and acceptable to the Wyoming Department of Environmental Quality and</p>	<p>Acceptable background soil erosion rates are unique to individual sites and soil series. Therefore, typically, site-specific assessments are needed in the course of prescribing appropriate BMPs.</p> <p>See also response to comment L04-5 above.</p>

**Table II-B. DEIS Comments and BLM Responses (cont'd)**

Submittal ID	Comment Number	Category	Keyword 1	Keyword 2	Keyword 3	Comment Text	BLM Response
						Environmental Protection Agency.”	
L-90	67	A1	<b>Performance Objectives</b>	Wildlife		The fifth performance objective, the first bullet on page 2-27, regarding planning development activities to maximize habitat patch size for sagebrush-obligate species, is again vague, ambiguous, and potentially unreasonably limiting. As currently drafted, this requirement could be construed as limiting activities to only one portion of the JIDPA at a time, which is unacceptable to EnCana. The Operators need the flexibility to develop in any portion of the field at any time, subject, of course, to seasonal limitations for specific wildlife habitat such as sage grouse leks. Given its ambiguity, the objective could lead to increased administrative challenges and/or litigation by non-governmental organizations opposing additional development in the Jonah Field. EnCana suggests the following modification to the performance objective: “To the extent practical, feasible, and economic, the Operators should plan drilling activities and interim and final reclamation to maximize and increase habitat patch sizes and reduce habitat fragmentation for sagebrush-obligate species.”	Reduction of fragmentation and maintenance of large sagebrush patches are the goals intended.
L-90	68	A1	<b>Performance Objectives</b>	Noise		The sixth performance objective, the second bullet on page 2-27, attempts to limit production activity noise levels to an increase of 10 decibels or less in noise sensitive areas. Initially, this “requirement” is inappropriately identified as a performance objective. Because the “requirement” relates only to site-specific activities, it should be considered a potential condition of approval, not a performance objective. Further, this objective is unreasonably restrictive and generally unworkable for a number of reasons. First, the BLM has failed to provide a map of “noise sensitive areas.” The JIDP DEIS does not describe how this objective/requirement will affect operations in the JIDPA. Second, the BLM has failed to develop a protocol to measure background or new noise levels. Third, an increase of only 10 decibels is unduly restrictive as 10 decibels is “barely audible” or approximately equivalent to the noise produced by normal human breathing. See JIDP DEIS, pg. 3-48. Finally, the BLM has failed to demonstrate why this unduly restrictive requirement is necessary. Given the vague and unreasonable nature of this objective, the fact that the BLM has failed to justify where or how it would be imposed, and the fact that the	Locations, monitoring techniques, and requirements will be identified in the wildlife monitoring and mitigation plan developed after the ROD is signed.  Noise-sensitive resource examples include sage-grouse leks, raptor nests, winter habitats, or other wildlife habitats that, if affected by noise, could result in disruption of an animal’s normal behavior.  Noise impacts will be mitigated per the BLM’s mission to minimize adverse impacts to resources.

**Table II-B. DEIS Comments and BLM Responses (cont'd)**

Submittal ID	Comment Number	Category	Keyword 1	Keyword 2	Keyword 3	Comment Text	BLM Response
						objective is more appropriately a condition of approval rather than a performance-based objective, this performance objective should be deleted.	
L-90	69	A1	<b>Performance Objectives</b>	Wildlife		The third bullet objective on page 2-27, the seventh overall performance objective, would require the Operators to minimize impacts to sagebrush and other habitats to maintain or minimize losses in attendance of male sage-grouse on leks, etc. As currently drafted, this Outcome-Based Performance Objective is unduly restrictive and unnecessary. A decrease in lek attendance by even a single sage-grouse could be utilized by opponents of oil and gas development to challenge all development activities in the Jonah Field. This is particularly egregious given the fact that lek attendance is generally decreasing across most of Wyoming. Further, given the level of development proposed in the JIDPA, EnCana believes it is more appropriate to focus its efforts on wildlife habitat improvement outside the JIDPA, rather than unnecessarily restricting development activities in this world-class and unique gas field. EnCana suggests the following alterations to this requirement: "Manage or mitigate impacts to sagebrush and other habitats to maintain or minimize losses to the populations of sagebrush-obligate listed and sensitive species in the JIDP cumulative impacts area."	Minimizing loss of habitats and/or habitat use is a primary goal of the BLM in managing wildlife habitats. Some local impacts will occur, but the goal should be to minimize those impacts at the local level.
L-90	70	A1	<b>Performance Objectives</b>	Wildlife		The eighth proposed performance objective relates to "currently active big game migration routes." As discussed earlier, neither the past NEPA documents prepared by the BLM for development activities within the Jonah Field nor the ongoing wildlife studies prepared by the Operators and submitted to the BLM annually suggest that a "seasonal migration route" exists within the JIDPA. As the BLM is aware, the JIDPA does not contain crucial habitat for the pronghorn. In fact, the JIDP DEIS specifically notes on page 4-87 that "[n]o loss to pronghorn migration is anticipated" under any alternative. Finally, as expressed by the BLM's own biologist at several public meetings, the location or existence of specific alleged migration routes is not the crucial factor. Rather, the BLM should be concerned with the pronghorn's ability to safely and effectively migrate. In order to make this performance objective reasonable, EnCana suggests the following language: "Maintain adequate big game migration between the pronghorn	Movement patterns and routes have been identified by WGFD and other wildlife researchers. These routes/patterns should be maintained.

**Table II-B. DEIS Comments and BLM Responses (cont'd)**

Submittal ID	Comment Number	Category	Keyword 1	Keyword 2	Keyword 3	Comment Text	BLM Response
						crucial winter range north of the JIDPA and crucial winter/yearlong range located to the west and the southeast of the JIDPA.”	
L-90	71	A1	<b>Performance Objectives</b>			The Preferred Alternative’s ninth proposed performance objective, page 2-27, relates to the degree and extent of human activity within the JIDPA. As currently drafted, this performance objective is vague and impractical. First, the BLM has not clearly defined the term “human activity” or provided reasonable expectations for reducing human activities. Second, it can be difficult to decrease human activities during drilling operations without compromising safety. EnCana has, however, developed several plans to reduce traffic in the field during the production phase including the use of remote telemetry and the installation of an underground system to transport produced water and condensate where practical, feasible, and economic. EnCana recommends redrafting this proposed performance objective as follows: “To the extent practical, feasible, economic, and safe, the Operators will reduce traffic in the JIDPA during the production phase.”	The commenter is correct in asserting that there are no comprehensive data showing current activity levels in the Jonah Field; however, BLM still believes this is a reasonable and achievable objective. The success or failure of this objective would be measured in the implementation of measures such as remote telemetry, centralized production facilities, crew busing, installation of condensate and/or produced water, etc.
L-90	72	A1	<b>Performance Objectives</b>	Water Resources		The BLM’s tenth proposed performance objective, the sixth bullet point on page 2-27, would require the Operators to prevent the contamination of all surface and groundwater. While EnCana agrees with the need to protect surface and groundwater quality, and already employs extensive measures to protect water quality, the Preferred Alternative’s performance objective is vague and unreasonably restrictive. First, the requirement does not specifically reference potable drinking or potable ground water supplies or formations and is therefore unacceptable. As currently drafted, this performance objective could be construed to limit the Operators’ use of water supplies because the Operators use water for drilling operations. Second, the BLM has failed to adequately define contamination. As the BLM is aware, water in the Lance Formation is impacted during drilling and production activities in order to recover the natural gas resource in the JIDPA. Third, the regulation of groundwater rests with the Wyoming State Engineer’s Office and the Wyoming Department of Environmental Quality. As discussed above, it is unwise for the BLM to develop performance objectives regarding matters which are beyond its jurisdiction. The BLM should redefine this requirement to state that the “Operators will comply with	<p>The commenter correctly asserts that the authority to regulate water quality rests with WDEQ, which has jurisdiction for preventing contamination of ground and surface water. BLM still feels that an appropriate objective for the Jonah EIS is not to degrade or interfere with the WDEQ regulations, but rather to augment them. The objective is revised in the FEIS to be more measurable.</p> <p>While BLM does not have regulatory authority under the Clean Water Act (CWA), it still has the responsibility to ensure that actions it authorizes would not knowingly violate the CWA.</p> <p>BLM does not have the authority to change the text of an operator-committed measure. The operator should there make the suggested</p>

**Table II-B. DEIS Comments and BLM Responses (cont'd)**

Submittal ID	Comment Number	Category	Keyword 1	Keyword 2	Keyword 3	Comment Text	BLM Response
						the Clean Water Act and the Safe Drinking Water Act and any and all regulations imposed by the Wyoming Department of Environmental Quality and the Wyoming State Engineer.” As redrafted, this performance objective would address the BLM’s concerns regarding water quality, recognize the limits of the BLM’s jurisdiction, and not unreasonably constrain the Operators’ ability to develop the JIDPA.	change.
L-90	73	A1	<b>Performance Objectives</b>	Technical Information		The BLM’s eleventh proposed outcome-based performance objective is not actually an outcome-based objective at all. Although EnCana continually seeks out new technologies and development methods in order to effectively recover the natural gas resource while reducing impacts on the environment, the BLM should not mandate the use of state-of-the-art technologies. The use of new technologies involves a number of factors, including economics and the availability and effectiveness of the technology, which are beyond the BLM’s purview. Further, because neither the BLM nor the industry regulate or define “state-of-the-art technologies” there is no reasonable, objective, or fair means to determine if “state-of-the-art technology” is being used. Finally, the BLM has failed to analyze how state-of-the-art technology will lessen or decrease impacts. It is possible that “state-of-the-art technology” will have additional adverse impacts not considered in the JIDP DEIS. EnCana has demonstrated its willingness to utilize new and innovative drilling and development techniques, but it is unreasonable for the BLM to mandate the use of unproven technologies simply because they are “state-of-the-art.” This requirement must be removed entirely.	See the revised objective in the FEIS.
L-90	74	A1	<b>Performance Objectives</b>			The final performance objective identified on page 2-27 would encourage the Operators to participate and support peer-reviewed research regarding the impacts of oil and gas development. Once again, however, this is not an outcome-based performance objective, but rather an attempt to require the Operators to fund additional studies. It is inappropriate for the BLM to mandate participation in off-site wildlife studies of any kind. This requirement must be removed entirely from the BLM’s list of performance objectives. As the BLM is aware, EnCana has proposed compensatory mitigation as part of its proposed action and, if implemented, wildlife monitoring and studies could be funded through such	BLM disagrees, and the text will remain as is. Note that this an outcome-based performance objective and the item states BLM would “encourage Operators”; it does not state BLM would “require Operators.”  However, additional surveys and studies may be required by BLM. With current staffing levels, the BLM cannot adequately complete needed activities for monitoring and analysis

**Table II-B. DEIS Comments and BLM Responses (cont'd)**

<b>Submittal ID</b>	<b>Comment Number</b>	<b>Category</b>	<b>Keyword 1</b>	<b>Keyword 2</b>	<b>Keyword 3</b>	<b>Comment Text</b>	<b>BLM Response</b>
						means.	activities for monitoring and analysis.
L-90	77	A	<b>Conditions of Approval</b>	Surface Disturbance		The first proposed condition of approval (“COA”) would require the operators to track surface disturbance and to provide the BLM with GPS data for all facilities and reclaimed areas within 30 days. First, as the managing agency, it is the BLM’s responsibility to track surface disturbance, not the Operators. Second, the BLM’s 30-day requirement is unrealistic and unnecessary. It would be more reasonable for the BLM to require Operators to submit surface disturbance information annually or semi-annually.	BLM believes this is a reasonable requirement. All of the alternatives contain surface disturbance thresholds. Using GPS data collection systems and GIS data management systems is a very effective way to track disturbance and reclamation acreage. While it is BLM’s responsibility to account for the disturbance levels relative to the EIS allocations, BLM feels that is appropriate for the Operators to collect and provide the GPS and relevant metadata since they are the entity proposing and carrying out the disturbance actions. BLM also feels the 30-day submission requirement is appropriate.
L-90	78	A1	<b>Conditions of Approval</b>	Technical Information		The second COA on page 2-27 would limit the size and type of well locations or pads which could be constructed in the JIDPA. As noted above, the BLM is attempting to remove the Operators’ flexibility to develop the Jonah Field by mandating unreasonable restrictions on the size of well pads and locations. Although EnCana is working to minimize the size of its well pads, the BLM’s expectations are not feasible. Topography and vegetation often dictate the size of and access to a well location. In previous authorizations for the JIDPA, the BLM approved an average 6.47 acres of new initial surface disturbance for each well location and associated resource roads and pipeline rights-of-way. See Decision Record Modified Jonah II EA and FONSI, pg. 15. The sentence should be redrafted as follows: “The Operators would limit new initial surface disturbance for well locations to the smallest feasible and practical size while taking into account safety concerns and topographic limitations.”	The pad sizes on DEIS page 2-27, Section 2.14.2, bullet No. 2 were used for analysis purposes to determine the potential surface disturbance for the preferred alternative. BLM also believes these to be acceptable guidelines for the Operators to strive to achieve. However, as written in the DEIS, the COA provides little flexibility to address changes in terrain or other unforeseen circumstances. The COA is therefore being modified in the FEIS as follows, “To the extent reasonable and practical, well pad surface disturbance would not exceed 7.0 acres for parent and multi-well pads, to 4.0 acres for single-well well pads, and 2.0 acres for satellite well pads, unless the Operator can demonstrate to the satisfaction of the authorized officer on a case-by-case basis, that the size limitation for a given pad would create a significant safety concern for the workers, the public at large, or

**Table II-B. DEIS Comments and BLM Responses (cont'd)**

Submittal ID	Comment Number	Category	Keyword 1	Keyword 2	Keyword 3	Comment Text	BLM Response
							<p>the environment. These acreages include cut and fill slopes, but do not include access roads and pipelines.”</p> <p>This limitation would be monitored through well pad layout and road plans provided with an APD.</p>
L-90	79	A1	<b>Conditions of Approval</b>	Technical Information		<p>The fourth proposed COA would require “hard-line” or centralized fracturing procedures whenever surface spacing is less than 1 well pad every 40 acres. It is inappropriate for the BLM to mandate a particular type of fracturing or “fracing” procedure. If anything, this requirement should be included in operator-committed measures rather than as an unreasonable BLM mandate. Further, it may be technically impossible to use central pad fracing technique on 40-acre spacing, and it may even lead to increased surface disturbance, especially in situations where the frac lines could not follow existing roads. This requirement should be redrafted as follows: “Central pad fracturing techniques would be encouraged for all well pads when surface density is <math>\geq 1</math> pad/40 acres if practical, feasible, and economic.”</p>	<p>BLM does not have a concern about what type of completion techniques are employed by the Operators. BLM is, however, required under NEPA to eliminate, reduce, or otherwise mitigate impacts to the extent reasonable and practicable, and through other regulations to prevent undue and unnecessary degradation. Where “hard-line” fracturing is technically and economically feasible, it reduces the need for pits or batteries of “frac” tanks on each well pad to handle the discharge of “frac” fluids, thereby reducing the size of the pad needed to drill and complete infill wells. BLM also recognizes that “hard-line” fracturing is an emerging technology and is not a panacea. Accordingly, this COA is being modified in the Final EIS to include the following qualifier, “unless the Operator can demonstrate to the satisfaction of the Authorized Officer that centralized fracturing is not reasonable or technically or economically feasible, or that another well completion procedure would create less surface impact.”</p>
L-90	80	A1	<b>Conditions of Approval</b>	Technical Information		<p>The final proposed COA on page 2-27 would require the Operators to utilize flareless completions for all wells in the JIDPA. As the BLM is aware, the Wyoming DEQ, not the BLM, has jurisdiction over flaring procedures and air emissions in Wyoming. In fact, the Wyoming DEQ has recently issued regulations regarding flaring in the Pinedale Anticline and Jonah Project areas. As such, it is neither appropriate nor necessary for the BLM to</p>	<p>The COA on DEIS page 2-27, bullet No. 4, does not preclude flares. OSHA requires a flare for drilling operations whether it be through a flare-stack or into a earthen pit. The COA does require the use of flareless completions, thereby eliminating the need for large flow-back pits. It also</p>

**Table II-B. DEIS Comments and BLM Responses (cont'd)**

Submittal ID	Comment Number	Category	Keyword 1	Keyword 2	Keyword 3	Comment Text	BLM Response
						impose this requirement. If the BLM intends to maintain this requirement, it should be redrafted as follows: "Operators would comply with all Wyoming Department of Environmental Quality regulations regarding flaring in the JIDPA."	provides a caveat that flareless completions would not be required where and/or when they are proven unsafe. This caveat is being modified in the FEIS to read, "... unless proven on a case-by-case basis that flareless completion operations would not be technically or economically feasible or would be unsafe." The emissions from completion flares are, as the commenter indicates, under the jurisdiction of DEQ; however, the effects of flaring noise to wildlife use of adjacent habitat and the surface disturbance associated with flaring operations are under BLM's authority.
L-90	81	A1	<b>Conditions of Approval</b>	Technical Information		On page 2-28, the JIDP DEIS suggests that the BLM will require the Operators to begin piping all produced water and condensate to central facilities no later than January 1, 2008. The piping of produced fluids and condensate should be an operator-committed measure rather than a BLM mandated requirement. Further, this measure must be applied only to newly constructed facilities; the BLM does not have the authority to mandate the installation of pipelines from existing facilities at this time. If the BLM intends to mandate this technique, the date by which piping facilities must be installed should be dependent on the date the JIDP ROD is actually issued; the Operators should have 18 to 24 months after the ROD is issued to have a system for piping fluids in place.	If Operators would make this an Operator-Committed Measure (OCM) then BLM would not require it. To date it has not been offered as an OCM; consequently BLM is carrying it forward as a Condition of Approval, but has modified the language. See the revision in the FEIS.  The implementation date in the COA already gives the 18 to 24 months the commenter suggests.
L-90	82	A1	<b>Conditions of Approval</b>	Soils		The second COA on page 2-28, the sixth overall proposed COA, requires operators to eliminate or minimize surface and sediment discharge in the JIDPA and to comply with Wyoming DEQ requirements for storm water discharge. First, this requirement is unnecessary because there is no evidence that soil erosion will be a significant problem at this time. Second, storm water discharge specifications are beyond the jurisdiction of the BLM and are exclusively within the jurisdiction of the Wyoming DEQ and the EPA. Finally, the BLM does not have the authority, and has not performed the necessary NEPA analysis, to mandate the proposed "retrofitting" of existing facilities. Rather than attempting to mitigate and manage matters which are beyond its jurisdiction, the BLM should redraft this	See response to comment L-04-5.  BLM is responsible for the condition and management of the federal surface that adjoins the prospective well pads. BLM is therefore required to protect the adjoining lands from actions such as sediment and salt accumulations that would adversely affect the productivity of those lands.  The DEIS does address the effects that roads, well pads, and pipelines have on sediment discharge and

**Table II-B. DEIS Comments and BLM Responses (cont'd)**

<b>Submittal ID</b>	<b>Comment Number</b>	<b>Category</b>	<b>Keyword 1</b>	<b>Keyword 2</b>	<b>Keyword 3</b>	<b>Comment Text</b>	<b>BLM Response</b>
						requirement by deleting the second and third sentences. As redrafted the provision would read: "To eliminate or minimize surface sediment discharge, all well pad and road construction shall comport to Wyoming DEQ and EPA storm water discharge specifications, standards, and permitting requirements."	water quality based on the total projected disturbance. This includes existing and proposed roads, wells pads, and pipelines.
L-90	83	A1	<b>Conditions of Approval</b>	Technical Information		The eighth proposed COA, the fourth bullet on page 2-28, requires the centralization of facilities to the maximum extent possible. As currently drafted, this COA is unreasonably restrictive and impractical. Requiring centralized facilities may actually require greater surface disturbance in some parts of the field because of topography and other constraints. Centralized facilities only become practical when 10-acre or less surface density is authorized and may become an important tool to reduce LOP surface disturbance. Further, the requirement is unreasonably vague because it does not clearly state that it applies only to new facilities. The performance objective should be redrafted as follows: "Utilize techniques to centralize new development and production facilities where feasible and practical."	This COA is being revised for the FEIS.
L-90	84	A1	<b>Conditions of Approval</b>	Soils		The Preferred Alternative's ninth proposed COA regarding the installation of hydraulic structures is poorly defined and beyond the jurisdiction of the BLM. Depending on the size and nature of the structure, the installation or modification of hydraulic structures may be regulated by the United States Army Corps of Engineers, the Wyoming DEQ, and the EPA. This requirement is also unreasonably expensive and unduly burdensome given the fact the BLM has not completed soils analysis or modeling to demonstrate that such provisions are necessary. This proposed condition of approval should be completely eliminated.	Installation of structures within watercourses does require an Army Corps of Engineer's 404 permit. Most installations fall under the national permit, which does not give site-specific design and installation parameters. While COE is responsible for the such actions under the Clean Water Act, BLM is equally responsible for ensuring that undue and unnecessary degradation of public lands DOES NOT occur through improper installation of a culvert or other hydraulic structure; therefore this requirement is appropriate and will be carried forward into the FEIS.
L-90	85	A1	<b>Conditions of Approval</b>	Soils		Similarly, the BLM's tenth proposed COA, regarding engineering construction so as to minimize sedimentation, is poorly defined and beyond the jurisdiction of the BLM. Depending on the nature and size of the construction activity, the engineering and design of construction may be regulated by the United	See the revised listing of COAs in the FEIS.

**Table II-B. DEIS Comments and BLM Responses (cont'd)**

<b>Submittal ID</b>	<b>Comment Number</b>	<b>Category</b>	<b>Keyword 1</b>	<b>Keyword 2</b>	<b>Keyword 3</b>	<b>Comment Text</b>	<b>BLM Response</b>
						States Army Corps of Engineers, the Wyoming DEQ, and the EPA. Because this subject matter is extensively regulated, there is no reason for the BLM to regulate sedimentation and this COA should be eliminated.	
L-90	86	A1	<b>Conditions of Approval</b>	Technical Information		The BLM's eleventh potential COA regarding closed drilling systems is likewise unreasonable. As the BLM is aware, drill cuttings must be buried in a pit within the JIDPA and, if not buried on site, the transportation of cuttings and fluids will lead to increased traffic, and increased surface disturbance in other parts of the JIDPA. There is simply no justifiable reason to eliminate the use of on-site pits to bury cuttings. Further, the requirement to have pits vacuumed or evaporated in less than 60 days is not economic or practical given the fact that fluids would be frozen several months of the year. This requirement is particularly concerning because the BLM has not indicated why such a restrictive and impractical requirement is necessary. This measure should be an operator-committed practice to be used when practical, economic, and necessary to minimize new initial surface disturbance.	This COA is imposed to reduce the size of the pad needed to drill a well and to accelerate the time that interim and/or final reclamation can commence to restore lost wildlife habitat. The COA does provide the Operator the opportunity to demonstrate to the BLM that this procedure is not technically or economically feasible. BLM believes the COA is appropriate, but is revising it for the FEIS to add, "If this timeframe is infeasible on a particular site, the Operators would notify the JIO and fluids would be removed as soon as practical."  This requirement does not preclude cuttings disposal pits.
L-90	87	A	<b>Conditions of Approval</b>	Noise		The BLM's twelfth potential COA, requiring new compressor sites to be located away from noise sensitive areas, is generally acceptable to EnCana, although it is not well defined. The BLM has failed to map or identify noise sensitive areas. This requirement must be clarified further in the Final EIS.	Noise-sensitive resource examples include sage-grouse leks, raptor nests, winter habitats, or other wildlife habitats that, if affected by noise, could result in disruption of an animal's normal behavior.  These locations will be identified in the wildlife monitoring and mitigation plan developed after the ROD is signed.
L-90	88	A1	<b>Conditions of Approval</b>	Soils		On page 2-28, the thirteenth potential COA would require the Operators to design topsoil stockpiles to maintain viability and to minimize surface disturbance; unfortunately, these two requirements are inherently contradictory. If topsoil is stored to maintain viability, it must be spread out so that air and water can reach the soil, which leads to additional surface disturbance. EnCana agrees that steps must be taken in order to	This COA is being revised for the FEIS.

**Table II-B. DEIS Comments and BLM Responses (cont'd)**

<b>Submittal ID</b>	<b>Comment Number</b>	<b>Category</b>	<b>Keyword 1</b>	<b>Keyword 2</b>	<b>Keyword 3</b>	<b>Comment Text</b>	<b>BLM Response</b>
						maintain the viability of topsoil, and is currently developing and researching several techniques to maintain topsoil viability, but cannot be expected to comply with this potentially contradictory requirement. The BLM should clarify this potential COA in the Final EIS.	
L-90	89	A1	<b>Conditions of Approval</b>	Wildlife		The fourteenth potential COA, the tenth bullet listed on page 2-28, regarding locating facilities within specific distances around raptor nests is acceptable, with proper revision. The word "active" must be inserted into this requirement before the words "raptor nest," "ferruginous hawk nests," and "bald eagle nests." Absent this modification, the requirement is unreasonable, unnecessary, and actually conflicts with the guidance contained in the Pinedale RMP. Thus, the requirement should read "Well pads, access roads, and other above-ground facilities would not be located within 825 feet of any active raptor nest, within 1,000 feet of active ferruginous hawk nests, and within 2,640 feet of active bald eagle nests."	Active status is usually required before this COA applies, but the BLM can apply the COA to inactive nests if warranted. The bald eagle distance is for all nests, including inactive nests, based on consultation with USFWS.
L-90	90	A1	<b>Conditions of Approval</b>	Wildlife		The final COA listed on page 2-28 relates to seasonal restrictions around certain raptor nests and feeding areas. To the extent these requirements are consistent with the existing Pinedale RMP, they are acceptable to EnCana. The limitation regarding bald eagle winter foraging areas, however, is unacceptable because it is not in conformance with the existing Pinedale RMP and should be eliminated. Additionally, the requirement is vague because the BLM has not attempted to define where bald eagle winter foraging areas are located, or the types of conditions present in bald eagle winter foraging areas. Finally, as written, this requirement could be construed to include any lands within the Pinedale Resource Area, much less the JIDPA, as bald eagles forage during the winter months wherever carrion or other food supplies may be located.	The Pinedale RMP has been amended to include recent consultation with the USFWS. These requirements will remain in the FEIS. Foraging areas within the Pinedale Field Office have been defined. Based on changes in animal use and distribution, including increased eagle activity within the JIDPA, this management could become appropriate in the future.
L-90	91	A1	<b>Conditions of Approval</b>	Wildlife		The first, second, and third bullet points on page 2-29, all relate to surface disturbing activities near sage grouse leks and sage-grouse brood-rearing habitat. It appears that each of these conditions of approval are based upon Wyoming Instruction Memorandum 2004-057 issued by the Wyoming State Office on August 16, 2004. This requirement is unacceptable because it is vague and ambiguous and because it does not clearly define	All management for sage-grouse is appropriate for inclusion in the FEIS.

**Table II-B. DEIS Comments and BLM Responses (cont'd)**

Submittal ID	Comment Number	Category	Keyword 1	Keyword 2	Keyword 3	Comment Text	BLM Response
						<p>the limitations which may be imposed on the Operators. First, the BLM has failed to map sage-grouse nesting or early brood-rearing habitat. Second, this requirement would seem to allow the BLM to regulate any and all areas within the JIDPA because it states that sage-grouse habitat beyond the 2.0-mile buffer would also be protected. The word "active" must be inserted into this requirement to state that only active leks and identified habitat will be monitored. Finally, the JIDP EIS should be clarified to require compliance with BLM state policy on sage-grouse, not the policy currently reflected in Wyoming State Instruction Memorandum 2005-057 which the State Director has indicated will be modified in the near future. Leaving the provisions as currently drafted could potentially create a situation where the JIDP EIS contains restrictions which are different from or even conflict with those included in the revised Instruction Memorandum.</p>	
L-90	92	A1	<b>Conditions of Approval</b>	Wildlife		<p>The nineteenth requirement, page 2-29, proposes to have the Operators inventory greater sage-grouse seasonal habitats within the JIDPA. This requirement is unacceptable for several reasons. First, it is the BLM's responsibility to manage habitat for wildlife and the Wyoming Game and Fish Department's responsibility to monitor and maintain wildlife populations within the State of Wyoming. Second, the JIDP DEIS itself notes that the BLM and Wyoming Game and Fish are currently mapping sage-grouse habitat in the JIDPA; there is no need for the Operators to duplicate these studies. See JIDP DEIS, pg. 3-67. Finally, the BLM has not defined what seasonal sage-grouse habitat has not been mapped or defined within the JIDPA. Presumably, this analysis was done in the Jonah I EA, the Jonah Field II EIS, the Modified Jonah II EA, the JIDP DEIS, and the annual monitoring conducted by EnCana and provided to the BLM.</p>	<p>All management for sage-grouse is appropriate for inclusion in the FEIS</p>
L-90	93	A1	<b>Conditions of Approval</b>	Wildlife		<p>Similarly, the twentieth COA, page 2-29, requires the operators to map prairie dog towns within the JIDPA. This requirement is unacceptable for several reasons. First, it is the BLM's responsibility to manage habitat for wildlife and the Wyoming Game and Fish Department's responsibility to monitor and maintain wildlife populations within the State of Wyoming. Second, the BLM has not defined what prairie dog towns have not been mapped within the JIDPA. Presumably, this analysis was done in</p>	<p>Additional surveys and studies can and will be required by BLM. With current staffing levels, the BLM cannot adequately complete needed activities for monitoring and analysis.</p>

**Table II-B. DEIS Comments and BLM Responses (cont'd)**

<b>Submittal ID</b>	<b>Comment Number</b>	<b>Category</b>	<b>Keyword 1</b>	<b>Keyword 2</b>	<b>Keyword 3</b>	<b>Comment Text</b>	<b>BLM Response</b>
						the Jonah I EA, the Jonah Field II EIS, the Modified Jonah II EA, the JIDP DEIS, and the annual monitoring funded by the Operators and provided to the BLM.	
L-90	94	A1	<b>Conditions of Approval</b>	Wildlife		The twenty-first requirement, page 2-29, requires the Operators to maintain raptor nesting territories either within or adjacent to the JIDPA. This requirement is unreasonable and, at best, should be considered as part of EnCana's Proposed Voluntary Compensatory Mitigation program. It is further inappropriate for the BLM to require this as part of the Preferred Alternative given the fact that the raptor nesting structures which the Operators have installed to date have not attracted nesting raptors. There is little reason to continue activities which have proven to be unsuccessful.	Requirements for off-site mitigation will be included in the ROD.
L-90	95	A1	<b>Conditions of Approval</b>	Transportation		The twenty-second proposed COA, page 2-29, requires the Operators to limit traffic and OHV to BLM roads and trails and to avoid travel on non-all weather roads during saturated soil conditions. Although this condition is generally acceptable to EnCana, it should be redrafted to simply state that: "The Operators will conduct operations in such a way to prevent unnecessary erosion and damage during saturated soil conditions."	This COA is being revised for the FEIS to read: "Project-required traffic in the JIDPA would be limited to BLM-approved roads."
L-90	96	A1	<b>Conditions of Approval</b>	Transportation		In the twenty-third proposed COA, page 2-29, the BLM would require the Operators to inventory all roads and trails within the JIDPA and provide the monitoring data to the BLM. This requirement is unnecessary and unrelated to the Operators' proposal. The Operators already provide the BLM with detailed information regarding any roads created or improved as a result of oil and gas development operations through the permitting process. Conducting inventories on BLM administered lands is solely the responsibility of the BLM, not the Operators.	The purpose of the COA is to receive digital locational data from survey engineers. Obtaining this data for well pads, access roads, pipelines, etc, would greatly streamline BLM's ability to effectively manage and approve energy development.
L-90	97	A1	<b>Conditions of Approval</b>			The twenty-fourth requirement, page 2-29, requiring the Operators to maintain the NSO restriction around Sand Draw, is acceptable to EnCana. To clarify the requirement, the BLM should define the area encumbered by the NSO restriction around Sand Draw. Thus, the requirement should be redrafted as follows: "No surface occupancy would be allowed within 300 feet of Sand Draw."	This COA is being revised for the FEIS.
L-90	98	A1	<b>Conditions of Approval</b>	Vegetation		The twenty-fifth requirement, page 2-29, establishes specific guidelines for plant growth during reclamation. This condition, as currently drafted, is unacceptable for a	BLM believes these are realistic and achievable timeframes. The FEIS will, however, reflect that the

**Table II-B. DEIS Comments and BLM Responses (cont'd)**

Submittal ID	Comment Number	Category	Keyword 1	Keyword 2	Keyword 3	Comment Text	BLM Response
						<p>number of reasons. First, the provision conflicts with the growth and reclamation standards and requirements contained on pages B-4 and B-5 of the BLM's Reclamation Plan contained in Appendix B to Appendix G. Second, this requirement is unreasonably restrictive because it fails to take into account climate and other weather conditions. The requirement should be redrafted to say that the growth and reclamation standards should be goals rather than mandates; the Operators cannot guarantee growth.</p>	<p>requirement is 50% in 5 years and 80% in 8 years of "vegetative basal cover/stocking rates and species composition," rather than 50% and 80% ground cover that could be construed from the term "vegetation cover."</p>
L-90	99	A1	<b>Conditions of Approval</b>			<p>The first bullet point proposed COA on page 2-30, the twenty-sixth overall, requires the Operators to maximize interim reclamation on all well pads and production facilities. While EnCana shares the BLM's desire to maximize reclamation, and will include details on interim and contemporaneous reclamation in its reclamation plan, EnCana suggests the following potential revision: "To the extent practical, feasible, and safe, the Operators would maximize interim (production phase) well pad reclamation (reclaim up to the wellhead, or up to the wellhead and dehydrators and separators on those pads with central production facilities)."</p>	<p>This COA is being revised for the FEIS.</p>
L-90	100	A1	<b>Conditions of Approval</b>			<p>The final proposed COA in Section 2.14.2 requires the Operators to submit "field-wide interim and long-term reclamation plans to the BLM within one year from the date of the ROD for the JIDP EIS." This requirement is acceptable to EnCana, although it should be redefined to require each operator to submit its own reclamation plan. The Final EIS should also clarify how the reclamation plan required by this COA will interact with the reclamation plan currently included in Appendix G of the JIDP DEIS. EnCana suggests the following language: "Field-wide interim and long-term reclamation plans would be submitted to BLM for approval by each of the Operators no later than one year from the date of this ROD. Site-specific reclamation plans would be incorporated into all Surface Use Plans for APDs and Plans of Development for ROWs. A reclamation quality assurance/quality control monitoring program would be implemented by each of the Operators until development and interim (production phase) reclamation is completed to BLM standards. If ongoing monitoring demonstrates that modifications to the reclamation plan are justified, the Operators would modify their reclamations plans."</p>	<p>BLM believes this requirement is reasonable. Exxon effectively instituted a similar process for the Riley Ridge project in the 1980s. The QA/QC process needs a plan to measure success against. The COA will be modified in the FEIS to read, "Operators would submit interim and long-term reclamation plans for their respective areas of operation to the JIO for approval no later than 1 year from the date of this ROD.."</p>

**Table II-B. DEIS Comments and BLM Responses (cont'd)**

<b>Submittal ID</b>	<b>Comment Number</b>	<b>Category</b>	<b>Keyword 1</b>	<b>Keyword 2</b>	<b>Keyword 3</b>	<b>Comment Text</b>	<b>BLM Response</b>
L-90	102	D	<b>On-site Mitigation</b>	Wildlife	Conditions of Approval	The first proposed monitoring requirement would obligate the Operators to continue supporting existing wildlife studies. As currently drafted, this requirement is unreasonable because it does not establish the type of wildlife studies which may be necessary or establish a time limit on such studies. Further, this requirement is unreasonably vague because it does not define or list the "existing studies." Finally, additional monitoring and studies should be addressed by the BLM either through agency budget requests, a voluntary compensatory mitigation measure, or an operator-committed practice. As already noted, EnCana addresses its willingness to fund additional wildlife monitoring studies in its Voluntary Compensatory Mitigation Proposal.	All wildlife monitoring will be included in the Wildlife Monitoring and Mitigation Plan developed after the ROD is signed.  Additional surveys and studies can and will be required by BLM. With current staffing levels, the BLM cannot adequately complete needed activities for monitoring and analysis.
L-90	103	A	<b>On-site Mitigation</b>	Water Resources	Conditions of Approval	The second proposed monitoring requirement relates to groundwater monitoring. This requirement is generally acceptable to EnCana, although the requirement for additional monitoring needs to be greatly clarified by the BLM. First, the requirement should be clarified to state that the groundwater monitoring program would only include wells permitted with the Wyoming State Engineer's Office; it would be impractical, if not impossible, for the Operators to monitor wells which are not properly permitted with the State of Wyoming. Second, the necessary testing constituents must be negotiated and agreed to by the BLM, Wyoming DEQ, and the Operators. As currently drafted, the requirement could require the Operators to test for literally thousands of potential constituents at an unreasonable cost to the Operators. Finally, the requirement must be clarified to clearly define the scope of testing, both geographically and chemically. Monitoring should be limited to testing for quantitative determination of the constituents listed in EnCana Appendix 6 to these comments. The BLM and the Operators should work together to develop a proposed groundwater monitoring plan which could be included as an appendix to the Final EIS for the JIDP.	This is a good point. The initial monitoring will be limited to wells registered with the Wyoming State Engineer's Office. Until and unless changes are agreed upon, the water sampling program used within the Pinedale Anticline could serve as an initial model. Based on findings of the monitoring program, the number and location of wells monitored may be changed to increase efficiency.
L-90	104	A1	<b>On-site Mitigation</b>	Soils	Conditions of Approval	The third proposed monitoring requirement on page 2-30 requires the Operators to conduct soil and vegetation surveys throughout the JIDPA. This requirement appears unnecessary because the BLM is currently conducting soil erosion modeling which will be incorporated into the Final EIS for the JIDP. Further, the JIDP DEIS, as well as the previous NEPA documents for	See response to comment L-11-43.

**Table II-B. DEIS Comments and BLM Responses (cont'd)**

Submittal ID	Comment Number	Category	Keyword 1	Keyword 2	Keyword 3	Comment Text	BLM Response
						the Jonah Field, contains information regarding the soil types and vegetation present in the Jonah Field. See JIDP DEIS, pgs. 3-20 - 36, 3-49 - 3-56; Jonah II DEIS, pgs. 3-11 - 3-14, 3-17 - 3-18 Modified Jonah II EA, pgs. 88-90, 95-96. Given this abundance of information, the BLM has not justified why additional information is necessary, or how this information differs from that already developed. Further, as currently drafted, this proposed monitoring requirement is vague because it does not define the type of soil or vegetation studies that might be required. Because this monitoring requirement seemingly ignores the existing data developed regarding the Jonah Field, and because the BLM has failed to justify its inclusion, it should be eliminated from the Final EIS.	
L-90	105	A1	<b>On-site Mitigation</b>	Water Resources	Conditions of Approval	Similarly, the fourth proposed monitoring requirement relates to the development of a "sixth-level watershed" model for the JIDPA. According to statements made by Prill Mecham during a public meeting with the Operators on March 7, 2005, the BLM is currently preparing a sixth-level watershed model which will be incorporated into the Final EIS for the JIDP. As such, this proposed monitoring requirement should be deleted from the Final EIS.	This model has already been run and the data has been quite valuable in answering questions posed by both government agencies and private citizens.
L-90	106	A1	<b>On-site Mitigation</b>	Wildlife	Conditions of Approval	The fifth proposed monitoring requirement, pg. 2-30, would obligate the Operators to develop a plan to monitor the population trends of all federally-listed, proposed candidates, BWS, and other species including amphibians, reptiles, passerine birds, and small mammals, throughout the JIDPA. This requirement is unreasonable and unnecessary. As indicated on page 3-69 of the JIDP DEIS, only one federally-listed, proposed, or candidate species has the potential to occur in the JIDPA, the bald eagle. The JIDP DEIS notes, however, that bald eagles are uncommon in the JIDPA and that they occur in "such low numbers or in such small and widely scattered populations that an encounter during field development and operation is unlikely." See JIDP DEIS, pg. 3-69. Further, of the approximately fifty (50) BWS, only seventeen (17) have some recorded occurrence in the JIDPA and that information comes directly from the wildlife monitoring currently funded by the Operators. See JIDP DEIS pgs. 3-72 – 3-73. In other words, the JIDP DEIS itself demonstrates that the most recent and accurate information regarding BWS comes	Additional surveys and studies can and will be required by BLM. With current staffing levels, the BLM cannot adequately complete needed activities for monitoring and analysis.

**Table II-B. DEIS Comments and BLM Responses (cont'd)**

Submittal ID	Comment Number	Category	Keyword 1	Keyword 2	Keyword 3	Comment Text	BLM Response
						<p>from the studies currently funded by the Operators. There is simply no need for the Operators to develop a plan for additional studies. Finally, the BLM, the United States Fish and Wildlife Service, and the Wyoming Game and Fish Department have the responsibility to monitor wildlife and wildlife habitat. The BLM should not impose additional wildlife monitoring requirements as part of the Preferred Alternative. Rather, additional monitoring and studies should be addressed by the BLM either through agency budget requests, a voluntary compensatory mitigation measure, or an operator-committed practice. As already noted, EnCana addresses its willingness to fund additional wildlife monitoring studies in its Voluntary Compensatory Mitigation Proposal.</p>	
L-90	107	A1	<b>Conditions of Approval</b>	Water Resources	Soils	<p>The sixth proposed monitoring requirement, the final bullet point on page 2-30, requires the Operators to monitor first flush total suspended solids in coordination with the Wyoming DEQ. This requirement is beyond the jurisdiction of the BLM and should not be included in the ROD for the JIDP. As the BLM is aware, stormwater permitting and monitoring requirements rest exclusively with the Wyoming DEQ and the EPA. Further, this requirement is unnecessary as the BLM has failed to prepare soil studies and erosion modeling at this time demonstrating either that erosion or suspended solids will be a particular concern in the JIDPA. This requirement should be eliminated from the Final EIS or the need reassessed after the ongoing soil modeling is completed.</p>	<p>First-flush monitoring was envisioned as a low-cost method of obtaining defensible data by placing low-cost collection vessels at key locations (culverts) and monitoring the amount of suspended sediment in the first flush of runoff events during the life of the project. As reclamation of disturbances becomes successful the numbers will likely prove the success of reclamation efforts on a landscape scale. The cost would be relatively low. This option will be eliminated from the requirements in DEIS Section 2.14 but is still available as a voluntary action.</p> <p>As an alternative way to address this concern, the following method will be substituted:</p> <p>“BLM Wyoming Standards for Healthy Rangelands (Appendix A.5) will be used as the measure of land health and reclamation success.”</p> <p>Capability and potential will be taken into account.</p> <p><i>Potential</i></p> <p>The highest ecological status a riparian-wetland area can attain given</p>

**Table II-B. DEIS Comments and BLM Responses (cont'd)**

Submittal ID	Comment Number	Category	Keyword 1	Keyword 2	Keyword 3	Comment Text	BLM Response
							no political, social, or economical constraints.  <i>Capability</i> The highest ecological status a riparian-wetland area can attain given political, social, or economical constraints. These constraints are often referred to as limiting factors.
L-90	108	A1	<b>On-site Mitigation</b>	Wildlife	Conditions of Approval	The seventh proposed monitoring requirement, page 2-31, relates to monitoring greater sage-grouse movements to determine if the populations are migratory. The BLM has failed to define what assistance would be required from the Operators and therefore this requirement is unduly vague. Further, additional monitoring and studies should be addressed by the BLM either through agency budget requests or a voluntary compensatory mitigation measure. As already noted, EnCana addresses its willingness to fund additional wildlife monitoring studies in its proposed compensatory mitigation package.	Additional surveys and studies can and will be required by BLM. With current staffing levels, the BLM cannot adequately complete needed activities for monitoring and analysis.
L-90	109	A1	<b>On-site Mitigation</b>	Transportation		The ninth and tenth monitoring proposals, page 2-31, would require the operators to monitor traffic on all collector roads, to monitor the number of visits to well pads, and to prepare a report for the BLM annually. The BLM has not indicated why this requirement is necessary, or how they expect the Operators to comply (actual monitoring versus sampling). As such, these requirements are unnecessary and should be deleted.	This requirement was included to gather baseline traffic information in regards to how it relates to wildlife issues and possible future mitigative actions. As such, full-time monitoring will not be necessary. Both bullets will be deleted and replaced with the following: "Within 6 months of the ROD for this project, Operators would provide the JIO with estimates of the average number of vehicle trips per day to a representative individual well pad and centralized completion facility."
L-90	110	A1	<b>On-site Mitigation</b>	Noise		The eleventh proposed monitoring study, page 2-31, would require the Operators to monitor noise near certain "noise sensitive areas." Once again, the BLM has failed to demonstrate why this requirement is necessary, identify noise-sensitive resources, or define testing protocols. As such, this requirement is unreasonably vague and ambiguous and should be deleted entirely.	Noise-sensitive resource examples include sage-grouse leks, raptor nests, winter habitats, or other wildlife habitats that, if affected by noise, could result in disruption of an animal's normal behavior.  Locations, monitoring techniques,

**Table II-B. DEIS Comments and BLM Responses (cont'd)**

<b>Submittal ID</b>	<b>Comment Number</b>	<b>Category</b>	<b>Keyword 1</b>	<b>Keyword 2</b>	<b>Keyword 3</b>	<b>Comment Text</b>	<b>BLM Response</b>
							and requirements will be identified in the wildlife monitoring and mitigation plan developed after the ROD is signed.
L-90	111	A1	<b>On-site Mitigation</b>	Wildlife		The twelfth proposed monitoring requirement, page 2-31, relates to monitoring pronghorn numbers on the crucial winter range north and south of the JIDPA. First, the JIDP DEIS notes that “the proposed project would not affect any known pronghorn crucial winter range or bottlenecks; therefore, it would not contribute to cumulative impacts to these habitat features.” See JIDP DEIS, pg. 4-90. Because the infill project is not expected to have cumulative impacts on pronghorn the BLM has not demonstrated why this monitoring requirement should be conducted. Second, this proposal clearly requires monitoring beyond the boundaries of the JIDPA and, as such, should only be considered as part of a voluntary compensatory mitigation effort. See Instruction Memorandum 2004-069. EnCana addresses its willingness to fund additional wildlife monitoring studies in its proposed compensatory mitigation package.	Additional surveys and studies can and will be required by BLM. With current staffing levels, the BLM cannot adequately complete needed activities for monitoring and analysis. Cumulative impacts go well beyond JIDPA boundary and those impacts need to be addressed.
L-90	112	A1	<b>On-site Mitigation</b>	Wildlife		The final proposed monitoring requirement, page 2-31, requires the Operators to monitor certain raptors, sage-grouse, and various other species. The requirement is unduly vague because it does not address where, when, or how the wildlife would be monitored. Finally, EnCana addresses its willingness to fund additional wildlife studies in its Voluntary Compensatory Mitigation Proposal.	All wildlife monitoring will be included in the Wildlife Monitoring and Mitigation Plan developed after the ROD is signed.
L-90	113	A	<b>Site-Specific Conditions of Approval</b>			Section 2.14.3 - Site Specific Conditions of Approval, Mitigation Monitoring, Surveying, and Best Management Practices  First, the JIDP DEIS is not clear how or why the requirements listed in Section 2.14.3 are different from the proposed requirements and COAs discussed in Section 2.14.2. The BLM should either clarify how these requirements are different, or simply include them in the list of potential mitigation measures which may be utilized by the Operators.	See the revised text in the FEIS.
L-90	114	A1	<b>Site-Specific Conditions of Approval</b>	Transportation		The first proposed “site-specific COA,” page 2-31, relates to the conversion of resource roads to two-track roads during interim reclamation. EnCana agrees that resource roads should be converted to two-track roads	Please see the response to comment L-11-53.

**Table II-B. DEIS Comments and BLM Responses (cont'd)**

<b>Submittal ID</b>	<b>Comment Number</b>	<b>Category</b>	<b>Keyword 1</b>	<b>Keyword 2</b>	<b>Keyword 3</b>	<b>Comment Text</b>	<b>BLM Response</b>
						whenever feasible. Of course, given the topography in much of the JIDPA, two-track roads may not be safe or appropriate because of potential erosion effects. EnCana suggests redrafting this requirement as follows: "Convert resource roads to two-track roads during interim reclamation where practical, economic, and safe."	
L-90	115	A1	<b>Site-Specific Conditions of Approval</b>	Visual Resources		The second and third proposed site-specific monitoring requirements, relating to nighttime lighting, were probably borrowed from the Questar Winter Drilling Proposal and have little applicability to the JIDPA. These requirements are unreasonable, potentially unsafe, and simply unnecessary given the fact the Jonah Field is located a considerable distance from any occupied residence. These requirements should be removed from the Preferred Alternative.	Thank you for your comment. The text will be modified to better represent the potential visual impacts as related to the VRM objectives within the CIAA. However, significant cumulative impacts would occur since existing and potential project-related activities will be noticeable from nearby VRM Class II and I areas. The requirements are reasonable and will remain in the FEIS.
L-90	116	A1	<b>Site-Specific Conditions of Approval</b>	Soils		The fourth proposed site-specific COA relates to spoil pile reclamation and contouring. EnCana intends to contemporaneously reclaim topsoil to the greatest extent possible, and is beginning to experiment with moving topsoil from a recently disturbed area to an area where reclamation is taking place so that topsoil will not have to be stockpiled. However, the BLM should be aware that contouring spoil piles will actually lead to increased surface disturbance, increased habitat removal, and will damage the viability of additional topsoil. As such, this requirement should be eliminated.	The intent of this COA is not to increase the size of the area typically required for spoil piles, but rather to adjust the shape to match the surrounding area to the extent practical. Where visual resource management is the primary concern, the area for the spoil pile could be enlarged to achieve a shape that meets the VRM objective.
L-90	117	A1	<b>Analysis</b>			Section 2.16 - Summary of Environmental Impacts  In the Final EIS, Table 2.12 should be corrected as follows. First, disturbance estimates should be clarified that they represent initial disturbance and do not account for interim reclamation. Second, Table 2.12 incorrectly lists 3,597 total well pads for the Preferred Alternative. On several occasions, including the public meetings on March 21st and 23rd, the BLM repeatedly indicated that it would not approve 3,100 wells in the Preferred Alternative. Further, as discussed in more detail below, and apparently reflected in new information presented by the BLM during the public meetings in Rock Springs and Pinedale, Table 2.12 incorrectly calculates tax revenue	This comment is no longer applicable. It will be addressed by the new Preferred Alternative in the FEIS.

**Table II-B. DEIS Comments and BLM Responses (cont'd)**

<b>Submittal ID</b>	<b>Comment Number</b>	<b>Category</b>	<b>Keyword 1</b>	<b>Keyword 2</b>	<b>Keyword 3</b>	<b>Comment Text</b>	<b>BLM Response</b>
						and royalty payments for the Preferred Alternative by suggesting the recovery value will be approximately the same as that for Alternative G. The BLM has recently suggested that the recovery volume for the Preferred Alternative will be approximately the same as for Alternative F. Third, the Compensatory Mitigation row should be eliminated in the Final EIS, because the values shown are not consistent with EnCana and BP's compensatory mitigation program as originally proposed.	
L-90	118	B	<b>Analysis</b>			<p>CHAPTER 3 - AFFECTED ENVIRONMENT</p> <p>For the sake of clarity ... the JIDP FEIS should ... clearly reference the Jonah I EA (BLM 1994), the Jonah II EIS (BLM 1998), and the modified Jonah II EA (BLM 2000) in order to accurately inform the public of the significant NEPA analysis that has been conducted for the JIDPA, to give the public a more complete understanding of how development in the JIDPA has progressed over the years, to describe how development has impacted the environment in the JIDPA, and to provide the reader a more complete understanding of the infill development proposal.</p>	The history of the project and the associated NEPA documents are summarized in Chapter 1. There is no need to repeat this information. Since this document is not tiered off those previous documents, including that information in Chapter 3 could lead to confusion regarding the analyses. No change to the document is needed.
L-90	119	A	<b>Air Quality</b>			<p>Section 3.1.2 - Air Quality</p> <p>In the second paragraph on page 3-9 the JIDP DEIS contains the following statement: "Residents of the Pinedale area consider visibility impairment to be a major concern." The BLM should avoid making qualitative statements such as this in Chapter 3. First, the BLM identified and disclosed key public issues in Section 2.1.1 and in Appendix C; there is no reason to duplicate such statements again in Chapter 3. Second, the statement is a comment or perception, not a description of the existing environment. Finally, the comment adds little credible or factual information, and may actually create the misperception that there are air quality issues in the town of Pinedale. As reflected in the JIDP DEIS itself, the air quality in the Pinedale area is currently excellent. See JIDP DEIS, pgs. 3-10, 3-14 – 3-20. The JIDP DEIS indicates that the existing air quality in the Pinedale area will not be significantly affected by any of the alternatives considered in the EIS. See JIDP DEIS, pgs. 4-4, 4-13 – 4-26. The BLM should delete this inappropriate and potentially misleading statement in the</p>	<p>No change.</p> <p>Visibility cameras recently installed in Boulder and Daniel will provide scene monitoring data. Also, potential visibility was estimated for current (2006) condition in the Air Quality Impact Assessment Supplement, and potential impacts were found to be significant.</p>

**Table II-B. DEIS Comments and BLM Responses (cont'd)**

<b>Submittal ID</b>	<b>Comment Number</b>	<b>Category</b>	<b>Keyword 1</b>	<b>Keyword 2</b>	<b>Keyword 3</b>	<b>Comment Text</b>	<b>BLM Response</b>
						Final EIS.	
L-90	120	B	<b>Air Quality</b>			In the fourth paragraph on page 3-9, the JIDP DEIS includes the following information: "Visibility in the JIDPA air quality CIAA is considered very good with an average SVR of over 93.2 miles (150.0 km) (Malm 2000)." The JIDP DEIS presents visibility monitoring data in Figures 3.2 through 3.4 that substantiate this statement. In fact, Figures 3.2, 3.3, and 3.4 indicate that visibility impairment in the Bridger Wilderness Area near Pinedale is non-existent and in some instances actually demonstrates improvement for the period of 1989 through 2003. Inexplicably, BLM never provides the reader with a complete interpretation of this data in the JIDP DEIS. The BLM should insert language discussing the monitoring data in the Final EIS in order to fully inform the reader.	The air quality modeling predicts substantial visibility impact in Bridger Wilderness. On the other hand, the monitoring effort measures actual visibility in Bridger. Those levels have stayed about the same for the past 15 years, i.e. through 2003. The reason for what may seem like a difference is that the BLM does not model what is monitored: the potential number of days that visibility will be hazier than natural conditions is modeled, and the actual haziness of each day is monitored. These are really two different things. Further discussion of air quality issues is included in the revised air quality supplement to the EIS.
L-90	121	B	<b>Air Quality</b>			The third paragraph on page 3-10 contains the following assertion: "The USFS has indicated that the current green line values are set too high (personal communication, December 2004, with Susan Caplan, BLM Air Quality Specialist)." The BLM should not reference unsubstantiated, unverified, hearsay such as in this in the JIDP DEIS. As far as EnCana is aware, the Forest Service has not indicated in writing, initiated a rule-making, or otherwise announced or disclosed, in any manner, its intention to modify or change the Level of Concern for deposition. Until such time as the Forest Service formally announces its intention to modify the Level of Concern, the above statement is misleading. Further, the BLM does not have jurisdiction over air quality or deposition, thus the BLM should refrain from commenting on the appropriateness of matters which are beyond its authority and control. This statement must be removed from the Final EIS.  Additionally, in the Final EIS, the BLM should provide additional information on the Levels of Concern, how they were developed by the Forest Service, and their regulatory impact and enforceability.	BLM appreciates that USFS has not formally rescinded the LOC; that is why BLM still considers it the significance criteria for deposition. However, BLM also appreciates the USFS role as jurisdictional agency for protecting air quality in the Bridger Wilderness. The USFS will send to the BLM a formal description of their concerns with regards to the deposition levels of concern.  BLM recognizes that we have little authority with respect to air quality. However, BLM does have responsibility for air quality, including deposition in Class I areas.  For further information please refer to Fox (1989) cited in Chapter 7 of the EIS. Copies of this document can be obtained from the BLM State Office if requested.
L-90	122	B	<b>Air Quality</b>			The BLM includes, but does not discuss the information	The figures are discussed in the text

**Table II-B. DEIS Comments and BLM Responses (cont'd)**

Submittal ID	Comment Number	Category	Keyword 1	Keyword 2	Keyword 3	Comment Text	BLM Response
						<p>expressed in Figures 3.5 - 3.10. The BLM should include a discussion of these figures in the Final EIS. These figures demonstrate that deposition levels in the area surrounding the JIDPA are well below the levels of concern and that the concentrations of nitrate, ammonium, sulfur dioxide, and sulfates have all remained stable, or even decreased, in the past several years, despite the increase in oil and gas development activities in the JIDPA and the Pinedale Anticline Project Area.</p>	<p>on pages 3-10 &amp; 3-20 of the DEIS. The purpose of the green and red lines is defined in those paragraphs. The reader should be able to appropriately understand these figures in the context of the document.</p>
L-90	123	A	<b>Analysis</b>			<p>Section 3.1.3 - Topography</p> <p>The first sentence in the second paragraph of Section 3.3.1, page 3-20, states that: "Natural gas development in the JIDPA now dominates the landscape, with over 500 wells and associated roads and pipelines." This sentence improperly confuses personal visual impacts with topographical impacts. The JIDPA covers approximately 30,500 acres, of which only 4,200 acres can be disturbed at any one time under existing authorizations. This is approximately less than 14% disturbance in the JIDPA. Further, EnCana's own analysis demonstrates that less than 3,500 acres have been disturbed to date in the JIDPA, much of which has already been successfully reclaimed. The BLM should delete this sentence and refrain from making potentially misleading and non-objective statements in the Final EIS.</p>	<p>This sentence will be removed from the FEIS.</p>
L-90	124	B	<b>Mineral Resources</b>			<p>Section 3.1.4.1 - Mineral Resources</p> <p>The description of the mineral resource potential in the second paragraph of page 3-23 is not adequate and does not accurately inform the public of the unique qualities of the Jonah Field. The JIDP EIS should characterize the Jonah Field more completely by comparing it to other natural gas fields in the geographic region. A discussion of per well recovery and original gas in place ("OGIP") per acre for the Jonah Field and other fields in Wyoming would be a useful comparison to inform the public of the unique qualities of this particular natural gas field. Currently, the Jonah Field produces almost 250 BCF of natural gas a year, or 13.5% of all the natural gas produced in Wyoming. In terms of the quantity of gas produced in Wyoming, the Jonah Field is second only to the Powder River Basin, which</p>	<p>Thank you for your comment. See revisions to the Mineral Resource description in the FEIS.</p>

**Table II-B. DEIS Comments and BLM Responses (cont'd)**

Submittal ID	Comment Number	Category	Keyword 1	Keyword 2	Keyword 3	Comment Text	BLM Response
						<p>encompasses millions of acres in Campbell, Sheridan, and Johnson Counties in northeast Wyoming. Compared to other gas fields in southwest Wyoming, the OGIP for the Jonah Field is estimated to be more than 10,500 BCF compared to 2,933 BCF within the substantially larger 81,920 acre Bruff Field. On an acre by acre comparison, the Jonah Field contains approximately 0.5 BCF per acre compared to 0.036 BCF per acre in the Bruff Field, 0.022 BCF per acre in the Fontenelle Field, and 0.011 BCF per acre in the Wamsutter-Continental Divide Natural Gas Field. Thus, the Jonah Field contains approximately 25 times more OGIP and gas reserves per acre than other fields in southwest Wyoming, and the oil reserves (from condensate) are approximately 45 times higher than other fields in southwest Wyoming. The BLM must include additional information regarding the uniqueness of the mineral resource in the Jonah Field in the Final EIS for several reasons. First, the information regarding the quality and quantity of the resource are important to the public. Second, this information demonstrates the need for additional development in this unique and world-class resource. The level of development necessary to recover the resource in the JIDPA will not be necessary in the vast majority of fields in Wyoming. Finally, without this information, the public will be unable to fully understand the justification for additional development, and be unable to properly evaluate the impacts of infill development in the JIDPA.</p>	
L-90	125	B	<b>Water Resources</b>			<p>Section 3.1.6.1 - Surface Water Resources</p> <p>The sixth full paragraph on page 3-41 states that: "The quantity of sediment and associated salt loads within ephemeral flows from the JIDPA is unknown. However, Alkali Creek and several associated watersheds have been listed as salinity concerns under the designation of "Long Island Watershed." This statement is unclear and presents incomplete and unexplained information. First, by whom have the Alkali Creek and other watersheds been listed as having a salinity concern? Second, what criteria were used to determine these watersheds were a particular salinity concern? Third, what lands or watersheds are included within the "Long Island Watershed?"</p>	<p>The document in question was the 1993 Wyoming Watershed Salinity Rankings Phase 1 Report undertaken by the BLM, SCS (NRCS) and University of Wyoming. Long Island watershed was described in this report as a subwatershed of the 4<sup>th</sup> order watershed 14040101. Subwatershed lines, which have since been redrawn on a more accurate scale and renamed, were drawn for the purpose of this study. Long Island watershed (14040101 070 in the original report) consists of drainages that flow into the Green River above Long Island, T28N</p>

**Table II-B. DEIS Comments and BLM Responses (cont'd)**

<b>Submittal ID</b>	<b>Comment Number</b>	<b>Category</b>	<b>Keyword 1</b>	<b>Keyword 2</b>	<b>Keyword 3</b>	<b>Comment Text</b>	<b>BLM Response</b>
							R112W, including Alkali Creek Reardon Draw.  These data will be included in the final document.
L-90	126	A	<b>Water Resources</b>			The same paragraph on page 3-41 additionally states that: "Stream surveys of Alkali Creek down stream from the JIDPA have noted drops in the channel base level (headcuts) that, while not within the immediate area of the JIDPA, have the potential to be affected and eventually affect the channels within the JIDPA as well as the salt and sediment loads coming from the affected watersheds." First, the document does not disclose when the stream surveys were conducted, or by whom they were conducted. Second, the statement suggesting that development in the JIDPA has the potential to affect streams outside the JIDPA is neither supported with analysis or evidence. The referenced headcut is located more than twenty miles outside the JIDPA. This misleading and potentially inaccurate statement should be removed from the Final EIS.	The headcut is about 12 miles downstream from the Jonah field. The initial survey was conducted on 8/6/98. Conditions remained the same when observed in 2005. As the site is not within the Jonah field, some details which are included in other records were not included to reduce the complexity of the document.  The meadow acts as a buffer for sediment and runoff from the Jonah field. It also acts as habitat for sage-grouse and water storage for the Green River. So protection of the meadow is a good thing.
L-90	127	A	<b>Water Resources</b>			The first paragraph under the heading Groundwater on page 3-44 inaccurately describes the number of permitted groundwater wells within the JIDPA. The JIDP DEIS states on page 3-44 that more than 130 recognized ground water wells are located within the JIDPA. Map 4.1, on page 4-54, accurately notes that there are only 25 permitted water wells within the JIDPA. The discrepancy likely results from the fact that each water supply well has a permit for each natural gas well it supplies. This discrepancy should be corrected in the Final EIS.	Text has been amended to read:  "At present, more than 130 recognized groundwater permits are assigned to approximately 25 existing groundwater wells within the JIDPA. The majority of these permits are for existing oil and gas development use (State Engineer's Office 2004)."
L-90	128	B	<b>Vegetation</b>			Section 3.2.1.1 - Plant Communities  On page 3-49, the JIDP DEIS indicates that the definitions of moderate-density sagebrush and low-density sagebrush have apparently been recently altered or modified. "Moderate-density sagebrush (formerly referred to as dense sagebrush) was the most common habitat type, occupying approximately 87.2% (26,601 acres) of the JIDPA... The low-density sagebrush (formerly referred to as moderate-density sagebrush) type occupies approximately 8.9% (2,721 acres) of the	This change in labels from the evaluation data to the DEIS should not be construed as any implication that there has been a habitat change in undisturbed portions of the JIDPA. The old labels are provided as a reference to the data set, not as a definition or for contrast. The analysis derived there from remains the same as well as the conclusions of the DEIS.

**Table II-B. DEIS Comments and BLM Responses (cont'd)**

<b>Submittal ID</b>	<b>Comment Number</b>	<b>Category</b>	<b>Keyword 1</b>	<b>Keyword 2</b>	<b>Keyword 3</b>	<b>Comment Text</b>	<b>BLM Response</b>
						JIDPA (Table 3.17)." The BLM should explain how or why these definitions have been modified, and how such changes potentially impact the analysis of the JIDPA. Without additional information, these statements are unclear and could be construed to suggest that the actual density of sagebrush in undisturbed areas of the JIDPA has decreased.	
L-90	129	A	<b>Surface Disturbance</b>			In the final paragraph before Section 3.2.1.2, on page 3-54, the DEIS indicates that "Approximately 4,200 acres of the JIDPA have been disturbed by existing oil and gas development (see Table 2.3)." Although the BLM has authorized 4,200 acres of initial surface disturbance, that level of disturbance has not actually occurred. According to information gathered by EnCana from satellite images, sideways looking infrared images, and field surveys, less than 3,500 acres have been disturbed within the JIDPA, some of which have been successfully reclaimed. The BLM should correct the Final EIS to state that: "Previous management decisions have authorized the disturbance of 4,200 acres of the JIDPA for oil and gas development. To date, however, approximately 3,500 acres have actually been disturbed by oil and gas activities."	See revised text for Section 3.2.1.2 in the FEIS.
L-90	130	B	<b>Wildlife</b>			Section 3.2.2.1 - Big Game/Other Mammals  On page 3-56, in the second paragraph under the heading Pronghorn Antelope, the JIDP DEIS notes that: "approximately 27,200 acres (2.5%) of pronghorn crucial range in the Sublette Herd Unit have been disturbed." The Final EIS should provide references for this data and should clarify that this level of disturbance is not only from oil and gas development.	Figures were derived from existing data sets and include all disturbance, but oil and gas development is the most prevalent one.
L-90	131	B	<b>Wildlife</b>			The third paragraph under the pronghorn heading on page 3-56 notes that: "The JIDPA is within the North sub-unit, which has a population objective of 22,000 and an estimated 2001 population of 18,600 (84.5% of objective). The population trend in the North sub-unit has been relatively stable in recent years, ranging from 17,900 head in 1998 to 19,700 in 1994 (WGF 2001)." This data would seem to indicate that pronghorn populations in the project vicinity are relatively unaffected between the years 1994 and 2001 when the majority of oil and gas development in Jonah and the Pinedale Anticline Fields occurred. In fact, according to	Local influences such as oil and gas development have impacted the herds in use and distribution. As stated, the populations are below objective.

**Table II-B. DEIS Comments and BLM Responses (cont'd)**

Submittal ID	Comment Number	Category	Keyword 1	Keyword 2	Keyword 3	Comment Text	BLM Response
						the numbers presented in the DEIS, the estimated population has increased from 17,900 head in 1998 to 18,600 head in 2001. Thus, the pronghorn herd has experienced a population increase of approximately 700 animals despite a period of extreme drought conditions and active oil and gas development activities. The BLM should emphasize this population increase and the apparent health of the North sub-unit herd in the Final EIS.	
L-90	132	A	<b>Wildlife</b>	Analysis		Section 3.2.2.2 - Birds  On page 3-63 and again on page 3-67, the JIDP DEIS suggests that male attendance at sage grouse leks has decreased in the JIDPA and that existing protection measures appear to be inadequate. The BLM should present the basis for this analysis and conclusion. The raw data presented seems to indicate some lek attendance declines in the JIDPA, see Table 3.18, but how does that data compare to declines mentioned for the "entire Upper Green River Basin" or the State of Wyoming? BLM should not rely on unpublished data and uncorroborated personal communications to draw such conclusions. Finally, declines in lek attendance may indicate population reductions, but BLM has provided no "cause and effect" data for the reader.	This statement is the professional judgment of numerous wildlife biologists and includes raw data analysis. Numerous leks within the Jonah field are now abandoned since development has occurred.
L-90	133	A	<b>Social</b>			One significant concern ... is that the description of the existing socioeconomic conditions in both Chapter 3 and in the Technical Support Document are marred by inappropriate and misleading statements attributed to personal communications. The BLM should not allow unsubstantiated and uncorroborated information to be included in the JIDP DEIS. The BLM must carefully scrutinize the entire socioeconomic section of the Chapter 3 and the Technical Support Document and remove all such statements.	In addition to other revisions to the text in response to this concern, the narrative on pages 35 and 36 of the Socioeconomic Analysis Technical Support Document (Jan 2005) has been deleted and <u>Section 3.1.5.1 Crime</u> has been changed in its entirety to read as follows:  The Wyoming Attorney General Division of Criminal Investigation (DCI) produces annual reports on crime statistics for the State of Wyoming. Crime data are compiled from the Uniform Crime Reporting (UCR) records submitted to the DCI by law enforcement agencies across the state. In 2004, 64 individual law enforcement agencies contributed

**Table II-B. DEIS Comments and BLM Responses (cont'd)**

Submittal ID	Comment Number	Category	Keyword 1	Keyword 2	Keyword 3	Comment Text	BLM Response
							<p>UCR data that work in jurisdictions representing 97.6 percent of the state's population. The intent of the UCR program is to gather relevant standardized data at the city, county, and state levels where it is used in compilation and analysis of national crime statistics (Wyoming Attorney General 2004).</p> <p>The UCR program defines crime rates as representing the number of crimes in relation to a population of a given jurisdiction (Wyoming Attorney General 2004). As such, crime rates are often used to compare crime in different areas. Serious offenses reported in UCR data are categorized as violent crimes (murder, forcible rape, robbery, and aggravated assault) or as property crimes (burglary, larceny theft, and motor vehicle theft) (Wyoming Attorney General 2004). Crime rates are calculated by dividing the number of offenses by the population and multiplying the result by 100,000. Census estimates for 2004 were used as the base population figures for calculating crime rates.</p> <p>According to the U.S. Justice Department, the national crime rate of violent offenses in 2004 was 465.5 arrests per 100,000 residents; the national crime rate for property crime was 3,517.7 per 100,000 residents (U.S. Justice Department 2004). Compared to national crime rates, Wyoming had a lower crime rate for both violent crimes (228.6) and property crimes (3,352.0) in 2004 (Wyoming Attorney General 2004).</p> <p>Based on information provided in</p>

**Table II-B. DEIS Comments and BLM Responses (cont'd)**

Submittal ID	Comment Number	Category	Keyword 1	Keyword 2	Keyword 3	Comment Text	BLM Response
							<p>UCR annual reports, crime rates for both violent and property crimes were calculated for Lincoln, Sublette, and Sweetwater Counties. Lincoln County had a violent crime rate of 256.0, higher than the state crime rate but lower than the national crime rate. The county's property crime rate of 1,305.5 was lower than both the state and national rate. Sublette County had a violent crime rate of 405.8 and a property crime rate of 3,531.7; both crime rates were higher than the state crime rates but lower than national crime rates. Violent and property crime rates for Sweetwater County were higher than both the Wyoming and national crime rates. Crime rates for Sweetwater County were 598.5 for violent crimes 4,558.0 for property crime.</p> <p>In addition to reporting crime rate offenses, the UCR program reports arrest totals. Table 3.6 provides the number of arrests in Wyoming and in the three-county study area for 1999 to 2004. Data presented in Table 3.6 were compiled from the UCR annual reports from 1999 to 2004. UCR reports arrests by the type of crime committed and the age (adult or juvenile) and gender of the defender. According to UCR data, the number of annual total arrests in Wyoming increased by 368 between 1999 and 2004 (Table 3.6) (Wyoming Attorney General 2004). Arrest totals decreased for the majority of crimes listed in Table 3.6; however, the number of arrests for aggravated assault, burglary, drug offenses, and driving under the influence increased.</p> <p>Overall arrests in Lincoln County</p>

**Table II-B. DEIS Comments and BLM Responses (cont'd)**

Submittal ID	Comment Number	Category	Keyword 1	Keyword 2	Keyword 3	Comment Text	BLM Response
							<p>decreased from 435 reported arrests in 1999 to 347 reported arrests in 2004. In 2004, crimes associated with the greatest number of arrests were driving under the influence (112), drug abuse violations (55), all other offenses except traffic (42), aggravated assault (35), and other assaults (17) (Table 3.6) (Wyoming Attorney General 2004).</p> <p>Arrests in Sublette County increased from 257 reported arrests in 1999 to 442 reported arrests in 2004. Crimes associated with the greatest number of arrests were all other offenses except traffic (174), driving under the influence (110), other assaults (36), drug abuse violations (33), liquor laws (25), and aggravated assault (14) (Table 3.6) (Wyoming Attorney General 2004).</p> <p>In Sweetwater County, arrests decreased from 3,039 reported in 1999 to 2,773 reported in 2004. Crimes associated with the greatest number of arrests in 2004 were all other offenses except traffic (674), driving under the influence (364), drug abuse violations (336) drunkenness (270), and Larceny-Theft (220) (Table 3.6) (Wyoming Attorney General 2004).</p>
L-90	134	A	<b>Social</b>			<p>Section 3.4.3 – Housing</p> <p>The second paragraph on page 3-97 ... contains several “personal” statements from BLM employees and other members of the community regarding the lack of “acceptable” housing. However, the Wyoming Housing Database Partnership information demonstrates that “there were 4,579 vacant units available for housing in the study area in 2003, with a vacancy rate ranging from 12.8% in Sweetwater County to 31.8% in Sublette County.” See JIDP DEIS, pg. 3-97. The Socioeconomic</p>	<p>The wording on pages 4-116 and 4-117 of the JIDP DEIS and Page 265 of the Socioeconomic Technical Support Document (Jan 2005) has been changed from:</p> <p>“While it is possible that there may be some increase in the study area population as a result of jobseekers coming to the area, such an increase in population would not place an</p>

**Table II-B. DEIS Comments and BLM Responses (cont'd)**

Submittal ID	Comment Number	Category	Keyword 1	Keyword 2	Keyword 3	Comment Text	BLM Response
						<p>Technical Support Document contains similar statements which are unsubstantiated by the data. See Draft Socioeconomic Analysis Technical Support Document, pg. 45-46. The BLM should refrain from including statements in the Final EIS where verifiable data conflicts with "personal statements."</p>	<p>in population would not place an undue burden on existing infrastructure. For instance, nearly 32% of the housing in Sublette County is vacant, although the habitability of this vacant housing is unknown (see Table 3.8). No housing shortages are anticipated. However, if there were an increase in the population, increased demand would likely cause an increase in housing prices (rental costs and home sale prices). Additionally, increased affluence in the study area is likely to cause an increase in the demand for higher-quality housing, which could result in increased housing construction projects. This would result in increased ad valorem tax revenues to local governments. It could also make it more difficult for some individuals to obtain satisfactory housing within affordable price ranges, which would have an effect on those individuals. Impacts to housing already being experienced by the affected communities may be incrementally increased by the Project as a result of increases in population. Plans are underway to build another motel in town and several mancamps are currently under discussion by area operators for permitting to alleviate some of the pressures on housing. Several housing developments are also being planned."</p> <p>to:</p> <p>Population in the study area may increase as a result of increased employment opportunities generated both directly and indirectly by the JIDP, affecting the availability of</p>

**Table II-B. DEIS Comments and BLM Responses (cont'd)**

Submittal ID	Comment Number	Category	Keyword 1	Keyword 2	Keyword 3	Comment Text	BLM Response
							<p>housing. To illustrate the point, Pinedale is currently facing a housing shortage and any additional pressure would exacerbate an already tight housing market. Moreover, if population were to increase, the increased demand for housing would likely put even more upward pressure on already high housing prices (rental costs and home sales prices). Additionally, increased affluence in the study area is likely to cause an increase in the demand for higher-quality housing, which could result in increased housing construction projects. This could make it more difficult for some individuals to obtain satisfactory housing within affordable price ranges.</p>
L-90	135	A	<b>Social</b>			<p>Section 3.4.5.1 - Crime</p> <p>The “crime” section of Chapter 3 also contains numerous egregious examples of unverified statements. For example, a “personal communication” from Marilyn Filkins suggests that crime rates in Sublette County have increased by 80% since 2000, and that this increase is attributable to oil and gas development. This assertion is completely inappropriate, and is not supported by any empirical evidence.</p> <p>Similarly, in the second full paragraph on page 3-100 the JIDP DEIS additionally states: “Ms. Filkins [Sublette County Attorney] also reports “gang-like behavior from various drilling and pipeline crews.” This statement is equally unsupported, and therefore not only misleading, but also incendiary. The BLM must remove all such inappropriate statements in the JIDP DEIS and the Socioeconomic Technical Support Document. See Draft Socioeconomic Analysis Technical Support Document, pg. 35 - 37, 45 - 46.</p>	<p>The narrative on pages 35 and 36 of the Socioeconomic Analysis Technical Support Document (Jan 2005) has been deleted and <u>Section 3.1.5.1 Crime</u> has been changed in its entirety to read as follows:</p> <p>The Wyoming Attorney General Division of Criminal Investigation (DCI) produces annual reports on crime statistics for the State of Wyoming. Crime data are compiled from the Uniform Crime Reporting (UCR) records submitted to the DCI by law enforcement agencies across the state. In 2004, 64 individual law enforcement agencies contributed UCR data that work in jurisdictions representing 97.6 percent of the state’s population. The intent of the UCR program is to gather relevant standardized data at the city, county, and state levels where it is used in compilation and analysis of national crime statistics (Wyoming Attorney General 2004).</p>

**Table II-B. DEIS Comments and BLM Responses (cont'd)**

Submittal ID	Comment Number	Category	Keyword 1	Keyword 2	Keyword 3	Comment Text	BLM Response
							<p>The UCR program defines crime rates as representing the number of crimes in relation to a population of a given jurisdiction (Wyoming Attorney General 2004). As such, crime rates are often used to compare crime in different areas. Serious offenses reported in UCR data are categorized as violent crimes (murder, forcible rape, robbery, and aggravated assault) or as property crimes (burglary, larceny theft, and motor vehicle theft) (Wyoming Attorney General 2004). Crime rates are calculated by dividing the number of offenses by the population and multiplying the result by 100,000. Census estimates for 2004 were used as the base population figures for calculating crime rates.</p> <p>According to the U.S. Justice Department, the national crime rate of violent offenses in 2004 was 465.5 arrests per 100,000 residents; the national crime rate for property crime was 3,517.7 per 100,000 residents (U.S. Justice Department 2004). Compared to national crime rates, Wyoming had a lower crime rate for both violent crimes (228.6) and property crimes (3,352.0) in 2004 (Wyoming Attorney General 2004).</p> <p>Based on information provided in UCR annual reports, crime rates for both violent and property crimes were calculated for Lincoln, Sublette, and Sweetwater Counties. Lincoln County had a violent crime rate of 256.0, higher than the state crime rate but lower than the national crime rate. The county's property crime rate of 1,305.5 was lower than both the state</p>

**Table II-B. DEIS Comments and BLM Responses (cont'd)**

Submittal ID	Comment Number	Category	Keyword 1	Keyword 2	Keyword 3	Comment Text	BLM Response
							<p>and national rate. Sublette County had a violent crime rate of 405.8 and a property crime rate of 3,531.7; both crime rates were higher than the state crime rates but lower than national crime rates. Violent and property crime rates for Sweetwater County were higher than both the Wyoming and national crime rates. Crime rates for Sweetwater County were 598.5 for violent crimes 4,558.0 for property crime.</p> <p>In addition to reporting crime rate offenses, the UCR program reports arrest totals. Table 3.6 provides the number of arrests in Wyoming and in the three-county study area for 1999 to 2004. Data presented in Table 3.6 were compiled from the UCR annual reports from 1999 to 2004. UCR reports arrests by the type of crime committed and the age (adult or juvenile) and gender of the defender. According to UCR data, the number of annual total arrests in Wyoming increased by 368 between 1999 and 2004 (Table 3.6) (Wyoming Attorney General 2004). Arrest totals decreased for the majority of crimes listed in Table 3.6; however; the number of arrests for aggravated assault, burglary, drug offenses, and driving under the influence increased.</p> <p>Overall arrests in Lincoln County decreased from 435 reported arrests in 1999 to 347 reported arrests in 2004. In 2004, crimes associated with the greatest number of arrests were driving under the influence (112), drug abuse violations (55), all other offenses except traffic (42), aggravated assault (35), and other assaults (17) (Table 3.6) (Wyoming</p>

**Table II-B. DEIS Comments and BLM Responses (cont'd)**

Submittal ID	Comment Number	Category	Keyword 1	Keyword 2	Keyword 3	Comment Text	BLM Response
							<p>Attorney General 2004).</p> <p>Arrests in Sublette County increased from 257 reported arrests in 1999 to 442 reported arrests in 2004. Crimes associated with the greatest number of arrests were all other offenses except traffic (174), driving under the influence (110), other assaults (36), drug abuse violations (33), liquor laws (25), and aggravated assault (14) (Table 3.6) (Wyoming Attorney General 2004).</p> <p>In Sweetwater County, arrests decreased from 3,039 reported in 1999 to 2,773 reported in 2004. Crimes associated with the greatest number of arrests in 2004 were all other offenses except traffic (674), driving under the influence (364), drug abuse violations (336) drunkenness (270), and Larceny-Theft (220) (Table 3.6) (Wyoming Attorney General 2004).</p>
L-90	136	A	<b>Analysis</b>			<p>Despite the fact the JIDP DEIS states that “[t]he use of adjectives (e.g., “moderate,” “low,” “negligible”) has been avoided because this EIS is an analytical document,” in the very same paragraph on page 4-1, the JIDP DEIS also states that “Impacts are considered adverse unless identified as beneficial.” The BLM should consistently avoid any references or assumptions regarding the impacts of oil and gas development and should objectively describe the potential impacts of development without making value judgments. The BLM must delete the final sentence of the second paragraph on page 4-1.</p>	<p>Although the document strives to avoid non-analytical judgment of the degree of an impact, NEPA requires that the impact be determined to be significant or not, and determined to be either adverse or beneficial. That is the basis of the analyses.</p> <p>The effect the impact will have should not be taken as a value judgment regarding oil and gas development.</p>
L-90	137	A	<b>Analysis</b>			<p>The definition of “significance” and “significance criteria,” as expressed on page 4-1, is not consistent with the CEQ’s definition of significance. The determination of significance, as defined by the CEQ, relates to the context and the intensity of an activity. Thus, a proposed action must be analyzed in several contexts—such as the immediate vicinity, affected interests, and the locality</p>	<p>This language will be modified in the FEIS.</p>

**Table II-B. DEIS Comments and BLM Responses (cont'd)**

Submittal ID	Comment Number	Category	Keyword 1	Keyword 2	Keyword 3	Comment Text	BLM Response
						<p>of the federal action. 40 C.F.R. § 1508.27(a) (2004). Intensity, as defined by the CEQ regulations, refers to severity of the impact, and must take into account both the beneficial and adverse impacts of the proposed federal action. 40 C.F.R. § 1508.27(b) (2004). The BLM should revise its “significance criteria” to be more consistent with the governing CEQ regulations.</p>	
L-90	138	A	<b>Analysis</b>			<p>On page 4-2, the JIDP DEIS makes the following statement:</p> <p>Mitigation and other environmental protection measures are identified across alternatives in Chapter 2. Detailed descriptions of these measures are provided in Appendix A (BLM Standards), and Appendix B (Operator-committed practices). It is assumed that the application of identified mitigation and protection measures would reduce impact levels; however, the efficacy of many mitigations is unknown. Therefore, no quantitative variation in impact levels based upon the application of variable mitigations is provided.</p> <p>The JIDP DEIS does not contain “detailed” descriptions of mitigation measures in either Appendix A or Appendix B. As already discussed, Appendix A is merely a list of generic mitigation measures designed for inclusion in a resource management plan. Similarly, Appendix B is a list of operator-committed measures and an indication of EnCana’s—not all of the Operators in the JIDPA—willingness to commit to such measures by alternative. See JIDP DEIS Appendix B-1. Further, the BLM has not disclosed the efficacy of some of the mitigation measures identified in the JIDP DEIS. See 40 C.F.R. § 1502.14(f) (2004) (requiring agencies to include appropriate mitigation measures not identified in the preferred alternative); 40 C.F.R. § 1502.16(h) (2004) (requiring EISs to include information regarding the means to mitigate adverse effects). By admitting that the efficacy of several proposed mitigation measures is “unknown,” the BLM is inviting potential challenges to the ROD for the JIDP. The BLM must delete any references to the unquantified “potentially lower” impacts associated with the Preferred Alternative, see, e.g., Table E-1, because the BLM has not provided support for such assertions.</p>	<p>This comment is no longer applicable. It will be addressed by the new Preferred Alternative in the FEIS.</p>

**Table II-B. DEIS Comments and BLM Responses (cont'd)**

<b>Submittal ID</b>	<b>Comment Number</b>	<b>Category</b>	<b>Keyword 1</b>	<b>Keyword 2</b>	<b>Keyword 3</b>	<b>Comment Text</b>	<b>BLM Response</b>
L-90	139	A	<b>Analysis</b>			In the fourth paragraph on page 4-2, the JIDP DEIS alleges that: "Additionally, preliminary research and monitoring results indicate significant adverse impacts to many area resources have already occurred with existing development and mitigation requirements." The BLM has not adequately supported or explained this statement. If preliminary research, which should not be relied on to make such statements, and monitoring results have been analyzed, BLM should present that data in the JIDP DEIS.	Much of this research is from within the BLM and based upon the professional judgment of its staff whose job it is to make such observations. Additional results are from the preliminary work done on this document. As such it is fair and accurate for the BLM to include this comment.
L-90	140	A1	<b>Analysis</b>	Surface Disturbance		<p>Section 4.1.3.10 - Topography/BLM Preferred Alternative</p> <p>The JIDP DEIS's description of potential impacts to topography resulting from the Preferred Alternative is inaccurate. The BLM has not provided supporting data that indicates that the impacts of the Preferred Alternative will be similar to that of the No Action Alternative. The Final EIS for the JIDP should disclose the potential impacts stemming from the Preferred Alternative in a manner consistent with its description of every other alternative. EnCana suggests the following language for insertion into Section 4.1.3.10:</p> <p>An estimated maximum of 12,525 acres of disturbance would occur under the Preferred Alternative (see Table 2.11), 8,678 acres of which would be short-term, because surface disturbance areas not needed for operations would be re-contoured and reseeded within 2 to 4 years after disturbance (e.g., portions of well pads and road ROWs and entire pipeline ROW areas). Long-term LOP disturbance is estimated at 3,847 acres and is anticipated to last for 76 years (250 wells developed per year) and until successful reclamation is achieved (see Table 2.11). An approximate 98% increase in new disturbance and 173% increase in LOP disturbance above the No Action Alternative would occur under the Preferred Alternative, impact duration would be extended at least an additional 13 years (76-year LOP), and significant impacts are anticipated.</p>	This comment is no longer applicable. It will be addressed by the new Preferred Alternative in the FEIS.
L-90	141	A	<b>Analysis</b>			<p>Section 4.1.3.11 - Topography/Cumulative Impacts</p> <p>Similarly, on page 4-29, in the discussion of cumulative impacts to topography, the BLM suggests that significant</p>	This comment is no longer applicable. It will be addressed by the new Preferred Alternative in the FEIS.

**Table II-B. DEIS Comments and BLM Responses (cont'd)**

Submittal ID	Comment Number	Category	Keyword 1	Keyword 2	Keyword 3	Comment Text	BLM Response
						<p>impacts are only expected under the Proposed Action and Alternatives A, C, D, F, and G. This statement is not supportable. Specifically, BLM indicates that significant impacts “may occur” under the Preferred Alternative, but significant impacts “are anticipated” under Alternative C. The Preferred Alternative would allow 1,611 more acres of disturbance than Alternative C. This statement should be redrafted in the Final EIS to include recognition of the fact that significant cumulative impacts will occur under the Preferred Alternative, or explain why BLM believes only that they “may” occur.</p>	
L-90	142	A	<b>Analysis</b>	Mineral Resources		<p>Section 4.1.4 - Mineral Resources</p> <p>The BLM’s description of its responsibilities to encourage the production of domestic energy supplies is generally inadequate. BLM correctly states the objectives of its land management practices in regard to mineral resources. However, the JIDP DEIS also state that: “The primary project impact to mineral resources would be from the depletion of recoverable gas and oil reserves from the Lance Pool and possibly other formations underlying the JIDPA (Table 4.2), and significant impacts are anticipated under most alternatives since these are non-renewable resources. The economic impacts from natural gas and oil recovery are described in Section 4.4.”</p> <p>First, this statement is inconsistent with the information on pages 4-30 - 4-32 which states that significant impacts to mineral resources would only occur from four of the ten Alternatives that were analyzed (Proposed Action, Alternatives A, G, and the Preferred Alternative). Further, as discussed in more detail below, now that the BLM had determined that the Preferred Alternative will result in the waste of 761 BCF of natural gas and 7,230,000 barrels of oil, it is incorrect for the BLM to suggest that the Preferred Alternative will have “significant effects” to mineral resources. Second, it is potentially confusing for the JIDP DEIS to indicate that its management goals are to facilitate and promote mineral resource development and production, while suggesting that the more effectively the resource is produced, the more significant the adverse impact. The BLM has not analyzed the adverse economic impacts if the natural gas is not effectively produced. The BLM</p>	<p>Once again, the commenter should not interpret the impacts on a resource as equating to a value judgment on the oil and gas industry. If a substantial portion of the resource is going to be removed, this is a significant adverse impact on that resource. However, the overall project may still be determined to be beneficial and in accord with the BLM mission, which includes the recovery/removal of that resource.</p> <p>Section 4.1.4 speaks to the physical impacts to the minerals resources (i.e., the depletion of a hydrocarbon pool through extraction makes it no longer available. This would be analogous to wiping out a wildlife herd. If they are gone the population is impacted). It does NOT speak to the economic value of the resources to the human resource. That discussion occurs in economic section.</p> <p>Please note that due to changes in the BLM preferred alternative, this section will be significantly revised in the FEIS.</p> <p>For additional information, please see the response to comment L-90-143.</p>

**Table II-B. DEIS Comments and BLM Responses (cont'd)**

Submittal ID	Comment Number	Category	Keyword 1	Keyword 2	Keyword 3	Comment Text	BLM Response
						should identify as beneficial the “economic impacts” it references in this section, or they are deemed to be adverse pursuant to the statement on 4-1. BLM must substantially revise this section in the Final EIS.	
L-90	143	A	<b>Analysis</b>	Mineral Resources		Recently, the BLM has suggested that the recovery factor listed for the Preferred Alternative in Table 4.2 is not accurate and that approximately 761 TCF of natural gas and 7,230,000 barrels of oil (condensate) would not be recovered under the Preferred Alternative. This error in the DEIS must be corrected in the Final EIS. Further, the BLM must correct the following statement on page 4-32: “Under the Preferred Alternative, additional mitigation measures would be applied to facilitate achievement of specific management objectives and to minimize impacts to resources (see Section 2.14); however, since most natural gas resources would be recovered and would no longer be available, significant effects would occur.” It is not accurate for the BLM to suggest that “most natural gas resources would be recovered” under the Preferred Alternative.	The new Preferred Alternative will provide the operators with the flexibility to maximize recovery of gas in the Jonah Field while still protecting other resources.  In addition, this table will be updated in the FEIS.
L-90	144	A	<b>Analysis</b>	Mineral Resources		The BLM must also correct its description of the potential cumulative impacts to mineral resources in Section 4.1.4.11. The BLM states that: “Since no additional development beyond that described herein is anticipated in the CIAA, cumulative impacts to mineral resources would be the same as described for the No Action, Proposed Action, Alternatives A through G, and the BLM Preferred Action.” First, the BLM is aware of additional mineral development potential within the CIAA for mineral resources, such as additional development within the Pinedale Anticline Project Area and the South Piney Natural Gas Development Project. Second, BLM’s analysis indicates that several of the Alternatives, No Action, B, C, D, E, F, and now the Preferred Alternative all result in “no significant impacts” to mineral resources although significant quantities of natural gas would be wasted.	Please note that the CIAA for this analysis as defined in Section 4.1.4.11 excludes the South Piney Project and the PAPA. That being the case, this conclusion in the DEIS is correct.  Regarding the second part of this comment, it is no longer applicable. It will be addressed by the new Preferred Alternative in the FEIS.
L-90	145	A	<b>Analysis</b>	Mineral Resources		Finally, in Section 4.1.4.12 the BLM appropriately acknowledges that if the natural gas in the JIDPA is not recovered several adverse impacts will occur. “Under the No Action Alternative and Alternatives B through F, there would be less-than-complete recovery of resources, which would either: 1) necessitate developing similar resources elsewhere with possible adverse effects; 2)	Again, the mineral impact section deals strictly with impact to the minerals resource. It does not deal with the economic benefits/impacts to humans.  DEIS Section 4.1.4.12 will be

**Table II-B. DEIS Comments and BLM Responses (cont'd)**

Submittal ID	Comment Number	Category	Keyword 1	Keyword 2	Keyword 3	Comment Text	BLM Response
						<p>delay the recovery of these resources until some unknown time in the future; or 3) result in the complete loss of non-recovered energy resources and the associated royalties." See JIDP DEIS, pg. 4-33. Unfortunately, this statement conflicts with the previous statements in the JIDP DEIS that less than complete recovery of resources would NOT result in a significant impact. See JIDP DEIS, pgs 4-30 – 4-32. The BLM must clarify this discrepancy in the Final EIS.</p>	<p>modified in the FEIS to be more consistent with the analysis in Section 4.1.4.</p>
L-90	146	A	<b>Analysis</b>	Paleontology		<p>Section 4.1.6 – Paleontological Resources</p> <p>On page 4-34, the first paragraph, the JIDP DEIS states that: "For the purpose of this analysis, it is assumed that increases in surface disturbance correspond to an increase in the potential for impacts to paleontological resources." This assumption is not entirely accurate as the impacts to paleontological resources are also a function of the presence of such resources. Clearly, if paleontological resources are not present, they will not be impacted by surface disturbance.</p> <p>The analysis in the JIDP DEIS additionally makes an inappropriate deduction regarding the likelihood of paleontological resources in the JIDPA. In the second paragraph on page 4-34, the JIDP DEIS states: "The recent discovery of Pleistocene horse bones (tentative identification) during well pad construction in the JIDPA affects potential future paleontological mitigation procedures for the area since Pleistocene paleontologic materials were previously unknown for the JIDPA. Significant fossils likely occur in the JIDPA." (emphasis added). The document's assertion that "significant" fossils are likely to be encountered in the JIDPA ignores the fact that only a single, yet unidentified, fossil has been encountered in the JIDPA despite the extent of surface disturbance that has occurred to date. The suggestion that significant fossils will be encountered is also not supported by the discovery of a single unidentified Pleistocene-aged fossil. In fact, the JIDP DEIS acknowledges in Section 4.1.6.11, pages 4-36 – 4-37 that the "potential for significant cumulative impacts is unknown since little paleontological inventory or evaluation has been conducted in the JIDPA." The BLM must address this inconsistency in the Final EIS by removing the unsupported allegation that "significant"</p>	<p>Because no complete inventory of the paleontological resources exists for this area, we cannot say that fossils are or are not present in any particular place. We must assume that, lacking a detailed inventory, paleontological resources potentially can be found throughout the geologic formations known to contain these resources. As a baseline for analysis, therefore, increases in surface disturbance must be assumed to increase the potential for impacts to paleontological resources.</p> <p>Geologic formations present at or near the surface throughout the majority of the JIDPA are known to contain significant fossils throughout their extent in southwestern Wyoming and neighboring states. See DEIS Map 3.4 and Table 3.9. A valid assumption is made that these same formations will contain significant fossils in this area. The presence of Pleistocene-aged fossils indicates that even some of the more recent deposits contain significant paleontological resources. The statement that significant fossils likely occur in the JIDPA is supported by this find. The DEIS does not say that significant fossils will be encountered, only that they likely occur.</p>

**Table II-B. DEIS Comments and BLM Responses (cont'd)**

Submittal ID	Comment Number	Category	Keyword 1	Keyword 2	Keyword 3	Comment Text	BLM Response
						fossils are likely to be encountered in the JIDPA.	The last paragraph of Section 4.1.6 will be changed to read:  Other geologic formations within the JIDPA are known to contain significant fossils throughout their occurrence in the Green River Basin. Therefore, significant fossils likely occur in the JIDPA.
L-90	147	B	<b>Analysis</b>	Paleontology		In the second paragraph of page 4-34, the JIDP DEIS also suggests that: "In areas of paleontological sensitivity, a determination would be made by the BLM as to whether a survey by a qualified paleontologist is necessary prior to the disturbance." The JIDP DEIA does not, however, identify the criteria that would be used to determine "areas of paleontological sensitivity," or map and identify those areas. The JIDP DEIS also does not provide any information as to how it would determine whether or not "a survey by a qualified paleontologist" is necessary, what that survey would consist of, or what mitigation techniques would be employed to lessen impacts on paleontological resources. The BLM should address these issues in the Final EIS.	The criteria used to determine areas of paleontological sensitivity, the need for a survey, and the procedures and techniques applied are defined by BLM policy and guidance and standard practices utilized in the science of paleontology and are not reiterated in this document. The presence of formations known to contain significant fossils (BLM Condition 1 and 2) throughout the JIDPA may trigger the initiation of a formal analysis (BLM Handbook H-8270-1). Paragraph three of DEIS page 4-34 lists mitigation measures that could be applied. The appropriate measures would be determined on a case-by-case basis.
L-90	148	A	<b>Analysis</b>	Soils		Section 4.1.7 – Soils  On page 4-48, in Section 4.1.7.10, the JIDP DEIS suggests that: "Impact potential would increase as development occurs (for approximately 12 years); therefore, all surface disturbance would not be present at any one time." While this statement is true, the BLM has included it only in the description of impacts resulting from the Preferred Alternative. In order for the JIDP EIS to be objective, the BLM must include this or a similar statement for each of the Alternatives.	A similar statement is included in each alternative, other than the No Action alternative. The statement varies according to the context, but it is present.
L-90	149	A	<b>Analysis</b>	Soils		In the second paragraph on page 4-49, the JIDP DEIS incorrectly states that the impacts to soil resources under the Preferred Alternative would be both less than and greater than the impacts for Alternative G. The BLM should correct this inconsistency in the Final EIS by	This text will be corrected in the FEIS.

**Table II-B. DEIS Comments and BLM Responses (cont'd)**

<b>Submittal ID</b>	<b>Comment Number</b>	<b>Category</b>	<b>Keyword 1</b>	<b>Keyword 2</b>	<b>Keyword 3</b>	<b>Comment Text</b>	<b>BLM Response</b>
						noting that the impacts of the Preferred Alternative are expected to be less than those for Alternative C, not G.	
L-90	150	A	<b>Analysis</b>	Water Resources		<p>Section 4.1.8 – Surface Water and Ground Water</p> <p>The following statement in the second paragraph on page 4-53 contains numerous factual errors: The brackish water aquifer(s) that is the source of the produced water is thought to be isolated from the freshwater aquifer described above; thus, water production is not likely to impact the quantity or quality of fresh ground water. Furthermore, because it apparently is isolated, production and disposal or reuse of this water for the project is not likely to impact surface water resources within or outside of the JIDPA.” First, the source of produced water is not a “brackish water aquifer,” it is a natural gas reservoir. The water produced in connection with natural gas production is primarily condensed or distilled from the gas as it is produced and the pressure and temperature decrease as it is brought to the surface. The Operators’ experience demonstrates that there is very little movable water in the Lance Formation. Second, the JIDP DEIS should not contain speculative comments regarding the isolation of the Lance Formation from shallower strata. The Lance Formation is not thought to be isolated, or apparently isolated, it is isolated from shallower strata. If the natural gas reservoir in the Lance Formation was not isolated from the surrounding rock formations, the unique conditions necessary for a natural gas trap would not be present and the Jonah Field would not exist. The pressure data, demonstrating the separate pressure regime in the Jonah Field, is proof positive of the isolation of the reservoir.</p>	<p>This appears to be a question of semantics. The term “aquifer” refers to water-bearing strata of rock. Therefore, the strata in question can be both natural gas reservoir and an aquifer. Some water from the strata in question is brought directly to the surface and most likely contains more salts than the water that is entrained in the gas. Yet, because the strata is providing both the water and the gas, it can still be thought of as the source of the water. The conditions that created the natural gas reservoir mentioned are the reasons that it was stated that it was believed that the aquifer was isolated. But the entire area has not been explored. The qualification in the statement was to reflect this condition.</p>
L-90	151	A	<b>Analysis</b>	Surface Disturbance		<p>The first paragraph on page 4-60, Section 4.1.8.10, states that for the Preferred Alternative, approximately “69.2% (8,678 acres) of this disturbance would be reclaimed as soon as practical after disturbance.” Similar statements should be included for all of the Alternatives, not just the Preferred Alternative.</p>	<p>The DEIS contains similar statements for all of the alternatives except Alternative A, which would not contain as active of a reclamation scenario as the other alternatives.</p>
L-90	152	B	<b>Analysis</b>	Water Resources		<p>On page 4-60, in the fourth paragraph, the BLM suggest that the Preferred Alternative will utilize less ground water consumption than several of the other Alternatives. Because the Preferred Alternative necessarily requires the use of greater water resources</p>	<p>The paragraph says that the Preferred Alternative will result in the same “types” of impacts to groundwater as the No Action alternative, not the same quantity.</p>

**Table II-B. DEIS Comments and BLM Responses (cont'd)**

Submittal ID	Comment Number	Category	Keyword 1	Keyword 2	Keyword 3	Comment Text	BLM Response
						for increased levels of directional drilling, this assumption is not correct. The Final EIS should clarify the fact that directional drilling requires considerably more water, and thus that the Preferred Alternative will have more significant impacts to groundwater than previously disclosed.	Water use for the Preferred Alternative is noted to be comparable to several of the other alternatives and more than C & D. It also notes that greater volumes of water are needed for directional drilling.
L-90	153	A1	<b>Analysis</b>	Economics		<p>Section 4.4 – Socioeconomics</p> <p>On page 4-109 the JIDP DEIS incorrectly cites to an unidentified document regarding the Little Colorado Herd Management Area as the source for socioeconomic “significance criteria.” A review of the Draft Socioeconomic Analysis Technical Support Document more accurately notes that the “significance criteria” for socioeconomics are actually derived from the preliminary draft resource management plan for the Pinedale Resource Area. See Socioeconomic Technical Support Document, pg. 164. It is inappropriate for the BLM to develop “significance criteria” using the preliminary draft Pinedale RMP, a document which has not been approved by the State Director or reviewed by the public, rather than the existing Pinedale RMP. The BLM must delete any references and analysis based on these improper “significance criteria” from the Final EIS.</p>	<p>The “significance criteria” listed on Page 4-109 of the JIDP DEIS and page 164 of the Socioeconomic Technical Support Document (Jan 2005) should be consistent and footnoted with the same reference, which is BLM 1999b. The wording for the significance criteria has been changed in the FEIS from:</p> <p>BLM (2004 a or b) criteria stipulate that impacts to socioeconomic resources would be considered potentially significant if any of the following were to occur:</p> <ul style="list-style-type: none"> <li>• changes in total employment in Lincoln, Sublette, and Sweetwater Counties exceed an increase or decrease of 1% of the trend, or</li> <li>• changes in local tax revenues exceed an increase or decrease of 15% of the trend.</li> </ul> <p>to:</p> <p>BLM (1999b) criteria stipulate that impacts to socioeconomic resources would be considered potentially significant if any of the following were to occur:</p> <ul style="list-style-type: none"> <li>• increased demand for housing resulting from project activities which exceeds supply;</li> <li>• short- or long-term increases in demand for local government facilities or services which exceed existing capacity and are not offset by adequate revenues from</li> </ul>

**Table II-B. DEIS Comments and BLM Responses (cont'd)**

Submittal ID	Comment Number	Category	Keyword 1	Keyword 2	Keyword 3	Comment Text	BLM Response
							continued exploration and development; or <ul style="list-style-type: none"> <li>• a 10 percent change in county government or in county-wide employment.</li> </ul>
L-90	154	A	<b>Analysis</b>	Economics		The Socioeconomic Analysis section of the JIDP DEIS, and the Socioeconomic Analysis Technical Support Document incorrectly assume that 3,100 wells will be drilled under the Preferred Alternative, and that the economic benefits (including employment, tax revenues, royalties, etc.) would approximate those as achieved under Alternative G. This assumption is simply not realistic. For example, Section 5.2 of the Technical Document, (page 167), states “For this analysis, it was assumed that all wells would be drilled and completed and there would be no dry holes.” Later under section 5.3 (page 172), the Technical Document gives expenditures and estimated economic activity generated by drilling conventional wells, and directional wells. The Technical Support document additionally asserts that: “This activity is assumed to remain constant across all alternatives on a per well basis.” These assumptions are not accurate.	The economic analysis is based on the drilling activity estimated for each alternative. The maximum calculated impact is based on the drilling of up to 3100 new wells. The BLM Preferred Alternative is being significantly revised for the FEIS, and the associated socioeconomic impact analysis will likewise be revised.
L-90	155	A	<b>Analysis</b>	Economics		While drilling directional wells generally requires more activity, including additional employee hours, more materials, more water, and more fuel, than conventional vertical wells, directional wells are far more expensive. Thus, the BLM’s assumption that all the directional wells will be drilled, regardless of the additional cost, is incorrect and extremely unlikely. A number of factors will go into the decision whether or not to drill each well. They include, but are not limited to, the dollar amount of that added cost, natural gas prices, and the restrictions and stipulations imposed on drilling and development activities. The combination of excessive stipulations and restrictions associated with the Preferred Alternative, coupled with an over-reliance on directional drilling, will most likely make several prospective wells not economical to drill. Based on internal economic analysis, EnCana estimates that approximately 600 directional wells will not be drilled under the Preferred Alternative. The BLM must update its analysis in the Final EIS to account for this economic reality. Correcting this information will have a profound effect upon the	The BLM Preferred Alternative has been significantly revised for the FEIS, and the associated socioeconomic impact analysis has also been revised to reflect the revised Preferred Alternative.

**Table II-B. DEIS Comments and BLM Responses (cont'd)**

Submittal ID	Comment Number	Category	Keyword 1	Keyword 2	Keyword 3	Comment Text	BLM Response
						<p>economic assumptions the BLM utilized for the Preferred Alternative.</p> <p>For example, Table 5.29 in the Technical Document (page 233) indicates that the Preferred Alternative would bring more jobs than would the Proposed Action; the Document says the Proposed Action would bring 52,930-53,342 AJEs, while the Preferred Alternative would bring 53,740 to 54,193 AJEs. Those figures are based on the flawed presumption that 3,100 wells would be drilled under the Preferred Alternative, despite the fact that many of the wells slated for directional drilling under the Preferred Alternative are likely to be uneconomic. Uneconomic wells will not be drilled, and thus the employment estimates under the Preferred Alternative are inaccurate. In reality, the BLM's adoption of the Preferred Alternative will result in fewer wells being drilled and developed, less jobs for the community, and less tax revenue for the counties, State of Wyoming, and the Nation.</p>	
L-90	156	A	<b>Compensatory Mitigation</b>			<p>Section 4.8 - Compensatory Mitigation</p> <p>The JIDP DEIS contains an inaccurate and incorrect description of EnCana and BP's proposed off-site or compensatory mitigation proposal as expressed in the letter from Gary Gardiner to Prill Mecham dated November 20, 2003. EnCana and BP are submitting revised compensatory mitigation proposals with their comments on the JIDP DEIS. The BLM should either correct the description of, or remove any references to, the previous compensatory mitigation proposal from the Final EIS</p>	This will be revised in the FEIS.
L-90	157	A	<b>On-Site Mitigation</b>			<p>The JIDP DEIS notes on page 5-1 that: "Any of the listed actions may be required or recommended under any alternative if this project is approved. Decisions regarding the inclusion or exclusion of these actions will be made in the ROD for this project." Several of the proposed mitigation measures, however, are beyond the BLM's jurisdiction. As the BLM has done with the list of operator-committed practices, the BLM should identify which of the proposed additional mitigation measures are beyond the jurisdiction and authority of the BLM.</p>	<p>The following language will be added to the introductory paragraph of Section 5.1.1:</p> <p>"Actions contained in this section are beyond the authority of the BLM to regulate. To achieve these goals, the implementation of these measures will be coordinated and/or approved by the WDEQ/AQD."</p> <p>Italics will not be used in Section 5.1 so as not to confuse their use in</p>

**Table II-B. DEIS Comments and BLM Responses (cont'd)**

Submittal ID	Comment Number	Category	Keyword 1	Keyword 2	Keyword 3	Comment Text	BLM Response
							Section 5.2. No other actions in 5.1 are outside the authority of the BLM to regulate.
L-90	158	D	<b>On-Site Mitigation</b>	Air Quality		Section 5.1.1 - Air Quality  The first proposed mitigation measure, page 5-1, would require the Operators to install/conduct a HAP assessment at five locations within the JIDPA to address public concerns. Because air quality and air emissions are beyond the BLM's jurisdiction, this provision should only be considered as an operator-committed practice or incorporated as a potential project under EnCana's Voluntary Compensatory Mitigation Proposal.	BLM will work together with WDEQ to determine monitoring requirements.
L-90	159	D	<b>On-Site Mitigation</b>	Air Quality		The second proposed mitigation measure, page 5-1, which would require the use of alternative technologies to reduce emissions, is also beyond the BLM's jurisdiction. This provision is more appropriately considered either as an operator-committed practice or incorporated as a potential project under EnCana's Voluntary Compensatory Mitigation Proposal. EnCana is, however, utilizing several of the techniques listed in this provision, such as the use of remote telemetry, and will continue to work with the BLM and Wyoming DEQ to reduce air emission levels.	BLM appreciates EnCana's contributions to the use of alternative technologies. BLM includes examples of these technologies to inform the public. BLM recognizes the air quality regulatory authority and responsibility of the WDEQ and will continue to rely on WDEQ to require the use of particular air quality mitigation measures.
L-90	160	A1	<b>On-Site Mitigation</b>	Air Quality		The third proposed mitigation measure, page 5-1, under air quality, is poorly drafted and confuses condensate pipelines and gas transmission pipelines. Further, the BLM should be aware that the use of low-pressure gas gathering pipelines actually requires increased compression rather than reduced compression. For these reasons, the BLM should eliminate this proposed requirement/mitigation measure from the Final EIS.	This mitigation measure has been amended to:  "Use low-pressure gas gathering pipelines to recover flash gas lost during processing and to eliminate VOC and HAP emissions when the gas is introduced to the sales gas distribution system"
L-90	161	A1	<b>On-Site Mitigation</b>	Air Quality	Technical Information	The fourth proposed mitigation measure, page 5-2, requires the Operators to install and use Tier II-compliant diesel engines on all drill rigs as soon as they become available. Once again, this provision is beyond the BLM's jurisdiction. Further, as currently drafted, this requirement is not acceptable because it would require the Operators to install new engines as soon as they are "technically" available. The current EPA rules regarding non-road diesel engines only requires new equipment built after 2006 to utilize Tier-II engines; existing	Please note that the suggestions contained in DEIS Section 5.1.1 are not being required by the BLM at this time but may be incorporated into the ROD if deemed beneficial. The implications of any such requirements would be considered at that stage in the decision-making process.

**Table II-B. DEIS Comments and BLM Responses (cont'd)**

Submittal ID	Comment Number	Category	Keyword 1	Keyword 2	Keyword 3	Comment Text	BLM Response
						equipment is grandfathered. It is not feasible to install new Tier II engines on all of EnCana's contractor's equipment as soon as the engines become "technically" available. That said, EnCana plans to install Tier II engines, or other lower emission engines, on all new rigs and replacement rigs as soon as practical and feasible after the technology becomes available. Thus, the requirement should be redrafted as follows: "The Operators are encouraged to use Tier II-compliant diesel engines and/or other low emission drill rig engines, including alternatively powered drill rig engines (e.g., natural gas, hybrid non-diesel), on all new and replacement drill rigs operating in the JIDPA when they become available."	In addition, the BLM is considering the use of a potential visibility impact threshold that would need to be met as part of the JIDP. However, this potential provision of the FEIS is still under development.
L-90	162	D	<b>On-Site Mitigation</b>	Air Quality		The fifth suggested mitigation measure relates to developing and funding a HAP monitoring and control program with the Wyoming DEQ. See JIDP DEIS, pg. 5-2. While this provision/suggestion is generally acceptable to EnCana, because it relates to matters which are outside the BLM's jurisdiction, it should only be considered as an operator-committed practice or incorporated as a potential project under EnCana's Voluntary Compensatory Mitigation Proposal.	See response to comment L-90-158.
L-90	163	A1	<b>On-Site Mitigation</b>	Air Quality		The final proposed mitigation measure under the air quality section, page 5-2, requiring the use of "alternative" energy sources to power internal combustion engines is not technically or economically feasible and should not be considered further.	BLM recognizes that alternative energy is not currently practical.
L-90	164	B	<b>On-Site Mitigation</b>	Surface Disturbance		Section 5.2.1 - Topography  On page 5-2 the JIDP DEIS suggests prohibiting disturbances at rock outcroppings in the JIDPA. Although this requirement may be acceptable to EnCana, the BLM should map and identify topography to be avoided by Operators. Once mapped, the Operators will be able to respond to this proposal in more detail.	Thank you for your comment. This will be handled at the APD stage.
L-90	165	A	<b>On-Site Mitigation</b>	Paleontology		Section 5.1.3 - Paleontology  The proposed mitigation measure for paleontological resources suggests the creation of an active program of inventory and classification of sediments known to contain paleontological materials. The BLM has not demonstrated the need for an "active program" to evaluate paleontological resources.	DEIS Chapter 5 identifies ideas for enhancing BLM's management of resources. As stated earlier in the BLM response to comment L-90-146, no inventory or assessment of known or potential paleontological resources presently exists for this area. Compiling this data would allow more

**Table II-B. DEIS Comments and BLM Responses (cont'd)**

<b>Submittal ID</b>	<b>Comment Number</b>	<b>Category</b>	<b>Keyword 1</b>	<b>Keyword 2</b>	<b>Keyword 3</b>	<b>Comment Text</b>	<b>BLM Response</b>
						evaluate paleontological resources.	accurate determinations of management actions, such as necessary surveys, proper mitigation measures, and protective or interpretive opportunities.
L-90	166	D	<b>On-Site Mitigation</b>	Soils		<p>Section 5.1.4 - Soil Resources</p> <p>The first and second of three proposed mitigation measures to protect soil resources, listed on page 5-2, require the Operators to review soil and plant conditions prior to disturbance in order to propose future seed mixtures for reclamation and to determine potential soil amendment needs. Although such requirements may be acceptable to EnCana, they should be part of the Operators' proposed reclamation plan, not mandated by the BLM.</p> <p>The final soil resource protection measure identified by the BLM is the requirement to use fertilizers during reclamation. This proposal is acceptable to EnCana, but should also be a part of the Operators' proposed reclamation plan, not a mandate from the BLM.</p>	BLM is responsible for reviewing and approving site reclamation plans, and requires practices or treatments as a means of protecting soil, watershed and other resource values. Site-specific assessment of resources and current conditions is a prerequisite to a good reclamation plan and is commonly accepted practice.
L-90	167	A1	<b>On-Site Mitigation</b>	Water Resources		<p>Section 5.1.5 - Surface Water Resources</p> <p>The first proposed mitigation measure, on page 5-3, suggests the creation of catchment basin or sediment ponds to capture potentially increased stormwater runoff from the JIDPA. As the BLM is aware, this mitigation measure is beyond the jurisdiction of the BLM and, depending on the size of the structure, implicates the Wyoming DEQ, the EPA, and potentially the Army Corps of Engineers. Further, because the BLM has not performed soil modeling and analysis for the JIDPA, the BLM has not demonstrated that such basins are necessary, or that they will reduce impacts. This proposed mitigation measure should be deleted entirely.</p>	The BLM has changed its focus as a result of similar comments. Rather than focusing on specific mitigation measures, operators will be asked to maintain the land so that it complies with Wyoming BLM Standards for Healthy Rangelands (Appendix A.5). This change in focus allows for greater flexibility in the methods used and provides clear goals.
L-90	168	A	<b>On-Site Mitigation</b>	Water Resources		<p>The second proposed mitigation measure on page 5-3 would require the Operators to monitor channels within the JIDPA and is generally acceptable to EnCana, but only as an operator-committed practice or incorporated as a potential project under EnCana's Voluntary Compensatory Mitigation Proposal. Further, because the BLM has not performed soil modeling and analysis in the JIDPA, the BLM has not demonstrated that such</p>	The BLM has changed its focus as a result of similar comments. Rather than focusing on specific mitigation measures, operators will be asked to maintain the land so that it complies with Wyoming BLM Standards for Healthy Rangelands (Appendix A.5). Some channel monitoring will be

**Table II-B. DEIS Comments and BLM Responses (cont'd)**

Submittal ID	Comment Number	Category	Keyword 1	Keyword 2	Keyword 3	Comment Text	BLM Response
						measures are necessary at this time.	required to ensure the Standards are being met, but the level of detail needed is such that soil data are not mandatory.
L-90	170	A1	<b>On-Site Mitigation</b>	Water Resources		The fourth proposed mitigation measure, page 5-3, would require the Operators to hold all stormwater runoff in the JIDPA as long as possible. First, this provision may actually be illegal if water leaving the JIDPA has been allocated to other users by the Wyoming State Engineer. At the very least, this requirement would likely require obtaining an appropriation permit from the State of Wyoming. See WYO STAT. ANN. § 41-4-501 et seq. Second, this mitigation measure is beyond the jurisdiction of the BLM and, depending on the size of the structure, implicates the Wyoming DEQ, the EPA, and potentially the Army Corps of Engineers. Finally, the BLM has not performed soil modeling and analysis in the JIDPA and has not demonstrated that such measures are necessary, or that they will reduce impacts. This requirement may have unintended impacts on grazing and wildlife and should not be considered further.	The BLM has changed its focus as a result of similar comments. Rather than focusing on specific mitigation measures, operators will be asked to maintain the land so that it complies with Wyoming BLM Standards for Healthy Rangelands (Appendix A.5). This change in focus allows for greater flexibility in the methods used and provides clear goals.
L-90	171	A1	<b>On-Site Mitigation</b>	Water Resources		The fifth proposal would require an “adaptive management” surface water plan for the entire JIDPA which could include NPDES process and permits. See JIDP DEIS pg. 5-3. First, this mitigation measure is beyond the jurisdiction of the BLM and, depending on the size of the structure, implicates the Wyoming DEQ, the EPA, and potentially the Army Corps of Engineers. Second, the BLM has not performed soil modeling and analysis in the JIDPA and has not demonstrated that such measures are necessary, or that they will reduce impacts. The Operators have not proposed surface water disposal in the JIDPA, and thus this requirement is unnecessary, unacceptable, and should not be considered further.	The BLM has changed its focus as a result of similar comments. Rather than focusing on specific mitigation measures, operators will be asked to maintain the land so that it complies with Wyoming BLM Standards for Healthy Rangelands (Appendix A.5). This change in focus allows for greater flexibility in the methods used and provides clear goals.
L-90	172	D	<b>On-Site Mitigation</b>	Water Resources		The seventh and eight potential mitigation measures, page 5-3, would require water recycling and produced water treatment for water utilized during drilling and development procedures. EnCana currently recycles approximately 90% of the water used in the JIDPA. This proposed measure is already being met and, in fact, exceeded by EnCana.	Thank you for your comment. EnCana’s efforts are appreciated.
L-90	173	A1	<b>On-Site Mitigation</b>	Water Resources		The final requirement, page 5-3, would require the operators to file NPDES permits with the BLM and to	The following language will be added to the introductory paragraph of DEIS

**Table II-B. DEIS Comments and BLM Responses (cont'd)**

Submittal ID	Comment Number	Category	Keyword 1	Keyword 2	Keyword 3	Comment Text	BLM Response
			<b>Mitigation</b>	Resources		consult with Wyoming DEQ, the BLM, and affected grazing permittees before water is released. First, this provision relates to matters which are beyond the jurisdiction of the BLM. Second, the Operators have not proposed surface water discharges as a part of development activities in the JIDPA. This requirement appears to have been "borrowed" from the Powder River Basin EIS and has no applicability in the JIDP EIS. To the extent EnCana files stormwater or NPDES permits with the State DEQ, the EPA, the BLM, or any other member of the public, has the right to access such information. There is no reason to provide the BLM information on matters which are beyond its jurisdiction. This requirement is unacceptable and should not be considered further.	Section 5.1.5:  "There is to be no surface discharge of wastewater from facilities in the JIDPA. Additional potential measures to protect water resources include:"  The BLM does have the responsibility to manage land health. The way stormwater flows are handled can make a difference in land health. The concentration of surface disturbance within the JIDPA makes this aspect pertinent.
L-90	174	A1	<b>On-Site Mitigation</b>	Soils	Vegetation	Section 5.1.6 Vegetation, Including TEP&C and BWS Plant Species  The first proposal, page 5-3, requires the operators to scalp and rip topsoil rather than removing topsoil for all new pipelines. This provision is acceptable to EnCana so long as it is redrafted as follows: "scalping and post-construction ripping rather than removal and re-spreading of topsoil for all new pipelines where practical and feasible."	The wording will be changed as follows:  "scalping and post-construction ripping rather than removal and re-spreading of topsoil for all new pipelines as appropriate depending on the size of the pipeline and resources present."
L-90	175	D	<b>On-Site Mitigation</b>	Vegetation		The second mitigation measure would require the Operators to establish vegetative plots to scientifically evaluate reclamation success. While this provision/suggestion is generally acceptable to EnCana, it should only be considered as an operator-committed practice, included within EnCana's reclamation plan, or included as potential project under EnCana's Voluntary Compensatory Mitigation Proposal.	Some of the operators in the JIDPA are already implementing this measure. It would be useful if other operators would voluntarily implement this action as well. For this reason it will remain in the EIS.
L-90	176	A1	<b>On-Site Mitigation</b>	Vegetation		The third proposed mitigation measure, page 5-3, would require the use of irrigation at reclaimed sites to improve germination and vegetation establishment. This provision is acceptable to EnCana so long as it is redrafted as follows: "in coordination with the BLM, Natural Resources Conservation Service and Sublette County Conservation District, Operators could utilize irrigation at reclamation sites to improve germination and vegetation establishment, where practical and feasible."	This text is acceptable and will be added to the FEIS.
L-90	177	A1	<b>On-Site Mitigation</b>	Wildlife		Section 5.1.7 Wildlife, including TEP&C and BWS Animal Species	Low-profile tanks will be required within 0.5 mile of sage-grouse leks.

**Table II-B. DEIS Comments and BLM Responses (cont'd)**

Submittal ID	Comment Number	Category	Keyword 1	Keyword 2	Keyword 3	Comment Text	BLM Response
			<b>Mitigation</b>			The first proposed mitigation measure, on page 5-4, requires the use of low profile tanks near sage-grouse leks. This provision is generally acceptable, although it should be modified to indicate that it only applies to the installation of new tanks and that it only applies to active leks. Thus, the mitigation measure should be redrafted as follows: "wherever practical and feasible, the Operators will install low-profile tanks within line-of-sight, up to a maximum of 0.5 mile, of active greater sage-grouse leks."	within 0.5 mile of sage-grouse leks.
L-90	178	D	<b>On-Site Mitigation</b>	Water Resources	Wildlife	The second wildlife mitigation measure identified on page 5-4 would require the operators to develop water sources within the JIDPA for wildlife and to convert existing project-developed water wells for wildlife when no longer required. All water wells permitted by EnCana in the JIDPA are permitted in the BLM's name as well as EnCana's so that after operations and production are complete, the wells can be turned over to the BLM for any purpose it deems appropriate. Additionally, the installation of water wells/guzzlers for wildlife is addressed in EnCana's Voluntary Compensatory Mitigation Proposal.	Thank you for your comment. EnCana's efforts are appreciated.  Water wells should be available for beneficial uses for wildlife if needed.
L-90	179	A1	<b>On-Site Mitigation</b>	Wildlife		The third mitigation measure would require the Operators to avoid all raptor territories rather than just raptor nests during the nesting season. This provision is contrary to the provisions of the governing Pinedale Resource Management Plan which only requires avoidance of active raptor nests and the stipulations included on EnCana's federal oil and gas leases. Further, the BLM has not defined what constitutes "raptor territory" and, as such, all of southeastern Wyoming could be considered raptor territory. This provision is unacceptable and should not be considered further.	Raptors will be managed in accordance to the Pinedale RMP or its revisions unless specified in site-specific NEPA documents.
L-90	180	D	<b>On-Site Mitigation</b>	Wildlife		The fourth mitigation measure, page 5-4, would require the Operators to extend and expand the annual wildlife studies prepared and submitted to the BLM. As part of EnCana's proposed compensatory mitigation proposal, discussed below, EnCana would agree to increased wildlife monitoring under several of the proposed Alternatives. This requirement should not be considered further, outside of the EnCana Voluntary Compensatory Mitigation Proposal.	Additional surveys and studies can and will be required by BLM. With current staffing levels, the BLM cannot adequately complete needed activities for monitoring and analysis.

**Table II-B. DEIS Comments and BLM Responses (cont'd)**

<b>Submittal ID</b>	<b>Comment Number</b>	<b>Category</b>	<b>Keyword 1</b>	<b>Keyword 2</b>	<b>Keyword 3</b>	<b>Comment Text</b>	<b>BLM Response</b>
L-90	181	D	<b>On-Site Mitigation</b>	Wildlife		The sixth proposed mitigation measure, page 5-4, would require the Operators to develop habitat to accommodate displaced wildlife. Habitat improvement is a major component of EnCana's Voluntary Compensatory Mitigation Proposal which is discussed in Appendix 1 to these comments. As this mitigation measure can only be accomplished through off-site or compensatory mitigation, the BLM should not consider this proposed mitigation measure outside the context of EnCana's Voluntary Compensatory Mitigation Proposal.	Requirements for off-site mitigation will be included in the ROD. On-site mitigation can be required by BLM.
L-90	182	A	<b>On-Site Mitigation</b>	Wildlife		The final proposed mitigation measure would require the Operators to inventory and block-clear for Black Footed Ferret within the South Piney white-tailed prairie dog complex. Either the South Piney prairie dog complex lies outside the JIDPA and does not relate to impacts of additional development in the JIDPA, or because the vicinity of the JIDPA has been block cleared for black-footed ferrets, see JIDP DEIS, pg. 4-94, this prairie dog complex should be mapped and adequately protected for threatened and endangered species. The BLM should clarify this discrepancy in the Final EIS.	The FEIS will clarify all requirements; these will be included in the ROD.
L-90	183	A1	<b>On-Site Mitigation</b>	Cultural Resources		<p>Section 5.1.8 - Cultural Resources</p> <p>The second proposed mitigation measure for cultural resources, page 5-4, would require the Operators to conduct larger cultural resource surveys when site-specific development is proposed. This provision is not necessary. The Operators are currently surveying and "clearing" a ten-acre area for every well pad constructed and the BLM has not demonstrated how or why additional surveys should be conducted. This requirement is unacceptable and should not be considered further.</p>	<p>While BLM ultimately defines the Area of Potential Effect (APE), larger survey areas are optional to operators. Enlarging the survey area does not obligate an operator to "treat" a given site unless the site is within the APE. We are finding that the time involved and cost incurred by industry in executing larger surveys around existing well pads proposed for pad expansion would be eliminated by having a larger survey done initially. As you note, it is a recommendation, not a requirement.</p> <p>BLM has noted that the standard 10-acre survey performed for most Jonah wells is insufficient to cover many of the well pad expansions that are an outgrowth on the infill proposal. This has resulted in the need to inventory small (1 to 3 acre) expansion areas, creating</p>

**Table II-B. DEIS Comments and BLM Responses (cont'd)**

Submittal ID	Comment Number	Category	Keyword 1	Keyword 2	Keyword 3	Comment Text	BLM Response
							unnecessary time delays in permitting what should be rather routine cultural resource clearances. The recommendation is quite reasonable, is an option, and certainly will be considered further.
L-90	184	A1	<b>On-Site Mitigation</b>	Cultural Resources		The final proposed mitigation measure for cultural resources would require the Operators to “intensify” data collection efforts at high-value archeological sites in “exchange for” disturbance at other locations. This is not an appropriate mitigation requirement for the Operators and should not be considered further.	This proposal could be couched in the industry-derived compensatory mitigation package and is appropriate therein. It also could be an outgrowth of an overall holistic Management Plan for the entire Jonah field, should this approach be pursued. Either scenario includes the Operators as willing partners. As such, the proposal is appropriate and may be considered further.
L-90	185	A	<b>On-Site Mitigation</b>	Livestock/ Grazing	Compliance	Section 5.1.9 - Land Use/Livestock Grazing  The first mitigation proposal, page 5-4, would require the Operators to work with potentially impacted permittees to mitigate the loss of AUMs. As you are aware, BLM Instruction Memorandum 2005-069 suggests this mitigation measure is prohibited by law. To the extent that this is incorrect EnCana is willing to discuss mitigation options for grazing permittees and will conduct future discussions with affected permittees and the BLM.	The BLM will not, and cannot, require an operator to mitigate or compensate for loss of AUMs. The BLM appreciates any recognition by an operator of impacts to livestock grazing.
L-90	186	D	<b>On-Site Mitigation</b>	Air Quality	Livestock/ Grazing	The second proposed mitigation measure, page 5-5, would require the Operators to control fugitive dust on all roads. EnCana and the other operators currently control fugitive dust as necessary and required in the JIDPA.	Thank you for your comment.
L-90	187	D	<b>On-Site Mitigation</b>	Water Resources	Livestock/ Grazing	The final proposal would require the Operators to convert water wells in the JIDPA to livestock use when development and production operations are complete. All water wells permitted by EnCana in the JIDPA are permitted in the BLM's name as well as EnCana's so that after operations and production is complete, they can be turned over to the BLM for any purpose it deems appropriate. Additionally, the installation of water wells/guzzlers for wildlife and livestock is addressed in EnCana's Voluntary Compensatory Mitigation Proposal.	Thank you for your comment. EnCana's efforts are appreciated.
L-90	188	D	<b>On-Site Mitigation</b>	Recreation		Section 5.1.10 Land Use/Recreation	Thank you for your comment, however, the BLM recognizes this

**Table II-B. DEIS Comments and BLM Responses (cont'd)**

Submittal ID	Comment Number	Category	Keyword 1	Keyword 2	Keyword 3	Comment Text	BLM Response
						The JIDP DEIS suggests the installation of a "quality" interpretive site or sites regarding natural gas development within publicly accessible areas of the JIDPA. The installation of interpretive sites is addressed in EnCana's Voluntary Compensatory Mitigation Proposal.	mitigation as necessary to create positive recreational experiences and should therefore be required.
L-90	189	D	<b>On-Site Mitigation</b>	Transportation		Section 5.1.11 - Land Use/Transportation  The first and fourth proposed mitigation proposals, page 5-5, require the Operators to develop and submit to the BLM road development, transportation, and maintenance plans for roads in the JIDPA. First, a transportation plan has already been prepared and is included in the JIDP DEIS in Appendix G. Second, EnCana and the other Operators currently have a road use and maintenance agreement which has been approved by the BLM.	All major roads within the Jonah field currently have road maintenance agreements. BLM has never approved or disapproved a road maintenance agreement between operators.  Since this is an infill project, most of the collector roads (Luman, North Jonah, Windmill, Burma) are in place. Most new roads will be local or resource roads. Road development and transportation management plans are a moot point at this stage of development.
L-90	190	D	<b>On-Site Mitigation</b>	Transportation		The second proposed mitigation proposal would require the use of car pools and bus crews. EnCana is already requiring its employees to carpool when feasible and will continue to do so in the future.	Thank you for your comment.
L-90	191	A1	<b>On-Site Mitigation</b>	Visual Resources		Section 5.1.12. - Visual Resources  The JIDP DEIS suggests the funding of a visual resource specialist for the Pinedale Field Office. A hosted worker is not necessary for visual resources because all of the Jonah Field is designated for Class IV VRM and changes to the landscape are authorized. Because this proposed mitigation requirement would not address impacts in the JIDPA, it should not be considered further. See Instruction Memorandum 2005-069.	Thank you for your comment. The BLM believes the request for a hosted worker (visual resource management specialist) or other such qualified consultant is reasonable mitigation to reduce or avoid direct, indirect and cumulative impacts to visual resources. This resource would facilitate a comprehensive compliance monitoring and reclamation program. The establishment of an effective monitoring program would enhance the success of visual mitigation practices and reclamation. This position could be required until such time a mutual determination is rendered on the short and long term

**Table II-B. DEIS Comments and BLM Responses (cont'd)**

Submittal ID	Comment Number	Category	Keyword 1	Keyword 2	Keyword 3	Comment Text	BLM Response
							<p>success of visual resource mitigation.</p> <p>You are correct in stating VRM IV objectives allow for substantial modification of the existing landscape; however this objective also emphasizes making substantial efforts to minimize the visual impact of activities. The Pinedale RMP further directs the BLM to improve the visual quality of fluid mineral production areas within the planning area by working closely with the operators. This direction results from demonstrated past inadequacies to effectively monitor and mitigate impacts to visual resources. The visual mitigation requested of the operators would demonstrate their commitment to fully optimize successful visual resource impact mitigation.</p>
L-90	192	A1	<b>On-Site Mitigation</b>	Health / Safety	Hazardous Materials	<p>Section 5.1.13 - Health and Safety/Hazardous Materials</p> <p>The first proposed mitigation measure on page 5-6 would require the Operators to provide the BLM with copies of all SWPPs, SPCCs, and other spill and emergency response plans. Because such matters are beyond the BLM's jurisdiction, this requirement is not necessary and should not be considered further.</p>	<p>This requirement will stand. The BLM is not approving or denying these documents. By REVIEWING the documents we are assuring the meet the minimum standards for environmental protection. DOI policy requires each Bureau to be prepared for and be able to respond to oil discharges and hazardous substances releases. Any plans, whether BLM or industry created, must address those concerns. Consequently, the BLM has to be able to review industry documents as they relate to emergency contingencies.</p>
L-90	193	A1	<b>On-Site Mitigation</b>	Health / Safety	Hazardous Materials	<p>The second mitigation proposal would require the Operators to fill pipelines with cement at abandonment. This requirement is not necessary and is impractical. By filling the lines with cement, the lines would not break down or deteriorate over time and thus would lead to lasting impacts. This provision should not be considered</p>	<p>It is impractical to fill all lines with cement for abandonment. BLM Pinedale Field Office has an abandonment plan based on industry standards and practices as well as local conditions that provides</p>

**Table II-B. DEIS Comments and BLM Responses (cont'd)**

Submittal ID	Comment Number	Category	Keyword 1	Keyword 2	Keyword 3	Comment Text	BLM Response
						further.	guidance on pipeline abandonment. The bullet will be removed.
L-90	194	A1	<b>On-Site Mitigation</b>	Health / Safety		The third proposed mitigation measure, page 5-6, would require the Operators to install signs within the JIDPA. This requirement is not necessary, would not reduce adverse impacts, and should not be considered further. Further, a sign indicating the presence of natural gas development activities is already in place in the JIDPA. Finally, the Operators have neither the responsibility nor the authority to inform members of the public that they cannot utilize public lands.	Agreed. There are signs existing at every location indicating dangers, tank contents, legal locations and descriptions, etc. Most signs are already regulated by 43 CFR policies and On Shore Oil & Gas Orders. These bullets will be deleted in the FEIS.
L-90	195	A1	<b>On-Site Mitigation</b>	Health / Safety		The final proposed measure under Section 5.1.13 would require the Operators to install and lock gates. Onshore Order 3 addresses site security requirements. As such, this provision is unnecessary.	Agreed. This measure has been deleted from the list.
L-90	196	A	<b>On-Site Mitigation</b>	Land Ownership		The second requirement would force the Operators to file surface use agreements between the Operators and surface owners with the BLM. Neither the Operators nor the surface owners should be required to disclose to the BLM, and thus to the public, purely private contracts. This provision is unacceptable and is actually contrary to the provisions of Instruction Memorandum 2003-131, and should not be considered further. See Instruction Memorandum 2003-131 (The Surface Owner Agreement between the surface owner and the lessee or its operator is not to be submitted as part of the APD or SN, since it may contain confidential information regarding the agreement between the surface owner and the lessee or operator.”). Filing surface owner agreements is also prohibited by Wyoming’s new split-estate law. See WYO STAT ANN.§ 30-5-403 (2005).	Agreed. The second bulleted item under DEIS Section 5.1.14 will be removed.
L-90	197	A1	<b>On-Site Mitigation</b>	Land Ownership		The third proposed mitigation measure would require the Operators to purchase private property within the JIDPA. It would be illegal and inappropriate for the BLM to require EnCana or other operators to acquire private land in the JIDPA. This provision should not be considered further.	This mitigation measure uses the word “could”; it is not requiring the purchase of the private property. It is a recommendation, not a requirement.
L-90	198	A1	<b>On-Site Mitigation</b>	Technical Information		The fourth and fifth proposed mitigation requirements relate to the use of currently undeveloped technologies. Such technologies have not been developed or tested, are at least twenty years from application, and thus not feasible for this project.	See the revised COA text in the FEIS.

**Table II-B. DEIS Comments and BLM Responses (cont'd)**

<b>Submittal ID</b>	<b>Comment Number</b>	<b>Category</b>	<b>Keyword 1</b>	<b>Keyword 2</b>	<b>Keyword 3</b>	<b>Comment Text</b>	<b>BLM Response</b>
L-90	199	A	<b>On-Site Mitigation</b>			The second proposed mitigation measure on page 5-7 suggests increasing bond amounts for Operators in the JIDPA. EnCana is currently complying with the BLM regulations regarding lease bonds and has a nationwide bond in place. 43 C.F.R. § 3104.3 (2004). The BLM is only authorized to increase bond amounts after determining that EnCana poses a risk. 43 C.F.R. § 3104.5(b) (2004). To date, EnCana has demonstrated its willingness and its ability to perform all of its obligations under the terms of its leases. The BLM has not identified any justifiable reason to increase the amount of EnCana's lease bond.	The BLM appreciates this comment and recognizes that EnCana does not pose a risk and therefore is not subject to bond increases. However, as there are other operators in the field this measure may become necessary and could be used for mitigation. It will remain in the document.
L-90	200	A	<b>On-Site Mitigation</b>	Technical Information		The seventh proposed mitigation option would require the Operators to submit electronic data for wells, pipelines, and pads. Although this requirement is unclear, EnCana will consider this requirement where and when feasible.	See the revised COA text in the FEIS.
L-90	201	A1	<b>On-Site Mitigation</b>			The eighth proposed requirement involves funding a hosted worker in the Pinedale Field Office. Although the BLM cannot require the Operators to fund a hosted worker, and although such matters are beyond the scope of this document, EnCana may consider funding a hosted worker if a need arises in the future. At this point in time, however, this proposal should not be considered further.	As noted in the introduction to Chapter 5, this item is only a suggestion that could be used for mitigation if necessary. Any judgment about whether this measure would be beneficial will be reserved for the ROD. At this time it is not being required by the BLM.
L-90	202	A1	<b>On-Site Mitigation</b>			The ninth proposed mitigation measure would require the Operators to provide natural gas from the JIDPA to local gas users. EnCana is not a public utility and thus cannot provide natural gas directly to consumers. WYO STAT. ANN. § 37-1-101(a)(vi)(6) (Lexis 2003). Further, Wyoming law clearly prescribes which entities can receive natural gas free of charge. See WYO STAT. ANN. § 37-3-105 (Lexis 2003). As such, this mitigation measure may be illegal and should not be considered further.	Please refer to the response to comment L-11-122.
L-90	203	A1	<b>On-Site Mitigation</b>			The tenth proposed mitigation suggestion would require the Operators to install larger pipelines in the smallest ROW possible. The Operators attempt to utilize the smallest ROW for all of their pipelines and road construction. The installation of larger pipelines would require increased compression and thus lead to increased air quality impacts. As such, this requirement may lead to increased impacts and should not be	As noted in the introduction to Chapter 5, this item is only a suggestion that could be used for mitigation if necessary. Any judgment about whether this measure would be beneficial will be reserved for the ROD. At this time it is not being required by the BLM.

**Table II-B. DEIS Comments and BLM Responses (cont'd)**

Submittal ID	Comment Number	Category	Keyword 1	Keyword 2	Keyword 3	Comment Text	BLM Response
						considered further.	
L-90	205	A1	<b>On-Site Mitigation</b>	Health / Safety		The seventh compensatory mitigation proposal developed by the BLM would obligate the Operators to fund public service projects such as sewage treatment facilities and West Nile inoculation programs. Initially, it appears this provision was “borrowed” from the Powder River Basin EIS and, thus, has little applicability here. EnCana has demonstrated its willingness to participate in the community and to fund various projects. This provision, however, should be eliminated from detailed study in the Final EIS because the analysis to date does not demonstrate a direct off-site impact as a result of additional development in the JIDPA.	As noted in the introduction to Chapter 5, this item is only a suggestion that could be used for mitigation if necessary. Any judgment about whether this measure would be beneficial will be reserved for the ROD. At this time it is not being required by the BLM.
L-90	206	A1	<b>On-Site Mitigation</b>	Wildlife		The eighth mitigation suggestion listed by the BLM, the first bullet point on page 5-9, would require the Operators to purchase a conservation easement to establish and install various raptor nesting structures. Although EnCana is willing to install nesting structures if monitoring efforts demonstrate a need, EnCana is not willing to consider purchasing conservation easements at this time.	BLM can only suggest purchasing of conservation easements as part of mitigation. Conservation easements or other methods of protecting habitats are certainly valid for mitigation.
L-90	207	A1	<b>On-Site Mitigation</b>	Social	Economics	The ninth proposed mitigation measure would require the Operators to work with the local communities to install “portable” infrastructures to assist with “boom times.” EnCana is willing to consider the installation of a “mancamp” to assist with the potential socioeconomic impacts of additional workers on the regional communities. This requirement, however, should not be considered in detail in the Final EIS given the many uncertainties surrounding the installation and use of such a facility.	As explained in the introduction to DEIS Chapter 5, it is a list of ideas that could facilitate the JIDP. As this and other mitigation ideas have not been required by the BLM, they will not be considered in detail in FEIS.
L-90	208	A1	<b>On-Site Mitigation</b>	Transportation		The tenth mitigation measure listed in the JIDP DEIS would require the Operators to work with the Wyoming Department of Transportation to install signs outside the JIDPA to identify potential hazards. Although EnCana is working with local officials to address this issue, it does not relate to impacts in the Jonah Field and should not be considered in the Final EIS.	The impacts to the highway system adjacent to the Jonah Field administered by Wyoming Department of Transportation are a direct result of the Jonah drilling project.
L-90	209	B	<b>Operator-Committed Practices</b>			APPENDIX B – OPERATOR-COMMITTED PRACTICES  The BLM has included several modifications and amendments to the set of Operator-Committed Practices without informing or consulting with the Operators.	The BLM agrees. The revised list of operator-committed practices submitted by EnCana will be incorporated into the FEIS.

**Table II-B. DEIS Comments and BLM Responses (cont'd)**

Submittal ID	Comment Number	Category	Keyword 1	Keyword 2	Keyword 3	Comment Text	BLM Response
						EnCana has reviewed and modified the set of Operator-Committed Practices in Appendix B and submits those changes, as well comments supporting such changes, in EnCana Appendix 7 attached hereto and incorporated herein by this reference. Because Operator-Committed Practices are voluntary, the BLM must accept these changes and incorporate such changes into the Final EIS.	
L-90	210	A	<b>Analysis</b>	Alternatives		<p>APPENDIX G – TECHNICAL SUPPORT DOCUMENT</p> <p>In general, the role of Appendix G to the JIDP DEIS is unclear and potentially misleading. As noted above, the vast majority of the information contained in the main body of Appendix G was originally supplied by the Operators in connection with their description of the Proposed Action. Thus, large sections of the “Technical Document” may not apply to development procedures under the Preferred Alternative, or if other lower impact development opportunities, such as the use of two track roads and mat drilling, are utilized in the Jonah Field. For example, the description of topsoil stockpiling on page 7 of Appendix G does not necessarily comply with the requirements for protecting topsoil under the Preferred Alternative, see JIDP DEIS, pg. 2-28. Similarly, the description of a typical well pad and typical drilling procedures in Appendix G conflicts with the requirement under the Preferred Alternative to eliminate reserve pits. See Appendix G, pgs. 7-8, 15, 19; see also JIDP DEIS, pg. 2-28. The BLM should clarify the role of Appendix G in the Final EIS and should specifically explain that the information contained in Appendix G is intended to describe “typical” natural gas drilling and development operations, but are not intended as strict guidelines or limitations on future activities.</p>	<p>The purpose of Appendix G is explained in the introduction to that document. However, a comment will be added noting that if there is an instance where the appendix conflicts with the EIS, the EIS takes precedence.</p> <p>Sentences in Section 2.3 regarding topsoil will be amended to correspond to the revised Preferred Alternative in the FEIS.</p> <p>The COAs for the Preferred Alternative allow for the possibility of using a reserve pit on a case-by-case basis. The last sentence on DEIS page 7 will have the words “if approved” added after the reference to the reserve pit. The first sentence in the 3<sup>rd</sup> paragraph on DEIS page 19 will have the words “if approved” added after the first reference to the reserve pit.</p>
L-90	211	A1	<b>Analysis</b>	Alternatives		In addition to the comments regarding Appendix G, EnCana submits with these comments a “redlined” or “corrected” version of Appendix G with suggested and proposed changes. A copy of the proposed revisions to Appendix G are incorporated herein by this reference.	Comment acknowledged.
L-90	212	A1	<b>Analysis</b>			Although the BLM may have developed the “Technical Document” for both the JIDP and the South Piney Natural Gas Development Project, the BLM should eliminate any and all references to the South Piney Project from Appendix G. Including information about	All references to the South Piney project will be removed.

**Table II-B. DEIS Comments and BLM Responses (cont'd)**

Submittal ID	Comment Number	Category	Keyword 1	Keyword 2	Keyword 3	Comment Text	BLM Response
						both projects may potentially confuse the reader or cause members of the public to assume the two projects are connected or somehow related. Deleting any and all references to the South Piney Project is particularly important and appropriate in this case for two additional reasons. First, other than the introduction and cover page, Appendix G does not actually address development in the South Piney Field; much of the information contained in Appendix G relates only to the Jonah Field. Second, many of the production techniques and potential environmental impacts associated with the South Piney Project will be different than those utilized and experienced in the Jonah Field because the South Piney Project involves the development of coalbed natural gas.	
L-90	213	A1	<b>Editorial</b>			The acronyms and abbreviations for the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 and Environmental Assessment are incorrect and should be corrected in the Final EIS. See Revised Appendix G.	These changes will be made for the FEIS.
L-90	214	A1	<b>Analysis</b>			In order to accurately describe the potential impacts of development in the JIDPA, Tables 2.1 and 2.2 in Appendix G, pages 4 and 5, should be expanded to include the traffic and work force requirements for directional drilling in addition to vertical drilling. See Revised Appendix G. Table 5.3 in the Draft Socioeconomic Analysis Technical Support Document should also be corrected to accurately reflect the workforce requirements for vertical and directional wells.	The BLM has determined that Table 5.3 in the Socioeconomic TSD (Jan 2005) is sufficient. Since this table just deals with traffic associated with the JIDP it is not expected to differ significantly between vertical and directional drilling.
L-90	215	A1	<b>Analysis</b>			Table 2.1 in Appendix G suggests that the LOP for the JIDP will be fifty-three (53) years. Table 2.2 of the JIDP DEIS, page 2-8, states that the LOP will vary from forty (40) to eighty-two (82) years. In the Final EIS, the BLM should explain this apparent discrepancy, or explain why a LOP of fifty-three (53) years was utilized in Appendix G.	Since the estimate used in Appendix G falls within the project parameters, as stated in this comment, is it unclear why this would be considered a discrepancy.
L-90	216	A1	<b>Editorial</b>			Table 2.2 contains several mathematical errors which should be corrected in the Final EIS. For example, Table 2.2 incorrectly states that drilling operations require 528 days rather than 484 days for a vertical well (22 x 11 x 2 = 484). See EnCana Appendix 8, Revised Appendix G.	Agreed, several of the lines in DEIS Table 2.2 on page 5 of Appendix G do contain errors. The table will be revised as follows:  Drilling: 484, 2327, 4096, 5771 Production: 305, 1467, 2581, 3637

**Table II-B. DEIS Comments and BLM Responses (cont'd)**

Submittal ID	Comment Number	Category	Keyword 1	Keyword 2	Keyword 3	Comment Text	BLM Response
							Total: 1351, 6499, 11434, 16112
L-90	217	A	<b>Analysis</b>	Transportation		Section 2.3, page 7 of Appendix G, states that all roads constructed in the JIDPA shall comply with the requirements set forth in the BLM's Gold Book or BLM Manual 9113. To the extent the Operators attempt to utilize "two-track" roads rather than "BLM Resource Roads," the Operators will not be complying with the guidance contained in the BLM Gold Book.	Where the use of 2-track roads would not work due to topography, soil types, etc., the operators would then be required to build the road to the standard set forth in the Gold Book.
L-90	218	A1	<b>Analysis</b>	Economics		DRAFT SOCIOECONOMIC ANALYSIS TECHNICAL SUPPORT DOCUMENT  In order to accurately describe the potential impacts of development in the JIDPA, Table 5.3 in the Draft Socioeconomic Analysis Technical Support Document should be expanded to include the traffic and work force requirements for directional drilling in addition to vertical drilling. See Table 2.2 in Revised Appendix G (same table and 5.3 of the Socioeconomic Technical Support Document).	Table 5.6 in the Socioeconomic Technical Support Document (Jan 2005) discusses the impacts associated with both conventional and directional drilling. Tables 5.7–5-13 illustrate the anticipated economic activity by alternative and Table 5-14 summarizes that activity by alternative.
L-93	1	A	<b>Water Resources</b>	Surface Disturbance		Briefly, as a result of surface disturbance, the DEIS anticipates significant impacts to: vegetation from removal or compaction, surface water quality from soil erosion, wildlife from habitat destruction and fragmentation. There is also potential for wetlands impacts from surface activities located in playas.	Designated wetlands would be avoided by 500 feet. It is sometimes difficult to determine what is a playa wetland and what is not. This determination is made at the time of the onsite inspection of the well pad location.
L-93	2	D	<b>Alternatives</b>			EPA believes BLM should consider for this project, phased development based on geographic considerations and associated potential impacts. Recent court rulings in Montana support the need for this approach. The supplemental analysis process that is currently underway could provide the framework for evaluating such alternatives and potential impacts with regard to all resources.	No response needed.
L-93	3	A	<b>Wildlife</b>	Compliance	On-Site Mitigation	Although the DEIS states that the BLM preferred alternative reduces impacts to wildlife when compared to the industry's proposal, it is not known if the alternative provides adequate protections to sensitive species. Therefore, EPA recommends the inclusion, in the Final EIS, of findings from the Fish and Wildlife Service Biological Opinion and the Wyoming Department of Natural Resources, so as to provide the identification of needed mitigation of significant impacts.	The ROD will include any measures resulting from Section 7 consultation with the USFWS.

**Table II-B. DEIS Comments and BLM Responses (cont'd)**

<b>Submittal ID</b>	<b>Comment Number</b>	<b>Category</b>	<b>Keyword 1</b>	<b>Keyword 2</b>	<b>Keyword 3</b>	<b>Comment Text</b>	<b>BLM Response</b>
L-93	4	A	<b>Wildlife</b>	Water Resources	Analysis	Considering the unusual intensity of the well spacing for the proposed action, the mitigation being proposed may not be adequate. Considering all of the significant impacts identified in the DEIS to wildlife and surface water, EPA finds the DEIS lacking in providing specific approaches for maintaining ecosystem viability.	Chapter 4 of the FEIS states the reasoning behind the analysis that was conducted.
L-93	5	A	<b>Technical Information</b>	Land Ownership		The DEIS states the purpose of the project is to provide for the development of the gas resource and prevent drainage of federal minerals by wells located on adjacent private and state leases. However, the leases in the Jonah field are almost all federal with only two sections or 1,280 acres that are state leases. In addition, because of the nature of the tight sand gas reservoir for this field, as is demonstrated in this DEIS, very intense well densities are required in order to economically remove the gas. The same reservoir properties also make drainage of off-lease gas very difficult since the influence of a nearby gas production well is also minimal. Since drainage is of little potential, BLM should remove this from the discussion in the section on Purpose and Need.	The commenter is correct in stating that the Jonah field only contains two sections (1,280 acres) that are non-federal minerals and that the tight sand nature of the reservoir reduces the potential for non-federal wells to drain federal mineral resources. These factors do not, however, assure that the drainage of federal resources through non-federal wells would not occur; therefore, the stated purpose and need is appropriate. Please note that the purpose and need section of the draft EIS correctly references state lease and makes no mention of private leases, as there are no private leases within the JIDP area.
L-93	6	D	<b>Alternatives</b>			Although BLM has provided ten alternatives in the DEIS, most of the alternatives are heavily weighted toward a quick rate of drilling approach which impacts the entire area. With the opportunities presented as a result of the majority of the leases being controlled by BLM, additional alternatives could present development scenarios that would control the rate of development and the geographic focus of additional infill.	This comment is no longer applicable. The number of alternatives is being reduced for the FEIS.
L-93	7	A	<b>Wildlife</b>	Compensatory Mitigation		Another alternative could also look at enlarging the project area from the standpoint of wildlife habitat and improvements. The EIS could establish zones of habitat protection of high value and habitat improvement needs in other areas within the zone. Because the surface impacts will be quite intense due to the well density, as the DEIS points out, there will be significant habitat losses that will require wildlife to avoid or move out of the area. Prior to implementing the proposed action, BLM should provide more monitoring and analysis on the habitat surrounding the Jonah field and consider establishing habitat protection areas and buffers that	All wildlife monitoring will be included in the Wildlife Monitoring and Mitigation Plan developed after the ROD is signed.

**Table II-B. DEIS Comments and BLM Responses (cont'd)**

<b>Submittal ID</b>	<b>Comment Number</b>	<b>Category</b>	<b>Keyword 1</b>	<b>Keyword 2</b>	<b>Keyword 3</b>	<b>Comment Text</b>	<b>BLM Response</b>
						would provide suitable habitat. EPA recommends these stipulations be included in the EIS.	
L-93	8	D	<b>On-Site Mitigation</b>	Vegetation		The BLM could also consider a management approach to drilling practices that would require drilling to be limited geographically to a small area and that reclamation of vegetation and habitat be completed prior to additional nearby drilling.	JIDPA leaseholds are in a checkerboard pattern. This makes the approach suggested impractical. To do so could potentially deny some of the leaseholders access to their leases.
L-93	9	A1	<b>Alternatives</b>	Surface Disturbance		Under the 24% and 19% disturbance areas for the preferred alternative, BLM requires the following, "well pad density limitation would be applicable until monitoring data, with up to 10-year trends, conclusively show that denser than 40-acre surface spacing meet performance-based field development and production objectives." This requirement needs to also be applied to the 14,310-acre area being considered for up to 34% disturbance, also under the preferred alternative.	This comment is no longer applicable. It will be addressed by the new Preferred Alternative in the FEIS.
L-93	10	A	<b>Technical Information</b>			The DEIS preferred alternative does not explicitly include directional drilling as an option that will reduce surface impacts ... If this well drilling method is not applicable, the DEIS should present information stating why this widely used method of reducing surface impacts is not being considered for this project.	Several alternatives have directional drilling components. Alternative B would limit the Operators to 497 well pads; consequently virtually all new wells would have to be directionally drilled. Alternative E would limit the Operator to well pads located on a 1 pad per 40-acre surface spacing grid. All wells drilled to 5-, 10-, and 20-acres bottom-hole spacing would have to be developed directionally drilled from one of the 40-acre surface spacing pads. Alternative F would require directional drilling to develop wells at 5- and 10-acre bottom-hole spacing. Alternative G would require directional drilling to attain 5-acre bottom-hole spacing. Each of these alternatives will, however, leave unrecovered mineral resources in the ground.
L-93	11	A	<b>Performance Objectives</b>	Soils	Water	BLM Preferred Alternative Outcome Based Performance Objectives  EPA agrees with the list of performance objectives listed under this section. However, Chapter 4 of the DEIS shows that some of these objectives will not be met	The hydrological model had been run and the results will be included in the FEIS. The results of this effort have indicated that a single event will not cause significant impacts to the resources. The BLM recognizes that

**Table II-B. DEIS Comments and BLM Responses (cont'd)**

Submittal ID	Comment Number	Category	Keyword 1	Keyword 2	Keyword 3	Comment Text	BLM Response
						under the preferred alternative. For example, because surface water modeling was not included in the DEIS, it is not known if the project activities will maintain sediment erosion (salt and silt discharge rates) at WDEQ- and BLM-acceptable levels. The objectives in this section should be reiterated in the appropriate resource sections of Chapter 4 and it should also be demonstrated (in the FEIS) how appropriate levels of mitigation or development practices will be implemented to meet these objectives.	the model does not account for the cumulative effects of multiple small events. For this reason the FEIS will include monitoring for the LOP to insure there are no adverse impacts.
L-93	12	A	<b>Compensatory Mitigation</b>			Compensatory mitigation (Section 2.14.4, p. 22-31) BLM should consider providing compensatory mitigation concurrent with development in the FEIS. The development should progress in such a way as to look for habitat improvements that could be made concurrently with development on nearby land.	Many of the compensatory mitigation measures proposed in Chapter 5 would take place concurrently with the field development. There is nothing in the document that would require waiting until after completion of the work. Any needed mitigation will be specified in the ROD.
L-93	13	A	<b>Water Resources</b>			Riparian and wetlands area (Section 3.2.1.2, pp. 3-54 to 3-55)  Although the section has indicated that wetlands verification was conducted, the discussion did not mention the "functioning condition" of the wetlands resource area within the project area. EPA recommends this information be included in the FEIS.	Proper Functioning Condition (PFC) surveys of the small isolated wetlands within the JIDPA have not been undertaken.
L-93	14	A	<b>Water Resources</b>	Compliance		Based on recent court rulings, it should also be noted that the Wyoming General Permit under Section 404 of the Clean Water Act, regarding oil and gas activities and wetlands may no longer be viable. Consequently, individual permits may now be necessary for these activities.	General Permit 98-08, which dealt with discharge of dredge and fill material associated with oil and gas production, was rescinded on January 7, 2005. The requirement for operators to be in compliance with all local, state, and federal rules and regulations has not changed. See the following website:  < <a href="http://www.nwo.usace.army.mil/html/od-rwy/pn/spn7Jan05.pdf">http://www.nwo.usace.army.mil/html/od-rwy/pn/spn7Jan05.pdf</a> >
L-93	15	A	<b>Water Resources</b>	Soils	Surface Disturbance	Under the preferred alternative, almost half of the surface disturbance of 12,525 acres would be located in Sand Draw-Alkali Creek. BLM has applied the no-surface occupancy stipulations for some leases near Sand Draw. However, large amounts of vegetation removal and soil erosion could indirectly impact the	The predictive analysis for sediment transport has been completed. The predictive analysis considered sedimentation associated with significant, <i>individual</i> storm events. At a broad watershed scale, it

Table II-B. DEIS Comments and BLM Responses (cont'd)

Submittal ID	Comment Number	Category	Keyword 1	Keyword 2	Keyword 3	Comment Text	BLM Response
						<p>Sand Draw-Alkali Creek drainage through increased sediment loads and changes to channel stability and hydrology. EPA believes it is important that the BLM address this issue with the proposed modeling that will be provided in the Final EIS.</p>	<p>demonstrates that soil erosion impacts can be controlled and mitigated, but on a more site-specific level impacts may still pose a significant issue to soil, watershed, and other resource values and may need special attention. Also, the report concluded that cumulative erosion effects are possible considering the fact that multiple, significant storm events are likely over the life of the project. The acceptable, background soil erosion rates are unique to individual sites and soil series. Therefore, typically, site-specific assessments are needed during the APD/EA process to quantify effects and prescribe appropriate BMPs.</p>
L-93	16	A	<b>Soils</b>	Water Resources	Vegetation	<p>The DEIS soil loss modeling will be provided in the Final EIS (p. 4-37). As pointed out above, the potential for increased sedimentation, erosion, runoff and invasive species analysis also depends on this analysis. This analysis should be reviewed in the FEIS in view of the soil loss modeling results.</p>	<p>The predictive analysis for sediment transport has been completed. The predictive analysis considered sedimentation associated with significant, <i>individual</i> storm events. At a broad watershed scale, it demonstrates that soil erosion impacts can be controlled and mitigated, but on a more site-specific level impacts may still pose a significant issue to soil, watershed, and other resource values and may need special attention. Also, the report concluded that cumulative erosion effects are possible considering the fact that multiple, significant storm events are likely over the life of the project. The acceptable, background soil erosion rates are unique to individual sites and soil series. Therefore, typically, site-specific assessments are needed during the APD/EA process to quantify effects and prescribe appropriate BMPs.</p>

**Table II-B. DEIS Comments and BLM Responses (cont'd)**

<b>Submittal ID</b>	<b>Comment Number</b>	<b>Category</b>	<b>Keyword 1</b>	<b>Keyword 2</b>	<b>Keyword 3</b>	<b>Comment Text</b>	<b>BLM Response</b>
L-93	17	A	<b>Water Resources</b>	Compliance		Since this project is located within the Green River Watershed which is tributary to the Colorado River Drainage Basin, BLM should consider the potential for salinity loading from project runoff and recognize the requirements within the Colorado Salinity Compact.	The erosion and sediment modeling, compliance with BLM Wyoming Standards for Healthy Rangelands, and the effort to install a grade control structure in Alkali Creek are designed to address this concern.
L-93	18	A	<b>Water Resources</b>	Surface Disturbance		The DEIS states, "No impacts to and/or from flooding are anticipated because areas adjacent to drainages would be avoided." However, flooding can also result from significant surface disturbance within the watershed increasing runoff rates. This scenario should be discussed in the FEIS.	The erosion and sediment modeling, compliance with BLM Wyoming Standards for Healthy Rangelands, and the effort to install a grade control structure in Alkali Creek are designed to address this concern.
L-93	19	A	<b>Water Resources</b>	Soils	Surface Disturbance	BLM also points out in the analysis on page 4-52 that, "While proper design, construction, and maintenance of proposed facilities would reduce erosion potential, these actions may not entirely compensate for anticipated increased flows." Based on the modeling that will be provided, BLM should consider additional mitigation in the FEIS to further reduce runoff, if necessary. These additional approaches could entail limiting the amount of surface disturbance allowed within a watershed at any one time to avoid significant impacts.	The predictive analysis for sediment transport has been completed. The predictive analysis considered sedimentation associated with significant, <i>individual</i> storm events. At a broad watershed scale, it demonstrates that soil erosion impacts can be controlled and mitigated, but on a more site-specific level impacts may still pose a significant issue to soil, watershed, and other resource values and may need special attention. Also, the report concluded that cumulative erosion effects are possible considering the fact that multiple, significant storm events are likely over the life of the project. The acceptable, background soil erosion rates are unique to individual sites and soil series. Therefore, typically, site-specific assessments are needed during the APD/EA process to quantify effects and prescribe appropriate BMPs.
L-93	20	A	<b>Water Resources</b>	Surface Disturbance		The analysis of impacts resulting from the preferred alternative are only listed in terms of acres of surface disturbance. Although it is pointed out by BLM that additional modeling of impacts to surface water will be provided in the Final EIS, the DEIS is lacking the pertinent information to be able to determine the extent of impacts that will result from implementing the	Results of the modeling to determine the potential effects of various storm events on stormwater quality will be included in the final EIS. This modeling is for single storm events and indicates that surface waters would not be affected. A monitoring

**Table II-B. DEIS Comments and BLM Responses (cont'd)**

Submittal ID	Comment Number	Category	Keyword 1	Keyword 2	Keyword 3	Comment Text	BLM Response
						preferred alternative. EPA requests that the analysis be provided in the Final EIS so as to allow reasonable determinations as to whether water quality standards are being met.	program is to be developed to determine the results of repeated storm events and ensure that BLM Wyoming Standards for Healthy Rangelands will be met throughout the life of the project.
L-93	21	A	<b>Vegetation</b>	On-Site Mitigation		<p>Vegetation - BLM Preferred Alternative (Section 4.2.1 pages 4-66 to 4-75)</p> <p>Significant impacts are anticipated to vegetation in the project area through loss of habitat, forage, and soil protection, and increased growth potential for invasive, non-native species under any alternative. We believe the Final EIS should include more specific actions that could be taken to minimize the effects of invasive, non-native species on disturbed lands.</p>	<p>The following text will be added to the Preferred Alternative in the FEIS:</p> <p>“Operators would undertake aggressive invasive plant species and noxious weed control or removal in disturbed areas, be responsible for weed control on all disturbed areas in the JIDPA, and be responsible for consultation with the Authorized Officer and/or local authorities for acceptable weed control methods.”</p>
L-93	22	A	<b>Wildlife</b>			<p>The BLM Preferred Alternative does not include a clearly defined management plan for protection of the greater sage-grouse population in the area. The EIS indicates that a surveying and monitoring plan will be developed; however, there is no indication how this information is to be used or whether any attempt will be made for protection of sage-grouse and their habitat. As noted in the document (p. 3-63) areas in central and western Wyoming cumulatively represents one of the species' last strongholds. As also acknowledged (p. 3-67) the management strategy (e.g., keeping activities within specified distances from active leks) is not successful and the population is in active decline in the area. The DEIS suggests that protecting a boundary surrounding the lek during specified months is protective of the species.</p> <p>BLM may wish to consider a more robust management plan, specific to the conservation of greater sage-grouse brooding and nesting habitat. The plan may include a systematic approach for selecting and maintaining areas of existing contiguous sagebrush stands, which are critical for sage-grouse survival. EPA recommends that BLM consult with the U.S. Fish and Wildlife Service regarding this issue.</p>	<p>All wildlife monitoring will be included in the Wildlife Monitoring and Mitigation Plan developed after the ROD is signed.</p>

**Table II-B. DEIS Comments and BLM Responses (cont'd)**

<b>Submittal ID</b>	<b>Comment Number</b>	<b>Category</b>	<b>Keyword 1</b>	<b>Keyword 2</b>	<b>Keyword 3</b>	<b>Comment Text</b>	<b>BLM Response</b>
L-93	23	A	<b>Wildlife</b>	On-Site Mitigation	Conditions of Approval	Page 2-28, Section 2.14.2, bullets 10 and 11: There are two different distance limitations/requirements established for construction/location of well pads, access roads, and other above-ground facilities within raptor nest areas. The distances presented in Bullet 10 would result in facilities being constructed and thus may be in active operation during nesting. The distances in bullet 11 are recommended for all facilities regardless of the season. These two statements appear to be contradictory and should be clarified in the FEIS.	One statement is for activity; the other is for surface occupancy.
L-95	1	A	<b>Alternatives</b>	Analysis		The biggest concern we have with your application of landscape analysis is that it appears that it was used to evaluate (which is good), but not guide the creation or selection of the Preferred Alternative. For instance, the core area maps along with biological information on pronghorn migration paths and habitat use or quality could be used to modify patterns of drilling and infill to moderate activities in the most important habitat areas while allowing denser infill in other areas.	This comment is no longer applicable. It will be addressed by the new Preferred Alternative in the FEIS.
L-95	2	A	<b>Wildlife</b>	Analysis	Compliance	In the discussion of "All Species" on pages 4-86 and 4-87, specifically discusses habitat fragmentation and impacts on wildlife using the metrics that you have generated. The section states that "significant adverse impacts to some wildlife resources are anticipated under all alternatives including the No Action Alternative." Were the impacts of the core area or distance to road measures used to modify the alternatives or reduce habitat impacts? The statement also raises the issue of whether or not the draft plan follows the Federal Land Policy and Management Act (FLPMA) requiring BLM to develop land use plans and manage the public lands in accordance with the principles of multiple use and sustained yield. 43 U.S.C. Sect. 1712(c)(1); 43 U.S.C. Sect. 1732 (a). FLPMA requires the agency to "minimize adverse impacts on the natural, environmental, scientific, cultural, and other resources and values (including fish and wildlife habitat) of the public lands involved." 43 U.S.C. Sect. 1732(d)(2)(a) and to "take any action necessary to prevent unnecessary or undue degradation of the lands." 43 U.S.C. Sect. 1732(b).	Many actions for wildlife will be minimized at the action level and will be evaluated at that time.  Regarding the second portion of the comment, the BLM has determined that the Preferred Alternative in the FEIS will be in accord with FLPMA. Every attempt has been made to provide for the extraction of minerals while managing the area for multiple uses. This is laid out in the DEIS. The revised Preferred Alternative in the FEIS will minimize adverse impacts while undertaking actions necessary to prevent undue degradation of the land through mitigation and restoration.
L-95	3	F	<b>Wildlife</b>			Another concern is the incomplete use of biological literature on the spatial effects of developments (roads and development activities) on the wildlife along with the results of your measures of core area or distance to	Chapter 4 of the FEIS states the reasoning behind analysis that was conducted.

**Table II-B. DEIS Comments and BLM Responses (cont'd)**

Submittal ID	Comment Number	Category	Keyword 1	Keyword 2	Keyword 3	Comment Text	BLM Response
						road. The metrics become most informative when combined with the results of biological field studies. While there is not, (and may never be) a definitive, quantitative study on the impacts of a roads or drill pads on pronghorn, Sage-Grouse, and other species, there are substantially more studies than are cited in the document that shed light on potential impacts on species present in the Jonah Field. Many of these are provided by WGFD in Minimum Recommendations for Development of Oil and Gas Resources Within Crucial and Important Wildlife Habitat on BLM Lands and our report Wildlife at a Crossroads: Energy Development in Western Wyoming.	
L-95	4	A	<b>Wildlife</b>	Analysis		Related to this, the Draft EIS states on page 4-82 that "... it is reasonable to assume that the project would have some adverse impacts to pronghorn populations as a result of direct habitat removal and a reduction in habit function on areas adjacent to development activities." This is followed by a statement on the lack of research on "specific quantitative estimates of such impacts". We agree. Yet you still seem to draw the conclusion that "... impacts on pronghorn populations in the Sublette Herd Unit resulting from development of the JIDPA, including habitat fragmentation and a reduction in habitat function, are anticipated to be less than significant on both a local and a management area level." (page 4-87). This last statement seems to be one you can not draw based on your own interpretation of the current level of scientific knowledge of pronghorn response to habitat fragmentation levels.	Significance will be determined at the FEIS.
L-95	5	F	<b>Surface Disturbance</b>			One suggestion we have in improving upon your use of landscape metrics in the future is to include roads as well as drill pads in your build-out scenarios. This would allow you to calculate a road density measure as well as core area. Route density is easy to measure and is commonly linked to wildlife impacts in biological literature. We realize that this involves the placement of roads as well as drill pads in the GIS layers for your infill alternatives. We have found this to be valuable in a comparably sized study area in Colorado. We were able to digitize roads for two different well spacings in the course of two afternoons while keeping in mind the practical constraints of topography (with another day for quality check and review of the road layer). While well pad and road locations may not reflect the exact position	Thank you for your comment.

**Table II-B. DEIS Comments and BLM Responses (cont'd)**

Submittal ID	Comment Number	Category	Keyword 1	Keyword 2	Keyword 3	Comment Text	BLM Response
						of future infrastructure, these more complete build-out scenarios are an excellent tool for visualization and generations of landscape metrics for designing and evaluation infill or new development. We would be happy to provide more information on the methods used.	
L-95	6	A	<b>Analysis</b>	NEPA		Another suggestion is to evaluate landscape metrics and wildlife habitat for a broader landscape context surrounding the Jonah field. This would allow you to assess the functioning of the planning area in relation to the related surrounding areas and better assess the indirect and cumulative impacts of ongoing and reasonably foreseeable activities in the surrounding landscape, which are also affecting the resources in the planning area. This broader scope of analysis is crucial to performing the thorough analysis required by NEPA of the direct, indirect and cumulative impacts of current, proposed and foreseeable actions both in and outside the planning area on the resources in the Jonah Field.	The CIAAs established for the various analyses contained in the DEIS are considered by the BLM to be reasonable and adequately address the areas that could be affected by the JDIP. The broader scope of issues within the Pinedale Planning Area is addressed by the RMP. Since the DEIS is in compliance with the RMP, there should not be any effects outside the DEIS CIAAs.
L-95	7	C	<b>Alternatives</b>	Land Use		Lastly, the Draft EIS reminded us of an issue discussed in our meeting, the issue of sacrifice zones (and refuges) versus "multiple use" across the landscape. Our impression from our discussion is that the BLM's position is that multiple use means permitting all uses of the public lands to proceed at the same time. However, FLPMA recognizes that management in accordance with the concepts of multiple use and sustained yield includes limiting or even excluding certain uses in different areas. In fact, the statute defines "multiple use" to mean "the use of some lands for less than all of the resources," in addition to other aspects of management. 43 U.S.C. Sect. 1702(c). Because the level of habitat fragmentation from development is already high within the Jonah Field, shouldn't that suggest that there should be alternatives with a lower density of drilling, increased reclamation schedule, and/or increased directional drilling in portions of the field that have the potential to provide higher quality habitat or migration routes for species?	The BLM has recognized that there are areas within the PFO management area that are critical habitats and that such areas should not be developed, as outlined in the Pinedale RMP. None of these areas fall within the JIDPA. Page 4-83 of the Draft EIS discusses the fact that all development alternatives are likely to impact pronghorn migrations. The Preferred Alternative will be designed to mitigate these effects in a reasonable manner.  The BLM has determined that lands within the JIDPA can sustain multiple uses so long as the proper management practices are put in place and the developments are reclaimed during and after the LOP. These COAs will be incorporated into the ROD.

**Part III: Substantive Comments Related to Air Quality  
Issues Received During Public Comment Analysis  
Process of the Jonah Infill Drilling Project**

**Table III-A. Persons Submitting Comments on JIDP Air Quality Issues**

Submittal ID	Submittal Type	First Name	Last Name	Organization	Address	City	State	Zip	Email Address
1	E-mail	J.R.	Justus	Shell Rocky Mountain Production, LLC	4582 South Ulster Street Parkway, Suite 500	Denver	CO	80237	jr.justus@shell.com
2	E-mail	Bruce	Pendery	Wyoming Outdoor Council	444 East 800 North	Logan	UT	84321	bpendery@pcu.net
3	E-mail	W.R.	Picquet	Ultra Resources, Inc.	304 Iverness Way South, Suite 295	Englewood	CO	80112	
4	E-mail	Darla	Potter	Wyoming DEQ - Air Quality Division	122 West 25th St., Herschler Bldg 4W	Cheyenne	WY	82002	dpotte@state.wy.us
5	E-mail	John	Schopp	EnCana Oil & Gas (USA), Inc.	370 17th Street, Suite 1700	Denver	CO	80202	
6	E-mail	Jim	Sim	Western Business Roundtable	350 Indiana Street, Suite 64	Golden	CO	80401	jim@westernroundtable.com
7	E-mail	Marc W.	Smith	Independent Petroleum Association of Mountain States (IPAMS)	410 Seventeenth Street, Suite 1920	Denver	CO	80202	
8	E-mail	Jeff A.	Sorkin	USDA Forest Service - Rocky Mountain & Intermountain Regions	P.O. Box 25127	Lakewood	CO	80401	
9	E-mail	Vicki	Stamper	Wyoming Outdoor Council	1630 Rainbow Avenue / P.O. Box 1805	Laramie	WY	82073	vstamper@vcn.com
10	E-mail	Bob	Yuhnke	Wyoming Outdoor Council	2910 County Road 67	Boulder	CO	80303	bob.yuhnke@prodigy.net
11	Letter	Mark	Barron, Mayor	Town of Jackson, Wyoming	Box 1687	Jackson	WY	83001	
12	Letter	John	Robitaille	Petroleum Association of Wyoming	951 Werner Court, Suite 100	Casper	WY	82601	paw@pawyo.org
13	Letter	Ron J.	Pasco	First Interstate Bank - Casper Office	104 South Wolcott / P.O. Box 40	Casper	WY	82602-0040	
14	Letter	Ronald P.	Walker		P.O. Box 224	Daniel	WY	83115	
15	Letter	David	Brown	BP American Production Company	u.s. Onshore Business Unit-HSSE, 1660 Lincoln Street, Suite 3000	Denver	CO	80264	
16	Letter	Robert E.	Roberts	United States Environmental Protection Agency, Region 8	999 18th Street, Suite 300	Denver	CO	80202-2466	
17	Letter	John	Corra	Wyoming Department of Environmental Quality	Herschler Building, 122 West 25th Street	Cheyenne	WY	82002	

**Table III-A. Persons Submitting Comments on JIDP Air Quality Issues (cont'd)**

Submittal ID	Submittal Type	First Name	Last Name	Organization	Address	City	State	Zip	Email Address
18	E-mail	Jeff	Sorkin	USDA Forest Service - Rocky Mountain & Intermountain Regions	P.O. Box 25127	Lakewood	CO	80401	
19	Letter	Andrew	Blair		344 Amoretti St.	Lander	WY	82520	
20	Letter	Fran	Carrier	Rock Springs Chamber of Commerce	1897 Dewar Dr. / P.O. Box 398	Rock Springs	WY	82902-0398	
21	Letter	Sharon	Wales		1030 Thorpe St.	Rock Springs	WY	82901	
22	Letter	The Honorable Michael B.	Enzi, United States Senator	United States Senate	Russell Senate Building	Washington	DC	20510-5004	
23	E-mail	Kristin	Espeland	Wyoming Public Radio	Dept. 3984, 1000 E. University Avenue	Laramie	WY	82071	kespelan@uwyo.edu
24	Letter	Eric	Fairbanks		PO Box 10	Boulder	WY	82923	
25	Letter	Leslie F.	Henderson		317 College Lane	Rock Springs	WY	82901	hender@wyoming.com
26	Letter	Timothy A.	Kaumo, Mayor	The City of Rock Springs	212 D Street	Rock Springs	WY	82901	
27	Letter	Amy	McReynolds		13040 Antelope Flats Road	Moose	WY	83012	mcreynolds@blissnet.com
28	E-mail	Burke L.	Morin		Box 96	Green River	WY	82935	bcmorin@gobigwest.com
29	E-mail	Ann	Morris						amorri@adelphia.net
30	E-mail	Susan E.	O'Ney	Grand Teton National Park	P.O. Drawer 170	Moose	WY	83012	Susan_O'Ney@nps.gov
31	Letter	Jim	Robinson, Mayor	Town of Marbleton	11 East 2nd Street	Marbleton	WY	83113	
32	Letter	Phil	Smith, Mayor	Town of Big Piney	401 Budd Avenue	Big Piney	WY	83113	
33	E-mail	Stan	Swearingen						Sdswear@aol.com
34	E-mail	Eric	Williams	Environomics, Inc.	203 First St.	Cheney	WA	99004	environomics@foxinternet.com

**Table III-A. Persons Submitting Comments on JIDP Air Quality Issues (cont'd)**

<b>Submittal ID</b>	<b>Submittal Type</b>	<b>First Name</b>	<b>Last Name</b>	<b>Organization</b>	<b>Address</b>	<b>City</b>	<b>State</b>	<b>Zip</b>	<b>Email Address</b>
35	Letter	Betty	Fear	Board of County Commissioners, County of Sublette	P.O. Box 250	Pinedale	WY	82941	
35		Cramer	William W.	Board of County Commissioners, County of Sublette	P.O. Box 250	Pinedale	WY	82941	
35		Linn	John	Board of County Commissioners, County of Sublette	P.O. Box 250	Pinedale	WY	82941	
36	Letter	George	Lemich	Greenhalgh, Lemich, Stith & Cannon, P.C., Attorneys at Law	205 C Street	Rock Springs	WY	82901 -6220	
37	Letter	C.B.	Stanley	Questar	180 East 100 South / P.O. Box 45601	Salt Lake City	UT	84145 -0601	
38	Letter	Bill	Murphy	Wyoming Business Alliance, Wyoming Heritage Foundation	145 South Durbin, Suite 101	Casper	WY	82601	wyba@qwest.net

**Table III-B. Substantive Comments on JIDP Air Quality Issues**

Submittal ID	Comment Number	Comment Category	Keyword	Comment Text	Response
1	1	B	Emissions, Project	Manufacturers' Emissions Factors More Accurately Reflect Drill Rig Emissions compared with Environmental Protection Agency (EPA) AP-42. The use of conservative EPA AP-42 emission factors overestimates rig emissions from the Pinedale Anticline. It would be more appropriate to use manufacturers' emissions to provide greater accuracy in full field (2017) and near-term (2006) modeling.	Neither drilling engine specifications (make/model) nor manufacturer's emission factors were able to be obtained for regional project areas. Although EPA Tier 1 and 2 emission factors may have better approximated manufacturer's emission factors, they could not be used exclusively in this analysis because older drilling engines were projected to operate for which only AP-42 emissions factors were applicable.
1	2	B	Emissions, Project	If EPA AP-42 factors were to be used, correct emission factors for appropriate engine size should be considered. The Jonah Infill Drilling Project (JIDP) analysis of drilling emissions uses EPA AP-42 Section 3.3 emission factors, which apply only to engines less than 600 hp. Lower emission factors from Section 3.4 of AP-42 should have been used for the larger engines on the drill rigs, such as the 800 hp machines that are specified in the AQTSD.	One 500-hp engine and two 800-hp engines were specified by Operators for straight drilling, and two 500-hp engines and two 800-hp engines were specified for directional drilling. AP-42 Section 3.4-1 is applicable to engines 600 hp or greater. Because not all engines specified were greater than 600 hp, and because a single emission factor was desired for use in the inventory, the emission factor from AP-42 Table 3.3-1 was conservatively used.
1	3	B	Emissions, Project	Flaring Emission Reductions From "Green Completions" Should Be Included. The emission reductions from green completions were not taken into account in the air quality analysis. Consequently, flaring emissions are overestimated. As an example, the analysis on page B-2 assumes that one, two or three flares operate continuously throughout the year, and in Table D.1.30 on page D-33 continuous operation of four to five flares has been assumed. The analysis appears to assume that the wells are exploratory and do not have access to gathering systems, even after production begins. Shell Exploration and Production Company (SEPCo) typically flares only five percent of historic operational emissions, if at all, prior to completing its wells. Otherwise, the produced gas is diverted to a gathering system. In July 2005 Wyoming Department of Environment Quality's (WDEQ's) regulatory permitting for flaring during completions went into effect for the Pinedale and Jonah Fields. This regulation should be incorporated into the analysis because the requirements are mandatory. AQTSD Supplement.	<p>The conservative application of 1, 2, and 3 simultaneously operating flares considers the use of "green completions" for 80% of all completions. It is important to note that the use of these estimates is applied to derive what "could happen on any given day," not what "would happen on all days throughout the year." AQTSD Appendix G Table G-3 shows potential JIDP-specific emission reductions with and without flaring.</p> <p>The emissions inventory and modeling analysis were conducted prior to the release of revised WDEQ-Air Quality Division (AQD) flaring guidance, and flaring assumptions were based on data obtained from field Operators. The potential emissions reduction benefits from reduced flaring are further discussed in the final environmental impact statement (FEIS)(see FEIS Section 4.1.2, Preferred Alternative analyses and Section 5.1.1).</p>

**Table III-B. Substantive Comments on JIDP Air Quality Issues (cont'd)**

<b>Submittal ID</b>	<b>Comment Number</b>	<b>Comment Category</b>	<b>Keyword</b>	<b>Comment Text</b>	<b>Response</b>
1	4	B	Emissions, Project	Duration of Well Drilling is Overestimated in the Pinedale Anticline Project (PAP). The assumption of 60 drilling days per well on the PAP overestimates emissions from the PAP. SEPCo typically requires less than 40 days to drill a well, not 60. Calculated emissions per well on this basis and the total PAP contribution to cumulative emissions is thus overstated.	<p>Project-specific emission reductions could be achieved by various methods, including a reduced drilling durations.</p> <p>Drilling duration was based on data obtained from field Operators, and may not be relevant for all wells in the PAP.</p>
1	5	B	Emissions, Project	Use of Ultra-low Sulfur Diesel (15ppm) Should Be Considered in 2017 Modeling. The estimated 2017 emissions apply the incorrect diesel fuel sulfur content (500 ppm versus 15 ppm). Ultra-low sulfur diesel regulations that will be in effect in 2010 are not included in the modeling of 2017 emissions. Thus, the cumulative impact analysis does not consider reasonably foreseeable future actions. The higher sulfur content in the diesel in year 2010 and beyond will result in over estimating sulfur dioxide (SO <sub>2</sub> ) emissions and higher estimates of Acid Neutralizing Capacity (ANC) values.	<p>Thank you for your comment. The BLM believes that the data and analyses provided in the environmental impact statement (EIS) and AQTSD while conservative are adequate for this impact assessment.</p> <p>Project-specific emission reductions could be achieved by various methods, including the use of low sulfur diesel.</p>
1	6	B	Emissions, Regional	Baseline Emissions Should Use Best Available Data. Although NEPA requires use of best available data, the air quality analysis does not use the best available data to estimate regional baseline emissions. Instead of using 2002 actual emissions, which are available through WDEQ's Wyoming Inventory System for Emissions (WISE), the analysis uses "changes in potential emissions" as reported in WDEQ's Southwest Wyoming Emissions Tracking Report and submitted to the Wyoming Bureau of Land Management (BLM).	WDEQ-AQD's WISE system was not operational at the time the emissions inventory was performed.
1	7	B	Ozone & VOCs	The methodology used in the November 2004 Draft AQTSD uses outdated methodology to estimate ozone impacts. It is not possible to comment on the ozone analysis used in the Supplemental AQTSD as it defers analysis of ozone and volatile organic compounds (VOCs) to the FEIS. More accurate emissions data and a more accurate modeling tool should be used to predict ozone impacts. The 1988 VOC/oxides of nitrogen (NO <sub>x</sub> ) Point Source Screening tables by Richard Scheffe that are used to estimate ozone impacts, are inadequate and represent outdated methodology. It is a useful tool for looking at single day ozone episodes of one-hour standard. It is not useful for predicting multi-day episodes and the 8-hour ozone	<p>Thank you for your comment.</p> <p>The ozone calculation has been revised for the FEIS and AQTSD using a more appropriate/realistic source emissions scenario that considers well production decline curves which result in decreased VOC emissions over the life of wells and a more accurate representation of in-field compressor station size and emissions.</p> <p>In recognition of the importance of potential ozone concentrations, monitoring has been initiated in the Jonah Field area as well as near Daniel and Boulder.</p>

**Table III-B. Substantive Comments on JIDP Air Quality Issues (cont'd)**

Submittal ID	Comment Number	Comment Category	Keyword	Comment Text	Response
				<p>standard. Best available emissions data and a more accurate modeling tool should be used to predict ozone impacts. The Draft EIS (DEIS) offers no explanation why only a screening tool rather than a gridded air quality model such as Comprehensive Air Quality Model (CAMx) or Community Multiscale Air Quality model (CAMQ) is being used to estimate air quality impacts of a project of such large magnitude and duration.</p>	<p>Ozone models are designed for urban areas, and are very expensive and time-consuming to implement. The Scheffe method used may not provide the best tool for concentration estimation, but the BLM believes that the data and analyses provided in the EIS and AQTSD are adequate for this impact assessment.</p> <p>The BLM believes that the data and analyses provided in the EIS and AQTSD are adequate for this impact assessment.</p>
2	8	B	Early Project Development Stage Modeling	<p>The reason BLM conducted the “Early-Project-Development Stage Modeling” in the air quality supplement was an assertion that “peak regional impacts appear to occur prior to the [JIDP] maximum emissions as a result of the development of other natural gas projects in the region, specifically the PAP, South Piney Project, Riley Ridge Project, and Jack Morrow Hills Project. Based on this unsupported assertion, BLM selected 2006 as “representative of a maximum emissions scenario for regional emissions” for analysis in the early-project-development stage modeling. Again, this assertion was made in naked fashion with no supporting analysis to demonstrate that emissions will be higher in 2006 than during later years when emissions from the JIDP are expected to increase.</p>	<p>The use of 2006 as the date of the early-project-development stage was not intended to indicate a twelve year difference between maximum regional emissions and maximum JIDP emissions. Rather, it is a placeholder for the period of development when the least advanced Tier control technology is available. Thus, the maximum emissions do not refer to regional emission totals, but maximum per well emissions due to available technology. Furthermore, this was intended to better represent current conditions, not the impact of any specific project.</p> <p>BLM’s assertion is based on the assumption that emissions from drilling in the region during the early stages of the JIDP would represent maximum emissions, due to the use of Tier 0 drill rig engines; as time goes by, drill rig engines with better emission control will become more available.</p> <p>BLM recognizes that drilling on all regional projects is unlikely to occur in 2006. BLM chose 2006 to represent the maximum potential impact from drilling as a hypothetical “reasonable but conservative” case.</p>
2	9	B	Early Project Development Stage Modeling	<p>In fact, it is highly unlikely that any of the four projects selected for special treatment in the early-project-development stage modeling will see maximum emissions rates in 2006 or soon thereafter:</p>	<p>Please see comment 2-8, above.</p> <p>Further <i>National Environmental Policy Act</i> (NEPA) documentation for regional projects, such as the</p>

**Table III-B. Substantive Comments on JIDP Air Quality Issues (cont'd)**

Submittal ID	Comment Number	Comment Category	Keyword	Comment Text	Response
				<p>1. The Pinedale Anticline Project. The PAP, which was authorized in 2000, did not even begin until well after the Jonah Project began in 1994. Moreover, the approved number of wells/well pads for this project is 700 versus only 497 in the Jonah Field. On these bases alone it is unreasonable to assume, with no supporting analysis of the number of wells permitted and in operation compared to the approved total for each project, that the PAP will see maximum emissions in 2006, 11 years before the predicted maximum in the Jonah Field. Furthermore, when the PAP DEIS was prepared, the maximum “downhole” (below-ground) well density that was allowed was one well every 40 acres. Yet now the Wyoming Oil and Gas Conservation Commission (WOGCC) is approving down-hole well spacing requests in the PAP of 20 and even 10 acres. Thus, the number of wells on the surface of the PAP Area could double or even quadruple beyond what was initially permissible when the project was approved. That is, far more wells will be required to meet the current approved downhole spacing level even if the surface spacing (one well every 40 acres) were to remain unchanged (i.e., multiple wells would be drilled from each pad to maintain the 40 acre surface spacing yet achieve the approved downhole spacing density). It is important to recognize that the PAP EIS did not set a limit on the number of wells that could be drilled; it set a limit on the number of well pads that could be constructed. Thus, even if it was originally contemplated or implied that there would be one well per pad, for a total of up to 700 wells, the current increase in approved downhole spacing density could lead to a doubling or quadrupling of that number to 1,400 or 2,800 wells. And there is no doubt the operators on the PAP are in fact already drilling large numbers of wells from single pads. Infill is already occurring. For example, BLM has just approved a proposal from Anschutz, Shell and Ultra to drill as many as 20 wells from a single well pad. All of these actions make it very unlikely that maximum emissions from the PAP will occur in 2006, and in fact make it likely those maximum emissions may well occur on a timeline that is more similar to the JIDP than dissimilar to it.</p>	<p>PAP, Riley Ridge, and South Piney, would present further detail on the project-specific and cumulative air quality impacts associated with these projects.</p>

**Table III-B. Substantive Comments on JIDP Air Quality Issues (cont'd)**

Submittal ID	Comment Number	Comment Category	Keyword	Comment Text	Response
				<p>2. The South Piney Project. The South Piney Project has not even been approved yet. A DEIS has not been released to date. Given this, it is not certain any well drilling will have begun in the South Piney Field in 2006. Emissions from this Project cannot be assumed to be at a maximum in 2006.</p> <p>3. The Riley Ridge Project. The Riley Ridge Project is currently closed to the approval of well drilling (with limited exceptions) pending preparation of a Supplemental EIS. So far as the parties know, there has not been a notice of intent to prepare this EIS published in the Federal Register to date. A FEIS and ROD is highly unlikely before the end of 2006. Even if a FEIS and ROD were signed during 2006, it is unlikely BLM could approve many applications for permit to drill (APDs) for this project in time for drilling to commence before year end. It is arbitrary and capricious for BLM to assume a level of drilling that will lead to maximum emissions during 2006 or any time soon thereafter.</p> <p>4. The Jack Morrow Hills Coordinated Activity Plan. Again, this project has not even been approved yet. The FEIS was released in 2004, but it is under protest and BLM has not decided that protest. Given the uncertain state of this project it is highly speculative to assume that well drilling will reach a maximum rate in this area in a year or even less. Until BLM approves the project, it is arbitrary and capricious to assume that drilling will be occurring during 2006, especially at maximum emissions rates.</p>	
2	10	B	Early Project Development Stage Modeling	<p>For all of these projects [PAP, South Piney, Riley Ridge, Jack Morrow Hills], BLM seems to be using a double standard. For purposes of creating its emissions inventory BLM only included NEPA projects if NEPA analysis had been completed and the project approved. Yet here [early-project-development stage modeling], BLM is willing to assume with no justification whatsoever that these four uncompleted and unapproved NEPA projects will show maximum emissions of air pollutants in 2006. This is unsupported speculation and contrary to the facts. which is arbitrary</p>	Please see comments 2-8 and 2-9, above.

**Table III-B. Substantive Comments on JIDP Air Quality Issues (cont'd)**

Submittal ID	Comment Number	Comment Category	Keyword	Comment Text	Response
				<p>and capricious. BLM must objectively demonstrate that emissions levels from these projects are likely to be at a maximum on or near 2006 and not on or near 2017 (the presumed time of maximum JIDP emissions) before it can engage in modeling of the impacts of these projects that is detached from the modeling of maximum impacts from the JIDP.</p> <p>Yet lack of final approval for the project under NEPA does seem to be the common denominator of these four projects. We are unaware of any other common characteristic they possess that might provide a basis for BLM to subject these projects to unique and special treatment, such as it did in the early-project-development stage modeling and that portion of the air quality Supplement. It appears to us that BLM is trying to "hit a homerun" and meet its NEPA obligations relative to air quality analysis for all of these uncompleted NEPA projects in one fell swoop. The early-project-development stage appears to have almost nothing to do with the JIDP, the nominal purpose and need of this NEPA analysis, rather it appears to be part of the NEPA compliance needed for other projects.</p>	
2	15	B	Ozone & VOCs	<p>The August 2005 Draft AQTSD Supplement states that VOC emissions were not modeled for this interim report, and revised VOC emissions and corresponding ozone impacts will be included in the FEIS. This is unacceptable, because it precludes the public from the opportunity to submit meaningful comments on this extremely critical aspect of the air quality analysis. BLM must perform competent modeling of both the near- and far-field impacts of the JIDP and other existing and reasonably foreseeable development in order to fulfill its responsibilities under NEPA and the <i>Federal Land Policy and Management Act (FLPMA)</i>. To do this, regional inventories of NO<sub>x</sub>, VOC, and carbon monoxide (CO) emissions must be developed, and modern photochemical air quality models must be applied.</p>	<p>The BLM has balanced both the need to produce this EIS in a timely manner and the need for appropriate analysis. This has required the modeling of some aspects of the project during development of the final documents (e.g., the hydrologic modeling). All such efforts are available for public review with the FEIS. The BLM has performed competent modeling of both near- and far-field impacts. The BLM will accept comments on the FEIS.</p> <p>A revised estimate of ozone from project sources is provided in the FEIS and AQTSD that demonstrates that the project would not cause or contribute to an exceedance of the 1 and 8 hour ozone standards.</p> <p>In recognition of the importance of potential ozone concentrations, monitoring has been initiated in</p>

**Table III-B. Substantive Comments on JIDP Air Quality Issues (cont'd)**

Submittal ID	Comment Number	Comment Category	Keyword	Comment Text	Response
					<p>the Jonah Field area as well as near Daniel and Boulder.</p> <p>The ozone calculation has been revised for the FEIS and AQTSD using a more appropriate/realistic source emissions scenario that considers well production decline curves which result in decreased VOC emissions over the life of wells and a more accurate representation of in-field compressor station size and emissions.</p> <p>Ozone models are designed for urban areas, and are very expensive and time-consuming to implement. The Scheffe method used may not provide the best tool for concentration estimation, but the BLM believes that the data and analyses provided in the EIS and AQTSD are adequate for this impact assessment.</p> <p>The factors contributing to the high ozone concentrations in February 2005 are unclear. To date, there is no finding of an ambient air quality standard violation.</p>
2	16	B	Ozone & VOCs	<p>Though based on an arbitrarily incomplete portion of the anticipated emissions from the JIDP, and performed using a rough screening nomograph produced with an outdated air quality model, the analysis of near-field ozone impacts that was presented in the November 2004, Draft AQTSD nevertheless suggests that the ozone impacts of the project would be very significant and would likely lead to near-field exceedances of the 8-hour ozone (O<sub>3</sub>) National Ambient Air Quality Standard (NAAQS). While the November 2004 Draft AQTSD provides no information whatsoever on the far-field ozone impacts of VOC, NO<sub>x</sub> and CO emissions from the JIDP and other existing or reasonably foreseeable sources in the region, the emissions estimates provided suggest that far-field effects on ozone could also be highly significant. Table 3.7 of the Draft AQTSD shows that a small part of the JIDP would contribute near-field 8-hour average O<sub>3</sub> concentrations of 78.3 micro-grams per cubic meter (µg/m<sup>3</sup>) (40 parts per billion (ppb)). The small segment of the project</p>	<p>Thank you for your comment.</p> <p>See comment 2-15, above.</p> <p>The ozone calculation has been revised for the FEIS and AQTSD using a more appropriate/realistic source emissions scenario that considers well production decline curves which result in decreased VOC emissions over the life of wells and a more accurate representation of in-field compressor station size and emissions.</p> <p>In recognition of the importance of potential ozone concentrations, monitoring has been initiated in the Jonah Field area as well as near Daniel and Boulder.</p> <p>The BLM believes that the data and analyses provided in the EIS and AQTSD are adequate for this impact assessment.</p>

**Table III-B. Substantive Comments on JIDP Air Quality Issues (cont'd)**

Submittal ID	Comment Number	Comment Category	Keyword	Comment Text	Response
				<p>modeled is thus estimated to produce O<sub>3</sub> equal to about 50% of the federal 8-hour standard of 80 ppb. Assuming a background concentration equal to 75.2 µg/m<sup>3</sup>, the AQTSD predicts total 8-hour O<sub>3</sub> concentrations of 153.5 µg/m<sup>3</sup> (78 ppb), which is 98% of the NAAQS. However, this value is apparently a gross underestimate, because the background O<sub>3</sub> concentration of 75.2 µg/m<sup>3</sup> used in the AQTSD is a long-term annual average O<sub>3</sub> concentration, and greatly underestimates the shorter-term maximum concentrations that are relevant to the ozone NAAQS. The NAAQS is a short-term standard based on health consequences of short-term exposure to O<sub>3</sub>, with violations judged based on maximum concentration values. Specifically, an area where the 3-year average of the 4th highest 8-hour average O<sub>3</sub> concentration each year is above 84 ppb is in violation of the NAAQS. BLM must use an O<sub>3</sub> concentration that is representative of maximum 8-hour concentrations for the area as the background concentration for its analysis. The same conditions that would lead to elevated background concentrations are also expected to be those that would produce the most O<sub>3</sub> from JIDP emissions, so in contrast to the assertion in the AQTSD, it is not “overly conservative” to combine a model prediction for hot, stagnant meteorological conditions that are conducive to high O<sub>3</sub> production with background concentrations that correspond to similar meteorological conditions. Table 3.1 of the AQTSD shows that the second highest 8-hour concentration at the Green River monitor from June 1998 – December 2001 was 147 µg/m<sup>3</sup> (75 ppb), which is 94% of the NAAQS. BLM has no grounds whatsoever for substituting a much lower, long-term average background concentration in its analysis. Combining the predicted O<sub>3</sub> concentrations from the JIDP with a reasonable estimate of background O<sub>3</sub> concentrations would yield a clear violation of the standard, from just a subset of the estimated JIDP emissions.</p>	
2	17	B	Ozone & VOCs	<p>The Draft AQTSD also appears to underestimate O<sub>3</sub> impacts because it considers emissions from a single one square-mile “patch” of 128 producing wells, accounting for 3.703.5 tons per year (tpv) of VOC and</p>	See comment 2-16, above.

**Table III-B. Substantive Comments on JIDP Air Quality Issues (cont'd)**

Submittal ID	Comment Number	Comment Category	Keyword	Comment Text	Response
				<p>5.8 tpy of NO<sub>x</sub>; and a single compressor station, accounting for 171.6 tpy of NO<sub>x</sub> and 124.7 tpy of VOC. No justification is given for omitting from the ozone modeling analysis more than 90% of the VOC emissions and most of the NO<sub>x</sub> emissions associated with the JIDP. The wells in this project are so tightly spaced that ozone “plumes” from the whole area would likely overlap, potentially leading to much higher concentrations than captured in the Draft AQTSD’s partial analysis. Ozone is formed over spatial scales of tens of miles or more, and time scales of hours or more, so the appropriate scale for an analysis of the incremental ozone impacts of the JIDP is to analyze the impact of the whole project, including emissions from all project phases that would be in operation at one time.</p>	
2	18	B	Ozone & VOCs	<p>The Draft AQTSD estimates near-field ozone impacts using a very rough screening nomograph that was developed in the late 1980’s using a Lagrangian photochemical model that is now very out-of-date, compared to the state of the science. Scheffe (1988) ran the Reactive Plume Model, version II (RPM-II) to estimate ozone impacts of a point source of VOC and NO<sub>x</sub> emissions in two “environments” that were characterized by measurements of urban and rural background concentrations made in the mid 1980’s.</p> <p>Lagrangian models, like the RPM model, isolate a plume of ozone and its precursors and at best only partially account for pollution transport and reactions that are simultaneously occurring in the background air that mixes with the plume. Because they do not adequately treat the influence of emissions, transport and chemistry going on outside the “plume”, they are widely viewed as inadequate to predict the impacts of fresh emissions on ozone concentrations. The preferred method for estimating ozone production from a particular source is to use a “plume-in-grid” treatment. In this approach, chemistry and transport in the plume from a point source is modeled as it disperses and mixes with the surrounding air, while the emissions, chemistry and transport going on in the background air are simultaneously modeled using an Eulerian grid framework. Models that are currently widely used and</p>	<p>Thank you for your comment.</p> <p>The ozone calculation has been revised for the FEIS and AQTSD using a more appropriate/realistic source emissions scenario that considers well production decline curves which result in decreased VOC emissions over the life of wells and a more accurate representation of in-field compressor station size and emissions.</p> <p>In recognition of the importance of potential ozone concentrations, monitoring has been initiated in the Jonah Field area as well as near Daniel and Boulder.</p> <p>Ozone models are designed for urban areas, and are very expensive and time-consuming to implement. The Scheffe method used may not provide the best tool for concentration estimation, but the BLM believes that the data and analyses provided in the EIS and AQTSD are adequate for this impact assessment.</p>

**Table III-B. Substantive Comments on JIDP Air Quality Issues (cont'd)**

Submittal ID	Comment Number	Comment Category	Keyword	Comment Text	Response
				<p>recommended for predicting ozone impacts for regulatory purposes, including the CAMx and the CMAQ have this capability. And, unlike the Scheffe (1988) approach, these models can account for the interacting suite of variables that actually determine how much ozone would be produced from a new source of emissions. These variables, which are neglected in BLM's analysis, include the chemical speciation and hence reactivity of the source's VOC emissions, CO emissions from the source, the background emissions and concentrations of VOCs, NO<sub>x</sub>, CO, free radicals and ozone which react with the added emissions in an often highly nonlinear fashion, and the meteorological conditions that actually occur at the site, including sunlight intensity, humidity, temperature, atmospheric turbulence and mixing, and wind speed and direction. Ozone formation is highly sensitive to all of these factors.</p>	
2	19	B	Ozone & VOCs	<p>Beyond estimating the near-field impacts of the JIDP, it is imperative that BLM estimate downwind impacts on ozone. Ozone and its precursors can be transported over distances of hundreds of miles, so communities, parks and wilderness areas far downwind of the Jonah Field may be affected by its VOC, NO<sub>x</sub>, and CO emissions. In particular, many of the light alkanes associated with gas production react over time scales of days, so their impact on ozone can occur hundreds of miles downwind. Maximum ozone concentrations across much of the West are approaching the federal standard. For example, EPA data indicate that two exceedances of the 8-hour 80 ppb standard were recorded at Thunderbasin Grassland in northeastern Wyoming, over the period from 2002 – 2004; concentrations exceeded 70 ppb on 11 days during the same period. Ozone concentrations at Yellowstone National Park have increased significantly over the past decade. In addition to health effects, the impacts of ozone on vegetation are a significant concern in Class I areas; injury to vegetation may occur at concentrations below the primary NAAQS.</p>	<p>Thank you for your comment.</p> <p>The ozone calculation has been revised for the FEIS and AQTSD using a more appropriate/realistic source emissions scenario that considers well production decline curves which result in decreased VOC emissions over the life of wells and a more accurate representation of in-field compressor station size and emissions.</p> <p>In recognition of the importance of potential ozone concentrations, monitoring has been initiated in the Jonah Field area as well as near Daniel and Boulder.</p> <p>Ozone models are designed for urban areas, and are very expensive and time-consuming to implement. The Scheffe method used may not provide the best tool for concentration estimation, but the BLM believes that the data and analyses provided in the EIS and AQTSD are adequate for this impact assessment.</p> <p>The BLM believes that the data and analyses provided in the EIS and AQTSD are adequate for</p>

**Table III-B. Substantive Comments on JIDP Air Quality Issues (cont'd)**

Submittal ID	Comment Number	Comment Category	Keyword	Comment Text	Response
					this impact assessment.
2	20	B	Ozone & VOCs	<p>Finally, if the VOC emissions projections contained in the Draft AQTSD are even close to correct, the VOC emissions associated with the project would nearly double the 66,000 tpy of VOC emissions that EPA estimates were released from all point and area sources in the entire State of Wyoming in 1999. EPA's National Emissions Inventory is thought to significantly underestimate emissions from oil and gas activities, so another point of comparison is the new oil and gas inventory that was recently developed by Environ for the Western Regional Air Partnership. That report estimates total 2002 VOC emissions of 119,000 tpy from all oil and gas activities in Wyoming. Based on the estimates provided in the Draft AQTSD, the JIDP would increase these emissions by 50%. Given the dramatic increase in VOC emissions the JIDP appears to represent, BLM cannot claim to have done a comprehensive assessment of the effects of the project on air quality unless cumulative ozone impacts of emissions from this and other nearby oil and gas projects are modeled using modern approaches and tools.</p>	<p>VOC emissions estimates are revised in the FEIS and AQTSD to account for field production decline curves.</p> <p>The ozone calculation has been revised for the FEIS and AQTSD using a more appropriate/realistic source emissions scenario that considers both the well production decline curves that result in decreased VOC emissions over the life of wells and a more accurate representation of in-field compressor station size and emissions.</p> <p>In recognition of the importance of potential ozone concentrations, monitoring has been initiated in the Jonah Field area as well as near Daniel and Boulder.</p> <p>Ozone models are designed for urban areas, and are very expensive and time-consuming to implement. The Scheffe method used may not provide the best tool for concentration estimation, but the BLM believes that the data and analyses provided in the EIS and AQTSD are adequate for this impact assessment.</p> <p>The BLM believes that the data and analyses provided in the EIS and AQTSD are adequate for this impact assessment.</p>
2	21	B	Mid-/Far-Field Modeling - Visibility	<p>The standard for visibility impairment in the Class I areas addressed in the Air Quality Impact Analysis Supplement should be 0.5 deciview (dv), not 1.0 dv. The <i>Clean Air Act</i> (CAA) defines "visibility impairment" as including reduction in visual range and atmospheric discoloration. In its regional haze regulations, EPA concludes that states must consider a change of 0.5 dv as indicating that a source contributes to visibility impairment for purposes of determining Best Available Retrofit Technology (BART) applicability. EPA stated in the BART rulemaking that "changes in light extinction of</p>	<p>The 1.0 dv value is widely recognized by U.S. Department of Agriculture-Forest Service (USFS), National Park Service (NPS), EPA, WDEQ, and BLM as the significance threshold for potential visibility impairment (Federal Land Managers' Air Quality Related Values Workgroup [FLAG], 2002). The 1.0 dv is a significance threshold, not a standard (there is no standard for measuring visibility impairment; threshold is the proper term). EPA has identified 1.0 dv as the smallest amount necessary to show reasonable progress towards</p>

**Table III-B. Substantive Comments on JIDP Air Quality Issues (cont'd)**

Submittal ID	Comment Number	Comment Category	Keyword	Comment Text	Response
				<p>5% will evoke a just noticeable change in most landscapes. The reference for this statement is a 1990 National Acid Precipitation Assessment Program (NAPAP) report that estimated perception thresholds for landscapes using a psycho-physical model of just noticeable changes in scenic brightness. An even lower threshold might occur for some viewers, scenes, and viewing conditions. The model used in the NAPAP assessment to derive the 0.5 dv threshold is relevant for situations of uniform haze, which is the case at issue with oil and gas development, where construction and production phases involve dispersed sources of NO<sub>x</sub>, SO<sub>2</sub>, particulate matter (PM) less than 2.5 microns in diameter (PM<sub>2.5</sub>) and particulate matter less than 10 microns in diameter (PM<sub>10</sub>), all of which contribute to visibility degradation. Of note, the 2002 paper by Professor Ron Henry that is often cited for the suggestion that a threshold value higher than 0.5 dv should be used is not persuasive, because it considers thresholds for perceptible changes in colorfulness, ignoring brightness. Both of these visibility attributes are important, and are better captured by using the 0.5 dv standard.</p>	<p>achieving the National Visibility Goal under the Regional Haze Regulations Periodic Review. The threshold represents the lowest value in a range of 1.0 to 2.0 dv indicated by Pitchford and Malm (Pitchford M.L., and W.C. Malm, 1994, <i>Development and Application of a Standard Visual Index</i>, Atmospheric Environment 28, 1049-1054) to be a just-noticeable change under most conditions. The only place 0.5 dv has ever been identified as a visibility significance threshold is in FLAG Guidance for prevention of Significant Deterioration (PSD) Permit Application review, when only a single industrial source is analyzed. Even FLAG uses 1.0 dv as a visibility significance threshold for cumulative analyses. The 0.5 dv is a value simply representing one half of a just-noticeable change.</p> <p>The threshold of 0.5 dv used by USFS is intended to provide an early warning that potential visibility impairment is approaching 1.0 dv. BLM recognizes the value of the 0.5 dv and includes it in the AQTSD appendices.</p>
2	22	B	Mid-/Far-Field Modeling - Visibility	<p>In their 2002 FLAG report, the Federal Land Managers (FLMs) concluded that “for the case of visibility impairment which changes the appearance of a viewed background feature [i.e., uniform haze as opposed to a plume], thresholds of perceptibility, where a just noticeable change occurs in the scene, have been found to correspond to a change in extinction (<math>\Delta b_{ext}</math>) as low as 2% under ideal conditions, up to 20% (NAPAP, 1990; Pitchford and Malm, 1994). A <math>\Delta b_{ext}</math> of 5% will evoke a just noticeable change in most landscapes (NAPAP, 1990). The FLMs are concerned about situations where a change in extinction from new source growth is greater than 5% as compared against natural conditions. Changes in extinction greater than 10% are generally considered unacceptable by the FLMs and will likely raise objections to further pollutant loading without mitigation. (A 2% or 5% change in extinction corresponds approximately to a 0.2 dv or 0.5 dv change, respectively, on the deciview scale.)</p>	<p>The BLM respectfully disagrees with this comment. The USFS, NPS, and USFWS (the FLAG agencies) do not use a 0.5 dv change as their threshold for identifying visibility impairment, nor is their any justification that BLM must use their impact threshold of 0.5 dv in its impact assessment. These agencies have identified 0.5 dv as their significance threshold only when reviewing potential visibility impacts to a mandatory federal PSD Class I Area from a single industrial source as part of their mandatory PSD Permit Application Review. When analyzing potential cumulative impacts, these agencies use 1.0 dv as their significance threshold, just as does the BLM.</p>

**Table III-B. Substantive Comments on JIDP Air Quality Issues (cont'd)**

Submittal ID	Comment Number	Comment Category	Keyword	Comment Text	Response
				<p>As the DEIS Air Quality Impact Analysis Supplement states, the USFS and the NPS use a 0.5 dv change as their threshold for identifying visibility impairment. Because the Bridger, Fitzpatrick, Popo Agie, Teton, and Washakie Wilderness Areas and the Wind River Roadless Area are under USFS control, and the NPS administers Grand Teton and Yellowstone National Parks, BLM must use their impact threshold of 0.5 dv in its impact assessment. At a minimum, it must fully discuss and analyze impacts at the 0.5 dv level because this is the level at which “adverse impacts” are deemed to occur by the FLMs with an “affirmative responsibility” under the CAA to protect visibility in Class I areas, and thus this is a legally appropriate and relevant standard. A failure to fully analyze impacts at the 0.5 dv level not only fails to meet the “other environmental . . . policies” of the relevant FLMs (USFS and NPS) it also fails to “achieve the requirements” of sections 101 and 102(1) of NEPA.</p>	
2	23	B	Near-Field Modeling	<p>The modeling performed for the near-field impacts of the Preferred Alternative is deficient because of reliance on PM<sub>10</sub> and PM<sub>2.5</sub> data collected in Cheyenne, Wyoming, to represent background concentrations for these pollutants, and reliance on data that are more than 20 years old to represent background concentrations of SO<sub>2</sub>. The AQTSD Supplement further fails to specify what percentile of the concentration distributions are represented by the 3-hour and 24-hour average concentrations listed in Table 2.3, so it is not clear what these background concentrations actually represent, in comparison to the applicable NAAQS and Wyoming Ambient Air Quality Standards (WAAQS). Moreover, the emissions inventories used to model these concentrations are deficient in numerous respects, likely leading to significant underestimation of emissions.</p>	<p>Ambient concentrations of particulates and sulfur dioxide utilized in the analysis were considered the most representative pollutant background values available at the time the analysis was conducted.</p> <p>PM<sub>10</sub> monitoring was recently initiated in the Jonah, Daniel, and Boulder areas by the WDEQ. Preliminary results suggest conditions are similar to the previous data obtained from the Cheyenne area that was incorporated into the modeling efforts. For further information please reference: <a href="http://deq.state.wy.us/aqd">http://deq.state.wy.us/aqd</a>.</p>
2	24	B	Near-Field Modeling	<p>While it is not clear how the near-field modeling was performed for the AQTSD Supplement, the single well-pad modeling scenarios described in the November 2004 AQTSD and the Air Quality Assessment Protocol could result in a significant underestimate of near-field concentrations, if plumes from multiple pads overlap.</p>	<p>Air quality impacts from the whole JIDP have been analyzed using CALPUFF and reported in the in-field model results. The near-field analysis was designed to predict maximum ambient impacts from construction/production activities. These maximum impacts are typically localized and drop</p>

**Table III-B. Substantive Comments on JIDP Air Quality Issues (cont'd)**

Submittal ID	Comment Number	Comment Category	Keyword	Comment Text	Response
				While this is a particularly serious concern with PM <sub>10</sub> , because Appendix C of the AQTSD Supplement shows modeled concentrations for several scenarios approaching the NAAQS, it must be investigated for all of the pollutants modeled with AERMOD. As with the Industrial Source Complex (ISC) model it was developed to replace, AERMOD is designed to estimate superimposed concentrations resulting from a large number of sources. There is thus no practical reason why the source configuration for the in-field analysis could not be expanded. BLM is required to ensure the scientific integrity of its NEPA analyses. Moreover, BLM is obligated to consider the air quality impacts of the whole project, not just the isolated effect of development of a single pad.	off significantly with distance from the emissions source.
2	25	B	Near-Field Modeling	The description of the meteorological inputs used with AERMOD that is provided in the October 2003 Air Quality Assessment Protocol is deficient, in that it omits discussion of data sources or assumptions for the terrain and roughness height data used in the model. Concentrations predicted with AERMOD are highly sensitive to the roughness height, which helps control how rapidly pollutants are dispersed vertically in the atmosphere. Inaccurate specification of this parameter can lead to drastic underestimation of concentrations.	The input data assumptions for AERMOD and AERMET are now included in the AQTSD; however, the protocol document has not been revised.
2	26	B	Mid-/Far-Field Modeling	The modeling performed for the far-field impacts of both the Preferred Alternative and the early-project-development stage is deficient because of reliance on inappropriate monitoring data for use as background concentrations, and because of significant deficiencies in the emissions inventories.	See comment 2-23, above.
2	27	B	Background Concentrations	The modeling in the AQTSD Supplement also appears to underestimate far-field concentrations of PM <sub>10</sub> and PM <sub>2.5</sub> , because ammonium ion (NH <sub>4</sub> <sup>+</sup> ) concentrations appear not to have been counted. But for the presence of SO <sub>4</sub> or nitrate (NO <sub>3</sub> ), gas-phase ammonia would not be converted to particle-phase NH <sub>4</sub> <sup>+</sup> . Consequently, NH <sub>4</sub> <sup>+</sup> concentrations should also be included in the total PM concentrations attributed to the JIDP and other projects. Furthermore, BLM must ascertain whether the ammonia concentrations input to the CALPUFF model are reasonable for the area being modeled. According to the Air Quality Assessment Protocol for this analysis,	<p>The use of 1 ppb ammonia for background was selected for this study during stakeholder protocol review which included representation from the BLM, WDEQ, EPA, NPS, and USFS.</p> <p>Actual ammonia concentration data measured at the CASTNET station in Pinedale, Wyoming, indicate annual average ammonia (NH<sub>3</sub>) concentrations closer to 0.3 ppb.</p> <p>The BLM believes that the data and analyses provided in the EIS and AQTSD are adequate for</p>

**Table III-B. Substantive Comments on JIDP Air Quality Issues (cont'd)**

Submittal ID	Comment Number	Comment Category	Keyword	Comment Text	Response
				<p>a background ammonia concentration of 1 ppb was assumed for the CALPUFF modeling of PM and visibility impacts, based on Interagency Workgroup on Air Quality Monitoring (IWAQM) Phase 2 guidance for “arid lands”. The full quote from the IWAQM Phase 2 guidance is actually “Accurate specification of this parameter [the ammonia concentration] is critical to the accurate estimation of particulate nitrate concentrations. Based on a review of available data, Langford et al. (1992) suggest that typical (within a factor of 2) background values of ammonia are: 10 ppb for grasslands, 0.5 ppb for forest, and 1 ppb for arid lands ... IWAQM recommends use of the background levels provided above, unless specific data are available for the modeling domain that would discredit the values cited.” The full quote raises the question of whether the 10 ppb value for grasslands, as opposed to the 1 ppb value for arid lands, should have been used for this application. In fact, current emissions inventories and data on concentrations of ammonium ion in precipitation suggest that eastern Idaho and southwestern Wyoming have ammonia levels that are much higher than those in other parts of the Interior West and comparable to levels in the Great Plains and agricultural areas of the Midwest. Agricultural activity in Idaho and the extensive livestock production that occurs in the Upper Green River Valley both contribute significant ammonia emissions. Partitioning of nitric acid (HNO<sub>3</sub>) to aerosol phase NH<sub>4</sub>NO<sub>3</sub> is highly sensitive to the availability of ammonia, both in reality and in the MESOPUFF chemistry scheme used in the CALPUFF model. Underestimation of ammonia concentrations would lead in turn to underestimation of PM<sub>2.5</sub> concentrations, PM<sub>10</sub> concentrations, and visibility impacts from NO<sub>x</sub> emitted from the JIDP and other sources in the region.</p>	<p>this impact assessment.</p>
2	1	C	Regulatory Compliance & Commitments	<p>After having engaged in this thorough review of the Air Quality Supplement and the underlying DEIS, it is the conclusion of the parties to these comments that BLM must do the following to protect air quality in the Upper Green River Basin of western Wyoming and to meet its obligations under the FLPMA, NEPA, and the CAA</p> <ul style="list-style-type: none"> <li>• The BLM must develop a valid cumulative impacts</li> </ul>	<p>The BLM believes that the cumulative impacts analysis contained in the AQTSD and EIS are valid for the JIDP. This effort was performed cooperatively with the WDEQ, EPA, and USFS and as such is considered appropriate.</p> <p>The BLM will provide all protections within its</p>

**Table III-B. Substantive Comments on JIDP Air Quality Issues (cont'd)**

Submittal ID	Comment Number	Comment Category	Keyword	Comment Text	Response
				<p>analysis of air quality issues in the Upper Green Basin, particularly with respect to visibility in Class I areas (Wilderness Areas and National Parks) and emissions levels hazardous to human health. Specifics regarding what is required for a valid cumulative impacts analysis are provided by these comments. As discussed in these comments, the air quality supplement, Jonah Infill DEIS, and all other existing BLM NEPA documents fail to meet the need for a valid cumulative impacts analysis.</p> <ul style="list-style-type: none"> <li>• The BLM must use its authority under FLPMA, NEPA, and the CAA to ensure the striking views in National Parks and Wilderness Areas (Class I areas) are protected. Visibility in local communities must be protected as well.</li> <li>• The BLM must ensure that human health is protected by preventing emissions increases that will contribute to violations of the ozone NAAQS and other NAAQS, and ensure limits on the incremental increases in pollutant concentrations in PSD areas are not exceeded, including Class II increments.</li> <li>• BLM must ensure high mountain watersheds are not acidified.</li> <li>• To accomplish these things BLM must set a limit on emissions from oil and gas development that cannot be exceeded so as to ensure that all requirements of the CAA, NEPA, and FLPMA are met.</li> <li>• BLM must adopt effective strategies to implement these limitations on emissions. Emissions tracking tied to permit issuance has proven to be a reasonable strategy to ensure compliance with emissions caps.</li> <li>• BLM must require phased development of oil and gas as a means to ensure that emissions remain below the emissions limits while allowing for orderly development of the resource across the</li> </ul>	<p>authority to protect visibility, human health, and high mountain watersheds while balancing an appropriate use of resources on federal lands. How the BLM will accomplish these goals is described in the revised Preferred Alternative in the FEIS (see Section 2.4.5). The pace of development will be controlled by managing several performance objectives, including surface reclamation. In terms of pace of development, the BLM will continue to work with the EPA, WDEQ, and USFS to develop and implement applicable mitigation measures to meet legal requirements. The BLM also recognizes that WDEQ employs the BACT processes as part of their air quality regulatory authority and responsibility.</p> <p>The BLM will abide by the NO<sub>x</sub> tracking agreement with the WDEQ.</p> <p>Monitoring and mitigation oversight will be accomplished by the Jonah Interagency Office (JIO) (see FEIS Section 2.4.5).</p> <p>The BLM will not approve a project that violates NEPA, FLPMA, or the CAA.</p>

**Table III-B. Substantive Comments on JIDP Air Quality Issues (cont'd)**

Submittal ID	Comment Number	Comment Category	Keyword	Comment Text	Response
				<p>region.</p> <ul style="list-style-type: none"> <li>• The BLM must ensure that industry applies the best available control technology (BACT) in all stages of gas field development to minimize emissions of pollutants.</li> <li>• The BLM must reinstitute and faithfully abide by the NO<sub>x</sub> tracking agreement with the WDEQ it entered into initially on June 16, 1997 and reaffirmed on April 7, 2000.</li> <li>• BLM must also ensure that scientifically valid and thorough monitoring of air pollutant emissions and ambient pollutant levels in both affected areas and background areas is implemented and maintained in the Upper Green River Basin.</li> </ul> <p>These measures must be implemented to avoid the extreme impacts to visibility in Class I areas, likely violations of NAAQS, violations of increment levels in Class I and Class II areas, and degradation of other air quality related values that are documented in these comments and BLM's own NEPA documents. Absent these measures, BLM will be engaging in the approval of actions (oil and gas development) that will violate the NEPA, FLPMA, and CAA.</p>	
2	2	C	Regulatory Compliance & Commitments	<p>When we step back and look at the "big picture" presented by BLM's own analysis it is clear that BLM is preparing to unleash widespread deterioration of the regional environment in violation of numerous legal standards through the oil and gas development it proposes to authorize and even promote. It plans to transform an area with some of the cleanest air in the world that is home to some of the most treasured protected landscapes in the world into an area where haze obscures views for about a third of the year, human health is threatened, and treasured high mountain fisheries are acidified.</p> <p>These impacts cannot be allowed to happen, and are prohibited by law. This is true for the many particular legal reasons discussed in these comments. but it is</p>	<p>The BLM respectfully disagrees with the conclusions reached in this comment. BLM will do everything within its authority to balance the many uses assigned to federal lands, from minerals development to public recreational use. The proper implementation of the NEPA process is key to this being accomplished.</p>

**Table III-B. Substantive Comments on JIDP Air Quality Issues (cont'd)**

Submittal ID	Comment Number	Comment Category	Keyword	Comment Text	Response
				<p>also true if BLM is to meet a goal of NEPA to “assure for all Americans safe, healthful, productive, and esthetically and culturally pleasing surroundings;” under FLPMA to manage the public lands “in a manner that will protect the quality of scientific, scenic, . . . ecological, environmental, air and atmospheric . . . values . . . ;” and under the CAA “to protect and enhance the quality of the Nation’s air resources so as to promote the public health and welfare and the productive capacity of the population,” and to ensure “the prevention of any future, and the remedying of any existing, impairment of visibility in mandatory class I Federal areas . . . .” See also 42 U.S.C. § 7470 (the purpose of the PSD program is to “protect public health and welfare from an actual or potential adverse effect” even where an area complies with applicable NAAQS).</p>	
2	3	C	Regulatory Compliance & Commitments	<p>When the additional NO<sub>x</sub> emissions expected from the development analyzed in the Air Quality Supplement for this area are added to the impacts identified by the WDEQ analysis of increment consumption, Appendix B, the NO<sub>2</sub> Class II increment will be exceeded. In addition, the large increase in PM<sub>10</sub> concentrations attributed to direct impacts from the proposed development will cause violations of the Class II increment for PM<sub>10</sub>. The analysis of visibility impairment predicted in the Jonah Infill DEIS and Air Quality Supplement also demonstrate massive deterioration in visibility in the region. And the monitored exceedances of the 8-hour ozone NAAQS also indicate the likelihood that the ozone NAAQS will be violated if large increases in ozone precursors are allowed in the region.</p> <p>Consequently, BLM must amend the Pinedale Resource Management Plan (RMP) to establish limits on the timing and magnitude of development to ensure that these predicted impacts from increased oil and gas development will not occur and that they are adequately analyzed and accounted for at the proper level of NEPA and FLPMA analysis. We would only note that if BLM does not amend the Pinedale RMP, any development in excess of the levels of development authorized by the current RMP will not be</p>	<p>Conformance of the project with the Pinedale RMP is discussed in FEIS Section 1.5.3, which has been updated in light of continuing concerns regarding this matter. However, the BLM has concluded that neither a revision nor amendment to the Pinedale RMP is needed for consideration of the JIDP.</p>

**Table III-B. Substantive Comments on JIDP Air Quality Issues (cont'd)**

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				in conformity with the RMP, and therefore will violate FLPMA and BLM's implementing regulations requiring that management actions conform to the RMP.	
2	4	C	Regulatory Compliance & Commitments	<p>Under EPA's regional haze rule at 40 C.F.R. §§ 51.308 and 309, the State of Wyoming must submit a State Implementation Plan (SIP) that complies with these rules so as to achieve "reasonable progress" toward the national goal of no impairment of visibility due to manmade sources of air pollution in Class I areas.</p> <p>Under EPA's rules, the December 17, 2007 SIP must provide for compliance with the provisions of 40 C.F.R. § 51.308(d)(1)-(4). 40 C.F.R. §51.309(g)(3). Under these rules the SIP must "provide for reasonable progress toward achieving natural visibility conditions." It must do that by providing for "improvement in visibility for the most impaired days" and "no degradation in visibility for the least impaired days." The SIP must also "include enforceable emissions limitations, compliance schedules, and other measures as necessary to achieve the reasonable progress goals established by States having mandatory Class I Federal areas. The effect of BLM's approval of the JIDP Preferred Alternative as currently contemplated will be to make it difficult or impossible for the State to meet these requirements. BLM will be in the midst of actively degrading visibility in Class I areas in 2007. This will make it impossible for there to be "improvement" in visibility on the most impaired days and for there to be "no degradation" on the least impaired days.</p> <p>At a minimum, the Jonah Infill DEIS and Air Quality Supplement must be revised to provide a specific accounting as to what the effects of this project will be on the State of Wyoming's ability to submit an approvable SIP to EPA, and for the standards specified in EPA's regulations to actually be met.</p>	<p>BLM recognizes WDEQ's responsibility under the Regional Haze Rule. BLM has adopted numerous air quality protections necessary for compliance with the reasonable progress goals as the air quality performance objectives of the Preferred Alternative (see FEIS Section 2.4.5.1). The Jonah Infill Preferred Alternative requires Operators to demonstrate that potential impact to visibility from the proposed project would be mitigated to a level associated with an emission reduction of at least 80%. BLM encourages Operators to eliminate significant potential impacts to visibility from the proposed project as soon as possible.</p>
2	5	C	Regulatory Compliance & Commitments	<p>BLM has independent duties under FLPMA and NEPA to ensure compliance with the CAA relative to the impacts of these gas fields on visibility in addition to any provisions the State of Wyoming might make in its SIP. The basis for this independent duty is discussed</p>	<p>The BLM recognizes its duties under FLPMA and NEPA to ensure compliance with all federal laws, including the CAA. Analyses such as the early-project-development stage modeling were conducted because the BLM recognizes this</p>

**Table III-B. Substantive Comments on JIDP Air Quality Issues (cont'd)**

Submittal ID	Comment Number	Comment Category	Keyword	Comment Text	Response
				<p>in detail throughout these comments. If nothing else, the early-project-development stage impacts are predicted to occur in 2006, well before the 2007 SIP is even due. Furthermore, some means to control air pollution are within BLM's authority to regulate and not WDEQ's, such as controlling the rate of overall well permitting (the overall pace of development). The conduct of oil and gas operations on a lease shall be "in a manner that minimizes adverse impacts to . . . air . . . visual, and other resources." BLM specifically has the "right to deny approval of operations" where impacts are greater than normal. "Lessor reserves the right to specify rates of development . . . in the public interest . . . if deemed necessary for proper . . . operation of . . . these leased lands." BLM shall take "any" action necessary to prevent unnecessary or undue degradation of the public lands. Thus, BLM specifically retains the right and responsibility to regulate the overall pace of development as a means to meet its independent responsibilities under NEPA, FLMPA, and the CAA, a right which WDEQ does not enjoy under the current PSD SIP which is based on a first-come first-served approach to issuing facility permits pursuant to WDEQ's authority to regulate individual pollution sources. Consequently BLM must employ and pursue this area of authority to meet its obligations under the law, regardless of and in addition to any provisions in the Wyoming SIP that may grant authority to WDEQ to deny individual permits based on evidence of expected violations of CAA requirements.</p>	<p>obligation and does not seek to supplant it with the actions of the WDEQ.</p> <p>The pace of development for the JIDP would be controlled by several factors, including the ability of field Operators to reclaim disturbed lands (see Preferred Alternative; FEIS Section 2.4.5). In terms of pace of development, the BLM is working with the EPA, WDEQ, and USFS to develop and implement applicable mitigation measures to meet legal requirements. The BLM has an obligation to allow for multiple uses of the resources on federal lands and will do so, as noted in the standard lease, in a manner that attempts to minimize adverse impacts.</p>
2	6	C	Health	<p>The Jonah Infill DEIS states that with regard to cancer risks due to hazardous air pollutants resulting from oil and gas development, all cancer risks are acceptable "except for [the maximally-exposed individual] benzene scenario, which falls at the lower end of the 1 x 10<sup>-4</sup> to 1 x 10<sup>-6</sup> cancer risk range."</p> <p>This statement is obscure and needs to be explained. It appears to be saying that under some scenarios a recognized acceptable level of cancer rates may be exceeded. If this is true it needs to be disclosed and carefully explained. Neither the decision-maker (BLM and to some extent other agencies) or the public can</p>	<p>The EIS and AQTSD text have been clarified to state that all of the cited cancer risks from project benzene and formaldehyde are within the presumptively acceptable risk range (1 x 10<sup>-4</sup> to 1 x 10<sup>-6</sup>) as stated by EPA (EPA 1999).</p> <p>The focus of BLM NEPA air quality analyses is on impacts from the Proposed Action and alternatives including No Action. It is therefore appropriate to calculate the incremental (project only) potential human health risk associated with benzene and formaldehyde emissions from the proposed project.</p>

**Table III-B. Substantive Comments on JIDP Air Quality Issues (cont'd)**

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				<p>make informed decisions or provide informed input into this process when a potentially significant issue is obscured with vague, unexplained language and the data is provided in tables that are not read by most people, or carefully explained to them by BLM.</p> <p>Furthermore, BLM's estimates are for incremental risk associated with the project, and would be imposed on top of existing cancer risks. Under NEPA, BLM has an obligation to disclose the cumulative impacts of the project. EPA has found that baseline cancer risks from benzene and formaldehyde are elevated across much of the country. BLM provides no baseline data for potentially carcinogenic chemicals to determine background exposure to which estimates of Jonah Infill Drilling Project emissions and risks can be added.</p> <p>BLM must also clearly disclose that its evaluation of cancer risks associated with the Jonah project underestimates risks associated with formaldehyde, because BLM's analysis only addresses primary formaldehyde emissions, not the contribution of other VOCs emitted from the project to the formation of secondary formaldehyde in the atmosphere downwind from the points of emission.</p> <p>Additionally, BLM's assessment has entirely neglected the cancer risk associated with diesel exhaust emissions from oil and gas development, which may be highly significant. There is no doubt that many thousands of heavy diesel truck trips will be required to develop and operate the field, and well drilling may well be largely done by large diesel powered drilling rigs. BLM must disclose these potential impacts in association with the risks presented by formaldehyde and benzene emissions.</p>	<p>Calculation of secondary formaldehyde formation is beyond the capabilities of the CALPUFF model that was selected for use in this air analysis, and approved by the air quality stakeholders group that included EPA, WDEQ-AQD, NPS, and USFS.</p> <p>As stated by EPA in the health assessment document for diesel exhaust (EPA 2002), "Even though available evidence supports a conclusion that diesel exhaust is likely to be a human lung carcinogen, the conclusion of the dose-response evaluation is that the available data are not sufficient to confidently estimate a cancer unit risk or unit risk range." Therefore, there is not sufficient information available to quantify the potential carcinogenic risk associated with diesel exhaust. As more information becomes available, BLM will consider that information and revise our air quality analyses as we deem appropriate and scientifically defensible.</p> <p>The BLM believes adequate and sufficient information for public disclosure and decision-making is provided in the EIS and AQTSD.</p>
2	7	C	Regulatory Compliance & Commitments	<p>In 1997 BLM entered into a Letter of Agreement for Tracking NO<sub>x</sub> Emissions with the WDEQ. That commitment was reaffirmed in April 2000.</p> <p>In this agreement, BLM committed to tracking NO<sub>x</sub> emissions sources (new, abandoned or modified) within the vast airshed encompassed by the Rock Springs.</p>	<p>BLM will abide by its commitment to track NO<sub>x</sub> emissions.</p>

**Table III-B. Substantive Comments on JIDP Air Quality Issues (cont'd)**

Submittal ID	Comment Number	Comment Category	Keyword	Comment Text	Response
				<p>Pinedale, and Kemmerer Field Offices. Changes in emissions from existing sources and new sources were to be tracked. Tracking was to be based on the maximum potential to emit that was authorized in permits issued by WDEQ. BLM specifically committed to doing a number of things, including maintaining separate records for the Jonah and Pinedale Anticline Fields due to their proximity to the Bridger Wilderness, and preparing an annual report of emission source information.</p> <p>The Pinedale Anticline EIS ROD provided a separate, binding commitment to continue this monitoring. Yet as recently revealed in the Questar Year-Round Drilling EA, BLM has failed to abide by its commitments to track NO<sub>x</sub> and other emissions. This must be corrected and BLM must abide by both the mitigation commitment adopted in the Pinedale Anticline ROD and the Letter of Agreement so that reliable and accurate information on pollutant emissions is available to the agencies and the public.</p> <p>This requires monitoring not just in the Jonah and Pinedale Anticline Fields. Rather, under the Agreement, BLM must carefully and accurately monitor NO<sub>x</sub> emissions throughout western and southwestern Wyoming in the Rock Springs, Kemmerer, and Pinedale Field Offices.</p>	
2	11	C	Mitigation	<p>The Air Quality Supplement is entirely non-definitive about what mitigation will be used to avoid or eliminate adverse air quality impacts and who would undertake those measures. The Mitigation Options that are modeled are presented as “examples” not commitments. BLM claims it may not even be able to implement some mitigation measures. The role the State could or will play in adopting and implementing these mitigation measures is not discussed or defined. BLM has obtained no commitments from the State that cumulative impact analyses will be performed before minor source permits are issued, or that permits will be denied if aggregate emissions will cause or contribute to violations of NAAQS, PSD increments, visibility impairment, and adverse impacts on acid sensitive</p>	<p>The BLM will provide for its obligations under the FLMPA, NEPA, and the CAA. Mitigations are not committed to in the Air Quality Supplement (see AQTSD Appendix G) because it is an analysis document. The specific mitigations that would be required are specified for the Preferred Alternative in the FEIS (Section 2.4.5) and would be promulgated in the ROD. Any measure incorporated in the ROD will be enforceable by the BLM. The BLM has been and will continue to work with the EPA, WDEQ, and USFS to develop and implement applicable mitigation measures.</p>

**Table III-B. Substantive Comments on JIDP Air Quality Issues (cont'd)**

Submittal ID	Comment Number	Comment Category	Keyword	Comment Text	Response
				waters. Even in the Jonah Infill DEIS itself only vague possibilities to mitigate impacts are mentioned (but not analyzed), and no definitive regulatory role for the State is described. BLM must adopt measures that are both sufficient to provide for compliance with the CAA, and enforceable directly by BLM or by an enforceable agreement with the State to meet its obligations under the FLPMA, NEPA, and the CAA.	
2	12	C	Regulatory Compliance & Commitments	<p>The WDEQ just released its Summary Report, Southwest Wyoming NO<sub>2</sub> PSD Increment Consumption Modeling. This document suffers from several flaws that make it impossible for BLM to rely on it for meeting its obligations under NEPA to disclose cumulative impacts to air quality of the JIDP, or to demonstrate under FLPMA that BLM will provide for compliance with the CAA relative to protecting air quality. These problems include the following:</p> <ol style="list-style-type: none"> <li>1. There is no analysis of impacts to visibility, the ozone NAAQS, or PSD increments for PM or SO<sub>2</sub>. Just NO<sub>2</sub> is analyzed.</li> <li>2. It is not a comprehensive increment consumption analysis since it specifically omits sources that contribute to NO<sub>2</sub> concentrations in the region. WDEQ states that it will supplement the analysis by future, more complete analyses (to include sources within a 300 kilometer [km] range around the Class I areas), but pending this it cannot be a deemed a comprehensive analysis.</li> <li>3. It does not address BLM's obligation under NEPA and FLPMA to determine the cumulative impacts of the proposed JIDP. It only considers existing sources of emissions as of 2004. Emissions from proposed developments (including the JIDP) are not considered at all, even though gas fields in proximity to Class I areas are shown to have a dominant effect on air quality in Class I areas.</li> <li>4. The amount of NO<sub>2</sub> increment consumed by the nearby existing development included in the analysis demonstrates that if concentrations</li> </ol>	<p>WDEQ chose to focus the current study on NO<sub>2</sub>, and has the authority and responsibility for regulatory PSD Increment Consumption Analysis for PM and SO<sub>2</sub>. Visibility is addressed by the BLM air quality analysis. In recognition of the importance of potential ozone concentrations, monitoring has been initiated in the Jonah Field area as well as near Daniel and Boulder.</p> <p>The WDEQ report currently available is a preliminary report.</p> <p>WDEQ has the responsibility and authority for regulatory PSD Increment Consumption Analysis. Preliminary results for 2004 suggest that it is unlikely that the JIDP could cause an exceedance of the NO<sub>2</sub> increment at the Bridger Wilderness Area. The intent of the PSD program is to determine the current status of increment consumption. Although some future emissions are included (if the proposed major point source project has been approved but not yet built), it is inconsistent with the regulatory intent of the PSD program to estimate potential future increment consumption.</p>

**Table III-B. Substantive Comments on JIDP Air Quality Issues (cont'd)**

Submittal ID	Comment Number	Comment Category	Keyword	Comment Text	Response
				<p>predicted by BLM for the proposed JIDP were added, the NO<sub>2</sub> increment will be violated.</p>	
2	13	C	Regulatory Compliance & Commitments	<p>The BLM Must Consider The Numerous Existing NEPA Air Quality Analyses In The Jonah Infill Drilling Project EIS. Over the years BLM has prepared many, many NEPA documents that addressed air quality, many intended to have widespread application in western Wyoming, just as is the case for the Jonah analysis. Yet these documents are not disclosed and discussed in the Jonah Infill DEIS and Air Quality Supplement, an important oversight. Given the amassed air quality analyses and available information represented in these prior NEPA analyses, they cannot be ignored by BLM. They represent an important source of existing information and analysis that must be acknowledged by and considered by BLM, and we request that they be considered in the Jonah Infill Drilling Project EIS.</p> <p>These documents show and demonstrate many things. For example, they show that BLM has previously set limits on emissions from oil and gas development projects (i.e., it knows how to do this), that it has acknowledged that it has authority to phase the pace of oil and gas development, that it recognizes that it (not just WDEQ) has a responsibility to comply with, implement and enforce the requirements CAA, etc. Yet now BLM seems unwilling to acknowledge and consider these past positions and actions. This needs to be explained. In the past, BLM has recognized that Class I areas such as the Bridger Wilderness provide “visual experiences that are almost unequaled any other place along the Rocky Mountain Range.” Yet now BLM is almost silent about the values of these areas and of the importance of protecting air quality generally, bloodlessly documenting the extreme impacts that would occur due to the JIDP and other projects with little or no expression of interest or concern about the values involved. This should be rectified; impacts cannot be adequately analyzed absent recognition of and definition of the values affected. These documents also show levels of emissions BLM has previously estimated. which could</p>	<p>The BLM is aware of these other NEPA documents. As noted in the reference sections of the AQTSD, EIS, and supplements, relevant NEPA documents have been incorporated directly into this process. It is not necessary to disclose them all. Such a process would lead to redundancies.</p> <p>The BLM has reviewed past mitigation efforts for a variety of gas projects, including existing Jonah developments, and will select appropriate mitigations for the current project based upon its best professional judgment and in consultation with other air quality stakeholder agencies.</p> <p>Chapter 3 of the EIS appropriately documents the values of the various resources that could be potentially impacted by this project. The BLM believes this has been performed in a balanced way that reflects the perspectives of all involved parties. All of these resources and their proper utilization are of a concern to the BLM.</p>

**Table III-B. Substantive Comments on JIDP Air Quality Issues (cont'd)**

Submittal ID	Comment Number	Comment Category	Keyword	Comment Text	Response
				<p>have relevance to the current analysis, and certainly any changes or discrepancies need to be considered and explained. Thus, we include these documents as part of our comments and ask that BLM consider these NEPA documents as it prepares the FEIS.</p>	
2	14	C	Ozone & VOCs	<p>Information On Ozone Concentrations In The Jonah Field. On September 26, 2005 the EPA sent the parties a response to a Freedom of Information Act request for data from the Jonah and Boulder air quality monitoring stations. That response was sent to the parties electronically by EPA, and the parties forwarded that response electronically to BLM on September 26, 2005 asking that the information be incorporated by reference into these comments.</p> <p>The data from the monitoring stations shows that there were exceedances of the ozone 8-hour standard (80 ppb) on February 3 and 26, 2005 at the Jonah station (98 and 89 ppb, respectively), and on February 20, 2005 at the Boulder station (88 ppb reading).</p>	<p>BLM agrees that the Boulder and Jonah stations recorded exceedances of the 8 hour ozone NAAQS. The factors contributing to the high ozone concentrations in February 2005 are unclear. To date, there is no finding of an ambient air quality standard violation.</p> <p>In recognition of the importance of potential ozone concentrations, monitoring has been initiated in the Jonah Field area as well as near Daniel and Boulder.</p>
3	1	B	Emissions, Project	<p>Flaring Emission Reductions Should Be Reflected in the Analysis. The emission reductions from “flare-less” completions were not considered in the air quality analysis.</p> <p>Consequently, flaring emissions are overestimated. The analysis on page B-2 assumes that one, two, or three flares operate continuously throughout the year, and in Table D.1.30 on page D-33 continuous operation of four to five flares has been assumed. The analysis appears to assume that the wells do not have access to gathering systems, even after production begins. To the contrary, most wells currently being drilled by Ultra are development wells and have immediate access to gathering infrastructure. Ultra’s usual practice on such wells is to immediately divert flow of the produced gas into the field gathering system. This results in a minimal amount of flared gas. On July 1, 2005 WDEQ’s regulatory permitting for flaring during completions went into effect for the Pinedale and Jonah Fields. This regulation should be incorporated into the analysis because the requirements are mandatory.</p>	<p>The conservative application of one, two, and three simultaneously operating flares considers the use of flareless completions for 80% of all completions. It is important to note that the use of these estimates is applied to derive what “could happen on any given day,” not what “would happen on all days throughout the year.” AQTSD Appendix G Table G-3 shows potential JIDP-specific emission reductions with and without flaring.</p> <p>The emissions inventory and modeling analysis were conducted prior to the release of revised WDEQ-AQD flaring guidance, and flaring assumptions were based on data obtained from field Operators. The potential emissions reductions benefits from reduced flaring are further discussed in the FEIS.</p> <p>Project-specific emission reductions could be achieved by various methods, including flareless completions.</p>

**Table III-B. Substantive Comments on JIDP Air Quality Issues (cont'd)**

Submittal ID	Comment Number	Comment Category	Keyword	Comment Text	Response
3	2	B	Emissions, Project	Use of Engine Manufacturers' Emissions Factors Provide a More Accurate Estimate of Drill Rig Emissions Compared with EPA AP-42. The use of conservative EPA AP-42 emission factors overestimates rig emissions from the Pinedale Anticline. It would be more accurate to use manufacturers' emissions estimates in full field (2017) and near term (2006) modeling.	Neither drilling engine specifications (make/model) nor manufacturers' emission factors were able to be obtained for regional project areas. Additionally, although EPA Tier 1 and 2 emission factors may have better approximated manufacturers' emission factors, they could not be used exclusively in this analysis because older drilling engines were projected to operate for which only AP-42 emissions factors were applicable.
3	3	B	Emissions, Project	Use of EPA AP-42 factors should employ the correct emission factors for appropriate engine size. The Jonah Infill analysis of drilling emissions uses EPA AP-42 Section 3.3 emission factors. These factors apply only to engines less than 600 hp.  Lower emission factors from Section 3.4 of AP-42 should have been used for the larger engines on the drill rigs.	One 500-hp engine and two 800-hp engines were specified for straight drilling, and two 500-hp engines and two 800-hp engines were specified for directional drilling. AP-42 Section 3.4-1 is applicable to engines 600 hp or greater. Because not all engines specified were greater than 600 hp, and because a single emission factor was desired for use in the inventory, the emission factor from AP-42 Table 3.3-1 was conservatively used.
3	4	B	Emissions, Regional	Baseline Emissions Should Use Best Available Data. Although NEPA requires use of best available data, the air quality analysis does not use the best available data to estimate regional baseline emissions. Instead of using 2002 actual emissions, which are available through WDEQ's WISE, the analysis uses changes in potential emissions as reported in WDEQ's Southwest Wyoming Emissions Tracking Report and submitted to the Wyoming BLM.	At the time the regional emissions inventory was conducted, the WISE system was not yet operational. Changes in potential emissions obtained from state permitting authorities established the basis for the regional source inventory; however, data from WDEQ's Southwest Wyoming Emissions Tracking Report were not utilized.
4	1	A1	Agency Recommendations, etc.	Section 1.0, Page 2. After the last paragraph, insert the following text that has been added to the TSD supplement on page 2 in the second paragraph: "The Preferred Alternative modeling ... or the Preferred Alternative modeling analyses."	This text was added to the August 2005 DEIS Supplement.
4	2	A1	Agency Recommendations, etc.	Section 2.0, Page 3, 3rd paragraph, last sentence. Add the following on to the last sentence: "...AQTSD, to maintain consistency and comparability with the results reported in the DEIS (BLM 2005) and AQTSD (TRC 2004)."	Although arranged slightly differently, this text was added to the August 2005 DEIS Supplement.
4	3	A1	Agency Recommendations, etc.	Section 2.0, Page 3/4, 4th paragraph. After the first sentence, Insert the following as a new sentence: "The PSD demonstrations serve information purposes only and do not constitute a regulatory PSD Increment"	This text was added to the August 2005 DEIS Supplement.

**Table III-B. Substantive Comments on JIDP Air Quality Issues (cont'd)**

Submittal ID	Comment Number	Comment Category	Keyword	Comment Text	Response
				consumption analysis, which may be completed as necessary by WDEQ-AQD.”	
4	4	A1	Agency Recommendations, etc.	Section Table 1, Page 7, PSD Class I Increments row & PSD Class II Increments row. Add the following footnote: “The PSD demonstrations serve information purposes only and do not constitute a regulatory PSD Increment consumption analysis.”	This text was added to the August 2005 DEIS Supplement.
4	5	A1	Agency Recommendations, etc.	Section Table 1 and 2, Page 7 and 8. In looking at the tables in light of the direction to present information in a format that is clear and easy to read, it is hard to believe that a member of the public would be able to understand what is represented without a significant amount of effort to decipher the acronyms and the significant amount of data contained in the table. If a change to a table with more of a reader friendly format (e.g., text such as “Potential concentrations would be in compliance with applicable NAAQS and WAAQS”) is not supported. BLM should ensure that these tables be printed in color.	Tables 1 and 2 of the August 2005 DEIS Supplement were printed in color and in bold text.
4	6	A1	Agency Recommendations, etc.	Section 2.2.2, Page 11, Far-field impacts, 1st paragraph. After last sentence, Insert the following as a new sentence: “These SILs are proposed by EPA as an indicator of significance of New Source Review projects to determine additional analysis requirements.”	This text was added to the August 2005 DEIS Supplement.
4	7	A1	Agency Recommendations, etc.	Section 2.2.3, Page 13, Far-field impacts, 1st paragraph. After last sentence, Insert the following as a new sentence: “These SILs are proposed by EPA as an indicator of significance of New Source Review projects to determine additional analysis requirements.”	This text was added to the August 2005 DEIS Supplement.
4	8	A1	Agency Recommendations, etc.	Section 2.3, Page 15. After the first sentence, insert the following text that has been added to the TSD supplement on page 2 in the first paragraph: “Cumulative analyses include...included ambient air background values.”	This text was added to the August 2005 DEIS Supplement.
4	9	A1	Agency Recommendations, etc.	Section Table 3, Page 21, Example Mitigation Options. Column heading needs to have a footnote indicating that the example is based on 50% straight / 50% directional drilling.	This text was added to the August 2005 DEIS Supplement.

**Table III-B. Substantive Comments on JIDP Air Quality Issues (cont'd)**

<b>Submittal ID</b>	<b>Comment Number</b>	<b>Comment Category</b>	<b>Keyword</b>	<b>Comment Text</b>	<b>Response</b>
4	10	A1	Agency Recommendations, etc.	Section 3.0, Page 22. After the last paragraph, insert the following text that is in the TSD supplement on page 19 as the last sentence in the first paragraph: "Unlike the Preferred Alternative modeling...are not directly comparable to the results presented in the DEIS."	This text was added to the August 2005 DEIS Supplement.
4	11	A1	Agency Recommendations, etc.	Section 3.0, Page 23, 1st paragraph, 1st and 2nd full sentences. The acronym "PAP" is missing from both lists of other projects.	The acronym was added to the August 2005 DEIS Supplement.
4	12	A1	Agency Recommendations, etc.	Section 3.1, Page 24. After the 3rd sentence, insert the following as a new sentence: "The PSD demonstrations serve information purposes only and do not constitute a regulatory PSD Increment consumption analysis, which may be completed as necessary by WDEQ-AQD."	This text was added to the August 2005 DEIS Supplement.
4	13	A1	Agency Recommendations, etc.	Section Table 4, Page 25, PSD Class I Increments row & PSD Class II Increments row. Add the following footnote: "The PSD demonstrations serve information purposes only and do not constitute a regulatory PSD Increment consumption analysis."	This text was added to the August 2005 DEIS Supplement.
4	14	A1	Agency Recommendations, etc.	Section Table 4 and 5, Page 25 & 26. In looking at the tables in light of the direction to present information in a format that is clear and easy to read, it is hard to believe that a member of the public would be able to understand what is represented without a significant amount of effort to decipher the acronyms and the significant amount of data contained in the table. If a change to a table with more of a reader friendly format (e.g., text such as "Potential concentrations would be in compliance with applicable NAAQS and WAAQS") is not supported. BLM should ensure that these tables be printed in color.	Tables 4 and 5 of the August 2005 DEIS Supplement were printed in color and in bold text.
4	15	A1	Agency Recommendations, etc.	Section 3.2, Page 27, Far-field impacts, 1st paragraph. After last sentence, Insert the following as a new sentence: "These SILs are proposed by EPA as an indicator of significance of New Source Review projects to determine additional analysis requirements."	This text was added to the August 2005 DEIS Supplement.
4	16	A2	Agency Recommendations, etc.	Section Exec Sum, Page v, 1st paragraph, last sentence. There are two periods. Delete one.	This change was made to the August 2005 AQTSD Supplement (see AQTSD Appendix G).

**Table III-B. Substantive Comments on JIDP Air Quality Issues (cont'd)**

<b>Submittal ID</b>	<b>Comment Number</b>	<b>Comment Category</b>	<b>Keyword</b>	<b>Comment Text</b>	<b>Response</b>
4	17	A2	Agency Recommendations, etc.	Section Table ES-1, Page vii, PSD Class I Increments row and PSD Class II Increments row. Add the following footnote: "The PSD demonstrations serve information purposes only and do not constitute a regulatory PSD Increment consumption analysis."	This text was added to the August 2005 AQTSD Supplement (see AQTSD Appendix G).
4	18	A2	Agency Recommendations, etc.	Section Table ES-1 and ES-2, Page vii & viii. In looking at the tables in light of the direction to present information in a format that is clear and easy to read, it is hard to believe that a member of the public would be able to understand what is represented without a significant amount of effort to decipher the acronyms and the significant amount of data contained in the table. If a change to a table with more of a reader friendly format (e.g., text such as "Potential concentrations would be in compliance with applicable NAAQS and WAAQS") is not supported. BLM should ensure that these tables be printed in color.	AQTSD Appendix G Tables G-ES-1 and G-ES-2 have been printed in color and in bold text, and the following footnote has been added: "Results summaries shown in green (normal text) indicate that potential impacts are below ambient air quality standards, PSD increments, and BLM-recognized significant threshold values and levels of concern. Results summaries shows in red ( <b>bold text</b> ) indicate that potential impacts are above these levels" (see AQTSD, Appendix G)."
4	19	A2	Agency Recommendations, etc.	Section Exec Sum, Page ix, 1st paragraph. After last sentence, insert the following as a new sentence: "The PSD demonstrations serve information purposes only and do not constitute a regulatory PSD Increment consumption analysis, which may be completed as necessary by WDEQ-AQD."	This text was added to the August 2005 TSD Supplement (see AQTSD Appendix G).
4	20	A2	Agency Recommendations, etc.	Section Exec Sum, Page xi, 2nd paragraph. After last sentence, insert the following as a new sentence: "The PSD demonstrations serve information purposes only and do not constitute a regulatory PSD Increment consumption analysis, which may be completed as necessary by WDEQ-AQD."	This text was added to the August 2005 TSD Supplement vii (see AQTSD Appendix G).
4	21	A2	Agency Recommendations, etc.	Section Table ES-3, Page xii, PSD Class I Increments row & PSD Class II Increments row. Add the following footnote: "The PSD demonstrations serve information purposes only and do not constitute a regulatory PSD Increment consumption analysis."	This text was added to the August 2005 TSD Supplement (see AQTSD Appendix G).
4	22	A2	Agency Recommendations, etc.	Section Table ES-3 and ES-4, Page xii - xiii. In looking at the tables in light of the direction to present information in a format that is clear and easy to read, it is hard to believe that a member of the public would be able to understand what is represented without a significant amount of effort to decipher the acronyms and the significant amount of data contained in the table. If a change to a table with more of a reader friendly format (e.g., text such as "Potential	AQTSD Appendix G Tables G-ES-3 and G-ES-4 have been printed in color and in bold text in case they are copied, and the following footnote has been added: "Results summaries shown in green (normal text) indicate that potential impacts are below ambient air quality standards, PSD increments, and BLM-recognized significant threshold values and levels of concern. Results summaries shows in red

**Table III-B. Substantive Comments on JIDP Air Quality Issues (cont'd)**

Submittal ID	Comment Number	Comment Category	Keyword	Comment Text	Response
				concentrations would be in compliance with applicable NAAQS and WAAQS”) is not supported. BLM should ensure that these tables be printed in color.	<b>(bold text)</b> indicate that potential impacts are above these levels” (see AQTSD Appendix G).”
4	23	A2	Agency Recommendations, etc.	Section 3.2, Page 27, Last paragraph, last line. There appears to be a formatting error on the last line, which is introducing a lot of white space.	This change was made to the August 2005 TSD Supplement (see AQTSD Appendix G).
5	1	B	Conservative Analysis	Unfortunately, BLM’s analysis is so overly conservative it is extremely unlikely the described potential air quality impacts will ever occur from additional infill development at Jonah. Even more unfortunate is that BLM did not disclose or explain the conservative nature of its analysis in the documents. In general, BLM’s analysis could be described as estimating the potential “worst case” of air quality impacts rather than a “reasonably foreseeable” analysis which is the legal standard. Although EnCana appreciates BLM’s desire not to understate impacts that could occur as a result of the JIDP, by being overly conservative, BLM has exaggerated its description of the potential air quality impacts and has failed to provide the public a framework for interpreting these results and determining for themselves if the modeling assumptions and results are realistic. BLM has effectively reverted to a “worst case” analysis that Council on Environmental Quality (CEQ) eliminated from the NEPA regulations almost twenty years ago.	BLM recognizes that a worst case analysis is inappropriate and maintains that the analysis in Jonah is reasonable but conservative.  “Reasonable but conservative” is consistent with CEQ guidance for conducting NEPA analysis where more accurate information is not available, and it is not reasonable to obtain more accurate information.  The BLM believes that the data and analyses provided in the EIS and AQTSD are adequate for this impact assessment.
5	3	B	Conservative Analysis	An analysis of the direct and indirect environmental effects of the projects should only include the “reasonably foreseeable” effects, not every possible effect that could occur. In fact, CEQ eliminated the requirement to conduct a “worst-case” analysis from its regulations almost twenty years ago. The modeling scenarios in the JIDP DEIS and the accompanying documents disclose and analyze more than a reasonable range of foreseeable air quality impacts with respect to the JIDP. Furthermore, BLM’s thorough discussion of the potential air quality impacts and analysis will be given deference as courts generally apply a “rule of reason,” that defers to the agency’s analysis of the impacts.	See comment 5-1, above.

**Table III-B. Substantive Comments on JIDP Air Quality Issues (cont'd)**

<b>Submittal ID</b>	<b>Comment Number</b>	<b>Comment Category</b>	<b>Keyword</b>	<b>Comment Text</b>	<b>Response</b>
5	4	B	Regulatory Compliance & Commitments - Air Quality Standards	Modeling does indicate that certain scenarios, including the Preferred Alternative and Proposed Action, have the potential to exceed the significant impact levels (SILs) for NO <sub>2</sub> and PM <sub>10</sub> in Bridger Wilderness Area. However, the SILs, which were originally proposed in the 1996 amendments to the New Source Review Rule, were not promulgated by the December 31, 2002 final rule.	BLM recognizes that the SILs were not promulgated in the final rule. However, comparisons with the SILs are included for information purposes only, not as an indicator of potential standard violations.  Stakeholder group members requested a comparison of modeled concentrations to PSD SILs.
5	5	B	Regulatory Compliance & Commitments - Air Quality Standards	Three points are important to JIDP increment modeling and the importance of the SIL: 1) BLM performed full increment modeling which demonstrates that the increments are not violated (so the SILs have no meaning here); 2) the SILs have never been promulgated by EPA and are not standards even if they were adopted; 3) the SILs do not apply to NEPA review, and again, since full increment modeling was performed, the SILs (a de minimis threshold to determine the need for full increment modeling) have no meaning. At this time, the SIL is merely a de minimis threshold tool in completing the increment analysis, and because BLM evaluated the increments and found no increment violations, the SILs are meaningless in this context and can be ignored.	WDEQ is in the process of performing a regulatory PSD increment consumption analysis. Comparisons with the SILs can be informative when the PSD increment consumption analysis is not yet complete.  Stakeholder group members requested a comparison of modeled concentrations to PSD SILs.
5	6	B	Conservative Analysis	While EnCana concurs that the DEIS and Air Quality Supplement create an adequate administrative record that cannot be disputed (as BLM has analyzed all conceivable scenarios for air impacts), the supplemental Preferred Alternative Scenarios exaggerate the potential impacts from the JIDP. Three emission scenarios are over exaggerated: drilling rig engines, flares, and vertical/directional drilling.	The analysis is intended to be reasonable but conservative.  Project-specific emission reductions could be achieved by various methods, including use of flareless completions and vertical drilling. Emissions from drill rig engines must include ancillary, as well as draw works, sources.  The BLM believes that the data and analyses provided in the EIS and AQTSD are adequate for this impact assessment.
5	7	B	Emissions, Project	Drilling Rig Engine Emissions: BLM's modeling for the Preferred Alternative utilized so called "Tier 0" engines, which may reflect 1960 drilling rig engine emissions, but do not reflect current EPA off-road diesel rules or the engines that are currently operating at Jonah Field. In addition, BLM used the wrong AP 42 emission factor for the Tier 0 drilling rig engines. The analysis uses the	Neither drilling engine specifications (make/model) nor manufacturer's emission factors were able to be obtained for regional project areas. Additionally, although EPA Tier 1 and 2 emission factors may have better approximated manufacturer's emission factors, they could not be used exclusively in this analysis because older

**Table III-B. Substantive Comments on JIDP Air Quality Issues (cont'd)**

Submittal ID	Comment Number	Comment Category	Keyword	Comment Text	Response
				<p>AP 42 Table 3.3-1 emission factor (0.031 pound per horsepower-hour [lb/hp-hr]) rather than the AP 42 Table 3.4-1 emission factor (0.024 lb/hp-hr). Rig emissions are therefore overestimated by 29% solely as a result of this error. Of great concern is the High Emissions Scenario which assumes 80% of the drilling rigs at Tier 0 emissions and 20% at Tier 1 emissions in 2017. Based on BLM's modeling for the Proposed Action, (which includes none of the mitigation EnCana anticipates occurring), no drill rigs would be at Tier 0 emissions, and instead 50% would be at Tier 1 emissions and 50% at Tier 2 emissions. As a result, the High Emissions Scenario of BLM's Preferred Alternative results in considerably greater impacts than the Operators' Proposed Action. These two models can be effectively compared once the reviewer understands that the difference is related to the NO<sub>x</sub> emissions of drilling rig engines. Emissions will not be this high, as new drilling rig engines will have emissions levels at Tier 2 or greater, as manufacturers no longer produce engines with Tier 0 and Tier 1 emissions levels. Accordingly, new Tier 0 engines will not be available for use in 2017—nor will WDEQ ever allow them. In addition, any existing Tier 0 engines will likely either have been retrofitted or replaced long before 2017. Despite these facts, the use of mostly Tier 0 engines is a base assumption in BLM's Preferred Alternative modeling.</p>	<p>drilling engines were projected to operate for which only AP-42 emissions factors were applicable.</p> <p>One 500-hp engine and two 800-hp engines were specified for straight drilling, and two 500-hp engines and two 800-hp engines were specified for directional drilling. AP-42 Section 3.4-1 is applicable to engines 600 hp or greater. Because not all engines specified were greater than 600 hp, and because a single emission factor was desired for use in the inventory, the emission factor from AP-42 Table 3.3-1 was conservatively used.</p>
5	8	B	Emissions, Project	<p>Flaring Emissions: Flaring emission assumptions in all models is another example of BLM over predictions. EnCana pioneered and perfected the technique of "flareless flowback" which eliminates almost all flares in the Jonah Field. This flareless technique was then adopted by WDEQ in its air regulations last year, and has become an existing regulatory requirement. BLM modeling, however, assumes three flares running continuously, 8,760 hours a year every year in all forty model runs. The emissions associated with these three flares equal drilling and completing over 300 wells per year (exceeding the 250 well development rate [WDR] model assumption). BLM's modeling apparently assumes that the WDEQ flaring requirement does not exist.</p>	<p>The conservative application of one, two, and three simultaneously operating flares considers the use of flareless completions for 80% of all completions. It is important to note that the use of these estimates is applied to derive what "could happen on any given day," not what "would happen on all days throughout the year." AQTSD Appendix G Table G-3 shows potential JIDP-specific emission reductions with and without flaring.</p> <p>It is recognized that the WDEQ guidance/regulations are now in place; however, the inventory and analysis used in this analysis were completed prior to the WDEQ</p>

**Table III-B. Substantive Comments on JIDP Air Quality Issues (cont'd)**

Submittal ID	Comment Number	Comment Category	Keyword	Comment Text	Response
					guidance/regulations.  The BLM believes that the data and analyses provided in the EIS and AQTSD are adequate for this impact assessment.
5	9	B	Emissions, Project	Vertical Drilling: EnCana also notes that each of BLM's Preferred Alternative scenarios assumed 50% directional drilling and 50% vertical drilling. BLM's own modeling demonstrates that directional drilling results in greater ambient air impacts than vertical drilling and in fact can increase emissions by as much as 25% as compared to vertical drilling. Vertical drilling results in shorter drilling times, smaller drilling rig engines, and reduced vehicular traffic, thereby reducing air emissions. Although directional drilling may reduce surface disturbance in some instances, EPA and the public have stressed that their greatest concern is potential air quality impacts. In addition, EnCana already actively reclaims more previously disturbed land than it disturbs with new drilling sites in order to reduce the amount of habitat disturbance. Accordingly, a cost-benefit analysis of vertical drilling versus directional drilling, in light of the greatest environmental concern, would result in the utilization of 100% vertical drilling for JIDP. As such, EnCana encourages BLM to adopt primarily vertical drilling in the FEIS and ROD.	This comment is addressed by the new Preferred Alternative in the FEIS (see Section 2.4.5).
5	11	B	Mid-/Far-Field Modeling - Visibility	EnCana has analyzed BLM's modeling assumptions and parameters to better assess how realistically BLM's modeling predicted the levels of visibility impacts. Upon review of the DEIS air quality analysis, EnCana notified BLM of three major concerns with the modeling that resulted in an overestimation of impacts to visibility. EnCana was disappointed that BLM did not explain the effects of these modeling assumptions in the Supplement. As a result, the air quality analysis overestimates the impacts to visibility.	See comments 5-1, 5-7, and 5-8, above.  The BLM believes that the data and analyses provided in the DEIS and AQTSD are adequate for this analysis  The BLM used several assumptions that did not overestimate impacts (e.g., MVISBK Method 6 rather than Method 2 for visibility modeling). The air quality modeling is inherently conservative and rightly so.
5	12	B	Mid-/Far-Field Modeling - Meteorological Data	IKINE Option of the CALPUFF Model: Evaluation of the modeling used to produce meteorological input for both the initial air quality analysis and the supplemental air quality analysis revealed that BLM activated the IKINE switch in the CALPUFF model used for far-field modeling. EPA guidance recommends that modelers	Thank you for your comment.  As a result of evaluations performed on the Southwest Wyoming Technical Air Forum (SWWYTAF) wind fields, an effort was made in this analysis to correct the low wind speeds

**Table III-B. Substantive Comments on JIDP Air Quality Issues (cont'd)**

Submittal ID	Comment Number	Comment Category	Keyword	Comment Text	Response
				<p>turn off this switch for far-field modeling in order to prevent aberrant, tornado-like, wind patterns that can appear in the second layers of the windfield model. BLM's failure to follow the IWAQM recommendation, in combination with its other assumptions, resulted in truly "worst case" air quality impact modeling, for both the DEIS and Supplement, containing inconsistent and unexplainable tornado-like wind currents. Specifically, very strong downslope drainage winds, well in excess of 100 miles per hour, were introduced into the second layer of the wind field. In addition, the choice of using the IKINE option resulted in wind direction reversals in the second layer compared to the first and third, with persistent winds flowing upslope, continuously moving JIDP emissions towards the Bridger Wilderness Area. These anomalous wind flows are a result of the IKINE switch being activated for JIDP air modeling and do not represent actual wind currents.</p> <p>The use of the IKINE switch distorts JIDP visibility impacts in the Bridger Wilderness Area and elsewhere. These distorted wind speeds and wind directions result in an unrealistic and significant increase in the project-related visibility impairment predicted by model results for the Bridger Wilderness Area. CH2MHill re-ran the model with the IKINE switch inactive for both the Proposed Action and the Preferred Alternative (High Emissions Scenario), resulting in a 50% decrease in the anticipated visibility impacts from the project. CH2MHill ran the Proposed Action model by turning the IKINE switch on, and using FLAG-type backgrounds and obtained results indicating 9 days above 1.0 dv change, results similar to those derived from BLM's modeling of the Proposed Action. When CH2MHill proceeded to turn the IKINE switch off, the results indicate just 3 days above 1.0 dv change. Accordingly, it is clear that the inappropriate IKINE setting alone confounds the model and accounts for a significant number of days of visibility impacts that are simply not grounded in real world data. BLM must clearly indicate that its air impact modeling represents a "worst case" scenario.</p> <p>Based on comments on the modeling of other projects.</p>	<p>calculations in CALMET. In addition to using additional surface meteorological data sets and revised model code, the use of the kinematic effects (IKINE) option was selected for CALMET. Tests indicated better model predictions/performance for the surface layer wind speeds.</p> <p>The BLM recognizes that there are deficiencies with the IKINE algorithm. However, there are also problems with setting the IKINE switch to off. The BLM considers the current modeling to be appropriate for this project.</p>

**Table III-B. Substantive Comments on JIDP Air Quality Issues (cont'd)**

Submittal ID	Comment Number	Comment Category	Keyword	Comment Text	Response
				<p>EPA agrees that the IKINE model should not have been activated for JIDP modeling runs. In light of the reliable and considerable opposition to the use of the IKINE setting, BLM should explain the significant overestimations the use of this switch creates in the modeling results. BLM only stated, in the Supplemental AQTSD and not in the Supplement to the DEIS, that “model tests for the DEIS cases indicated that the use of IKINE produced more conservative (slightly higher) model predictions at the Bridger Wilderness Area.” The term “slightly higher” does not reflect the overestimations of impacts (which additional modeling indicates would be almost 66% less), and in fact, gives the wrong appearance to the public.</p>	
5	13	B	Background Concentrations	<p>Background Ammonia: BLM’s modeling also used an exaggerated background ammonia concentration. The background ammonia concentration for both the DEIS and Supplement modeling was set to a constant level of 1.0 ppb. This selection was driven by the recommendation in the FLAG Phase I Report. Specifically, the FLAG document states that: An appropriate estimate of ambient free gaseous NH<sub>3</sub> is needed for the modeling analysis. IWAQM refers to Langford et al. (1992), who suggest that typical (within a factor of 2) background values of NH<sub>3</sub> are: 10 parts per billion (ppb) for grasslands, 0.5 ppb for forest, and 1 ppb for arid lands at 20 degrees C. Langford et al. (1992) provide strong evidence that background levels of NH<sub>3</sub> show strong dependence with ambient temperature and a strong dependence on the soil pH. However, given all the uncertainties in NH<sub>3</sub> data, IWAQM recommends use of the background levels provided above, unless better data are available for the specific modeling domain.</p> <p>In this case, better data are available for this specific modeling domain and BLM should use that data to assure accurate analytical results. Specifically, ammonia is measured within the JIDP modeling domain at the CASTNET station in Pinedale, Wyoming. Long-term seasonal averages from the Pinedale station from 1989 through 2003 are as follows: 1st Quarter: 0.22 ppb; 2nd Quarter: 0.31 ppb; 3rd Quarter: 0.34 ppb; and</p>	<p>The use of 1 ppb ammonia for background was selected for this study during stakeholder protocol reviews, which included representation from the BLM, WDEQ, EPA, NPS, and USFS.</p> <p>The BLM believes that the data and analyses provided in the EIS and AQTSD are adequate for this impact assessment.</p>

**Table III-B. Substantive Comments on JIDP Air Quality Issues (cont'd)**

Submittal ID	Comment Number	Comment Category	Keyword	Comment Text	Response
				<p>4th Quarter: 0.21 ppb. These long-term averages indicate consistency over time. This domain data, and the lack of any local ammonia sources such as animal feedlots, indicates that the background level of 1 ppb chosen for the JIDP modeling is overly conservative by a factor of four. As a result, BLM has overestimated the formation of visibility reducing aerosols in the DEIS and Air Quality Supplement modeling because background ammonia is needed to preferentially produce ammonium sulfate and then ammonium nitrate in the atmosphere. If the formation of ammonium sulfate totally consumes the ammonia, then the formation of ammonium nitrate will be curtailed or even prevented. This situation is called ammonia limiting and it is applicable at Jonah Field. As a result of this ammonia limiting, the emission of even large quantities of nitrogen oxides has little effect on visibility since the ammonia required to complete the reaction from nitrogen oxides to a visibility limiting particle (ammonium nitrate) will be exhausted.</p> <p>This overly conservative ammonia concentration, particularly when coupled with the use of the IKINE setting, results in significant over-projections of visibility impacts from the project. When CH2MHill, as part of the re-modeling of the Proposed Action described above, reduced the ammonia background to a more reasonable level (0.25 ppb), the days of impacts were reduced (CH2MHill had already turned off the IKINE switch) from 3 days above 1.0 dv change to 2 days above 1.0 dv change. Accordingly, the results provided in the DEIS, Air Quality Supplements, and AQTSD are overly conservative and over-estimate the impacts from the JIDP on Class I areas, particularly the Bridger Wilderness Area.</p>	
5	14	B	Mid-/Far-Field Modeling - Visibility	<p>Precipitation/Weather Events: Finally, the model has several post-processing options which can take into account changes in relative humidity and naturally obscured visibility due to snow, rain, clouds, or fog. These assumptions are routinely used by modeling experts to address the tendency of weather events to overstate visibility impacts in models such as those used to quantify the potential air quality impacts of the</p>	<p>Thank you for your comment.</p> <p>The BLM agrees that it is appropriate and scientifically justified to eliminate hours and days from visibility analyses when weather events occur for analyses that utilize relative humidity data inherent in the CALMET wind fields in the visibility calculations (i.e. . CALPOST MVISBK=2).</p>

**Table III-B. Substantive Comments on JIDP Air Quality Issues (cont'd)**

Submittal ID	Comment Number	Comment Category	Keyword	Comment Text	Response
				<p>JIDP. BLM modeling did not account for precipitation events such as snow and rain, or other weather events when determining the impacts on visibility in protected areas from the development in Jonah Field. In effect, BLM modeling assumes that days where snow or rain or fog impacts visibility were caused by the JIDP, which contributes to the “worst case” results.</p>	<p>However, the BLM preferred analyses utilize monthly average relative humidity values from the regional haze rule (CALPOST MVISBK=6). It is inappropriate to discount hours/days for weather events from the visibility analyses with this method since relative humidity data specific to any weather event are not used as part of the analysis.</p>
5	15	B	Mid-/Far-Field Modeling - Visibility	<p>Adjusting BLM Modeling Results in Reasonably Foreseeable Air Impacts: JIDP Will Cause No Adverse Air Impacts in Class I Areas: As described above, the modeling assumptions from the IKINE setting, the ammonia background concentration, and the lack of accounting for precipitation events, results in a significant overestimation of the visibility impacts from the JIDP. Remodeling of the Proposed Action by CH2MHill, with each of the concerning assumptions accounted for, demonstrates a reduction in days of visibility impacts from 9 days above 1.0 dv change to a single day above 1.0 dv change. The described revisions to the model show that the Proposed Action will cause one day of visibility impacts in the Bridger Wilderness Area, and that mitigation can eliminate all JIDP potential air quality impacts.</p> <p>With respect to the Preferred Alternative modeling, the complete re-modeling of the High Emissions Scenario, with each of the concerning assumptions accounted for, indicated a reduction in days of visibility impacts from 31 days above 1.0 dv change to 9 days above 1.0 dv change. Though these modeling assumptions alone do not eliminate all days of visibility impacts, an appropriate adjustment for the overestimations from the assumptions of 80% Tier 0 emissions and 20% Tier 1 emissions does eliminate most days of visibility impacts even in the Preferred Alternative High Emissions Scenario. Accordingly, given the proper assumptions, modeling corrections, and acknowledgement of existing mitigation, such as flareless completions, JIDP emissions will not result in the potential for more than one day of impaired visibility in Class I airsheds.</p>	<p>Thank you for your comment.</p> <p>The BLM believes that the data and analyses provided in the EIS and AQTSD are adequate for this impact assessment.</p>

**Table III-B. Substantive Comments on JIDP Air Quality Issues (cont'd)**

Submittal ID	Comment Number	Comment Category	Keyword	Comment Text	Response
5	16	B	Emissions, Project	<p>...the project emission inventories that have been developed and used to obtain the modeling results contain inappropriate assumptions that enhance the overestimations described above. The project totals in the Proposed Action and Preferred Alternative are end-of-project emissions and inherently assume that the emission totals increase instantly. However, there would realistically be a gradual increase in emissions over time. In addition, there are new regulatory initiatives during the lifetime of the project, i.e. off-road engines will become cleaner from 2005 to 2017, etc., which will result in fewer emissions than predicted from many of the modeled sources at Jonah Field. This is particularly true with respect to the cumulative analyses. The development scenarios do not assume the retirement of existing Tier 0 drilling rig engines in favor of Tier 1, 2, and 3 engines, natural gas engines, Selective Catalytic Reduction, electric engines, or the retirement of flares in favor of flareless flowback at any natural gas fields. However, in reality, many of the sources considered in the background concentration and as part of the cumulative analyses will be retrofitted with BART under the Regional Haze rule, or retired, and will not be active for the entire life of the JIDP. As a result, these future emission reductions should be accounted for by BLM in its consideration of the true impacts and the potential corresponding mitigation. An appropriate estimation of these factors would eliminate the number of days of predicted visibility impacts even further.</p>	<p>The FEIS clarifies that emissions and potential impacts apply to the last year of project development (i.e., approximately project year 12-13 under the Proposed Action and Preferred Alternative) and assumes the last 250 wells are drilled and most production emissions are occurring. This may not actually occur in 2017, but is anticipated to occur around that year.</p> <p>Project-specific emission reductions could be achieved by various methods, including the use of cleaner-burning engines.</p> <p>BLM agrees that cleaner engines will likely contribute to emission reductions from cumulative sources. However, the BLM cannot “guess at when and to what extent those reductions would occur.” Either reductions are reasonably foreseeable, or we must apply “reasonable but conservative” assumptions. Some potential reductions likely would be identified during application of Best Available Technology (see FEIS Section 5.1.1).</p> <p>Please note that mitigation requirements apply to potential impacts from the proposed project alone, not to cumulative impacts.</p>
5	17	B	Mid-/Far-Field Modeling - Visibility	<p>Sources from Outside Wyoming Cause Most of the Haze. Previous modeling indicates that oil and gas projects like the JIDP are not the primary sources of visibility impacts in the Bridger-Fitzpatrick Class I areas in Wyoming. In fact, previous modeling performed for the State of Wyoming, EPA, and the USFS (SWWYTAF) suggests that 90% of the impacts at the Bridger Wilderness Area come from distant sources outside of Wyoming and not from local sources such as Jonah Field. The SWWYTAF study was performed to evaluate air quality impacts of the cumulative development of the energy industry in Southwest Wyoming. The analysis looked at all forms of</p>	<p>BLM agrees that emission sources outside Wyoming contribute to visibility impairment, and that mitigation requirements would be applicable only to the proposed project.</p> <p>Source apportionment performed by SWWYTAF was applicable in 1995, but may not represent current conditions, and certainly do not represent potential future impacts from the proposed project.</p>

**Table III-B. Substantive Comments on JIDP Air Quality Issues (cont'd)**

Submittal ID	Comment Number	Comment Category	Keyword	Comment Text	Response
				<p>development including the development of oil and gas fields such as Jonah Field, and the operation of electric power plants. The study attempted to explain the concentrations of particulate matter measured by the USFS at the Bridger Wilderness Area nteragency Monitoring of Protected Visual Environments (IMPROVE) monitoring site. Even after all of the actual and projected energy development activities in Southwest Wyoming were put into the regional CALPUFF model (the same model used by BLM) the model would not accurately predict the concentrations of particles—until nine times the amount of the local emissions were also added to the model as distant sources. Only then did the model accurately predict the measured values at Bridger Wilderness Area. This result indicates that 90% of the impacts of particles which impair visibility at Bridger Wilderness Area come from sources outside of Wyoming and not from local sources such as the Jonah Field. Accordingly, given the limited or non-existent impacts from the JIDP alone, the JIDP should not be forced to bear the burden of other more prominent and distant sources that actually contribute more predominantly to visibility concerns.</p>	
5	18	B	Mid-/Far-Field Modeling - Visibility	<p>Visibility Impact Threshold: 2.0 Deciview                      BLM has itself determined that a 1.0 to 2.0 dv change represents a small but perceptible change in visibility; however, BLM utilized a 1.0 dv change to evidence impacts to visibility in the DEIS and Supplements. EnCana notes that significant debate exists in the scientific community over whether a human being can discern a 1.0 dv change, and scientific research demonstrates strong arguments indicating that the threshold should or could be greater than 1.0 dv change.</p> <p>The most widely referenced scientific basis for setting the just noticeable change threshold at 1.0 dv comes from a paper written by Pitchford and Malm, as referenced by BLM in the DEIS. Pitchford and Malm conclude that “a 1 to 2 dv change corresponds to a small, visibility perceptible change in a scene appearance where the assumptions used in developing the deciview scale are met.” however. that should not</p>	<p>BLM has chosen to use 1.0 dv as the significant visibility impact threshold as a “reasonable but conservative” assumption. Pitchford and Malm also indicated under certain view angles and topography, a just-noticeable change might be less than 1.0 dv. However, CEQ Guidance does not require that all possible atmospheric/target/viewer configurations be analyzed under NEPA. BLM has chosen to use 1.0 dv as the significant visibility impact threshold as a “reasonable but conservative” assumption. This value is also consistent with EPA guidance that 1.0 dv is the smallest amount necessary to show reasonable progress towards achieving the National Visibility Goal under the Regional Haze Regulations Periodic Review. It is also the value FLAG agencies use as their significance threshold when analyzing potential cumulative impacts when conducting PSD permit application reviews.</p>

**Table III-B. Substantive Comments on JIDP Air Quality Issues (cont'd)**

Submittal ID	Comment Number	Comment Category	Keyword	Comment Text	Response
				<p>be the end of the discussion. EnCana notes that Pitchford and Malm reference a 1.0 to 2.0 dv change, implicitly indicating that the level of deciview increase that results in a “just noticeable change” could vary among Class I areas. This proves particularly true given the caveat of “where assumptions used in developing the deciview scale are met.” In order to ensure that a 1.0 or greater dv change is the appropriate level of deciview change, BLM should review the assumptions that were made in the development of the deciview scale to determine if the 1.0 to 2.0 dv threshold should apply to Bridger Wilderness Area and any other affected Class I areas. EnCana believes that it does not. Scientific evidence exists indicating that a 1.0 dv change is in fact never noticeable. In fact, Henry concludes from his detailed analysis that “the deciview scale is not uniform in perception over a wide range of visibility conditions. In fact, the change in deciviews needed to be noticeable varies greatly depending on the optical distance of the landscape features and its inherent colorfulness.” Accordingly, EnCana does not agree with BLM’s use of 1.0 dv change as the just noticeable threshold and believes this adds another level of conservatism to the impacts predicted by BLM’s modeling. There is no federal statute or regulation requiring BLM to utilize a 1.0 deciview change as the just noticeable change threshold. Despite the fact that no legal requirement exists to utilize a 1.0 deciview change, EnCana has evaluated the visibility impacts predicted by BLM and agreed to certain mitigation measures with BLM’s use of the 1.0 dv change threshold in mind.</p> <p>EnCana opposes the use of a 0.5 dv change as the just noticeable change threshold as it has no scientific basis. Accordingly, BLM should remain consistent with its findings in the past and refuse to embrace a 0.5 dv change based on its obligation to “insure scientific integrity” in the NEPA process.</p>	
5	19	B	Mid-/Far-Field Modeling - Inconsistencies with Monitoring Data	Air Quality & Visibility Trends in Southwest Wyoming is Improving. The overestimations of the modeling become even more apparent when contrasted with the monitoring results obtained for the Southwest Region of	Monitoring data are not available beyond 2004. Monitoring serves as ground truth and certainly has great value. However, monitoring can only

**Table III-B. Substantive Comments on JIDP Air Quality Issues (cont'd)**

Submittal ID	Comment Number	Comment Category	Keyword	Comment Text	Response
				<p>Wyoming for more than a decade. Undoubtedly, monitoring results are a more accurate reflection of the impacts from regional and local sources than the hypothetical results achieved through the modeling process. In this case, monitoring evidence at both Bridger Wilderness Area and Pinedale shows stable or improving air quality in Southwest Wyoming. Specifically, actual ambient monitoring indicates that air trends for nitrogen oxide concentrations are stable or slightly improving and that the levels of nitrogen oxides fall well below the national ambient air quality standards. Levels of nitrogen oxides are important predictors of visibility impacts and these demonstrated improvements indicate that the impacts from the JIDP cannot be as significant as indicated in the DEIS and accompanying documents.</p>	<p>measure conditions at a specific time and place. Modeling is needed to estimate potential conditions for locations where monitoring is not available and for potential future years.</p> <p>Although Bridger Transmissometer data have not been updated since December 2003, the IMPROVE aerosol data are available through December 2004.</p>
5	20	B	Mid-/Far-Field Modeling - Visibility	<p>The starkest contrast to the model results comes from the monitoring of visibility at Bridger Wilderness Area. Since the IMPROVE station began operating in 1989 in Bridger Wilderness Area, monitors have noted an overall improvement of visibility at this location.</p> <p>The following data were obtained from the USFS Bridger Wilderness Area IMPROVE site by the Desert Research Institute (DRI) in Nevada, a non-profit research institution affiliated with the University of Nevada.</p> <p>For the 20% clearest days for each year from 1998 to 2003, the trend has been toward improving visibility with 2003 showing half of the visibility impairment compared to 1998 (3.3 -1Mm compared to 5.8 -1Mm).</p> <p>For the middle 60% of the days, ranked by visibility impairment, the data show a similar trend in improvement but the improvement is not as pronounced. From 1998 to 2003, the average visibility has improved about 25% (9 -1Mm in 2003 compared to 12 -1Mm in 1998).</p> <p>For the 20% of days with the poorest visibility, the trend is flat from 1998 to 2003 but improved slightly from 1996. The Western Governor's Association Attribution</p>	<p>BLM agrees that the cleanest days have improved and that the haziest days have remained about the same from 1989 through 2003. However, it should be noted that the Regional Haze Rule requires that the haziest days improve to natural conditions by 2064. Also, the monitoring cannot yet tell us of the trends from 2003 to the present, and cannot tell us the potential trends from the proposed project in future years.</p>

**Table III-B. Substantive Comments on JIDP Air Quality Issues (cont'd)**

Submittal ID	Comment Number	Comment Category	Keyword	Comment Text	Response
				of Haze Committee has determined that the 20% “worst” days are mostly impacted by fires and road dust, not stationary source emissions.	
5	21	B	Mid-/Far-Field Modeling - Visibility	<p>To put the JIDP into context as a “contributor to haze,” it is important to understand the causes of haze. JIDP mainly emits NO<sub>x</sub>, which ultimately contributes only 4.5 percent to haze in Bridger Wilderness Area. Bridger Wilderness Area measurements show that sulfur compounds are the largest component of visibility impairment. The DRI data suggest that sulfur is the largest contributor to visibility impairment at Bridger Wilderness Area; clearly the Jonah Field is not the source of SO<sub>2</sub>. As described above, the main sources of impairment for this area originate out of state.</p> <p>SO<sub>2</sub> emissions from large coal-fired power plants and OMC contribute more greatly to visual impairment. WDEQ and the Western Governors Association’s Western Regional Air Partnership findings acknowledge that visibility will primarily improve by reducing SO<sub>2</sub> emissions from area coal fired power plants.</p>	Thank you for your comment.
5	22	B	Mid-/Far-Field Modeling - Visibility	EnCana encourages BLM to weigh more heavily the WDEQ plans for more accurate and positive monitoring with respect to visibility (as opposed to the overly conservative and speculative modeling results). These past and future monitoring results are important for BLM to consider, especially in light of the predictions from the early-project-development stage modeling described below.	BLM agrees that the enhanced monitoring is of great value, and BLM will certainly support and use the relevant monitoring data.
5	23	B	Early Project Development Stage Modeling	EnCana... questions the need to complete modeling for a timeframe only four months from now, particularly when visibility monitoring data exists, as described above, which indicate that no negative impacts to visibility are occurring from the current natural gas production in Southwest Wyoming. The 2006 modeling has little to do with the JIDP, and is not relevant to this project’s environmental impact analysis.	BLM sees this modeling requirement as an opportunity for Encana to demonstrate that potential impacts from the proposed Jonah Infill project alone can meet the initial goal of 80% reduction in potential visibility impacts, given the increased use of flareless completions, vertical drilling, and emission-controlled drill rig engines.
5	24	B	Early Project Development Stage Modeling	EnCana notes that the 2006 modeling does not appropriately describe the state of affairs for the year 2006. The 2006 modeling includes emission estimates for well drilling and flaring from the JIDP, PAP, South Pinev Project, Rilev Ridge Project and Jack Morrow	See comment 2-8, above.

**Table III-B. Substantive Comments on JIDP Air Quality Issues (cont'd)**

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				<p>Hills Project. EnCana has significant concerns with these assumptions particularly with respect to the South Piney Project and the Jack Morrow Hills Project, neither of which have been approved at this time. In fact, BLM has not yet released the DEIS for the South Piney Project and therefore it is unlikely that emissions from the project will occur in 2006. With respect to the existing projects at Jonah Field and Pinedale Anticline, BLM includes in its assumptions the operation of additional drill rigs and the utilization of completion flares, despite WDEQ regulations that require more flareless completions in the Jonah and Pinedale Anticline Natural Gas Fields. BLM also includes compression estimates expanded beyond those anticipated for the JIDP for the year 2017, thereby exaggerating emissions from the JIDP in 2006.</p>	
5	25	B	Early Project Development Stage Modeling	<p>As a more general matter, BLM's 2006 modeling includes in the emissions inventory, regional sources permitted through March 31, 2004 by the State of Wyoming, including sources other than oil and gas projects. Many of the background sources, particularly those recently permitted by the State, will not be operational by 2006 due to procedural and litigation delays. Furthermore, regardless of the year chosen for the emissions calculation (either 2006 or beyond), many of the operators of these projects, either prior to operation or during the lifetime of the project, will have incorporated new technologies and/or in many cases, will be required to meet new regulations. For example, many of the previously permitted projects established levels of control on compressors at 2 g/hp-hr. However, current BACT levels for such engines reflect levels of control at 0.7 g/hp-hr. As a result, the operators will not install the remaining compressors at an emission level of 2 g/hp-hr. Rather, the new technology will result in reductions of approximately 65% from the older technology. Accordingly, the 2006 Modeling overestimates the impacts from these non-project regional sources for the year 2006. Ultimately, estimated emissions from previously approved projects will be or already have been considerably reduced, indicating once again that impacts from the 2006 modeling are considerably overestimated.</p>	See comment 2-8, above.

**Table III-B. Substantive Comments on JIDP Air Quality Issues (cont'd)**

<b>Submittal ID</b>	<b>Comment Number</b>	<b>Comment Category</b>	<b>Keyword</b>	<b>Comment Text</b>	<b>Response</b>
5	26	B	Early Project Development Stage Modeling	EnCana encourages BLM not to overemphasize the hypothetical predictions from the 2006 modeling or curtail development in Jonah Field, or elsewhere in the Upper Green River Valley, based on these unrealistic modeling predictions. EnCana notes that BLM, in performing the 2006 modeling, assumed an approximate 4,000 tpy increase in NO <sub>x</sub> emissions from the JIDP and other regional activities from 2001 to 2003. The WDEQ total oil and gas production NO <sub>x</sub> emissions for Sublette County were 4,291 tpy in 2003, so the 2006 modeling assumption is faulty. Further, the IMPROVE monitoring demonstrates improvements in visibility in 2003. Accordingly, the modeling of a 4,000 tpy increase in NO <sub>x</sub> emissions predicts far more impacts than the monitoring data in the Bridger Wilderness Area from this same level of emissions. BLM should discuss this disconnect between prediction and reality in the FEIS.	<p>The 2006 analysis is intended to represent near-current conditions. Existing monitoring was not adequate to represent current conditions. BLM is responsible for analyzing potential impacts from energy development, due to commitments made in the Pinedale Anticline ROD (2000).</p> <p>The BLM believes that the data and analyses provided in the EIS and AQTSD are adequate for this impact assessment.</p>
5	27	B	Early Project Development Stage Modeling	For all of the foregoing reasons, BLM should not rely upon the early-project-development stage modeling in making any JIDP decisions. If anything, this modeling should inform WDEQ future air quality decision-making, and be analyzed further by WDEQ.	The BLM believes that the modeling efforts are applicable and will continue to rely on them for JIDP decision-making. Please note that the early-project-development stage modeling was only one facet of the modeling effort. The WDEQ has been and will continue to be involved in the JIDP via the JIO, which is discussed in the FEIS (see Section 2.4.5), and other consultation.
5	28	B	Mid-/Far-Field Modeling - Visibility	In modeling, BLM utilized baseline data from Class I areas to model the visibility impacts in regional communities. Specifically, because no IMPROVE or other monitoring data were available in any of these locations with respect to visibility, BLM used the IMPROVE values from the Bridger Wilderness Area and the FLAG assumptions to calculate the change in visibility for regional communities. As a result, BLM significantly underestimated the baseline visibility levels in these communities which in turn caused an overstatement of the visibility impacts. Instead of representing visibility levels in communities with considerable mobile source emissions, wood-burning stoves and other locally-produced, visibility impacting sources, the baseline levels represent those in a clean pristine environment such as the Bridger Wilderness Area. Inappropriate baseline data proves particularly	Thank you for your comment.

**Table III-B. Substantive Comments on JIDP Air Quality Issues (cont'd)**

Submittal ID	Comment Number	Comment Category	Keyword	Comment Text	Response
				problematic with modeling such as that conducted here, where the modeling predicts the visibility impacts based on the changes in visibility from pre-project, existing levels to post-project levels. Unfortunately, these results are derived from an underestimation of the existing visibility levels, and accordingly, provide no valuable information about the true impacts to visibility in these locations.	
5	29	B	Mid-/Far-Field Modeling - Visibility	In addition, BLM's visibility threshold for visibility impacts, i.e. a 1.0 dv change, should not apply. BLM modeling significantly overestimates the visibility impacts to regional communities by utilizing underestimated background levels but also inappropriately applies thresholds designed for Class I locales to Class II areas. However, EnCana commits to mitigation as a good citizen, which will mitigate the visibility impacts in both Class I and Class II areas.	The BLM believes that the application of a 1.0-dv change visibility threshold is appropriate. The BLM also appreciates EnCana's current and future mitigation efforts and the beneficial effects there from.
5	33	B	Conservative Analysis	EnCana requests that BLM explain the conservative nature of the modeling and air quality impacts analysis in the FEIS. This will ensure that the administrative record is clear, and everyone has an opportunity to properly evaluate the record prior to the issuance of the ROD.	As is common to NEPA analysis, assumptions used and modeling efforts are necessarily conservative to ensure that the potential impacts are appropriately represented. This is known by the decision makers. However, in an effort to make sure the public is well informed, the FEIS language has been reviewed, and clarification has been provided as appropriate.
5	2	C	Regulatory Compliance & Commitments	BLM has fulfilled its NEPA obligations to evaluate the project's air and environmental impacts (albeit worst case); no further modeling or air analysis is necessary; and BLM should expeditiously complete the FEIS as soon as possible.	The BLM has completed the FEIS in as timely a manner as possible.
5	10	C	Conservative Analysis	BLM should inform the public that the Preferred Alternative High Emission Scenario is a "worst case" analysis that overstates the foreseeable potential air quality impacts. While the Proposed Action emission levels are exaggerated for flaring and drilling rig emissions, they are at least more "reasonably foreseeable" than the High Emission Scenario.	The August 2005 TSD Supplement notes that a range of emissions scenarios were analyzed from low to high, as well as intermediate levels (see AQTSD Appendix G Executive Summary). The public should be able to conclude that these development scenarios represent a range of impacts. While the BLM's approach is deliberately conservative, it would not be appropriate to call it a "worst case" scenario; thereby implying some predecisional judgment. However, in an effort to make sure the public is well informed, the FEIS language has been reviewed, and clarification has been provided as appropriate.

**Table III-B. Substantive Comments on JIDP Air Quality Issues (cont'd)**

<b>Submittal ID</b>	<b>Comment Number</b>	<b>Comment Category</b>	<b>Keyword</b>	<b>Comment Text</b>	<b>Response</b>
5	30	C	Regulatory Compliance & Commitments	As it finally did in the case of Fontenelle and Moxa Arch, BLM must leave air quality regulations to the WDEQ through its SIP and permitting processes.	The BLM acknowledges that some aspects of air quality are not within its authority to regulate. However, there are certain mitigations the BLM can require that will benefit air quality. Such appropriate mitigations will be incorporated into the ROD.
5	31	C	Mitigation	EnCana has engaged in mitigation discussions directly with BLM, and mitigation commitments can be simply applied to the Proposed Action.	The BLM appreciates the mitigation offer made by EnCana and any mitigation that might be performed by other parties. These Operator-committed mitigation efforts are part of the analysis of the various alternatives in the EIS (see FEIS Appendix C).
5	32	C	Conservative Analysis	BLM modeling, unfortunately, utilized the results and assumptions from the “worst case” High Emissions Scenario to develop mitigation scenarios, i.e. modeling analyses for situations in which mitigation would reduce the emissions from JIDP by 20%, 40%, 60% and 80% respectively. The High Emissions Scenario is not “reasonably foreseeable,” so the starting point for mitigation is improper, though the general approach has merit. BLM provides a mitigation analysis of extremely inflated impacts, again resulting in an overstatement of the potential air quality impacts of the project even when considering mitigation. Once BLM uses a more realistic “reasonably foreseeable” starting point (such as the Proposed Action) then the flexible mitigation modeling approach itself has merit. Mitigation from a realistic estimate of the NOx emissions from JIDP would result in the elimination of visibility impacts. However, BLM has only provided the public with an estimation of mitigation that starts with an unreasonably high level of emissions. Unfortunately, the public does not have the capability to conduct its own modeling, and therefore relies on BLM’s statements to understand the impacts from a project. The solution is to include in the FEIS an array of mitigation approaches to realistic project alternatives, i.e. the Proposed Action and Preferred Alternative Low Emissions Scenario. EnCana encourages BLM to consider the Proposed Action with Operator-committed mitigation measures. This Proposed Action scenario, with EnCana’s mitigation will eliminate the predicted impacts to visibility from the JIDP.	<p>Please see comments 5-1 and 5-6, above.</p> <p>CEQ Guidance requires that a full range of alternative actions be considered and evaluated, and if any of those alternatives are likely to cause “significant, adverse” impacts, then potential mitigation measures must be identified.</p> <p>The BLM believes that the data and analyses provided in the EIS and AQTSD are adequate for this impact assessment.</p>

**Table III-B. Substantive Comments on JIDP Air Quality Issues (cont'd)**

Submittal ID	Comment Number	Comment Category	Keyword	Comment Text	Response
6	1	C	Regulatory Compliance & Commitments	<p>The initial DEIS for the Jonah project contains more than ample air quality data. Requiring further modeling and analysis will provide no measurable environmental benefit. The BLM air quality analysis process has already delayed the ROD by over one year.</p> <p>The State of Wyoming has already prepared cumulative analysis, which it has the primary legal obligation to perform, and any additional analysis by the BLM is just a delay by the agency with no environmental benefit.</p> <p>The agency's insistence on performing additional cumulative impacts analysis in both the DEIS and the Air Quality Supplement are redundant and unnecessary.</p>	<p>The BLM, EPA, and other parties agreed that additional air quality modeling was needed before a final decision could be reached on the Operators proposal for infill drilling in the Jonah Field. The BLM has not made any attempt to delay the ROD. As can be seen by an examination of the modeling results, the process has provided environmental benefit and the agency is now in a better position to render a decision on the project.</p>
6	2	C	Regulatory Compliance & Commitments	<p>BLM's action infringes on the rights of the State of Wyoming. The CAA gives states, not BLM, the authority to regulate air emissions from sources such as the JIDP. Despite threats of legal actions and regulatory delay from other federal agencies and outside interests, BLM should make no attempt to usurp this authority. Instead BLM should abandon all supplemental air quality analysis and issue a FEIS and ROD and let Wyoming determine the level of environmental health and economic welfare of the state.</p>	<p>The BLM acknowledges that some aspects of air quality are not within its authority to regulate. However, there are certain mitigations the BLM can require that will benefit air quality in the JIDPA. Such appropriate mitigations will be incorporated into the ROD.</p> <p>The BLM has not attempted to usurp the State of Wyoming's authority in this matter and has worked closely with the WDEQ throughout the process.</p>
6	3	C	Mitigation	<p>It is WDEQ that should be charged with developing and implementing mitigation measures for the project, be it on federal, state, or private lands. Mitigation measures should be included in terms that allow flexibility to the operator to meet the requirements in the ROD completed by BLM. We disagree with BLM's interpretation that the early-stage-development modeling evidences the need for phased development to mitigate impacts to visibility.</p>	<p>The BLM respectfully disagrees with the commenter and will include all appropriate mitigations--for air quality and other resources--for those portions of the project that are on federal lands. This is its responsibility under the NEPA process.</p> <p>The BLM has not taken the position that phased development is needed and phased development is not necessarily part of the Preferred Alternative (see FEIS Section 2.4.5). Preferred Alternative-required impact reduction conformations could be met through a variety of means.</p>
7	2	B	Emissions, Project	<p>The modeling scenarios completed by BLM result in a grossly exaggerated estimation of the impacts from the JIDP, both from the project alone and from the cumulative impacts. First, the Preferred Alternative high</p>	<p>The BLM believes that the data and analyses provided in the EIS and AQTSD are adequate for this impact assessment.</p>

**Table III-B. Substantive Comments on JIDP Air Quality Issues (cont'd)**

Submittal ID	Comment Number	Comment Category	Keyword	Comment Text	Response
				<p>emissions scenario assumes the use of 50% directional drilling and 50% vertical drilling, along with 80% Tier 0 emissions and 20% Tier I emissions. The assumptions with respect to the drill rig emissions are outrageous. The modeling appears to ignore the fact that the impacts are estimated for the year 2017, long after Tier II, Tier III, Tier IV, or lower emission engines will be commercially available. The modeling for the JIDP is overly conservative because it is impractical to assume that in the year 2017 operators in the Jonah Field will be using Tier 0, Tier I, or Tier II engines. Given existing EPA regulations regarding non-road diesel engines, it is more likely that operators will be using Tier IV engines by that time. Despite all this, and the fact that the operators proposed the use of both Tier I and Tier II engines even from the outset of the project, the high emissions scenario analyzed the use of only Tier 0 and Tier I engines. As a result, the Preferred Alternative high emissions scenario results in greater impacts than even the Operators' Proposed Action. Thus, this modeling does not provide a useful understanding of the impacts that could result from the JIDP, and instead only result in accusations of impacts that will not actually occur, and result in procedural delays that undermine economic growth.</p>	<p>Project-specific emission reductions could be achieved by various methods, including emission-controlled drill rig engines.</p>
7	3	B	Mid-/Far-Field Modeling - Meteorological Data	<p>BLM, despite EPA guidance to the contrary, utilized the IKINE switch setting in the far-field modeling - a setting that produces uncharacteristic wind flows that do not represent actual or potential wind currents. As a result, the model indicated numerous impacts to visibility that will not actually occur from the JIDP. BLM must address the overestimations from the use of the IKINE switch.</p>	<p>As a result of evaluations performed on the Southwest Wyoming Technical Air Forum (SWWYTAF) wind fields, an effort was made in this analysis to correct the low wind speeds calculations in CALMET. In addition to using additional surface meteorological data sets and revised model code, the use of the IKINE option was selected for CALMET. Tests indicated better model predictions/performance for the surface layer wind speeds.</p>
7	4	B	Background Concentrations	<p>In addition to the improper use of the IKINE setting, BLM used inaccurate background ammonia concentrations in the modeling. BLM used 1.0 ppb for both the DEIS and Supplemental air quality modeling; a level recommended by the FLAG only when better data is not available for the specific modeling domain. In this case, ammonia levels are measured within the JIDP modeling domain at the CASTNET station in</p>	<p>The use of 1 ppb ammonia for background was selected for this study during stakeholder protocol review, which included representation from the BLM, WDEQ, EPA, NPS, and USFS.</p> <p>The BLM believes that the data and analyses provided in the EIS and AQTSD are adequate for this impact assessment.</p>

**Table III-B. Substantive Comments on JIDP Air Quality Issues (cont'd)**

Submittal ID	Comment Number	Comment Category	Keyword	Comment Text	Response
				Pinedale, Wyoming. This monitoring station indicates a long-term average of between 0.21 ppb and 0.34 ppb for ammonia background levels. Accordingly, BLM should have used an ammonia background level of around 0.25 ppb, instead of an academically determined number more than three times as high. BLM's failure to include accurate ammonia concentrations resulted in an overestimation of the impacts to visibility in Bridger Wilderness Area.	
7	5	B	Mid-/Far-Field Modeling - Visibility	Finally, BLM's model does not account for precipitation events such as snow or rain that cause significant impacts to visibility on numerous days throughout the year.	See comment 5-14, above.
7	6	B	Mid-/Far-Field Modeling - Visibility	IPAMS is also disturbed by the overestimation of impacts in BLM's modeling, in light of the monitoring results in the Southwest region of Wyoming over the past two decades. Actual ambient monitoring indicates that air trends for nitrogen oxide are stable or slightly improving and that levels of nitrogen oxides fall well below the ambient air quality standards. Even more importantly, according to the Cause of Haze Assessment (COHA) Bridger Wilderness Area Trends Analysis, monitoring in Bridger Wilderness Area indicates an overall improvement of visibility, and indicates that sulfate contributes significantly more to light extinction than nitrate. This indicates that NO <sub>x</sub> emissions are not a primary or even significant culprit in visibility impairment in the Bridger Wilderness Area. Accordingly, the JIDP should not be made the scapegoat for impacts to visibility in Bridger Wilderness Area.	See comment 5-20, above.
7	7	B	Early Project Development Stage Modeling	IPAMS has significant concerns about the basis for and the potential conclusions from the so-called early stage development modeling for 2006. To begin with, why would BLM model for 2006 (approximately three months from now) when there are existing air quality ambient monitors in the vicinity? If the goal is to analyze what the current conditions are, why not use current conditions ambient modeling, not an algorithmic model that is known to have bias. This modeling should have been incorporated into the DEIS for this project. In fact, IPAMS does not understand the basis for this modeling in light of the extensive modeling that	See comment 2-8, above.  The 2006 analysis is intended to represent near-current conditions. Existing monitoring was not adequate to represent current conditions. BLM is responsible for analyzing potential impacts from energy development, due to commitments made in the Pinedale Anticline ROD (2000).

**Table III-B. Substantive Comments on JIDP Air Quality Issues (cont'd)**

Submittal ID	Comment Number	Comment Category	Keyword	Comment Text	Response
				<p>has occurred on the Jonah Field through this NEPA review and others. In addition, many of the assumptions about emissions from various sources are inaccurate and do not account for procedural delays, new regulatory requirements and advancements in technologies. For example, many of the sources considered in the background concentration and as part of the cumulative analyses will be retrofitted with Best Available Retrofit Technology under the Regional Haze rule, or retired, and will not be active for the entire life of the JIDP. For example the coal fired power plants in Wyoming will all likely be retrofitted with Best Available Control Technology by 2013 or retired by 2017. In addition, off-road engines will become cleaner and EPA will adopt new regulations requiring the implementation of these engines. Ultimately the reality is that by 2006, emissions will be substantially reduced from those predicted in the early stage development modeling, and the predicted impacts will not come to pass.</p>	
7	1	C	Regulatory Compliance & Commitments	<p>The extensive modeling that has been completed for Jonah Field should have been utilized to reduce the time and cost of preparing the EIS; instead, BLM has engaged in additional, unnecessary, and time-consuming modeling (the so-called early-stage-development modeling) that NEPA does not require, resulting in duplicative analyses with respect to the Jonah Field. As the extensive modeling demonstrates, the JIDP can be fully developed and the air impacts can be mitigated; accordingly, the benefits of this project should not be delayed further.</p>	<p>The BLM, EPA, and other parties agreed that additional air quality modeling was needed before a final decision could be reached on the Operators proposal for infill drilling in the Jonah Field. This additional modeling lends further credence to the BLM's development of the Preferred Action (see FEIS Section 2.4.5) and will facilitate proper utilization of the field in the future.</p>
7	8	C	Mitigation	<p>With respect to the consideration of mitigation for the JIDP, IPAMS encourages BLM to defer to WDEQ for site-specific review and permitting requirements regardless of surface ownership (federal, state or private). Furthermore, mitigation measures should be included in terms that allow flexibility to the operator to meet the requirements in the ROD completed by BLM. IPAMS particularly disagrees with any interpretation by BLM that the so-called early-stage-development modeling evidences the needs for phased development to mitigate impacts to visibility. IPAMS strongly opposes phased development and does not believe it will result in considerably reduced impacts. The benefits of</p>	<p>The Preferred Action (FEIS Section 2.4.5) does not necessarily include phased development. However, other factors, such as surface reclamation, would put certain limits on the pace of the development. Nonetheless, the Operators would effectively be in control of those factors and could work cooperatively to develop the field in an expeditious yet environmentally friendly manner.</p> <p>The BLM has not taken the position that phased development is needed and it is not necessarily part of the Preferred Alternative (see FEIS Section 2.4.5). Preferred Alternative-required impact</p>

**Table III-B. Substantive Comments on JIDP Air Quality Issues (cont'd)**

Submittal ID	Comment Number	Comment Category	Keyword	Comment Text	Response
				<p>phased development do not outweigh the costs. Phased development would significantly delay the ability of the operators at Jonah Field to assist in meeting the demands of this nation for a clean, reliable and domestic energy source during a time of high demand and economic hardship. In addition, phased development would hinder employment in the region by providing intermittent and unstable positions, thereby hindering growth in the region and harming the economy of Wyoming and the West in particular. If BLM begins to implement or require phased development for oil and gas projects, smaller and medium-sized producers will be at an extreme disadvantage, as the extended costs and delayed benefits of phased development may be too difficult a hurdle for them to overcome. Accordingly, we ask BLM to seriously consider the region-wide and industry-wide ramifications of requiring phased development at Jonah Field.</p> <p>Simply put, BLM should not curtail energy production in Jonah Field as there is no legal basis to do so. However, if BLM chooses to phase development below the 16,000 acres full development drilling Proposed Action, BLM must prepare a Statement of Adverse Energy Impact pursuant to the Executive Order.</p>	<p>reduction conformations could be met through a variety of means.</p> <p>The BLM is aware of its responsibility and will fulfill all of its legal obligations under all applicable laws and regulations.</p>
8	4	A1	Agency Recommendations, etc.	Section 2.1, Page 7, Table 1. Please include the Deposition Analysis Threshold (DAT) and the PSD SILs in this table. The USFS regions 2 & 4 use the DAT as a reference level to understand the significance of impacts.	DAT comparisons are presented in Table G-ES-1 (equivalent table) in the AQTSD Supplement (see AQTSD Appendix G, Executive Summary). SILs are for modeling purposes only, but are presented in the AQTSD (see AQTSD, Appendix G, Addenda G-C and G-E).
8	5	A1	Agency Recommendations, etc.	Section 2.1, Page 7, Table 1. Please reconsider representing this table as the results of all ambient air quality standards, PSD increments, significance threshold values and levels of concern (as stated on page 6). Using Table ES-1 from the Supplemental Air Quality Technical Support Document (AQ TSD) might be more appropriate, adding the PSD SILs.	Table G-ES-1 in the AQTSD Supplement is the relevant table. SILs are for modeling purposes only, but are presented in the AQTSD (see AQTSD, Appendix G, Addenda G-C and G-E).
8	6	A1	Agency Recommendations, etc.	Section 2.1, Page 8, Table 2. Please list the assumptions that this table represents (based on 2017, no PAPA drilling etc.) as well as listing the analysis methods represented by these numbers (IMPROVE vs.	Further detail on this summary table is provided in the AQTSD Supplement (see AQTSD, Appendix G). In general assumptions include: 1) development of 250 wells in year 12 -13 of the

**Table III-B. Substantive Comments on JIDP Air Quality Issues (cont'd)**

Submittal ID	Comment Number	Comment Category	Keyword	Comment Text	Response
				FLAG, and MVISBK = 6 vs. 2).	project (approximately 2017) with near-complete full field production (2,850 wells in production); 2) 50% straight drilled wells and 50% directional wells; 3) regional Operator estimates of future compression installations; 4) drilling activity within the JIDPA only, with all other fields being fully developed; and 5) values reflect highest of IMPROVE (MVISBK=6) or FLAG (MVISBK=6) results.
8	7	A1	Agency Recommendations, etc.	Section 2.1, Page 8, Table 2. There appears to be a discrepancy between the numbers represented in this table vs. Table C.8.22 in the Supplemental AQTSD. This table displays when a change in deciview is greater than 1.0 rather than greater or equal to 1.0 dv. At a quick glance, this will change the project-only impacts at the Bridger Wilderness from 31 to 33 days for the high emission scenario and the Bridger Wilderness impacts for the cumulative low emission case from 15 to 16 days. FLAG methodology states that changes in dv greater or equal to 1.0 are considered significant. Also, on page 5 of this document (second paragraph), it states that... "The BLM considers a 1.0 dv change as a significant adverse impact..." Please adjust the numbers in the tables as necessary to reflect all days that are greater or equal to a 1.0 deciview change.	The change in deciview values displayed in Section 2.1, Page 8, Table 2 of the DEIS supplement reflect correct modeled deciview change values as produced by the CALPUFF postprocessor CALPOST. CALPOST output displays deciview change values with 3 decimal places. The daily tables (e.g., AQTSD Appendix G Table G-C.8.22) were created from the CALPOST output and were rounded to 2 decimal places. As a result, for Table G-C.8.22, 2 deciview change values rounded to 1.00 and were reported as days with extinction >= 1.0 dv. These tables have been corrected in the FEIS, and AQTSD (see AQTSD Appendix G).
8	8	A1	Agency Recommendations, etc.	Section 2.4, Page 21, Lines 5-7. This section explains that Table 3 is an example of how a change in well drilling rate, drill rig emissions, or active flares could achieve various levels of emission reductions. Please indicate where a calculation of these emission reductions can be found. Please indicate if these numbers are estimations and explain how these mitigation options were determined. Please prepare a similar table to show how the same emission reduction percentages might affect the 2006 early project development scenario.	Project-wide emission reductions were estimated from changes in drill rates, drill rig emissions, and number of active flares. Mitigation alternatives were developed arbitrarily to provide a full range of possible field operating scenarios by reducing the number of operating rigs and completion flares, and by applying alternate EPA Tier emission rates. Drill rig emission rates are presented in the AQTSD, Appendix G, Addendum G-B. Emission rates for drilling mitigation alternatives were developed by multiplying the EPA Tier emission rate by the percent of total emissions it comprised. Emission rates for overall field mitigation were developed by multiplying total JIDP emissions by 0.20, 0.40, 0.60, and 0.80 for the 80%, 60%, 40%, and 20% mitigation

**Table III-B. Substantive Comments on JIDP Air Quality Issues (cont'd)**

Submittal ID	Comment Number	Comment Category	Keyword	Comment Text	Response
					scenarios.  Since the 2006 early-project-development stage analyses represent numerous un-approved/un-substantiated developments that are not associated with the Jonah Infill Project, the BLM has elected not to provide Jonah-specific impact reduction affects analyses for the early-project-development stage analyses.
8	9	A1	Agency Recommendations, etc.	Section 2.4, Page 22, Table 3. The numbers in this table are not complete. Please adjust the numbers to reflect impacts > or = 1.0 dv change. Please add a column to include the 3 days of visibility impairment from the no action alternative to show the total impairment indicated by the modeling.	See comment 8-7, above.  Days of visibility impairment from the No Action alternative are provided in the FEIS (Table 4.4) and AQTSD.
8	10	A2	Agency Recommendations, etc.	Section 3.0, Page 23, Line 12. This cites the ROD for the Pinedale Anticline project as (BLM 1999), however, the ROD was not released until July 2000. Please correct the date in the references.	The August 2005 DEIS Supplement is not being reprinted. However, this reference at this location is correct; it is not a reference to the Pinedale Anticline ROD but to the the Pinedale Anticline technical support document (see AQTSD, Appendix G, Section G-3.0) Please also see comment 8-16, below.
8	11	A2	Agency Recommendations, etc.	Section 3.2, Page 27, Table 4. This table does not depict all significance thresholds or levels of concern, because the DAT and PSD SIL values are not shown.	DAT comparisons have been added to Table G-ES-3 (equivalent table) in the AQTSD Supplement (see AQTSD Appendix G). SILs are for modeling purposes only, but are presented in the AQTSD (see AQTSD, Appendix G, Addenda G-C and G-E)..
8	12	A1	Agency Recommendations, etc.	Section 3.2, Page 28, Table 5. Please identify the analysis method represented by these numbers. Mixing of methodologies is occurring within and between the tables. This table shows 61 days represented by the FLAG method and the max deciview change = 6.57 from the IMPROVE method. Please display one method or identify the method used for each number represented, and provide a rationale for choosing to display one over another.	See comments 8-6 and 8-7, above.  Results tables were intended to show maximum impacts regardless of calculation method, and are reflective of maximum impact from either FLAG or IMPROVE methods. Detail on these analysis methods and the rationale for their use is provided in the AQTSD Supplement (see AQTSD Appendix G).
8	13	A1	Agency Recommendations, etc.	Section 3.2 and 3.3, Page 26-30. General. Please include the additional analysis of the MVISBK = 2 vs. 6. Please discuss the difference in the analysis and explain what results are being displayed and why.	MVISBK = 2 vs. MVISBK = 6 comparisons are provided in the AQTSD supplement (see AQTSD Appendix G, Section G-3.3.4).

**Table III-B. Substantive Comments on JIDP Air Quality Issues (cont'd)**

<b>Submittal ID</b>	<b>Comment Number</b>	<b>Comment Category</b>	<b>Keyword</b>	<b>Comment Text</b>	<b>Response</b>
8	14	A2	Agency Recommendations, etc.	Section Exec Summary, Page iii, Table ES-1. This table is missing the PSD SILs. Please add them.	SILs are for modeling purposes only, but are presented in AQTSD appendices (see AQTSD, Appendix G, Addenda G-C and G-E).
8	15	A2	Agency Recommendations, etc.	<p>Section Exec Summary, Page iv, Table ES-2. Please see comment 3 [repeated below] and adjust numbers to reflect change in <math>dv &gt; \text{ or } = 1.0 \text{ dv}</math>. Also list the methods used for the numbers that are displayed (FLAG vs. IMPROVE, and MVISBK = 2 vs. 6), also add the assumptions at the bottom so readers can see the difference between this 2017 modeling and the 2006 modeling.</p> <p>[Comment #3, Section 2.1, Page 8, Table 2. There appears to be a discrepancy between the numbers represented in this Table vs. Table C.8.22 in the Supplemental AQTSD. This table displays when a change in deciview is greater than 1.0 rather than greater or equal to 1.0 <math>dv</math>. At a quick glance, this will change the project-only impacts at the Bridger Wilderness from 31 to 33 days for the high emission scenario and the Bridger Wilderness impacts for the cumulative low emission cast from 15 to 16 days. FLAG methodology states that changes in <math>dv</math> greater or equal to 1.0 are considered significant. Also, on page 5 of this document (second paragraph), it states that... "The BLM considers a 1.0 deciview (<math>dv</math>) change as a significant adverse impact..." Please adjust the numbers in the tables as necessary to reflect all days that are greater or equal to a 1.0 deciview change.]</p>	See comments 8-6 and 8-7, above.
8	16	A2	Agency Recommendations, etc.	<p>Section Exec Summary, Page vi, Last line. See Comment 6 [repeated below].</p> <p>[Comment #6, Section 3.0, Page 23, Line 12, This cites the ROD for the Pinedale Anticline project as (BLM 1999), however, the ROD was not released until July 2000. Please correct the date in the references.]</p>	The citation was changed and a reference to the Pinedale Anticline ROD has been added (see AQTSD Appendix G).
8	17	A2	Agency Recommendations, etc.	Section Exec Summary, Page ix, Table ES-3. Please add the PSD SILs.	SILs are for modeling purposes only but are presented in the AQTSD (see AQTSD, Appendix G, Addenda G-C and G-E).

**Table III-B. Substantive Comments on JIDP Air Quality Issues (cont'd)**

<b>Submittal ID</b>	<b>Comment Number</b>	<b>Comment Category</b>	<b>Keyword</b>	<b>Comment Text</b>	<b>Response</b>
8	18	A2	Agency Recommendations, etc.	Section Exec Summary, Page x, Table ES-4. See Comment 8 [repeated below].  [Comment #8, Section 3.2, Page 28, Table 5, As in comment 2, please identify the analysis method represented by these numbers. Mixing of methodologies is occurring within and between the tables. This table shows 61 days represented by the FLAG method and the max deciview change = 6.57 from the IMPROVE method. Please display one method or identify the method used for each number represented, and provide a rationale for choosing to display one over another.]	See comments 8-6, 8-7, and 8-12, above.
8	19	A2	Agency Recommendations, etc.	Section 2.0, Page 5, Line 2.0. The USFS is concerned that VOC emissions were not revised in this report, and no information is provided relative to the VOC emissions for the Preferred Alternative. We look forward to seeing VOC emissions for the Preferred Alternative and the early project stages in the FEIS.	VOC emissions for the Preferred Alternative are presented in the AQTSD (Table 2.3). VOC emissions for the early-project-development stage are not presented.
8	20	A2	Agency Recommendations, etc.	Section 2.4.1, Page 11, Table 2.3. Please include ozone in this table.	Background concentrations presented in Table G-2.3 (AQTSD Appendix G) are provided since they are added to far-field modeled concentrations that could affect visibility and atmospheric deposition. Ozone background concentrations representative of existing JIDPA conditions are presented in the FEIS (see FEIS Table 3.7).
8	21	A2	Agency Recommendations, etc.	Section 2.4.4, Page 15, Last paragraph. The Bridger IMPROVE site is located at a year round ski resort with ongoing construction, restaurant, and associated traffic; therefore please consider the use of the word "pristine" in a comparative sense.	The AQTSD Supplement (Appendix G) uses the word "more" to qualify the use of the word "pristine". The reader should understand that even in this area there are some existing human impacts. This language is sufficiently qualified.
8	22	A2	Agency Recommendations, etc.	Section 3.3.4, Page 33, Visibility. Please add more discussion of the various modeling runs conducted and the parameters or assumptions used. Indicate the preferred method or display with an associated rationale.	AQTSD Appendix G, Section G-3.3, Model Results is intended to present analysis results only. Please refer to Section G-3.1 for emissions included in the analysis and Section G-3.2 for model parameters used.  The FEIS and AQTSD now acknowledge BLM's recognition of the fact that other federal agencies may use different methods to calculate visibility (see FEIS Section 4.2.1 and AQTSD Section 4.6.4 and Appendix G).

**Table III-B. Substantive Comments on JIDP Air Quality Issues (cont'd)**

<b>Submittal ID</b>	<b>Comment Number</b>	<b>Comment Category</b>	<b>Keyword</b>	<b>Comment Text</b>	<b>Response</b>
8	23	A2	Agency Recommendations, etc.	Page C, Tables C.8.*. Please list the scenario number from Tables like C.8.22 to facilitate tracking of information on the various tables.	AQTSD Appendix G Tables G-C.8.1 through G-C.8.20 provide the scenario name in the title; Tables G-C.8.21 through G-C.8.32 list the scenario number at the top (see AQTSD Appendix G Addendum G-C). Table G-2.1 contains a list of the modeling scenarios that coordinate with these tables (see AQTSD Appendix G).
8	24	A2	Agency Recommendations, etc.	<p>Page C-166, Table C.8.22, Table C.8.22 and similar tables such as C.8.4 are not consistent in how information is displayed. The number of days of impact differ due to one table displaying change in dv &gt;1.0 dv and the other showing changes of &gt; or = to 1.0 dv. This results in displaying less impact than are predicted. Please see comment 3 [repeated below].</p> <p>[Comment #3, Section 2.1, Page 8, Table 2. There appears to be a discrepancy between the numbers represented in this Table vs Table C.8.22 in the Supplemental AQTSD. This table displays when a change in deciview (dv) is greater than 1.0 rather than greater or equal to 1.0 dv. At a quick glance, this will change the project-only impacts at the Bridger Wilderness from 31 to 33 days for the high emission scenario and the Bridger Wilderness impacts for the cumulative low emission cast from 15 to 16 days. FLAG methodology states that changes in dv greater or equal to 1.0 are considered significant. Also, on page 5 of this document (second paragraph), it states that... "The BLM considers a 1.0 deciview (dv) change as a significant adverse impact..." Please adjust the numbers in the tables as necessary to reflect all days that are greater or equal to a 1.0 deciview change.]</p>	See comments 8-6, 8-7, and 8-12, above.
8	25	A2	Agency Recommendations, etc.	Page E-157, Table E.10.6. Please identify the source of the background N deposition (footnote 2)?	The Background N deposition value was determined from the CASTNET/NADP site data measured near Pinedale. This reference has been added to the table footnotes (see AQTSD Appendix G, Addendum E).
8	26	A2	Agency Recommendations, etc.	Page E-158, Table E.10.6. Please identify the source of the background S deposition (footnote 2)?	The Background S deposition value was determined from the CASTNET/NADP site data measured near Pinedale. This reference has been added to the table footnotes (see AQTSD Appendix G, Addendum E)

**Table III-B. Substantive Comments on JIDP Air Quality Issues (cont'd)**

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8	29	A3	Agency Recommendations, etc.	The USFS noted that the Pinedale Anticline ROD stated: when NO <sub>x</sub> emissions in the Pinedale/Jonah area exceed 693 tons per year, additional analysis will be completed. Please discuss in the EIS that emissions are above this level and discuss how they are being addressed. In the FEIS, please discuss this issue by displaying what additional analysis is being done and what mitigation has been imposed to reduce these levels of NO <sub>x</sub> emissions.	Air quality analysis for the Questar EA (BLM 2004) showed that the analysis level in the Pinedale Anticline ROD had been exceeded.  The early-project-development stage analysis is included to address in part the analysis required by the Pinedale Anticline ROD (see AQTSD, Appendix G, Chapter G-3.0). Project-required mitigation and monitoring actions will be specified in the JIDP ROD (see also FEIS Sections 2.4.5 and 5.1).
8	28	B	Ozone & VOCs	The USFS is concerned that analysis of ozone was not included in the supplemental analysis for the preferred alternative (2017) and the early development stage (2006). It is stated that this analysis will occur for the FEIS. The original modeling for the 2017 scenario alternatives was approximately 98% of the ozone NAAQS and it is possible that ozone modeling for 2006 may show higher concentrations.	A revised estimate of ozone from project sources is provided in the FEIS and AQTSD that demonstrates that the project would not cause or contribute to an exceedance of the 1 and 8 hour ozone standards.  In recognition of the importance of potential ozone concentrations, monitoring has been initiated in the Jonah Field area as well as near Daniel and Boulder.
8	1	C	Agency Recommendations, etc.	In order to meet its affirmative responsibility and avoid the need for consideration of an adverse impact determination or certification of visibility impairment, the USFS recommends: <ul style="list-style-type: none"> <li>• Sufficient mitigation is employed at the onset of the project, and during all phases, to avoid impacts in the wilderness areas.</li> <li>• Additional mitigation for the proposed project is requested because the preferred alternative, under all mitigation scenarios, predicts significant impacts to the wilderness areas.</li> <li>• Government and industry work together to identify additional mitigation to further reduce emissions and the corresponding predicted impacts.</li> </ul>	The BLM appreciates these suggestions and will ensure that appropriate mitigation, within its authority to implement, will be required for the JIDP. There will be a continuing need for the government to work together with industry to identify mitigation opportunities for this and other projects and the BLM looks forward to this prospect.
8	2	C	Agency Recommendations, etc.	Specifically, reduction in impacts from drill rig emissions should be required as a condition of project approval. These reductions should be sought as soon as possible and at the greatest level achievable in combination with various phased development options. Solutions such as electrification of the well field, voluntary emission offsets from existing sources (in-field or otherwise), and energy conservation and efficiency measures may also	The BLM Preferred Alternative identifies air quality mitigation to reduce potential impacts (see FEIS Section 2.4.5).

**Table III-B. Substantive Comments on JIDP Air Quality Issues (cont'd)**

Submittal ID	Comment Number	Comment Category	Keyword	Comment Text	Response
				help mitigate impacts by reducing emissions.	
8	3	C	Agency Recommendations, etc.	<p>Successful implementation of this and future projects depends on innovative and creative solutions. Since the pace and scale of energy development continues to increase in this area, we suggest quarterly meetings with our partners to help strengthen ongoing adaptive management efforts, allow for timely responses to changes occurring in the gas fields and their associated effects, and provide the foundation for cooperative solutions. This interagency workgroup could:</p> <ul style="list-style-type: none"> <li>• Provide semiannual assessment reports indicating the air quality status in SW Wyoming.</li> <li>• Track enforcement of mitigation</li> <li>• Recommend additional actions as needed.</li> </ul>	The Preferred Alternative includes a plan for an interagency working group (i.e., the JIO) that will aid in the adaptive management of the JIDP. Details of JIO operation are explained in FEIS Section 2.4.5 and Appendix E.
8	27	C	Agency Recommendations, etc.	Supplemental analysis of early project development (2006) has shown significantly greater impacts to visibility in nearby Class I areas compared with the impacts modeled in the original DEIS based on assumed 2017 emissions. However, in the analysis of the 2006 scenario, the BLM did not analyze a "No Action Alternative" using those same assumptions. The USFS requests that additional analysis be completed for the FEIS to determine the current conditions that would be expected to occur if a "no action" alternative were selected (specifically on deposition and visibility).	The BLM does not see the benefit of analyzing a No Action Alternative since the 2006 modeling was done to approximate the current conditions.
8	30	C	Agency Recommendations, etc.	Since the release of the supplemental air quality analysis there have been 3 significant changes in the geographic area related to gas production which may affect air quality. The USFS requests that the BLM address and consider these new issues in the decision making process for this project. The changes are: 1. WOGCC allowed Questar to go to 10 acre spacing on their leases. This may result in an increase of 10,000 to 12,000 additional wells on the Pinedale Anticline if other leaseholders follow suit. 2. The approval of the ASU winter drilling pilot project. How will these added drill rigs operating on the Mesa affect air quality in the Green River Basin in wintertime inversion conditions? 3. The proposal from Devon Energy to develop an additional 1,250 wells in the Continental Divide area. What impacts will this have on the assumptions made	The BLM can carry forward its current NEPA analysis without re-starting each time a new proposal is presented. Greater well spacing is not likely to change the cumulative far-field impact assessment. The existing analysis examined seasonal meteorological conditions. Devon Energy's proposal is simply a proposal; it is not necessarily a "reasonably foreseeable development."

**Table III-B. Substantive Comments on JIDP Air Quality Issues (cont'd)**

Submittal ID	Comment Number	Comment Category	Keyword	Comment Text	Response
				in the current modeling and prediction of impacts?	
8	31	C	Agency Recommendations, etc.	Please coordinate with the WDEQ-AQD to update the mitigation costs listed in Vol. 1 of the DEIS, Page 5-7, Section 5.2.	The mitigation costs are simply estimates for discussion purposes. None of the ideas in Chapter 5 have been committed to at this time. Should any proposal be implemented, more definitive cost information would be obtained at that time.
8	32	C	Agency Recommendations, etc.	Mitigation measures to be considered for the Jonah Field could consider the retrofit of all of the Jonah Field operations to include water and condensate pipelines, centralized production facilities and BACT.	Centralized production facilities along with other similar mitigations are incorporated as is feasible into the Preferred Alternative (see FEIS Section 2.4.5).
8	33	C	Agency Recommendations, etc.	Mitigation measures to be considered for the Jonah Infill development could also include a detailed analysis of phased development, extending the development of the project over 30 years.	Under the Preferred Alternative, pace of development would be controlled by managing several performance objectives, including surface reclamation. Additionally, the BLM will continue to work with the EPA, WDEQ, and USFS to develop and implement applicable mitigation measures to meet legal requirements.
8	34	C	Agency Recommendations, etc.	Please consider discussion of the pros and cons of implementing a NO <sub>x</sub> emission cap for the Upper Green River Valley. Such a cap would limit NO <sub>x</sub> emissions to a level that will not impact visibility in adjacent Class I and II Wilderness areas. Who has the authority to implement such a cap if one were developed? What are the limitations and benefits?	The BLM does not have the authority to implement a NO <sub>x</sub> emissions cap. The responsibility and authority for such a cap would rest with the WDEQ.
8	35	C	Agency Recommendations, etc.	Mitigation measures to be considered for the Jonah Infill development could include an analysis of current and proposed air quality and air quality related value monitoring to determine if the adjacent Class I and II wilderness areas are being adequately monitored for potential visibility and depositions impacts. Please include a request for the addition of new monitors if the need is indicated by the analysis.	Potential air quality mitigation and monitoring actions are provided in FEIS Section 5.1.1.
8	36	C	Agency Recommendations, etc.	The USFS is concerned by the magnitude of impacts to visibility in the Bridger, Popo Agie, and Fitzpatrick Wilderness areas for the project alone preferred alternative (2017), as well as the large cumulative impacts projected for that year. The USFS is very concerned that the early project development (2006) will have a higher number of days of impact. The	The Preferred Alternative identifies mitigation for potential visibility impacts (see FEIS Section 2.4.5). Additional measures may be required at the ROD as provided in FEIS Section 5.1.1.  In recognition of the importance of potential ozone concentrations, monitoring has been initiated in

**Table III-B. Substantive Comments on JIDP Air Quality Issues (cont'd)**

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				USFS is also concerned that ozone impacts for the early project development stage (2006) and preferred alternative (2017), which approached 98% of the NAAQS in the initial DEIS, are not displayed in the DEIS or AQTSD Supplements.	the Jonah Field area as well as near Daniel and Boulder.  BLM agrees that monitoring data need to be readily accessible.
8	37	C	Agency Recommendations, etc.	Please consider adding discussion about the 0.5 dv and 1 dv thresholds utilized by the USFS. Please indicate that a goal stated in the FLAG document is that a specific project will have zero days of impact at or above the 1 dv level in any class I area.	The FEIS and AQTSD now include the FLAG goal statement.
9	1	B	Conservative Analysis	...there are deficiencies in the Jonah Infill project inventory and regional inventories, as well as the modeling done for direct project PM <sub>10</sub> impacts, such that the BLM's analysis already underestimates the impacts. Thus, a proper analysis may show that the level of development allowed under the preferred alternative could directly cause Class II PM <sub>10</sub> increment violations within JIDPA under all modeling scenarios.	BLM maintains that the air quality analysis provides a reasonable but conservative estimate of potential PM <sub>10</sub> impacts.
9	2	B	Conservative Analysis	...there are deficiencies in the Jonah Infill project inventory and regional inventories as well as regarding the modeling done for direct project NO <sub>2</sub> impacts that would underestimate ambient impacts, so the extent of the NO <sub>2</sub> increment violations could be much worse than shown in the August 2005 Air TSD.	BLM maintains that the air quality analysis provides a reasonable but conservative estimate of potential NO <sub>2</sub> impacts
9	3	B	Regulatory Compliance & Commitments - Air Quality Standards	Further, the WDEQ recently released a report on NO <sub>2</sub> increment consumption in Sublette County, Wyoming. This analysis indicated that a maximum of anywhere from 11.16 µg/m <sup>3</sup> to 12.23 µg/m <sup>3</sup> of NO <sub>2</sub> increment is consumed in Sublette County, and the maximum NO <sub>2</sub> increment consumption was found to occur in the Jonah Pinedale Development Area. When this data is considered with the direct Jonah Infill project impacts presented in the August 2005 AQTSD Supplement for both the preferred alternative and the early project development scenario, the result is that NO <sub>2</sub> increment violations will occur as a result of the Jonah Infill project without significant mitigation measures required. For example, assuming a maximum increment consumption of 11.5 µg/m <sup>3</sup> based on the results of the WYDEQ CALPUFF modeling and adding that to the BLM's direct Jonah Infill project, NO <sub>2</sub> increment violations would occur in all of the high emission scenarios and all of the mitigation scenarios except the 80% mitigation	Modeled concentrations such as those cited here for comparison to PSD Class II Increments are not additive unless they occur at the same location and concurrently.  Under current federal and state regulations, drilling activities such as those which would occur within the JIDPA do not consume PSD Increment.

**Table III-B. Substantive Comments on JIDP Air Quality Issues (cont'd)**

Submittal ID	Comment Number	Comment Category	Keyword	Comment Text	Response
				<p>scenario. Considering that oil and gas sources within the Jonah-Pinedale development area consume most of the NO<sub>2</sub> increment consumption for the majority of the highest NO<sub>2</sub> increment consumption concentrations predicted in the WDEQ modeling, it seems likely that the maximum NO<sub>2</sub> impacts from the Jonah Infill project will also occur near the locations of peak NO<sub>2</sub> increment consumption identified in WDEQ's modeling, and thus the BLM's modeling results can be added to the WDEQ modeling results at least until a more refined analysis is performed by the BLM. Considering the flaws in the BLM's Jonah project emission inventory and modeling as well as the significant underestimate of remaining Pinedale Anticline air emissions, there is even greater likelihood of NO<sub>2</sub> increment violations for all project scenarios modeled. Further, the BLM must not model any lower level of emissions or assume mitigation unless it can mandate and make enforceable such lower emissions or level of mitigation.</p> <p>It is important to note that, even though these increment violations could be due to well drilling emissions, these emissions consume the PSD increment because the emissions from drilling at a "source" (i.e., all of the pollutant emitting activities under common ownership or control on contiguous and adjacent properties (see definitions of "source," "facility" and "structure, building, source, equipment, installation, or operation" in the Wyoming PSD rules)) will not be temporary. Collectively, such drilling will go on for several years, well in excess of the two years typically considered by EPA as temporary.</p>	
9	9	B	Background Concentrations	<p>The BLM relied on ambient air monitoring data to reflect all sources in existence as of 2001, rather than modeling the existing sources to more accurately determine background concentrations. However, there has been no analysis or verification that the air monitoring data accurately reflect maximum background concentrations of the various pollutants in the Jonah Infill region or in the Class I areas of concern. Further, neither the DEIS or the air quality assessment reports provide any indication that the monitoring data relied on was reviewed to ensure</p>	<p>Precedent has been established for the use of background data. The best available data has been used wherever possible. Air monitoring was recently initiated in the Jonah Field, Daniel, and Boulder areas. Preliminary monitoring data suggest conditions are similar to the data obtained and incorporated into the modeling efforts used for the FEIS impact analysis.</p> <p>Within operational quality control limitations, monitored air quality data will always better</p>

**Table III-B. Substantive Comments on JIDP Air Quality Issues (cont'd)**

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				<p>conformance to quality assurance and other monitor siting and operation requirements. Considering the high concentrations of PM<sub>10</sub>, PM<sub>2.5</sub>, and ozone predicted within the Jonah Infill region that are relatively close to the NAAQS or WAAQS, it is imperative that appropriate background concentrations be determined to more accurately predict whether the Jonah Infill project, by itself and/or with other existing and projected emission sources in the region, will result in violations of the health and welfare based ambient air quality standards.</p>	<p>represent actual site-specific conditions resulting from all impacting emission sources than any attempt to mathematically model those conditions.</p> <p>In recognition of the importance of potential ozone concentrations, monitoring has been initiated in the Jonah Field area as well as near Daniel and Boulder.</p>
9	10	B	Background Concentrations	<p>The BLM relied on PM<sub>10</sub> and PM<sub>2.5</sub> monitoring data collected in Cheyenne, Wyoming to reflect the background concentrations due to all existing sources in the Jonah Infill regional inventory region (an area that reaches into eastern Idaho, northern and northeastern Utah, and northwestern Colorado, but that does not even encompass Cheyenne as it only extends from the Jonah Infill area to roughly 100 miles west of Cheyenne). It seems inconceivable that Cheyenne PM<sub>10</sub> and PM<sub>2.5</sub> data could reflect background concentrations of all existing sources in the Jonah Infill region, and thus BLM should have provided an analysis to support that assumption. BLM's assumption that Cheyenne monitoring data reflects PM<sub>10</sub> background concentrations in the Jonah Infill area is also highly questionable when there is a State and Local Air Monitoring Site (SLAMS) located much closer to the Jonah Infill region in Rock Springs, Wyoming. Data collected at that monitor in 2001 show an annual average PM<sub>10</sub> concentration of 26 µg/m<sup>3</sup> and a 2nd maximum 24-hour average PM<sub>10</sub> concentration of 64 µg/m<sup>3</sup>, much higher than the Cheyenne background concentrations used the Jonah Infill modeling of 16 µg/m<sup>3</sup> (annual average) and 33 µg/m<sup>3</sup> (24-hour average). Adding the Rock Springs PM<sub>10</sub> monitoring values as background to those modeled impacts in the Jonah Infill region would result in PM<sub>10</sub> NAAQS violations for some of the preferred alternative scenarios modeled. The appropriateness of whether Rock Springs monitoring data reflect background PM<sub>10</sub> concentrations would need to be evaluated, but this monitoring data that is from a location much closer to</p>	<p>See comment 2-23, above.</p> <p>The BLM believes that the data and analyses provided in the EIS and AQTSD are adequate for this impact assessment.</p>

**Table III-B. Substantive Comments on JIDP Air Quality Issues (cont'd)**

Submittal ID	Comment Number	Comment Category	Keyword	Comment Text	Response
				<p>the Jonah Infill project area and within the modeling domain clearly makes the validity of using the Cheyenne PM<sub>10</sub> monitoring data as reflective of sources impacting the Jonah Infill region highly suspect. Considering that the air quality modeling analysis shows significantly elevated PM<sub>10</sub> impacts, it is imperative that the BLM use background data for PM<sub>10</sub> that truly reflects the background concentrations in the Jonah Infill project area.</p>	
9	11	B	Background Concentrations	<p>The BLM also relied on NO<sub>2</sub> and ozone data collected at the Green River monitoring site in 2001. While Green River is closer to the Jonah Infill project area than a monitoring site such as Cheyenne, the BLM did not provide any information to indicate that the Green River site reflects the maximum NO<sub>2</sub> and ozone concentrations for the region. Considering that the winds in the area are typically from the northwest (based on Jonah Field wind rose in Figure 3.1 of the Draft Air Quality Technical Support Document for the Jonah Infill Drilling Project Environmental Impact Statement, November 2004 (November 2004 Air TSD)) and that Green River is due south of the areas which have been developed for oil and gas, it is not credible to assume that the monitor reflects maximum concentration of the emissions from existing oil and gas sources 100 miles to the North.</p> <p>According to information obtained by Wyoming Outdoor Council from the EPA, Region VIII office, there are other ozone and NO<sub>2</sub> monitors operating within or close to the Jonah field. Specifically, monitors are currently being operated in Boulder and in the Jonah field. The Jonah site is an industrial site 40 miles northwest of Farson and, according to data available on EPA's AirData website, the purpose of this monitor is identified in part as "general background." The NO<sub>2</sub> concentrations at that monitor are much greater than the annual average NO<sub>2</sub> concentration of 3.4 µg/m<sup>3</sup> at the Green River site in 2001. Specifically, according to the data obtained from EPA, the annual arithmetic mean in 2004 was 0.0107 parts per million, or 20.2 µg/m<sup>3</sup>. Further, the ozone concentrations are also much higher than the ozone background concentration</p>	<p>Data collected through 2001 at the Green River Basin Visibility Study monitoring site was the most representative background value available at the time of the analysis.</p> <p>Monitoring programs in Sublette County began in early 2004, and one full year of quality assured/controlled monitoring data was not available at the time the modeling analysis was completed for the DEIS.</p> <p>The BLM believes that the data and analyses provided in the EIS and AQTSD are adequate for this impact assessment.</p>

**Table III-B. Substantive Comments on JIDP Air Quality Issues (cont'd)**

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				<p>used in the Jonah Infill modeling. Indeed, there have been exceedances of the 8-hour average ozone NAAQS. Ozone concentrations at the Farson station reached 98 parts per billion (ppb) and 89 ppb on February 3 and 26, 2005, respectively. Ozone concentration reached 88 ppb on February 20, 2005 at the Boulder station. These high levels are of particular note since they occurred in the winter, not during the summer, which is typically thought of as "ozone season."</p> <p>While no direct comparison of the two monitoring sites can be made because the Farson monitor began operation in November 2004 and the Green River site is no longer operating, the data from the Farson monitor provides strong evidence that the Green River monitoring site does not reflect maximum NO<sub>2</sub> or ozone concentrations, especially not current concentrations.</p>	
9	12	B	Background Concentrations	<p>Not only should the NO<sub>2</sub> data available in the Jonah project area have been used in determining the appropriate background NO<sub>2</sub> concentrations, but the available ozone and PM<sub>10</sub> data should have been evaluated in determining the data most appropriate to use as reflecting the maximum background concentrations in the Jonah Infill area. This data was readily available and should not have been ignored by BLM.</p> <p>The BLM has not evaluated all of the available data to determine whether more representative and/or more current data is available from within or near the project site. Data from locations as far away as Green River (NO<sub>2</sub> and ozone data) and Cheyenne (PM<sub>10</sub> and PM<sub>2.5</sub> data) may only be used if more current and/or more representative data are not available from proximate monitoring locations and if the BLM is able to determine that these sites adequately represent the maximum concentrations of all sources in the region. Without such an analysis to establish that the selected background monitor locations are relevant to the Jonah field, there is no credible basis for determining that the Jonah Infill project in conjunction with all other sources in the region will comply with the NAAQS or WAAQS.</p>	<p>Monitoring programs in Sublette County began in early 2004, and one full year of quality assured/controlled monitoring data was not available at the time the modeling analysis was completed for the DEIS.</p> <p>The BLM believes that the data and analyses provided in the EIS and AQTSD are adequate for this impact assessment.</p>

**Table III-B. Substantive Comments on JIDP Air Quality Issues (cont'd)**

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				especially with all of the deficiencies in the emission inventory and modeling.	
9	13	B	Emissions, Project	<p>The emissions inventory for the air emissions sources associated with the Jonah Infill project is flawed and underestimates the total emissions due to Jonah Infill sources alone. First, the BLM's emission inventory for the analysis of all Jonah Infill project alternatives including the preferred alternative did not evaluate the increased size of drill rigs that has been shown in practice to be necessary in the nearby Pinedale Anticline project area, as well as in the Jonah II project area. Specifically, the number and size of drill rigs operating in the Pinedale Anticline are much higher than assumed for the original Pinedale Anticline EIS. The Pinedale Anticline EIS assumed only eight drill rigs would operate at one time, but in the summer of 2004 there were 32 drill rigs operating. Further, the Pinedale Anticline EIS assumed a single drill rig would require 1,000 horsepower (hp), and now it is estimated that a single drill rig in the Pinedale Anticline area ranges in size from 3,000 to 5,000 hp. For the Jonah II EIS, the drill rig size was assumed to be 1,000 hp but in practice, drill rig sizes have been 2.5 times that size.</p> <p>However, for the Jonah Infill project inventory used in all of the alternatives modeling analyses, it was assumed there would be three drilling rigs per straight-drilled well – two at 800 hp and one at 500 hp for a total of 2,100 hp, and a total of 2,600 hp for drill rigs at directional drilled wells. Based on what has actually been occurring in the Pinedale and Jonah fields, the size and number of drill rigs assumed for the Jonah Infill alternatives modeling seems to be underestimated. Interestingly, the BLM's "early project development stage modeling" did consider increased drill rig size and numbers for the Pinedale Anticline and considered increased numbers of drill rigs for the Jonah Infill area. Thus, the BLM has essentially admitted that the drill rig assumptions in the preferred alternative and other alternatives modeling were wrong. Based on all of the available information, the BLM's assumption for its alternatives modeling analyses that only 2,100 of hp</p>	Drilling rig sizes specific to the Jonah Infill Project were obtained from Operators, and may not reflect drilling requirements in other development areas.

**Table III-B. Substantive Comments on JIDP Air Quality Issues (cont'd)**

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				<p>would be needed for drilling each well in the Jonah Infill project area is entirely unjustified.</p> <p>The difference in emissions if it was assumed that drill rigs of 3,000 hp would be used could be quite significant. For example, for straight-drilled wells, an increase of 2.63 tpy of NO<sub>x</sub> per well could occur assuming Tier 0 emission rates, an additional 1.3 tpy of NO<sub>x</sub> per well for those rigs operating at Tier 1 emission rates, and an additional 0.6 tpy of NO<sub>x</sub> per well for those emitting at Tier 2 rates. Thus, this is a very significant issue that must be addressed. The BLM must not underestimate emissions from drill rigs but must be conservative in its estimate of emissions, to avoid the same mistakes that have been shown in the Pinedale Anticline and Jonah II EIS's.</p>	
9	14	B	Emissions, Project	<p>Another issue with the Jonah Infill project emission inventory is that no maximum short term average emission inventory was developed for modeling compliance with standards with shorter than annual averaging times, such as the 24-hour PM<sub>10</sub> and PM<sub>2.5</sub> NAAQS, PM<sub>10</sub> PSD increments, and the visibility standard. There were only summaries of annual emissions provided in the air TSDs, and it appears that the models were run based on an even distribution of these annual emissions over the year. This is a significant issue with respect to drilling emissions, because more drilling occurs in the summer months versus the winter months. Thus, there are likely to be more than the assumed 20 drilling rigs operating in some months, as well as more road and well pad construction activities. It should also be noted that, if the modeling only considered 20 drill rigs each month, then even the annual modeling underestimated drill rig emissions because 20 drill rigs per month total to a WDR of 240 per year rather than the 250 WDR allowed in the DEIS. To adequately assess the actual impacts that could occur on the short term NAAQS, PSD increments, and visibility, the BLM must compile and model a maximum short term emissions inventory for Jonah Infill project sources.</p> <p>Further, drilling emissions have already been</p>	<p>WDEQ has recently begun monitoring of PM<sub>10</sub> in and near the Jonah field. No exceedances have been measured.</p> <p>Maximum predicted concentrations from the types of emissions sources operating in the Jonah Field would occur nearby each specific source. The largest stationary emissions sources are the compressor stations and an emissions inventory, obtained from the WDEQ, of other nearby compressor stations was used to estimate NO<sub>2</sub>, CO, and formaldehyde.</p> <p>Modeling scenarios were determined to “best estimate” each project alternative, with consideration given not to under estimate potential emissions. It would be extremely time-consuming and costly to model every specific detail of each alternative given the enormous variability in emissions durations, locations, and development rates. For example: Well drilling activities average 19 days for vertical drilling and 23 days for directional drilling, and flaring activities last up to 80 hours per well and the assumption is that only 20 percent of the wells would require flaring. If 250 wells were developed in 1 year, with a 50/50 split for vertical/directional drilling, it would</p>

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Submittal ID	Comment Number	Comment Category	Keyword	Comment Text	Response
				<p>underestimated, not only based on the drill rig size issue discussed above, but also because of the assumption that all drill rigs will operate for 23 days per well, when well drilling and completion can take as long as 36 days. The BLM should have included the more conservative estimate of 36 days for drilling in a maximum short term emissions inventory to assess worst case impacts of the Jonah Infill project on the short term average NAAQS, PSD increments, and visibility standards.</p>	<p>require 5250 drilling days in the year (21 days x 250 wells) and 167 flaring days (0.2 x 250 x 3.3 days). This results in an average of 14.4 drill rigs per day and 0.46 flares per day. The modeling scenario for this case assumed 20 drill rigs and 3 flares operating continuously over the year. This assumption is a large over estimate of annual emissions from these activities, yet it was an estimate of what could occur during any specific day during the year. The analyses conducted provide an adequate representation of the possible range of potential effects.</p> <p>The drilling duration estimates provided in AQTS Section 1.1 have been clarified. Drilling time estimates as provided by the Operators are 19 days for vertical drilling and 23 days for directional drilling. All emissions estimates are based upon these values.</p>
9	15	B	Emissions, Project	<p>Another deficiency with the Jonah Infill project emissions inventory pertains to the assumptions made on limitations of emissions. For example, the 2017 emission inventory for the alternatives presented in the DEIS and for the preferred alternative assumed 50% of the drill rigs would meet Tier 1 emission rates and 50% would meet Tier 2 emission rates. However, it is important to note that EPA's regulations for nonroad diesel engines require that all engines manufactured after certain dates meet Tier 1 and, later, Tier 2 emission standards. Nothing prohibits the operation of nonroad engines built before those deadlines that do not meet those standards, unless the BLM and/or WDEQ mandate otherwise. The 2017 Jonah Infill project inventory also assumes a 50% control rate in fugitive dust emissions due to road wetting. According to Appendix 4 of the Rawlins Draft RMP/EIS, this level of control "is characterized as the maximum possible." It is not a reasonable assumption that the particulate emissions from roads will be controlled to the maximum extent possible, unless the BLM and/or the WDEQ will be imposing a 50% reduction requirement as an enforceable measure. No commitment to establish federally enforceable limits has been made to date.</p>	<p>It is BLM's practice to model a reasonable but conservative case. The assumptions regarding tier engines and road watering are used to develop the reasonable but conservative case.</p> <p>The BLM Preferred Alternative requires that the Operators demonstrate that potential impacts from the proposed Jonah Infill project are less than those associated with an 80% emission reduction of the reasonable but conservative case.</p> <p>Required mitigation requirements will be identified in the project ROD.</p>

**Table III-B. Substantive Comments on JIDP Air Quality Issues (cont'd)**

Submittal ID	Comment Number	Comment Category	Keyword	Comment Text	Response
				Similarly, the modeling analyses assume completion flares on only 20% the wells and that they will all be equipped with smokeless flares but no justification is provided to support that claim. The BLM's assumptions are not justified without being identified as mitigation measures and made enforceable by the BLM or the WDEQ.	
9	16	B	Emissions, Project	Yet another deficiency in the Jonah Infill project inventory is that separator heater emissions used in production may have been greatly underestimated. Specifically, it was assumed that these heaters only operate for 7.5 minutes every hour during September through April. However, other EIS air analyses have assumed separator heaters would operate for 15 minutes per hour. Thus, based on emissions assumptions made by BLM in prior NEPA documents, the production emissions from separator heaters were underestimated by half in the Jonah Infill project inventory. No basis was provided by the BLM as to why such heaters would operate for half the time assumed for such heaters in other project analyses in the region.	Please see Section 2.1.2 of the AQTSD. Heater emissions data (which included operating minutes per hour) was obtained from Jonah Field stack emissions test data provided by the Operators.
9	17	B	Emissions, Project	In addition, no information was provided as to how the increased compression requirements were determined or why it was only assumed that the increased compression needs would all be met through increased compression ability added at existing compressor stations. The BLM's early project development modeling highlights the likelihood that the BLM underestimated compression needed for the Jonah Infill project because BLM added 48,000 horsepower of expanded compression beyond that evaluated for the DEIS and the preferred alternative for the Jonah Infill area alone. Thus, the early project development modeling assumed almost 300 tpy of additional NO <sub>x</sub> emissions from Jonah Infill compressors. Yet, no explanation was provided for why these more refined estimates of needed compression were not carried over into the preferred alternative modeling, except possibly because the BLM wanted the preferred alternative analysis to be based on the same inventory as the other analyses presented in the DEIS. Since the BLM clearly believes it is important to include these higher	<p>The level of additional compression included in the DEIS was the first estimate obtained from regional operators. Following completion of the DEIS analysis and during preparation of the supplemental analysis, these estimates changed (see AQTSD Appendix G).</p> <p>The Preferred Alternative modeling performed in the AQTSD Supplement (see AQTSD Appendix G) utilized the same compressor projections as the DEIS modeling to maintain consistency and allow for comparison with the DEIS analyses.</p> <p>All additional compression requirements were regional operator estimates only and were not based on any verifiable state permitting action or BLM proposed action.</p>

**Table III-B. Substantive Comments on JIDP Air Quality Issues (cont'd)**

Submittal ID	Comment Number	Comment Category	Keyword	Comment Text	Response
				<p>emission estimates in its early project development modeling, there is no valid reason to not include these emissions in the preferred alternative analysis. These emissions increases could have readily been included in the preferred alternative modeling. Considering that the compressor engines are one of the most significant sources of NO<sub>x</sub> emissions associated with production, it is imperative that the BLM provide more detail on the assumptions used and ensure that the preferred alternative modeling include the maximum level of increased compression expected.</p>	
9	18	B	Emissions, Regional	<p>The regional emissions inventory did not consider any sources which were operating prior to January 1, 2001, unless such sources obtained permits to modify between January 1, 2001 and June 30, 2003. As discussed above, the BLM instead assumed that monitoring data reflected all sources in existence as of 2001. If the BLM cannot adequately justify that the monitoring data reflect all existing sources, then a regional emission inventory must be developed that includes the current emissions of those sources not reflected in the monitoring data for the NAAQS/WAAQS analysis. Without proper justification of the use of monitoring data to reflect all existing sources, the BLM's ambient air impacts analyses are flawed and cannot be relied on by the BLM to show that the Jonah Infill project sources, in conjunction with all other emissions sources in the region, will be in compliance with CAA standards.</p>	<p>See comment 9-9, above.</p> <p>The BLM believes that the data and analyses provided in the EIS and AQTSD are adequate for this impact assessment.</p>
9	19	B	Emissions, Regional	<p>A comprehensive emission inventory must be developed in order to assess whether the additional air emissions sources allowed under the Jonah Infill project would cause or contribute to a violation of any PSD increment in any area or cause or contribute to an adverse impact on visibility at any of the Class I areas that could be impacted by the project development. Regardless of whether the BLM can demonstrate that the monitoring data can be relied on to accurately reflect all existing sources, it is not appropriate to use background monitoring concentrations to show compliance with the PSD increments or with air quality related values such as visibility.</p>	<p>While BLM recognizes its responsibility for the need to compare predicted impacts to applicable PSD increments, it is WDEQ who has the regulatory authority to perform a PSD increment consumption analysis, including the determination of the applicable "baseline" date.</p> <p>Preliminary results from a WDEQ PSD increment consumption analysis show that current increment consumption for NO<sub>2</sub> in Bridger Wilderness is 5.6%. Please review these preliminary results at <a href="http://deq.state.wy.us/aqd">http://deq.state.wy.us/aqd</a>.</p> <p>BLM disagrees that 2001 is treated as a "baseline"</p>

**Table III-B. Substantive Comments on JIDP Air Quality Issues (cont'd)**

Submittal ID	Comment Number	Comment Category	Keyword	Comment Text	Response
				<p>For the PSD increments, state and federal regulations provide that all of the emission increases that occur after the applicable PSD baseline date consume the available increment. Because monitoring data cannot discern between source emissions that were in existence before the applicable PSD baseline date or after it, monitoring data cannot be used to show compliance with PSD increments. The relevant PSD baseline dates occurred well before the 2001 cutoff date for the emissions inventory compiled for the air analyses. First, all major sources on which construction or modification commenced after the major source baseline date must be included in the increment inventory. The major source baseline dates are set in Federal regulation as January 6, 1975 for SO<sub>2</sub> and PM<sub>10</sub> and February 8, 1988 for NO<sub>2</sub>. Second, any increase in emissions at any minor, area, or mobile sources after the minor source baseline date also consumes the available increment. The applicable minor source baseline dates should be obtained from the WYDEQ, but it appears that the minor source baseline dates were triggered statewide in 1978 for SO<sub>2</sub>, in 1979 for PM<sub>10</sub>, and in 1988 for NO<sub>2</sub>.</p> <p>The regional emissions inventories for the Jonah Infill modeling considered only emissions from sources permitted and “reasonably foreseeable” new sources that operated or would begin operations after 2001. This method of analysis effectively treated 2001 as the PSD baseline date because it failed to account for any of the emissions added by sources that were permitted after the PSD regulatory baselines discussed above were set. As a result, the modeling approach provided only a highly truncated assessment of the consumption of the allowable increments during the last three years (2001-2003) and omitted any assessment of the increment consumed after the establishment of the regulatory baseline dates but before 2001. Thus, in order to provide for a proper assessment of whether the Jonah Infill development would cause or contribute to a violation of any PSD increment, a separate emissions inventory must be developed by the BLM to reflect those emission changes since the applicable baseline dates, and those emissions must be modeled to</p>	<p>date”. The potential concentrations represent current and potential future concentrations, not measures of increment consumption. BLM compares the potential concentrations with the total increment to put the potential concentrations into perspective, not to address the extent to which increment has been or will be consumed.</p> <p>For more information on the WDEQ PSD Increment Consumption Analysis please see: <a href="http://deq.state.wy.us/aqd">http://deq.state.wy.us/aqd</a>.</p> <p>The BLM believes that the data and analyses provided in the EIS and AQTSD are adequate for this impact assessment.</p>

**Table III-B. Substantive Comments on JIDP Air Quality Issues (cont'd)**

Submittal ID	Comment Number	Comment Category	Keyword	Comment Text	Response
				demonstrate compliance with the PSD increments.	
9	20	B	Regulatory Compliance & Commitments - Air Quality Standards	The PSD increments are separate ambient air quality standards that apply in addition to the NAAQS in clean air areas. It is imperative that the BLM properly evaluate the impacts of the Jonah Infill development along with all other existing and reasonably foreseeable development on these ambient air standards both in the vicinity of the proposed development (i.e., the Class II increments) and in the Class I areas that will be impacted by the proposed development. The BLM cannot rely on SIP programs such as preconstruction permitting requirements to conduct a full PSD increment consumption analysis. Because BLM is required under FLPMA to ensure compliance with all regulatory requirements and because the "maximum allowable increases" (i.e., PSD increments) are separate ambient standards not to be exceeded, BLM must conduct a thorough analysis of whether the increments will be complied with.	<p>The BLM believes its current air quality analysis accurately represents the potential impacts of the Preferred Alternative along with reasonably foreseeable development and reasonably foreseeable future actions. Background air monitoring results incorporated into modeling efforts ensure that existing impacts are accounted for.</p> <p>The BLM will ensure that the project complies with the CAA. Ongoing monitoring and mitigation oversight by the JIO (see FEIS Section 2.4.5)) will aid the BLM in ensuring appropriate compliance.</p> <p>The BLM is not required to perform a PSD increment analysis. Such an analysis is part of the permitting requirements and, if needed, will be performed by the WDEQ.</p>
9	21	B	Regulatory Compliance & Commitments - Air Quality Standards	<p>The WDEQ has recently released its assessment of NO<sub>2</sub> PSD increment consumption in Sublette County, Wyoming. However, the WDEQ analysis did not consider the impact of Jonah Infill sources or of any other future sources of emissions in the region. Thus, the WDEQ analysis by itself cannot be relied upon by BLM as satisfying the requirement that BLM disclose whether the PSD increments will be complied with pursuant to the Jonah Infill project and all other contributing sources.</p> <p>The WDEQ analysis indicated that a maximum of anywhere from 11.16 µg/m<sup>3</sup> to 12.23 µg/m<sup>3</sup> of NO<sub>2</sub> increment is consumed in Sublette County, and the maximum NO<sub>2</sub> increment consumption was found to occur in the Jonah Pinedale Development Area. When this data is considered with the direct Jonah Infill project impacts presented in the August 2005 Air TSD for both the Preferred Alternative and the early project development scenario, the result is that NO<sub>2</sub> increment violations will occur as a result of the Jonah Infill project without significant mitigation measures required.</p>	<p>A regulatory PSD Increment Consumption Analysis would address emissions in the baseline year (in this case, 1988) and the year of concern (in this case, 2004). The intent of the PSD program is to determine the current status of increment consumption. Although some future emissions are included (if the proposed major point source project has been approved but not yet built), it is inconsistent with the regulatory intent of the PSD program to estimate potential future increment consumption.</p> <p>For more information on the WDEQ PSD Increment Consumption Analysis please see: <a href="http://deq.state.wy.us/aqd">http://deq.state.wy.us/aqd</a>.</p>

**Table III-B. Substantive Comments on JIDP Air Quality Issues (cont'd)**

Submittal ID	Comment Number	Comment Category	Keyword	Comment Text	Response
				<p>Considering the flaws in the BLM's Jonah project emission inventory and modeling and also the significant underestimate of remaining Pinedale Anticline air emissions, there is even greater likelihood of NO<sub>2</sub> increment violations for all project scenarios modeled. Further, the BLM must not model any lower level of emissions or percent mitigation unless it can mandate and make enforceable such lower emissions or level of mitigation. This WDEQ data highlights the necessity for BLM to properly assess PSD increment consumption by both Jonah Infill project sources and other existing and reasonably foreseeable development to determine the levels and extent of increment violation and to determine the mitigation that will be needed to avoid increment violations.</p>	
9	22	B	Regulatory Compliance & Commitments - Air Quality Standards	<p>The PSD increment inventory of all existing and reasonably foreseeable increment-consuming sources, once fully developed, also must be used to analyze whether the development allowed under the plan amendments would cause or contribute to adverse impacts on visibility in any Class I area affected. While the visibility regulations do not provide for a visibility baseline date, as the goal of the program is to restore visibility to natural conditions, the Federal Land Managers typically require the modeling of all PSD increment consuming sources in a cumulative visibility analysis.</p> <p>Thus, in order for the BLM to properly analyze the cumulative impacts on visibility that could occur at Class I areas in the region and the cumulative impacts on any PSD increment, it must develop a separate emissions inventory than used in the NAAQS analysis that includes emissions from all new and modified sources added after the regulatory major and minor PSD baseline dates. BLM is required to do this not only to comply with its obligations under the CAA and FLPMA, but also to comply with its obligations under NEPA to consider the direct and indirect impacts of the action, and its cumulative impacts.</p>	<p>BLM's obligations under the CAA and FLPMA is simply to assure its actions (direct or authorized) comply with applicable local, state, tribal, and federal air quality requirements. BLM's obligations under NEPA are to analyze and disclose potential significant adverse air quality impacts to the public and decision maker, including "direct and indirect impacts of the action, and its cumulative impacts" before a decision is made to deny, approve, or approve with mitigation the Proposed Action or alternative. BLM is not obligated to develop a separate emissions inventory than used in the NAAQS analysis that includes emissions from all new and modified sources added after the regulatory major and minor PSD baseline dates. The State of Wyoming is the regulatory agency obligated to implement the CAA (with EPA oversight) including regulatory PSD Increment Consumption analyses.</p>
9	23	B	Emissions, Regional	<p>Even assuming that reliance on air monitoring concentrations was appropriate (which might be the case only for compliance with the NAAQS/WAAQS, but</p>	<p>BLM maintains that it is not necessary to develop a comprehensive emission inventory back to 1996. Emissions before 2001 are represented by</p>

**Table III-B. Substantive Comments on JIDP Air Quality Issues (cont'd)**

Submittal ID	Comment Number	Comment Category	Keyword	Comment Text	Response
				<p>not the PSD increments or air quality related values as discussed above), the regional inventory baseline should have been based on the same base year used for the Pinedale Anticline EIS. In the Pinedale Anticline EIS, a base year of 1995 was used for development of the inventory for the cumulative air quality analysis. Based on the Pinedale Anticline EIS emission inventory and modeling analyses, emission “levels of concern” were developed. Further, the WDEQ and the BLM have been tracking changes in permitted source emissions and actual emissions (although the BLM has not completed an actual emissions inventory report since 2000) since January 1, 1996. With the BLM now using an inventory of emissions changes since January 1, 2001 for the Jonah Infill project EIS, it is difficult to reconcile the regional inventory compiled for Jonah Infill with the emissions tracking that has been done in the region based on changes since January 1, 1996.</p> <p>The emissions tracking done as a result of the Pinedale Anticline EIS modeling is considered necessary to ensure that air quality standards are complied with. This emissions tracking is one of the main tools the public and government officials have to determine whether adverse air quality impacts will occur as a result of development in the region. Thus, the regional air emissions inventory for the Jonah Infill EIS should have reflected all changes since January 1, 1996.</p>	<p>the background concentrations. See comment 9-9, above.</p> <p>BLM recognizes its commitment to track NO<sub>x</sub> emissions.</p>
9	24	B	Emissions, Regional	<p>According to the November 2004 Air Quality TSD, the area which was inventoried was not large enough to encompass all sources which might impact the areas that the Jonah Infill sources could impact. For assessing near-field impacts, the area inventoried must at least include all sources within 50 km of the significant ambient impact area of the Jonah Infill project sources and must also include large sources such as coal-fired power plants located farther away, up to 300 km that could have a significant ambient impact on the Jonah Infill project area.</p> <p>For the far-field analysis, the regional inventory area must extend out to 300 km from all Class I areas that could be impacted by the Jonah Infill project. Those</p>	<p>The modeling domain that was used was developed primarily for estimating impacts at the Bridger, Fitzpatrick, and Popo Agie Wilderness areas and for the Wind River Roadless area (i.e., the areas that were identified during stakeholder review as the areas that could potentially be adversely affected by JIDP pollutant emissions). The domain follows IWAQM and FLAG guidance for these Class I and sensitive areas. Furthermore, this modeling domain is adequate for estimating project-related and cumulative impacts at the other distant sensitive areas (Teton and Washakie Wilderness Areas, Grand Teton and Yellowstone National Parks), since meteorological conditions that could potentially</p>

**Table III-B. Substantive Comments on JIDP Air Quality Issues (cont'd)**

Submittal ID	Comment Number	Comment Category	Keyword	Comment Text	Response
				<p>Class I areas would include all Class I areas in Wyoming (Yellowstone National Park, North Absaroka Wilderness, Washakie Wilderness, Teton Wilderness, Grand Teton National Park, Fitzpatrick Wilderness, and the Bridger Wilderness).</p> <p>A review shows the regional inventory clearly does not extend far enough from the Jonah Infill project area or from the Class I areas that will likely be affected to provide for a comprehensive cumulative assessment of both near-field and far-field ambient impacts. The result of the BLM truncating the area to be included in the inventory is that the BLM's ambient air analyses underestimated the amount of emissions impacting the Jonah Infill project area and the nearby Class I areas.</p>	<p>transport JIDP emissions to these areas are contained within the modeling domain.</p>
9	25	B	Emissions, Regional	<p>The regional inventory is incomplete because it did not consider all reasonably foreseeable sources that could significantly impact the same areas that could be impacted by the Jonah Infill sources. The reasonably foreseeable inventory should have included those sources recently permitted or which have recently submitted complete PSD permit applications but which are not yet operating. In addition, any data on sources permitted after June 30, 2003 should have been included if such information was readily available. Further, the BLM did not include all expected emissions from development of projects currently being developed in Wyoming. The BLM also failed to include other reasonably foreseeable development aside from just those projects to be located in Wyoming. As a result, the BLM's analyses underestimate total regional emissions and thus underestimated ambient air impacts.</p> <p>PSD permit applications have been submitted, and some permits have been issued, for several coal-fired power plants to be located within the region, and those facilities should have been included in the regional inventory. Those new power plants which have not yet received air quality permits include the proposed Unit 2 at the Bonanza power plant in northeastern Utah and the proposed Unit 4 at the Hunter power plant in Utah. In addition, a revised PSD permit application was</p>	<p>An appropriate inventory end-date and domain size was necessarily established to allow for timely completion of the modeling analysis.</p> <p>The BLM believes that the data and analyses provided in the EIS and AQTSD are adequate for this impact assessment.</p> <p>The purpose of a project-specific NEPA analysis like this one is to focus on potential project-specific impacts, not necessarily all projects that could impact project-affected Class I areas.</p> <p>VOC emissions were not included in the regional inventory since the main purpose of developing regional inventories was to quantify cumulative emissions that could potentially impact air quality related values (acid deposition and visibility). SO<sub>2</sub>, NO<sub>2</sub>, PM<sub>10</sub>, and PM<sub>2.5</sub> are precursors to regional haze formation, whereas VOCs are not.</p>

**Table III-B. Substantive Comments on JIDP Air Quality Issues (cont'd)**

Submittal ID	Comment Number	Comment Category	Keyword	Comment Text	Response
				<p>recently submitted for the Wygen 2 power plant to be located near Gillette, Wyoming. The regional inventory also did not include the permitted Two Elk power plant to be located in the Powder River Basin of Wyoming. (Although the Two Elk permit expired due to lack of construction, it was reissued in May 2003.) The regional inventory also did not include the permitted Roundup power plant and the Hardin Generating Station, both in southeastern Montana. These power plants could impact the same areas that could be impacted by Jonah Infill project sources, and thus should have been included in the regional inventory.</p> <p>Further, the December 6, 2004 Southwest Wyoming NO<sub>x</sub> Emission Tracking Report prepared by WDEQ shows that, in 2004, there were permitted increases of 371 tpy of NO<sub>x</sub> at Solvay Chemicals in Sweetwater County and 350 tpy of NO<sub>x</sub> at compressor stations located in Sublette County. (Although the emissions inventory for the “early project development modeling” did include additional sources permitted from June 30, 2003 up until March 31, 2004, none of these increases in NO<sub>x</sub> emissions were included in that update because they were permitted after March 31, 2004. Further, no updates to the permitted source inventory were made for the modeling of the Preferred Alternative provided in the supplemental AQTSD.) These permitted increases at Solvay Chemicals and the Sublette County compressor stations could have been readily included in the regional inventory for the supplemental Jonah Infill project analyses, since the WDEQ issued its 2004 tracking report in December of 2004.</p> <p>In addition, for the state permitted source inventories, only sources with NO<sub>x</sub>, SO<sub>2</sub> and PM<sub>10</sub> emissions were inventoried. It was a significant oversight to fail to inventory sources of VOCs in the region due to the contribution of these compounds to ozone formation.</p>	
9	26	B	Emissions, Regional	<p>The regional inventory also failed to include NEPA projects in other states that could be impacting the same area as the Jonah Infill sources, such as the Vernal (Utah) sources, the Price (Utah) RMP sources, the Roan Plateau (Colorado) RMP sources. projects in</p>	<p>BLM recognizes that activities in other states may impact areas potentially impacted by the proposed JIDP. BLM maintains that the correct purpose of the Jonah Infill EIS air quality analysis is to focus on the potential impacts of the proposed project.</p>

**Table III-B. Substantive Comments on JIDP Air Quality Issues (cont'd)**

Submittal ID	Comment Number	Comment Category	Keyword	Comment Text	Response
				<p>the Moffat County, Colorado (Little Snake Field Office) area such as the Vermillion Basin Project, and the Powder River Basin (Montana) coalbed methane sources. The remaining development in the many NEPA-approved projects in these areas should have been as readily available to BLM as the Wyoming NEPA project data. In any event, these project areas are within the modeling domain so BLM was obligated to acquire these data.</p>	<p>rather than to include all emissions sources that could impact, for example, Bridger Wilderness.</p> <p>It should be noted that air quality monitoring inherently measures impacts from all sources.</p>
9	27	B	Emissions, Regional	<p>In addition, while the regional inventory purportedly included all Wyoming NEPA projects, there were several projects for which no emissions data were quantified or for which incomplete emissions data was compiled. For example, no emissions inventory data was available for the Atlantic Rim and Seminole Road projects. The BLM's regional inventory should have at least estimated emissions for these NEPA projects until more detailed data becomes available, particularly since the scoping notices and other NEPA documents for these projects provide estimates of the levels of development anticipated. Moreover, the Atlantic Rim Project is proceeding apace despite the lack of a completed environmental impact statement because BLM is approving elements of the project piecemeal via various EAs approving multi-well "PODs" in the area (Brown Cow Pod EA, Blue Sky Pod EA, etc.). Thus, information on that project is currently available and is not speculative, and BLM must include emissions for those sources in the regional inventory.</p>	<p>The BLM believes that the data and analyses provided in the EIS and AQTSD are adequate for this impact assessment. Additional regional projects will undoubtedly be proposed and the air quality analyses performed for these projects will provide further impact assessments.</p>
9	28	B	Emissions, Regional	<p>The BLM's estimates of emissions from projects currently being developed were also underestimated in the reasonably foreseeable development inventory. Importantly, the emissions for the nearby Pinedale Anticline project were greatly underestimated. Table C.12 (page C-40) of Appendix C of the November 2004 AQTSD indicates that there are only 16.01 tpy of NO<sub>x</sub> remaining due to development yet to occur in this project area. No details are provided as to how this amount remaining was estimated, but it seems greatly in error. According to data available on the WOGCC site, approximately 300 wells have been completed (as of 2005). The Pinedale Anticline ROD (July 2000) allowed 900 well pads to be developed. So, at the very</p>	<p>All wells permitted by WOGCC within the study area/modeling domain were modeled as producing wells, either as part of a BLM project area or as "other" wells within each county, to ensure all wells were analyzed. Because the number of wells developed by specific BLM project area is not tracked, WOGCC-permitted wells were considered to be part of a BLM project area if they were geographically located within that project area. Wells located geographically outside of BLM project areas were modeled as "other" county wells.</p> <p>Note that natural gas development field names</p>

**Table III-B. Substantive Comments on JIDP Air Quality Issues (cont'd)**

Submittal ID	Comment Number	Comment Category	Keyword	Comment Text	Response
				<p>minimum, the amount of NO<sub>x</sub> emissions yet to be developed would be two-thirds of the production emissions identified in the Pinedale Anticline emission inventory (at least two thirds of 44.76 tpy) and at least two thirds of the compression NO<sub>x</sub> emissions identified in the Pinedale Anticline emission inventory (at least two thirds of 251.06 tpy). Thus, at least 195 tpy of NO<sub>x</sub> from production are remaining to be developed in the Pinedale Anticline area. However, the June 1999 emissions inventory relies on an assumption that only one well is to be drilled per well pad. It is important to recognize that that the Pinedale Anticline EIS did not set a limit on the number of wells that could be drilled; it set a limit on the number of well pads that could be constructed. Thus, even if it was originally contemplated or implied that there would be one well per pad, for a total of up to 700 wells, the current increase in approved downhole spacing density could lead to a doubling or quadrupling of that number to 1400 or 2800 wells. And the operators on the Pinedale Anticline are in fact drilling large numbers of wells from single pads. For example, BLM is currently analyzing a proposal from Anschutz, Shell, and Ultra to drill as many as 20 wells from a single well pad. Thus, the BLM must include a realistic estimate of emissions from the expected gas production from the Pinedale Anticline field in 2017 including additional compressor engines needed to accommodate the expected gas production rate that is clearly above the level contemplated in the Pinedale Anticline air analyses.</p> <p>Further, significant emissions from well construction are expected in the Pinedale Anticline, likely well in excess of the 272 tpy of NO<sub>x</sub> emissions assumed in the June 1999 Pinedale Anticline Emission Inventory. This is based on the findings stated in the Questar Finding of No Significant Impact (FONSI) that the size of drill rig engines and length of operating time is much higher than evaluated in the Pinedale Anticline air analyses, as well as based on the fact cited above that many more wells than originally contemplated in the Pinedale Anticline air analyses will be drilled in the Pinedale Anticline region.</p>	<p>utilized by WOGCC may not coincide in area extent or location with BLM-defined natural gas field project areas.</p> <p>Production wells holding WDEQ-AQD permit waivers with emissions &lt;3 tpy were assumed to be wells that were included in the data provided by WOGCC.</p> <p>The Pinedale Anticline Supplemental EIS currently being prepared will address new development in the Pinedale Anticline field.</p>

**Table III-B. Substantive Comments on JIDP Air Quality Issues (cont'd)**

Submittal ID	Comment Number	Comment Category	Keyword	Comment Text	Response
				<p>While BLM may claim that such production emissions are included in the WDEQ permitted source inventory and the Wyoming oil and gas inventory, the WDEQ permitted source inventory does not include all development that has occurred in the Pinedale Anticline area from 2000 to date. First, the WYDEQ permitted source inventory only includes sources permitted through June 30, 2003. Yet, gas production in the Pinedale area doubled between 2003 and 2005, so the BLM's WDEQ permitted source inventory ignored some substantial emission sources that were permitted after June 30, 2003. Also by failing to inventory Wyoming sources with emissions less than 3 tpy BLM ignored a significant quantity of air emissions from sources associated with gas production in the Pinedale Anticline, as well as elsewhere in the region. Further, the BLM's WOGCC inventory of oil and gas well emissions only indicates 1.66 tpy of NO<sub>x</sub> from oil and gas wells in Sublette County permitted after January 1, 2001 through 2002. Even using the questionable emission rate assumed by the BLM of 0.045 tpy of NO<sub>x</sub> per gas well, this would only equate to 36 gas wells permitted in Sublette County, far short of the 900 wells authorized by the Pinedale Anticline ROD. In fact, 416 wells were completed in Sublette County in this time period. Of these, 140 wells were completed in the Pinedale Anticline during this timeframe.</p>	
9	29	B	Emissions, Regional	<p>Further, for the majority of Wyoming NEPA projects inventoried in the reasonably foreseeable development (RFD) inventory, only NO<sub>x</sub> emissions were inventoried. VOC emissions were not included for any project, and those emissions can be quite significant. For the Pinedale Anticline project alone, BLM estimated that VOC emissions from production would be over 7,000 tpy. Thus, the RFD inventory, in addition to underestimating emissions, is very incomplete with respect to all air emissions expected from NEPA projects.</p>	<p>VOC emissions were not included in the regional inventory since the main purpose of developing regional inventories was to quantify cumulative emissions that could potentially impact air quality related values (acid deposition and visibility). SO<sub>2</sub>, NO<sub>2</sub>, PM<sub>10</sub>, and PM<sub>2.5</sub> are precursors to regional haze formation, whereas VOCs are not.</p> <p>The BLM believes that the data and analyses provided in the EIS and AQTSD are adequate for this impact assessment.</p>
9	30	B	Emissions, Regional	<p>In summary, the regional inventory of reasonably foreseeable development is incomplete and must be revised to reflect all sources that could impact the same areas that will be impacted by the Jonah Infill project, to completely and accurately reflect currently allowed</p>	<p>See comments 9-26 through 9-29, above.</p>

**Table III-B. Substantive Comments on JIDP Air Quality Issues (cont'd)**

Submittal ID	Comment Number	Comment Category	Keyword	Comment Text	Response
				<p>increases in air emissions, and to completely and accurately reflect all proposed new sources of air emissions. Without such revisions to the regional inventory, the BLM's inventory underestimates emissions and thus underestimates ambient air impacts expected in the region. Thus, the BLM's ambient air analyses cannot be relied on as credible for the purpose of approving the Jonah Infill project.</p>	
9	31	B	Emissions, Regional	<p>According to the discussion of the State Agency-Permitted Industrial Source Inventory in the August 2004 AQTSD, all sources with emissions less than 3 tpy were excluded from the Wyoming inventory and were considered to be included in the WOGCC inventory. There were hundreds of such small sources, mostly production wells that were excluded from the regional inventory. Specifically, more than 360 sources were omitted because their emissions were less than 3 tpy, and the majority of these sources were located in Sweetwater or Sublette Counties. Collectively, these facilities represent significant emissions and, thus, these sources must not be excluded from the inventory.</p> <p>There are several problems with the emission estimates for WOGCC source inventory and thus it is not appropriate to assume all of these small sources are included in the WOGCC inventory. For the projected oil and gas agency sources, a NO<sub>x</sub> emission rate was assumed for each well of 0.045 tpy NO<sub>x</sub>. However, in looking at the database of WDEQ permitted emission facilities for the Rawlins Resource Management Plan, upon which the Wyoming inventory for the Jonah Infill project appears to be based, the exempted "production wells with emissions &lt; 3 tpy" included numerous sources with allowable NO<sub>x</sub> increases well in excess of 0.045 tpy including one well with an allowable NO<sub>x</sub> rate of 4.6 tpy. In fact, none of WDEQ permitted production wells identified in the permitted source database had allowable emissions as low as 0.045 tpy. Further, the projected oil and gas emissions from WOGCC sources only included oil and gas sources permitted as of 2002, whereas the WDEQ permitted source database compiled for the Jonah Infill modeling included sources permitted through June</p>	<p>As described on page C-4 of the AQTSD, the exclusion of sources &lt;3 tpy applied only to natural gas or coal bed methane production wells. These sources were assumed to be included in well permits obtained from WOGCC. For all other facility classifications, the exclusion threshold was 1 tpy.</p> <p>A single emissions inventory was prepared for use in the Rawlins RMP and the Jonah Infill analysis.</p> <p>Note that the allowable NO<sub>x</sub> emission rate for an emissions source was not the focus of the analysis; rather, the allowable emissions increase was compared to the inventory threshold.</p> <p>Well data for 2003 was not available at the time the inventory was conducted. The future level of well development in any region could not be estimated.</p>

**Table III-B. Substantive Comments on JIDP Air Quality Issues (cont'd)**

Submittal ID	Comment Number	Comment Category	Keyword	Comment Text	Response
				<p>2003. Roughly 25% of the production wells excluded from the WDEQ source inventory were permitted in 2003, and thus the WOGCC source inventory did not include at least 25% of new oil and gas wells.</p> <p>Consequently, the projected oil and gas inventory underestimated emissions from wells, and it was not appropriate to exclude these production wells with emissions less than 3 tpy from the WDEQ permitted source inventory. The permitted source inventory was likely a better source of information for these wells, and it should have been evaluated in conjunction with the data from the WOGCC rather than simply excluding all of these small sources of emissions from the permitted source inventory. As a result, the BLM's emission inventory underestimated emissions and thus underestimated ambient air impacts.</p>	
9	32	B	Emissions, Regional	<p>To estimate emissions from natural gas and oil wells, data were obtained from the state oil and gas permitting agencies such as WOGCC and then emissions were estimated based on certain assumed emission rates from each well. However, these emission rates were not adequately justified by the BLM as representing emissions from each well. For NO<sub>x</sub>, an emission rate of 0.045 tpy per gas well was assumed. PM<sub>10</sub>, PM<sub>2.5</sub>, and SO<sub>2</sub> were assumed to be negligible. Further, no evaluation of VOC emissions was provided for these wells. The BLM apparently used stack test data provided by Encana for its estimate of NO<sub>x</sub> emissions due to the WOGCC sources. The BLM did not adequately justify its emission estimates used for the WOGCC inventory, and other data and documents indicate that the WOGCC inventory used in the Jonah Infill modeling greatly underestimated emissions.</p> <p>First, the WOGCC inventory did not include any estimate of VOC emissions from the existing wells. According to the emission estimates for the Jonah Infill sources, the BLM estimated a total of over 18 tpy of VOC production emissions per well. This is a significant oversight to not include VOC emissions for the WOGCC inventory.</p>	<p>VOC emissions were not modeled regionally; therefore, VOC emissions were not included in the regional inventory.</p> <p>VOC emission calculations for the JIDP were intended to reflect emissions from the Proposed Action or alternatives only.</p> <p>The FEIS and AQTSD provide a revised estimate of VOC emissions by incorporating production decline curve effects on production well VOC emissions.</p>

**Table III-B. Substantive Comments on JIDP Air Quality Issues (cont'd)**

Submittal ID	Comment Number	Comment Category	Keyword	Comment Text	Response
				<p>Second, although the BLM assumed the same NO<sub>x</sub> emission rate for Jonah Infill project sources of 0.045 tpy emissions (not including traffic or compression), previous BLM documents assumed much higher production emissions from gas wells. Specifically, in the recently issued Rawlins Resource Management Plan DEIS, the average NO<sub>x</sub> emission rate per well for operation excluding compression was assumed to be 0.09 tpy per well. This is double the assumed rate of 0.045 tpy per well for the WOGCC sources in the Jonah Infill inventory. Further, the WDEQ permitted emission rates for the production wells were often much higher than these estimates.</p> <p>Third, the WOGCC inventory did not include estimates of emissions due to well pad construction (including emissions from construction traffic – both tailpipe and fugitive dust, as well as due to initial flaring). It also appears to have excluded emissions from traffic emissions during well operations. Clearly these are not insignificant emissions of PM<sub>10</sub> as well as NO<sub>x</sub> and PM<sub>2.5</sub> and should have been included in the regional inventory estimate.</p> <p>Fourth, the WOGCC regional inventory for oil and gas sources only looked at changes in production between 2000 and 2002. Thus, it does not reflect all oil and gas source emissions in the region, and it does not even reflect current oil and gas source emissions in the region. For all of the above reasons, the BLM's regional inventory of oil and gas source emissions underestimated air emissions from these sources.</p>	
9	33	B	Emissions, Regional	<p>The regional source inventory did not include any inventory of VOC emissions in the region. Instead it focused only on NO<sub>x</sub> and, also for some sources, SO<sub>2</sub> and particulates. Yet, VOC emissions from oil and gas development can be quite significant. Further, monitoring data collected in the Jonah field area indicate recent ozone concentrations in excess of the 8-hour ozone NAAQS. In addition, monitoring data collected at the Green River Basin Visibility Study site, considered by the BLM to represent background conditions for the Jonah Infill project area, indicate very</p>	<p>The FEIS and AQTSD provide a revised estimate of VOC emissions by incorporating production decline curve effects on production well VOC emissions.</p> <p>In recognition of the importance of potential ozone concentrations, monitoring has been initiated in the Jonah Field area as well as near Daniel and Boulder.</p>

**Table III-B. Substantive Comments on JIDP Air Quality Issues (cont'd)**

Submittal ID	Comment Number	Comment Category	Keyword	Comment Text	Response
				<p>high concentrations of ozone (94% of the 8-hour average ozone NAAQS) as of the last date of operation of the monitor at the end of 2001. Thus, it is imperative that the BLM track and model ozone precursor emissions in the region. This is especially significant considering that the ozone assessment for the Jonah Infill project, even with its numerous deficiencies discussed below, predicted concentrations that were 98% of the 8-hour ozone NAAQS. The regional inventory is seriously deficient in ignoring this important ozone precursor.</p>	
9	34	B	Emissions, Regional	<p>The permitted source inventory appears to take credit for recently permitted emission reductions that have occurred or will occur in the near future. To credit any decreases in emissions from a facility, the BLM must first analyze and verify that those sources' emissions are reflected in the background monitoring data as discussed above. Second, only decreases in actual emissions must be credited. Decreases in allowable or potential emissions do not reflect what will really be affecting the air quality in 2017. If the BLM has no data on the actual emission reductions that have occurred at these sources, then the reductions must not be considered in the reasonably foreseeable future actions (RFFA) inventory. Without such proper analyses and crediting of the decreases in emissions, the BLM's permitted source emission inventory underestimated emissions and underestimated ambient impacts.</p>	<p>The permitted source inventory includes permitted emissions. Dispersion modeling is based on actual emissions for sources that have actual emission data available. For most sources, and all future sources, permitted emissions are the only emission data available and so are used in dispersion modeling.</p>
9	35	B	Near-Field Modeling	<p>Based on the information provided in the November 2004 AQTSD, the near-field PM<sub>10</sub> and PM<sub>2.5</sub> modeling is deficient and likely underestimated ambient impacts. Considering that the modeling of both the Preferred Alternative and the early project development stage showed PM<sub>10</sub> concentrations in excess of the Class II PSD increment and approaching violations of the PM<sub>10</sub> and PM<sub>2.5</sub> NAAQS, it is imperative that an analysis be performed that accurately represents the maximum near-field concentrations that could result with implementation of the Jonah Infill project.</p> <p>Specifically, according to the November 2004 AQTSD, the near field PM analysis only included the modeling of one well pad and one 2.5 mile resource road. Further</p>	<p>In-field pollutant concentration impacts resulting from multiple wells under construction combined with production activities were estimated using the CALPUFF model and are reported in AQTSD Section 4.6.1.</p> <p>Comparisons of potential near-field concentrations with PSD increments are included for information purposes, and do not represent a regulatory PSD increment consumption analysis. The WDEQ, with the authority to perform a regulatory PSD Increment Consumption Analysis, has presented preliminary results that suggest neither Class I nor Class II NO<sub>2</sub> increments are at risk of being violated.</p>

**Table III-B. Substantive Comments on JIDP Air Quality Issues (cont'd)**

Submittal ID	Comment Number	Comment Category	Keyword	Comment Text	Response
				<p>the modeling did not consider the impacts of terrain on PM concentrations. The BLM did not provide any justification to show that these assumptions would reflect maximum PM impacts. Indeed, both of these assumptions could result in a significant underestimate of ambient PM impacts. Considering the tight spacing of wells that will be allowed in the Jonah Infill project, there will very likely be an overlap of PM impacts from each well and access roads, especially if topographic features are taken into account, the BLM must perform a more comprehensive assessment of near-field impacts expected as a result of Jonah Infill sources directly and in combination with all other sources of PM in the region.</p>	<p>For further information regarding the PSD increment consumption analysis, please see <a href="http://deq.state.wy.us/aqd">http://deq.state.wy.us/aqd</a>.</p>
9	36	B	Near-Field Modeling	<p>According to the November 2004 AQTSD, it appears that only emissions from production (well site and compression) were modeled for the near-field NO<sub>2</sub> impacts, based on the first sentence of Section 3.4.3 which states "Emissions from production activities (well site and compression) would result in the maximum near-field NO<sub>2</sub> concentrations." However, a review of the emission inventory data for the DEIS generally shows much higher NO<sub>x</sub> emissions from construction than from production. For example, for the high emissions case WDR 250, the NO<sub>x</sub> emissions from construction and flaring are 7 times greater than the NO<sub>x</sub> emissions from production. This concern is validated by the Questar Year-Round Drilling Proposal EA and FONSI. There it is shown that well production, compression, and completion/flaring in 2004 only accounts for nine percent of the NO<sub>x</sub> emissions, while construction and drill rigs account for the remaining 91 percent of NO<sub>x</sub> emissions. Thus, the near-field analysis is significantly inadequate if it only included NO<sub>x</sub> emissions from production. The BLM must perform a subsequent air analysis for NO<sub>x</sub> that considers emissions from both construction and production.</p> <p>In addition, because of the BLM's focus on production emissions being in their view the most significant, fine-gridded receptors were only placed around the compressor engines. However, the BLM should have</p>	<p>Production NO<sub>x</sub> emissions are greater than those from construction when natural gas compressor engines are considered. NO<sub>x</sub> near-field modeling was conducted for two scenarios, and both included a compression component (see AQTSD Section 3.4.3). Receptors for these analyses were placed throughout the JIDPA and around all compressor stations modeled (see AQTSD Figure 3.4).</p>

**Table III-B. Substantive Comments on JIDP Air Quality Issues (cont'd)**

Submittal ID	Comment Number	Comment Category	Keyword	Comment Text	Response
				<p>placed tightly gridded receptors near modeled drill rig emissions sufficient to capture maximum concentrations from a drill rig including the overlap of emission impacts from other drill rigs and compressors in the area.</p> <p>As a result of these issues, along with deficiencies in the emission inventory discussed above, the NO<sub>2</sub> near-field assessment underestimated NO<sub>2</sub> ambient air impacts.</p>	
9	37	B	Ozone & VOCs	<p>Along with the deficiencies in the emission inventories, including the failure to include VOC emissions for regional sources, the ozone modeling assessment underestimated ambient impacts by not adding a representative background ozone concentration to the results of the ozone modeling analysis because the BLM claimed it was “overly conservative.” However, the BLM is ignoring the fact that its ozone analysis likely underestimated ambient impacts for various reasons. First, it did not include NO<sub>x</sub> emissions from construction in its analysis, which as discussed above are generally much higher than NO<sub>x</sub> emissions from production including compression. Second, it also excluded the VOC emissions from well construction. Third, it appears that it did not include NO<sub>x</sub> or VOC emissions from other sources in the region. Fourth, the analysis was only based on a “patch” of 128 wells and one compressor engine, a fraction of the full development that could be allowed under the Jonah Infill project. Fifth, no analysis of the Green River monitoring site was done to verify that it reflects maximum ozone concentrations in the Jonah Infill area, and it seems likely that it does not.</p> <p>The BLM used an ozone concentration of 75.2 µg/m<sup>3</sup> (one-hour average) as reflective of background concentration in its ozone analysis with the Scheffe method. The BLM attempted to justify its use of an ozone concentration that is half of what it considered elsewhere in the November 2004 AQTSD as reflecting background ozone concentration by stating that “. . . it is overly conservative to add a maximum concentration to a screening level estimated concentration.”</p>	<p>The ozone calculation has been revised for the FEIS and AQTSD using a more appropriate/realistic source emissions scenario that considers well production decline curves which result in decreased VOC emissions over the life of wells and a more accurate representation of in-field compressor station size and emissions.</p> <p>In recognition of the importance of potential ozone concentrations, monitoring has been initiated in the Jonah Field area as well as near Daniel and Boulder.</p> <p>The BLM believes that the data and analyses provided in the EIS and AQTSD are adequate for this impact assessment.</p>

**Table III-B. Substantive Comments on JIDP Air Quality Issues (cont'd)**

Submittal ID	Comment Number	Comment Category	Keyword	Comment Text	Response
				<p>However, it is important to note that the background ozone concentration provided in the November 2004 Air TSD is the second high concentration, not the maximum concentration measured at the Green River site. Further, it is common practice to add the maximum, or at worst, second maximum measured value as background to model results. In addition, current ozone monitoring data from within the Jonah field have shown ozone concentrations in excess of the 8-hour average ozone NAAQS. Thus, the background ozone concentration to be added to the ozone modeling results should have been even higher than the assumed background concentration provided in the November 2004 AQTSD.</p> <p>For all of the above reasons, the BLM's analysis is significantly flawed. Even with the BLM's flawed assumptions, the predicted ozone concentration is 98% of the ozone NAAQS. It seems quite likely that ozone NAAQS exceedances will continue occur in the Jonah Infill region with approval of the project. It is imperative that BLM conduct a proper assessment of the ozone impacts to fully disclose the extent of likely ozone NAAQS violations in the region.</p>	
9	38	B	Mid-/Far-Field Modeling - Meteorological Data	<p>The far-field air quality modeling analysis only used one year of meteorological data from 1995. However, common practice and EPA's Guideline on Air Quality Models requires use of at least three years of mesoscale meteorological data or five years of National Weather Service (or comparable) data when evaluating long range transport of air emissions. As stated in EPA's Guideline on Air Quality Models, "The model user should acquire enough meteorological data to ensure that worst-case meteorological conditions are adequately represented in the modeling results." EPA's recommendation to ensure this mandate is met is to use three years of mesoscale meteorological data or five years of other meteorological data to adequately reduce the variability in model estimates due to meteorological data. Thus, the BLM's far-field air quality analysis for the Jonah Infill project does not meet these current standards for air quality modeling demonstrations and there is no assurance that the</p>	<p>The revision to the Guideline on Air Quality Models requiring at least three years of mesoscale meteorological data was initially published during protocol development (FR Vol. 68, No. 72, Tuesday April 15, 2003, page 18444). The revised guideline took effect in July 2003. During initial and final protocol development, air quality stakeholders approved the use of a single year of MM5 data, 1995, for this analysis.</p> <p>The BLM believes that the data and analyses provided in the EIS and AQTSD are adequate for this impact assessment.</p>

**Table III-B. Substantive Comments on JIDP Air Quality Issues (cont'd)**

Submittal ID	Comment Number	Comment Category	Keyword	Comment Text	Response
				BLM's analysis represents the worst case meteorological conditions.	
9	39	B	Early Project Development Stage Modeling	<p>It is not exactly clear whether the BLM considers the modeling analyses of the "early project development stage" as required as part of the decision making process for the Jonah Infill DEIS. Yet, the August 2005 Air Supplement indicates that peak emissions in the region, considering the Jonah Infill project and other projects in the region cumulatively, will occur before the most likely year of maximum emissions modeled for the Jonah Infill project. Thus, a thorough analysis of the peak regional emissions must be considered as required under NEPA for the Jonah Infill project.</p> <p>Another reason identified by the BLM for the early project development stage modeling is that the BLM is required to perform further air analyses for the region because the NO<sub>x</sub> emissions from the Jonah and Pinedale Anticline gas fields have "substantially exceeded" the NO<sub>x</sub> cap of 693.5 tpy established in the Pinedale Anticline ROD (1999). Thus, if BLM considers this analysis to satisfy the requirement for an updated NEPA analysis that meets the requirements of the Pinedale Anticline ROD, it should be explicit in that determination and explain how it does in fact meet those requirements and how, if at all, the Pinedale Anticline ROD will be modified to reflect the early project development analysis.</p> <p>Whether this analysis was done as part of the Jonah Infill EIS, a need to supplement the Pinedale Anticline EIS or the Pinedale RMP revision, or all of these, it is deficient in several respects and thus does not adequately assess the impacts that will be occurring in the next few years....</p>	<p>The early-project-development stage modeling was part of the modeling effort that will be used during the decision-making process for this project.</p> <p>The cumulative impacts of the JIDP are considered in the air quality cumulative impacts analysis of the FEIS as required by NEPA.</p> <p>The BLM is not suggesting that this analysis fulfills the need for further air quality analysis under the Pinedale Anticline ROD nor is it intended to supplement the Pinedale RMP revision. It was developed explicitly for the purpose of reaching a decision on the JIDP proposal. The goal of the analysis is clearly explained on page 24 of the August 2005 DEIS Supplement.</p>
9	40	B	Background Concentrations	The BLM assumed that background air monitoring data reflected all existing source emissions. Interestingly, the BLM chose to use 2002 as the study baseline year for the early project development modeling, when the BLM used 2001 as the baseline year in the modeling of all other analyses (i.e., Preferred Alternative and other alternatives) performed for the Jonah Infill project.	The year of 2002 was chosen for the early-project-development modeling since it reflected the most recent year where background visibility data and accurate well field construction emissions statistics were available. Year 2002 emissions for well drill rigs and flares were determined for the Jonah Infill, Pinedale Anticline, South Pinev, Rilev

**Table III-B. Substantive Comments on JIDP Air Quality Issues (cont'd)**

Submittal ID	Comment Number	Comment Category	Keyword	Comment Text	Response
				<p>However, although the BLM used 2002 as the study base year for the early project development modeling, it used the same monitoring data from 2001 (or for SO<sub>2</sub> from 1982-1983) as was used in the analysis of the Preferred Alternative and other alternatives analysis. Thus, the BLM assumed that emissions occurring from oil and gas development in the region in 2002 were reflected in 2001 monitoring data (or in the case of SO<sub>2</sub>, 1982-1983 monitoring data). Considering the exponential growth of gas drilling in the area, this is an incredibly flawed assumption. Reference to the WOGCC website shows hundreds of new wells were completed in Sublette County between 2001 and 2002. Probably the majority of those were completed in the Jonah field.</p> <p>Further, it is not appropriate to assume that the monitoring data reflect the oil and gas or any other emissions sources without an analysis verifying the accuracy of that assumption. The BLM's netting approach, in which 2002 emissions were subtracted from projected 2006 emissions and the difference was modeled, provides further reason that such an analysis of the appropriateness of the background monitoring data must be done in order for this early project development modeling to be of any use. If the BLM cannot verify that the monitoring data reflect all existing source emissions (and surely the 2001 monitoring data does not reflect all emissions existing in 2002), then it must model all existing sources in the NAAQS/WAAQS analysis.</p> <p>Yet another problem with assuming 2002 drilling and flaring emissions are accounted for the 2001 NO<sub>2</sub> and PM<sub>10</sub> monitoring data from Green River and Cheyenne is that the BLM did not use actual emissions for the 2002 inventory. While the BLM purportedly had actual data on well development rates and drilling activities in the region, BLM "assumed" Tier 0 emission rates for drill rigs, "assumed" 100% straight hole drilling, and "assumed" 100% of the wells required flaring in its 2002 emissions inventory. The assumptions regarding the emission rates of the drill rigs and 100% flaring would potentially tend to overestimate emissions. An</p>	<p>Ridge, and Jack Morrow Hills Projects to estimate emissions that were in the background visibility data for year 2002. These emissions were subtracted from the projected year 2006 emissions estimates to avoid an overestimate of construction emissions from these well fields. There were 700 wells assumed to be operating in the JIDPA for the year 2006 modeling.</p> <p>The visibility trend data (1989-2002) at Bridger indicates that the visibility for the cleanest days at Bridger has improved since 1989 (see Figure 3.2 in Chapter 3 of the EIS).</p> <p>The use of potential emissions for year 2002 and 2006 emissions is appropriate since the emissions assumptions for the drill rigs and flares are identical for each year. In addition, there are no appropriate actual emissions data available for these sources.</p>

**Table III-B. Substantive Comments on JIDP Air Quality Issues (cont'd)**

Submittal ID	Comment Number	Comment Category	Keyword	Comment Text	Response
				<p>overestimate of emissions is usually a conservative approach for an air analysis but not in this case when the 2002 emissions have been subtracted from the 2006 emissions in determining the net level of emissions to model. The August 2005 AQTSD highlights this inaccuracy regarding flaring, as it indicates that far less than 100% of the wells had operating flares in 2002, especially for the Jonah Infill and Pinedale Anticline areas. If the BLM does not have actual emissions data for 2002 emissions sources, then this simply highlights the flaws with its “net out” approach. Assuming it is appropriate to use background monitoring data as reflecting all existing sources, which is highly questionable especially without an analysis to verify the assumption, any netting out of existing source emissions from 2002 must be based on actual emissions data not assumed emission rates.</p> <p>If the BLM truly wanted to avoid “double-counting” existing background conditions, then it should have used an earlier base year that did not reflect the majority of emissions from drill rigs and completion flares in the region. 1996 is a much more appropriate year to use as a base year for this early project development scenario modeling.</p>	
9	41	B	Background Concentrations	<p>At the minimum, if the purpose of this analysis is to serve as a supplemental analysis since the regional emissions have exceeded the NO<sub>x</sub> level of concern identified in the Pinedale Anticline ROD, then the BLM should have assessed all emission increases that have – or will – occur since the monitoring base year date used in the Pinedale Anticline air analysis of January 1, 1996. This base year date essentially reflects the date after which the majority of oil and gas development (at least in the Jonah and Pinedale Anticline Fields) really began to boom in the area. Modeling of all changes since that date would give indication of whether the oil and gas sources in the region are causing, or would cause, NAAQS/WAAQS violations, PSD increment violations, or adverse visibility impacts at nearby Class I areas.</p>	<p>The BLM disagrees with the suggestion that the emissions inventory should begin in 1996. It is BLM practice to estimate potential air quality impact by making use of the background concentrations. The BLM maintains that this is an appropriate methodology.</p>

**Table III-B. Substantive Comments on JIDP Air Quality Issues (cont'd)**

Submittal ID	Comment Number	Comment Category	Keyword	Comment Text	Response
9	42	B	Early Project Development Stage Modeling	<p>The 2006 emission inventory underestimated the likely emissions that will occur in the region in 2006. First, with respect to the Jonah Infill project, it was only assumed that 20 drill rigs would operate each month even though the annual well development rate would be 250 per year. Thus, emissions from drilling and completing 10 wells were left out of the Jonah Infill emission inventory.</p> <p>Second, several assumptions on limiting emissions were made that may or may not bear true without an enforceable requirement on such emission limitations. With respect to the Jonah Infill sources, the assumptions included a 50% split between directional and straight drilled wells, that 80% of wells would have flareless completions, and that 20% of drill rigs would meet Tier 1 emission rates. For the Pinedale Anticline sources, similar assumptions were made. These assumptions are not appropriate unless the limitations on emissions are enforceable requirements for all operators in the Jonah Infill and Pinedale Anticline areas. BLM recognizes that these potential mitigation measures are speculative and not enforceable when it states with respect to them, "However, BLM's authority to regulate flare numbers, drill rig emissions rates, and or WDRs has not been defined."</p> <p>In addition, the BLM assumed that drill rig sizes in the Jonah Infill area would be roughly 2,100 to 2,600 hp. This seems unlikely when, in the immediately adjacent Pinedale Anticline field, significantly larger drill rig engines have been used. It was also assumed that the majority of drill rigs in the Pinedale Anticline area would be 3,216 hp, which represents the low end of the 3,000 – 5,000 hp range of actual operating drill rig sizes provided in the Questar FONSI. It is also questionable whether the drill rig sizes assumed for the South Piney, Riley Ridge, and Jack Morrow Hills areas are appropriate given what is actually occurring in the Pinedale Anticline area. The BLM should have obtained recent data on the size of drill rig engines actually being used in those areas, and used that data in its 2006 inventory. Those data are readily available given the large number of drill rigs operating at all times</p>	<p>Well drilling activities average 19 days for vertical drilling and 23 days for directional drilling, and flaring activities last up to 80 hours per well and the assumption is that only 20 percent of the wells would require flaring. If 250 wells were developed in 1 year, with a 50/50 split for vertical/directional drilling, it would require 5,250 drilling days in the year (21 days x 250 wells) and 167 flaring days (0.2 x 250 x 3.3 days). This results in an average of 14.4 drill rigs per day and 0.46 flares per day. The modeling scenario for this case assumed 20 drill rigs and 3 flares operating continuously over the year. This assumption is a large over estimate of annual emissions from these activities, yet it was an estimate of what could occur during any specific day during the year.</p> <p>Drill rig size information for Jonah Infill was based on data obtained from field operators.</p> <p>The BLM believes that the data and analyses provided in the EIS and AQTSD are adequate for this impact assessment.</p>

**Table III-B. Substantive Comments on JIDP Air Quality Issues (cont'd)**

Submittal ID	Comment Number	Comment Category	Keyword	Comment Text	Response
				<p>in the Pinedale Field Office under BLM permit.</p> <p>Further, the 2006 inventory did not include any emissions from production or from traffic due to production or construction for the Pinedale Anticline or other gas projects in the region. This is a major omission, especially for PM<sub>10</sub> due to traffic. These sources of emissions are not adequately reflected in the regional, RFD or WOGCC inventories.</p> <p>Other issues with the Jonah Infill inventory further underestimate emissions because the BLM relied on those same flawed assumptions for the 2006 early project development stage inventory.</p> <p>Thus, the 2006 gas project emission inventory underestimated emissions and thus the modeling analysis underestimated the ambient air impacts due to these sources.</p>	
9	43	B	Early Project Development Stage Modeling	<p>For the early project development stage modeling, the permitted source inventory was updated to include all sources permitted as of March 31, 2004. However, a WDEQ emission tracking report reflecting all emissions changes in the region as of October 31, 2004 was available in December 2004 (several months before the June 2005 protocol was prepared for the early project development scenario) and thus additional sources could have readily been included in the early project development 2006 inventory. Specifically, the December 6, 2004 Southwest Wyoming NO<sub>x</sub> Emission Tracking Report prepared by WDEQ shows that, after March 31, 2004, there were permitted increases of 371 tpy of NO<sub>x</sub> at Solvay Chemicals in Sweetwater County and 350 tpy of NO<sub>x</sub> at compressor stations located in Sublette County. All emissions changes through October 31, 2004 should have been included in the regional inventory for 2006.</p> <p>The BLM's update to the permitted source inventory also included a supposed 550 tpy decrease in NO<sub>x</sub> emissions at the Williams Field Services Opal Gas plant. However, the cover letter to the WDEQ's emission tracking report does not report such a</p>	<p>An inventory end-date of March 31, 2004 was necessary to allow timely completion of the modeling analysis. All source information used in the inventory was determined from state permitting records including the WDEQ. The emissions inventory used for the Supplemental DEIS modeling included updates to the original DEIS source inventories (which assumed a cutoff date of June 30, 2003), including both source emissions increases and decreases, that were obtained from state permit files dated July 1, 2003 through March 31, 2004.</p>

**Table III-B. Substantive Comments on JIDP Air Quality Issues (cont'd)**

Submittal ID	Comment Number	Comment Category	Keyword	Comment Text	Response
				<p>decrease in emissions at this plant, and the data identified for the Williams Field Services “Opal 4-21” plant (assuming this is the same as the “Opal Gas Plant”) does not identify such a decrease in NO<sub>x</sub> emissions. Thus, this significant decrease in emissions considered in the permitted source inventory for the 2006 modeling seems to be in error. Further, the BLM should not have credited any decreases in emissions unless it has verified that the source’s emissions are accounted for in the background air monitoring data.</p> <p>In addition, there are several sources listed in the RFFA inventory for the DEIS modeling (and presumably carried over into the preferred alternative modeling) that were not included or for which different emissions were listed in the RFFA for the 2006 early project development scenario modeling. For example, Table D.1.63 of the August 2005 TSD identifies a 33 tpy decrease in NO<sub>x</sub> at Exxon Mobil’s Shute Creek facility, whereas Table C.11 of the November 2004 AQTSD shows a 141 tpy increase in emissions at this facility. As another example, Table C.11. of the November 2004 AQTSD identifies as RFFA the Quester Mesa 1 compressor station with NO<sub>x</sub> emissions of 63 tpy, but that source is not included in the RFFA for the early project development modeling in Table D.1.63 of the August 2005 AQTSD. No discussion is provided in the TSD for why the included RFFA lists fewer sources or lower emissions for some sources for the early project development modeling as compared to the DEIS modeling.</p> <p>The RFFA inventory includes decreases in emissions from two sources – the Exxon Mobil Shute Creek facility and the Sinclair Refinery. To credit any decreases in emissions from a facility, the BLM must first analyze and verify that those sources’ emissions are reflected in the background monitoring data. Second, only decreases in actual emissions must be credited. Decreases in allowable or potential emissions do not reflect what will really be affecting the air quality in 2006. If the BLM has no data on the actual emission reductions that have occurred at these sources, then</p>	

**Table III-B. Substantive Comments on JIDP Air Quality Issues (cont'd)**

Submittal ID	Comment Number	Comment Category	Keyword	Comment Text	Response
				the reductions must not be considered in the RFFA inventory.	
9	44	B	Early Project Development Stage Modeling	We have identified several other deficiencies in the emission inventories assumed for the DEIS and Preferred Alternative year 2017 modeling that also apply to the 2006 inventory. Those include failing to develop a maximum short term emissions inventory for modeling compliance with short term ambient air standards (e.g., 24-hour PM <sub>10</sub> NAAQS and increment) and the visibility standard, failing to develop a complete PSD increment-consuming inventory, that the area of the regional inventory does not extend far enough from potentially affected areas to encompass all contributing sources, failing to include recently proposed and permitted power plants in the region, underestimating emissions from NEPA projects, failing to include PM <sub>10</sub> and VOC emissions from all sources, failing to inventory sources with emissions less than 3 tpy, and underestimating emissions from WOGCC sources. All of these deficiencies have been described in detail and will not be repeated here except to state that these same deficiencies apply to the 2006 inventory for the early project development scenario.	This comment is a summary of the detailed comments provided above, as such responses have been provided for earlier comments.
9	45	B	Early Project Development Stage Modeling	Similar to the DEIS and Preferred Alternative modeling, the BLM did not prepare comprehensive emission inventories of all PSD increment-consuming emissions.	See comment 9-19, above.
9	46	B	Early Project Development Stage Modeling	Even without the modeling of all increment consuming emissions, the early project development modeling makes clear that the Jonah Infill sources – even before full development - will adversely impact visibility in the Bridger and Fitzpatrick wilderness areas by causing changes in visibility of more than 0.5 dv on several days. The modeling also shows that, cumulatively, extensive degradation of visibility will occur at all western Wyoming Class I areas, and the BLM's emission inventory makes clear that this degradation is largely the result of emissions associated with oil and gas development in the region.  If the BLM were to prepare a complete increment-consuming inventory and address all other deficiencies	The modeling estimates the potential for visibility impacts. The potential exists for impacts to occur. Please note that the BLM Preferred Alternative requires potential air quality impacts to be mitigated as described in FEIS Section 2.4.5.  For further information regarding PSD increment analysis, please see <a href="http://deq.state.wy.us/aqd">http://deq.state.wy.us/aqd</a> .

**Table III-B. Substantive Comments on JIDP Air Quality Issues (cont'd)**

Submittal ID	Comment Number	Comment Category	Keyword	Comment Text	Response
				in the inventory discussed above, the impacts on the PSD increment and visibility in Class I areas expected by 2006 would likely be much worse.	
9	47	B	Early Project Development Stage Modeling	No evaluation of increased VOC emissions was done as part of the early project development stage assessment. Further, no analysis of the impacts of NO <sub>x</sub> and VOC emissions on the ozone NAAQS was done. Considering the already high levels of ozone that have been monitored in the region, this was a major oversight of the BLM. Such an analysis must be performed for the 2006 early project development modeling when BLM claims emissions in the region will be the greatest.	<p>VOC emissions were not included in the regional inventory since the main purpose of developing regional inventories was to quantify cumulative emissions that could potentially impact air quality related values (acid deposition and visibility). SO<sub>2</sub>, NO<sub>2</sub>, PM<sub>10</sub>, and PM<sub>2.5</sub> are precursors to regional haze formation, whereas VOCs are not.</p> <p>The ozone calculation has been revised for the FEIS and AQTSD using a more appropriate/realistic source emissions scenario that considers well production decline curves which result in decreased VOC emissions over the life of wells and a more accurate representation of in-field compressor station size and emissions.</p> <p>In recognition of the importance of potential ozone concentrations, monitoring has been initiated in the Jonah Field area as well as near Daniel and Boulder.</p> <p>The early-project-development stage analysis was completed primarily to address current visibility effects, and the BLM believes that the data and analyses provided in the EIS and AQTSD are adequate for this impact assessment.</p>
9	4	C	Regulatory Compliance & Commitments	Yet neither the DEIS or the August 2005 AQ Supplement disclosed these potential CAA violations. The NEPA documents appear to intentionally mislead the public and the decisionmaker by including tables that purport to summarize adverse impacts reported in the AQTSD, but which instead indicate in green ink that there will not be violations of PSD increments - in marked conflict with the modeling results reported in the TSD. Indeed, the PSD increments appear to be considered second class CAA requirements by the BLM (see, e.g., BLM's statement in the DEIS "The PSD demonstrations serve information purposes only and do not constitute a regulatory PSD increment consumption analysis, which may be completed as necessary by the	<p>PSD increment comparisons were performed for only the far-field Class I and sensitive Class II areas. There are no exceedances of the increments at any of these areas.</p> <p>While modeling has identified potential in-field PM<sub>10</sub> concentrations in excess of the PSD 24-hour increment, the impact assessment utilized a screening approach and does not represent a regulatory PSD increment analysis.</p> <p>The BLM cannot conduct or authorize an action that would allow the PSD increments to be violated. However, the determination of PSD</p>

**Table III-B. Substantive Comments on JIDP Air Quality Issues (cont'd)**

Submittal ID	Comment Number	Comment Category	Keyword	Comment Text	Response
				<p>Wyoming Department of Environmental Quality – Air Quality Division,”). Yet, the “maximum allowable increases” (also known as “PSD increments”) are separate ambient air quality standards not to be exceeded, that apply in addition to the NAAQS in clean air areas. BLM is required under FLPMA, to “provide for compliance with” all CAA requirements, and thus BLM cannot authorize an action that would allow the PSD increments to be exceeded.</p>	<p>Increment violation rests with the State of Wyoming (with EPA oversight), not the BLM. For more information, please refer to <a href="http://deq.state.wy.us/aqd">http://deq.state.wy.us/aqd</a>.</p> <p>BLM appreciates its responsibility for PSD.</p> <p>The BLM believes that the data and analyses provided in the EIS and AQTSD are adequate for this impact assessment.</p>
9	5	C	Regulatory Compliance & Commitments - Air Quality Standards	<p>Not only does the BLM’s modeling show that project emissions will cause violations of the Class II PM<sub>10</sub> and NO<sub>2</sub> increments within JIDPA, but the emission inventory of Jonah Infill sources and other increment-consuming sources and modeling approaches are woefully inadequate. Thus, it is very likely that the PSD increment violations are more egregious and widespread than predicted in the air quality analyses prepared for the Jonah Infill project.</p> <p>BLM must conduct a thorough and technically complete analysis, including consideration of the WDEQ NO<sub>2</sub> Increment Report released on September 15, 2005, to determine whether all of the PSD increments will be complied with, and BLM must not authorize the Jonah Infill project, or any other projects, unless there will be no PSD increment violations in the region as a result of the Jonah Infill project or in combination with other increment-consuming sources in the region. The CEQ’s NEPA regulation provide that “Environmental impact statements shall state how alternatives considered in it and decisions based on it will or will not achieve the requirements of sections 101 and 102(1) of the Act and other environmental laws and policies.”</p>	Please see comments 9-26 and 9-27, above.
9	6	C	Mid-/Far-Field Modeling - Visibility	The BLM must not authorize the Jonah Infill project if it will cause or contribute to adverse impacts on visibility in any Class I area.	<p>The U.S. Congress described protection of visibility in mandatory federal PSD Class I areas as their National Visibility Goal. It is not a standard.</p> <p>The Preferred Alternative identifies mitigation for potential visibility impacts (see FEIS Section 2.4.5). Additional measures may be required at the ROD as provided in FEIS Section 5.1.1.</p>

**Table III-B. Substantive Comments on JIDP Air Quality Issues (cont'd)**

Submittal ID	Comment Number	Comment Category	Keyword	Comment Text	Response
9	7	C	Regulatory Compliance & Commitments - Air Quality Standards	<p>The BLM's modeling analyses also predicted concentrations of PM<sub>10</sub>, PM<sub>2.5</sub>, and ozone within JIDPA that are dangerously close to the health and welfare based NAAQS. While no revised ozone analysis was done for the Preferred Alternative, the ozone NAAQS analysis performed for the other alternatives showed 8-hour average ozone concentrations approaching violations of the 8-hour average ozone NAAQS. However, because of the deficiencies in the emissions inventory as well as with the modeling approaches, these impacts were underestimated. It is imperative that the BLM properly and fully assess whether the health-based NAAQS will be complied with in the JIDPA region, and that it not allow any development that would threaten compliance with these standards.</p>	<p>Thank you for your comment.</p> <p>The ozone calculation has been revised for the FEIS and AQTSD using a more appropriate/realistic source emissions scenario that considers well production decline curves which result in decreased VOC emissions over the life of wells and a more accurate representation of in-field compressor station size and emissions.</p> <p>In recognition of the importance of potential ozone concentrations, monitoring has been initiated in the Jonah Field area as well as near Daniel and Boulder.</p>
9	8	C	Regulatory Compliance & Commitments	<p>The air quality analyses and emissions inventory do not comport with currently accepted standards for such analyses. As a result the analyses under-predict the already adverse impacts expected as a result of the Jonah Infill project. The BLM's disregard for the adverse air quality effects is at odds with the policy of NEPA, which provides that federal agencies "shall to the fullest extent possible use all practical means. . . [to] avoid or minimize any possible adverse effects of their actions upon the quality of the human environment." The BLM's proposed action also conflicts with FLPMA, which requires land use plans to "provide for compliance with applicable pollution control laws" as well as the BLM's own planning criteria that actions must comply with federal laws and regulations. Further, the Jonah Infill air analyses do not provide government officials or the public with a full understanding of the environmental consequences of the Jonah Infill project and thus the BLM has failed to meet the intent of the NEPA; "NEPA process is intended to help public officials make decisions that are based on an understanding of environmental consequences, and take actions that protect, restore, and enhance the environment." If the BLM authorizes this project, its actions will not protect, restore, or enhance air quality. The BLM must prepare a proper air quality analysis and then must develop an alternative that results in no violations of CAA</p>	<p>The BLM feels that its air quality modeling efforts – performed in cooperation with the WDEQ, EPA, and USFS – have been appropriate and comply with NEPA. The modeling has provided both the decision makers and the public with adequate information. These actions elucidate any potential significant adverse impacts that the project may have upon air quality in the area. However, the obligation noted by the commenter to minimize impacts "to the fullest extent possible" needs to be balanced against other beneficial uses of the resource, including the mineral resources in the Jonah Field.</p> <p>To every extent practicable, the BLM will require mitigations to bring the project into compliance with applicable pollution control laws. These mitigations are outlined in the FEIS and will be promulgated in the ROD.</p>

**Table III-B. Substantive Comments on JIDP Air Quality Issues (cont'd)**

Submittal ID	Comment Number	Comment Category	Keyword	Comment Text	Response
				standards.	
9	48	C	Mitigation	<p>In light of the adverse impacts that are already predicted to occur as a result of the Jonah Infill project sources both alone and in combination with other sources and the fact that the extent and magnitude of the adverse impacts are likely underestimated for all of the reasons discussed in this letter, the BLM must develop a mitigation plan that demonstrates compliance with all CAA standards including the NAAQS, the PSD increments (both Class II and Class I), and the visibility standard. Mitigation includes, among other things, avoiding the impact altogether by not taking a certain action or parts of an action, minimizing impacts by limiting the magnitude of an action, and reducing or eliminating the impact over the life of the action. Mitigation is not just limited to emission reduction strategies for the air emissions sources.</p>	<p>Any potentially required BLM mitigation would be intended to eliminate potential significant impacts to visibility.</p> <p>Visibility has guidance thresholds, not enforceable standards. The U.S. Congress described protection of visibility in mandatory federal PSD Class I areas as their National Visibility Goal. Current EPA regulations allow visibility impairment to continue in these specific areas until 2064.</p>
9	49	C	Regulatory Compliance & Commitments	<p>BLM cannot authorize this project if it will allow violations of CAA standards to occur. Under FLPMA, land use plans must “provide for compliance with applicable pollution control laws.” The Pinedale RMP requires that “Air quality will be maintained within or above required standards through cooperative management [with industry and government].” In addition, the BLM has committed to ensuring protection of CAA standards in its performance objectives of the Preferred Alternative. Yet, the Preferred Alternative does not meet these objectives, and the early project development modeling shows that the CAA standards will be violated early on in the Jonah Infill development timeframe.</p> <p>BLM must develop a Preferred Alternative with a level of development and emission reduction requirements that can occur without violating any CAA standards. Such an analysis should take into account all of the deficiencies noted above and be based on commonly accepted practices for air quality analyses to ensure the scientific integrity of the analysis. And, such analysis should define a level of emissions from the project and the region that will ensure no violations of CAA</p>	<p>The BLM will not sanction violations of the CAA. The BLM, in cooperation with other air quality stakeholder agencies, has determined that implementation the Preferred Alternative including the mitigations incorporated therein would meet the necessary standards (see FEIS Section 2.4.5). In addition, Section 1.5.3 of the FEIS has been revised to discuss conformance with the Pinedale RMP.</p>

**Table III-B. Substantive Comments on JIDP Air Quality Issues (cont'd)**

Submittal ID	Comment Number	Comment Category	Keyword	Comment Text	Response
				standards, so that compliance can be verified through the tracking of emissions.	
10	18	B	Regulatory Compliance & Commitments - Air Quality Standards	<p>Protection of Air Quality Increments is the Heart of PSD.</p> <p>The essential element of an increment consumption analysis is a determination of the extent to which the allowable increment has been consumed since the baseline was set for the area affected by the proposed projects. Because the EIS does not conduct a regulatory analysis, it does not identify the minor source baseline dates for any of the pollutants in the affected area. In Wyoming the NO<sub>2</sub> baseline area is the entire project area. The NO<sub>2</sub> baseline area in Wyoming is Statewide. The minor source baseline date was set February 28, 1988, soon after the February 8, 1988, trigger date established by EPA.</p> <p>For PM, the trigger date was in 1978, and the minor source baseline dates were set soon thereafter. Thus all new sources, both major and minor stationary sources, as well as additional mobile source emissions, contribute emissions to the “maximum allowable increase” established under the CAA after those dates.</p> <p>The emissions analysis performed for the DEIS and Air Quality Supplement, however, considered new emissions as beginning with the permitted and “reasonably foreseeable” new sources after 2002. The analysis was performed using ambient air quality measurements made during the period prior to 2002 in other parts of the state, and then developing an emissions inventory for the proposed Project and other new and “reasonably foreseeable” sources. The models were run by adding the expected ambient concentrations resulting from pollutants emitted from these new sources to existing ambient concentrations in 2002. This method of analysis effectively treated 2002 as the baseline date because it failed to account for any of the emissions added by sources that were permitted after the PSD baselines were set in 1979 (for PM) and 1988 (for NO<sub>2</sub>). As a result, the modeling approach may be reasonable for the purpose of</p>	<p>While BLM recognizes its responsibility for the need to compare predicted impacts to applicable PSD increments, it is WDEQ who has the regulatory authority to perform a PSD increment consumption analysis, including the determination of the applicable “baseline” date.</p> <p>WDEQ-AQD is currently conducting an NO<sub>2</sub> increment analysis for portions of Wyoming including Sublette county. Please see <a href="http://deq.state.wy.us/aqd">http://deq.state.wy.us/aqd</a> for more information and preliminary results.</p> <p>While modeling has identified potential in-field PM<sub>10</sub> concentrations in excess of the PSD 24-hour increment, the impact assessment utilized a screening approach and does not represent a regulatory PSD increment analysis.</p> <p>The BLM believes that the data and analyses provided in the EIS and AQTSD are adequate for this impact assessment.</p>

**Table III-B. Substantive Comments on JIDP Air Quality Issues (cont'd)**

Submittal ID	Comment Number	Comment Category	Keyword	Comment Text	Response
				<p>determining compliance with absolute limits in the ambient air such as the NAAQS and WAAQS when reliable ambient air quality data is available from the area where increased emissions will occur, but provides only a highly truncated assessment of the consumption of the allowable increments during the three years (post 2002) for which new emissions sources were considered, while omitting any assessment of the increment consumed between the establishment of the regulatory baseline dates and 2002.</p>	
10	19	B	Regulatory Compliance & Commitments - Air Quality Standards	<p>The sources omitted from the increment consumption analysis are highly significant since the omitted sources include all of the emissions from east of the Bridger and Fitzpatrick class I areas that have been predicted to cause the PM<sub>10</sub> increment to be exceeded in the Washakie wilderness area, and some large increment consuming coal-fired power plants in the region, regional growth in VMT, as well as at least 67 post-baseline date sources identified by Environmental Defense in an independent review of public documents.</p> <p>Among the 67 sources omitted from the emissions inventory used for the modeling of increment consumption, emissions were reported on EPA's AIRS website for 48. NO<sub>x</sub> emitted from these 48 sources was approximately four times greater than the NO<sub>x</sub> emissions used in the air quality analysis to estimate increment consumption. PM emissions from the omitted sources also far exceeded modeling emissions. Sources accounted for in the Emission Inventory represent no more than a fraction of the NO<sub>x</sub> and PM emissions added into the modeling domain during the period since the regulatory PSD baselines were set.</p> <p>This has significant consequences for the current DEIS because increments at some Class I areas may have already been fully consumed, and the Class II increments in areas such as Cloud Peaks have been substantially consumed by Colestrip, Roundup and other earlier new sources and increased traffic emissions. The incomplete increment consumption analysis released in September 2005 by the WDEQ</p>	See comment 10-18, above.

**Table III-B. Substantive Comments on JIDP Air Quality Issues (cont'd)**

Submittal ID	Comment Number	Comment Category	Keyword	Comment Text	Response
				<p>shows that 12.7 <math>\mu\text{g}/\text{m}^3</math> of the class II <math>\text{NO}_2</math> increment (25 <math>\mu\text{g}/\text{m}^3</math>) has been consumed by emissions added between the baseline date and 2004. This consumption of increment is not accounted for in the modeling analysis performed for the project.</p> <p>Based on the analysis performed for direct emissions from the project, all development scenarios except the 80% reduction scenario are shown to exceed the class II <math>\text{NO}_2</math> increment. Similarly, only the 80% reduction scenario will limit impacts of <math>\text{PM}_{10}</math> emissions to a level less than the 24-hour class II increment (30 <math>\mu\text{g}/\text{m}^3</math>).</p>	
10	20	B	Regulatory Compliance & Commitments - Air Quality Standards	<p>The failure to include emissions from post-baseline date existing sources in a comprehensive increment consumption analysis renders the DEIS and Air Quality Supplement inadequate because without such analysis it is impossible to determine whether increments have been previously consumed by prior development, or whether the proposed actions will cause the increments to be exceeded. It is clear that compliance with the Class II increment for <math>\text{PM}_{10}</math> (24-hr) and <math>\text{NO}_2</math> cannot be demonstrated when the Direct Predicted Impact from unmitigated project emissions will exceed the maximum allowable increase of 30 <math>\mu\text{g}/\text{m}^3</math> for <math>\text{PM}_{10}</math> and 25 <math>\mu\text{g}/\text{m}^3</math> for <math>\text{NO}_2</math>. But even the lower emissions predicted for the 20%, 40%, and 60% emission reduction scenarios levels are a significant misrepresentation of the magnitude of pollution levels that will result when the cumulative impacts of the project are added to all other new emissions sources since the regulatory baseline dates.</p> <p>Before BLM can determine the rate at which the resources may be developed without causing or contributing to PSD increment violations, the magnitude of violations must be determined by accounting for emissions from all sources that consume increment. The true magnitude of increment violations may only be determined by a regulatory increment consumption analysis that satisfies EPA's criteria.</p>	See comment 10-18, above.
10	21	B	Regulatory Compliance & Commitments - Air Quality Standards	EPA has for many years brought to BLM's attention this obligation to perform a full increment consumption analysis with regard to oil and gas developments. In the	BLM maintains that the authority and responsibility to perform a regulatory PSD Increment Consumption Analysis remains with the WDEQ.

**Table III-B. Substantive Comments on JIDP Air Quality Issues (cont'd)**

Submittal ID	Comment Number	Comment Category	Keyword	Comment Text	Response
			Quality Standards	<p>context of the EIS for the Jonah II Natural Gas Development Project in Wyoming's Green River Basin, EPA's Regional Administrator informed BLM that "CEQ clearly states that mitigation measures must cover the 'range of impacts' of the proposed action and that the DEIS must identify the 'relevant', reasonable mitigation measures that could improve the project...even if they are outside the jurisdiction of the lead agency..." In order to fully assess the magnitude of any increment violations that would need to be mitigated, EPA called upon BLM to conduct "a PSD increment consumption analysis [f]or [sic] NO<sub>x</sub> [that] should be completed for all sources to the west and southwest of the Bridger Wilderness Area and all sources to the east of the Fitzpatrick and Popo Agie Wilderness Areas that could reasonably have an impact..</p> <p>Even if BLM may satisfy NEPA with a methodology somewhat less rigorous than required by a regulatory increment consumption analysis, BLM must at least account for all emissions from sources that are known to have commenced operation after the baseline dates, that are currently operating, and for which reliable estimates of emissions are available from the source's compliance reports, the state, or EPA. Where the state has performed an increment consumption analysis, BLM must disclose the results of that analysis, and may adopt the analysis as part of the NEPA analysis of increment consumption provided that BLM independently reviews the analysis and determines that it satisfies applicable NEPA requirements. It is arbitrary and capricious for BLM to simply ignore emissions from post-baseline date sources in order to deceive the public and the decisionmaker by masking the true cumulative impact of new emissions from oil and gas development.</p>	<p>WDEQ has begun a regulatory PSD Increment Consumption Analysis. For more details, please see <a href="http://deq.state.wy.us/aqd">http://deq.state.wy.us/aqd</a>.</p> <p>The BLM believes that the data and analyses provided in the EIS and AQTSD are adequate for this impact assessment.</p>
10	25	B	Mid-/Far-Field Modeling - Visibility	<p>0.5 dv is Measure of Perceptible Degradation In the analysis of visibility impairment</p> <p>BLM needs to consider all the criteria for determining perceptible impairment. The CAA defines perceptible impairment to include discoloration of the atmosphere, reduction in visual range, and perceptible light</p>	<p>Please see comment 2-21, above.</p> <p>The CAA actually states visibility impairment "include[s] reduction in visual range and atmospheric discoloration." Since a "just-noticeable change" in visual range is logarithmically dependent on the background</p>

**Table III-B. Substantive Comments on JIDP Air Quality Issues (cont'd)**

Submittal ID	Comment Number	Comment Category	Keyword	Comment Text	Response
				<p>extinction measured as change in deciviews (dv).</p> <p>Both the FLAG Report and EPA recognize that 0.5 dv change is the threshold of perceptible impairment in visibility.</p> <p>The FLMs workgroup concluded that: “For the case of visibility impairment which changes the appearance of a viewed background feature [i.e., uniform haze as opposed to a plume], thresholds of perceptibility, where a just noticeable change occurs in the scene, have been found to correspond to a change in extinction (<math>D_{b_{ext}}</math>) as low as 2% under ideal conditions, up to 20% (NAPAP, 1990; Pitchford and Malm, 1994). A <math>D_{b_{ext}}</math> of 5% will evoke a just noticeable change in most landscapes (NAPAP 1990). The FLMs are concerned about situations where a change in extinction from new source growth is greater than 5% as compared against natural conditions. Changes in extinction greater than 10% are generally considered unacceptable by the FLMs and will likely raise objections to further pollutant loading without mitigation.</p> <p>EPA concluded in its review of the science as part of the regional haze rulemaking that--”The EPA agrees with the comment that a one deciview change should not be considered the threshold of perception in all cases for all scenes. The EPA believes that visibility changes of less than one deciview are likely to be perceptible in some cases, especially where the scene being viewed is highly sensitive to small amounts of pollution.</p> <p>EPA refers to the NAPAP report for the assertion that “a change in extinction coefficient of approximately 5% [<math>\sim 0.5</math> dv] will evoke a just noticeable change in most landscapes.” The technical basis for the statement is a model of perception thresholds in sharpness in video image displays. In the body of the NAPAP report, the authors argue that this model is relevant for situations with uniform haze, which is certainly appropriate for a situation with lots of small sources, like an oil and gas field. Based on this evidence, the analysis of perceptible visibility impairment should be based upon</p>	<p>visual range condition, Pitchford and Malm (1994) developed the deciview metric. However, there is no analysis method or significance threshold to evaluate “discoloration” from potential regional haze impacts.</p>

**Table III-B. Substantive Comments on JIDP Air Quality Issues (cont'd)**

Submittal ID	Comment Number	Comment Category	Keyword	Comment Text	Response
				a 0.5 dv change, not 1.0 dv.	
10	27	B	Ozone & VOCs	<p>Ozone Modeling Requires Use of Best Available Models</p> <p>BLM has not used a model approved by EPA for this application. It is inappropriate for BLM not to use an EPA-approved model to determine compliance with the ozone NAAQS for two reasons. First, BLM's obligation to "provide for compliance with" federal air pollution control law and air pollution standards requires that BLM use the methods prescribed pursuant to the CAA for determining compliance with that Act and NAAQS. Second, NEPA requires that BLM "shall ensure...the scientific integrity" of the methods and analysis used in the EIS. To the extent that a sister agency with special expertise in the area of analysis used in the EIS, such as EPA with expertise in the application of atmospheric dispersion models, has identified a preferred model for performing an analysis, BLM has an obligation to at least consider any models approved by EPA for the estimation of ozone concentrations resulting from a large number of sources of NO<sub>x</sub> and VOCs dispersed over a large area. BLM has not explained why it has not chosen a model designed to integrate emissions from a large number of sources, or why the model it selected is better suited to the application.</p>	<p>Thank you for your comment.</p> <p>The modeling procedures for this study were selected during stakeholder protocol review which included representation from the BLM, WDEQ, EPA, NPS, and USFS.</p> <p>The ozone calculation has been revised for the FEIS and AQTSD using a more appropriate/realistic source emissions scenario that considers well production decline curves which result in decreased VOC emissions over the life of wells and a more accurate representation of in-field compressor station size and emissions.</p> <p>In recognition of the importance of potential ozone concentrations, monitoring has been initiated in the Jonah Field area as well as near Daniel and Boulder.</p> <p>The BLM believes that the data and analyses provided in the EIS and AQTSD are adequate for this impact assessment.</p>
10	1	C	Regulatory Compliance & Commitments	<p>The Air Quality Supplement is deficient in a number of respects, including the failure to address the full cumulative impact of emissions of air pollutants from Oil and Gas development in the Green River Basin on critical air quality standards and other CAA requirements, as well as technical deficiencies in the methods used, the failure to develop a comprehensive emissions inventory that accounts for many emissions sources that contribute to impacts in areas to be effected by new emissions from the Jonah field and other oil and gas fields in the region, and the absence of analysis to identify mitigation measures that, if adopted and implemented, would be sufficient to avoid violations of NAAQS, PSD increments, and prevent visibility impairment and other adverse impacts on air</p>	<p>This summary of comments does not require specific response; sufficient specific responses are provided at other Commenter 10 locations.</p> <p>The BLM believes that the data and analyses provided in the EIS and AQTSD are adequate for this impact assessment.</p>

**Table III-B. Substantive Comments on JIDP Air Quality Issues (cont'd)**

Submittal ID	Comment Number	Comment Category	Keyword	Comment Text	Response
				quality related values.	
10	2	C	Regulatory Compliance & Commitments	The deficiencies identified in the current AQ Supplement are identical to many of the deficiencies currently under review in the pending litigation questioning the adequacy of the 2003 Montana and Wyoming FEISs and RODs for the Powder River Basin Oil and Gas Project. A decision adverse to BLM in that case based upon determinations that BLM's omissions violate NEPA and FLPMA will likely result in major delays in resource development in the Green River Basin. Commenters therefore urge BLM to avoid that risk by undertaking a full assessment of air quality impacts, by identifying the mitigation options available to prevent adverse air quality impacts, and by working cooperatively with the State of Wyoming in the selection and implementation of permitting strategies that will effectively avoid or eliminate expected violations of the CAA.	The BLM has undertaken a full assessment of air quality impacts, identified mitigation options, and worked cooperatively with the WDEQ throughout the process. The WDEQ and other air quality stakeholder agencies will continue to be involved in the implementation of the JIDP.
10	3	C	Regulatory Compliance & Commitments	<p>Failure to Take a "Hard Look" at Cumulative Impacts of Project Emissions on Air Quality in the Upper Green River Basin.</p> <p>BLM has failed to satisfy each of these obligations under NEPA and FLPMA because BLM has not prepared a complete air quality analysis that includes an assessment of the cumulative impacts of project emissions together with other emissions from sources in the region that contribute to PM<sub>10</sub>, PM<sub>2.5</sub>, and ozone concentrations to identify possible NAAQS violations, potential violations of PSD increments for PM<sub>10</sub> and NO<sub>2</sub>, and adverse impacts on air quality values in class I areas including visibility impairment and acid deposition. Without performing a comprehensive assessment of the cumulative impacts of emissions from all identifiable sources that contribute to potential violations of these standards and air quality related values, BLM cannot satisfy its obligation under NEPA to determine whether emissions from the project will cause or contribute to pollution in the ambient air "significantly affecting the quality of the human environment." within the mandate of NEPA. because it</p>	<p>This summary of comments does not require specific response; sufficient specific responses are provided at other Commenter 10 locations.</p> <p>The BLM believes that the data and analyses provided in the EIS and AQTSD are adequate for this impact assessment.</p>

**Table III-B. Substantive Comments on JIDP Air Quality Issues (cont'd)**

Submittal ID	Comment Number	Comment Category	Keyword	Comment Text	Response
				<p>“threatens a violation of Federal, State, or local law or requirements imposed for the protection of the environment.” The NEPA rules also require that the EIS must “state how alternatives considered in it and decisions based on it will or will not achieve the requirements of [NEPA] and other environmental laws and policies.”</p>	
10	4	C	Regulatory Compliance & Commitments	<p>BLM has consistently identified NAAQS, PSD increments, and air quality related values in Class I areas as air pollution standards and requirements of the CAA that must be addressed as part of its obligation to “provide compliance with” pollution control laws under FLPMA. The Air Quality Supplement fails to even address major air pollution standards that BLM acknowledges fall within the scope of this duty. There is no assessment of ozone NAAQS violations despite reported exceedances of the 8-hour ozone NAAQS in the study region. The Supplement fails to include any assessment of emissions increases from sources that have been added to the region during the period between the PSD baseline date and 2002 for each pollutant for which PSD increments are in effect. The Supplement omits any discussion of the violations of PSD Class II increments for PM<sub>10</sub> and NO<sub>2</sub> predicted in the AQTSD. These major omissions of “significant impacts” demonstrate that BLM has failed to satisfy its NEPA obligation to take a “hard look” and inform the public and decisionmakers of the air quality impacts of emissions from the project.</p>	<p>In cases where monitored levels of ozone are high, additional modeling is impractical and does not justify the expense. In recognition of the importance of potential ozone concentrations, monitoring has been initiated in the Jonah Field area as well as near Daniel and Boulder.</p> <p>A revised estimate of ozone from project sources is provided in the FEIS and AQTSD that demonstrates that the project would not cause or contribute to an exceedance of the 1 and 8 hour ozone standards.</p> <p>PSD increment comparisons were performed for only the far-field Class I and sensitive Class II areas. There are no exceedances of the increments at any of these areas.</p>
10	5	C	Regulatory Compliance & Commitments - Air Quality Standards	<p>The Air Quality Supplement is also deficient because it fails to acknowledge that other air quality assessments have already identified expected violations of PSD increments and visibility impairment in class I areas within the impact zone of emissions from Green River Basin projects. The Powder River Basin Project air quality assessment performed for the 2003 Powder River Basin FEISs demonstrated that total emissions from oil and gas projects in the Powder River Basin will cause a) violations of the PM<sub>10</sub> PSD increment in the Washakie Wilderness Area, and b) visibility impairment beyond the levels that are perceptible in all 15 class I areas included in the Powder River Basin modeling domain, and c) acid deposition in excess of acceptable</p>	<p>Please see comment 9-26, above.</p> <p>The BLM believes that the data and analyses provided in the EIS and AQTSD are adequate for this impact assessment.</p>

**Table III-B. Substantive Comments on JIDP Air Quality Issues (cont'd)**

Submittal ID	Comment Number	Comment Category	Keyword	Comment Text	Response
				<p>limits of change to acid neutralizing capacity in protected watersheds. BLM cannot meet its obligation under NEPA to address cumulative impacts without at least considering how additional emissions from sources in the Green River Basin will add to and exacerbate predicted violations.</p> <p>In order to meet its obligation under FLPMA to “provide for compliance” with the requirements of the CAA, BLM must determine the maximal level of emissions that may be allowed without causing or contributing to violations of pollution limits in the ambient air or adverse impacts on air quality related values in class I areas, and identify mitigation capable of preventing such violations.</p>	
10	6	C	Regulatory Compliance & Commitments	<p>BLM must determine whether unconstrained emissions from the proposed project will cause violations, and how mitigation can reduce emissions to prevent violations of standards and adverse impacts on air quality related values protected under the CAA. The Air Quality Supplement contains emissions scenarios to estimate emissions based on various well development rates, but it does not include an investigation to determine the maximally permissible emissions from the project that will not violate the CAA and air pollution standards as required by FLPMA and NEPA. This determination needs to be combined with consideration of phased development and other reasonable mitigation strategies that could ensure that aggregate emissions from the project will not exceed the maximal permissible increase in emissions allowed under the CAA and FLPMA.</p> <p>For these reasons, commenters request that the Air Quality Supplement be revised and published for additional comment. The Supplement must be augmented by –</p> <ol style="list-style-type: none"> <li>1. modeling using an appropriate, EPA-approved model to determine the effects that increased NO<sub>x</sub> and VOC emissions will have on ambient ozone concentrations and possible ozone NAAQS violations;</li> <li>2. modeling all increased emissions since the PSD</li> </ol>	<p>It can be inferred that application of the Preferred Alternative would eliminate most potential project-specific significant impacts (see FEIS Tables 4.1 through 4.3). While modeling has identified potential in-field PM<sub>10</sub> concentrations in excess of the PSD 24-hour increment, the impact assessment does not represent a regulatory PSD increment analysis.</p> <ol style="list-style-type: none"> <li>1. In cases where monitored levels of ozone are high, additional modeling is impractical and does not justify the expense. In recognition of the importance of potential ozone concentrations, monitoring has been initiated in the Jonah Field area as well as near Daniel and Boulder.</li> <li>2. The BLM could compare the sum of the potential concentrations due to Jonah and the concentrations as calculated by WDEQ to the PSD increment. However, this would be for information purposes only and would not constitute a regulatory PSD Increment Consumption Analysis.</li> <li>3. EPA’s Regional Haze Rule identifies the ultimate visibility levels to be reached in 2064 to be “natural background.” not a</li> </ol>

**Table III-B. Substantive Comments on JIDP Air Quality Issues (cont'd)**

Submittal ID	Comment Number	Comment Category	Keyword	Comment Text	Response
				<p>baseline dates, or using the WDEQ analysis of NO<sub>2</sub> increment consumption and adding all proposed sources that BLM intends to authorize, to obtain comprehensive assessment of cumulative emissions on the maximum allowable increase for NO<sub>2</sub>;</p> <p>3. modeling to determine the impact of all emissions from sources that have been added to the year when greatest progress was demonstrated toward the national visibility goal as determined based upon the post-1977 year when visibility in the Bridger Class I area was best, and determining what level of emissions increase for the major project pollutants could be allowed without contributing to a 0.5 dv change in visibility on the 20% cleanest days;</p> <p>4. identify rates of acid deposition in class I area lakes that can be expected to cause harm and perform modeling to determine maximal permissible project emissions that will not cause those levels to be exceeded;</p> <p>5. identify permitting and emission tracking programs and phased development policies designed to ensure that project emissions, when considered together with other emissions in the region, will not exceed maximally permissible levels of emissions associated with each air pollution standard and other requirement under the CAA.</p>	<p>1977 level.</p> <p>4. In this and future Wyoming BLM EISs, BLM will determine the emission reduction required to eliminate significant potential impacts.</p> <p>5. WDEQ and BLM will track emissions, but BLM does not have the regulatory authority to set emissions caps.</p> <p>The BLM believes that the data and analyses provided in the EIS and AQTSD are adequate for this impact assessment.</p>
10	7	C	Regulatory Compliance & Commitments	<p>BLM May Not Rely on Prior Inadequate EISs.</p> <p>The FEISs issued for the Pinedale Anticline, Continental Divide/Wamsutter, Desolation Flats, Jack Morrow Hills, and Rawlins RMP were all seriously deficient in their consideration of cumulative air quality impacts, and may not be relied upon as the basis for approving further development, including permits issued for drilling pads, road construction, compressor stations, and other polluting activities reviewed in the earlier environmental documents. These EISs were factually, technically, and legally deficient for numerous reasons, including, but not limited to, the failure to consider the cumulative impact of emissions from all sources that contribute to a) the concentrations of</p>	<p>The BLM regularly refers to other NEPA documents and uses them to constantly improve the NEPA process. Interestingly, other comments recommended this activity (see Comment 2-13, above). If inadequacies are discovered in this process, improvements can be made to the current document. However, NEPA does not allow for the revision of these past determinations, and actions may still be approved under those RODs.</p> <p>Cumulative impacts of these actions along with the proposed JIDP have been considered and are discussed in the FEIS and AQTSD. Cooperative modeling efforts by the BLM and other air quality</p>

**Table III-B. Substantive Comments on JIDP Air Quality Issues (cont'd)**

Submittal ID	Comment Number	Comment Category	Keyword	Comment Text	Response
				<p>pollutants subject to “maximum allowable increases” under section 163 of the CAA, b) the frequency of days when emissions would exceed the threshold of perceptible visibility impairment, c) possible ozone NAAQS violations, and d) the failure to determine the maximal permissible emissions that would not cause or contribute to violations of each of the applicable requirements under the CAA.</p> <p>In addition, some of the earlier environmental documents identified the level of emissions that could be allowed from previously approved projects without causing visibility to be perceptibly impaired, but BLM has determined that in all cases those permissible levels of emissions have been exceeded by development activities that have already been permitted. Therefore, none of the prior environmental reviews can be relied upon for continuing approval of additional permits until a comprehensive assessment of impacts has been completed, emissions levels needed to provide for compliance with CAA requirements have been determined, and adequate mitigation adopted to ensure that permitted activities will not cause maximally permissible levels of emissions to be exceeded.</p>	<p>stakeholder agencies will ensure that all these impacts are accounted for. Appropriate mitigations are identified in the FEIS (see Sections 2.4.5 and 5.1.1) and will be promulgated in the ROD.</p>
10	8	C	Regulatory Compliance & Commitments	<p>Air Quality Supplement and Prior EISs Fail To Fulfill BLM’s Duty To Ensure Compliance With CAA.</p> <p>The BLM acknowledges that pursuant to these statutory mandates, “under both FLPMA and the CAA, BLM cannot authorize any activity which does not comply with all the applicable local, state, tribal, and federal air quality laws, statutes, regulations, standards, and implementation plans. “These requirements include the NAAQS and WAAQS which set the maximum limits for several air pollutants, and PSD increments which limit the incremental increase in certain air pollutants (including NO<sub>2</sub>, PM<sub>10</sub>, and SO<sub>2</sub>) above legally defined baseline concentration levels.</p> <p>BLM failed to carry out these statutory responsibilities in the 2003 FEIS and ROD. Despite comments from EPA requesting mitigation measures to prevent predicted PSD violations and visibility impairment at</p>	<p>This comment is not related to the Jonah Infill Drilling Project. For comments or issues regarding the Pinedale Field Office RMP, please contact the Pinedale Field Office.</p>

**Table III-B. Substantive Comments on JIDP Air Quality Issues (cont'd)**

Submittal ID	Comment Number	Comment Category	Keyword	Comment Text	Response
				<p>class I parks and wilderness in violation of the CAA prohibition against perceptible impairment of visibility, and protests from Environmental Defense and others asking BLM to adopt measures in the RMP to prevent these violations, BLM took no action.</p>	
10	9	C	Regulatory Compliance & Commitments	<p>BLM May Not Rely Upon Wyoming Permit Program to Avoid Affirmative Duties Under NEPA and FLPMA.</p> <p>The Air Quality Supplement provides no explanation for why a complete PSD increment consumption analysis is not being performed. It simply states that the methods and procedures used for the Preferred Alternative are consistent with the procedures applied in the DEIS. The DEIS also offers no rational explanation for the failure to perform a complete PSD increment consumption analysis.</p> <p>In the Powder River Basin EIS, BLM claimed that it need not conduct a “regulatory” PSD increment consumption analysis because it will be addressed by Wyoming through the permit process. Reliance on the Wyoming permitting process cannot be substituted for the affirmative duty imposed on BLM to “provide for compliance” with NAAQS and the increments, both because FLPMA requires that the RMPs contain the measures necessary to ensure compliance, and because BLM has no assurance that the states will perform a complete increment consumption analysis that includes emissions from the proposed new activities on federal lands before BLM revises the RMP and issues other approvals that will allow the proposed actions to be commenced and thereby contribute to additional emissions that will add to further exceedances of NAAQS and cause increments to be violated.</p> <p>In Wyoming, the WDEQ is undertaking an analysis of increment consumption in and adjacent to the Bridger Class I area. This analysis, however, only includes emissions from sources permitted through 2004. It does not include an assessment of the additional increment likely to be consumed by emissions from the additional gas development BLM is proposing to</p>	<p>The BLM is aware of its affirmative obligations under the NEPA and FLPMA. The BLM believes that the modeling performed to date along with other stakeholder agencies and the mitigations incorporated into the Preferred Alternative (see FEIS Section 2.4.5) meet those obligations.</p> <p>The BLM recognizes WDEQ’s certain regulatory authorities in air quality matters. The BLM is not required to perform a PSD increment analysis. Such an analysis is part of the CAA permitting requirements and, if needed, will be performed by the WDEQ.</p>

**Table III-B. Substantive Comments on JIDP Air Quality Issues (cont'd)**

Submittal ID	Comment Number	Comment Category	Keyword	Comment Text	Response
				authorize in the Jonah Infill and other gas field developments in the Upper Green River Basin.	
10	10	C	Regulatory Compliance & Commitments - Air Quality Standards	At a meeting on October 5 between Wyoming Outdoor Council representatives, John Cora, WDEQ Administrator, and Dan Olsen, WDEQ refused to make any firm commitment to perform an increment consumption analysis that considers the proposed source emissions before issuing future permits. For these reasons, the EISs must include the increment consumption analysis so that BLM's obligation to develop and adopt sufficient mitigation measures may be performed as part of the project NEPA analyses, and adopted as conditions in the ROD as required.	PSD monitoring was recently initiated in the Jonah, Daniel, and Boulder areas by the WDEQ. Preliminary results suggest conditions are similar to the previous data obtained and incorporated into the modeling efforts. For further information please reference: <a href="http://deq.state.wy.us/aqd">http://deq.state.wy.us/aqd</a> .
10	11	C	Regulatory Compliance & Commitments - Air Quality Standards	In the past, BLM has implied that it need not conduct a "regulatory" increment consumption analysis because "the determination of PSD increment consumption is a legal responsibility of the applicable air quality regulatory agencies, with EPA oversight." The fact that the state has a legal responsibility to protect increments does not mean that BLM is thereby relieved of its independent responsibility under FLPMA to adopt RMPs that "provide for compliance with pollution standards," or its obligation under NEPA to fully describe the cumulative impacts of the proposed projects, to identify mitigation measures to prevent adverse impacts, and to determine whether the alternatives studied in the EIS and any decisions based on the EIS will provide for compliance with the CAA as required by FLPMA. Commenters object to BLM's failure to perform these obligations imposed on BLM itself by federal law.	BLM maintains this position.
10	12	C	Regulatory Compliance & Commitments	BLM acknowledged in the Powder River Basin EIS that only "some of the impacts predicted in the Final EIS" will be prevented through the state permit process. It does not claim that all violations will be prevented, nor does it claim that even most of the violations will be prevented by the Wyoming permit program. Here, BLM does not even claim that the Wyoming permit program will be adequate to prevent any adverse impacts from minor sources. There is no agency analysis explaining that any violations are likely to be addressed through the state permit program. Even if BLM had a rational	As noted by this commenter in Comment 10-9, the BLM cannot avoid its own responsibilities and defer these to the WDEQ. However, it must also be recognized that there are some aspects of air quality regulation that are the dominion of the WDEQ and are outside the authority of the BLM. The FEIS identifies and the ROD will incorporate all reasonable mitigation measures needed to ensure compliance within the realm of the BLM's authority (see FEIS Section 2.4.5 and 5.1.1). There is no need for the BLM to add further

**Table III-B. Substantive Comments on JIDP Air Quality Issues (cont'd)**

Submittal ID	Comment Number	Comment Category	Keyword	Comment Text	Response
				<p>basis for expecting that the Wyoming permit program could be expected to prevent some violations in the context of the Powder River Basin Projects and therefore might be as effective in the Green River Basin, BLM offers no explanation why the violations that BLM did not expect the state permit program to prevent for development in the Powder River Basin would likely be prevented in the Green River Basin. The violations that even BLM did not expect the state program to prevent must be disclosed. BLM must under NEPA and FLPMA take actions to prevent the violations that will not be prevented by the state permit programs.</p>	<p>explanations of past NEPA documents into its current effort.</p>
10	13	C	Regulatory Compliance & Commitments	<p>The Wyoming SIP Cannot Be Relied Upon to Prevent Violations of Air Pollution Standards Caused by Emissions from Multitudes of "Minor Sources."</p> <p>The adequacy of the Wyoming air permit program to address the cumulative air quality impacts of emissions from tens of thousands of "minor" new sources has never been considered by BLM. Neither the current Air Quality Supplement nor any of the prior Wyoming BLM's EISs or RODs for oil and gas development have ever provided any discussion or analysis of Wyoming's new source review permit program to determine whether it includes legal authority to ensure compliance with NAAQS, PSD increments, or adverse impacts on visibility and other air quality related values in Class I areas caused by emissions from a vast number of so-called "minor sources." The EISs mislead the public and the decisionmaker by implying that State permit programs will address the violations identified in that EIS without any consideration of whether WDEQ has the legal authority to do so even if it wants to control these impacts.</p>	<p>The BLM recognizes that it is impractical to try to quantify these numerous unregulated minor sources of air emissions; to try to do so would provide for unreliable modeling. For this reason background air monitoring data have been incorporated into the modeling used to develop the Preferred Alternative (see FEIS Section 2.4.5). Such data should account for emissions from these minor sources.</p>
10	14	C	Regulatory Compliance & Commitments	<p>The Air Quality Supplement and Jonah Infill DEIS predicts that activities authorized under the RMP amendments will include over 3,100 expected new gas wells, hundreds of miles of new dirt roads, hundreds of diesel compressor stations and hundreds of other facilities. In the estimates of emissions developed for the EIS, one of these sources is shown to exceed the statutory threshold for a "major source." defined by</p>	<p>Comments regarding the Pinedale Field Office RMP should be directed to the Pinedale Field Office.</p> <p>Air monitoring was recently initiated in the Jonah, Daniel, and Boulder areas by the WDEQ. Preliminary results suggest conditions are similar to the previous data obtained and incorporated</p>

**Table III-B. Substantive Comments on JIDP Air Quality Issues (cont'd)**

Submittal ID	Comment Number	Comment Category	Keyword	Comment Text	Response
				<p>section 169(1) as 250 tons per year, which triggers the requirement for a “PSD permit” under CAA section 165. The Wyoming PSD State Implementation Plan (SIP) uses the same emission threshold to trigger PSD review. However, these occasional big rigs could easily escape PSD analysis by agreeing to accept limits on total operating hours that would reduce annual emissions to 249.9 tons, below the 250 ton threshold for major source review.</p> <p>Section 165 and the Wyoming PSD SIP both require a determination that emissions from a “major” source will not cause or contribute to violations of NAAQS and PSD increments, or cause adverse impacts on air quality related values in Class I areas. No such analysis is required either by the CAA or the SIP as a pre-condition for permitting individual minor sources. In fact, a review of the PSD SIP shows that nothing in the SIP even authorizes the state to require a minor source permit applicant to perform such analyses, or to deny a permit based upon a failure of an applicant to determine whether NAAQS, PSD increments, or thresholds for adverse impacts have been exceeded.</p> <p>The Wyoming PSD SIP only requires that major sources perform an increment consumption analysis and an assessment of visibility impairment in Class I areas. The provisions governing the permitting of minor sources only require that the applicant demonstrate that “the proposed facility will not cause significant deterioration of existing ambient air quality in the Region as defined by any Wyoming standard or regulation that might address significant deterioration.” This provision does not explain what standard applies, if any, nor does it describe the “region” that must be considered, whether emissions from the minor source must be considered together with emissions from other permitted and reasonably anticipated sources, or what pollutants are to be considered. There is clearly no obligation to conduct a “regulatory” increment consumption analysis as described by EPA’s criteria for determining PSD increment consumption, or as described by BLM. Furthermore, this SIP provision does not address visibility impacts in Class I areas at</p>	<p>into the modeling efforts. For further information please reference: <a href="http://deq.state.wy.us/aqd">http://deq.state.wy.us/aqd</a>.</p> <p>Drill rigs are a temporary source and are therefore not subject to PSD regulations.</p>

**Table III-B. Substantive Comments on JIDP Air Quality Issues (cont'd)**

Submittal ID	Comment Number	Comment Category	Keyword	Comment Text	Response
				<p>all. Visibility is addressed only in Chapter 9 of the Wyoming SIP rules. That provision applies exclusively to "major stationary sources." The CAA and EPA's regulations require that the State track emissions to determine whether aggregate emissions in an area have or will cause NAAQS or PSD increment violations, and states are required to remedy visibility impairment caused by existing sources. When Wyoming completes the analysis of NO<sub>2</sub> increment consumption currently underway, BLM may rely on it to show that existing sources have or have not fully consumed the PSD increments for NO<sub>2</sub>. But until now Wyoming acknowledged that it had not performed the kind of analysis required by these regulations for any pollutants, and is now undertaking an analysis only for NO<sub>2</sub>.</p>	
10	15	C	Regulatory Compliance & Commitments	<p>BLM Has Not Received Any Commitment from WDEQ to Develop and Apply the Information Needed to Prevent Violations Caused by Cumulative Impacts from Multiple "Minor" Sources. Nor has BLM received any commitment from Wyoming that such analyses will be performed prior to the permitting of minor sources, or that the results of such analyses would be used to limit or prevent the construction of minor sources when NAAQS or increments have been exceeded or would likely be exceeded, or when aggregate emissions will contribute to perceptible visibility impairment or unacceptable changes in lake chemistry. Wyoming could commit in an MOA to perform increment consumption analyses and visibility impairment assessments, and use that information to deny additional permits to minor sources. But short of such an agreement with BLM, there is no basis for assuming, as BLM seems to do, that Wyoming will either perform such analyses for pollutants other than NO<sub>2</sub>, or use the results of the NO<sub>2</sub> analysis in the permitting process. Absent an enforceable commitment by Wyoming to apply its regulatory authority, BLM cannot merely assume that NAAQS, PSD increments, and visibility will be protected by the state's permit process.</p>	<p>Air monitoring was recently initiated in the Jonah Field, Daniel, and Boulder areas by the WDEQ. Preliminary results suggest conditions are similar to the previous data obtained and incorporated into the modeling efforts. For further information please reference: <a href="http://deq.state.wy.us/aqd">http://deq.state.wy.us/aqd</a>.</p>
10	16	C	Regulatory Compliance & Commitments	<p>Even if BLM were able to show that Wyoming's current regulatory requirements establish an affirmative obligation on the state to mitigate the impacts of</p>	<p>Please see to Comment 10-13, above. The BLM recognizes its responsibilities under NEPA and will incorporate appropriate mitigations that are</p>

**Table III-B. Substantive Comments on JIDP Air Quality Issues (cont'd)**

Submittal ID	Comment Number	Comment Category	Keyword	Comment Text	Response
				<p>aggregate emissions from large numbers of minor sources before those sources are permitted, this state obligation would not obviate BLM's affirmative obligation under FLPMA. Nothing in current law that governs Wyoming's permitting of minor sources can be relied upon by BLM to avoid its primary responsibility under NEPA to take a "hard look" at cumulative impacts of emissions from activities on federal lands, to disclose expected violations of increments, and its duty under FLPMA to adopt such measures as may be necessary to "provide for compliance" with increments by ensuring that emissions from activities authorized by BLM on federal lands will not cause violations of standards or adverse impacts on air quality related values in Class I areas.</p> <p>Therefore, the failure to include in the DEIS and the Air Quality Supplement a complete assessment of the effect of project emissions on possible violations of NAAQS, PSD increments, and visibility impairment and impacts on lake chemistry in class I areas that takes into account emissions of all other sources that consume increment, and the failure to identify maximally permissible emissions, renders the DEIS and Air Quality Supplement inadequate under both NEPA and FLPMA.</p>	<p>within its realm of authority into the ROD. The BLM will continue to work with the WDEQ and other air quality stakeholder agencies to ensure compliance of the JIDP. The BLM also believes that its air quality assessment, performed in cooperation with these stakeholders, is adequate for the project.</p>
10	17	C	Regulatory Compliance & Commitments	<p>Failure to Conduct Complete Increment Consumption Analysis Violates FLPMA and NEPA.</p> <p>No reason is given for the failure to perform an increment consumption analysis as part of the EIS. The Air Quality Supplement simply states that "the PSD demonstrations serve information purposes only and do not constitute a regulatory PSD Increment consumption analysis." BLM acknowledged in the Wyoming FEIS, that "[a] regulatory PSD Increment Consumption analysis may be conducted as part of a New Source Review, or independently." The current NEPA documents provide no rational basis for not performing an independent increment consumption analysis as part of the EIS review.</p>	<p>Please see comment 9-19, above.</p>

**Table III-B. Substantive Comments on JIDP Air Quality Issues (cont'd)**

Submittal ID	Comment Number	Comment Category	Keyword	Comment Text	Response
10	22	C	Regulatory Compliance & Commitments	<p>BLM Must Disclose Perceptible Visibility Impairment.</p> <p>Where the EISs identify expected violations of the CAA prohibition against causing increases in perceptible impairment of visibility, 43 USC §1712(c)(8) requires that the RMPs may not be approved until sufficient mitigation measures are adopted to prevent or remedy these violations. To determine how much mitigation is necessary, BLM must determine the amount of new emissions that is permissible without causing perceptible impairment.</p>	<p>Please see comment 9-48, above.</p> <p>Comments regarding the Pinedale Field Office RMP should be directed to the Pinedale Field Office.</p>
10	23	C	Regulatory Compliance & Commitments	<p>DEIS and Air Quality Supplement Fail to Implement FLAG Guidelines.</p> <p>Acting through the NPS, the Department of Interior has cooperated with other FLMs in the development of visibility review procedures and criteria for assessing when visibility impairment is not acceptable. The DEIS and Air Quality Supplement mention the FLAG Report, but provide no analysis to explain how the acceptability criteria will be applied by the Secretary to the evidence of visibility impairment provided in the air quality assessment. Even more troubling is the lack of any discussion of the mitigation measures that could be applied through the RMP to protect visibility in Class I areas.</p> <p>The Air Quality Supplement provides ample information showing that if the Preferred Alternative is approved, degradation of visibility will occur in the Bridger WA, Fitzpatrick WA, and Teton NP when measured by the 1.0 deciview (dv) metric of change. Yet despite this evidence of extensive deterioration in visibility, the EIS is completely silent regarding how the Secretary will carry out her affirmative responsibility to protect visibility in these areas.</p> <p>To identify the maximal permissible emissions, BLM must identify the mitigation measures that can achieve the level of protection for visibility described in the FLAG guidelines.</p>	<p>Please see comment 9-48, above.</p> <p>Comments regarding the Pinedale Field Office RMP should be directed to the Pinedale Field Office.</p> <p>The Preferred Alternative identifies mitigation for potential air quality impacts (see FEIS Section 2.4.5). Additional measures may be required at the ROD as provided in FEIS Section 5.1.1.</p>

**Table III-B. Substantive Comments on JIDP Air Quality Issues (cont'd)**

Submittal ID	Comment Number	Comment Category	Keyword	Comment Text	Response
10	24	C	Regulatory Compliance & Commitments	<p>DEIS and Air Quality Supplement Fail to Implement EPA's "No Degradation" Policy Under the CAA.</p> <p>In addition to the affirmative responsibility to "protect" visibility in Class I areas under her charge as an FLM, the Secretary acting through BLM under FLPMA, also has a responsibility to ensure the national visibility goal established by the CAA is implemented in all Class I areas likely to be impacted by emissions from developments authorized by RMPs.</p> <p>The CAA "declares as a national goal the prevention of any future, and the remedying of any existing, impairment of visibility in mandatory class I Federal areas which impairment results from manmade air pollution." EPA has promulgated rules to implement this national goal. These regulations include requirements defining reasonable progress toward the national goal. "The reasonable progress goals must provide for an improvement in visibility for the most impaired days over the period of the implementation plan and ensure no degradation in visibility for the least impaired days over the same period." This interpretation of the CAA as requiring that existing visibility not be further impaired during the period when progress toward the national goal is being implemented was affirmed by the D.C. Circuit Court of Appeals in response to an attack by industry arguing that EPA is not authorized by the Act to establish a "no degradation" standard..</p> <p>This standard for reasonable progress has not been addressed in the EIS, but should have been. At a minimum, the Air Quality Supplement must identify the visibility for the least impaired days in each of the Class I areas where significant impacts are predicted, and the extent to which the additional emissions from the projects combined with other regional emissions increases would cause degradation on those days.</p> <p>The information needed to identify the least impaired days is available from the transmissometer data used for the visibility impact analysis, and the output from the CALPUFF model provides the information to provide a</p>	<p>Please see comment 9-48, above.</p> <p>The U.S. Congress described protection of visibility in mandatory federal PSD Class I areas as their National Visibility Goal. It is not a standard, and current EPA regulations allow visibility impairment to continue in these specific areas until 2064. BLM's role is to analyze and disclose potential "significant, adverse" air quality impacts (including visibility), but it is EPA's regulatory responsibility to achieve the National Visibility Goal.</p> <p>Comments regarding the Pinedale Field Office RMP should be directed to the Pinedale Field Office.</p> <p>The Preferred Alternative identifies mitigation for potential air quality impacts (see FEIS Section 2.4.5). Additional measures may be required at the ROD as provided in FEIS Section 5.1.1.</p>

**Table III-B. Substantive Comments on JIDP Air Quality Issues (cont'd)**

Submittal ID	Comment Number	Comment Category	Keyword	Comment Text	Response
				<p>meaningful assessment of the extent to which visibility will be degraded on the least impaired days. Thus that information should be developed and included in a further supplement to the DEIS.</p> <p>The results of that analysis should then be considered for the purpose of identifying the kinds of mitigation measures necessary to achieve the no degradation standard. This should also be addressed in any supplemental EIS to provide the factual context for determining the extent of emission reduction needed to determine mitigation measures as part of the ROD.</p>	
10	26	C	Mid-/Far-Field Modeling - Acid Deposition/Sensitive Lakes	<p>Acid Rain Impacts Identified, But Significance Not Disclosed.</p> <p>The Air Quality Supplement compares modeled acid deposition rates with outdated criteria for determining the limits of acceptable change adopted by the USFS nearly twenty years ago, but now considered inadequate to protect lakes from adverse impacts. BLM's obligation to disclose adverse impacts requires more than acknowledgment that the criteria used are not protective. BLM has an independent obligation under NEPA to use the best science available to identify possible harm to aquatic species that may result from significant changes in lake chemistry. BLM has undertaken no investigation of the research that convinced USFS that its original criteria are no longer protective, or any other research addressing the adverse impacts of acid deposition into waters with little acid neutralizing capacity. BLM has not satisfied its obligation to take a hard look.</p>	<p>The BLM appreciates that the levels of concern are being reviewed. A comparison to DATs was performed. However, the BLM chose not to accept them as significance criteria for the JIDP.</p>
10	28	C	Health	<p>Impacts on Public Health from Fine Particle Exposures Not Identified.</p> <p>The emissions sources included in the proposed projects will be a major source of NO<sub>x</sub> emissions which are transformed in the atmosphere to form fine particle nitrates. Given the potentially severe adverse health effects associated with fine particle exposures, commenter requests that the Air Quality Supplement fully assess the potential adverse public health effects associated with cumulative emissions of fine particles</p>	<p>Additional air monitoring was recently initiated in the Jonah, Daniel, and Boulder areas by the WDEQ. Levels of NO<sub>2</sub> and PM<sub>10</sub> are well below the health based NAAQS. For further information please reference: <a href="http://deq.state.wy.us/aqd">http://deq.state.wy.us/aqd</a>.</p>

**Table III-B. Substantive Comments on JIDP Air Quality Issues (cont'd)**

Submittal ID	Comment Number	Comment Category	Keyword	Comment Text	Response
				<p>and fine particle precursors from the current and proposed sources of fine particles. The 2003 EISs for the Powder River Oil and Gas Project predicted large increases in exposure to fine particles from background concentrations of 20 to 66 mg/m<sup>3</sup> (more than the current NAAQS for PM<sub>2.5</sub>) in Montana, and from 19 to 42 mg/m<sup>3</sup> in areas of Wyoming.</p> <p>The recent evidence of the effects of fine particle exposures at these expected future concentrations demonstrates that increased premature mortality, hospitalizations, asthma, and other respiratory disease episodes, increased medication and health care costs, increased loss of work days and lost wages as well as lost school days for children are expected at these levels of exposure. The EISs fail to address this new evidence, and fail to inform the public of these adverse health impacts.</p>	
10	29	C	Health	<p>The adverse health effects of fine particles (i.e., particles &lt;2.5 µm in diameter) must be evaluated in the Air Quality Supplement to determine acceptable levels of exposure to avoid endangering public health, and then to assess the impact emissions from the proposed projects will have on current background concentrations of PM<sub>2.5</sub>. If emissions from the proposed projects will cause or contribute to the exposure of residents above levels associated with adverse health effects, then the Air Quality Supplement must identify mitigation measures sufficient to prevent those effects.</p> <p>This analysis of fine particle health effects in the NEPA context is made necessary by EPA's failure to promulgate PSD increments for PM<sub>2.5</sub> as required by the CAA, and its unlawful delay in promulgating revised NAAQS for PM<sub>2.5</sub>.</p> <p>This analysis is made necessary because the fine particle NAAQS promulgated by EPA in 1997 does not prevent adverse health effects demonstrated by the health effects research published since 1996 when EPA closed the last version of the PM Criteria Document relied upon to set the 1997 NAAQS for PM<sub>2.5</sub> to protect public health pursuant to the CAA.</p>	<p>It is beyond the scope of the BLM's effort to evaluate adverse health effects from air quality pollution. This is the responsibility of the EPA and falls under their authority. The EPA has provided this regulation by establishing the NAAQS.</p>

**Table III-B. Substantive Comments on JIDP Air Quality Issues (cont'd)**

Submittal ID	Comment Number	Comment Category	Keyword	Comment Text	Response
				<p>Therefore, the 1997 NAAQS appears no longer to be adequate to protect against adverse health effects identified in the health effects research identified by EPA in its revision to the Air Quality Criteria for Particulate Matter. The residual adverse health effects allowed by the 1997 NAAQS that have been identified by EPA must also be disclosed to the public under NEPA, and considered by the decisionmaker when developing mitigation measures. In the event it is determined that emissions from the Oil and Gas Project will contribute to adverse health effects among the residents of Wyoming, mitigation measures must also be considered under NEPA to prevent those effects.</p>	
10	30	C	Mitigation	<p>Mitigation.</p> <p>BLM modeled a number of different emissions scenarios, but did not identify any scenario that would “provide for compliance with” all applicable standards under the CAA. While it appears that the 80% reduction scenario with WDR 250 achieves the lowest impacts of any alternative considered, it nonetheless predicts 19 or 21 days of visibility impairment in the Bridger class I area, depending on the analytical method chosen. This level of impairment fails to satisfy the statutory requirement for “no degradation” of humanly perceptible visibility in the Class I area. Based upon this evidence, the 80% reduction scenario, standing alone, cannot satisfy BLM’s obligation to “provide for compliance with” the CAA. Additional reductions will be needed, such as those that can be achieved by reducing the well drilling rate through the implementation of phased development.</p> <p>In addition, the lack of a reliable modeling analysis of the impact that increased NO<sub>x</sub> and VOC emissions will have on ozone concentrations precludes any final determination of an acceptable level of emissions increases from the Jonah Infill and other gas field developments in the Upper Green River Basin. Given that exceedances of the 8-hour NAAQS have been reported in 2004 and 2005, it may be that no new sources of emissions may be added to the air shed without corresponding decreases in emissions from</p>	<p>Please see comment 9-48, above.</p> <p>BLM can require mitigation of the potential impacts of the proposed project only.</p> <p>The Preferred Alternative identifies mitigation for potential air quality impacts (see FEIS Section 2.4.5). Additional measures may be required at the ROD as provided in FEIS Section 5.1.1.</p> <p>In cases where monitored levels of ozone are high, additional modeling is impractical and does not justify the expense. In recognition of the importance of potential ozone concentrations, monitoring has been initiated in the Jonah Field area as well as near Daniel and Boulder.</p> <p>The factors contributing to the high ozone concentrations in February 2005 are unclear. To date, there is no finding of an ambient air quality standard violation.</p> <p>Please note, however, that there is no “statutory requirement for “no degradation” of humanly perceptible visibility in the Class I area.”</p> <p>The BLM will track NO<sub>x</sub> emissions and will continue to consult with the WDEQ. Thank you for this suggestion.</p>

**Table III-B. Substantive Comments on JIDP Air Quality Issues (cont'd)**

Submittal ID	Comment Number	Comment Category	Keyword	Comment Text	Response
				<p>existing sources. This issue cannot be determined based on the inadequate analysis contained in the current record.</p> <p>If BLM completes an adequate ozone modeling analysis that provides a rational basis for determining the limits on increased emissions, BLM must prescribe in the RMP the maximally permissible limit needed to protect the resource most at risk. To ensure that the limit is enforced, we ask that BLM adopt as a requirement of the ROD an emission tracking program to ensure that emissions do not exceed the permissible annual maximum, and that the tracking data be used to defer any new APDs for activities that would cause the maximally permissible level to be exceeded.</p> <p>The emission tracking program should be coordinated with air permits issued by WDEQ. To ensure this coordination, BLM should require an applicant for APD to show that it has obtained a WDEQ permit demonstrating the allowable emissions from the facility, and that prior permits issued by WDEQ do not exceed the maximally permissible level.</p>	
10	31	C	Regulatory Compliance & Commitments	<p>Commenters request that BLM prepare a comprehensive assessment of air quality impacts that remedies the deficiencies in this and prior EISs in order to provide a sound basis for determining maximally permissible emissions combined with emissions tracking as part of a permit program, and phased development, as mitigation strategies to prevent expected violations of various CAA requirements identified in the Air Quality Supplement, and other likely violations of other CAA requirements that may be identified if the deficiencies in the air quality analysis discussed above are addressed.</p>	<p>WDEQ and BLM will track emissions, but BLM will not unilaterally set emissions caps. The Preferred Alternative requires that Operators demonstrate that potential impacts from the proposed project are below significance criteria as soon as possible.</p>
11	1	C	Mid-/Far-Field Modeling - Visibility	<p>It is our understanding after reading the statement that the major area of concern with air quality is related to visibility, and not necessarily particulates. In Table 5 of the analysis it shows Grand Teton National Park and Yellowstone National Park experiencing eight and three days of haze respectively during the early project development stage of the Jonah Field Drilling Project. We believe any amount of haze encroaching on this</p>	<p>The BLM recognizes that WDEQ employs the BACT processes as part of their air quality regulatory authority and responsibility. The August 2005 TSD Supplement (see AQTSD Appendix G) was an analysis document and was not intended to outline the mitigation actions. Appropriate mitigations for addressing air quality concerns are detailed in the FEIS (see Section</p>

**Table III-B. Substantive Comments on JIDP Air Quality Issues (cont'd)**

Submittal ID	Comment Number	Comment Category	Keyword	Comment Text	Response
				pristine environment is unacceptable. We encourage you to mandate use of BACT rather than simply suggesting its use. Additionally, we feel the plan should better detail the steps to be taken, and the penalties if any, in the cases of high haze situations.	2.4.5 and 5.1.1) and will be promulgated in the ROD.
12	2	B	Emissions, Project	Same as Submittal # 7, Comment #2.	See comment 7-2, above.
12	3	B	Emissions, Project	The WDEQ has adopted policies regulating flaring emissions in fields such as Jonah, and the BLM modeling totally ignores those requirements and over estimates flaring emissions.	See comments 5-1 and 5-6, above.  The emissions inventory and modeling analysis were conducted prior to the release of revised WDEQ-AQD flaring guidance, and flaring assumptions were based on data obtained from field operators. The reductions in flaring emissions from those analyzed are discussed in the FEIS (see Sections 4.1.2, Preferred Alternative analyses and 5.1.1).
12	4	B	Mid-/Far-Field Modeling - Meteorological Data	Same as Submittal #7, Comment #3.	See comment 7-3, above.
12	5	B	Background Concentrations	Same as Submittal #7, Comment #4.	See comment 7-4, above.
12	6	B	Mid-/Far-Field Modeling - Visibility	Same as Submittal #7, Comment #5.	See comment 7-5, above.
12	8	B	Mid-/Far-Field Modeling - Visibility	Same as Submittal #7, Comment #6.	See comment 7-6, above.
12	9	B	Early Project Development Stage Modeling	Same as Submittal #7, Comment #7.	See comment 7-7, above.
12	1	C	Regulatory Compliance & Commitments	Same as Submittal #7, Comment #1.	See Comment 7-1, above.
12	7	C	Mid-/Far-Field Modeling - Visibility	In total, the exaggerated modeling assumptions resulted in a significant overestimation of the visibility impacts that BLM should discuss, analyze, and resolve	While the BLM considers this analysis approach to be conservative, it does not believe the assumptions were exaggerated. No such

**Table III-B. Substantive Comments on JIDP Air Quality Issues (cont'd)**

Submittal ID	Comment Number	Comment Category	Keyword	Comment Text	Response
				in the FEIS prior to the implementation or recommendation of any measures to mitigate the overrated impacts, and specifically prior to issuing the ROD.	discussion is deemed necessary for the FEIS.
12	10	C	Mitigation	Same as Submittal #7, Comment #8.	See Comment 7-8, above.
13	1	B	Conservative Analysis	Air quality modeling is a tool in developing strategies to reduce emissions. The current model used for the Jonah Field Infill Project EIS is a worst-case scenario and does not factor in new emission reduction solutions and other key data.	See comments 5-1 and 5-6, above.
13	2	B	Mid-/Far-Field Modeling - Inconsistencies with Monitoring Data	On the other hand, monitoring provides hard data that indicates the actual trends in the Bridger Wilderness Area emissions are stable and improving. An approach which integrates modeling, monitoring, and significant mitigation will show that properly managed development of the Jonah Field should continue to reduce emissions.	See comments 5-19 and 5-20, above.
14	1	B	Mid-/Far-Field Modeling - Meteorological Data	I continue to object to the meteorological inputs being used in the modeling process. Wind histories from several years back may not be indicative of present realities as my own three years of studies seem to suggest. I get an impression that the modeling effort attempts to address mixing and transport as a result of upper winds in addition to surface winds. Winds aloft and attendant mixing dynamics cannot be claimed to be receiving accurate model treatment on the basis of values interpolated between Riverton and Salt Lake, the two nearest upper atmosphere sounding locations. On this point I have agreement from an atmospheric scientist from the University of Wyoming. Therefore, there is a serious need for a federal weather monitoring station at the Pinedale Airport which includes radiosonde soundings of upper wind behavior. While this falls well outside the purview of BLM, one would hope that WDEQ might take up the cause and follow its channels through EPA for support in this matter.	The meteorological data inputs used in the analyses are representative of year 1995 and include measured hourly surface observations from 55 stations and upper air observations from 4 stations, which are within or nearby the 464 by 448 km modeling domain used for the analysis. In addition, hourly meteorological data, at 20 km horizontal grid spacing, from the MM5 mesoscale model, which includes data for 17 levels up to 100 mb, were used to estimate the vertical profile for the modeling domain. The CALMET meteorological model, an EPA approved and scientific peer reviewed model, was used to determine a modeling wind field. CALMET utilizes the surface, upper air, and MM5 data and incorporates fine scale terrain and land use data to determine an hourly, 3 dimensional wind field at a 4 km horizontal resolution and 10 vertical layers up to 2,980 meters. This model is the best available tool for use in estimating a wind field, which can then be used in estimating pollutant impacts from a project such as the Jonah. The availability of more meteorological data within the

**Table III-B. Substantive Comments on JIDP Air Quality Issues (cont'd)**

Submittal ID	Comment Number	Comment Category	Keyword	Comment Text	Response
					<p>modeling domain, would improve the accuracy of CALMET.</p> <p>BLM agrees that uncertainties in dispersion modeling can be significant; however, these models are currently the best available tools for these types of analyses. Additionally, please note that data specific to the JIDPA (see FEIS Figure 3.1) were used in the near-field analysis.</p>
14	2	C	Regulatory Compliance & Commitments	<p>The air quality analysis document contains the frequent use of the statement “The exceedances of these thresholds trigger a management concern but are not necessarily indicative of an adverse impact.” This statement is absurd. If there are “exceedances” causing “concern” then adverse impact is sure to follow if for no other reason than future increases in levels of activity in the Jonah that will build upon the exceedances beyond those of the present JDIP. Rather than wait for adverse impacts to build to levels that will result in draconian federal and state reaction, and associated increases in corrective action costs for operators (who will object mightily to such costs), BLM and regulators chartered to address this prospect need to activate adaptive management methodologies now. No doubt BLM-Pinedale will fall back upon its now practiced mantra that no actions can be taken on “pre-decisional issues.” I continue to argue just as doggedly that BLM is a federal agency required to meet requirements in the CAA. This can be done if not by regulatory action, then through stipulations that “encourage” operators to exert major and serious efforts to clean up all aspects of their operations with an eye toward eliminating the cited exceedances.</p>	<p>Please understand that the AQTSD Supplement (AQTSD Appendix G) discusses modeled results. It is not possible to determine in advance of the implementation of the project whether these results, although likely, will necessarily occur. Therefore, it is reasonable to say that these modeled exceedances trigger concern but may not cause an adverse impact.</p> <p>The BLM Preferred Alternative applies adaptive management principals with the use of the JIO as discussed in FEIS Section 2.4.5 and Appendix E. This office will monitor the implementation of the project and ensure its compliance with the CAA as well as other regulations.</p>
14	3	C	Emissions, Project	<p>To EnCana's credit, it has acted upon my personal effort to introduce it to a new dehydrator technology. It is undertaking a project to winter test two of the new units that employ technology methods which render them near zero emitters with regard to the significant criteria pollutants known to come from dehy operations. I am confident that the tests will demonstrate what EPA has already certified about the units, ie. their extraordinarily clean operation. That being so, hopefully, EnCana will proceed to retrofit its present</p>	<p>Thank you for you comments. Any efforts by the Operators to reduce emissions are appreciated by the BLM.</p>

**Table III-B. Substantive Comments on JIDP Air Quality Issues (cont'd)**

Submittal ID	Comment Number	Comment Category	Keyword	Comment Text	Response
				dehy fleet to the new standard and install the newer model on all future wells. Such a commitment would result in a reduction of criteria pollutants on the order of 1000%. Should this happen, the present dire predictions of the new air quality analysis should indeed be rendered excessively worst case. I have attached the EPA report and my own comparison summary.	
14	4	C	Monitoring Data	Finally, the weakness of reliance upon model predictions in this region continues to be the absence of actual pollutant quantitative data. It is of little credibility to declare on the basis of these model results that certain levels of impact will occur until they have been validated by actual empirical measurements. However, this process of empirical data accumulation is glacial and the analysis lengthy. It is therefore appropriate for BLM to, at the most, grant EnCana a preferred alternative go-ahead that incorporates conditions of operation that impose limits on all-out development until we know more about gas industry contributions to the visibility problem which is in fact worsening in the adjacent Class I regions.	The Preferred Alternative utilizes the JIO for adaptive management (see FEIS Section 2.4.5 and Appendix E). This office will oversee air quality monitoring in the area and perform regular modeling efforts. This will provide the BLM with an adaptive management strategy to address the concerns expressed in this comment.
15	20	A4	Emissions, Project	Page 9  "2.1 PROJECT EMISSIONS Criteria pollutant and hazardous air pollutant (HAP) emissions were inventoried for construction activities, production activities, and ancillary facilities. Criteria pollutants included nitrogen oxides (NO <sub>x</sub> ), carbon monoxide (CO), sulfur dioxide (SO <sub>2</sub> ), volatile organic compounds (VOCs), particulate matter less than 10 microns in diameter (PM <sub>10</sub> ), and particulate matter less than 2.5 microns in diameter (PM <sub>2.5</sub> )."  Technically, nitrogen oxides are not a criteria pollutant. Rather, nitrogen dioxide (NO <sub>2</sub> ) is the criteria pollutant, formed in the atmosphere as a result of NO emissions and trace amounts of NO <sub>2</sub> emissions (NO <sub>x</sub> ) in the presence of ozone (O <sub>3</sub> )	This statement has been corrected in the AQTSD.
15	21	A4	Emissions, Project	Page 9  "Additions to WDEQ-AQD Oil and Gas Production Facility Emission Control and Permitting Requirements for the Jonah and Pinedale Anticline Gas Fields were	The AQTSD now includes a reference to the potential effects of the new guidance.

**Table III-B. Substantive Comments on JIDP Air Quality Issues (cont'd)**

Submittal ID	Comment Number	Comment Category	Keyword	Comment Text	Response
				<p>approved by the Air Quality Advisory Board on July 28, 2004. The additional guidance became effective upon approval and applies to all wells reported to WOGCC after the approval date of July 28, 2004. The additional guidance revised emission control requirements and permitting process currently utilized under WDEQ-AQD Notice of Intent (NOI)/Presumptive Best Available Control Technology (P-BACT) permitting processes. Because the Project air emissions inventory and dispersion modeling analysis was complete prior to the adoption of the guidance referenced above, the revised guidance is not reflected in this analysis.”</p> <p>Based on when this analysis began, this assumption is appropriate. However, it is necessary to qualitatively discuss any new requirements in the AQTSD and indicate how they would change the emission assumptions as equipment is installed. A new source will have to comply with any new requirements and if these requirements result in more stringent emission controls than were assumed in this analysis, reductions in projected emissions levels would occur. Not including these into the emission inventory development and subsequent analysis, will lead to conservative (overstating emissions and impacts) analyses. The decision maker and the public should be aware of such additional conservatism that is included in this analysis.</p>	
15	22	A4	Emissions, Project	<p>Page 9</p> <p>“2.1.1 Construction Emissions Construction activities are a source of primarily criteria pollutants. Emissions would occur from well pad and resource road construction and traffic, rig-move/drilling and associated traffic, completion/testing and associated traffic, pipeline installation and associated traffic, and wind erosion during construction activities. A timeline illustrating the duration of construction activities for a single well is provided in Figure 2.1. Up to 3,100 natural gas wells may be developed; however, a lesser number of developed wells are considered under two alternatives. Regardless of total wells developed, three separate WDRs were examined in this emissions</p>	<p>This statement is amended in the AQTSD. Construction emissions are specific only to the level of construction occurring at any single point in time, not to the volume of activities that have come before. For the purpose of analysis, an estimated maximum construction volume is assumed (i.e., 20 simultaneous wells being developed). This is a reasonable but conservative assumption (i.e., the assumption likely overestimates emissions).</p> <p>Emissions by year are now presented in the AQTSD and these include VOC emissions adjusted for field production decline curves.</p>

**Table III-B. Substantive Comments on JIDP Air Quality Issues (cont'd)**

Submittal ID	Comment Number	Comment Category	Keyword	Comment Text	Response
				<p>inventory: 75, 150, and 250 wells developed per year. Well pad and resource road emissions would include fugitive PM<sub>10</sub> and PM<sub>2.5</sub> emissions from 1) construction activities and 2) traffic to and from the construction site. Other criteria pollutant emissions would occur from diesel combustion in haul trucks and heavy construction equipment. On resource roads, water would be used for fugitive dust control, effecting a control efficiency of 50%. On collector roads (e.g., Luman. Road) magnesium chloride would be used for dust control, effecting a control efficiency of 85%.”</p> <p>The development of project emission inventories in the manner listed above can be misleading to both the public and decision makers. One problem is that emission totals are presented at the end of the project and the public and decision makers would likely assume that the emission totals would increase instantly. This assumption is incorrect as there would realistically be a gradual increase in emissions over time. The projected emission increase also assumes that there will be no new regulatory initiatives during the lifetime of the project. It is important for BLM to present emission inventories at a minimum of 5-year increments so that the public and decision makers can understand the actual rate of development as well as all of the assumptions associated with development. The AQTSD needs to provide information beyond the assumption of the number of wells that can be drilled each year. Additionally, as part of development over time, changes in emissions of existing sources as a result of well depletion need to be included into the overall emission calculations.</p>	
15	23	A4	Emissions, Project	<p>Page 10</p> <p>“After the pad is prepared, rig-move/drilling would begin. Emissions would include fugitives from unpaved road travel to and from the drilling site and emissions from diesel drilling engines (three total engines). At directionally drilled wells the amount of traffic would increase by 20%, and one additional drilling engine (a total of four engines) would be utilized. Emissions from well completion and testing would include fugitive PM<sub>10</sub></p>	<p>Thank you for your comment.</p> <p>The BLM believes that the data and analyses provided in the EIS and AQTSD are adequate for this impact assessment.</p>

**Table III-B. Substantive Comments on JIDP Air Quality Issues (cont'd)**

Submittal ID	Comment Number	Comment Category	Keyword	Comment Text	Response
				<p>and PM<sub>2.5</sub> emissions from traffic and emissions from diesel haul truck tailpipes. During the completion phase, gas and condensate are both vented to the atmosphere and combusted (flared). Emissions from the venting of natural gas include hazardous air pollutants (HAPs) and VOCs. Flaring emissions from the combustion of natural gas and condensate include NO<sub>x</sub>, CO, VOCs, and HAPs.”</p> <p>A flare is a pollution control and safety device that converts hydrocarbons to CO<sub>2</sub> and water with residual amounts of CO, VOCs and HAPs. NO<sub>x</sub> emissions occur as a result of combustion in the flare and the AQTSD document should reflect these facts.</p>	
15	24	A4	Emissions, Project	<p>Page 11</p> <p>“Pollutant emissions would also occur from pipeline installation activities, including general construction activities, travel to and from the pipeline construction site, and diesel combustion from on-site construction equipment. Fugitive dust (PM<sub>10</sub> and PM<sub>2.5</sub>) would occur during well pad, road, and pipeline construction due to wind erosion on disturbed areas. A summary of single-well construction emissions for both straight and directionally drilled wells are shown in Table 2.1. Construction emission calculations are provided in detail, showing all emission factors, input parameters, and assumptions, in Appendix B (Project Emissions Inventory).”</p> <p>The emissions presented in Table 2.1 are confusing and misleading. Table 2.1 indicates that NO<sub>x</sub> emissions from construction are responsible for 12.23 pounds of NO<sub>x</sub> per hour, a result of scraper, motor grader and dozer operations. In Table 2.1 the unit of measure is presented as pounds per hour while in Table B.1.4 the unit of measure is listed as pounds per hour per well. It is assumed that these are the same unit of measure. The problem is that these emission sources only operate 10 hours per day and therefore the 12.23 pounds per hour only occurs for a portion of a day. Table 2.1 should present an additional column indicating pounds per day so that the reader</p>	<p>A footnote to the lb/hr unit columns in AQTSD Table 2.1 has been added to indicate that “This emission rate persists less than 24 hours per day; please see Appendix B for emission calculation basis.”</p> <p>The existing footnotes to AQTSD Table 2.1 which explain that the emission shown reflects the sum of multiple activities have been modified to include the phrase “; these activities are assumed to occur simultaneously over the operating period.”</p> <p>Emission totals in lb/hr are not meaningful in this context and have been removed.</p> <p>Emissions occurring less than 24 hours per day were modeled over the actual daytime period during which they would occur. Diurnal emissions scalars were utilized to effectively “turn on” emissions during periods of activity. Modeled emission rates in g/sec were input to ensure that operating hours x hourly emission rates = total daily emissions for each activity. The use of diurnal factors is briefly discussed in Section 3.3 of the modeling protocol (AQTSD Appendix A).</p>

**Table III-B. Substantive Comments on JIDP Air Quality Issues (cont'd)**

Submittal ID	Comment Number	Comment Category	Keyword	Comment Text	Response
				<p>understands that these emissions are not continuous. It is further assumed in these calculations that all three pieces of equipment operate simultaneously over this 10-hour period. If true, this assumption should be stated in the document.</p> <p>The columns in Table 2.1 and Table B.1.4 should include the time period that reflects average well development in the calculations of emissions per well. Presenting emissions without a corresponding time period associated with them is meaningless because it is impossible to relate such units of measure into air quality impacts. Also, emissions units of measure should be consistent between Appendix B and Table 2.1.</p> <p>The emission totals presented in Table 2.1 are also misleading. The assumption that the reader makes is that the pounds per hour emissions listed in the table are truly additive. In reality, construction, rig moving and drilling, completion and testing and pipeline construction are activities that do not occur at the same time. Thus, one could not go to a well construction site and measure emissions of this magnitude. The total column should be modified (or be footnoted) so that the total indicates the maximum short-term emissions that could occur. This value should then be used in any air quality impact analysis.</p> <p>The major issue with these calculations is how they are incorporated into the dispersion modeling. The construction sources do not operate 24 hours a day and only operate at a given location for a finite amount of time. Therefore, it is difficult to realistically describe them in air quality modeling. The AQTSD does not provide information on how this was done. As a result, detailed comments could not be prepared regarding this point. It is recommended that BLM provide detailed calculations regarding how temporary sources were incorporated into the air quality modeling.</p>	
15	25	A4	Emissions, Project	<p>Page 11</p> <p>"2.1.2 Production Emissions</p>	<p>Because stack test data was available for each of three types of heaters, type-specific data for each was utilized in the emissions inventory.</p>

**Table III-B. Substantive Comments on JIDP Air Quality Issues (cont'd)**

Submittal ID	Comment Number	Comment Category	Keyword	Comment Text	Response
				<p>Heaters required at each well site include an indirect heater, a dehydrator reboiler heater, and a separator heater. Stack testing was performed for NO<sub>x</sub> and CO on these heaters by Operators in 2003 to obtain an accurate estimate of these emissions from these sources. These stack test emissions were used throughout this air quality analysis. Heater emissions for all other pollutants were calculated using AP-42.”</p> <p>Since a dehydration reboiler heater and a separator heater have approximately the same heat capacity (MMBtu/hr), the stack test data used for the reboiler emissions should be applicable to all heaters of this general size.</p> <p>Chapter 2 of the AQTSD does not make any mention of installation of new compressor engines as a part of the proposed action. Later in the document, tables for new compressor sites are presented without justification. The addition of new compressor engines for this project is very confusing and needs to be clarified in the AQTSD.</p>	<p>Although the JIDP did not propose additional compression, air quality stakeholders expressed concern that expanded compression requirements beyond those documented by RFD, RFFA, or permitted sources, would result from development of the JIDP. At stakeholder request, estimates of future compression needs were requested from several operators of compressor facilities within Sublette County, and estimated additional compression was analyzed. More information is now provided on this issue in AQTSD Section 4.2 to clarify why these sources were included.</p>
15	26	A4	Emissions, Project	<p>Page 13</p> <p>“HAPs and VOC emissions would occur from fugitive equipment leaks (i.e., valves, flanges, connections, pump seals, and opened lines). Condensate storage tank flashing and glycol dehydrator still vent flashing emissions also would include VOC/HAP emissions. Emissions from these sources were provided by Operators.”</p> <p>The AQTSD should provide the basis used to estimate dehydrator still vent emissions and condensate flashing losses.</p> <p>Also, for a “typical” well, information should be presented on how emissions change over time. After 1 year flashing uncontrolled emissions would be approximately 20 percent of the initial rate and after 5 years flashing losses from condensate storage would be approximately 10 percent of the initial emission rate. Such changes in emissions are important. when</p>	<p>Condensate storage tank flashing emissions were calculated by LeSair Environmental contracted by EnCana. Glycol dehydrator still vent flashing emissions were calculated by and provided by LeSair Environmental contracted by EnCana.</p> <p>A discussion regarding the decline in flashing emissions over the life of a well is now included in the AQTSD.</p>

**Table III-B. Substantive Comments on JIDP Air Quality Issues (cont'd)**

Submittal ID	Comment Number	Comment Category	Keyword	Comment Text	Response
				attempting to estimate total project emissions, and BLM needs to incorporate the effect of decline in production into the AQTSD. In addition WDEQ requires BACT evaluations for each new source.	
15	27	A4	Emissions, Project	<p>Page 13</p> <p>“Total production emissions of criteria pollutants and HAPs occurring from a single well are presented in Table 2.2. Production emission calculations are provided in detail, in Appendix B, showing all emission factors, input parameters, and assumptions.”</p> <p>It is unclear how the 4.7 lbs/1000 scf was derived and a gas composition analysis should be presented so that the density of the gas can be determined and this emission factor can be checked. Given that the typical composition of gas is approximately 97.5 percent methane and ethane (non VOC compounds) and would likely contain some water as well as other inorganic compounds, the calculated emission rate for gas (not including condensate) seems unrealistically large. Also, it is physically impossible to be venting pure gas and not have any condensate associated with the vent stream. It is recommended that additional documentation be provided on this calculation.</p> <p>In Table B.1.12 it is assumed that the flare has a destruction efficiency of 50 percent. This assumption is inconsistent with current literature on flare destruction efficiency. Currently, WDEQ assumes that flares for condensate flashing reduce VOC emissions by 98 percent. The AQTSD is contradictory regarding what type of device is used during well completions. In Chapter 2 it specifies a flare stack and in Chapter 4 it specifies a flare pit. The difference in removal efficiency between a stack and a pit are considerable. BLM needs to provide clarification on this point.</p>	<p>The 4.7 lbs/1000 scf was calculated based on a composite gas analysis from 7 representative area wells. This composite analysis was used in place of a “raw” gas analysis from a well in the completion stage because of the unavailability of such data. The composite gas analysis is now referenced and included in AQTSD Appendix B.</p> <p>The 50% destruction efficiency was assumed as a conservative estimate for pit flares for the completion analysis given the unknown constituents of the gas mixture.</p>
15	28	A4	Emissions, Project	<p>Table 2.2 and Appendix B are unclear regarding how the total for VOC emissions during the production phase was calculated (18.59 tpy).</p> <p>The following presents our attempt to replicate the VOC estimates contained in the AQTSD:</p>	<p>Footnote 2 of AQTSD Table 2.2 now indicates that condensate storage tank emissions assume 50% are controlled and 50% are uncontrolled. Breakdown of emissions is:</p> <p>Dehydration Unit: <span style="float: right;">9.89 tpy</span></p>

**Table III-B. Substantive Comments on JIDP Air Quality Issues (cont'd)**

Submittal ID	Comment Number	Comment Category	Keyword	Comment Text	Response
				<p>As indicated in Table 2.2 and Appendix B, the significant VOC emission sources for a well are dehydration emissions, process fugitives, and condensate flashing. The Appendix B uncontrolled VOC emissions from the dehydration still vent are 12.8 tpy and controlled emissions are 1.2 tpy. It was assumed that 75 percent of the dehydration units would have a pump limit and 25 percent would have benzene, toluene, ethylbenzen and xylene (BTEX) controls.</p> <p>Based on this information, the following average dehydration emissions could be calculated: Emissions (tpy)= (12.8*.75)+(1.2*.25) = 9.9 tpy.</p> <p>Appendix B presents VOC emissions from process fugitives account for 0.24 tpy.</p> <p>Table B.2.8 presents VOC emissions from condensate flashing from storage tanks. The table is not clear regarding the actual emissions nor what percentage of the tanks would have emission controls for VOCs. The table indicates that emissions from condensate flashing are 98 percent controlled, but the table does not provide any estimate of controlled VOC emissions. Assuming that uncontrolled emissions from flashing are 15.9 tpy and controls are 98 percent effective, then controlled emissions would be: 15.9 tpy * (1-98/100) = .32 tpy/well</p> <p>If the various VOC emission sources are totaled:</p> <p>Dehydration unit = 9.6 tpy            Process fugitives = 0.24 tpy            Condensate flashing = 0.32 tpy            Total = 10.16 tpy            This total does not equal the 18.6 tpy per well that is indicated in Table 2.2.</p> <p>Also, the assumptions regarding the application of emission controls on dehydration units and condensate flashing losses are very unclear. For example, uncontrolled dehydration unit emissions are assumed to be 12.8 tpy and for these units emissions would be</p>	<p>Indirect Heater: 0.004 tpy            Sep. Heater: 0.00022 tpy            Dehy Heater: 0.0017 tpy            Fugitives: 0.243 tpy            Cond. Tanks: (.5(1.0)+.5(15.9)) = 8.45 tpy</p> <p>Total: 18.59 tpy</p>

**Table III-B. Substantive Comments on JIDP Air Quality Issues (cont'd)**

Submittal ID	Comment Number	Comment Category	Keyword	Comment Text	Response
				<p>controlled by an enforceable pump limit. It was further assumed that 25 percent of the dehydration units would have emission controls of 90 percent removal based on uncontrolled emissions of 12.8 tpy. These assumptions are physically inconsistent.</p> <p>It is recommended that BLM revise the AQTSD for production emissions in detail so that the reader can reproduce the calculations. Also, additional information is needed regarding the assumptions used in making such calculations.</p>	
15	29	A4	Emissions, Project	<p>Page 14</p> <p>“2.1.3 Total Field Emissions Annual emissions in the JIDPA under the Proposed Action and each alternative at WDRs of 75, 150, and 250 are shown in Table 2.3. Emissions assume construction and production occurring simultaneously in the field and include one year of maximum construction emissions plus one year of production at maximum emission rates. Construction emissions were based on well construction, drilling, drilling traffic, completion traffic, and completion flaring. Well construction emissions were based on the number of wells constructed per year and the type of well constructed. Drilling, drilling traffic, completion traffic, and completion flaring were based on the number of wells developed per year. Completion flaring operations were assumed to occur at 20% of the wells under construction. For alternatives with both directional and straight wells, a proportional split between straight and directional wells was used to determine the number of straight and directional drilling rigs. Production emissions were calculated based on the total number of producing wells in the field. Total producing wells were equal to the difference in number of wells proposed and the number of wells constructed per year.”</p> <p>There are a number of assumptions associated with Table 2.3 that need to be identified. First, emissions portrayed represent emissions at the time of the last year of development and assume that there are no new air quality regulations that would require additional</p>	<p>This statement is amended in the AQTSD.</p> <p>See comment 15-22, above.</p>

**Table III-B. Substantive Comments on JIDP Air Quality Issues (cont'd)**

Submittal ID	Comment Number	Comment Category	Keyword	Comment Text	Response
				<p>controls. Given the current regulatory environment, this is very unlikely. Second, Table 2.3 emission estimates also assume that the current level of air pollution control technology remains unchanged. Again, since BACT for minor sources is a technology forcing regulation, it is unlikely that this assumption is true. While it is impossible to quantify how these first two assumptions will change over time, it is important to state in the AQTSD these assumptions are not likely to be valid over the lifetime of the project. In reality, at the end of development, actual emissions will be less than what is listed in Table 2.3. Third, it is assumed that there is no retirement of existing sources. The AQTSD needs to provide a schedule on installation and retirement of wells as they are depleted. This needs to be done on an annual basis and the retirement and production decline from existing wells needs to be factored into the cumulative emissions. Table 2.3 presents estimates of total wells and producing wells. For the case of the proposed alternative, total wells drilled is listed at 3,100 and producing wells at 2,850. It is not stated if the difference is due to depletion, dry holes or other factors. Fourth, it is assumed that all production emissions are emitting simultaneously. All of these assumptions are quite conservative (representing an unrealistic upper bound of emissions) and in all likelihood actual emissions will be less.</p> <p>These emission estimates represent an unrealistic estimate of growth in emissions. The impression that one is left with regarding these emissions is that once the ROD is issued, emissions will reach these projected levels within a short period of time. In reality, this projected growth represents an upper bound that will be reached at the end of development assuming that the assumptions outlined above are met.</p>	
15	30	A4	Emissions, Project	<p>The emission totals presented in Table 2.3 are confusing. Table 2.3 for the Proposed Action Annual Development Rate of 250 wells per year results in construction VOC emissions of 3,154 tpy. It is unclear how this number was derived and BLM needs to provide detailed calculations on this value. This calculation should present emission source. the number</p>	<p>The 3,154 tpy number in AQTSD Table 2.3 is incorrect. The correct number is approximately 2,956 tpy. Emissions totals as well as the footnotes explaining the calculation methods have been revised in the AQTSD to provide consistency between AQTSD Tables 2.1 and 2.3.</p>

**Table III-B. Substantive Comments on JIDP Air Quality Issues (cont'd)**

Submittal ID	Comment Number	Comment Category	Keyword	Comment Text	Response
				of hours per year of operation and how annual emissions were calculated. This should be presented for a single well and then expanded to annual development. It is important to note that VOC emissions in Table 2.1 do not appear to be consistent with VOC emissions in Table 2.3.	
15	31	A4	Emissions, Project	Other concerns are that in Table B.1.11 venting of new wells equates to 1,957 pounds of VOCs per hour and persists for 4 hours and flaring results equates to 978 pounds of VOCs per hour and persists for 80 hours. These two events cannot occur simultaneously and it is difficult from the documentation to determine how the annual value was arrived at. What is important from an air quality perspective is the short-term emission rate, not necessarily the annual rate.	In Table B.1.12, emissions are calculated based on 40 hours of pre-ignition flow-back of which, approximately 10% or 4 hours are vented. After this period, it is assumed that 80 hours of flaring will occur per well. Therefore they do not take place simultaneously, but consecutively.
15	32	A4	Emissions, Project	It is recommended that the AQTSD clearly specify the assumptions that have been made in making projected emissions. Also, it is recommended that emission estimates be made for intermediate years as well as the estimates for final development. Estimates of phased development will provide a more realistic indicator for actual development as well as providing a reference against which projected impacts from development can be evaluated.	Every attempt was made to include all emissions calculation assumptions in the emission calculation tables in AQTSD Appendix B. Where omissions have been identified, calculation assumptions have been added.  A discussion is now included in the AQTSD emissions section explaining how emissions would vary with estimates of phased field development. Alternative B identifies a development rate of 75 wells per year, thereby providing and assessment under a reduced/phased development pace.
15	33	A4	Emissions, Regional	Page 14  "2.2 REGIONAL EMISSIONS INVENTORY The developed portions of these projects were assumed to be either included in monitored ambient background or included in the state-permitted source inventory. The undeveloped portions of projects proposed under NEPA were classified as RFD. In accordance with definitions agreed upon by BLM, EPA, WDEQ-AQD and USDA Forest Service for use in EIS projects, RFD was defined as 1) the NEPA-authorized but not yet developed portions of Wyoming NEPA projects and 2) not yet authorized NEPA projects for which air quality analyses were in progress and for which emissions had been quantified."	The IMPROVE data are shown graphically, and indicate no significant increasing trend. Improve data can be reviewed at: <a href="http://vista.cira.colostate.edu/improve/">http://vista.cira.colostate.edu/improve/</a> .  The AQTSD presents both visual range and nitrate concentrations; however, since nitrate concentration is only one of many factors affecting visibility, they are not presented together in the analysis.  The monitoring data present annual averages, and so represent impacts (to varying degrees) of all emissions sources.

**Table III-B. Substantive Comments on JIDP Air Quality Issues (cont'd)**

Submittal ID	Comment Number	Comment Category	Keyword	Comment Text	Response
				<p>The assumptions relating to the development of the emission inventory in relationship to the IMPROVE monitoring data are not clearly stated. The basis for this approach should be that there has not been a significant change in measured air quality in the Class I Area over time. This point is not discussed in the AQTSD. The IMPROVE data should be analyzed in terms of trends for total visual range as well as nitrate concentrations. As part of the trend data, uncertainty bounds should be placed on the data. For any trend to be significant, the change in the monitoring data must be greater than the uncertainty in the monitoring data. While this modeling approach could still be used in situations where there has been a significant change in measured visual range, it would require additional justification.</p> <p>Also, as part of the emission inventory analysis, a table should be created regarding what emission sources were operational and included in the impacts measured by the monitoring data. This list should include operational wells, minor sources, major sources, and temporary sources (drilling rigs). There appears to be some confusion regarding what types of source impacts are included in the monitoring data versus modeling potential impacts of sources that were not operational during the monitoring record. A table of sources that were operational during the monitoring record would assist the public and the decision maker in evaluating the adequacy of the analysis and the level of conservatism in the results. It would also be useful to compare the emission totals reflected in the IMPROVE monitoring data relative to visibility to the emission totals used in the CALPUFF model and the predicted changes in visibility. This comparison would qualitatively indicate the level of conservatism in the modeling.</p>	<p>It is not appropriate to compare statistical errors of the monitoring data with the modeling results. There are many possible measures of error bars, and their inclusion can be misinterpreted.</p> <p>The BLM believes that the data and analyses provided in the EIS and AQTSD are adequate for this impact assessment.</p>
15	34	A4	Emissions, Regional	<p>Page 22</p> <p>“Map 2.1 shows the regional inventory area with NEPA project areas, and a summary of the regional inventory is shown in Table 2.4. Values presented in Table 2.4</p>	<p>The BLM consulted with an interagency air quality team including the USFS, WDEQ, EPA, and NPS to develop the air quality modeling methodology. It was the intent of this team to avoid the potential double counting of emissions.</p>

**Table III-B. Substantive Comments on JIDP Air Quality Issues (cont'd)**

Submittal ID	Comment Number	Comment Category	Keyword	Comment Text	Response
				<p>represent the change in emissions between the inventory start-date (January 1, 2001) and the inventory end-date (June 30, 2003). The regional inventory including methodologies used to compile the regional source emissions are provided in Appendix C and include a description of the data collected, the period of record for the data collected, inclusion and exclusion methodology, stack parameter processing methods, and the state-specific methodologies required due to significant differences in the content and completeness of data obtained from each state.”</p> <p>There is potential double counting of emissions in Table 2.4 between and previous NEPA RFD sources. BLM needs to provide documentation that this has not occurred.</p>	<p>AQTSD Appendix C, Sections C.1 through C.4 provide specific detail on the methodologies used for including/excluding inventoried emissions to ensure an accurate representation of conditions while avoiding double counting.</p> <p>The BLM believes that the data and analyses provided in the EIS and AQTSD are adequate for this impact assessment.</p>
15	35	A4	Emissions, Regional	<p>Page C-2</p> <p>“Appendix C C.1 STATE AGENCY-PERMITTED INDUSTRIAL SOURCE INVENTORY C.1.1 State Air Quality Regulatory Authority</p> <p>Select stack parameters using the following hierarchy:</p> <ul style="list-style-type: none"> <li>- Select stack with greatest “M” value using SCREEN method outlined in “Screening Procedures for Estimating the Air Quality Impact of Stationary Sources, Revised”, EPA-454/R-92-019.</li> <li>- Review “M” values and, if they are not representative of the overall facility, use stack parameters from the single point exhibiting the highest emission rate.</li> <li>- If stack parameters are still not representative, select worst-case parameters based on the potential for maximum long-range impacts (i.e., high temperature, stack height, exit velocity).</li> <li>- If no stack parameters are available, determine the SIC code for the facility and substitute the stack parameters given for that SIC code in the EPA SIC code source parameter guidance. If a single stack</li> </ul>	<p>Stack parameters for individual emissions sources were obtained from permit applications or dispersion modeling files provided by state permitting agencies. This stack data then followed the procedures at left. If no individual stack data was available, SIC or generic parameters were used.</p>

**Table III-B. Substantive Comments on JIDP Air Quality Issues (cont'd)**

Submittal ID	Comment Number	Comment Category	Keyword	Comment Text	Response
				<p>parameter value is missing and the SIC code is known, the single value is substituted from SIC code stack parameter guidance when reasonable.</p> <p>- If the SIC code is not known, or if no representative SIC code values are found, use generic stack parameters of 15-m height, 422° Kelvin temperature, 0.31-m exit diameter, and 10.0-m per second (m/s) exit velocity. If a single parameter is missing from any source for which no SIC code is known or available, the single generic parameter is substituted.”</p> <p>In performing the modeling, a hierarchy for addressing missing stack parameters in the state inventories was created. This was necessary to perform the air quality modeling. It would be desirable for BLM to indicate in the emission inventory tables how the stack parameters were derived for individual sources in the modeling.</p>	
15	36	A4	Emissions, Regional	<p>Page C-3</p> <p>“C.1.2 Natural Gas and Oil Well Agency-permitted Sources                      Natural gas and oil well data were gathered by obtaining from state oil and gas permitting agencies total production by county for the years 2000 and 2002. Production rates for the first two quarters of 2003 were requested but not yet available for any state at the time the inventory was completed. Production rates for 2000 were subtracted from production rates from the most recent available annual period (2002). An average emission rate per unit natural gas well of 0.045 tpy NO<sub>x</sub> was used based on Jonah Field well equipment emissions monitoring performed by EnCana in July 2003. An average emission rate for oil wells of 0.3 tpy NO<sub>x</sub> was obtained from WDEQ-AQD. These representative emission rates were applied to calculate total NO<sub>x</sub> emissions per county. PM<sub>10</sub>, PM<sub>2.5</sub>, and SO<sub>2</sub> emissions were assumed to be negligible. All states inventoried, with the exception of Idaho, had operational oil and gas wells. Colorado had no change in the number of operational oil and gas wells within the inventory period.</p>	<p>Total number of wells included in emission totals are now included in AQTSD Appendix C Table C.9. Magnitude and location of state-permitted wells by county can be examined by referencing the total emissions in Table C.9 and AQTSD Figure 4.6 which shows the modeled source idealization of oil and gas well area sources.</p>

**Table III-B. Substantive Comments on JIDP Air Quality Issues (cont'd)**

Submittal ID	Comment Number	Comment Category	Keyword	Comment Text	Response
				<p>All Utah and Wyoming oil and gas agency-permitted well data are included in Table C.9. No table is shown for Idaho or Colorado because the net change is zero.”</p> <p>Table C.9 should present the data on the number of operational gas and oil wells for the years considered. This information would provide data so that one can place these emissions in perspective. The emission rates may vary between oil and gas wells. It would also be very useful to plot these emission estimates on a map to indicate the magnitude and location of emissions in relationship to Class I Areas.</p>	
15	37	A4	Emissions, Regional	<p>Page C-3</p> <p>C.1.3 Jonah Field Well Permitted Post-inventory Start-Date            “Emissions from 198 wells permitted following inventory baseline date are summarized in Table C.10.”</p> <p>The purpose of Table C. 10 is not clear. It is assumed that the 198 wells were installed during the period of January 1, 2001 through June 30, 2003 and that these emissions are not reflected in the WDEQ permit files (because individual well emissions are below permit thresholds). The document should clarify how Table C. 10 was developed and how it was used in the air quality analysis. It is important to document how many Jonah Field wells and drilling rigs were operational during the period of the baseline monitoring data.</p>	<p>The WOGCC inventories considered well activity through 2002, and these inventories were used to determine the amount of RFD for oil and gas projects that was operating before a baseline year of 2002. An additional query of WOGCC files was performed in early 2004 which indicated that 198 wells were completed in the Jonah Field after 2002. These wells were considered in the modeling since they were developed after the baseline date.</p>
15	38	A4	Emissions, Regional	<p>Page C-3</p> <p>C.1.4 State-specific Methodologies            “Colorado A list of permitted facilities within the inventory area was requested. Permitted and actual emissions for the most recent reporting year were provided in electronic format by Colorado Department of Public Health and Environment (CDPHE). A manual file search was performed to determine the change in emissions for each modification. If a facility had both an initial and a final permit and there were differences between the initial and final permit limits, the differences were documented as a permitted emissions change. Permits with “.CN” suffixes are cancelled. “.XP”</p>	<p>A list of all permit actions within the inventory area, regardless of permit date, was provided by CDPHE. Permits issued within the inventory period were requested and these permits were obtained from CDPHE for review. A manual file search was also performed to determine emissions change. All modifications to Craig or Hayden were found to be related to PM<sub>10</sub> emissions from material handling/ fugitive dust, etc. All but one modification (01MF0003) were excluded. No modifications were related to reductions in SO<sub>2</sub> or NO<sub>x</sub>. If these reductions were a result of enforceable permit actions, it is not known why they were not included in CDPHE</p>

**Table III-B. Substantive Comments on JIDP Air Quality Issues (cont'd)**

Submittal ID	Comment Number	Comment Category	Keyword	Comment Text	Response
				<p>indicates permit exempt, ".XA" indicates both Air Pollutant Emission Notice (APEN) and permit exempt, ".GF" indicates grandfathered and all permits with these extensions were excluded from inventory. "F" indicates fugitive source. Because no start-up dates were included in the files, and because of Colorado's procedures for initial and final permit issuance, all permits issued through June 30, 2003 were conservatively assumed to be operational as of June 30, 2003. Colorado included state-permitted sources are shown in Table C.1 and Colorado excluded state-permitted sources are shown in Table C.2."</p> <p>For Colorado sources, it is appropriate to include the emission reductions for SO<sub>2</sub> and NO<sub>x</sub> that have occurred at the Craig and Hayden Power Plants during the time period January 1, 2001 through June 30, 2003. The SO<sub>2</sub> and NO<sub>x</sub> emission reductions are substantial at both facilities and are a result of new control equipment that has been installed as a result of a court settlement and consequently these reductions are enforceable by both the State of Colorado and EPA. Therefore, these reductions should be included in the Jonah modeling. As indicated in Table C. 1, the Craig facility resulted in a slight increase in PM emissions during this time period of concern.</p> <p>In Table C.2 any source that had a permit canceled during the time period of the modeling inventory should be accounted in the modeling as a negative emission rate and a credit given in the impact analysis provided it was shut down during the period January 1, 2001 through June 30, 2003. Again, since these permits have been canceled, the emission reductions are federally enforceable. It appears that there are 25 Colorado sources that are in the "canceled permit" category.</p>	<p>database query results.</p> <p>It was found that sources with canceled permits commonly had never operated. As a result, the methodology to exclude all canceled permits was proposed and approved by stakeholders.</p>
15	39	A4	Emissions, Regional	<p>Page C-4</p> <p>Idaho "A list of permitted facilities within the inventory area was requested, and Idaho Department of Environmental Quality (IDEQ) provided facility</p>	<p>Several table titles were missing following conversion of documents to Adobe Acrobat Reader format. This problem has been fixed in the AQTSD.</p> <p>In accordance with inventory methodology</p>

**Table III-B. Substantive Comments on JIDP Air Quality Issues (cont'd)**

Submittal ID	Comment Number	Comment Category	Keyword	Comment Text	Response
				<p>numbers, names, and locations. Permit files for all facilities listed were reviewed on-site at the IDEQ offices in Boise to obtain necessary data.</p> <p>No actual emissions were available in the files. All permitted facilities were assumed operational and stack exit parameters were obtained from files when available. Idaho included state-permitted sources are shown in Table C.3 and Idaho excluded state-permitted sources are shown in Table C.4."</p> <p>Table C.3 needs to have a title. In Table C.4 any facilities that have been closed or facilities that have undergone a reduction at a PSD minor source that have occurred during the time period of January 1, 2001 through June 30, 2003 should be included in the modeling as a reduction. Again, these reductions appear to be permanent and are federally enforceable. It appears that four facilities are in this category.</p>	<p>approved by agency stakeholders, PSD minor source emission reductions were not inventoried.</p> <p>It was found that sources with canceled permits commonly had never operated. As a result, the methodology to exclude all canceled permits was proposed and approved by stakeholders.</p>
15	40	A4	Emissions, Regional	<p>Page C-4</p> <p>Utah                      "Actual emissions were provided by UDAQ for 2000 and 2002, and change in actual emissions for the inventory period was assumed to be the difference between these values. No actuals reported in either 2000 or 2002 were assumed to indicate no emissions change. Because UDAQ does not track start-up dates electronically, and no physical file search was required for any other reason, all permitted sources were assumed operational. Utah included state-permitted sources are shown in Table C.5 and Utah excluded state-permitted sources are shown in Table C.6."</p> <p>In Table C.6 any facilities that have undergone a reduction at a PSD minor source that occurred during the time period of January 1, 2001 through June 30, 2003 should be included in the modeling as a reduction. Again, these reductions appear to be permanent and are federally enforceable. It appears that there are 14 facilities in this category.</p> <p>Also, the increase in NO<sub>x</sub> emissions in Utah for the</p>	<p>In accordance with inventory methodology approved by agency stakeholders, PSD minor source emission reductions were not inventoried.</p> <p>It was found that sources with canceled permits commonly had never operated. As a result, the methodology to exclude all canceled permits was proposed and approved by stakeholders.</p> <p>The Holcim Plant (Devil's Slide facility) is a cement plant which listed a PTE of 1,825 tpy NO<sub>x</sub>. The reported NO<sub>x</sub> emissions increase was verified in inventory records.</p>

**Table III-B. Substantive Comments on JIDP Air Quality Issues (cont'd)**

Submittal ID	Comment Number	Comment Category	Keyword	Comment Text	Response
				<p>period January 1, 2001 through June 30, 2003 is considerably higher than for other states. A large fraction of this increase is attributable to several sources. For example, the Holoim Plant had an emission increase of 825 tpy for NO<sub>x</sub>. This source does not have any increase listed for other pollutants and the conclusion can be drawn that this must be a natural gas fired source. It is difficult to believe that this level of emissions represents BACT under PSD. There are several other sources that have similar large projected emission increases. It is recommended that BLM confirm the large outliers from the Utah inventory that were used in the modeling.</p>	
15	41	A4	Emissions, Regional	<p>Page C-4</p> <p>“Wyoming “A list of permitted facilities within the state of Wyoming was requested from WDEQ-AQD.</p> <p>Permit files for all facilities listed were reviewed on-site at the WDEQ-AQD offices in Cheyenne to obtain necessary data. For any facilities classified as natural gas/coal bed methane (CBM) production sites with emissions increases greater than 3 tpy, the files were reviewed for any combustion equipment and were included if any single piece of combustion equipment emitted more than 2 tpy. All other production sites were assumed to be included in Wyoming Oil and Gas Conservation Commission (WOGCC) production estimates. Actual emissions were provided by WDEQ-AQD in electronic format and were limited to only large facilities for which actual emissions are tracked for fee payment purposes. Years 2000 and 2001 were available, and the change in actual emissions for the inventory period was assumed to be the difference between 2000 and 2001 values. Start-up dates were provided by WDEQ-AQD to determine the operating status of a facility. If a facility had no reported start-up date but the facility permit was issued more than 2 years previous, the facility was assumed operational. A list of facilities permitted less than 2 years prior to the inventory period and reporting no start-up date was provided to WDEQ-AQD to verify start-up date. and</p>	<p>Several table titles were missing following conversion of documents to Adobe Acrobat Reader format. This problem has been fixed in the AQTSD.</p> <p>In accordance with inventory methodology approved by agency stakeholders, PSD minor source emission reductions were not inventoried.</p> <p>It was found that sources with canceled permits commonly had never operated. As a result, the methodology to exclude all canceled permits was proposed and approved by stakeholders.</p>

**Table III-B. Substantive Comments on JIDP Air Quality Issues (cont'd)**

Submittal ID	Comment Number	Comment Category	Keyword	Comment Text	Response
				<p>based on data received from WDEQ-AQD were assumed operational or RFFA. Five permit files were unable to be located by WDEQAQD staff after an extensive search, and therefore were excluded. Stack exit parameters were obtained from files if available. Wyoming included state-permitted sources are shown in Table C.7 and Wyoming excluded state-permitted sources are shown in Table C.8.”</p> <p>Table C.8 needs to have a title. Also, in Table C.8 any facilities that have been closed or facilities that have undergone a reduction at a PSD minor source that have occurred during the time period of January 1, 2001 through June 30, 2003 should be included in the modeling as a reduction. Again, these reductions appear to be permanent and are federally enforceable. There are 110 facilities in this category.</p>	
15	42	A4	Emissions, Regional	<p>Page C-5</p> <p>“C.3 RFD INVENTORY Wyoming RFD within the modeling domain was compiled. In accordance with definitions agreed upon by BLM, EPA, WDEQ-AQD, and USDA Forest Service for use in EIS projects, RFD was defined as 1) the NEPA-authorized but not yet developed portions of Wyoming NEPA projects and 2) not yet authorized NEPA projects for which air quality analyses were in progress and for which emissions had been quantified. A list of known NEPA projects was submitted to each Wyoming BLM Field Office, along with a request for feedback regarding the inclusion of listed projects or presence of any additional unlisted projects. The air quality technical documentation for projects to be inventoried and any available information on development status within each project area were requested, if not already in possession.</p> <p>This information, along with project status data received from the Wyoming State BLM office, provided a basis for the RFD inventory; however, no information on the development status within each field was available from BLM. Therefore, the WOGCC and WDEQ-AQD were consulted to determine permitted wells and permitted compressor engines, respectively.</p>	<p>Compression approved by NEPA but not yet developed within a field was analyzed at BLM approved levels.</p> <p>The BLM believes that the data and analyses provided in the EIS and AQTSD are adequate for this impact assessment.</p>

**Table III-B. Substantive Comments on JIDP Air Quality Issues (cont'd)**

Submittal ID	Comment Number	Comment Category	Keyword	Comment Text	Response
				<p>WOGCC had available well development by BLM project area for the Pinedale and Rawlins Field Offices only. Well development by project area in other field offices was determined by geographically plotting well locations, counting the wells permitted after the project authorization date located within each project area, and using those well counts to determine remaining authorized wells. No compressor development or ancillary facility development data was available for any BLM field office. As a result, compressors and ancillary facilities permitted through WDEQ-AQD were geographically plotted and those associated with a specific project area that were permitted after the project authorization date were subtracted from total authorized compression to determine RFD.</p> <p>Emissions of all available pollutants were summarized by project. Any excluded projects and exclusion reason were documented. A summary of NEPA RFD project emissions are shown in Table C.12.”</p> <p>Additional analyses are required for the RFD emission sources. Table C.12 presents a listing of the EIS sources that were included in the modeling for the RFD source category. Part of what is presented in Table C.12 is the amount of NO<sub>x</sub> emissions remaining under the proposed development and approved under the ROD. It would be very helpful in reviewing Table C.12 to have the date the ROD was issued, the proposed development time for the project, total proposed emissions, and remaining emissions listed under the ROD. From this information it would be possible to estimate what portion of the development has been installed. It has been approximately 10-years since cumulative air quality impact analyses have been conducted in Wyoming and many of these previous EISs were based on a 20-year development. It would be instructive to review the growth assumptions that have been made in these previous EISs. One major concern with cumulative impact analyses is that the public and decision makers assume that the development scenarios are correct and that development is occurring. If these previous RODs are</p>	

**Table III-B. Substantive Comments on JIDP Air Quality Issues (cont'd)**

Submittal ID	Comment Number	Comment Category	Keyword	Comment Text	Response
				<p>reviewed, they can provide insight on the actual rate of oil and gas development. Also, the projects should be reviewed to determine the assumptions that were made regarding emissions. The assumptions should be reviewed and compared to current WDEQ BACT levels. If emission assumptions regarding the level of control have changed, the cumulative emission inventory should be revised. For example, the Moxa Arch EIS assumed that the level of control on compressors was 2 g/hp-hr. Current WDEQ BACT levels for such engines reflect 0.7 g/hp-hr. Because of current WDEQ permit requirements; it would not be possible to install the remaining Moxa Arch compressors at an emission level of 2 g/hp-hr. This would equate to a 65 percent reduction in emissions. Maximum remaining emissions for Moxa Arch listed in Table C.12 are 235 tpy under current WQDEQ BACT requirements and this would be reduced to 82 tons per year. Consequently, maintaining the previous emission level in the current modeling adds unrealistic conservatism to the air quality analysis.</p>	
15	43	A4	Regulatory Compliance & Commitments - Air Quality Standards	<p>Page 28</p> <p>[Re Table 3.2] It is correct that the 8-hour O<sub>3</sub> standard is not enforceable by the State of Wyoming. However, EPA is currently responsible for enforcing this standard and the document should be changed to reflect this.</p>	<p>The footnote regarding enforceability referred to the PM<sub>2.5</sub> WAAQS levels. No comment regarding enforceability of ozone is made in this table.</p>
15	44	A4	Near-Field Modeling	<p>Page 29</p> <p>“3.4.1 PM<sub>10</sub>/PM<sub>2.5</sub>                      Maximum localized PM<sub>10</sub>/PM<sub>2.5</sub> impacts would result from well pad and road construction activities and from wind erosion. Three different approximate well pad sizes are proposed within the range of Project alternatives; 3.8 acres, 7.0 acres, and 10.0 acres. Modeling scenarios were developed for each of these well pad sizes, with each scenario consisting of a well pad and a 2.5-mi resource road using the emissions estimates provided in Section 2.1. Model receptors were placed at 100-m intervals beginning 200 m from the edge of the well pad and road. Flat terrain was assumed for each modeling scenario. Figure 3.2 presents the configurations used to model each well</p>	<p>The parameters chosen for the different modeling scenarios were representative of generic well pad construction, layout, and operation. The BLM believes that the data and analyses provided in the EIS and AQTSD are adequate for this impact assessment.</p>

**Table III-B. Substantive Comments on JIDP Air Quality Issues (cont'd)**

Submittal ID	Comment Number	Comment Category	Keyword	Comment Text	Response
				<p>pad and resource road scenario. Volume sources were used to represent emissions from well pads and roads. Hourly emission rate adjustment factors were applied to limit construction emissions to daytime hours. AERMOD was used to model each scenario 36 times, once at each of 36 10° rotations, to ensure that impacts from all directional layout configurations and meteorological conditions were assessed. Wind erosion emissions were modeled for all hours where the wind speed exceeded a threshold velocity defined by emissions calculations performed using AP-42 Section 13.2.5, Industrial Wind Erosion (EPA 2004).”</p> <p>The above paragraph should be clarified to state that this is a generic representation of typical well site configurations.</p>	
15	45	A4	Near-Field Modeling	<p>Page 31</p> <p>“Table 3.3 presents the maximum modeled PM<sub>10</sub>/PM<sub>2.5</sub> concentrations, for each well pad scenario. When the maximum modeled concentration was added to representative background concentrations, it was demonstrated that PM<sub>10</sub> and PM<sub>2.5</sub> concentrations for all scenarios comply with the WAAQS and NAAQS for PM<sub>10</sub> and proposed standards for PM<sub>2.5</sub>. Emissions associated with temporary construction activities do not consume PSD Increment; therefore, temporary PM<sub>10</sub> emissions from well pad and road construction are excluded from increment consumption analyses.”</p> <p>In addition to presenting information on the maximum predicted concentrations, it is recommended that BLM provide the distance from the edge of the well pad to the location of the maximum predicted concentrations as well as an isopleth plot of predicted concentrations. It is important for the public and decision makers to understand how predicted concentrations change with distance from the source. Also, Table 3.3 should reference the statistical nature to the short-term standards and how this is applicable to temporary sources.</p>	<p>Information is provided in AQTSD Section 3.4.1 regarding particulate matter impacts. Please note that particulate matter impacts are greatest at and immediately adjacent to construction sites. Particulate matter effects drop off rapidly with increased distance from the source as suspended particles settle out of the air.</p>

**Table III-B. Substantive Comments on JIDP Air Quality Issues (cont'd)**

Submittal ID	Comment Number	Comment Category	Keyword	Comment Text	Response
15	46	A4	Near-Field Modeling	<p>Page 40</p> <p>“Four modeling scenarios were developed for modeling short-term (1-hour) HAPs (BTEX, and n-hexane) from well-site fugitive emissions. These scenarios were developed to represent the complete range of well densities proposed for the Proposed Action and alternatives. The scenarios include one-section areas (1 mi<sup>2</sup>), with wells at 5-, 10-, 20-, and 40-acre surface spacing. These modeling scenarios represent well densities of 128, 64, 32, and 16 wells per section, respectively. The purpose of modeling this range of well density was to determine the maximum HAP short-term (1-hour) impacts that could occur within and near the JIDPA. Volume sources were used for modeling the well-site fugitive HAP emissions. The HAP emissions for wells with uncontrolled VOC emissions were used. Flat terrain receptors were spaced evenly and at a maximum distance of 100 m from a well, throughout each section. The source and receptor layouts utilized for the short-term HAP modeling are presented in Figure 3.5.”</p> <p>Because of the previous stated concerns regarding flare efficiency, this modeling needs to be reviewed after finalized emission estimates are developed. In addition to providing the maximum predicted concentration, it is recommended that the AQTSD present an isopleth plot of predicted concentrations. By providing such a plot, the public and the decision makers can understand the spatial nature of these predicted impacts.</p>	<p>All modeled short-term HAPs impacts are predicted to be well below significance thresholds and concerns.</p> <p>The BLM believes that the data and analyses provided in the EIS and AQTSD are adequate for this impact assessment.</p>

**Table III-B. Substantive Comments on JIDP Air Quality Issues (cont'd)**

Submittal ID	Comment Number	Comment Category	Keyword	Comment Text	Response
15	47	A4	Near-Field Modeling	<p>Page 42</p> <p>“For modeling formaldehyde emissions from compressor station sources, an analysis similar to that performed for NO<sub>2</sub> and CO (see Sections 3.4.3 and 3.4.4) was used. Formaldehyde emissions from anticipated future compression expansions at the Bird Canyon, Falcon, Gobblers Knob, Jonah, Luman, and Paradise compressor stations were modeled in combination with emissions from the WDEQ-AQD inventory of existing regional compressor stations. These emissions are provided in Appendix D. Modeled Scenarios 1 and 2 were analyzed as described in Section 3.4. The modeling parameters and receptor grids developed for the NO<sub>x</sub> and CO impacts analyses and the receptor grids at the nearest residential locations along the New Fork River were utilized for modeling formaldehyde impacts. Long-term impacts are reported for the residential receptor locations. The source and receptor layout for modeling formaldehyde impacts is presented in Figure 3.4.”</p> <p>The AQTSD does not provide any information on how formaldehyde emissions were calculated from the increase in the capacity of the compressor engines. It is also not known to what extent Maximum Achievable Control Technology (MACT) or WDEQ BACT regulations were used as a basis for these calculations. The AQTSD needs to provide this information.</p>	<p>Formaldehyde emissions from the increase in capacity of the compressor stations are detailed in AQTSD Appendix B Tables B.2.9-15. Emission factors were taken from previous WDEQ permits for these stations.</p>
15	48	A4	Near-Field Modeling	<p>Page 42</p> <p>“Reference Exposure Levels (RELs) are defined as concentrations at or below which no adverse health effects are expected. Since no RELs are available for ethylbenzene and n-hexane, the available Immediately Dangerous to Life or Health (IDLH) values were used.</p>	<p>Footnotes have been added to AQTSD Table 3.8 indicating whether the level cited is an REL or IDLH.</p> <p>The BLM believes that the data and analyses provided in the EIS and AQTSD are adequate for this analysis.</p>

**Table III-B. Substantive Comments on JIDP Air Quality Issues (cont'd)**

Submittal ID	Comment Number	Comment Category	Keyword	Comment Text	Response
				<p>These REL and IDLH values are determined by the National Institute for Occupational Safety and Health (NIOSH) and were obtained from EPA's Air Toxics Database (EPA 20.02). Modeled short-term HAP concentrations are compared to REL and IDLH values in Table 3.8. As shown in Table 3.8 the maximum predicted short-term HAP impacts within and near the JIDPA would be below the REL or IDLH values under all Project alternatives."</p> <p>Table 3.8 should indicate if the IDLH or the REL was used in evaluating impacts. It is recommended that an isopleth plot be provided for benzene to show how concentration changes with distance from the source.</p>	
15	49	A4	Near-Field Modeling	<p>Page 45</p> <p>"The modeled long-term risk from benzene and formaldehyde are shown in Table 3.10 for both the 3,100-well and 1,250-well scenarios. For each scenario, the maximum predicted formaldehyde concentration representative of cumulative impacts was used. Under the most likely exposure (MLE) scenario, the estimated cancer risk associated with long-term exposure to benzene and formaldehyde is below <math>1 \times 10^{-6}</math> for both 3,100-well and 1,250-well cases, under the maximum exposed individual (MEI) analyses, for each modeling scenario, the incremental risk for formaldehyde is less than <math>1 \times 10^{-6}</math>, and both the incremental risk for benzene and the combined incremental risk fall on the lower end of the cancer risk range of <math>1 \times 10^{-6}</math> to <math>1 \times 10^{-4}</math>."</p> <p>It is recommended that BLM provide an isopleth plot indicating the long-term incremental risk for benzene and formaldehyde for the MEI. It is important for the public and the decision makers to understand the aerial extent of the risk contours.</p>	<p>Modeled long-term HAPs impacts at the nearest residencies are predicted to be below or within acceptable risk ranges. The BLM believes that the data and analyses provided in the EIS and AQTSD are adequate for this impact assessment.</p>
15	50	A4	Near-Field Modeling	<p>Review of Near Field Modeling Files</p> <p>The AERMOD modeling files were reviewed and the following comments have been prepared regarding criteria pollutants and HAP modeling.</p>	<p>Because a full year of ozone data is not yet available within the Jonah Field, ozone concentrations from this area, which has become more industrialized, are unknown. As a result, the applicability of the 0.75 multiplier for conversion from <math>\text{NO}_x</math> to <math>\text{NO}_2</math> is unknown.</p>

**Table III-B. Substantive Comments on JIDP Air Quality Issues (cont'd)**

Submittal ID	Comment Number	Comment Category	Keyword	Comment Text	Response
				<p>NO<sub>2</sub> Modeling</p> <p>First, the conversion of NO into NO<sub>2</sub> was assumed by the EPA default NO to NO<sub>2</sub> conversion factor of 0.75. This factor states there is always enough ozone present in the atmosphere for 75 percent of the emitted NO to be converted into NO<sub>2</sub>. In reality, in a rural setting like southwestern Wyoming where ambient ozone is relatively low, the amount of NO<sub>2</sub> would be less than estimated using this default factor. The AQTSD document should identify that this assumption is conservative.</p> <p>Second, Chapter 2 of the AQTSD does not contain any information on increases in compression as a result of new development. Based on a review of the modeling files and information in Chapter 3, it is clear that additional compression would be added. It is recommended that BLM provide information on assumptions related to additional compression.</p> <p>Third, NO<sub>x</sub> emissions related to well operations were modeled as area sources having a grid size of 1 kilometer on a side. It was also assumed that the release height was 5 meters. This type of modeling approach may not be appropriate for receptors that are located within or adjacent to the emission grid square. It is recommended that BLM perform a modeling sensitivity analysis that compares predicted concentrations at distances close to the emission source using both the area and point source algorithms contained in AERMOD. If this sensitivity testing indicates that the well representation in the model using the area source algorithm results in higher predicted concentrations over what the point source algorithm would, it is recommended that BLM state that the model may be overstating impacts close to the point of release.</p> <p>For the NO<sub>x</sub> sources 1448 NO<sub>x</sub>.out AEROMOD listing there are 8 sources that have exit velocities less than 2 meters per second. This seems to be a very low exit velocity and it is recommended that BLM review these source parameters to ensure that they are correct. This review should entail combustion calculations based on</p>	<p>Additional compression estimates (see AQTSD Appendix D) not part of the JIDP but modeled as part of the near-field and far-field analyses were not included in AQTSD Chapter 2 to preserve a separation of project emissions from additional emissions that did not fit categories set forth in the Impact Assessment Protocol (AQTSD Appendix A).</p> <p>The area sources were used to model minor emissions sources, well heater, and traffic emissions. The contribution from these sources to the maximum predicted NO<sub>x</sub> impacts are negligible.</p> <p>The stack parameters that were used for the NO<sub>x</sub> 1448 model run were obtained from WDEQ files. The sources with the low exit velocities are small emissions sources (all 8 total 21 tpy). The contributions from these sources to maximum NO<sub>x</sub> impacts have been reviewed to ensure that these sources do not contribute significantly to the modeled maximum impacts, and adjustments have been made where appropriate.</p> <p>The BLM believes that the data and analyses provided in the EIS and AQTSD are adequate for this impact assessment.</p>

**Table III-B. Substantive Comments on JIDP Air Quality Issues (cont'd)**

Submittal ID	Comment Number	Comment Category	Keyword	Comment Text	Response
				the source heat capacity.	
15	51	A4	Near-Field Modeling	<p><b>Benzene Venting</b>  Comments pertaining to potential benzene impacts from well venting are also applicable to other BTEX species and N-Hexane. There are two release scenarios that could be developed for well venting. The first is the well is allowed to vent from the wellhead. The second release scenario is that the well would be released into a liquid knockout drum.</p> <p>Under the first scenario, the release would be a three-phase release (gas, water, and condensate). The release would also be a high momentum jet where the thermodynamics of the released material are very important. Also, entrainment into a high velocity jet is an important near field dilution mechanism. Simulation of this type of release using AERMOD as a volume source is inappropriate and will likely overstate actual impacts. A model such as AEROPLUME, which is part of the HGSYSTEM suite of models, would be a more appropriate model for simulating this type of release.</p> <p>For the second release scenario where a separator would be used as a point of release, alternative emissions calculations would be required. For this case, the liquid knockout drum would contain the majority of the liquid (condensate and water) and venting emissions would be negligible.</p> <p>In conclusion, for either release case for venting of wells the modeling results are likely to be very conservative because of modeling that is not representative of actual release conditions.</p>	<p>Thank you for your comment. HAPs emissions, as analyzed in the EIS and AQTSD, were not determined to cause or contribute to adverse impacts. The BLM believes that the data and analyses provided in the EIS and AQTSD are adequate for this impact assessment.</p>
15	52	A4	Near-Field Modeling	<p><b>Benzene Flaring</b>  As discussed in the comments regarding emission inventory development, there is confusion regarding what type of device would be used to flare gas during completion and, as a result, there is uncertainty in the estimated flare emissions. Once the flare efficiency calculations are resolved, this modeling needs to be reviewed.</p>	<p>Pit flares were assumed for completion flaring.</p> <p>Flare parameters for modeling were estimated as 5m height, 20 m/s velocity, 1m diameter, and 1,273K temperature.</p> <p>The BLM believes that the data and analyses provided in the EIS and AQTSD are adequate for</p>

**Table III-B. Substantive Comments on JIDP Air Quality Issues (cont'd)**

Submittal ID	Comment Number	Comment Category	Keyword	Comment Text	Response
				<p>In addition to the emission calculations, the pseudo stack parameters used to describe a flare are not documented to determine how much net sensible heat is released from a flare. This is an important parameter since it governs the amount of plume rise the flare would experience. BLM needs to document the amount of sensible heat that would result in plume rise.</p>	<p>this impact assessment.</p>
15	53	A4	Mid-/Far-Field Modeling	<p>Page 48</p> <p>4.0 MID-FIELD AND FAR-FIELD ANALYSES                      “The mid-field analysis assessed direct project and regional source impacts at infield locations within the JIDPA and other mid-field locations defined as Class II areas (regional communities) (see Map 1.2), which include the Wyoming communities of ...”</p> <p>It is recommended that this paragraph be changed to indicate that these towns are PSD Class II Areas and air quality related values protection is not mandated by any Wyoming or Federal requirements.</p>	<p>This statement is amended in the AQTSD.</p> <p>It should be noted that residential areas are PSD Class II. PSD Class II areas are not subject to the National Visibility Goal of no man-made impairment within mandatory federal PSD Class I areas.</p>
15	54	A4	Mid-/Far-Field Modeling - Meteorological Data	<p>Page 49</p> <p>“The CALMET wind fields developed for this analysis follow the CALMET methodologies established as part of the Southwest Wyoming Technical Air Forum (SWWYTAF) for southwest Wyoming, and were further enhanced through the use of additional meteorological datasets and revised CALMET model code.”</p> <p>Determining the accuracy of MM5/CALMET generated wind fields can be very difficult because such simulations utilize all available meteorological data. The accuracy of these simulations is typically judged using data withholding techniques. However, such simulations may have large regions where there is very limited or non-existing meteorological data. An analysis conducted by Blewitt et al. evaluated the accuracy of MM5/CALMET for the Jonah meteorological data. Wind speed, wind direction, and stability class data were extracted from a previous MM5/CALMET analysis for an area of southwest Wyoming where there had been no meteorological data but where a new</p>	<p>Thank you for your comment.</p> <p>As a result the referenced evaluations performed on the SWWYTAF wind fields, an effort was made in this analysis to correct the low wind speeds calculations in CALMET. In addition to using additional surface meteorological data sets and revised model code, the use of the kinematic effects option was selected for CALMET. Tests indicated better model predictions/performance for the surface layer wind speeds.</p>

**Table III-B. Substantive Comments on JIDP Air Quality Issues (cont'd)**

Submittal ID	Comment Number	Comment Category	Keyword	Comment Text	Response
				<p>meteorological tower had been recently installed. The analysis techniques involved comparison of annual frequency distributions. The results of the analysis indicated substantial differences in the frequency distributions between modeled results and actual monitoring data. One of the largest differences was that the MM5/CALMET wind speeds were significantly lower than measured wind speeds. Also, the distribution of stability classes between the model and actual measurements was substantially different. This paper presented this information as well as an analysis indicating the affect of the uncertainty in projected wind speeds and stability classes on predicted concentrations. Accounting for such uncertainty is extremely important in dealing with the overall NO<sub>x</sub> chemistry (i.e., NO<sub>3</sub> formation) because of the change in concentrations as well as transport times.</p>	
15	55	A4	Mid-/Far-Field Modeling - Meteorological Data	<p>The following presents an annual wind rose measured for the Jonah meteorological tower and the extracted CALMET wind rose.</p> <p>There are substantial differences in the actual wind direction measured at Jonah versus what is predicted by CALMET. The observed data indicates a much higher percentage of time when winds were from the W through and NNW than were predicted by the model.</p> <p>Also, the wind speeds measured were much higher than those predicted by CALMET. For example, the measured data indicates that calms were reported less than 1 percent of the time. By contrast, the model indicated that approximately 13 percent of the time calms were reported.</p> <p>As part of the Jonah analysis, a modeling sensitivity analysis was conducted to estimate the effect of the under predicted wind speed by CALMET on various species of oxide of nitrogen. The modeling results were analyzed by examining the ratio of predicted concentration for the revised meteorological data to the CALMET meteorological data. This sensitivity analysis was done for the month of April. As indicated by these results, the local increase in wind speed has an effect</p>	<p>Thank you for your comment. Please see comment 15-54, above.</p> <p>The BLM believes that the data and analyses provided in the EIS and AQTSD are adequate for this impact assessment.</p>

**Table III-B. Substantive Comments on JIDP Air Quality Issues (cont'd)**

Submittal ID	Comment Number	Comment Category	Keyword	Comment Text	Response
				<p>on predicted concentrations. Very close to the source predicted NO<sub>2</sub> levels were about the same for the two sets of meteorological data. At the 50-kilometer arc (125 kilometers from the source), predicted NO<sub>2</sub> concentrations using the new meteorology were about 20 percent higher than those predicted using the CALMET meteorology. At this furthest distance, average second highest predicted concentrations of NO<sub>3</sub> were about 5 percent less than those predicted by the original CALMET meteorology and HNO<sub>3</sub> concentrations were about 20 percent less than those predicted by the original CALMET meteorological data.</p> <p>It is important to note that estimated differences do not represent the maximum difference but are rather a representative sample to illustrate the importance on developing an accurate estimate of wind speed. It should be kept in mind that the Jonah tower is representative of wind speeds over a large area. However, in the modeling the increase in wind speed was very localized and increases in wind speed diminished at locations away from the tower. Thus, the modeling experiment under estimated the effect of wind speeds on predicted concentrations. In addition, the uncertainty in wind direction would likely change predicted impacts in the Class I Area.</p> <p>Based on this previous analysis, it can be concluded that there are very large uncertainties and inaccuracies in the MM5/CALMET data that was used in the Jonah analysis. The uncertainty in wind direction and wind speed have a tendency of over estimating impacts in Class I Areas and the AQTSD needs to reflect this uncertainty.</p>	
15	56	A4	Mid-/Far-Field Modeling	<p>Page 51</p> <p>“The maximum emissions scenarios conservatively assume that both production emissions (producing well sites and operational ancillary equipment including compressor stations) and construction emissions (drilling rigs and pit flaring operations) occur simultaneously throughout the year. Anticipated future compression expansions for the Bird Canyon. Falcon.</p>	<p>The document also uses the terms “completion flaring” and “flaring operations” in the modeling discussion in AQTSD Chapter 3. Although there are various ways to refer to this technology, the reader should be able to understand what aspect of the well completion process is being referred to here.</p>

**Table III-B. Substantive Comments on JIDP Air Quality Issues (cont'd)**

Submittal ID	Comment Number	Comment Category	Keyword	Comment Text	Response
				<p>Jonah, and Luman compressor stations were included in the field-wide emissions scenarios. Future compression in the field was assumed to operate at 90% of fully permitted capacity, which Operators indicated was a reasonable assumption based on field operation expectations. The WDR250 case assumed 20 drilling rigs and 3 pit flares operating continuously throughout the year, WDR150 assumed 12 drilling rigs and 2 pit flares, and WDR75 assumed 6 drilling rigs and 1 pit flare.”</p> <p>This is the first reference to a flare pit. Previously, completion flares have been discussed as a flare stack.</p>	
15	57	A4	Background Concentrations	<p>Page 55</p> <p>“4.4.1 Chemical Species Hourly O<sub>3</sub> data from these stations was used in the CALPUFF modeling, with a default value of 44.7 parts per billion (ppb) (7 a.m.-7 p.m. mean) used for missing hours. A background NH<sub>3</sub> concentration of 1.0 ppb was used as suggested in the IWAQM guidance for arid lands.”</p> <p>The use of the IWAQM NH<sub>3</sub> concentration of 1 ppb is in direct conflict with the modeling analysis that was done for SWWYTAF. One major finding of the SWWYTAF modeling verification analysis was that CALPUFF would not replicate observed NO<sub>3</sub> concentrations in the Bridger Class I Area using the IWAQM default NH<sub>3</sub> concentrations. An extensive analysis of air quality measurements in the region concluded that NO<sub>3</sub> formation was limited by NH<sub>3</sub> concentrations. Once this finding was included in the modeling along with boundary conditions, CALPUFF replicated the observed NO<sub>3</sub> concentrations. In the Jonah EIS analysis, ignoring this finding and using an arbitrary default value adds unnecessary conservatism to the analysis.</p> <p>Modeling sensitivity analysis illustrates the difference in predicted nitrate levels based on assumed background NH<sub>3</sub> concentrations. There was approximately a 60 percent difference in predicted NO<sub>x</sub> concentrations by</p>	<p>The use of 1 ppb ammonia for background was selected for this study during stakeholder protocol review, which included representation from the BLM, WDEQ, EPA, NPS, and USFS.</p> <p>The BLM believes that the data and analyses provided in the EIS and AQTSD are adequate for this impact assessment.</p>

**Table III-B. Substantive Comments on JIDP Air Quality Issues (cont'd)**

Submittal ID	Comment Number	Comment Category	Keyword	Comment Text	Response
				<p>changing the background concentration from 1 ppb to 0.5 ppb. The application of how NH<sub>3</sub> concentrations are used in CALPUFF is very conservative because the model assumes that the NH<sub>3</sub> concentration is uniform between the ground and plume height. In reality, this assumption is not likely to be true and NH<sub>3</sub> concentrations at plume height will be less than those at ground level.</p> <p>The use of 1 ppb background NH<sub>3</sub> is very conservative and the document should indicate that the modeling results are conservative (they over estimate actual impacts) as a result of this assumption.</p>	
15	58	A4	Regulatory Compliance & Commitments - Air Quality Standards	<p>Page 69</p> <p>“4.6.1 Concentration Far-field Results The modeling results indicate that neither direct Project impacts nor cumulative source impacts would exceed any ambient air quality standards (WAAQS and NAAQS) or PSD Increment (see Tables F.I.I-F.4.27). Direct Project NO<sub>2</sub> impacts at the Bridger Class I Wilderness Area are above the proposed PSD Class I significance level of 0.1 µg/m<sup>3</sup> for NO<sub>2</sub>. A direct Project maximum NO<sub>2</sub> concentration of 0.15 µg/m<sup>3</sup> is predicted under Alternative B (see Table F. 1.5). In addition, direct Project impacts of 24-hour PM<sub>10</sub>, concentrations are above the proposed Class I significance level of 0.3 µg/m<sup>3</sup> under each alternative predicted under Alternative B WDR250 (see Table F.3.5).”</p> <p>The AQTSD should define what is meant by a “significant” concentration in this context. A concentration less than the EPA significance level has very little probability of exceeding an applicable air quality standard. Typically, in a situation where a modeled concentration is above a significance level, a more detailed analysis is conducted to demonstrate compliance with applicable standards. As part of the Jonah analysis, a more detailed cumulative analysis was conducted and demonstrated compliance. Therefore, there is no real issue of having predicted concentrations above the EPA significance level.</p>	<p>Air quality impacts significance criteria are provided in the FEIS.</p> <p>Text has been modified in the AQTSD.</p> <p>Stakeholder group members requested comparison of modeled concentrations to PSD Class I SILs.</p>

**Table III-B. Substantive Comments on JIDP Air Quality Issues (cont'd)**

Submittal ID	Comment Number	Comment Category	Keyword	Comment Text	Response
15	59	A4	Mid-/Far-Field Modeling - Visibility	<p>Page 72</p> <p>4.6.4 Visibility                      “Background visibility data monitored at the Bridger Class I Wilderness Area IMPROVE site, an area more pristine than populated residential areas, were used to estimate potential visibility impairment at the regional community locations.”</p> <p>The AQTSD should indicate that this is a conservative approach.</p>	<p>The following sentence has been added to the AQTSD: “Since anthropogenic emissions (traffic, wood stove, furnace etc.) exist in the residential locations its likely that the visibility data measured in Bridger are more pristine and using these data could lead to an overestimate of impacts in the regional towns.”</p>
15	60	A4	Mid-/Far-Field Modeling - Visibility	<p>Pages 74 and 76</p> <p>“Change in atmospheric light extinction relative to background conditions is used to measure regional haze. Analysis thresholds for atmospheric light extinction are set forth in FLAG (2000), with the results reported in percent change in light extinction and change in deciview (dv). The thresholds are defined as 5% and 10% of the reference background visibility or 0.5 and 1.0 dv for Project sources alone and cumulative source impacts, respectively. The BLM considers a 1.0 dv change as a significant adverse impact; however, there are no applicable local, state, tribal, or federal regulatory visibility standards. It is the responsibility of the Federal Land Manager (FLM) or Tribal government responsible for that land to determine when adverse impacts are significant or not, and these may differ from BLM levels for significant adverse impacts (e.g., the USFS considers a 0.5-dv change as a threshold in order to protect visibility in sensitive areas).”</p> <p>While BLM and USFS have established a level of concern regarding source impacts and visibility, it is important for the public and the decision maker to understand the basis for estimating the just noticeable change in visual range as specified by EPA and used in the analysis. The following presents a discussion of those procedures. One basis of the just noticeable change is the NAPAP Report. A review of the information provided in the NAPAP Report indicates that the just noticeable change was based on the Quadratic Detection Model proposed by Carlson and</p>	<p>Thank you for your comment.</p> <p>The BLM believes that the visibility analyses provided in the EIS and AQTSD are adequate for public disclosure and decision-making purposes.</p>

**Table III-B. Substantive Comments on JIDP Air Quality Issues (cont'd)**

Submittal ID	Comment Number	Comment Category	Keyword	Comment Text	Response
				Cohen that was used to predict thresholds of perceived image sharpness in video type image displays. While the theory used for defining a just noticeable change threshold in a video monitor may be applicable to air quality visibility issues, neither EPA nor the NAPAP Report have provided any supporting evidence that the just noticeable change threshold in video monitors is in any way applicable to determining changes in visual ranges in the atmosphere over long sight paths.	
15	61	A4	Mid-/Far-Field Modeling - Visibility	<p>Universal Applicability of Just Noticeable Change Over Long Sight Paths</p> <p>The NAPAP reference raises several important questions regarding the just noticeable change threshold over long sight paths. First, there is no clear definition of what the statement “a change in extinction coefficient of approximately 5% will evoke a just noticeable change in most landscapes” means. Second, it is also unclear how universally applicable this threshold could be over a large range of sight paths. The just noticeable change threshold is dependant on the sight path. This suggests that the establishment of a human perceivable just noticeable change threshold may be dependant on the longest sight path within a Class I Area and that the establishment of a single just noticeable change threshold might not be appropriate and therefore contrary to what EPA has proposed.</p>	<p>Thank you for your comment.</p> <p>The BLM believes that the visibility analyses provided in the EIS and AQTSD are adequate for public disclosure and decision-making purposes.</p>
15	62	A4	Mid-/Far-Field Modeling - Visibility	<p>Deciview Visibility Unit of Measure</p> <p>An additional reference provided regarding a human just noticeable change threshold is an Atmospheric Environment paper written by Pitchford and Malm, which outlines the concept of the deciview visibility unit of measure and in which the authors conclude, based on what appears to be a sensitivity analysis, “From this it seems reasonable to presume that a fractional change in extinction coefficient between 5 and 20 % would produce a just noticeable change in a scene. The use of what appears to be a presumptive sensitivity analysis to develop a just noticeable change threshold is not appropriate. The authors also conclude “a 1 to 2 dv change corresponds to a small, visibility perceptible</p>	<p>Thank you for your comment.</p> <p>The BLM believes that the visibility analyses provided in the EIS and AQTSD are adequate for public disclosure and decision-making purposes.</p>

**Table III-B. Substantive Comments on JIDP Air Quality Issues (cont'd)**

Submittal ID	Comment Number	Comment Category	Keyword	Comment Text	Response
				<p>change in a scene appearance where the assumptions used in developing the deciview scale are met.”</p> <p>This would translate to a change of 10 to 20 percent in extinction. Because a 1 to 2 deciview change is perceivable only if the assumptions used to develop the deciview scale are met, it is important to review the assumptions that were made in the development of the deciview scale because they define the limitations on universal applicability of this visibility unit of measure. Other deciview assumptions are:</p> <p>1) Contrast is a good indicator of visibility. The apparent contrast of an element of a scene can be used to estimate whether the element can be perceived and, when it can be perceived, the apparent contrast can also be used to evaluate the visual quality of its appearance.</p> <p>2) The magnitude of the change in apparent contrast of a distant terrain feature against the horizontal sky required for a just noticeable change is proportional to the apparent contrast of the terrain feature.</p> <p>3) The apparent contrast of a distant terrain feature against the horizontal sky is given by the following equation:</p> $C = C_o \exp(-r B_{ext})$ <p>Where: C is the apparent contrast  C<sub>o</sub> is the initial contrast  B<sub>ext</sub> is the average extinction coefficient for the sight path  r is the distance to a distant terrain feature</p> <p>The first assumption regarding contrast being an indicator of visibility is generally accepted. Inherent in the second assumption is that, for a change to be noticeable, the magnitude of the change is proportional to the change in contrast as stated in the following equation:</p> $\Delta C_{JNC} = L C$	

**Table III-B. Substantive Comments on JIDP Air Quality Issues (cont'd)**

Submittal ID	Comment Number	Comment Category	Keyword	Comment Text	Response
				<p>Where: L is a constant that depends on spatial frequency but not contrast</p> <p>The work of Carlson and Cohen has shown that this equation is not generally considered valid, but may provide a reasonable approximation in viewing environments such as a view of a terrain feature against the horizontal sky. As such, this assumption could be considered in development of a just noticeable change threshold.</p> <p>The third assumption is valid if the horizontal sky radiance has the same value at each end of the sight path. Further, it can be regarded as a restriction that the use of the deciview index or extinction applies to terrain features against the sky. In general, the use of the deciview index only applies to the special case where the sight path is equal to the visual range. This assumption is also applicable to the manner in which the 5 percent change in extinction was defined as a just noticeable change threshold. This is a significant over simplification of the proposed just noticeable change threshold.</p> <p>In a review of the aforementioned Pitchford and Malm deciview scale, Richards indicated, "For example, more than a 40 % change (more than 4-dv change) in regional haze is required for the change to be perceptible in sight paths shorter than 20 % of the visual range." Richards also states that in some cases a 5 percent change in contrast can be perceivable but it is commonly assumed that features with only a 2 percent change in contrast can be perceived. Using this information, Richards shows that the Pitchford and Malm equations can be rewritten as follows: For a 2 percent case <math>\Delta b_{JNC} = 0.4/r</math> and a 5 percent case <math>\Delta b_{JNC} = 0.32/r</math> These equations apply to sight paths of any length less than or equal to the visual range and give the value for <math>\Delta b_{JNC}</math> equal to those calculated by the Pitchford and Malm work when the sight path is equal to the visual range.</p> <p>Based on the importance of the inclusion of sight path</p>	

**Table III-B. Substantive Comments on JIDP Air Quality Issues (cont'd)**

Submittal ID	Comment Number	Comment Category	Keyword	Comment Text	Response
				<p>in the determination of the just noticeable change, it seems imperative that EPA incorporates this approach into the just noticeable change threshold determination. This would require that the just noticeable change threshold be site specific for each Class I Area and that individual states would be required to develop their own just noticeable change threshold for each Class I Area. Incorporation of this approach would ensure that the just noticeable threshold would be based on the "best science".</p>	
15	63	A4	Mid-/Far-Field Modeling - Visibility	<p>Practical Perspective of the Deciview Assumptions</p> <p>It is important to place the assumptions used by Pitchford and Maim into practical perspective. BP presents a comparison of the longest lines that can be drawn within 35 Class I Areas as well as the estimated lengths of the longest visual range sight paths within these areas. The visual ranges were calculated from the average light extinction coefficient for the 20 percent of the days that were the least impaired (clean) as well as the 20 percent of the days that were the most impaired (hazy). A point on a line indicates the percentage of the parks that have a ratio equal to or smaller than the value at that point. Most ratios are less than 1 and therefore sight paths are typically shorter than the visual range and contrary to the assumptions used in the development of the deciview index. This indicates that for a vast number of Class I Areas, the basic assumption of the deciview calculation has not been met. Thus, assuming that the sight path is equal to the visual range simply adds a layer of unnecessary additional conservatism to the calculation.</p> <p>Also, FLAG (a guideline, not a regulation) considers a 0.5 dv change in visibility significant for a single source and 1.0 dv significant for a cumulative analysis. Based on the above information, the public and the decision makers should not consider the USFS 0.5 dv as a decision point for this analysis. Further, based on the information presented in these comments, it is important to keep in mind the conservative nature of a 1.0 dv threshold.</p>	<p>Thank you for your comment.</p> <p>The BLM believes that the visibility analyses provided in the EIS and AQTSD are adequate for public disclosure and decision-making purposes.</p>

**Table III-B. Substantive Comments on JIDP Air Quality Issues (cont'd)**

Submittal ID	Comment Number	Comment Category	Keyword	Comment Text	Response
15	64	A4	Mid-/Far-Field Modeling - Visibility	<p>Page 75</p> <p>Far-Field Results            “Direct visibility impacts from the Project sources were predicted to be above the 0.5-dv threshold at the Bridger, Fitzpatrick and Popo Agie Wilderness Areas, and at the Wind River Roadless Area (for proposed 3,100 well Alternatives only) using both the FLAG and IMPROVE background visibility data, and above the 1.0-dv threshold at the Bridger Wilderness area using both sets of background data. The highest frequency of predicted visibility impacts occurred at the Bridger Wilderness under Alternative B (WDR250) where there were 30 days per year (FLAG) and 33 days per year (IMPROVE) when visibility impacts were predicted to be above the 0.5-dv threshold, and 11 days per year (FLAG and IMPROVE) above the 1.0-dv threshold (see Table F.8.5). The maximum dv change was estimated as 3.3 dv (FLAG) and 3.7 dv (IMPROVE) (see Table F.8.5).”</p> <p>The visibility modeling results presented in the AQTSD are contradictory regarding the predicted change in visual range using FLAG compared to using the IMPROVE background monitoring data. It is more appropriate to use the IMPROVE best 20 percent visual range days as those measured concentrations are more representative of current “clean conditions” as opposed to generically defined “natural concentrations”. While the state of Wyoming must develop a SIP to restore its Class I Areas to natural conditions, the time frame for that is over the next 60-years and this process is just beginning.</p> <p>The problem with the visibility calculations is that the calculated visual range using natural background conditions produces less of a change than using the IMPROVE data. Given that the predicted concentrations are identical for both calculations and that the humidity correction factors should be identical, the lower concentration background data from FLAG should result in a larger change in visual range. The AQTSD needs to provide a more detailed discussion of how these calculations were made. Review of the</p>	<p>Thank you for your comment.</p> <p>Please note that for the Bridger Wilderness, the IMPROVE 20<sup>th</sup> percent cleanest days background visibility data is cleaner (more pristine) in quarters 1 and 4, than the natural background data given in the FLAG document. Hence the results with the IMPROVE data are more conservative.</p> <p>The BLM believes that the visibility analyses provided in the EIS and AQTSD are adequate for public disclosure and decision-making purposes.</p>

**Table III-B. Substantive Comments on JIDP Air Quality Issues (cont'd)**

Submittal ID	Comment Number	Comment Category	Keyword	Comment Text	Response
				<p>provided modeling files does not give any insight to this problem.</p> <p>It is also important for the AQTSD to provide the assumptions associated with the visual range calculations. One major assumption that is not stated is that it is assumed that the average 20 percent cleanest visual range days persist for all days of the year. This is a very conservative assumption and needs to be stated as such.</p>	
15	65	A4	CALPUFF	<p>Review of CALPUFF Modeling Files</p> <p>NO to NO<sub>2</sub> Conversion            A review of the CALPUFF files indicates an inconsistency between the near and far field modeling regarding the conversion of NO into NO<sub>2</sub>. In the near field analysis it was assumed that 75 percent of the NO was converted to NO<sub>2</sub>. This was done using the EPA default conversion factor and was discussed in the AQTSD. But no discussion of the conversion of NO to NO<sub>2</sub> was made in the AQTSD for far field modeling (CALPUFF). The CALPUFF modeling files were compared to the emission inventory tables in the AQTSD. It was found that the assumed far field conversion between NO and NO<sub>2</sub> was not simply 75 percent as was done in the near field analysis. The AQTSD needs to provide a discussion and justification of the NO to NO<sub>2</sub> conversion that was used in CALPUFF. It is important to keep in mind that this conversion rate is very important in the air quality related values analysis and as a result of the typically low ambient O<sub>3</sub> concentrations in southwestern Wyoming; the use of such a large default value is very conservative.</p> <p>Modeling Negative Emission Rates            The AQTSD does not provide any information on how sources that have reduced emissions (negative emission rates) or have been shut down were included in the CALPUFF modeling. Because of the chemistry mechanisms in CALPUFF, it is not possible to include a negative emission rate in the CALPUFF modeling. Such sources need to be modeled separately and then</p>	<p>All CALPUFF modeling was performed using the MESOPUFF chemistry algorithm, which utilizes ozone concentrations for formation of NO<sub>2</sub>. It would be overly conservative and inappropriate to convert the predicted NO<sub>2</sub> concentrations any further. Hourly ozone data from rural sites including Pinedale and Centennial WY, Yellowstone NP, Craters of the Moon NP, Highland UT, and Hayden CO were used in the analyses.</p> <p>Negative emission rates were accounted for in all CALPUFF modeling utilizing the CALPOST post-processor CALSUM. Separate CALPUFF model runs were performed for sources with positive emissions and negative emissions. The output concentration and deposition flux files were combined with CALSUM by applying a negative scalar (-1) to the output "emissions decreases" pollutant concentrations and deposition fluxes and a positive scalar to the emissions increases results.</p> <p>The BLM believes that the data and analyses provided in the EIS and AQTSD are adequate for this impact assessment.</p>

**Table III-B. Substantive Comments on JIDP Air Quality Issues (cont'd)**

Submittal ID	Comment Number	Comment Category	Keyword	Comment Text	Response
				the result must be subtracted from the remaining modeling results. This information needs to be provided in the AQTSD.	
15	1	B	Mid-/Far-Field Modeling - Meteorological Data	There is a large uncertainty in the modeled wind field within the modeling domain. Comparison of a modeled wind rose for the Jonah Field to a measured wind rose in the Jonah Field indicates substantial differences in both wind speed and direction. Inaccuracy in wind direction will effect how frequently emissions from the Jonah Field will be transported to adjacent Class I Areas. Inaccuracy in wind speed will effect the dilution of the emissions as well as changing the rate of reactions of various chemical species.	Thank you for your comment. Please see comments 14-1 and 15-54, above.
15	2	B	Background Concentrations	Background ammonia concentrations are very important in the formation of SO <sub>4</sub> and NO <sub>3</sub> . The results from the SWWYTAF evaluation of the CALMET/CALPUFF models for Southwest Wyoming indicated that NO <sub>3</sub> formation in this region was limited by the amount of ammonia present in the atmosphere. One major finding of the SWWYTAF analysis was that unless background concentrations of ammonia were limited, CALPUFF over predicted measured NO <sub>3</sub> concentrations by more than a factor of two. In the SWWYTAF study it was concluded that the majority of the secondary impacts (SO <sub>4</sub> and NO <sub>3</sub> ) were attributable to sources outside the modeling domain (background or boundary conditions) and that modeled sources were culpable for only about 10 percent of the total impacts. It is inappropriate for BLM to ignore this major finding of the SWWYTAF analysis and select an arbitrary ammonia concentration without justification.	The use of 1 ppb ammonia for background was selected for this study during stakeholder review, which included representation by the BLM, WDEQ, EPA, NPS, and USFS.
15	3	B	Mid-/Far-Field Modeling - Inconsistencies with Monitoring Data	Based on the monitoring data collected at the Bridger Class I Area over the period of 1988 through 2003, the data demonstrates that NO <sub>3</sub> concentrations have not increased at the Bridger Wilderness Area. In addition, NO <sub>3</sub> particulate matter does not contribute to the worst visibility days within the Class I Area although during the time period NO <sub>x</sub> emissions have increased within this region. These findings are consistent with the SWWYTAF analysis that indicated local NO <sub>x</sub> sources are not culpable for the majority of impacts within the Bridger Class I Area. In the current Jonah analysis it appears that local NO <sub>x</sub> sources are greatly contributing	See comments 5-17, 5-19, and 5-20.

**Table III-B. Substantive Comments on JIDP Air Quality Issues (cont'd)**

Submittal ID	Comment Number	Comment Category	Keyword	Comment Text	Response
				to predicted visibility impacts. This finding is not consistent with the monitoring data or the previous SWWYTAF analysis.	
15	4	B	Emissions, Project	Review of the assumptions used in calculating drilling rig emissions indicated that the Jonah analysis overstated engine usage. Using more representative engine usage data for a single drilling rig, maximum hourly emissions decrease from 27.5 pounds per hour to 12.2 pounds per hour. Annualized emissions decrease from 120.5 tons per year (assuming continuous operation) to 48.3 tons per year (a decrease in emissions of approximately 80 tons per year). For cumulative emissions for a drilling scenario the change in assumptions of drilling engine operation changes cumulative annualized emissions from 640 tons per year to 285 tons per year. This is a decrease in calculated emissions of 72 percent. In terms of air quality impacts, using more representative emission data will reduce the peak visibility impacts from drilling engines as well as reducing the number of days when projected visibility impacts are in excess of 1 dv.	A drilling engine operating factor of 0.42 was derived based on engine load and engine usage, and was reviewed and approved by Operators during the inventory development process. No better information was provided or known to be available.
15	7	B	Mid-/Far-Field Modeling - Meteorological Data	<p>Meteorological Data</p> <p>Review of the information provided in the air quality TSD raises concern regarding the accuracy of the CALMET and MM5 generated meteorological wind fields. For the CALPUFF modeling to accurately simulate projected impacts, meteorological data that describes the regional wind speed and wind direction as well as other meteorological parameters are needed. A published analysis using actual on-site meteorological data collected within the Jonah field raises questions regarding the accuracy of the CALMET generated wind field. <i>[footnote 1 - Blewitt, D.N., Panek, J. A. and Patton, W.H., 2000, "Evaluation of the Accuracy of MM5/CALMET Generated Wind Fields in Southwestern Wyoming Using an Independent Data Set" AWMA]</i> Since part of this analysis is concerned with the transport and dispersion of emissions from the Jonah Field to specific Class I Areas, this analysis is very germane. Determining the accuracy of MM5/CALMET generated wind fields can be very difficult because such simulations utilize all</p>	Thank you for your comment. Please see comments 14-1 and 15-54, above.

**Table III-B. Substantive Comments on JIDP Air Quality Issues (cont'd)**

Submittal ID	Comment Number	Comment Category	Keyword	Comment Text	Response
				<p>available meteorological data. The accuracy of these simulations is typically judged using data withholding techniques. However, such simulations may have large regions where there is very limited or non-existing meteorological data. Figure 1 (from the referenced paper) [see BP comments p. 7] presents the CALMET model predicted wind rose at the location of the Jonah meteorological tower, the wind rose using the data collected from the meteorological tower located in the Jonah field and the measured wind rose for Pinedale, Wyoming. As indicated by these figures, there is general agreement between the observations made at Jonah and Pinedale but there is little agreement between the measured data and the CALMET model predictions. The Jonah and Pinedale wind roses indicate predominate flow from the northwest sectors. By contrast, the CALMET extracted meteorological wind rose does not show this dominance and rather there is almost a uniform distribution of wind directions for all sectors. This comparison raises significant doubts regarding the accuracy of the CALMET predicted wind fields which in turn places the accuracy of the air quality predicted concentrations in doubt.</p> <p>The starting point of referenced analysis was the MM5 generated wind fields from the Southwest Wyoming Technical Air Forum (SWWYTAF). These MM5 wind fields were then incorporated into the CALMET meteorological model. Figure 2 [see BP comments p. 8] presents a comparison of MM5 predicted wind directions compared to CALMET predicted wind directions. As indicated in this figure, for this location CALMET uses the MM5 wind direction with very little modification.</p>	
15	8	B	Mid-/Far-Field Modeling - Meteorological Data	<p>In the most recent analysis, the kinematic option (IKINE) in CALMET was changed. Based on the fact that CALMET is using the MM5 wind direction directly, it is unlikely that this change will effect the modeled wind direction. However, this change will possibly modify the modeled wind speed. It would be desirable to repeat this analysis using the revised option in CALMET and compare it to the measured wind rose. As part of the referenced analysis, a modeling</p>	<p>Thank you for your comment. Please see comments 14-1 and 15-54, above.</p>

**Table III-B. Substantive Comments on JIDP Air Quality Issues (cont'd)**

Submittal ID	Comment Number	Comment Category	Keyword	Comment Text	Response
				<p>sensitivity analysis was conducted to estimate the effect of the under predicted wind speed by CALMET on various species of oxide of nitrogen. The modeling results were analyzed by examining the ratio of predicted concentration for the revised meteorological data to the CALMET meteorological data. This sensitivity analysis was done for the month of April 1995.</p> <p>BP presents the arc average receptor for the second highest predicted hourly concentrations for that month. As indicated by these results, the local increase in wind speed has an effect on predicted concentrations. Very close to the source predicted NO<sub>2</sub> levels were about the same for the two sets of meteorological data. At the 50-kilometer arc (125 kilometers from the source), predicted NO<sub>2</sub> concentrations using the new meteorology were about 20 percent higher than those predicted using the CALMET meteorology. At this distance, average second highest predicted concentrations of NO<sub>3</sub> were about 5 percent less than those predicted by the original CALMET meteorology and HNO<sub>3</sub> concentrations were about 20 percent less than those predicted by the original CALMET meteorological data.</p> <p>It is important to note that these estimated differences do not represent the maximum difference but are rather a representative sample to illustrate the importance of developing an accurate estimate of wind speed. It should be noted that the Jonah tower is representative of wind speeds over a large area. However, in the modeling the increase in wind speed was very localized and increases in wind speed diminished at locations away from the tower. Thus, the modeling experiment under estimated the effect of wind speeds on predicted concentrations. In addition, the uncertainty in wind direction would likely change predicted impacts in the Class I Area.</p>	
15	9	B	Mid-/Far-Field Modeling - Meteorological Data	It can be concluded that there are very large uncertainties and inaccuracies in the MM5/CALMET data that was used in the Jonah analysis. The uncertainty in wind direction would effect how	While BLM agrees that uncertainties in dispersion modeling can be significant, BLM cannot conclude that these uncertainties tend to over-estimate potential impacts.

**Table III-B. Substantive Comments on JIDP Air Quality Issues (cont'd)**

Submittal ID	Comment Number	Comment Category	Keyword	Comment Text	Response
				<p>frequently plumes would actually reach a given Class I Area. Based on the differences in modeled versus observed wind roses, the uncertainty in wind direction could have a pronounced effect on projected impacts. The uncertainty in wind speed will have a tendency of over estimating actual air quality impacts in the Class I Areas. The AQTSD needs to reflect these uncertainties.</p> <p>The most accurate way to generate the wind field for modeling would be to use available onsite data collected in Southwest Wyoming. Such data could include: 1) Jonah Tower Data; 2) Pinedale; 3) Whitney Canyon; 4) Green River visibility site and other industrial collected sites. The limitation of this approach is that it is unlikely that any of these sites collect upper air data. Since the emissions of concern are related to sources with short stacks and limited plume rise, this limitation is not a significant issue and the benefits of having accurate wind speed and direction data outweighs this shortcoming.</p>	<p>In complex terrain, over a large area, global/mesoscale meteorology modeling files are more appropriate than a few ground-level monitoring locations, which are strongly influenced by local terrain.</p> <p>The availability of more meteorological data within the modeling domain would improve the accuracy of CALMET. However, for the year modeled, 1995, all available data were used.</p>
15	10	B	Background Concentrations	<p>Ammonia Background Concentration</p> <p>Background ammonia concentrations are very important in the formation of SO<sub>4</sub> and NO<sub>3</sub>. IWAQM suggests a background concentration of 10 ppb be used for grasslands and 5 ppb for forest areas. The results from the SWWYTAF evaluation of the CALMET/CALPUFF models for Southwest Wyoming indicated that NO<sub>3</sub> formation in this region was limited by the amount of ammonia present in the atmosphere. One of the major findings of this analysis was that unless background concentrations of ammonia were limited, CALPUFF over predicted measured NO<sub>3</sub> concentrations by more than a factor of two.</p> <p>Specifically, in the SWWYTAF analysis it was found that the CALPUFF model could replicate observed SO<sub>4</sub> and NO<sub>3</sub> levels only with the inclusion of boundary concentrations of primary and secondary pollutants (material transported into the modeling domain). In this study it was concluded that the majority of the secondary impacts (SO<sub>4</sub> and NO<sub>3</sub>) were attributable to sources outside the modeling domain (background or</p>	<p>Thank you for your comment.</p> <p>The use of 1 ppb ammonia for background was selected for this study during stakeholder protocol review which included representation from the BLM, WDEQ, EPA, NPS, and USFS.</p>

**Table III-B. Substantive Comments on JIDP Air Quality Issues (cont'd)**

Submittal ID	Comment Number	Comment Category	Keyword	Comment Text	Response
				<p>boundary conditions) and that modeled sources were culpable for only about 10 percent of the total impacts.</p> <p>In the SWWYTAF analysis, estimates of NH<sub>3</sub> concentrations were based on CASTNet measurements and compared to IMPROVE SO<sub>4</sub> and NO<sub>3</sub> measurements. From this analysis, a seasonal ammonia concentration was developed for each season for the entire modeling domain as presented below:</p> <p>Winter NH<sub>3</sub> = 0.16 µg/m<sup>3</sup> = 0.23 ppb            Spring NH<sub>3</sub> = 0.24 µg/m<sup>3</sup> = 0.34 ppb            Summer NH<sub>3</sub> = 0.32 µg/m<sup>3</sup> = 0.46 ppb            Fall NH<sub>3</sub> = 0.24 µg/m<sup>3</sup> = 0.34 ppb</p> <p>These values are substantially lower than the value used in the Jonah analysis of 1.0 ppb and would likely result in overstating the actual increase of NO<sub>3</sub> in the adjacent Class I Areas.</p>	
15	11	B	Background Concentrations	<p>BP presents a CALPUFF sensitivity analysis that indicates how CALPUFF NO<sub>3</sub> concentrations change in relationship to different background concentrations of ammonia.</p> <p>CALPUFF was run for a selected time period using an assumed NO<sub>x</sub> source that was located in the Jonah Field and therefore presents an indication of how sensitive modeled impacts are to the assumed background concentration of ammonia.</p> <p>The SWWYTAF analysis was conducted over a 3-year period at a cost of over \$300,000 and was directed by the WDEQ-AQD. Other government agencies, environmental groups and industry participated and assisted in funding this study. A technical peer review subcommittee was formed from these entities to critique the technical content of this work. The following is one of the conclusions from the Technical Subcommittee: "In areas with relatively clean background levels of ammonia the predicted concentrations of SO<sub>4</sub> and NO<sub>3</sub> can be relatively sensitive to the input value of NH<sub>3</sub>. An incorrect</p>	<p>Thank you for your comment.</p> <p>See comment 15-10, above.</p> <p>Source apportionment performed by SWWYTAF applies to 1995, may not represent current conditions, and certainly does not represent potential future impacts from the proposed project.</p>

**Table III-B. Substantive Comments on JIDP Air Quality Issues (cont'd)**

Submittal ID	Comment Number	Comment Category	Keyword	Comment Text	Response
				<p>ammonia value can result in either an overestimate or underestimate of SO<sub>4</sub> and NO<sub>3</sub> concentrations.”</p> <p>It is inappropriate for BLM to ignore one of the major findings of the SWWYTAF analysis, which was necessary for accurate model performance, and select an arbitrary ammonia concentration without additional justification.</p>	
15	12	B	Monitoring Data	<p>Analysis of Air Quality Related Values Monitoring Data</p> <p>As part of the review of the Jonah EIS, an analysis of monitoring visibility and atmospheric deposition was conducted. These data demonstrate the true “existing conditions” at the Bridger Wilderness Area, which has relevance to actual air quality conditions as opposed to predicted impacts related to the CALPUFF model. A number of different analytical techniques were conducted and are presented in the following.</p> <p>Visibility Data NO<sub>3</sub> Frequency Distribution</p> <p>The analysis was initiated by examining the cumulative frequency distribution of measured NO<sub>3</sub> concentrations over the period of record, as well as the visibility measurements at the Bridger Wilderness Area. This analysis is important because it analyzes the range of measured concentrations in terms of the frequency of occurrence. The frequency of occurrence can then be compared between different years to examine if changes have occurred. This technique examines both the lowest concentrations of NO<sub>3</sub> as well as the largest concentrations.</p> <p>BP presents this distribution graphically and demonstrates that there is no substantial difference in magnitude of measured NO<sub>3</sub> concentrations over this time period.</p> <p>BP presents data that indicate the number of observations as well as the percentage of observations within a specified concentration range. The data also shows there has not been a substantial difference in the number of observations nor the percentages within</p>	<p>Thank you for your comment.</p> <p>BLM recognizes that, to date, emission increases have not resulted in monitored concentration increases in Bridger Wilderness. However, while the atmosphere has the capacity to cleanse itself, that capacity is not infinite.</p>

**Table III-B. Substantive Comments on JIDP Air Quality Issues (cont'd)**

Submittal ID	Comment Number	Comment Category	Keyword	Comment Text	Response
				<p>each concentration range. This is a very important finding since over this time period (1988 through 2003) there has been substantial growth in NO<sub>x</sub> emissions and such increases in emissions have not been observed in the monitoring data.</p> <p>BP presents the maximum measured NO<sub>3</sub> concentration at the Bridger Class I Area and the percentage of time that measured concentrations were in excess of 500 ng/m<sup>3</sup> (500 ng/m<sup>3</sup> is an arbitrary value that was used for comparison purposes). The maximum measured concentration was 820 ng/m<sup>3</sup> in the year 2002. In 1991, the maximum measured concentration was 783 ng/m<sup>3</sup>. At these concentrations the precision (difference between replicate samples) in the measurement is approximately 5 percent. Thus, using a very simplistic approach, the 783 ng/m<sup>3</sup> concentration could range from 822 to 745 ng/m<sup>3</sup> and the 820 ng/m<sup>3</sup> could range from 861 to 781 ng/m<sup>3</sup>. This suggests that based on sampling and analytical precision that these concentrations are not statistically different. Further indicated by the data is that measured concentrations greater than 500 ng/m<sup>3</sup> occurred in 1991, 1992, 1993, 1996, 2001, 2002 and 2003. The frequency of occurrence of this concentration level was less than 1 percent of the time. Again, this analysis suggests that there is not a long-term trend in NO<sub>3</sub> measured concentrations.</p> <p>Thus, the frequency of occurrence of the highest measured NO<sub>3</sub> concentrations has not changed over the period of record.</p>	
15	13	B	Monitoring Data	<p>Composition of Fine PM on Worst Visibility Days</p> <p>An analysis was also conducted to determine what role NO<sub>3</sub> plays in the measured worst visibility days. This analysis focused on the 100 worst visibility days as recorded at the Bridger monitor for the period of 1988 through 2003. This was done by sorting the IMPROVE database independent of year and identifying the days with the worst visual range. The percentage contribution to extinction was then analyzed for each of the various chemical species. This analysis is different</p>	Thank you for your comment.

**Table III-B. Substantive Comments on JIDP Air Quality Issues (cont'd)**

Submittal ID	Comment Number	Comment Category	Keyword	Comment Text	Response
				<p>from the constituent analysis that is done by IMPROVE which examines the various species impact on an average basis. This approach examines, on an episodic basis, which species are most representative of poor visibility days.</p> <p>As indicated by the analysis, NO<sub>3</sub> is not playing a dominant role in the measured worst visibility days. The monitoring data were further analyzed to determine the relationship between NO<sub>3</sub> and SO<sub>4</sub> concentrations. As indicated in this analysis, SO<sub>4</sub> concentrations are much higher than NO<sub>3</sub> concentrations.</p> <p>Two patterns are indicated. The first is that NO<sub>3</sub> concentrations are constant over the range of SO<sub>4</sub> concentrations (0.2 µg/m<sup>3</sup> to 1.6 µg/m<sup>3</sup>). The second indicates that higher concentrations of NO<sub>3</sub>, (0.2 µg/m<sup>3</sup> to 0.8 µg/m<sup>3</sup>) tend to occur coincidentally with elevated SO<sub>4</sub> concentrations. For example, 0.8 µg/m<sup>3</sup> NO<sub>3</sub> corresponds to 1.6 µg/m<sup>3</sup> of SO<sub>4</sub>. This suggests that the origin of these the higher NO<sub>3</sub> concentrations may be related to emissions from coal fired sources that emit both NO<sub>x</sub> and SO<sub>2</sub>.</p>	
15	14	B	Monitoring Data	<p>Natural Conditions</p> <p>BP presents a plot of the percentage of time for measured NO<sub>3</sub> concentrations that are less than or equal to “natural conditions” as defined by NAPA (100 ng/m<sup>3</sup>). As indicated by the plot, on average, “natural conditions” occur approximately 24 percent of the time. Also, there is a great deal of variability in percentage of time over any given year that such conditions exist. However, simply examining the monitoring data in such a perspective is an incomplete picture. Error bars were added based on the reported IMPROVE precision. This uncertainty was then factored into the frequency distribution to provide an estimate of uncertainty in the amount of time that “natural conditions” exist. When this was done, there is clearly no trend in these data.</p>	Thank you for your comment.
15	15	B	Monitoring Data	<p>NO<sub>3</sub> Dry Scattering Coefficients</p> <p>A recent air quality analysis for Big Bend National Park examined the dry scattering extinction efficiencies that</p>	Thank you for your comment.

**Table III-B. Substantive Comments on JIDP Air Quality Issues (cont'd)**

Submittal ID	Comment Number	Comment Category	Keyword	Comment Text	Response
				<p>were derived from the BRAVO study. These dry scattering coefficients are used to convert ambient mass concentration measurements into visual extinction budgets. The EPA value for the dry scattering coefficient for sulfate and nitrates is 3 m<sup>2</sup>/g. Unfortunately, EPA nor other agencies have not provided any technical justification for these coefficients, how they were derived, how universally applicable they are and the uncertainty associated with them. Since these coefficients directly effect any projected changes in visual range, resolution of this uncertainty is paramount.</p> <p>There are large differences between the IMPROVE and BRAVO derived dry scattering coefficients for sulfates and nitrates. Based on these data, the calculated change in visual range as a result of NO<sub>x</sub> emissions would be approximately half of what would be calculated using the IMPROVE dry scattering coefficient. This is a very large uncertainty in evaluating the role of NO<sub>x</sub> in visibility impairment. In conclusion, based on the monitoring data collected at the Bridger Class I Area over the period of 1988 through 2003, the data demonstrates that NO<sub>3</sub> concentrations have not increased at the Bridger Wilderness Area. In addition, NO<sub>3</sub> particulate matter does not contribute to the worst visibility days within the Class I Area. During the time period NO<sub>x</sub> emissions have increased within this region. These findings are consistent with the SWWYTAF analysis that indicated local NO<sub>x</sub> sources are not culpable for the majority of the impacts within the Bridger Class I Area. In the current Jonah analysis it appears that local NO<sub>x</sub> sources are greatly contributing to NO<sub>3</sub> visibility impacts. This finding is not consistent with the monitoring data or the previous SWWYTAF analysis.</p>	
15	16	B	Monitoring Data	<p>Deposition Data Overview of Monitoring Data</p> <p>In order to examine trends in deposition it is necessary to understand the sampling methodology and analytical approach used in measuring deposition.</p> <p>Wet deposition (the removal of air pollutants by</p>	Thank you for your comment.

**Table III-B. Substantive Comments on JIDP Air Quality Issues (cont'd)**

Submittal ID	Comment Number	Comment Category	Keyword	Comment Text	Response
				<p>precipitation) is measured by analyzing the chemical constituents contained in precipitation. National Atmospheric Deposition Program (NADP) reports that the accuracy of these measurements is +/- 10 percent. The measured concentration is then converted into a deposition flux in units of kg/ha/yr. The determination of wet deposition flux is quite straightforward and not subject to large uncertainties.</p> <p>Dry deposition is the removal of air pollutants by gravitational settling. Measurement of this flux is considerably more difficult than wet deposition and subject to larger uncertainties, which complicate the determination of trends. Dry deposition is determined using an ambient air particulate sampler. A sample is collected on a filter medium at a sample flow rate of 1.5 liters per minute. In this analysis it was assumed that the flow rate samples a uniform particle size distribution and that no bias in size is created. The filter media are analyzed for chemical constituents and the concentration of various particulates in ambient air is determined. CASTNET estimates that the accuracy of the chemical analysis is approximately +/- 10 percent. In order to obtain a deposition rate, the concentration measurement must be coupled to a gravitational settling velocity. The issue is that measurement of such a velocity is very difficult. Therefore, instead of using measurements, the deposition velocity is estimated using a mathematical model (MLM). BP presents a summary of the Bridger Wilderness Area information regarding deposition measurements.</p> <p>What is interesting regarding this summary is that the site does not totally conform to the assumptions of the MLM model. Thus, CASTNET is suggesting that there may be some large uncertainty in the deposition velocity calculations for this site. This analysis did not review the accuracy of the MLM model, the universal applicability of the model, or the basic assumptions for the application of the model. These are significant long-term issues that ultimately need to be addressed.</p>	

**Table III-B. Substantive Comments on JIDP Air Quality Issues (cont'd)**

Submittal ID	Comment Number	Comment Category	Keyword	Comment Text	Response
15	17	B	Monitoring Data	<p>Data Analysis</p> <p>Wet and dry deposition data were reviewed for the period of record at the NADP and CASTNET monitoring sites.</p> <p>The first step in this analysis was to review data provided by the agencies that collect the deposition data. The predominant deposition mechanism for sulfur species is wet removal of SO<sub>4</sub> particles (54 percent). Wet removal of NO<sub>3</sub> and NH<sub>4</sub> particles accounts for approximately 60 percent of the deposition. Dry deposition of HNO<sub>3</sub> is responsible for approximately 31 percent of the total deposition.</p> <p>BP presents the wet deposition data for the various chemical species over the period of record. As indicated, NO<sub>3</sub> deposition is responsible for the highest fraction of wet deposition. While there is considerable variability in the deposition estimates, there is not an apparent trend with respect to the amount of nitrogen-wet deposition.</p> <p>BP presents the average dry particle concentration for the Bridger Wilderness Area for the period of record. Examination of the concentration data can help identify changes in air quality and removes the uncertainty in the modeled deposition velocity. While there is year-to-year variability in the particulate matter concentration data, there is no clear trend in the data.</p>	Thank you for your comment.
15	18	B	Emissions, Project	<p>Drilling Rig Emissions and Assumptions</p> <p>Engines on natural gas drilling rigs serve two purposes. First, on modern drilling rigs engines are used to generate electricity, which is used to power electric motors used to drill the well. These engines operate continuously. The second type of engine is used to "trip pipe" in and out of the well bore. In general, these engines are used on an intermittent basis. During the time when these engines are not being used to "trip pipe" they are operating in an idle mode and this is estimated to be 92 percent of the time.</p>	See comment 15-4, above.

**Table III-B. Substantive Comments on JIDP Air Quality Issues (cont'd)**

Submittal ID	Comment Number	Comment Category	Keyword	Comment Text	Response
				<p>Based on current operational data it is estimated that the engines used to generate electricity have a typical load factor of 40 percent and a throttle setting of 47 percent. This equates to an overall load factor of 0.19. This value is considerably less than the 0.42 used in the emission calculations in the Jonah EIS. These assumptions have an important impact on the drilling rig emission calculations. BP presents changes in emissions for one of the Jonah drilling scenarios. Specifically, these calculations change the assumptions on engine utilization to more accurately reflect throttle setting and load as well as the engine used for “tripping pipe” idling 92 percent of the time. As indicated by these calculations, for a single drilling rig, maximum hourly emissions decrease from 27.5 pounds per hour to 12.2 pounds per hour. Annualized emissions decrease from 120.5 tpy (assuming continuous operation) to 48.3 tpy (a decrease in emissions of approximately 80 tons per year). For cumulative emissions for a drilling scenario the change in assumptions of drilling engine operation changes cumulative annualized emissions from 640 tpy to 285 tpy. This is a decrease in calculated emissions of 72 percent.</p> <p>In terms of air quality impacts, using more representative emission data will reduce the peak visibility impacts from drilling engines as well as reducing the number of days when projected visibility impacts are in excess of 1 dv. Based on these calculations, it is believed that the Jonah analysis is significantly overstating visibility impacts from these sources.</p>	
15	67	B	Emissions, Project	<p>AQTSD Supplement Page 4</p> <p>“Modeling results presented in the DEIS for Alternative F with a WDR of 250 wells per year are assumed to represent the maximum impacts from the Preferred Alternative at peak year emissions. Peak year project emissions were assumed to occur in year 2017, and included emissions from 2,850 wells in production and 250 wells under construction, consistent with the field configuration anticipated for year 2017 (the field at</p>	<p>AQTSD Table 2.4 provides a description of Tier requirements.</p>

**Table III-B. Substantive Comments on JIDP Air Quality Issues (cont'd)**

Submittal ID	Comment Number	Comment Category	Keyword	Comment Text	Response
				<p>nearly full production and the last year of construction in the field). The modeling also assumed a 50/50 split between straight and directional wells (consistent with the Preferred Alternative) and a 50/50 split between EPA Tier 1 and Tier 2 emissions levels for drilling rig engines. The modeling included 80 percent flareless completions (20 percent of completions flared) and JIDPA compression emissions at maximum levels projected at the time of the DEIS.”</p> <p>The AQTSD needs to provide information on the applicability of EPA emission standards for non-road engines (i.e., Tier 1, 2, and 4) to drilling rig engines. These regulations provide mandated emission standards by EPA. The AQTSD needs to provide additional information regarding the applicability of these standards to drill rig engines between 2005 and 2017.</p>	
15	69	B	Ozone & VOCs	<p>AQTSD Supplement Page 5</p> <p>“Only JIDP emissions differ from those previously modeled for the DEIS; non-project emissions remain unchanged. (Note that volatile organic compound [VOC] emissions were not modeled for this interim report, and revised VOC emissions and corresponding ozone impacts will be included in the final environmental impact statement [FEIS].)”</p> <p>Revised VOC calculations and ozone impacts should have been included in the current AQTSD so that data used in the analysis is available for verification. This is important because in projecting estimates of VOC emissions it is important to consider the depletion of wells over time and emission control equipment required by WDEQ. In the supplemental AQTSD or the original AQTSD there is no discussion on how depletion of condensate production would be simulated in VOC emission calculations.</p>	<p>Revised VOC estimates are provided in the FEIS and AQTSD in consideration of production decline curves.</p> <p>The ozone calculation has been revised for the FEIS and AQTSD using a more appropriate/realistic source emissions scenario that considers both the well production decline curves that result in decreased VOC emissions over the life of wells and a more accurate representation of in-field compressor station size and emissions.</p> <p>In recognition of the importance of potential ozone concentrations, monitoring has been initiated in the Jonah Field area as well as near Daniel and Boulder.</p>
15	70	B	Mid-/Far-Field Modeling - Acid Deposition/Sensitive Lakes	<p>AQTSD Supplement Page 13</p> <p>Sensitive Lakes</p> <p>Great care should be given regarding interpretation of</p>	<p>The comment is noted, and all readers of the AQTSD should take care in interpreting the data. The BLM used the best available data at the time of the analysis. As the BLM is not responsible for sampling these lakes, it is unable to control the</p>

**Table III-B. Substantive Comments on JIDP Air Quality Issues (cont'd)**

Submittal ID	Comment Number	Comment Category	Keyword	Comment Text	Response
				<p>modeling impacts for sensitive lakes within the Bridger Wilderness Area that are considered extremely acid sensitive. As indicated in Table 2.4, Lazy Boy Lake has a reported acid-neutralizing capacity (ANC) of 18.8 ueq/l, however, this conclusion is only based on one water sample that was collected in 1997. At Upper Frozen Lake the reported ANC is 5.0 ueq/l. This value is based on only six samples over the time period of 1997 through 2003 (one sample per year). If these lakes are truly acid sensitive, it is imperative the FLMs conduct sufficient sampling to clearly document the condition of these lakes.</p>	<p>amount of data available. However, the sampling results are not surprising for high-altitude lakes and, pending contrary data, the BLM will continue to consider these lakes as acid sensitive.</p>
15	71	B	Mid-/Far-Field Modeling - Visibility	<p>AQTSD Supplement Page 15</p> <p>“The IMPROVE method used the measured background conditions at the Bridger Wilderness Area and at the Yellowstone National Park site, and the monthly relative humidity factors as provided in EPA (2003). Visibility data from the Bridger Wilderness Area IMPROVE site were used for the Bridger, Fitzpatrick, and Popo Agie Wilderness Areas and for the Wind River Roadless Area, and visibility data from the Yellowstone National Park IMPROVE site were used for the Teton and Washakie Wilderness Areas and for Grand Teton and Yellowstone National Parks. Background visibility data measured at the Bridger Wilderness Area IMPROVE site are cleaner (more pristine) than the FLAG data during quarters 1 and 4. Therefore since visibility impacts are calculated as percent increases of modeled light extinction above background values, the use of these more pristine background data will result in higher estimated visibility impacts than with the use of the FLAG natural background data during these quarters.”</p> <p>The use of reported IMPROVE concentrations less than the “natural conditions” defined by FLAG serves no practical purpose. The use of these lower concentrations ignores the uncertainty associated with the IMPROVE concentration measurements. In reality, it is very likely that there is no significant difference between the IMPROVE and FLAG concentrations. The use of these values simply exaggerates the projected</p>	<p>Thank you for your comment.</p> <p>The use of quarterly background data determined from up to 15 years (at Bridger) of IMPROVE monitoring network data has significant purpose. Actual measured data, especially from a quality-controlled program such as IMPROVE, is almost always preferred over theoretically calculated data.</p> <p>In the AQTSD, the BLM included a comparison of potential visibility impacts using both the IMPROVE and FLAG background. The WDEQ requested the use of the IMPROVE background for their regional haze assessment effort.</p>

**Table III-B. Substantive Comments on JIDP Air Quality Issues (cont'd)**

Submittal ID	Comment Number	Comment Category	Keyword	Comment Text	Response
				impacts.	
15	72	B	Early Project Development Stage Modeling	<p>AQTSD Supplement Page 19</p> <p>“The goal of this analysis was to quantify a maximum PM<sub>10</sub>, PM<sub>2.5</sub>, NO<sub>x</sub> and SO<sub>2</sub> emissions scenario that could potentially occur within the next few years in the air basin located southwest of the Bridger Wilderness Area, as a result of 1) increased well drilling and flaring activities among several active natural gas field developments, and 2) expanded compression requirements, beyond what was analyzed for the DEIS. To accomplish this goal a study baseline year, determined based on available background pollutant data, was selected. Emissions estimates of well drilling and flaring were quantified for this baseline year for the JIDP, PAP, SPP, RRP and JMHP. Emission estimates of well drilling, flaring, and expanded compression for these projects, and other companies operating within these project areas, which are representative of current year or early-project-development stage conditions, were then determined. Emission estimates for the baseline year were subtracted from the early-project-development stage emissions. This emissions “netting” determined the emissions changes from background to current conditions, and avoided “double-counting” existing background conditions in future air quality conditions.”</p> <p>The AQTSD provides insufficient documentation on how double counting of emissions was avoided. Information should be provided so that the reader can reproduce the netting calculations. In addition, it would be very helpful for the AQTSD to provide data on the number of drill rigs that were operational so that impacts could be correlated with the IMPROVE monitoring data. Such information could provide confirmation of the CALPUFF modeling.</p>	The supplemental TSD provides estimates of the number of drill rigs and flares that were assumed to be operating in the 2002 background year at AQTSD Appendix G Section G-3.1.2, Table G-3.2.
15	73	B	Early Project Development Stage Modeling	<p>AQTSD Supplement Page 22</p> <p>“Drill rig emissions were calculated using the emissions data for the 6 year-round drilling rigs from Questar's</p>	“Questar data” referred to in this paragraph means total horsepower per rig and number of rigs in field as reported by Questar. No emission factors or other data from Questar’s year-round drilling

**Table III-B. Substantive Comments on JIDP Air Quality Issues (cont'd)**

Submittal ID	Comment Number	Comment Category	Keyword	Comment Text	Response
				<p>year-round drilling project, assuming an additional 6 5,000 horsepower (hp) drill rigs to account for other Operator's year-round drilling projects, and basing the remainder of the drill rig assumptions off Questar's data for a 3,216 hp drill rig. Since actual drill rig data was available there were no additional assumptions made for straight/directional drill rig percentages."</p> <p>The basis for emission calculations used for drill rigs in the AQTSD is unclear. The above paragraph suggests that emission data for Questar's year-round drilling project was used. However, Appendix D suggests that AP-42 was used as an emission factor. If the Questar data is to be used to calculate emissions, it should be included in the AQTSD.</p>	<p>project were used in the Jonah analysis.</p>
15	74	B	Early Project Development Stage Modeling	<p>AQTSD Supplement Page 26</p> <p>"Modeled emissions included JIDP, PAP, SPP, RRP, and JMHP well drilling and flaring emissions differences calculated on a monthly basis (2006 minus the baseline study year 2002), well drilling and flaring estimates for other expanded Jonah Field Operators and "wildcat" drill rigs; other JIDPA emissions, expanded compression, emissions, sources permitted by state agencies through March 31, 2004, and the RFD and RFFA emissions that were determined for the DEIS."</p> <p>Additional documentation is necessary on how net emissions were modeled in CALPUFF. Because of the chemical transformation calculations that are performed in the model, it is important to understand how the net emissions were modeled.</p>	<p>Negative emission rates were accounted for in all CALPUFF modeling utilizing the CALPOST post-processor CALSUM. Separate CALPUFF model runs were performed for sources with positive emissions and negative emissions. The output concentration and deposition flux files were combined with CALSUM by applying a negative scalar (-1) to the output "emissions decreases" pollutant concentrations and deposition fluxes and a positive scalar to the emissions increases results.</p>
15	75	B	Early Project Development Stage Modeling	<p>AQTSD Supplement Page 27</p> <p>"The CALMET wind fields used for early-project-development stage analysis differ from the wind fields used for the DEIS and Preferred Alternative modeling. The CALMET wind fields used for this modeling were developed without the use of the "kinematic effects" CALMET switch setting option, which was used for all DEIS analyses and Preferred Alternative modeling. The change in wind field development was made to correct a potential CALMET model anomaly, which could</p>	<p>See comments 14-1, 15-54, and 15-9, above.</p>

**Table III-B. Substantive Comments on JIDP Air Quality Issues (cont'd)**

Submittal ID	Comment Number	Comment Category	Keyword	Comment Text	Response
				<p>produce unrealistically high wind speeds in the wind field layers above the surface layer. Model tests for the DEIS cases indicated that the use of IKINE produced more conservative (slightly higher) model predictions at the Bridger Wilderness Area.”</p> <p>This use of the IKINE option in CALMET was previously discussed.</p>	
15	5	C	Mitigation	<p>Based on this review of the Jonah Air Quality Analysis and the conservative nature of the modeling results, it is not appropriate for BLM to impose additional mitigation strategies at this time. It would be prudent for BLM to provide a regulatory discussion of recently promulgated standards for non-road engines including source applicability to drilling rigs in operation in the Jonah Field. If it is believed that additional mitigation is imperative, such action should be undertaken not by BLM as part of a ROD but rather by WDEQ-AQD. Such action must provide a level playing field for all drilling rigs in Southwest Wyoming, be based on cost effective analysis of potential control options, and must follow the appropriate regulatory rule development process. By contrast, having BLM mandate a mitigation strategy as part of the ROD for this project, suggests that BLM is the air quality control agency responsible for permitting and enforcement of sources. This is not the responsibility of BLM but rather the WDEQ-AQD.</p>	<p>The BLM recognizes that certain aspects of air quality regulation are outside the bounds of its authority and fall within the purview of the WDEQ. However, some aspects of these air quality concerns are the responsibility of the BLM. For this reason the FEIS identifies and the ROD will incorporate appropriate mitigation strategies to address these concerns. The application of such mitigations does not constitute rule development. In addition, these mitigations cannot be retroactively applied to previous NEPA documents. Lessons learned from this project can be applied to future projects and thereby “level the playing field” for future actions.</p>
15	6	C	Conservative Analysis	<p>It is important for BLM to place these air quality analyses in proper perspective regarding the overall conservative nature of them (i.e., over estimating likely actual impacts). It is important for BLM decision makers to understand the magnitude of the conservatism presented in these modeling results and that these be clearly demonstrated in the FEIS and the ROD. Based on this review of the analyses, as well as other environmental monitoring data from Southwest Wyoming, it is very unlikely that the magnitude of actual environmental effects will approach what is projected in this analysis. Provided these perspectives are clearly stated in the FEIS and ROD, we believe the FEIS and ROD can be issued in a timely manner.</p>	<p>As with all NEPA analyses, the BLM is approaching the modeling of the JIDP air quality issues in a conservative manner. This is understood by the BLM decision makers and other involved parties and does not require additional discussion in the FEIS. The BLM believes this approach to the modeling is reasonable. However, in an effort to make sure the public is well informed, the FEIS language has been reviewed and amended as appropriate.</p> <p>The BLM has made every effort to issue the FEIS and the ROD in a timely manner.</p>

**Table III-B. Substantive Comments on JIDP Air Quality Issues (cont'd)**

Submittal ID	Comment Number	Comment Category	Keyword	Comment Text	Response
15	19	C	Mitigation	<p>Mitigation</p> <p>Based on this review of the Jonah Air Quality Analysis and the conservative nature of the modeling results, it is not appropriate for BLM to impose additional mitigation strategies at this time. EPA has promulgated emission standards for non-road engines. The most recent was adopted in 2004. These federal regulations are designed to reduce emissions from sources such as diesel fired drilling engines. As existing drilling rig engines are replaced, newer cleaner engines will replace them. It would be prudent for BLM to provide a regulatory discussion of these regulations including source applicability. In addition, BLM should estimate how these regulations will be phased in over the life of the project. It is impossible for the public, industry, and government agencies to analyze mitigation strategies without having been provided this information.</p> <p>If it is believed that additional mitigation is imperative, such action should be undertaken not by BLM as part of a ROD but rather by WDEQ-AQD. Such action must provide a level playing field for all drilling rigs in Southwest Wyoming, be based on cost effective analysis of potential control options and must follow appropriate regulatory due process.</p> <p>By contrast, having BLM mandate a mitigation strategy as part of the ROD for this project, establishes BLM as an air quality control agency responsible for permitting and enforcement of sources. This is not the responsibility of BLM but rather the WDEQ-AQD.</p>	<p>The BLM has considered the potential effects of the EPA's promulgated emission standards and has determined that reliance upon only those standards would allow the project to cause a significant impact to visibility in Class I airsheds near the Jonah Field. Mitigation will be applied based on the cooperative agreements of air quality stakeholder agencies including the WDEQ and the EPA.</p>
15	66	C	Mitigation	<p>AQTSD Supplement Page 1</p> <p>"The additional analyses were deemed necessary by the BLM to evaluate alternative potential mitigation strategies for the Preferred Alternative in an effort to identify possible project development requirements to reduce adverse air quality impacts, and to identify maximum early-project-development stage regional emissions (i.e., drilling) which could reveal that regional impacts are more severe at this stage due to impacts from the development of other regional projects. which</p>	<p>Although the modeling assumptions are conservative, the results are still valid and raise certain concerns. The application of mitigations to this project is appropriate. The JIO (see FEIS Section 2.4.5 and Appendix E) allow for the adaptive management of these mitigations.</p> <p>The BLM recognizes that certain aspects of air quality regulation are outside the bounds of its authority and fall within the purview of the WDEQ. However, some aspects of these air quality</p>

**Table III-B. Substantive Comments on JIDP Air Quality Issues (cont'd)**

<b>Submittal ID</b>	<b>Comment Number</b>	<b>Comment Category</b>	<b>Keyword</b>	<b>Comment Text</b>	<b>Response</b>
				at present have not been adequately evaluated.”  Given the previously discussed technical issues that result in very conservative projections of air quality impacts, it is not necessary to implement mitigation on proposed action sources. Further, the WDEQ should be the agency for the implementation if necessary.	concerns are the responsibility of the BLM. For this reason the FEIS identifies (see Sections 2.4.5 and 5.1) and the ROD will incorporate appropriate mitigation strategies to address these concerns.
15	68	C	Mitigation	AQTSD Supplement Page 5  “Four mitigation scenarios were analyzed, The mitigation scenarios were based on emission reduction percentages of 20, 40, 60, and 80 percent from the JIDP high emissions configuration at a 250WDR. A total of 10 additional configurations of the Preferred Alternative were modeled to determine direct project impacts of. PM <sub>10</sub> , PM <sub>2.5</sub> , NO <sub>x</sub> and SO <sub>2</sub> emissions.”  See previous comments regarding mitigation.	Please see Comments 15-5, 15-19 and 15-66, above.
16	8	A3	Agency Recommendations, etc.	Section 2.1 impacts Summary-Page 6.  The document states in paragraph 1, “...and a high emissions mitigation case with an 80 percent emission reduction at a WDR [well development rate] 250, are representative of the full range of impacts for those 10 configurations.” While the emission reductions assumed in the mitigation runs were decreases from the high emissions case with a development rate of 250 wells per year, the actual examples of mitigation shown in table 3 show well development rates of 50 and 75 wells per year. The DEIS does not demonstrate how emissions could be reduced by 80 percent if development remained at 250 wells per year; consequently it would be more accurate to refer to “an 80 percent emission reduction from the high emissions case.” We recommend revising this sentence and similar references in the FEIS.	The Operators would determine the specific measures to reduce emissions by at least 80% (see FEIS Sections 2.4.5 and 5.1).
16	10	A3	Agency Recommendations, etc.	Appendices B and D show that the emissions modeled for the early project development stage were greater than the emissions modeled in several of the scenarios projected for 2017. However, the modeled impacts of the early project development stage were substantially lower than the impacts of some future scenarios with lower emissions. For example, while the NO <sub>x</sub> , SO <sub>2</sub> ,	Comparisons between the 2017 project scenarios versus the early-project-development stage scenario cannot be made. Early-project-development stage scenarios used emissions differences determined from estimates of drilling activity (drill rigs and flaring) in 2006 minus estimates of drilling activities for 2002. These

**Table III-B. Substantive Comments on JIDP Air Quality Issues (cont'd)**

Submittal ID	Comment Number	Comment Category	Keyword	Comment Text	Response
				and PM <sub>2.5</sub> emissions for the early project development stage were 19 to 26 percent higher than those for the scenario with 40 percent reduction from the high emissions case in 2017, the corresponding visibility impacts had a reverse relationship; the modeling for the early project development stage showed eight days with a visibility impact greater than 1.0 dv at the Bridger Class I area whereas the modeling for the scenario with 40 percent emissions reduction showed 14 days (both using FLAG background data) of impact greater than 1.0 dv. As stated above, we acknowledge that the two cases are not directly comparable. The FEIS should reconcile and explain this situation.	differences vary monthly and assume 700 wells (200 in 2003 and 250 each for 2004 and 2005). The 2017 scenarios assume 20, 12, and 6 rigs, 3, 2, and 1 flares, and 2850, 2950, and 3025 producing wells, respectively, operating in the Jonah field. There are also modeling differences due to differences in the wind fields used for each analysis. The wind fields used for the 2017 analyses have been determined to be more conservative than those used for the early-project-development stage modeling.
16	1	C	Agency Recommendations, etc.	We [EPA] have assigned a rating of “1” which acknowledges that the supplemental air quality analysis has adequately disclosed the most significant impacts associated with the development of the Jonah gas field and identified a range of mitigation options which, if implemented, will significantly reduce or eliminate all adverse air quality impacts.	Thank you for your comment.
16	2	C	Agency Recommendations, etc.	We [EPA] look forward to reviewing the additional information as requested in our earlier comments, but we consider the DEIS and supplemental information to have provided adequate disclosure and analysis under the requirements of NEPA and its implementing guidelines. We believe that BLM may be in a position when developing the FEIS to include additional detailed information on the specific means to mitigate emissions from drilling operations to achieve or exceed the 80 percent reduction, including the implementation of the mitigation in the “early project development stage” to minimize or prevent air quality impacts to Class I airsheds. We recommend that such information be included in the FEIS.	Thank you for your comment. The BLM has included some additional detailed information in the FEIS and AQTSD where that information was deemed appropriate and beneficial.
16	3	C	Agency Recommendations, etc.	EPA understands that our previous comments on the Jonah Infill project will be incorporated with these additional comments to the air quality portion of the DEIS. This letter also communicates our rating of the entire compilation of DEIS documents. As our previous comments provided background on the project alternatives, that discussion will not be repeated within this comment letter and we refer you to our comments to Carol Kruse dated May 25, 2005.	Thank you for your comment.

**Table III-B. Substantive Comments on JIDP Air Quality Issues (cont'd)**

Submittal ID	Comment Number	Comment Category	Keyword	Comment Text	Response
16	4	C	Agency Recommendations, etc.	<p>When the supplemental air quality information was first submitted, no single Preferred Alternative had been identified. During the process of this review, we received from BLM a written notification dated October, 5, 2005, from Deputy State Director Donald A. Simpson that the 80 percent emission reduction alternative was now the BLM's Preferred alternative. Accordingly, we have not rated the other alternatives. Our work on those alternatives, before the Preferred Alternative was chosen, had indicated that those other alternatives would have been rated environmentally unsatisfactory because of extensive impact on nearby Class I Wilderness areas; therefore, we commend the BLM for their support of the 80 percent reduction alternative.</p> <p>It is important to note that, even with the Preferred alternative, there will be some visibility impacts directly related to the project. We believe those impacts merit a rating of Environmental Concerns (EC) but that phased development, Tier I (or better) engines, and other technological changes—some of which are already in use—can reduce or eliminate all exceedances of the visibility thresholds.</p> <p>Therefore, the rating of the entire DEIS, reflecting both our previous and current comments, is EC-1.</p>	Thank you for your comment. Appropriate mitigations will be incorporated into the ROD.
16	5	C	Agency Recommendations, etc.	<p>Preferred Alternative (80 Percent Emission Reduction Case) - EPA understands that mitigation strategies under this alternative would apply from the outset of the project and include the period known as the "early project development stage" in the supplemental material (see our attached specific comments). It is only with this understanding that EPA rates the 80 Percent Emission Reduction Case as EC-1 (Environmental Concerns) in that this proposed alternative includes mitigation or phased well development rates which would allow field development and also provide better protection of air quality, in general, and in the Bridger/Fitzpatrick Wilderness areas, specifically. The large and numerous diesel engines used for drilling wells in the geologic formation of the Jonah Field are the largest source of air pollution emissions from the proposed project. EPA supports</p>	Thank you for your comment. All appropriate mitigations have been considered by the BLM.

**Table III-B. Substantive Comments on JIDP Air Quality Issues (cont'd)**

Submittal ID	Comment Number	Comment Category	Keyword	Comment Text	Response
				<p>this alternative which provides a slower pace of development for the Jonah Field (fewer wells allowed per year) unless the Operator secures new and clean diesel engine technology for well drilling Operations. If emissions are reduced, the Operators would be allowed to drill more natural gas wells and energy development could proceed with assurance that air resources within Wyoming, are being protected.</p> <p>EPA believes that the 80 percent reduction scenario is a reasonable and attainable approach given recent developments. EPA Tier II diesel engines standards go into effect on January 1, 2006. These cleaner engines will reduce NO<sub>x</sub> emissions by approximately 75 percent from uncontrolled diesel engines. While the immediate availability of these new engines will be uncertain, there are other developments in southwestern Wyoming which demonstrate the potential for reducing drilling rig emissions in the short term. Some gas operators have successfully demonstrated the retrofit of existing engines to perform at or below emission rates of the Tier II (or Tier III) standards. The use of dual fuels (combination of natural gas and diesel fuel) shows promise, as well as selective catalytic reduction applied to new or existing engines. In addition, EnCana has acquired a natural gas fired drilling rig and is currently using this low emitting unit in the Jonah field. We further understand that EnCana is evaluating the feasibility of providing electrical service to the Jonah field to power drilling rigs with direct electrical power. This option could reduce emissions for the Jonah field to negligible amounts. In addition to technological solutions there are many options for either BLM or the WDEQ to control the rate of well development. to correspond with the availability and use of cleaner drilling rigs beginning with the early project development phase.</p>	
16	6	C	Agency Recommendations, etc.	While EPA supports this alternative as a viable way of proceeding with gas development in the Jonah Field, EPA remains concerned about the phase-in of the mitigation and the three days of visibility impairment above one deciview at the Class I Bridger Wilderness Area. Although not included as an alternative, the early	Thank you for your comment. The BLM appreciates the EPA's offer of continued cooperation in implementing the JIDP and looks forward to working with the agency.

**Table III-B. Substantive Comments on JIDP Air Quality Issues (cont'd)**

Submittal ID	Comment Number	Comment Category	Keyword	Comment Text	Response
				<p>project development stage and its eight days of direct project visibility impact (nine days when calculated using IMPROVE background data) are considered equivalent to the “High Emissions Case” alternative which EPA is not rating, as discussed above. However, mitigation strategies for the early phase of the project should apply from the outset of the project, not as a future consideration. Accordingly, EPA pledges to continue to work with BLM to determine a schedule for mitigation implementation which protects air quality while proceeding with the Jonah Infill Drilling Project.</p>	
16	7	C	Agency Recommendations, etc.	<p>The DEIS Air Quality Impact Analysis Supplement presents the results of modeling of regional impacts at a stage when the Jonah Infill Development Project would be early in its development (nominally the year 2006). Table 5 of the supplement shows cumulative visibility impacts greater than 1.0 deciview (dv) at several Class I and sensitive Class II areas in the region. The table also shows direct project impacts of nine days with impact greater than 1.0 dv at the Class I Bridger Wilderness Area, two days at the Class II Popo Agie Wilderness Area, and one day at the Class II Wind River Recreational Area. The supplement explains that BLM intended to apply this portion of the analysis to cumulative, regional impacts early in the life of the project and stipulates that results for the early project development stage are not directly comparable to the other results. However, the results show the potential for significant, direct project impacts on visibility in the early project development stage.</p> <p>The supplemental document is unclear as to the mitigation that would apply to the early project development stage for air quality. We understand that the Preferred Alternative was modeled for the project and cumulative impacts based on assumptions that would exist in the year 2017 when the project would incur maximum air emissions born from both production and drilling. Although BLM has identified the mitigation necessary to reduce impacts to Class I air sheds for the maximum project emissions in the year 2017 for the Preferred Alternative, BLM does not identify mitigation necessary to reduce the potential for impacts prior to</p>	<p>The AQTSD Supplement was not intended to outline mitigation strategies – either early or late stage – for the JIDP, but rather to provide the BLM with the necessary information to determine what those mitigations should be. Air quality mitigation measures will be developed in cooperation with all air quality stakeholder agencies and are outlined in the FEIS and will be promulgated in the ROD. This includes all necessary mitigations for all phases of the project.</p>

**Table III-B. Substantive Comments on JIDP Air Quality Issues (cont'd)**

Submittal ID	Comment Number	Comment Category	Keyword	Comment Text	Response
				<p>the maximum project emission date. The results of modeling for the early stage of the project show a need for mitigation beginning in 2006 (or 2007 if the project were to be delayed until that year and BLM still considered the results to be applicable).</p> <p>EPA assumes that the mitigation strategies used to achieve the 80 percent emissions reduction scenario selected by BLM as the Preferred Alternative also will apply to the early project emissions. The FEIS and ROD should explain the association between the results for the early project development stage and those modeled for project alternatives that could exist in 2017, and means of mitigating undesirable visibility impacts early in the project.</p>	
16	9	C	Agency Recommendations, etc.	<p><b>Ozone</b>            Through the period of developing, conducting, and documenting the air quality analysis for the JIDP, there have been discussions among BLM, EPA, and other stakeholders regarding the method of calculating potential ozone impacts. BLM used a variant of EPA's VOC/NO<sub>x</sub> Point Source Screening Tables, September 1998 (the Scheffe method). By using average monitored ozone values instead of peak concentrations as background in this calculation, BLM showed project impacts less than the one-hour and eight-hour ozone standards. The estimated ozone concentrations would have exceeded the standards if peak monitored concentrations had been used as background instead.</p> <p>BLM conducted the ozone analysis for a grouping of sources in the JIDP; the method is not conducive to realistically analyzing each development alternative. We acknowledge that the method is not entirely satisfactory regardless of whether one uses peak or average concentrations as background. The question and answer document that BLM posted on the Internet with the supplemental materials for the DEIS included the following statement:</p> <p>In February 2005 ozone levels monitored in the Jonah Field may have exceeded national health-based standards. Resolution and verification of exceeding</p>	<p>The Preferred Alternative incorporates the development of the JIO (see FEIS Section 2.4.5 and Appendix E). This office will oversee the monitoring of air quality parameters in the JIDPA including ozone. As noted by the commenter, ozone has become more of a concern during EIS development. If the JIO and the BLM discover ozone exceedances that are attributable in part to the JIDP, then the BLM will consult with the WDEQ, EPA, USFS, and the NPS to determine whether adaptive management would be needed to mitigate impacts.</p> <p>In recognition of the importance of potential ozone concentrations, monitoring has been initiated in the Jonah Field area as well as near Daniel and Boulder.</p>

**Table III-B. Substantive Comments on JIDP Air Quality Issues (cont'd)**

Submittal ID	Comment Number	Comment Category	Keyword	Comment Text	Response
				ozone thresholds has not been completed.  The statement refers to data that were unavailable at the time of the air quality impact analysis. We are concerned that the NEPA process for the Jonah Infill project might culminate while a question of regional ozone impacts is unresolved. Consequently, we recommend that BLM address in the FEIS the potential need for adaptive management to mitigate ozone impacts in the future.	
17	1	A3	Agency Recommendations, etc.	In Volume 1 on page 2-27, the following is identified as a general COA or BMP to be imposed by BLM on all project authorizations.  “Operators would utilize flareless completions for all wells within the JIDPA unless proven on a case-by-case basis that flareless completions would be unsafe.”  As written, this COA or BMP is inconsistent with the air quality permits issued by the WDEQ to Operators in the Jonah field and therefore should be revised as follows:  “Operators would comply with permits issued by the Wyoming Department of Environmental Quality for all well completions and re-completions within the JIDPA.”	New language has been included in the FEIS (see Section 2.4.5.2).
18	1	A3	Agency Recommendations, etc.	Volume 1, Chapter # Abstract, Page #i, Paragraph 1. LOP is estimated to be 110 years here, and on page iii, paragraph 3 of the executive summary it states the LOP will vary from 63 to 105 years. Please check these numbers for consistency.	The numbers have been verified and corrected as necessary to reflect the alternatives contained in the FEIS.
18	2	A3	Agency Recommendations, etc.	Volume 1, Chapter # Executive Summary, Page #v, Line 2. An interagency adaptive management working group to direct BLM management of the project is proposed. Please describe how this group would be staffed, funded, its level of authority, and how it would interact with or overlap with other groups.	This concept has been replaced by the Jonah Interagency Office (JIO). Operations of and funding for that office are discussed in FEIS Sections 2.4.5 and Appendix E.
18	3	A3	Agency Recommendations, etc.	Volume 1, Chapter #2, Page #24, 7th bullet. Adaptive management working group....see comment (above) for page v, line 2.	This concept has been replaced by the JIO. Operations of and funding for that office are discussed in FEIS Sections 2.4.5 and Appendix E.
18	4	A3	Agency Recommendations, etc.	Volume 1, Chapter #2, Page #30, Section 2.14.2.1. No air quality monitoring is listed in this section. A monitoring discussion could be included here. Such	The JIO would monitor implementation of the JIDP and its mitigation measures. Recommendations of the JIO would provide for adaptive

**Table III-B. Substantive Comments on JIDP Air Quality Issues (cont'd)**

Submittal ID	Comment Number	Comment Category	Keyword	Comment Text	Response
				monitoring could include ambient air monitors and effectiveness of road dust mitigation.	management of the project.
18	5	A3	Agency Recommendations, etc.	Volume 1, Chapter #2, Page #33, Table 2.12. The air quality section shows the "Additional Days of Impairment at the Bridger Wilderness". This infers that there is currently visibility impairment at the Bridger Wilderness. If so, please provide an explanation for this impairment and also provide the total days of impairment at the Bridger Wilderness.	DEIS Table 2.12 (Table 2.6 in the FEIS) is based upon air quality modeling and shows the results of that effort. The use of the word "additional" simply conveys the idea that this table represents potential impacts. It should not be construed to establish any assessment of the current condition. Further information regarding potential impacts of the BLM Preferred Alternate is contained in the AQTSD.
18	6	A3	Agency Recommendations, etc.	Volume 1, Chapter #3, Page #5, Figure 3.1. The windrose shown uses data from 1999 to 2002, yet on page 3-4 it is stated there is data from 1999 through 2003. Was 2003 data excluded? Please clarify.	The figure was developed from four complete years of data. At the time the analysis was initiated a complete quality reviewed data set for 2003 was unavailable. However, data from the years 1999 through 2002 is considered representative for the purposes of the discussion contained in Section 3.1.1. Additional data can be found in Tables 3.4 and 3.5
18	7	A3	Agency Recommendations, etc.	Volume 1, Chapter #3, Page #6, Tables 3.4, 3.5, and 3.6. Labels on these tables infer they are from 2005, when the data from BP was received in 2004, and the data actually presented is an average from 1999 to 2002.	The reference to the year 2005 has been removed from Tables 3.4 – 3.6 in the FEIS.
18	8	A3	Agency Recommendations, etc.	Volume 1, Chapter #3, Pages #11, 12 and 13, Figures 3.2, 3.3, and 3.4. Please consider using the same unit of measurement for standard visual range in these 3 figures, either miles or km.	Since these figures have been adapted from the Cooperative Institute for Research in the Atmosphere, they have not been changed. The BLM apologizes for this inconsistency.
18	9	A3	Agency Recommendations, etc.	Volume 1, Chapter #4, Page #2, 8th paragraph. This says the impacts from this past development will continue for approximately 63 years without further development authorizations. The ROD for the Jonah II from 1998 (on page 34) states that development will continue for 30 to 50 years starting in 1993. Was NEPA analysis conducted to allow for this extended timeline of 25 to 45 additional years of impact in the Jonah II field? Please clarify. Also, in volume 2, Technical Support Document, page 4, Table 2.1 states the LOP is 53 years. Which is the correct number that was used in the analysis?	The estimations included in the Jonah II ROD were based on available knowledge at the time and best professional judgment. Realistically, implementation of a project is unlikely to be exactly as expected. NEPA has no requirement to revisit these projects and re-document the status of the actions. Hopefully, any unforeseen impacts are incorporated into this JIDP assessment via the acquisition of background air quality data used for modeling efforts.  Table 2.1 in the August 2005 TSD Supplement (see AQTSD Appendix G) lists the parameters

**Table III-B. Substantive Comments on JIDP Air Quality Issues (cont'd)**

<b>Submittal ID</b>	<b>Comment Number</b>	<b>Comment Category</b>	<b>Keyword</b>	<b>Comment Text</b>	<b>Response</b>
					used in the various analysis scenarios; from these, the various LOPs for the alternatives analyses can be construed. See also FEIS Appendices B and G.
18	10	A3	Agency Recommendations, etc.	Volume 1, Chapter #4, Page #2, 8th paragraph. This paragraph states that there are significant adverse impacts that have already occurred with existing development and mitigation requirements from current development. What additional mitigation is proposed to remedy this?	Please note that the introduction to Chapter 4 is not referring to air quality issues specifically but resource impacts in general. The next sentence indicates that the main intent of this comment is surface disturbance. Nonetheless, as stated thereafter, the BLM is proposing to increase on-site mitigation efforts and recommend initiation of compensatory mitigation (CM) as appropriate.
18	11	A3	Agency Recommendations, etc.	Volume 1, Chapter #4, Page #8, 2nd paragraph. In this paragraph, there is an assumption of 20 drill rigs operating simultaneously to drill 250 wells per year. This equates to 29 days per well per rig. The AQTSD states that 23 days per well is the timeline used in the analysis. Which assumption is correct? Also, in volume 2 Appendix G technical support document page 4 table 2.1, it states 22 days for drilling, which is the correct number that was used?	The key issue here is the number of simultaneously operating rigs used in the analysis (i.e., 20 operating rigs). The AQTSD makes it clear that 23 days to drill a well was used for the analysis; however, well drilling may require from 18 to 36 days. The use of a 250 wells/year scenario should not be taken to imply 29 rig operation days to drill a well.. Please also be advised that some period of time is required for rig-up, take down, transport, and re-erection at a new location. The estimate used in DEIS Appendix G (see FEIS Appendix B) was for estimating traffic requirements.
18	12	A3	Agency Recommendations, etc.	Volume 1, Chapter #4, Page #9, Last paragraph. This paragraph makes the statement that visibility measured for the Bridger Wilderness is more pristine than for residential areas that were modeled. Is there data or analyses to support this assumption?	No visibility monitoring data within residential areas are available, although monitoring was recently started. The types and locations of existing air quality monitoring are provided in FEIS Table 5.1.
18	13	A3	Agency Recommendations, etc.	Volume 1, Chapter #4, Page #11, Paragraph 5. Check the statement that the near field impacts are equal to those analyzed in the Jonah II EIS because: 1. The pace of development exceeded the 30 wells/yr as outlined in the FEIS. 2. The drill rig engine size has increased from 1,000 hp as originally analyzed in the FEIS to 3,000 hp. 3. This does not include additional impacts from the Modified Jonah II EA, which allowed for 40 acre spacing as well as the concentration of the development on the east side of the project area.	This text has been modified in the FEIS.

**Table III-B. Substantive Comments on JIDP Air Quality Issues (cont'd)**

Submittal ID	Comment Number	Comment Category	Keyword	Comment Text	Response
18	14	A3	Agency Recommendations, etc.	Volume 1, Chapter #4, Page #11, Paragraph 6, Far field impacts. See Above. [Volume 1, Chapter # 4, Page # 11, Paragraph 5, Check the statement that the near field impacts are equal to those analyzed in the Jonah II EIS because: 1. The pace of development exceeded the 30 wells/yr as outlined in the FEIS. 2. The drill rig engine size has increased from 1,000 hp as originally analyzed in the FEIS to 3,000 hp. 3. This does not include additional impacts from the Modified Jonah II EA, which allowed for 40 acre spacing as well as the concentration of the development on the east side of the project area.]	This text has been modified in the FEIS.
18	15	A3	Agency Recommendations, etc.	Volume 1, Chapter #4, Page #22, 4th paragraph. The citation here should be for the Questar Winter Drilling EA and ROD.	Page 4-22 of the DEIS does not contain any citation. Paragraph four discusses air impacts associated with the Preferred Alternative. It is not clear what the intent of this comment was.
18	16	A3	Agency Recommendations, etc.	Volume 1, Chapter #4, Page #154, Section 4.10. The abstract indicates that the LOP will be 110 years (about 3 generations) and is also stated as "Short-term use."	Compared to the total time these resources have been used and will continue to be used, it is appropriate to consider the LOP to be short term. This is in comparison to the indefinite use of the area for other activities.
18	17	A3	Agency Recommendations, etc.	Volume 1, Chapter #5, Page #1, Section 5.1.1. This is a good list of possible mitigation opportunities; however, the BLM does not have the authority to require most of these opportunities. Other mitigation might include: - Pacing development and controlling drill rig numbers (and hence emissions) at a level that would not significantly impact wilderness areas for visibility, PM <sub>10</sub> or NO <sub>x</sub> . (The federal court decision in the Montana Powder River Basin case indicates that phased development should be considered as an alternative) - Reinstate the NO <sub>x</sub> cap for the Upper Green River Basin at a level where no significant impacts to wilderness areas would occur.	As noted in the introduction to Chapter 5, the mitigation suggestions provided are conceptual only. The BLM could chose to incorporate any of these opportunities into the ROD, but that has not yet been determined. Section 5.1.1 has been revised in the FEIS.  The suggestions provided in this comment are appreciated. The BLM will continue to work with EPA, WDEQ, and USFS to develop mitigation measures to meet regulatory requirements.
18	18	A3	Agency Recommendations, etc.	Volume 1, Chapter #5, Page #7, Section 5.2, Paragraph 2. Off-site mitigation measures: The USFS agrees with the need for funding of ongoing air quality monitoring in the Upper Green River basin, but the BLM, USFS, and WDEQ need to develop a coordinated monitoring plan which is protective of public health as well as air quality related values in the adjacent wilderness areas, adding additional monitors where needed. Funding for this monitoring should be for the	The ideas in FEIS Chapter 5 are only conceptual at this time. Should funding of the air quality monitoring be included in the ROD, the BLM would work with all appropriate parties to ensure the plan is developed properly.  The JIO would monitor implementation of the JIDP and its mitigation measures (see FEIS Chapter 2.4.5 and Appendix E). Recommendations of the

**Table III-B. Substantive Comments on JIDP Air Quality Issues (cont'd)**

<b>Submittal ID</b>	<b>Comment Number</b>	<b>Comment Category</b>	<b>Keyword</b>	<b>Comment Text</b>	<b>Response</b>
				life of the project.	JIO would provide for adaptive management of the project.
18	19	A3	Agency Recommendations, etc.	Volume 2, Chapter #B, Page #3, Item 12. It is stated that new emission estimates are provided for this project. Where are these emission level estimates listed?	Please remember that Appendix B (Appendix C in the FEIS) is Operator-committed practices and the Operators have written and provided these measures. The BLM has not annotated their submittal. New emissions estimates are provided in the AQTSD.
18	20	A3	Agency Recommendations, etc.	Volume 2, Chapter #B, Page #1-2, Exhibit B. Some alternatives are not committed to do items 8, 9, 12, and 13. For example, for item 9 are alternatives B, C and D allowed to burn openly and not follow Chapter 10 Section 12 of the Wyoming Air Quality Standards and Regulations?	Please keep in mind that Appendix B (Appendix C in the FEIS) outlines practices that have been voluntarily proposed by the Operators. The BLM would not sanction any violation of state or federal law.
18	21	A3	Agency Recommendations, etc.	Volume 2, Chapter #C, Page #20, 4th and 6th bullets. Did the BLM ever follow up on these two comments? Please include some discussion.	Bullet 4: The BLM provided for extensive review of emission sources and assessed impacts by means of modeling efforts conducted in consultation with stakeholder agencies. Bullet 6: The BLM routinely consults with all air quality stakeholder agencies on monitoring and mitigation issues in the JIDPA.
18	22	A3	Agency Recommendations, etc.	Volume 2, Chapter #D, Page #1. General comment, The BLM should consider one group chartered under the RMP to oversee the activities within the Pinedale Area Office. There are limited agency personnel and public citizens available to participate and conduct this work.	This comment is no longer applicable. A new oversight group, the JIO, is presented in the FEIS (see FEIS Sections 2.4.5 and Appendix E).
18	23	A3	Agency Recommendations, etc.	Volume 2, Chapter #D, Page #4, Item VII. Why are the operating procedures here different than those applied to the PAWG? (Especially the criteria for announcing meetings.)	This comment is no longer applicable. A new oversight group, the JIO, is presented in the FEIS (see FEIS Sections 2.4.5 and Appendix E).
18	24	A3	Agency Recommendations, etc.	Volume 2, Chapter #F, Page #12-15, Tables F-12 and 13. Please look at the data presented in these tables. It appears that modeled PM <sub>10</sub> and PM <sub>2.5</sub> emissions are the same, is this correct?	The values presented in these tables are correct. At far field locations the PM <sub>10</sub> and PM <sub>2.5</sub> impacts from direct project sources are the same since the emissions are all assumed to be PM <sub>2.5</sub> . The fraction of PM emissions greater than PM <sub>2.5</sub> and less than or equal to PM <sub>10</sub> from road fugitive sources was assumed to deposit out before reaching the far field locations (as described in the AQTSD).

**Table III-B. Substantive Comments on JIDP Air Quality Issues (cont'd)**

<b>Submittal ID</b>	<b>Comment Number</b>	<b>Comment Category</b>	<b>Keyword</b>	<b>Comment Text</b>	<b>Response</b>
18	25	A3	Agency Recommendations, etc.	Volume 2, Chapter #F, Page #13 and 14, Table F-13. Is footnote 3 correct? Should it be PM <sub>2.5</sub> instead?	Footnote 3 is corrected in the FEIS to read PM <sub>2.5</sub> .
18	26	A3	Agency Recommendations, etc.	Volume 2, Chapter #F, Page #44, Table F-34. Counting of days of impairment is not consistent here. For example the max visibility change at the Popo Agie Wilderness of 1.0 is counted while the same level at the Wind River Roadless Area is not counted. Is this due to rounding the numbers or something else?	This is due to rounding. CALPOST reports days above 0.5 and 1.0 dv using 3 decimal places. The values in Tables F-34 were rounded to 2 decimal places. This discrepancy is corrected in the FEIS.
18	27	A3	Agency Recommendations, etc.	Volume 2, Chapter #F, Page #48, Table F-38. The same problem cited above occurs here at the Merna site. [Volume 2, Chapter # F, Page # 44. Table F-34. Counting of days of impairment is not consistent here. For example the max visibility change at the Popo Agie Wilderness of 1.0 is counted while the Same level at the Wind River Roadless Area is not counted. Is this due to rounding the numbers or something else?]	See comment 18-26, above.
18	28	A4	Agency Recommendations, etc.	AQTSD Page #10, 3rd paragraph. Please consider putting all of the modeling assumptions in one place rather than spreading them throughout the document as footnotes on tables.	This comment is appreciated. However, such information is most useful when juxtaposed with the resulting data. Modeling methodologies and parameters are provided in the AQTSD.
18	29	A4	Agency Recommendations, etc.	AQTSD Page #15, Table 2.3. High levels of VOC emissions are predicted from the project (56,224 tpy). Ozone will form as a result of these primary emissions, and have potential to impact the nearby wilderness areas. The VOC emissions could be mitigated. Please indicate potential VOC mitigation measures.	VOC emissions levels are not directly correlated with NOx emissions. The majority of VOC emissions are from production well condensate tanks and dehydrator flashing losses. From construction related activities, eliminating flaring would reduce NOx and VOCs, and similarly tier 2 technologies on the drill rigs would reduce both NOx and VOC emissions. Additionally, the FEIS and AQTSD now include production decline curves which provide for better estimates of production well VOC emissions.
18	30	A4	Agency Recommendations, etc.	AQTSD Page #31, Table 3.3. Does this table take into account impacts of other well pads that may be developed in the same grid area?	This table takes into account one well pad and one 2.5 mile resource road. Impacts of other well pads that may be developed in the same area are not taken into account because maximum modeled impacts occur at receptors immediately adjacent to the construction activities, and concentrations are reduced significantly with distance. Pollutant impacts resulting from multiple wells under construction combined with production activities were estimated using the CALPUFF

**Table III-B. Substantive Comments on JIDP Air Quality Issues (cont'd)**

Submittal ID	Comment Number	Comment Category	Keyword	Comment Text	Response
					model and are reported in AQTSD Section 4.6.1.
18	31	A4	Agency Recommendations, etc.	AQTSD Page #42, Paragraph 1. Please discuss how the assumptions regarding percentages of control devices on storage tanks and dehydrators relate to what is actually happening in the field?	The assumptions regarding percentages of control devices on storage tanks and dehydrators were provided by Operators. These data were developed from existing operating wells in the field.
18	32	A4	Agency Recommendations, etc.	AQTSD Page #50, Table 4.1. This table contains some contradictions: 1. Footnote 1 shows that even though the proposed alternative included directional wells, that modeling was done assuming all straight holes. 2. The proposed action alternative also shows that it was modeled, yet the comment indicates this was approximated by Alternative A. 3. Footnote 2 indicates that the alternative was not modeled, but assumptions were that 50% of the holes drilled were straight and 50% were directional while the alternative is described as 91% directional and 9% straight.	Modeling scenarios were determined to “best estimate” each project alternative scenario, with consideration given not to under estimate potential emissions from any scenario. It would be extremely time-consuming and costly to model every specific detail of each alternative given the enormous variability in emissions durations, locations, and development rates. For example: Well drilling activities average 19 days for vertical drilling and 23 days for directional drilling, and flaring activities last up to 80 hours per well and the assumption is that only 20 percent of the wells would require flaring. If 250 wells were developed in 1 year, with a 50/50 split for vertical/directional drilling, it would require 5,250 drilling days in the year (21 days x 250 wells) and 167 flaring days (0.2 x 250 x 3.3 days). This results in an average of 14.4 drill rigs per day and 0.46 flares per day. The modeling scenario for this case assumed 20 drill rigs and 3 flares operating continuously over the year. This assumption is a large over estimate of annual emissions from these activities, yet it was an estimate of what could occur during any specific day during the year. The analyses conducted provide an adequate representation of the possible range of potential effects.
18	33	A4	Agency Recommendations, etc.	Air Quality Assessment Protocol, Page #4, 1st paragraph. In the last sentence, the LOP is 30 to 50 years. This is not consistent throughout the documents. LOP now appears to range from 30 to 110 years (see very first comment on Vol. 1) in the documents. Also, the estimate for drilling time of 4 years seems low.	The FEIS reports a consistent LOP; however, please note that project effect's durations vary considerably across resources and alternatives. Changes to project parameters were made subsequent to protocol development, and are as presented in the main body of the FEIS and AQTSD.

**Table III-B. Substantive Comments on JIDP Air Quality Issues (cont'd)**

<b>Submittal ID</b>	<b>Comment Number</b>	<b>Comment Category</b>	<b>Keyword</b>	<b>Comment Text</b>	<b>Response</b>
18	34	A4	Agency Recommendations, etc.	Air Quality Assessment Protocol, Page #18, Table 3.1. O <sub>3</sub> background concentrations shown in this table are different than background used in the AQSD page 40, table 3.7.	<p>A revision to O<sub>3</sub> background concentrations proposed for use in the air quality assessment was made pursuant to stakeholder comments. The revised background concentration and calculation of O<sub>3</sub> concentrations are described in AQTSD Section 3.4.4.</p> <p>In recognition of the importance of potential ozone concentrations, monitoring has been initiated in the Jonah Field area as well as near Daniel and Boulder.</p>
18	35	A4	Agency Recommendations, etc.	Air Quality Assessment Protocol, Appendix B, Page #B-12 and 13, Tables B.1.8 and B.1.9. In these tables, there is a drilling time of 19 days for the emission analysis. In this document Page 5) states that 23 days is assumed. This will result in about a 20% underestimation of emissions.	<p>Please note that Appendix B, Page B-12 and 13, Tables B.1.8 and B.1.9 are Appendix B to the AQTSD, not an appendix to the Air Quality Assessment Protocol which is included as Appendix A of the AQTSD.</p> <p>The AQTSD text has been revised for clarification. Average drilling time estimates as provided by the Operators are 19 days for vertical wells and 23 days for directional wells. All rig emissions estimates are based upon these durations.</p>
18	36	A4	Agency Recommendations, etc.	Air Quality Assessment Protocol, Appendix B, Page #B-20, Table B.1.15. The table is missing a footnote 7.	<p>Please note that Appendix B, Page B-20, Table B-20 is Appendix B to the AQTSD, not an appendix to the Air Quality Assessment Protocol which is included as Appendix A of the AQTSD.</p> <p>There is no footnote 7, and the table has been corrected.</p>
18	37	A4	Agency Recommendations, etc.	Air Quality Assessment Protocol, Appendix F, Page #F77, Table F.3.1. Should that be 24-hour instead of 2-hour?	<p>Please note that this is Appendix F to the AQTSD, not to the Air Quality Assessment Protocol which is included as Appendix A of the AQTSD.</p> <p>The PM<sub>10</sub> averaging time now reads 24-Hour.</p>
18	38	A4	Agency Recommendations, etc.	Air Quality Assessment Protocol, Appendix F, Page #F-164, Table F.6.4. What do negative numbers mean in this table?	<p>Please note that this is Appendix F to the AQTSD, not to the Air Quality Assessment Protocol which is included as Appendix A of the AQTSD.</p> <p>Cumulative modeling includes regional emissions increases as positive values and regional emissions decreases as negative values. The difference in these values result in these negative S deposition values. These results indicate that</p>

**Table III-B. Substantive Comments on JIDP Air Quality Issues (cont'd)**

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					the estimated project impacts combined with regional sources would not impact S deposition at these sensitive areas. The cumulative deposition values are added to representative background values and presented in the FEIS.
18	39	A4	Agency Recommendations, etc.	Air Quality Assessment Protocol, Appendix F, Page #F-220, Table F.8.28. This table only shows 30 days of impairment, while pg F-208 shows there are 40 days where the visibility is impaired at >0.5 dv level. Are days missing? Also, the lines for the summation of > 0.5 and > 1.0 are not adding up correctly.	Please note that this is Appendix F to the AQTSD, not to the Air Quality Assessment Protocol which is included as Appendix A of the AQTSD.  This is an incorrect comparison; one table presents direct project impacts while the other presents cumulative impacts. The numbers provided in the representative tables are correct. The daily summary tables (at the bottom), list the number of days above 0.5 dv for direct project impacts and 1.0 dv for cumulative impacts. The AQTSD now clarifies this.
18	40	A4	Agency Recommendations, etc.	Air Quality Assessment Protocol, Appendix F, Page #F-221, Table F.8.29. There is a similar problem with this table as noted above. Pg F-208 shows 46 days with >0.5 dv change yet the table only shows 34 days. Also in this table the number of days summed at the bottom appears incorrect.	Please note that this is Appendix F to the AQTSD, not to the Air Quality Assessment Protocol which is included as Appendix A of the AQTSD.  See comment response 18-39, above.
18	41	A4	Agency Recommendations, etc.	Air Quality Assessment Protocol, Appendix F, Page #F-224 to F-228, Table F.8.32 to F.8.35. The problem cited above seems to be repeated on these tables as well where the number of days shown on the tables does not agree with the information provided on page F-208 for each of the areas. It appears the tables for the communities modeled are correct.	Please note that this is Appendix F to the AQTSD, not to the Air Quality Assessment Protocol which is included as Appendix A of the AQTSD.  See comment response 18-39, above.
37	2	B	Conservative Analysis	The series of project assessments performed by the BLM for oil and gas development projects in the Upper Green River area have, in our opinion, generally tended to assume in their analytical basis ever more complex, worst case scenarios. These then lead to, in the ROD, equally complex mitigation strategies because worst case scenarios inappropriately gain the stature of a most likely scenario. This report seems to follow that same pattern. In our opinion, the report does not adequately address or predict in the short term (2006) or in the long term the realities of actual development practices such as ever improving technology, acceleration up a learning curve. cooperation between	Although the BLM appreciates the efforts of the Operators to incorporate new, more environmentally friendly technologies, not all Operators are able to do so, and pending certain commitments, there is no way to guarantee that Operators will continue to do so in the future. For such reasons it is necessary that the BLM be conservative in its modeling assumptions. It is far better to overestimate the impacts and find out they are less in the implementation than to underestimate them.  The JIO (described in FEIS Section 2.4.5 and

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				stakeholders, etc. We suggest that time and time again the energy development industry has utilized practices that quickly perform much better than the scenarios detailed in early assessments. In some fashion, that likelihood should be included in this analysis.	Appendix E) will provide an avenue whereby the BLM would use adaptive management during implementation of the JIDP.
37	4	B	Conservative Analysis	Parameters chosen to be included in various calculations seem to be universally conservative. (Specific parameters are addressed in our specific comments below.) The utilization of only conservative factors has a mathematically cumulative impact when they are used in sequential computations. This creates, at best, inaccurate calculations and, at worst, exaggerated calculated outcomes. Both are inappropriate outcomes for a document that will be used to not only make fact-based decisions but which will be used to supercharge emotional arguments. It is incumbent on the calculation process to demonstrate the range of possible outcomes based on a complete description of the range of possible input parameters. This can only be done through disciplined statistical methods or approximations of statistical methods. We find the statistical discipline in the report to be weak and therefore the description of the potential outcomes to be equally weak.	BLM maintains that the EIS and AQTSD analyses are reasonable but conservative. "Reasonable but conservative" is consistent with CEQ Guidance for conducting NEPA analysis.
37	5	B	Conservative Analysis	The analysis is entirely deterministic rather than statistical in nature. That is, absolute numbers are calculated and ranges of variation from those numbers are further determined. This deterministic methodology fails to acknowledge or analyze the statistical probability (likelihood) that alternative, improved outcomes (mitigation, change of conditions, etc.) are possible or probable both in the short term (2006) and long term. Time and time again, economic and technological forces have driven oil and gas development toward outcomes that could not be determined in advance but which, given the long history of such outcomes, could have been statistically forecasted with high reliability. We therefore submit that a disciplined statistical analysis of the data would likely lead to other, possibly improved, lower impact outcomes which would be significantly different than the deterministic outcomes used in the report. This would be especially true in the analysis of worst case	Thank you for your comment.  BLM maintains that the EIS and AQTSD analyses are reasonable but conservative. "Reasonable but conservative" is consistent with CEQ Guidance for conducting NEPA analysis.

**Table III-B. Substantive Comments on JIDP Air Quality Issues (cont'd)**

Submittal ID	Comment Number	Comment Category	Keyword	Comment Text	Response
				scenarios. The “mitigation runs” in the Preferred Alternative scenario which demonstrate reductions to 80%, 60%, 40%, and 20% of the worst case, high emission scenario, while not statistically disciplined methods, are an approximation of valid statistical methods and should be given much more credibility in the report.	
37	7	B	Conservative Analysis	Tables C.1.4 and C.1.14 demonstrate that for the worst emissions case in the Preferred Alternative, a) the maximum per year well development rate (250 wells/year), b) with minimal drilling rig engine emission controls (80% Tier 0, 20% Tier 1), c) very high drilling rig engine loading, d) very frequent high drilling rig engine loading intervals, e) maximum, uncontrolled flared volumes, f) controlled but maximum wellsite emissions, and g) maximum compression emissions, modeled NO <sub>2</sub> concentration impacts and modeled cumulative NO <sub>2</sub> concentration impacts are approximately 10% of existing background concentrations. We know these tables overestimate worst case NO <sub>2</sub> concentrations and cumulative concentrations.	Thank you for your comment.  BLM maintains that the EIS and AQTSD analyses are reasonable but conservative. “Reasonable but conservative” is consistent with CEQ Guidance for conducting NEPA analysis.
37	8	B	Emissions, Project	The wrong AP 42 emission factor was chosen to be applied against drilling rig engines  The analysis uses the AP 42 Table 3.3-1 emission factor (0.031 lb/hp-hr) rather than AP 42 Table 3.4-1 emission factor (0.024 lb/hp-hr). Rig emissions are therefore overestimated by 29% through this error.	One 500-hp engine and two 800-hp engines were specified for straight drilling, and two 500-hp engines and two 800-hp engines were specified for directional drilling. AP-42 Section 3.4-1 is applicable to engines 600 hp or greater. Because not all engines specified were greater than 600 hp, and because a single emission factor was desired for use in the inventory, the emission factor from AP-42 Table 3.3-1 was conservatively used.
37	9	B	Conservative Analysis	AP 42 is known to be a conservative (upper limit) method of calculating emissions. Hence, emission factors from actual manufacturer's tests are commonly applied in normal emission calculations to get more realistic estimates. That methodology was not utilized or addressed in the current analysis for drilling rig engines.	Engine horsepower was the only information provided for drilling rig engines; given the wide range of possible engines operating at a given horsepower, it was not possible to estimate make/model to obtain representative manufacturer's data for these engines.
37	10	B	Emissions, Project	The report uses an overall “load factor” for drilling rig engines of 0.42 (See Tables beginning with Table D. 1.2). This factor is computed by assuming that 65% of the days that the rig is operating, the “throttle setting is	The load factor of 0.42 was first developed with Operator input for drilling engines in the Continental Divide EIS in 1994/1995. EnCana reviewed and approved the 0.42 load factor as

**Table III-B. Substantive Comments on JIDP Air Quality Issues (cont'd)**

Submittal ID	Comment Number	Comment Category	Keyword	Comment Text	Response
				<p>65%” of maximum. The analysis oftentimes refers to, and uses as a basis, data submitted by Questar to the WDEQ (in October 2004). While there are a number of ways to estimate the complexities of rig engine loading, we would like to point out some of the weaknesses in the report’s analysis:</p> <p>i. The rigs listed in the Questar data from 2004 operations had older engines and lower efficiency power arrangements. This is because we were forced to use available rigs, not optimized rigs. To suggest that an operator entering into a long term development project would use anything but optimally powered and therefore lower emission rigs is very misleading and leads to overestimates of emissions.</p> <p>ii. While loading factors are subject to many variables, we are unable to rationalize reasonable operating scenarios that would lead to overall rig engine loading factors as high as 0.42. Therefore, we believe that the analysis overestimates emissions by using too high an overall loading factor.</p> <p>iii. There are a number of places where 5,000 horsepower Tier 0 was assumed as the power arrangement on “other” drilling rigs in the area. While we did have a 5,284 hp drilling rig on our very deep well in 2004, this was not a rig of choice. Furthermore, the depth drilled, over 19,000 ft, hardly seems pertinent to the Jonah Infill Drilling Project. To the extent this size and type of rig was utilized in the report for emission calculations, we submit that the emissions calculated would be extremely overestimated.</p> <p>iv. Extended durations of flaring events, high frequency rates for flaring and high volumes of gas flared were assumed in completion flare emission calculations. This approach appears to have completely ignored the new restrictions placed by the WDEQ on flaring operations. Hence, flaring emissions appear to be greatly overstated.</p> <p>v. WDEQ regulations in force since July 2004 instituted restrictions to well site operations and emissions that</p>	<p>well as other Jonah-specific rig engine data during the emissions inventory development process.</p> <p>Flaring restrictions and other well requirements imposed by WDEQ-AQD were not in place at the time the inventory was developed and the initial modeling was performed.</p> <p>Permitted compressor engine emissions were taken from permit allowable emission rates for those units.</p> <p>Declines in flashing emissions over the life of wells is now considered in VOC and ozone calculations.</p> <p>Please also see comment 15-26, above.</p>

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Submittal ID	Comment Number	Comment Category	Keyword	Comment Text	Response
				<p>do not appear to be included in the analysis. Therefore, the emissions appear to be over-stated for well site activities for that reason.</p> <p>vi. Long standing WDEQ regulations on well site operations and emissions use emission calculation methods which assume nearly full well production capacity and do not fully recognize the steep decline in actual gas production, and therefore emissions, which is typical of tight gas reservoirs not only in the Jonah and Pinedale areas but worldwide. A failure to adequately estimate production decline leads to overstatement of related emissions.</p> <p>vii. AP 42 emission factors were applied to all "permitted" compressor engines for nitrogen oxides, sulfur dioxide, and particulate matter. There are several reasons why this approach leads to an overestimate of those types of emissions (e.g., at least in the Pinedale operations, estimated permitted horsepower exceeds actual permitted horsepower).</p> <p>AP 42 leads to very conservative (upper limit) estimates for the above listed types of emissions. In fact, manufacturer's specifications are much lower and actual stack tests at existing compressor stations are much, much lower than those calculated by AP 42.</p>	
37	11	B	Mid-/Far-Field Modeling - Visibility	As a result of the errors in methodology, calculation, and estimation of NO <sub>2</sub> concentrations and calculation of cumulative concentrations, we suggest that visibility impacts from the Jonah Infill Drilling Project for the Class I and Class II areas listed in the report are greatly over-stated.	<p>Thank you for your comment.</p> <p>BLM maintains that the EIS and AQTSD analyses are reasonable but conservative. "Reasonable but conservative" is consistent with CEQ Guidance for conducting NEPA analysis.</p>
37	12	B	Mid-/Far-Field Modeling - Visibility	We agree that, since the report used visibility data from "...the Class I Bridger Teton: Wilderness Area, an area more pristine than populated residential areas...to estimate potential visibility impairment at Wyoming regional community locations", the result is an overestimation of the visibility impacts at those locations.	See comment 15-59, above.
37	13	B	Mid-/Far-Field Modeling - Visibility	While the analysis purports to address local visibility impacts from local sources, the extensive inclusion in the analysis of regional source data as well as frequent	The air quality analysis presents potential visibility impacts from both the proposed JIDP alone, and from cumulative regional sources. BLM includes

**Table III-B. Substantive Comments on JIDP Air Quality Issues (cont'd)**

Submittal ID	Comment Number	Comment Category	Keyword	Comment Text	Response
				<p>references to regional haze seems to be a demonstration that the “regional” problem is indeed regional. We believe the analysis and report fails to highlight the regional problem created by a multitude of local, national, and international sources and tends to highlight the relatively small contribution of one project. No assumptions for emission reduction at any nearby or regional source are included in the analysis. In fact, it appears that some sources are included in the analysis that are not, to our knowledge, yet permitted. This, of course, impacts calculated short term (2006) and long term outcomes. The analysis also fails to emphasize the likelihood or statistical chance of success of the low emission case in the Preferred Alternative. The cumulative effect of the above listed methodology is delivery of a visibility impact statement that establishes the worst case scenario as the most likely scenario. That methodology may not appropriately address regional sources nor does it deliver an appropriate assessment of the lower emission cases for the Jonah Infill Drilling Project.</p>	<p>future sources in the cumulative regional analysis to estimate potential future impacts.</p> <p>See comment 5-1, above.</p>
37	1	C	Conservative Analysis	<p>We believe we have demonstrated and are executing our standard of care for air and environmental quality in the Pinedale Anticline Project Area (PAPA). We believe that the results we are attaining in the PAPA are far better than those cases forecasted by the JIDP Air Quality Impact Analysis. Furthermore, we believe that the PAPA results are more representative of what the JIDP operators will be attaining even without factoring in to the analysis a number of other, future, favorable technological and economic factors that typically become drivers in such matters. We believe the improvements in actual versus estimated outcomes deserve more recognition in this public process so that all stakeholders can make better informed and appropriate assessments and decisions.</p>	<p>The BLM appreciates all efforts made by Operators to mitigate air quality impacts in the Jonah Field and at other locations. Continued efforts in this regard will facilitate the implementation of the JIPD and future projects. However, the BLM believes that the air quality modeling is appropriate based upon current understandings of technologies and background information. Establishment of the JIO, as discussed in FEIS Section 2.4.5 and Appendix E, allows for the adaptive management of air quality issues in the Jonah Field.</p>
37	3	C	Conservative Analysis	<p>Assessments of this type are the only documents most stakeholders see and use to make their judgments of existing or near term scenarios and longer term impacts. While we appreciate the predictive nature of the NEPA environmental impact analysis process, we suggest that scenarios that anticipate lower impact outcomes from the project need to be more fully</p>	<p>The August 2005 AQTSD Supplement (see AQTSD Appendix G) considered a wide variety of scenarios for the Preferred Alternative, including low and high emissions, as well as 20%, 40%, 60%, and 80% emission reduction cases. The BLM believes this consideration of emissions reductions was appropriate and was well</p>

**Table III-B. Substantive Comments on JIDP Air Quality Issues (cont'd)**

Submittal ID	Comment Number	Comment Category	Keyword	Comment Text	Response
				addressed in the Jonah Infill Drill Project analysis.	considered by decision makers.
37	6	C	Mitigation	Given the above uncertainties in actual concentrations of pollutants as well as impacts, it seems untenable that fixed final and restrictive mitigation strategies, both short term (2006) and longer term, are based on those uncertain impacts and then proposed or implied in the report. We believe there are performance standards that can be established in cooperation with Operators that will lead to more effective, more meaningful and more realistic emission control. We further believe that jointly developed performance standards will lead to better project planning and reduced project impacts and more gas will be recovered from the reservoir resulting in better and more balanced economic outcomes for all stakeholders.	The Preferred Alternative includes performance standards for the Operators in the Jonah Field (see FEIS Section 2.4.5). However, in addition to the standards, the BLM has determined that certain mitigation strategies are also needed. The JIO allows for the adaptive management of the project as the BLM continues to work with Operators. Please keep in mind that socioeconomic impacts are only one of the many resources considered in a NEPA analysis.
37	14	C	Mitigation	The mitigation strategies suggested in the report do not suggest any local (residential, commercial, vehicle) impacts or strategies. Are these not significant locally and should they not be included in a comprehensive analysis of this type? If they are summarily included in "background" concentrations, which is by far the largest concentration in all analyzes, should not specific mitigation strategies be suggested for those sources as well?	Thank you for this suggestion.
37	15	C	Mitigation	The Pinedale Anticline Work Group Air Quality Task Group report published in February 2005 presents in great detail air quality monitoring taking place in the area. Also, the WDEQ has in place an extensive emission inventory process as well as an active, functioning air quality model. Data from these monitoring sites as well as the inventory system are used in the WDEQ modeling process. These efforts should be included as primary components of mitigation strategies and should be utilized before other arbitrary mitigation steps are proposed.	All relevant air quality monitoring data was incorporated into the modeling effort that was available at the time of its development. Nonetheless, the BLM has determined that additional mitigations are needed. The JIO would oversee air monitoring in the JIDPA, which would allow for the adaptive management of these mitigation strategies.
38	1	B	Conservative Analysis	The current EIS portrays a worst-case scenario and essentially assumes that the area's Class I Air shed is at risk. In reality - - and contrary to claims that Pinedale's views of the Wind River Mountains will be obscured for about a third of the year - - data suggest	Some of the data may suggest that certain air quality parameters might have improved in the last few years. However, the modeling approach is deliberately conservative to ensure that decisions are made based upon reasonable potential

**Table III-B. Substantive Comments on JIDP Air Quality Issues (cont'd)**

<b>Submittal ID</b>	<b>Comment Number</b>	<b>Comment Category</b>	<b>Keyword</b>	<b>Comment Text</b>	<b>Response</b>
				air quality is improving. The reason for that rests with technological improvements and good natural gas development practices in the area.	impacts. If the resulting project causes less of an impact to the environment through positive efforts of the Operators, all parties involved will benefit.
38	2	B	Emissions, Regional	If air quality issues continue to persist, the BLM and other federal agencies should be looking hard at the lingering and ongoing air quality issues associated with unfettered railroad diesel emissions and increased tractor trailer traffic on the I-80 corridor.	The utilization of background monitoring data in the JIDP modeling efforts is assumed to account for these other influences. However, the BLM has no authority to regulate these emissions.