

ENVIRONMENTAL ASSESSMENT – BLM – CODY

EA PROJECT DATA					
Project Type	Oil Well, Pad, Roads, Buried Lines			EA Number	WY-020-E07-064
Proposed Action	West Branch #1 Well and Access Road				
Lease Number(s)	WYW-140131				
Applicant	Wesco Operating Inc.	Author	Seefeldt	Date	May 22, 2007
Case Number	Well Number & Name	Township	Range	Section(s)	
CA7-013	West Branch #1	53N	98W	11 & 14	

CHAPTER 1 – PROPOSED ACTION

Need for Proposed Action Wesco Operating Inc. has filed an application for permit to drill and produce the West Branch #1 Well (see Map I and table below).

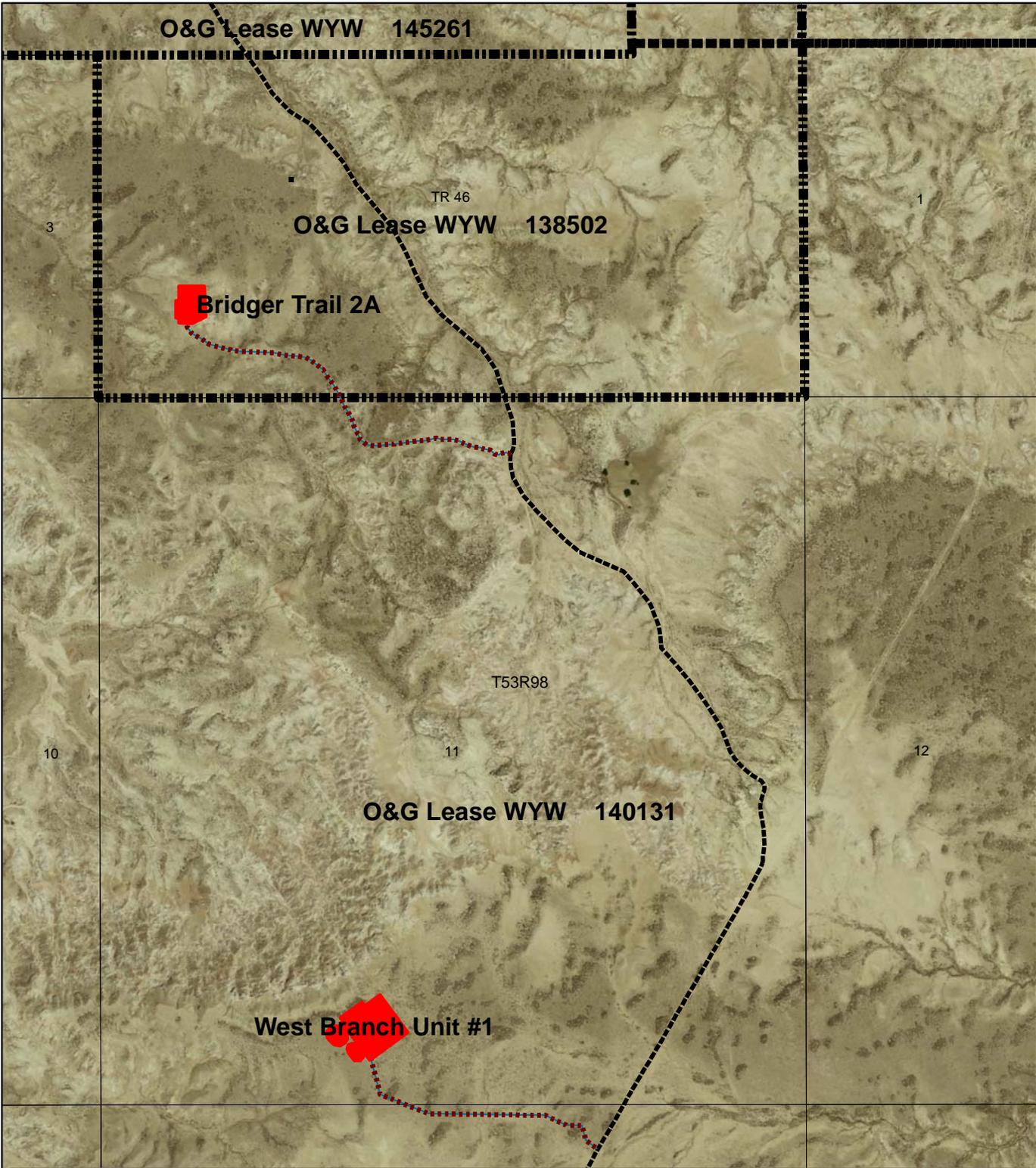
PROJECT SPECIFICS	
PROPONANT	Wesco Operating Inc.
ACTION	Construct well pad & road and drill for hydrocarbons (West Branch #1).
LOCATION	About 12 miles southeast of Powell Wyoming in the Whistle Creek Drainage (T53N, R98W, Sections 11 & 14).
PURPOSE	To exercise right to drill and produce hydrocarbons under their lease.
PROCESS	Prepare pad and bring in drill rig; drill and produce well – if economical.
TIME FRAME	Late summer or early autumn - 2007

Wesco currently operates the Bridger Trail 2A about one mile to the north of the proposed project (drilled in 2006). The permit would be kept on file in the Cody Field Office and considered an integral part of this Environmental Assessment (EA) by reference. The 8-point plan (drilling, geology, etc.), 13 point plan (surface use; well pad, road, etc.), and associated cultural and T&E consultation are considered part of the proposed action.

The entire project is situated on federal surface that is managed by the Bureau of Land Management (BLM) and the Bureau of Reclamation (BOR). The proposed access road, consisting almost entirely of existing gravel and dirt roads, will traverse about eight miles of BLM and BOR administered surface. It will cross BOR administered lands in T54N, 97W, Tracts 42 and 53 and in T54N, R98W, Tracts 40, 41 and 47 (see Map II). Wesco has the responsibility of securing necessary permits on the existing road that crosses BOR lands.

SPECIFIC WELL INFORMATION				
FEATURE	DESCRIPTION	LENGTH	ACRES	PERCENT
PAD	NEW SURFACE DISTURBANCE: 350' X 350' plus cut and fill slopes, spoil & topsoil	NA	3.6	13.24
NEW ROAD	NEW SURFACE DISTURBANCE: Up to 26' wide	2,030'	1.54	5.66
EXISTING ROAD	EXISTING SURFACE DISTURBANCE: Up to 26' wide	39,960'	22.06	81.10
TOTAL NEW AND EXISTING DISTURBANCE		NA	27.2	100.00

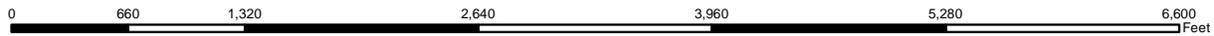
Off lease segments of the existing access road on BLM are already permitted by Wesco's existing right of way, WYW-164342, which includes parts of T53N, R97W, Tract 46 and Section 11 and T54N, R98W, Tracts 38 and 39 (see Map II). That part of the existing road and the planned new road that crosses Wesco's oil and gas lease (WYW-140131) does not need a right of way because it is



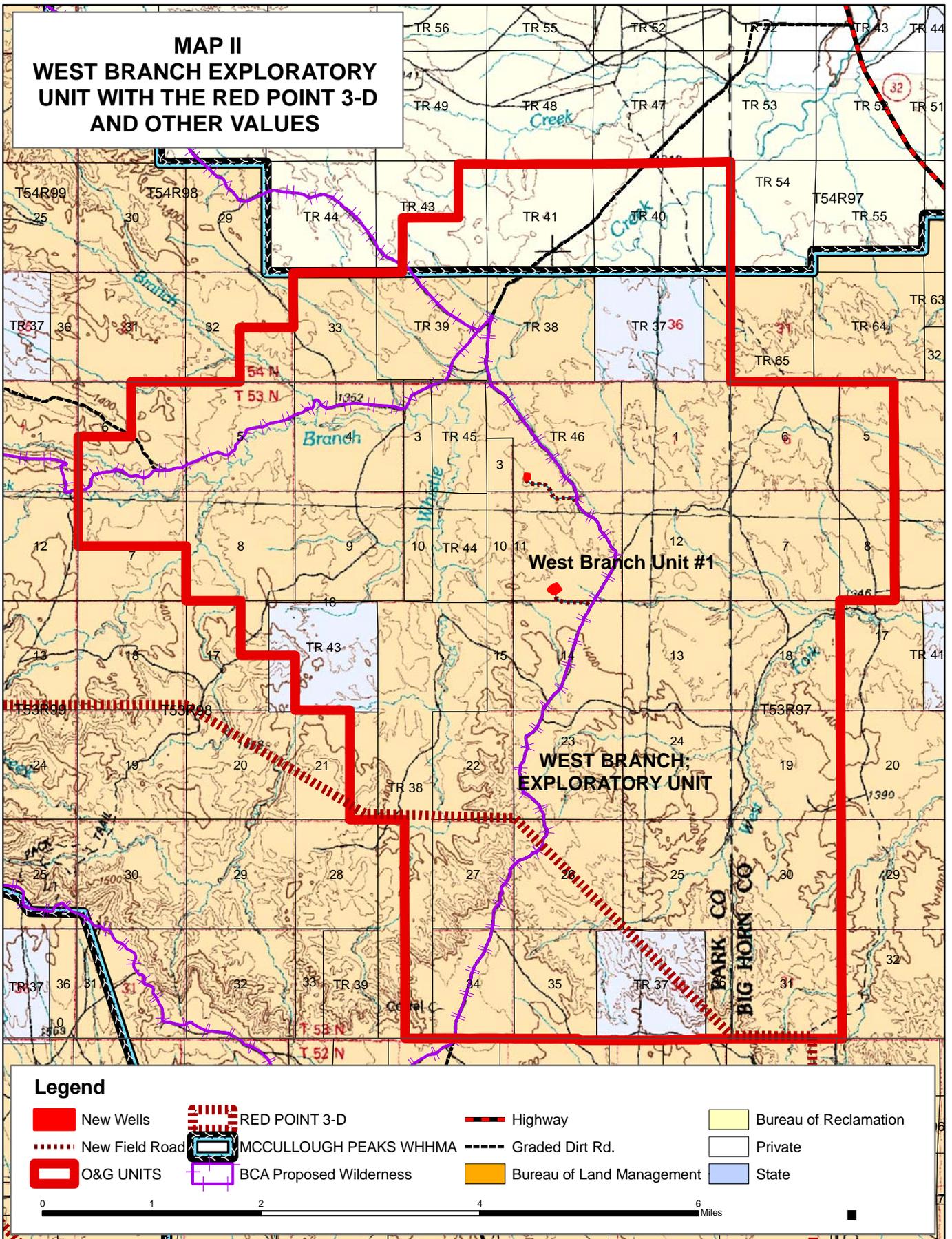
Legend

- New Wells
- Highway
- New Field Road
- Graded Dirt Rd.
- OIL & GAS Leases

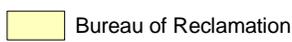
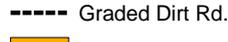
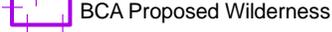
**MAP I
WEST BRANCH UNIT #1**

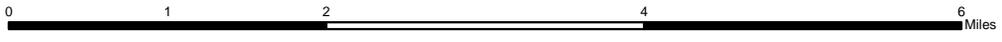


**MAP II
WEST BRANCH EXPLORATORY
UNIT WITH THE RED POINT 3-D
AND OTHER VALUES**

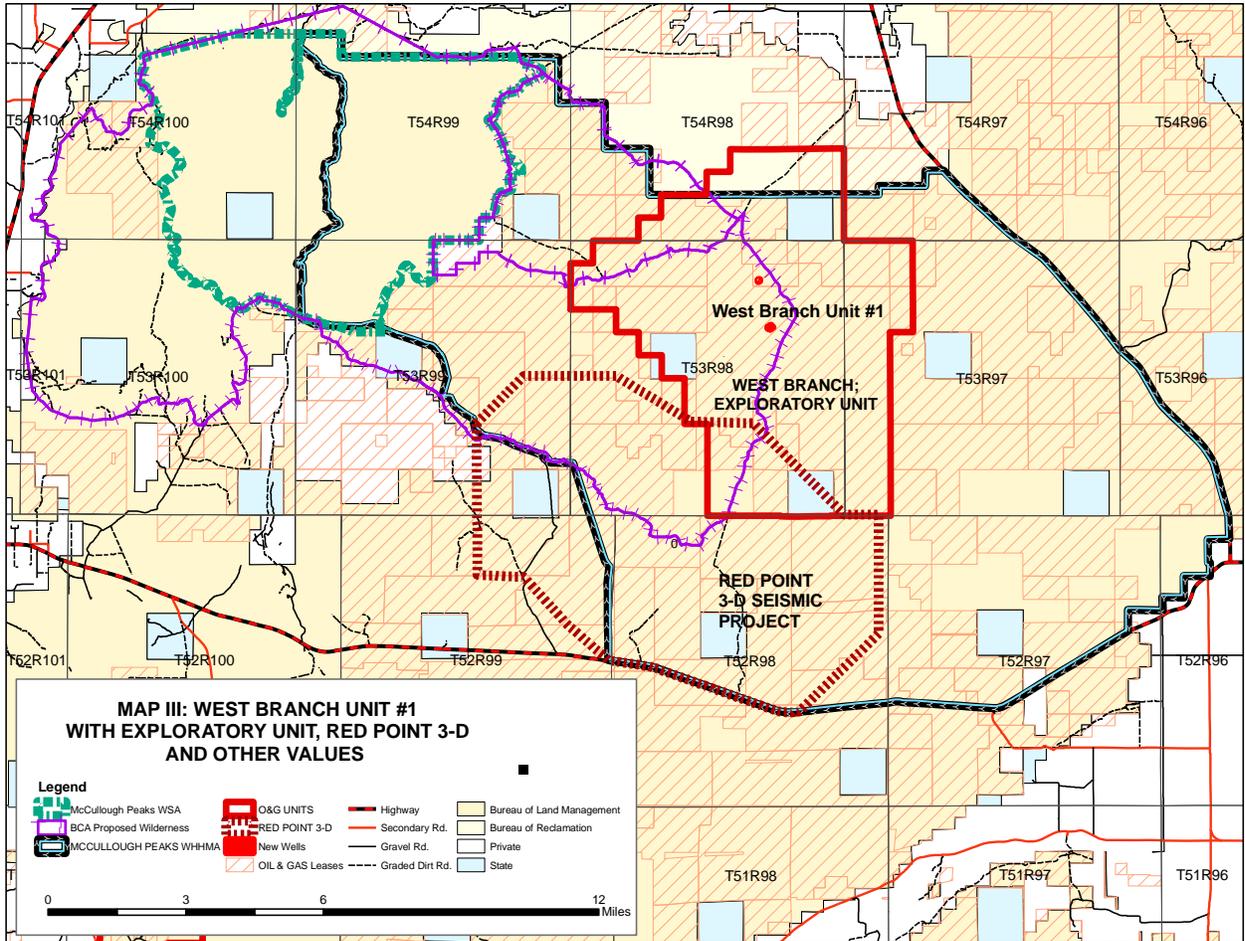


Legend

- | | | | |
|--|---|--|---|
|  New Wells |  RED POINT 3-D |  Highway |  Bureau of Reclamation |
|  New Field Road |  MCCULLOUGH PEAKS WHHMA |  Graded Dirt Rd. |  Private |
|  O&G UNITS |  BCA Proposed Wilderness |  Bureau of Land Management |  State |



permitted under authority of the oil and gas lease. This permit allows Wesco to exercise its right to drill under its oil and gas lease. Wesco and other companies have received approval of the West Branch Exploration Unit from Wyoming BLM's Reservoir Management Group in Casper, Wyoming



(see Maps II & III). This holds all leases within the unit past their respective expiration date, if necessary, so long as the conditions set forth in the unit are met.

Relationship to Statutes, Regulations, Policies, Plans or Other Environmental Analyses BLM policy requires that environmental effects be properly assessed and documented in an National Environmental Policy Act (NEPA) review to assure the decision on the permit is informed and the affects are not significant. The primary regulation governing the analysis process is 40 CFR 1500 (RE: The President's Council on Environmental Quality implementing regulations for procedural provisions of NEPA). BLM regulations for oil and gas development are found in 43 CFR 3100. The principal statutes governing oil and gas production on public lands are the Mineral Leasing Act of 1920 and the Federal Land Policy and Management Act of 1976.

The above cited federal laws meet the public need to develop federal mineral resources for fulfillment of America's social, economic and other objectives. The applicable laws ensure this public need is met by making public lands available to U. S. citizens and privately funded organizations to explore and produce mineral commodities. They do this by mandating agencies facilitate private sector development of minerals on public lands as a mater vital public interest.

This action conforms to the Cody RMP/EIS (signed 11/8/90) as required by 43 CFR 1610.5. The RMP specified an objective "to maintain or enhance opportunities for mineral exploration and development, while providing protection or enhancement of other resource values". The plan anticipated the drilling of between 40 and 50 wildcat wells and 620 and 630 development wells in the decade following signature of the ROD (November 1990; See Cody Resource Management Plan - Final EIS, pg. 20). At this time, less than 60% of anticipated wells have been drilled.

The Cody Resource Management Plan also stipulated that reasonable measures like seasonal stipulations should condition drilling. They are based on Wyoming BLM Standard Mitigation Guidelines and shown in Appendix "B" of the Cody RMP. Wescos' Oil and Gas Lease WYW-140131 has a stipulation to prohibiting drilling operations from February 1 to July 31 to protect sage grouse nesting and brood rearing activities.

To improve surface management of oil and gas operations, BLM issues Instruction Memorandum No. 2004-194, which mandates use of Best Management Practices to limit long term surface disturbance, protect wildlife habitat, protect open space and scenic values and achieve similar objectives. The BMPs are, however, subject to limitations imposed by safety concerns, available technology, and other factors. This is to ensure that development and operation of individual wells and fields do not suffer repeated failure because of faulty design that resulted from inappropriate compliance with BMPs, which are guides rather than absolute mandates.

CHAPTER 2 - DESCRIPTION OF ALTERNATIVES

The format for discussion in this document places all mitigation into the descriptions of the alternatives. This is true of whether mitigation is part of was proposed by the operator or suggested during interdisciplinary review; hence, all effects described in this section are, by definition, residual.

Two alternatives will be considered: 1) not approving the permit, and, 2) approving the permit with more or less standard COAs. Relocation was considered as an alternative and rejected because the current well site was moved from a site with poor drainage and slope characteristics.

1) ALTERNATIVE I - NO ACTION (NOT APPROVING THE PERMIT) - under this alternative the action would not be approved; other activities like grazing, hunting would continue along with and associated environmental effects.

2) ALTERNATIVE II - PROPOSED ACTION (APPROVING THE PERMIT) - under this alternative the action would be approved.

<u>DESCRIPTIVE SUMMARY OF ALTERNATIVES</u>		
	<u>Not Approving The Permit</u>	<u>Approving The Permit</u>
<u>Drilling Time</u>	NA	45 Days
<u>Waste Disposal</u>	NA	Reserve pit constructed entirely in cut; lined & fenced.
<u>Water Source</u>	NA	Hauled by truck.
<u>Surface Disturbance</u>	No new surface disturbance except for emergency operations.	5.14 acres (see Specific Well Information below)
Watershed	NA	Requires WDEQ coordination for Storm Water Discharge Permit
<u>Weeds</u>	Managed by BLM.	Managed throughout life of project by Wesco.

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As the tables show most about 80% of the disturbance resulting from the proposed action is not new disturbance, but disturbance that has already occurred because of construction of the existing Whistle Creek Road.

DETAILED DESCRIPTION - PROPOSED ACTION

General Under Alternative 2, there are four potential stages in the life of an oil or gas well: initial construction; drilling; production (if economic reserves are present); and, abandonment and reclamation.

Operations – All operations will be kept on the pad except for actual construction of the pad or spill containment.

Historic & Pre-historic Values - Historic and pre-historic values are addressed by participation (Wesco Operating Inc. & BLM) in the Section 106 process (standard cultural conditions submitted in plan of development are positively binding on Wesco). On this project this included a Class III inventory.

Sage Grouse Nesting – To protect raptor nesting sites and to limit disturbance to nesting and brood rearing habitat for sage grouse, activities related to drilling and construction on the pad, pipeline, etc. will not occur between February 1 and July 31. Exceptions may be granted for periods after June 30th since this location is not a primary brood rearing area for sage grouse and is not within close proximity to raptor nest sites if activities can be conducted in a manner that would avoid disturbance to sage grouse or raptor reproductive cycles and young of the year.

Stage I - Initial Construction

Topsoil –Six inches (6”) of topsoil is stripped from the pad area and stored for later reclamation; Four (4) inches will be removed on the road.

Work Area - For pad construction, equipment use may extend 40' outside the outer limits of stockpiles, cut slopes and fill slopes.

Pad – The pad is graded large enough for safe drilling operations; the reserve pit excavated and the rat and mouse holes drilled. Finally, the well is spudded and surface casing is set. In this case, a small diversion will be constructed along the north side of the pad to ensure that runoff from the small drainage does not enter the pad and the reserve pit.

Road – The road is graded to permit reasonable, all-weather access for all drilling, completion and production.

Stage II - Drilling - Rig-up and drilling (rotary rig) generally begin immediately after pad construction. A BLM petroleum engineer reviews the drilling (8-point) plan including the proposed casing and cementing program.

Casing – Casing is inspected to ensure that it meets or exceeds standard safety factors required for tension, collapse, and burst criteria; it is properly set to isolate contaminants and protect fresh-water aquifers.

Cementing – Cementing depths properly set with material that meets approved specifications.

Blowout Preventer – A blowout preventer is used in all drilling operations; the rated working pressure of the stack and choke manifold is reviewed to ensure it is adequate to handle anticipated bottom hole pressures

Drilling Mud – The drilling fluids are of a density sufficient to contain wellbore pressures, but not so high that they exceed fracture gradients of formations to be encountered.

Hydrogen Sulfide Gas – An H₂S contingency plan is prepared, approved and followed to control drilling operations so that sour gas does not endanger public safety.

Reserve Pit – The reserve pit is adequately designed to contain all drilling fluids and lined; after drilling, it is filled with at least 3' of cover over drilling muds after they have dried. If hydrocarbons enter the pit, they will be removed within 24 hours or the pit will be netted.

Stage III - Production - If the well is produced the following steps can occur without further approval. Additional permits are required for deepening, sidetracks, and re-completions to review for bursts in the casing, leakage, blowouts or other problems. Wells must be produced or plugged. Generally operators are given about a year to begin production, but this requirement may be modified if the operator is diligent in solving unique problems relating to the well or if unusual problems are encountered.

Workovers - Throughout its useful life, the well requires periodic workovers to replace or repair sucker rods, pumps, tubing, etc. repaired and replaced throughout the life of the well.

Production Stimulation – To increase production the paying formations are fractured under pressure to increase the flow of hydrocarbons to well bore; acids are also injected into carbonate formations to open pore space.

Dirt Work - Unused portions of the pad would be graded to blend with surrounding contours, topsoiled and seeded to blend with landscape; the road is graded for permanent use. Mounding would be installed to make facilities generally invisible from west and south and to prevent them from being sky lined from the east.

Production Facilities – Vessels would be enclosed with low berms to contain unintended releases of fluids. Structures would be painted BLM's Covert Green. All temporary facilities would be painted in BLM environmental colors. The height of production facilities would not exceed twelve (12) feet and they would be placed to be generally invisible from lands to west and south. The pad and road bed would be seeded for production and grey aggregates like those found in the Windy Flats gravel pit would be used. By regulation the reserve pit may be used for up to ninety days for production without any special approval.

Stage IV - Abandonment & Reclamation - The well would be plugged and abandoned, either after drilling or after some extended term of production.

Equipment - Pump jack, tanks, buildings and other equipment are removed; pipelines are purged for abandonment or other use. If they are abandoned, the ends are capped.

Cement plugs - Oil or gas horizons, fresh water zones, lost circulation zones, casing stubs, and casing shoes are isolated with cement plugs.

Surface plugs – Surface plugs are placed in all casing that extends to the surface, including any annular space.

Remediation - Oily wastes and other contaminants are either stabilized or removed.

Reclamation – Roads, well pads and production pads graded to the approximate original contours, ripped, topsoiled and then re-seeded; road graded retained for surface owner’s use.

Alternatives Withdrawn From Further Consideration - Relocation was not considered because the well has already been relocated twice. Wesco initially relocated the project to avoid steep slopes located to the west, which would have greatly increased costs, soil erosion, sediment loading and turbidity. Subsequently, the project was relocated to avoid sage brush that might be suitable for sage grouse nesting.

CHAPTER 3 – AFFECTED ENVIRONMENT AND ENVIRONMENTAL EFFECTS

Three issues have been identified in scoping. One of them, sage grouse nesting, is driven in part because a stipulation was applied to Lease WYW-136310 pursuant to the Cody Resource Management Plan. The stipulations are based on Wyoming BLM Standard Mitigation Guidelines and shown in Appendix "B" of the Cody RMP. Wild horses are discussed under the Flora and Fauna Section. Recreation is also discussed later in the chapter.

KEY CONCERNS AND ISSUES			
Resource Concern/Issue	RMP Reference	RMP Mandate*	Stipulation Language
Wild Horses	RMP, p. 38	“The wild horse management objective in the McCullough Peaks WHHMA is to maintain a viable herd that will maintain the free-roaming nature of wild horses in a thriving ecological balance and to provide opportunity for the public to view wild horses.”	No Lease Stipulations
Recreation	RMP, Map 10 & App. H (p. 99)	Class IV Visual Resource Management Class (determines amount of modification allowed) – “Any contrast attracts attention and is a dominant feature of the landscape in terms of scale, but should repeat the form, line, color and texture of the characteristic landscape.”	No Lease Stipulations
Sage Grouse Nesting	RMP, p.39 & p.40 and App. B (pp. 59-66)	The timing limitation is specified in Cody Resource Management Plan and necessary to assure protection of nesting success in sage grouse use of nesting habitat.	(1) No surface use from Feb. 1 to July 31; (2) as mapped on the Cody Field Office GIS data base; (3) Protecting sage grouse and raptor nesting sites.

* RMP denotes Cody Resource Management Plan

ENVIRONMENTAL EFFECTS There is a general discussion of project setting and the affected environment, but the specifics of the affected environment are addressed along with environmental affects under the general categories of “Geology and Ground Water; Soil, Water & Air; Flora & Fauna; Recreation; and, Cultural, Paleontological & Native American Resources. Ground water is discussed with geology while surface waters are discussed under the effects to soil water and air.

As this analysis was prepared, identified effects were mitigated by adding changes to the Proposed Action – there is no separate mitigation section. Since all mitigation is summarized in the description of the Proposed Action, the described environmental effects are all residual. For this reason there is no mitigation section.

PROJECT SETTING AND THE AFFECTED ENVIRONMENT

Mandatory elements must be considered in every EA or EIS to comply with existing law, Executive Order or regulation. Elements marked with an asterisk “*” are either not present or are not substantively affected; the words, “see text”, direct attention to the text where environmental consequences are summarized.

ELEMENT	ALTERNATIVE I NO ACTION	ALTERNATIVE II PROPOSED ACTION
Air Quality	See Text	See Text
Areas of Critical Environmental Concern	*	*
Cultural Resources	See Text	See Text
Farm Lands (prime or unique)	*	*
Flood Plains	*	*
Native American Religious Concerns	*	*
Threatened or Endangered Species	*	*
Wastes, Hazardous or Solid	See Text	See Text
Water Quality Drinking/Ground	See Text	See Text
Wetlands/Riparian Zones	*	*
Wild and Scenic Rivers	*	*
Wilderness	See Text	See Text
Environmental Justice	*	*
Invasive, Non-native Species	See Text	See Text

** Not present or not substantially affected*

Environmental consequences are summarized below. Mitigation in the drilling permit and attached conditions of approval keeps effects to a minimum.

GEOLOGY AND GROUNDWATER

Affected Environment - The wells are being drilled entirely into sedimentary rocks and would penetrate several, water bearing formations. The entire drilling operation, from surface to target at 13,000 feet, penetrates sedimentary rock. The surface strata were deposited in a marine environment and are rich in sodium and other salts. The shallow water tables are generally saline and alkaline reflecting the attributes of the soils and geologic formations in which they occur. Deeper aquifers occurring in oil-bearing formations are less saline and more acidic - reflecting the occurrence of sulfur in various chemical states. These pay zones have proven to be rich in petroleum resources in some areas of the Big Horn Basin, which is a venerable geologic province that contains fields like Oregon Basin and Elk Basin – fields with all time production that ranks among the top five in the state of Wyoming. The geologic attributes of the site are shown below:

- a. Land stability: Good. (Information Source: Field Observation)
- b. Subsidence: None evident. (Information Source: Field Observation)
- c. Seismicity: Minor.
- d. High Pressure Zones: No abnormal pressures anticipated. (Information Source: Operator’s 10-Point Plan)

e. H2S Potential: Not Expected

<u>ENVIRONMENTAL EFFECTS OCCURRING IN EXISTING ENVIRONMENT</u>
Production operations carry a slight risk to contaminate aquifers; risk increases as casings age & corrode

Effects (No Action) – See the table above.

Effects (Proposed Action) - The major affect results from a casing or cementing leak that allows unwanted commingling of water or petroleum products with other aquifers or even surface waters. This type of occurrence is rare, but it did occur recently on a well in the vicinity of Clark, Wyoming.

<u>EFFECTS ON GEOLOGY & GROUNDWATER SPECIFIC TO EACH ALTERNATIVE</u>	
<u>NO ACTION –Not Approving The Permit</u>	<u>PROPOSED ACTION - Approving The Permit</u>
No additional effects	Even though they are not anticipated, improper drilling or completion measures could allow contamination. Impervious nature of soils adequate to protect ground water quality.

SOIL, WATER & AIR

Affected Environment – The soils are clayey and loamy and rich in sodium and other salts reflecting the chemical composition of the parent material. Slopes range from 1-5%. There is very little upslope runoff across the pad because the project is close to a drainage divide. There are no perennial streams in the immediate area and when drainages do run water the leading curve of the hydrograph often has a high concentration of dissolved solids because of evaporation which concentrates salts and other dissolvable solids on the stream banks and channels during low/no flow periods.

Dry Creek, which is located about ten miles to the south, was an intermittent / ephemeral stream before produced water from the Oregon Basin oil and gas field made it more perennial. The water discharged in Oregon Basin has a dissolved solids concentration of about 5,000 parts per million (ppm). The concentration of dissolved solids in Dry Creek where it runs through the McCullough Peaks Wild Horse Herd Management Area, some 15 to 20 miles downstream of the Oregon Basin oil and gas field, has been measured at concentrations almost two times the average discharge concentration (1988). The highest concentrations were measured in late summer in 1988 and are thought to be the result of low water flows, high evaporation, evapotranspiration, and interaction of the water with soils that are naturally high in dissolvable solids.

Various references recommend that water consumed regularly by horses and most other livestock should have a dissolved solid concentration of no more than 6000 - 7000 ppm. The livestock permittee who runs cattle in the Red Point Allotment has lost several head of cattle in the past to high concentrations of sulfate in the water (personal communication, 2004). Water quality sampling conducted the past six years indicate that water quality may have improved since 1988 with dissolved solid concentrations within the horse herd area below the recommended maximum levels.

The Bridger 2A and the existing Whistle Creek road occupy about 25 acres and additional roads, trails and other developments like pipelines add additional disturbed acreage, which is a source of sediments and dust. Air quality in the project area is good, but some dust is generated by traffic along the Whistle Creek road. Some of this traffic is related to the Bridger 2A well and some is due to recreation and other uses.

<u>ENVIRONMENTAL EFFECTS OCCURRING IN EXISTING ENVIRONMENT</u>
<u>Soil</u> – The project area is grazed. Grazing by cattle and wild horses compact soils by exerting about nine or ten pounds per square inch (PSI). The exiting roads, jeep trails and oil and gas development (about 3.5 acres) increase dust and sediment loading.
<u>Water</u> – The system of dry washes naturally transport fairly high levels of sediments during major storm events. Existing development very slightly accelerates run-off and increases erosion.
<u>Air</u> – The existing air quality is good.

Effects (No Action) – See the table above.

Effects (Proposed Action) - The project constitutes about five acres disturbance that results in removal of five acres’ worth of vegetation with increased compaction, reduced infiltration of rainfall and accelerated runoff both on and off the project. This increases the ability of runoff to both detach and transport soil particles.

<u>EFFECTS ON SOIL, WATER & AIR</u>	
<u>NO ACTION –Not Approving The Permit</u>	<u>PROPOSED ACTION - Approving The Permit</u>
<u>Soil</u> — No additional effects.	<u>Soil</u> – About five acres of vegetation lost. Conservation practices overcome most soil limitations as they relate to permeability & erodibility.
<u>Water</u> – No additional effects.	<u>Water</u> - Bare pads and spoil piles cause some unavoidable erosion and sediment loading.
<u>Air</u> –No additional effects.	<u>Air</u> – Slight affects from engine emissions (drill rig & vehicles) and dust from vehicular traffic. Hydrogen sulfide gas

FLORA AND FAUNA

Affected Environment - The soils support Gardner’s saltbush, bottlebrush squirreltail, Indian rice grass, needle-and-thread grass, winter fat, bluebunch wheatgrass, western wheatgrass and Wyoming sagebrush. Sagebrush is in scattered, small patches in the vicinity of the well. Past grazing by horses, livestock, rabbits, and other wildlife has diminished range condition. After the grazing regimen was altered, subsequent drought hindered recovery of the grasses and forbs in the sagebrush patches in the immediate vicinity of the project. These combined effects have been damaging enough to reduce the effectiveness of the sage brush patches adjacent to the project for sage grouse nesting and brood rearing. Some weed species may be present near the proposed well pad site and access road. Primary concern would be downy brome (cheat grass) but white top and Canada thistle may also occur. Black henbane has been observed along the whistle creek road and has been a target for chemical treatments in recent years. Seed could be spread into new disturbances if proper precautionary preventative measures are not followed.

This area has been subjected to extensive surface disturbance in the past as evidenced by the network of roads and trails that have been constructed into/within the general area with selected roads and trails remaining open for ORV use. While most of these roads and trails have never been reclaimed, natural restorative processes have resulted in the re-establishment of vegetation on many of these disturbed roadways.

The Project is in the Coon Creek Pasture of the East/West Grazing Allotment. Specific data are shown in the table below:

<u>GRAZING INFORMATION AND CAPABILITIES</u>						
<u>Allotment Name</u>	<u>Allotment Number</u>	<u>Total Federal Acres</u>	<u>Active Preference</u>	<u>Acres per Animal Unit Month (Cow)</u>	<u>Cow to Horse Conversion Rate</u>	<u>Acres per Animal Unit Month (Horse)</u>
East/West	01060	48,802	3,885	12.58	(1.8)	22.61

The table above shows that about 12.5 acres are needed for one animal unit month (AUM) for cattle and about 22.5 acres for one AUM for horses.

The area is the natural home of a wide variety of animals: mammals include mule deer, antelope, coyote, badger, fox, cottontail and jackrabbits and a variety of small mammals. There are a variety of songbirds, rodents and snakes that provide prey for raptors. Potentially occurring raptors would include redtail hawks, Swainson hawks, golden eagles, prairie falcons, burrowing owls, great horned owls, long eared owls, and kestrels. The project is within a sage grouse nesting area and Oil and Gas Lease No. WYW-140131 has a timing limitation stipulation that lasts from February 1 to July 31. The latter date may be relaxed for construction and drilling if nesting and chick rearing is advanced enough to sustain drilling without effect. This is generally the case after June 30th for this part of the bighorn basin. Some species of wildlife can live in areas that do not have perennial surface water sources or are mobile enough to travel greater distances to utilize water sources. For the immediate area around the proposed well pad and access road, water availability is a limiting factor for wildlife.

The project is within the McCullough Peaks Wild Horse Herd Management Area, which encompasses approximately 109,814 acres of both federal and non-federal lands (see Map III). The population objective or “appropriate management level” (AML) for this particular HMA is to maintain a population of 100 wild horses. Currently the horse population in the McCullough Peaks HMA is 144 animals. Most of the use is centered in the vicinity of Dry Creek, which is the only permanent source of water though it had concentrations of dissolved solids as high as 10,000 parts per million in 1988. More recent sampling indicates that water quality has improved with dissolved solid concentrations within the horse herd area well below recommended maximum levels. However, some occasional use does occur in the vicinity of the project area.

<u>ENVIRONMENTAL EFFECTS OCCURRING IN EXISTING ENVIRONMENT</u>	
<u>Flora</u>	– Existing grazing may have some effect on vegetation, but the effects are unknown.
<u>Fauna</u>	- Reduced flora reduces forage for resident herbivores

Effects (No Action) – See the table above.

Effects (Proposed Action) - This project removes about five (5) acres of vegetation. Oil and gas development is generally considered hostile to wildlife; however, some wildlife appears to habituate to production activities. Oil spills may cause some mortality in waterfowl, shore birds and songbirds.

<u>EFFECTS ON GEOLOGY & GROUNDWATER SPECIFIC TO EACH ALTERNATIVE</u>	
<u>NO ACTION –Not Approving The Permit</u>	<u>PROPOSED ACTION - Approving The Permit</u>
<u>Flora</u> – No additional effects.	<u>Flora</u> – About five acres of vegetation lost. This accounts for the loss of about one half or fewer AUMs. By itself the well and even the drilling program constitute a small impact to range use. Seeding prevents long-term watershed impairment.
<u>Fauna</u> - No additional effects.	<u>Fauna</u> - This well may adversely affect habitat values for wildlife. Drilling would last 45 days and would continue around the clock. If the well became productive, most human use would occur between 7AM and 4PM seven days per week. Noise from drilling could cause some movement of animals away from the area. Fence around reserve pits keep out wildlife & livestock. Seasonal use stipulation protects sage grouse nesting. New disturbances in areas with previously minimal human caused disturbances can cause some fragmentation of wildlife habitat and lead to displacement of wildlife and create potential wildlife and wild horse avoidance areas.

RECREATION

Affected Environment - The pad lies in a Class IV visual resource management area, in which contrasts must repeat form, lines colors and texture of the surrounding landscape. Hunting for mule deer, pronghorn, chukar, and sage grouse occurs in the general area. Outfitters may use this area as a wild horse viewing area, but most of this use is concentrated closer to Dry Creek, where the horses are more likely to be found. Other individuals and groups engage in wild horse viewing without professional guide services. The horses have become such an attraction that there is concern they may have become so habituated to human use that they have lost some of the “free roaming nature” identified as ~~an~~ a management objective in RMP.

The project area is more than six miles from the eastern edge of the McCullough Peaks Wilderness Study Area (MPWSA). However, it is within the Biodiversity Conservation Alliance Proposed Wilderness (BCA). This proposed area extends from east of the MPWSA to the existing Whistle Creek Road which provides access to the existing Bridger 2A and the Proposed West Branch #1. The BCA issue is outside the scope of this environmental analysis’s.

<u>ENVIRONMENTAL EFFECTS OCCURRING IN EXISTING ENVIRONMENT</u>	
Existing trails may enhance hunting. Recreational use may increase erosion and sediment loading when occurring in wet and muddy conditions.	

Effects (No Action) – See the table above.

Effects (Proposed Action) - Field activities and H2S gas may impair hunting and other recreational opportunities. Mounding and other enhanced visual resource management limit effects to the recreational experiment.

<u>EFFECTS ON RECREATION</u>	
<u>NO ACTION –Not Approving The Permit</u>	<u>PROPOSED ACTION - Approving The Permit</u>
No additional effects.	Pad construction causes slight additional visual effect. During drilling, noise from proposed operations slightly increases impacts to recreation uses. Visual impact of the West Branch Well greatly reduced by mounding.

CULTURAL PALEONTOLOGICAL & NATIVE RESOURCES

Affected Environment – A Class III cultural resource inventory was conducted and nothing was located; there are no known sites of Native American or Cultural or Religious interest in this project area. Eligible sites are found in the general area.

<u>ENVIRONMENTAL EFFECTS OCCURRING IN EXISTING ENVIRONMENT</u>	
Some risk of damage to cultural resources from accidental occurrences or spill after production is begun.	

Effects (No Action) – See the table above.

Effects (Proposed Action) - Adverse affects to cultural resources usually occur when permitted operations damage resources undiscovered in the Class III inventory.

<u>EFFECTS ON CULTURAL & PALEONTOLOGICAL RESOURCES</u>	
<u>NO ACTION –Not Approving The Permit</u>	<u>PROPOSED ACTION - Approving The Permit</u>
No additional effects.	Effects to Cultural and Native American resources and concerns addressed by application of NHPA, AIRFA, NAGPRA, ARPA legislative and regulatory requirements. A Class III cultural resources inventory revealed that this project will not affect any know Natinoal Register Eligible sites. A slight risk of inadvertent damage to undiscovered cultural resources exists.

CUMULATIVE EFFECTS

Past – Wild horses and historical livestock grazing have affected herbaceous vegetation communities and may have reduced the viability and ability of those plant communities to support the natural flora in the general area, although, all native species are still found and represented in the area. Reservoirs and produced water in Dry Creek have provided water sources for all wildlife including, native and non-native ungulates and has enhanced grazing distribution. Under current BLM management, there are roads and trails causing some erosion and sediment loading. The open space values of the area, wild horse viewing opportunities, increased population growth of the surrounding communities and spin off use associated with Yellowstone National Park and adjacent areas have resulted in increased recreation growth of this area. Road and trail access has facilitated viewing opportunities, in the Red Point area, to view wild horses. This increased commercial and general public visitor use to the Red Point and Gilmore Hill area has contributed to the habituation of wild horses to humans. Limited oil and gas and pipeline development have added an industrial component to the landscape in the few areas where it has occurred. Bill Barrett Corporation proposed two well in the summer of 2006, but then withdrew them. These effects have caused some changes to the area, but in general this area consists of large tracts of BLM managed public land with environments and natural features that have received little modification by human activities.

Present – The recently drilled Bridger Trail 2A adds about three acres and a half acres of new disturbance. The proposed Red Point 3-D Seismic prospect adds some temporary effects to the watershed, sage grouse and wild horses.

Future – The recently completed McCullough Peaks Travel Management Plan, which has identified roads and trails for abandonment and the need to stabilize existing roads trails, will reduce some of the erosion and sediment loss in the future. The proposed action will add about five additional acres of new disturbance, but will be downsized slightly for production. The proposed well, the West Branch Exploratory Unit, the proposed Red Point 3-D Seismic prospect, and, the proposed but with drawn wells by Bill Barrett Corporation all suggest an interest in developing oil and gas resources in the general area. Drilling success could lead to development in one or more places, but any attempts to describe the extent would be speculative.

RESIDUAL EFFECTS

As this analysis was prepared, identified effects were mitigated by adding changes to the Proposed Action – there is no separate mitigation section. Since all mitigation is summarized in the description of the Proposed Action, the described environmental effects are all residual.

CONSULTATION AND COORDINATION

Because of the nature of the proposed action, a public scoping session was not held, but this document is being posted for public commn . The applications were made available to the public for comment for 30 days from the date that they were received. The Wyoming Game and Fish Department was

given an opportunity to comment on this project. The BLM contacted the Wyoming State Historic Preservation Officer (SHPO) in items related to cultural resources.

MITIGATION/MONITORING

Mitigation is contained in Conditions of Approval attached to the FONSI and summarized in the Proposed Action. Monitoring would be carried out as part of BLM's inspection and enforcement program.

PREPARERS

This document was prepared Vic Seefeldt, reviewers are shown below.

Staff Reviewer, Resource Concerns	
Mike Bies, Cultural/Historic	Jerry Jech, Watershed
Dennis Saville, Wildlife/T&E	Steven Rieger, Petroleum Engineer
Ann Perkins, NEPA Coordinator	Alberta Settle, Civil Engineer
Shirley Bye-Jech, Visual Resource Management	Mary D'Aversa, Assistant Field Manager
Tricia Hatle, Range Mgmt Specialist	