

**U.S. Department of the Interior  
Bureau of Land Management  
White River Field Office  
220 E Market St  
Meeker, CO 81641**

## **ENVIRONMENTAL ASSESSMENT**

**NUMBER:** DOI-BLM-CO-110-2009-0079-EA

**CASEFILE/PROJECT NUMBER:** COD-035705 and COD-052131

**PROJECT NAME:** ExxonMobil PCU 296-6A1-6A10, PCU 297-11C1-11C9 and pipelines

**LEGAL DESCRIPTION:**

T2S, R96W, Sec.6, 6<sup>th</sup> PM  
T2S, R97W, Sec 11, 6<sup>th</sup> PM

**APPLICANT:** ExxonMobil Corp

**ISSUES AND CONCERNS:** Mule deer severe winter range (TL-08) and sage-grouse

**DESCRIPTION OF PROPOSED ACTION AND ALTERNATIVES:**

***Background/Introduction:*** The White River Field Office (WRFO) received nine Applications for Permits to Drill (APD) from ExxonMobil on December 16, 2008, Lease No COD-035705, for well Piceance Creek Unit (PCU) 297-11C1-11C9. The WRFO received ten APD's from ExxonMobil on December 24, 2008, Lease No COD-052131, for well PCU 296-6A1-6A10. Site characteristics for these proposed well pad locations are summarized in Table 1.

**Proposed Action:** The proposed action includes constructing 2 well pads and drilling 19 natural gas wells (see Table 1 for pad dimensions and total area disturbed). The applicant would also construct approximately 0.22 miles (1,140 feet or 1.047 acres) of access roads to the proposed well pads (see Table 1 for road lengths and total area disturbed) and disturb approximately 11.922 acres for the pipeline right-of-way (ROW see Table 2).

**Table 1. Pad dimensions and acres disturbed for the proposed well pads and access roads.**

Well	Drilling Pad (ft)	Disturbance (Acres)	Production Pad (ft)	Disturbance (Acres)	New Access (ft)	Disturbance (Acres)	Total Acres disturbed
PCU 296-6A1	500 x 550	8.433	80 x 200	0.367	490 x 40	0.45	9.25
PCU 297-11C1	450 x 500	8.333	80 x 200	0.367	650 x 40	0.60	9.30
<b>Total disturbed acres - Drilling Pad, Production Pad, and Access Combined</b>							<b>18.55</b>

**Table 2. Pipeline Disturbance (pipeline width 50 feet)**

Well Name	Flowline Proposed	Dimensions (feet)	Produced Water Proposed	Dimensions (feet)	Disturbance (Acres)
PCU 296-6A1	6" buried gas line and 4" produced water*	3,249x 50 *	4" produced water flowline**	7,050 x 50 **	11.822
PCU 297-11C1	8" carbon steel	70 x 50	4" Condensate/Produced Water	70	0.100
<b>Total</b>					<b>11.922</b>

\* Gas and Produced Water Flowlines in 3,249 ft segment (from proposed PCU 296-6A to tie-in at PCU 33-29 – see TOPO D in well file).

\*\* Produced Water Flowline Only (from proposed PCU 296-6A to tie-in at PCU 296-07A produced water flowline-see TOPO D in well file).

**No Action Alternative:** The well pad associated with ten gas wells at PCU 296-6A1-6A10 and the well pad associated with nine gas wells at PCU 297-11C1-11C9 will not be built and the gas wells will not be drilled, the access roads will not be built and pipelines will not be installed.

**ALTERNATIVES CONSIDERED BUT NOT CARRIED FORWARD:** None

**NEED FOR THE ACTION:** The purpose of the proposed action is to manage the exploration and development of mineral resources on Public Lands in a manner that avoids, minimizes, reduces, or mitigates potential impacts to other resource values.

**PLAN CONFORMANCE REVIEW:** The Proposed Action is subject to and has been reviewed for conformance with the following plan (43 CFR 1610.5, BLM 1617.3):

Name of Plan: White River Record of Decision and Approved Resource Management Plan (ROD/RMP).

Date Approved: July 1, 1997

Decision Number/Page: Page 2-5

Decision Language: “Make federal oil and gas resources available for leasing and development in a manner that provides reasonable protection for other resource values.”

**AFFECTED ENVIRONMENT / ENVIRONMENTAL CONSEQUENCES / MITIGATION MEASURES:**

**STANDARDS FOR PUBLIC LAND HEALTH:** In January 1997, Colorado Bureau of Land Management (BLM) approved the Standards for Public Land Health. These standards cover upland soils, riparian systems, plant and animal communities, threatened and endangered species, and water quality. Standards describe conditions needed to sustain public land health and relate to all uses of the public lands. Because a standard exists for these five categories, a finding must be made for each of them in an environmental analysis. These findings are located in specific elements listed below:

## **NATURAL, BIOLOGICAL, AND CULTURAL RESOURCES**

### **AIR QUALITY**

*Affected Environment:* This Proposed Action is located in rural northwest Colorado in the White River Basin, more than ten miles from special designation air sheds or non-attainment areas. Industrial facilities in White River Basin include coal mines, soda ash mines, natural gas processing plants and power plants. Due to these industrial uses, increased population and oil and gas development, emissions of air pollutants in the White River Basin due to exhaust emissions and dust (particulate matter) are likely to increase into the future. Despite increases in emissions, overall air quality conditions in the White River Basin are likely to continue to be good for some time to come due to effective atmospheric dispersion conditions and limited transport of air pollutants from outside the area.

Although specific air quality monitoring data are not available for the White River Basin, data have been collected in the region. The cities of Grand Junction (southwest), Steamboat Springs (northeast), and Parachute (south) all host air quality monitoring stations. Available monitoring data at these stations indicate that the area is likely to be in the attainment category, meaning that the ambient concentrations of criteria pollutants are less than the applicable air quality standards (NAAQS and CAAQS). However it should be noted, not all criteria pollutants have been monitored at each site, there is not continuous monitoring of all criteria pollutants at any of the sites and the atmospheric, proximity to emissions, and climate conditions at these monitoring sites are likely to be different.

The White River Basin has been classified as either attainment or unclassified for all air pollutants (NAAQS and CAAQS standards), and most of the area has been designated for the prevention of significant deterioration class II for the PSD areas nearby. Because the historic air quality in the White River Basin has been good, small changes in air quality may have noticeable localized effects, especially on visibility.

*Environmental Consequences of the Proposed Action:* The proposed action includes constructing 2 well pads and drilling 19 natural gas wells. The applicant would also construct access roads to the proposed well pads and disturb approximately 12 acres for the pipeline right-of-way. The installation of the permanent pipelines will include clearing of a working surface, digging a trench, and reclamation efforts. During these construction phases dust production is likely, especially when conditions are dry.

The Proposed Action would increase the level of inhalable particulate matter during installation, specifically particles ten microns or less in diameter (PM<sub>10</sub>) associated with fugitive dust. In addition, increases in the following criteria pollutants: carbon monoxide, ozone (secondary pollutant), nitrogen dioxide, and sulfur dioxide would also occur due to combustion of fossil fuels during installation activities. Non-criteria pollutants such as visibility, nitric oxide, air toxics (e.g. benzene) and total suspended particulates (TSP) may also experience slight, temporary increases as a result of the Proposed Action (no national ambient air quality standards have been set for non-criteria pollutants). Even with these increased pollutants, this project is

unlikely to result in an exceedance of NAAQ and CAAQ standards and is likely to be under PSD thresholds.

*Environmental Consequences of the No Action Alternative:* No impacts would occur

*Mitigation:* These items should be added as conditions of approval (COAs) to reduce dust production.

All access roads will be maintained according to BLM Manual Section 9113 standards for road shape and drainage features at all times during construction, drilling and production.

All access roads will be treated with water and/or a dust suppressant during construction and drilling activities so that there is not a visible dust trail behind vehicles. All vehicles will abide by company or public speed restrictions during all activities. If water is used as a dust suppressant, there should be no traces of oil or solvents in the water and shall be properly permitted for this use by the State of Colorado. Only water needed for abating dust should be applied; dust abatement should not be used as a water disposal option under any circumstances.

## SOILS

*Affected Environment:* The pads, access roads, and pipeline routes will not pass through soils identified as fragile, landslide potential or with steep slopes. Soils that will potentially be impacted by the project are shown in the table below.

Soils within 30 Meters of the Pipeline Centerline (greater than 1 Acre in size)		
Soil Complex	Range Site	Acres Potentially Impacted
Piceance fine sandy loam, 5-15% slopes	Rolling Loam	26
Rentsac channery loam, 5-50% slopes	Pinyon Juniper Woodlands	10
Forelle loam, 3-8% slopes	Rolling Loam	1
Yamac Loam, 2-15% slopes	Rolling Loam	11
Irigul-Parachute complex, 5-30% slopes	Loamy Slopes/Mountain Loam	4
Veatch channery loam, 12-50% slopes	Loamy Slopes	8
Piceance fine sandy loam, 5-15% slopes	Rolling Loam	3

The soils the project area generally formed on deep, well drained soil on terraces and rolling uplands. Erosion potential is low to moderate and these soils tend to be well drained and deep. The Rentsac channery loam soils on the other hand are on steeper slopes and have less developed soils. Lack of moisture and relatively cool temperatures in these semi-arid environments suppress vegetation growth and slow the chemical and biological processes needed for good soil development. Soils in the project area have moderate to very high erosion potential.

*Environmental Consequences of the Proposed Action:* Potential impacts to soils from the proposed action include removal of vegetation, mixing of soil horizons, soil compaction, increased susceptibility to erosion, loss of topsoil productivity and contamination of soils with

petroleum constituents. If reclamation is successful and spills are contained and cleaned up, impacts from this project will be minor and localized to disturbed areas.

The construction of the access roads and the well pad would result in the loss of vegetative cover, increasing the potential for water erosion and soil loss during excavation. Compaction due to construction activities would slightly reduce aeration, permeability and water-holding capacities of the soils. An increase in surface runoff could be expected, potentially causing increased sheet, rill and gully erosion. In addition, the segregation and reapplication of surface soils could cause the mixing of shallow soil horizons, resulting in a blending of soil characteristics and types. This blending would modify physical characteristics of the soils, including structure, texture and rock content, which could lead to reduced permeability and increased runoff from these areas.

The primary effect of surface disturbances on soil resources is in increasing erosion. Increased erosion of soils would also directly reduce vegetative productivity. Erosion potential for the soil types that would be disturbed in the Project Area ranges from slight to severe. If the seedbed is not stabilized, revegetation efforts will not be successful and erosion could become substantial. The construction of the road and pad will be on variable soils depending mostly on slope. In the Rentsac-Channery Loam soils will present a problem for the road and pad construction and will be encountered near both pads. This project is likely to result in localized erosion due to the poor soils and steep slopes in some sections.

Contamination of surface and subsurface soils can occur from leaks or spills of oil, produced water, and condensate liquids from wellheads, produced water sumps and condensate storage tanks. Leaks or spills of drilling and hydraulic fracturing chemicals, fuels and lubricants could also result in soil contamination. Such leaks or spills could compromise the productivity of the affected soils. Of these materials, leaks or spills of condensate would have the greatest potential environmental impact. Depending on the size and type of spill, the impact to soils would primarily consist of the loss of soil productivity. In addition, petroleum released to surface soils infiltrate the soil and, under the right conditions, can migrate vertically until the water table is encountered, thus contaminating shallow groundwater. Typically contaminated soils would be removed and disposed of in a permitted facility or would be bioremediated in place using techniques such as excavating and mulching to increase biotic activities that would break down petrochemicals into inert and/or common organic compounds.

*Environmental Consequences of the No Action Alternative:* No impacts to soils would likely occur.

*Mitigation:* All construction and drilling activity shall cease when soils or road surfaces become saturated to a depth of three inches unless there are safety concerns or activities are otherwise approved by the Authorized Officer.

If erosion features such as riling, gullyng, piping and mass wasting occur at anytime in the future on disturbed surfaces the erosion features will be addressed immediately after observation by contacting the AO and submitting a plan to assure successful soil stabilization with BMPs to address the erosion problems.

*Finding on the Public Land Health Standard for upland soils:* With mitigation this action is unlikely to reduce the productivity of soils impacted by surface disturbing activities.

## **WASTES, HAZARDOUS OR SOLID**

*Affected Environment:* The management of hazardous and non-hazardous (solid) wastes is regulated under the Resource Conservation and Recovery Act (RCRA), while the management of releases of hazardous materials into the environment is regulated under the Comprehensive Environmental Response, Compensation and Liabilities Act (CERCLA). Oil and gas exploration and production wastes, and releases of hazardous materials into the environment, are regulated by the Colorado Oil and Gas Conservation Commission (COGCC) or the Colorado Department of Public Health and Environment (CDPHE), and the BLM.

Fuels, oils, chemicals, and lubricants will be used during the project, and solid waste (human waste, garbage, etc.) will be generated during activities. There are no known hazardous or other solid wastes on the subject lands. No hazardous materials have been identified that will be used, stored or disposed of at sites included in the project area.

The operator has not specified the chemicals that will be used for drilling, completion or hydraulic fracturing. Chemicals for hydraulic fracturing will most likely include a Potassium Chloride (KCl) or another acid, a friction reducer, a nonionic surfactant, and a viscosity reducing agent. Potential environmental impacts from these hydraulic fracturing agents are not well known.

Drill cutting will be buried in cuttings pits when dry with at least 4 feet of clean soil. Drilling and completion fluids will be contained in the reserve pit and evaporated. In the event that drill cuttings show more than 1% diesel content they will be transported off-site for disposal. Produced fluids will be contained in test tanks during completion and testing activities. Garbage will be contained onsite in fenced trash containers and then hauled to an approved disposal site. Sewage from trailer houses will be held in holding tanks and transported to an approved sewage disposal facility.

*Environmental Consequences of the Proposed Action:* Accidental spills or leaks associated with equipment failures, refueling or maintenance of equipment, and storage of fuel, oil, or other fluids could cause soil, surface water and/or groundwater contamination. With implementation of the mitigation measures described below, impacts would likely be temporary.

Since not all chemicals that will be used on the site have been disclosed, specifically chemicals or other additives used for drilling, completion and hydraulic fracturing operations impacts to groundwater may occur. During hydraulic fracturing operations these chemicals or other additives are injected with water and engineered sands into the surrounding formation at depth to increase gas production. Chemicals and additives used in gas producing aquifers may change the solubility of metals and other compounds in the treated formation and will also locally increase transmissivity around the well bore. These chemicals and additives can also be present in the reserve pit after it is closed and also in cuttings disposed of in the cuttings pits. With proper well

completion, impacts between aquifers of varying water quality could potentially occur, but is unlikely due to the vertical displacement of freshwater and the production zones.

Solid wastes and sewage would be properly disposed of at an approved facility and therefore impacts are not expected besides the potential for accidental spills during transportation.

*Environmental Consequences of the No Action Alternative:* No hazardous or other solid wastes would be generated under the no-action alternative.

*Mitigation:* Onsite sewage treatment needs to be approved by the BLM via Sundry Notice by the AO. All sewage should be disposed of off-site as per the Surface Use Plan.

For all pits, at least 50 percent of the pit capacity shall be in cut material.

All pits shall be lined with at least a 24 mil liner. Pits containing fluids must not be breached (cut) and pit fluids must be removed or solidified before backfilling.

Reserve pits would be allowed to air dry for no more than one four-season cycle. The use of chemicals to aid in fluid evaporation, stabilization, or solidification must have prior BLM approval. If there are still fluids in the reserve pit after one four season cycle following the drilling of the approved wells (regardless of if additional wells are planned), the operator will close the pits and submit via sundry notice the location for disposal or use of any pit fluids removed.

The concentration of hazardous substances in the reserve pit at the time of pit backfilling must not exceed the standards set forth in CERCLA. Fill the pit with the excess spoil pile with at least 4 feet of clean dry sub-soil and ensure proper compaction so there is no settling in the future.

The release of any chemical, oil, petroleum product, produced water, or sewage, etc, must be contained immediately, cleaned up as soon as possible, and reported by the project proponent to the Bureau of Land Management according to Notice to Lessees and Operators of Onshore Federal and Indian Oil and Gas Leases (NTL-3A).

## **WATER QUALITY, SURFACE AND GROUND** (includes a finding on Standard 5)

*Affected Environment:* Surface Water: This project is entirely within the Piceance Creek watershed. The water quality classification of Piceance Creek Tributaries to the White River (segment 16) is for Aquatic Life Warm 2, Recreation Primary, and Agriculture.

Groundwater: Groundwater occurs in both bedrock and alluvial aquifers beneath the Piceance Creek watershed. Alluvial aquifers occur as discontinuous units along valley bottoms in the Piceance Creek and its tributaries and are comprised of unconsolidated sand, gravel, silt, and clay. Many of the tributaries to Piceance Creek have interrupted flow characteristics (i.e. some reaches are ephemeral with water moving in the alluvium and other reaches there is surface

expression). Surface expression of waters in these drainages depend on the proximity to the surface and the permeability these alluvial aquifers.

Contact springs are common in the area and are often the result of upper bedrock aquifers consisting of fractured, lean oil shales and siltstones of the Green River formation above and below the Mahogany Zone or from fractured marlstone of the saturated portion of the overlying Uinta Formation. The permeability of these sediments can vary dramatically vertically and horizontally thereby resulting in variable porosity and piping that forms groundwater springs.

There are productive water zones in the Upper Parachute Creek Group in the Green River Formation sandwiching the Mahogany, they are called the A Grove and B Grove with the B Grove below the Mahogany. These groundwater zones are characterized by high horizontal conductivity. In general, the B Grove has higher salinity than the A Grove. Both zones may cause drilling rigs to “loose circulation”, this happens when the drilling fluids find the greater permeability. Dramatic changes in pressure or porosity due to leached mineral zones can cause drilling fluids to be “lost” to the formation. Leached mineral zones contain features such as fractures and solution cavities.

Perched groundwater zones occur locally within the Uinta Formation. These perched zones can occur in the ridges between surface water drainages and may be manifested as springs and seeps above the valley floor in outcrop areas. Recharge areas for most of these springs and groundwater zones is on the top of the Douglas Plateau and Roan Cliffs, to the south of the Project Area.

Perched groundwater zones also occur locally within the Uinta Formation. These perched zones can occur in the ridges between surface water drainages and may be manifested as springs and seeps above the valley floor in outcrop areas.

*Environmental Consequences of the Proposed Action: Surface Waters:* Potential impacts to the surface waters include increased runoff; erosion and sedimentation due to soil disturbance associated with construction activities; increased turbidity and sedimentation in watercourses; water quality impairment of surface waters; depletion of surface water flows and stream channel morphology changes due to road and pipeline crossings. The magnitude of the impacts to surface water resources would depend on the proximity of the disturbance to drainage channels, slope aspect and gradient, degree and area of soil disturbance, soil character, duration of construction activities, and the timely implementation and success/failure of mitigation measures.

Impacts would likely be greatest shortly after the start of construction activities and would likely decrease in time due to stabilization, reclamation, and revegetation efforts. Changes in surface hydrology from road construction would continue through the life of the project and may extend beyond the project life if roads are left in place. For example, soil compacted on roadways and well pads contribute greater runoff than undisturbed sites. Surface disturbance would increase wind and water erosion and change soil properties leading to increased runoff and rain splash erosion.

Sediment transportation in ephemeral and headwater systems requires storm events and typically occurs in stages with periodic intense, localized storms. For example, increased surface runoff or concentrated flows during these storms cause rills and gullies to form in upland hillsides. Eroded material may transport material to stream channels where it may be stored for months or years in sediment deltas. Storm events that result in flows in stream channels may then move sediment stored in channel bottoms and sediment deltas. Outcomes from the dynamics of these sediment transport processes may be difficult to predict. As activities intercept shallow groundwater, disturb vegetation, increase surface runoff, concentrate surface flows, and otherwise modify surface hydrology; annual sediment yields are likely to increase in downstream systems. The amount of additional sediment that would reach drainages downstream of the Project Area depends on natural factors and the effectiveness of the site-specific stormwater management plan for each well. Natural factors which attenuate the transport of sediment into creeks include water available for overland flow; the texture of the eroded material; the amount and kind of ground cover; the slope shape, gradient, and length; and surface roughness. .

Groundwater: Known water bearing zones in the Project Area are generally above the Wasatch Formation. These include the contact springs, perched aquifers and groundwater zones described in the Affected Environment. Proposed surface casing would be below the top of the Wasatch Formation, thus ensuring continued integrity and functionality of the groundwater resources identified. If a surface casing fails, circulation is lost and/or cementing is poor, there is a potential for commingling of drilling water with waters from the upper and lower aquifers, or cross contamination of groundwater zones. The commingling of such water could result in localized contamination of aquifers from more saline waters in deeper formations. With proper drilling and completion practices, mixing of lower aquifers with the upper or alluvial aquifers and the contamination of groundwater resources is unlikely.

*Environmental Consequences of the No Action Alternative:* No impacts identified.

*Mitigation:* Provide for erosion-resistant surface drainage by adding necessary drainage facilities and armoring prior to fall rain or snow. When erosion is anticipated, sediment barriers shall be constructed to slow runoff, allow deposition of sediment, and prevent it from leaving the site. In addition, straining or filtration mechanisms may also contribute to sediment removal from runoff.

Locate culverts or drainage dips in such a manner as to avoid discharge onto unstable terrain such as headwalls or slumps. Provide adequate spacing to avoid accumulation of water in ditches or road surfaces. Install culverts with adequate armoring of inlets and outlets. Patrol areas susceptible to road or watershed damage during periods of high runoff.

Keep road inlet and outlet ditches, catchbasins, and culverts free of obstructions, particularly before and during spring runoff. Routine machine-cleaning of ditches should be kept to a minimum during wet weather. Leave the disturbed area in a condition that provides drainage with no additional maintenance.

Access roads should be built and maintained to BLM Manual Section 9113 standards for road shape and drainage features. Culverts and waterbars should be installed according to 9113

standards and sized for the 10-year storm event with no static head and to pass a 25-year event without failing.

If mechanical means are used to evaporate fluids in the reserve pit there will be no overspray allowed outside of the pit.

Cut and fill slopes described in the Interim Reclamation Plan should be 3:1 or 4:1 to facilitate vegetation growth on these slopes and no soils should be stockpiled during interim reclamation for pad 296-6A1 and on 297-11C.

*Finding on the Public Land Health Standard for water quality:* It is unlikely that the access road and well pad construction, as well as drilling and production activities would result in an exceedence of state water quality standards. Cumulative impacts from this activity and others may eventually impact sediment yields to the degree that they impact listing of the Piceance Creek or its tributaries.

## **WETLANDS AND RIPARIAN ZONES** (includes a finding on Standard 2)

*Affected Environment:* The nearest system that supports riparian vegetation is Piceance Creek (privately-owned portions) which is separated from the project area by 2.5 (pad 297-11C1-C9) and 6 (pad 296-6A1-10) miles of ephemeral channel. The nearest BLM-administered reach of Piceance Creek is a 250 meter stretch located approximately 5 and 6 miles, respectively from pads 297-11C and 296-6A.

*Environmental Consequences of the Proposed Action:* Both pads are situated along ridge tops which are separated from the nearest perennial system by 2.5 to 6 miles of ephemeral channel. Construction activities associated with the proposed action would have no direct impact on riparian/wetland resources. With the application of best management practices (BMPs) associated with soil erosion there is no reasonable likelihood that fugitive sediments would have any influence on the function or condition of Piceance Creek or the associated riparian resources.

*Environmental Consequences of the No Action Alternative:* There would be no direct or indirect impacts on riparian or wetland systems under the no action alternative.

*Mitigation:* None

*Finding on the Public Land Health Standard for riparian systems:* The nearest BLM-administered reach supporting riparian vegetation is located along Piceance Creek, which is separated from the project area by approximately 5 to 6 miles of predominately ephemeral channel. Neither the proposed or no-action alternative would have any reasonable potential to influence the function or condition of riparian and wetland habitats.

## **VEGETATION** (includes a finding on Standard 3)

*Affected Environment:* Vegetation at location 296-6A1 and the access is comprised of mixed mountain and Wyoming big sagebrush with pinyon actively invading the site. The corresponding ecological site is Rolling Loam. Location 297-11C is located in an area of mid and young age pinyon-juniper woodland with an understory of Wyoming big sagebrush and mountain mahogany.

*Environmental Consequences of the Proposed Action:* Two primary impacts which could occur as a result of access road, pad and pipeline construction; are the total acres disturbed could accelerate the rate of plant community fragmentation which is presently occurring in this area of Piceance Basin. In addition, plant community composition, structure and function could diminish, over the long term if mullein, bull thistle, black henbane/ cheatgrass or other noxious weeds are allowed to establish and proliferate on the disturbed areas resulting from pipeline and access road construction. There will be a low likelihood of long term negative impacts if the proposed mitigation is properly implemented.

*Environmental Consequences of the No Action Alternative:* There will be no change from the present situation.

*Mitigation:* The designated natural resource specialist (NRS) for this project is Jay Johnson; phone: (970) 878-3854; Email: Jay\_Johnson@blm.gov.

The designated NRS will be notified 24 hours prior to beginning all construction-related activities associated with this project that result in disturbance of surface soils via email or by phone. Construction-related activities may include, but are not limited to: pad and road construction, clearing pipeline corridors, trenching, etc. Notification for all construction-related activities, regardless of size, that result in disturbance of surface soils as a result of this project is required.

All disturbed areas shall be seeded with Native Seed Mix #2 (see below). The elevation and vegetation community for this location are: Mid Elevation Sagebrush (5,500-7,200 ft). Therefore it is recommended that this site be seeded between September 1 and March 15. If an alternate date of seeding is requested, contact the BLM WRFO designated Natural Resource Specialist working with ExxonMobil prior to seeding for approval.

Cultivar	Species	Scientific Name	Application Rate (lbs PLS/acre)
Rosanna	Western Wheatgrass	<i>Pascopyrum smithii</i>	3.5
Nezpar	Indian Ricegrass	<i>Achnatherum hymenoides</i>	2.5
Whitmar	Bluebunch Wheatgrass	<i>Pseudoroegneria spicata ssp. inermis</i>	3
Critana	Thickspike Wheatgrass	<i>Elymus lanceolatus ssp. lanceolatus</i>	2.5
Lodorm	Green Needlegrass	<i>Nassella viridula</i>	2
Timp	Northern Sweetvetch	<i>Hedysarum boreale</i>	3
	Arrowleaf Balsamroot	<i>Balsamorhiza sagittata</i>	3
<b>TOTALS</b>			19.5

All seed tags will be submitted to the designated NRS within 14 calendar days from the time the seeding activities have ended via Sundry Notice (SN). The SN will include the purpose of the seeding activity (i.e., seeding well pad cut and fill slopes, seeding pipeline corridor, etc.). In addition, the SN will include the well or well pad number associated with the seeding activity, if applicable, the name of the contractor that performed the work, his or her phone number, the method used to apply the seed (e.g., broadcast, hydro-seeded, drilled), whether the seeding activity represents interim or final reclamation, an estimate of the total acres seeded, an attached map that clearly identifies all disturbed areas that were seeded, and the date the seed was applied.

The designated NRS will be notified 24 hours prior to beginning all reclamation activities associated with this project via email or by phone. Reclamation activities may include, but are not limited to, seed bed preparation that requires disturbance of surface soils, seeding, constructing exclosures (i.e., fences) to exclude livestock from reclaimed areas.

In an attempt to track interim and final reclamation of federal actions related to the development of federal mineral resources, the operator shall submit Geographic Information System (GIS) data to the White River Field Office (WRFO) for any post construction (i.e., “as-built”) polygon feature that was included in the Application for Permit to Drill (APD) or Sundry Notice, and associated with the proposed action. GIS polygon features may include, but are not limited to, constructed access roads, existing roads that were upgraded, pipeline corridors, and well pad footprints. Geospatial data will be submitted as ArcView datasets (i.e., shapefiles or features), ArcInfo coverages, or as ArcView compatible data files (e.g., AutoCAD export .dwg files). All AutoCAD files must include the projection information and/or spatial (datum) reference to allow import into a spatially referenced GIS format. The preferred spatial reference for AutoCAD .dwg files is State Plane, Colorado North, NAD83, feet. GIS data shall be submitted electronically to BLM, WRFO Natural Resource Specialist, Brett Smithers ([brett\\_smithers@blm.gov](mailto:brett_smithers@blm.gov); Phone: [970] 878-3818) using the 1983 Geographic Coordinate System (NAD 83 datum). These data shall be submitted within 14 calendar days from the time when construction-related activities have ended for all geographic features associated with the proposed action. If the operator is unable to submit the required information within the specified time period, the operator shall notify the designated BLM contact person (see below) via email or by phone, and provide justification supporting an extension of the required data submission time period. Internal and external review of the reporting process and the adequacy of the associated information to meet established goals will be conducted on an on-going basis. New information or changes in the reporting process will be incorporated into the request, as appropriate. If the operator is unable to send the data electronically, the operator shall submit the data on compact disk(s) to:

BLM, White River Field Office  
220 East Market Street  
Meeker, Colorado 81641  
Attn: Brett Smithers

If for any reason the location or orientation of the geographic feature associated with the proposed action changes, the operator shall submit updated GIS data to BLM, WRFO within 7 calendar days of the change. This information should be submitted via Sundry Notice.’

A Reclamation Status Report will be submitted to the WRFO biannually for all actions that require disturbance of surface soils on BLM-administered lands as a result of the proposed action. Actions may include, but are not limited to, well pad and road construction, construction of ancillary facilities, or power line and pipeline construction. The Reclamation Status Report will be submitted by 15 April and 15 August of each calendar year, and will include the well number, API number, legal description, UTM coordinates, project description (e.g., well pad, pipeline, etc.), reclamation status (e.g., interim or final), whether the well pad or pipeline has been revegetated and/or re-contoured, date seeded, photos of the reclaimed site, estimate of acres seeded, seeding method (e.g., broadcast, drilled, hydro-seeded, etc.), and contact information for the person(s) responsible for developing the report. The report will be accompanied with maps showing each point (i.e., well pad), polygon, or polyline (i.e., pipeline) feature that was included in the report. Geospatial data will be submitted using the NAD83 UTM, Zone 12 North projected coordinate system, the Transverse Mercator projection, and the GCS North American 1983 geographic coordinate system (NAD 83 datum). In addition, scanned copies of seed tags that accompanied the seed bags will be included with the report. Internal and external review of the WRFO Reclamation Status Report, and the process used to acquire the necessary information will be conducted annually, and new information or changes in the reporting process will be incorporated into the report. The Reclamation Status Report will be submitted electronically via email and as a hard-copy to Natural Resource Specialist, Brett Smithers ([brett\\_smithers@blm.gov](mailto:brett_smithers@blm.gov)). Please submit the hardcopy to:

BLM, White River Field Office  
220 East Market Street  
Meeker, Colorado 81641  
Attn: Brett Smithers

*Finding on the Public Land Health Standard for plant and animal communities* (partial, see also Wildlife, Aquatic and Wildlife, Terrestrial): Vegetation in the project area currently meets the Standard on a watershed and landscape basis and is expected to continue to meet the Standard on these bases in the future following implementation of the proposed action.

## **INVASIVE, NON-NATIVE SPECIES**

*Affected Environment:* The primary noxious weeds in the project area are common mullein (*Verbascum thapsus*), bull thistle (*Cirsium vulgare*) and black henbane (*Hyoscyamus niger*). These weeds occur on areas of unvegetated earthen disturbance associated with roads, pipelines and well locations primarily involved with intensive oil and gas development. The invasive alien annual cheatgrass also occurs throughout the project area in association with unvegetated earthen disturbance along roads, wells, and pipelines. The Magnolia area has a number of noxious weed infestations due primarily to the continuous earthen disturbance which has and continues to occur there.

*Environmental Consequences of the Proposed Action:* The proposed action will create about 30.472 acres of new earthen disturbance, which if it is not revegetated with desirable

species and /or treated with herbicides to eradicate noxious weeds/ cheatgrass, will be invaded and dominated by noxious weeds/cheatgrass, increasing the potential for fire and the consequent further proliferation of cheatgrass. Noxious weeds could also spread from the project site to surrounding native rangelands resulting in a long term negative impact. The resulting proliferation of noxious weeds/cheatgrass will perpetuate a downward cycle of environmental degradation that will be largely irreversible. There will be a low likelihood of long term negative impact if the proposed mitigation is properly implemented.

*Environmental Consequences of the No Action Alternative:* There will be no change from the present situation.

*Mitigation:* The operator will be required to monitor the project area for the life of the project and eradicate all noxious and invasive species which occur on site using materials and methods approved in advance by the Authorized Officer.

#### **THREATENED, ENDANGERED, AND SENSITIVE PLANT SPECIES** (includes a finding on Standard 4)

*Affected Environment:* There are no plant species listed, proposed, or candidate to the Endangered Species Act, or plants considered sensitive by the BLM, that are known to inhabit areas potentially influenced by the proposed action.

*Environmental Consequences of the Proposed Action:* The proposed action would have no influence on special status species or associated habitats.

*Environmental Consequences of the No Action Alternative:* There would be no action authorized that would have potential to influence special status species or associated habitats.

*Mitigation:* None

*Finding on the Public Land Health Standard for Threatened & Endangered species:* The proposed and no-action alternatives would have no influence on populations or habitats of plants associated with the Endangered Species Act or BLM sensitive species and would have no influence on the status of applicable land health standards.

#### **THREATENED, ENDANGERED, AND SENSITIVE ANIMAL SPECIES** (includes a finding on Standard 4)

*Affected Environment:* There are no threatened or endangered animal species that are known to inhabit or derive substantial use from the project area, however the area does provide suitable habitat for a variety of BLM sensitive species.

Greater sage-grouse (*Centrocercus urophasianus*) are currently under review by the US Fish & Wildlife Service (USFWS) to determine if they warrant listing under the Endangered Species Act. PCU 296-6A1 and the associated pipeline are within the area delineated by the Colorado

Division of Wildlife as the overall range of the Parachute-Piceance-Roan greater sage-grouse population. The closest active lek, Magnolia #3, is approximately 1.9 km (1.2 mi) from the southern end of the pipeline.

Pinyon-juniper woodlands associated with the PCU 297-11C1 location have the potential to provide habitat for several BLM sensitive species. Specifically, it may provide potential nesting habitat for Northern Goshawk (*Accipiter gentilis*) and potential roosting habitat for Yuma Myotis (*Myotis yumanensis*), Fringed Myotis (*Myotis thysanodes*), and Townsend's Big-eared Bat (*Corynorhinus townsendii*). Although northern goshawks are not typically associated with pinyon-juniper woodlands, over the last 30 years five nests have been found in the Piceance Basin's mature pinyon-juniper woodlands at elevations as low as 6,500 feet. Raptor surveys were conducted in summer 2008 and no active goshawk nests were found in the project area. Fringed myotis and Townsend's big-eared bats do not make long distance migrations and may be present in the general area year-round if suitable hibernacula are available. Yuma myotis is typically found in Colorado from April through September. In the project area, the most likely roost substrates available are trees and rock outcrops.

*Environmental Consequences of the Proposed Action:* The Magnolia sage-grouse population is a small, remnant population generally confined to a relatively narrow 2- to 3-mile band of sagebrush north of Rio Blanco County Road 3 (Collins Gulch). This area is used year-round by sage-grouse and has one active lek complex. The population is isolated from the remainder of the Parachute-Piceance-Roan population due to frequent traffic along RBC 3, heavy gas drilling activity along its southern rim, and the installation of gas processing and compressor facilities on its southwest corner. Overall the proposed action is part of a larger clustering of natural gas facilities and infrastructure. It is located adjacent to an existing road and other pipelines (e.g. CO-110-2007-133-EA, CO-110-2008-087-EA, and CO-110-2008-272-DNA). It is also within 0.5 mi of other large facilities (e.g. compressor stations).

The proposed pad and pipeline would directly disturb less than 20 acres of suitable sage-grouse habitat. In addition to direct habitat loss due to surface disturbing activities, there will also likely be additional loss of functional habitat due to behavioral avoidance of areas in close proximity to construction sites. Areas surrounded by development likely lose their utility as productive nesting habitat due to increased traffic, noise, and human presence. Even relatively light traffic (i.e. 1-12 vehicles/day) may reduce nest initiation rates by 24% compared to areas with no traffic (Lyon and Anderson 2003). While most of the proposed pad location and pipeline route are in either marginal habitat (e.g. pinyon-juniper along southern edge of pad location) or adjacent to other facilities, there is still a relatively large patch of suitable sagebrush habitat north of the proposed action in T2S, R96W, Section 6 that may be occupied by sage-grouse. Recruitment within this small population is critical and restricting construction activities to periods outside of the nesting season would help to minimize impacts to grouse reproductive success by eliminating possible destruction of nests or young broods during the vegetation clearing process and eliminating possible abandonment of nests in close proximity construction sites. As such, no development activity (including vegetation clearing) shall be permitted from April 15 through July 7. Using a seed mix of native grasses and forbs during reclamation facilitates the recovery of suitable habitat that may be used by broods over the next 20 years prior to the establishment of sagebrush cover required for suitable nesting habitat. The Magnolia area is grazed by livestock

and reclamation success may be hampered unless seeded areas are fenced until the seed mix is established.

Vegetation clearing of PCU 297-11C1 and associated access road and pipeline will result in direct habitat loss of approximately 9.4 acres of pinyon-juniper woodland habitat and associated potential roosting sites. Under natural succession regimes it would take 100-300 years to replace mature pinyon-juniper habitat. However, there are many examples of bats successfully roosting near busy roads or even within highway structures and so increased human activity associated with pipeline construction is not expected to negatively influence use of adjacent suitable habitat by bats.

*Environmental Consequences of the No Action Alternative:* There would be no conceivable influence on sensitive wildlife species under the no action alternative.

*Mitigation:* No development or construction activities associated with PCU 296-6A1 (and the access road and pipeline that serve it) will be allowed from April 15 through July 7 in order to protect sage-grouse nesting habitat.

The following prescribed seed mix and seeding rates will be applied during reclamation in T2S, R96W, Sections 5, 6, and 8:

Cultivar	Species	Scientific Name	Application Rate (PLS/acre)
Rosanna	Western Wheatgrass	<i>Pascopyrum smithii</i>	3 lb
Nezpar	Indian Ricegrass	<i>Achnatherum hymenoides</i>	2.5 lb
Whitmar	Bluebunch Wheatgrass	<i>Pseudoroegneria spicata ssp. inermis</i>	2.5 lb
Critana	Thickspike Wheatgrass	<i>Elymus lanceolatus ssp. lanceolatus</i>	2 lb
Lodorm	Green Needlegrass	<i>Nassella viridula</i>	1.5 lb
Timp	Northern Sweetvetch	<i>Hedysarum boreale</i>	3.5 lb
	Scarlet Globemallow	<i>Sphaeralcea coccinea</i>	5 oz
	Arrowleaf Balsamroot	<i>Balsamorhiza sagittata</i>	3 lb
Maple Grove	Lewis Flax	<i>Linum lewisii</i>	1 lb

*Finding on the Public Land Health Standard for Threatened & Endangered species:* The persistence of Magnolia’s greater sage-grouse population is at risk. Of all the special status species potentially impacted by this proposed action, sage-grouse are the only species that may fail to meet public land health standards in the future. In the last five years, the highest combined count at all the leks in the Magnolia lek complex was only 9 males. Recently there has been a dramatic increase in natural gas development and the installation of transmission facilities in the Magnolia area. The proposed action is simply one of a number of projects that are increasing habitat alteration and human activity in the area. Restricting construction activities during sage-grouse nesting season and requiring a reclamation seed mix of native grasses and forbs will help to minimize impacts to sage-grouse as much as possible while still allowing for the project to proceed.

## MIGRATORY BIRDS

*Affected Environment:* A variety of migratory songbirds may nest in the sagebrush and pinyon-juniper woodlands within the project area. Species such as Brewer's sparrow (*Spizella breweri*), vesper sparrows (*Pooecetes gramineus*), and spotted towhees (*Pipilo maculatus*) nest in sagebrush in the Magnolia area. Species such as gray flycatcher (*Empidonax wrightii*), pinyon jay (*Gymnorhinus cyanocephalus*), juniper titmouse (*Baeolophus ridgwayi*), and black-throated gray warbler (*Dendroica nigrescens*) may nest in the woodlands within the project area.

A raptor survey was conducted in the summer of 2008 in preparation for Exxon's Piceance Creek 3D Seismic Survey (CO-110-2008-036-EA) that includes the proposed locations of PCU 297-11C1, PCU-296-6A1, and associated access roads and pipeline routes. During that survey, an active Cooper's hawk (*Accipiter cooperii*) nest was located within 0.25 mi (~400 meters) of PCU 297-11C1.

There are no specialized or narrowly endemic species known to inhabit the allotment. However, the U.S. Fish and Wildlife Service (USFWS) recognizes black-throated gray warblers, Brewer's sparrows, and pinyon jays as being "birds of conservation concern". The BCC lists identify birds that, without conservation actions, may become candidates for listing under the Endangered Species Act (USFWS 2002).

*Environmental Consequences of the Proposed Action:* If construction and vegetation clearing activities were to occur during the spring and summer months, then direct mortality due to the loss of nests with eggs or young is possible. Long-term impacts to migratory songbird breeding habitat include direct habitat loss (~30.472 acres) and loss of functional habitat due to avoidance of certain areas. Under natural succession regimes, it would take 20 years to replace a mature sagebrush stand and 100-300 years to replace a mature pinyon-juniper woodland. Even after the initial disturbance associated with construction, drilling, and completion, it can be expected that nest densities around the project area may continue to be depressed. In sagebrush stands, nest densities of brewer's sparrows and sage sparrows were reduced by 39-60% within 100 m of roads in a natural gas field (Ingelfinger and Anderson 2004).

There is evidence that some raptor species can tolerate limited energy development in foraging areas if their nest sites are protected from human disturbance (Squires et al. 1993). No development activities (including vegetation clearing, construction, drilling, etc) shall be permitted for PCU 297-11C1 from April 1 through August 15, or until dispersal of young. If construction is delayed and does not begin until after February 1, 2010, then another raptor survey (of suitable woodland habitat within 300 meters of all the proposed projects and of suitable cliff/rock nesting habitat within 400 meters of all the proposed projects) will be required prior to issuing a notice to proceed.

Although there are no open water or wetland areas in close proximity to the project area that are used by waterfowl, the development of reserve pits that contain drilling, production, or frac fluids have been known to attract waterfowl use regardless of topography or vegetation association. Waterfowl may be especially attracted to reserve pits during migration (i.e. locally mid-March through late May and mid-October through late November). Netting or other

methods that prevent use by birds will minimize the potential for mortality associated with the contents of pits.

*Environmental Consequences of the No Action Alternative:* There would be no action authorized that would have potential to influence the reproductive success or annual survival rates of local migratory bird populations.

*Mitigation:* No development activities (including vegetation clearing, construction, drilling, etc) shall be permitted for PCU 297-11C1 from April 1 through August 15, or until dispersal of young (raptors).

If construction is delayed and does not begin until after February 1, 2010, then another raptor survey (of suitable woodland habitat within 300 meters of all the proposed projects and of suitable cliff/rock nesting habitat within 400 meters of all the proposed projects) will be required prior to issuing a notice to proceed.

The operator shall prevent use by migratory birds (e.g. migratory waterfowl, shorebirds, wading birds, and raptors) of reserve pits that store or are expected to store fluids which may pose a risk to birds. Methods may include netting or other alternative methods that effectively prevent use and meet BLM approval. It will be the responsibility of the operator to notify the BLM of the method that will be used to prevent use two weeks prior to the commencement of completion activities. The BLM-approved method will be applied within 24 hours of the commencement of completion activities. All lethal and non-lethal events that involve migratory birds will be reported to the Petroleum Engineer Technician immediately.

### **WILDLIFE, AQUATIC** (includes a finding on Standard 3)

*Affected Environment:* The nearest system supporting higher-order vertebrate communities is Piceance Creek (privately-owned) which is separated from the project area by between 2.5 to 6 miles of ephemeral channel. The nearest BLM-administered reach is located roughly 5 to 6 miles from the project area. The Piceance Creek system supports populations of mountain sucker, speckled dace and leopard frogs.

*Environmental Consequences of the Proposed Action:* The proposed pads are situated along ridge tops which are separated from the nearest perennial channel by 5 to 6 miles. Construction activities associated with the proposed action would have no direct impact on aquatic resources. With the application of BMPs associated with soil erosion there is no reasonable likelihood that fugitive sediments would have any influence on the function or condition of Piceance Creek or the associated aquatic resources.

*Environmental Consequences of the No Action Alternative:* There would be no action authorized that would have any direct or indirect influence on downstream aquatic communities.

*Mitigation:* None

*Finding on the Public Land Health Standard for plant and animal communities* (partial, see also Vegetation and Wildlife, Terrestrial): Neither the proposed or no-action alternatives would have any reasonable potential to influence the function or condition of the Piceance Creek channel or associated aquatic habitat values. Pad and road construction would have no direct impact on aquatic habitats. With the application of BMPs associated with soil erosion there is no reasonable likelihood that fugitive sediments would have any influence on the function or condition of the Piceance Creek channel or aquatic wildlife.

### **WILDLIFE, TERRESTRIAL** (includes a finding on Standard 3)

*Affected Environment:* The project area is identified by the Colorado Division of Wildlife (CDOW) as winter range for elk (*Cervus canadensis*). Mule deer (*Odocoileus hemionus*) utilize the area around PCU 297-11C1 as severe winter range and the area around PCU 296-6A1 as general winter range. Severe winter range, by definition, provides habitat for 90% of the herd during the worst winters (e.g. low temperatures and deep snowfall). There are no highly specialized or narrowly endemic terrestrial wildlife species known to inhabit or derive substantial use from the project area.

*Environmental Consequences of the Proposed Action:* Wildlife may be impacted by pad (~18.2 acres) and pipeline (~11.9 acres) construction due to direct loss of habitat. However, final pipeline reclamation would help offset herbaceous forage and cover losses and accelerate the reestablishment of woody forage and cover components for all resident wildlife.

Indirectly, the proposed action can impact wildlife if behavioral avoidance results in the decreased use of preferred foraging and escape cover habitats and if there is a decrease in reproductive success as the result of physiological responses to stress. Construction of both pads and associated access roads and pipelines represent additional infrastructure in an area that is already industrialized. There are four other pads within 0.5 mi of PCU 297-11C1. Within 0.5 mi of the PCU 296-6A1 pad, there are three existing pads, pipelines, and several large industrial facilities. Ideally, construction would be conducted in the fall and would not coincide with critical winter use. To minimize further impacts to wintering mule deer, no construction (including vegetation clearing) or other disruptive activities would not be permitted from January 1 through April 30 for the PCU 297-11C1 location.

*Environmental Consequences of the No Action Alternative:* There would be no action authorized that would have potential to influence the reproductive success or annual survival rates of local big game or other terrestrial wildlife populations.

*Mitigation:* To minimize increases in road density on big game ranges and to improve reclamation success, the operator shall condition the pipelines so that they cannot be used as a road (including use by off-road vehicles). Additionally, the exiting two-tracks that lead to the PCU 296-6A1 location shall be reclaimed to final reclamation standards.

To minimize disturbance to mule deer severe winter range habitat, no construction or other disruptive activities are permitted from January 1 through April 30 for the PCU 297-11C1

location.

To help monitor possible impacts to big game and raptors as result of drilling, completion, and well maintenance (i.e., work-over) activities, the operator shall notify the designated NRS the day the drilling rig moves on to the location and inform him or her of the move. In addition, the operator shall notify the designated NRS within 24 hours from the time the drilling rig moves off the location, when the completion rig moves on to the location and when the completion rig moves off the location. Well maintenance operations will also be reported to the designated NRS within 24 hours from the time the work-over rig moves on to the location and when the work-over rig moves off the location. The designated NRS for this project is: Jay Johnson (Phone: 970.878.3854; Email: jay\_johnson@blm.gov).

*Finding on the Public Land Health Standard for plant and animal communities* (partial, see also Vegetation and Wildlife, Aquatic): On a landscape scale, the project area currently meets the public land health standards for terrestrial animal communities, although the general area is becoming increasingly industrialized as development of the natural gas field progresses. The proposed action represents additional habitat loss along an existing road and parallel to an existing pipeline. Since the proposed action simply further concentrates existing disturbed areas, it is not expected to measurably detract from continued meeting of the land health standard at the landscape scale.

## **CULTURAL RESOURCES**

*Affected Environment:* PCU 297-11C well pad and access: The proposed well pad and access route have been inventoried at the Class III (1005 pedestrian) level (Robertson 2008, Compliance Dated 2/25/2009) with one isolated find located within the area which was inventoried. The isolated find is not located within the proposed well pad construction zone nor the access road corridor. There are additionally known cultural resources in the proposed well pad or access road areas.

PCU 296-6A well pad and access: the proposed well pad location and access route have been inventoried at the Class III (1005 Pedestrian) level (Bott 2008, Compliance Dated 11/20/2009) with no new cultural resources identified during inventory. However, one site, an open lithic scatter is known to be within 308 meters of the proposed well pad location.

*Environmental Consequences of the Proposed Action:* PCU 297-11C well pad and access: One isolated find was located in the project inventory area but appears to be outside the proposed construction zone. The isolated find is not NRHP eligible and there should be no impacts to cultural resources. There should be no adverse impact to known cultural resources from this well pad construction project.

PCU 296-6A well pad and Access: the proposed well pad and access route will not directly affect any known cultural resources. However a site is known to exist within 308 meters of the well pad. Since the site is an open lithic scatter there are no standing structures that could be potentially negatively impacted by vibrations associated with construction of the access and pad

or drilling operations. However, the site could be subject to increased unauthorized collection due to the increased activity and human presence in the immediate vicinity during construction and drilling operations.

*Environmental Consequences of the No Action Alternative:* There would be no new impacts to cultural resources under the No Action Alternative.

*Mitigation:* For both well pads: The operator is responsible for informing all persons who are associated with the project operations that they will be subject to prosecution for knowingly disturbing historic or archaeological sites, or for collecting artifacts. If historic or archaeological materials are uncovered during any project or construction activities, the operator is to immediately stop activities in the immediate area of the find that might further disturb such materials, and immediately contact the authorized officer (AO). Within five working days the AO will inform the operator as to:

- whether the materials appear eligible for the National Register of Historic Places
- the mitigation measures the operator will likely have to undertake before the site can be used (assuming in situ preservation is not necessary)
- a timeframe for the AO to complete an expedited review under 36 CFR 800-11 to confirm, through the State Historic Preservation Officer, that the findings of the AO are correct and that mitigation is appropriate.

If the operator wishes, at any time, to relocate activities to avoid the expense of mitigation and/or the delays associated with this process, the AO will assume responsibility for whatever recordation and stabilization of the exposed materials may be required. Otherwise, the operator will be responsible for mitigation cost. The AO will provide technical and procedural guidelines for the conduct of mitigation. Upon verification from the AO that the required mitigation has been completed, the operator will then be allowed to resume construction.

2. Pursuant to 43 CFR 10.4(g) the holder of this authorization must notify the AO, by telephone, with written confirmation, immediately upon the discovery of human remains, funerary items, sacred objects, or objects of cultural patrimony. Further, pursuant to 43 CFR 10.4(c) and (d), you must stop activities in the vicinity of the discovery and protect it for 30 days or until notified to proceed by the authorized officer.

Well Pad 296-6A: The site located south of the well pad is off limits to all construction and drilling personnel. No one should wander more than 100 meters south from the drill rig during drilling operations.

## **PALEONTOLOGY**

*Affected Environment:* Well PCU 297-11C pad, access road and well tie pipeline: the proposed well pad, access and well tie pipe are located in an area generally mapped as the Uinta Formation (Tweto 1979). The BLM WRFO has classified the Uinta Formation as a potential fossil yield classification (PFYC) 5 formation meaning it is known to produce scientifically

important fossils such as horse, Titanothera, Uintathera and numerous invertebrate and plant fossil of interest.

Well PCU 296-6A pad, access and well tie pipeline: the proposed well pad, access and well tie pipe are located in an area generally mapped as the Uinta Formation (Tweto 1979). The BLM WRFO has classified the Uinta Formation as a PFYC 5 formation meaning it is known to produce scientifically important fossils such as horse, Titanothera, Uintathera and numerous invertebrate and plant fossil of interest.

*Environmental Consequences of the Proposed Action:* Well PCU 297-11C pad, access road and well tie pipeline: If for any reason it becomes necessary to excavate into the underlying rock formation there is a relatively high potential to impact scientifically important fossil resources.

Well PCU 296-6A pad, access and well tie pipeline: If for any reason it becomes necessary to excavate into the underlying rock formation there is a relatively high potential to impact scientifically important fossil resources.

*Environmental Consequences of the No Action Alternative:* There would be no new impacts to fossil resources under the No Action Alternative.

*Mitigation:* 1. The operator is responsible for informing all persons who are associated with the project operations that they will be subject to prosecution for knowingly disturbing paleontological sites, or for collecting fossils. If fossil materials are uncovered during any project or construction activities, the operator is to immediately stop activities in the immediate area of the find that might further disturb such materials, and immediately contact the authorized officer (AO). Within five working days the AO will inform the operator as to:

- whether the materials appear to be of noteworthy scientific interest
- the mitigation measures the operator will likely have to undertake before the site can be used (assuming in situ preservation is not feasible)

If the operator wishes, at any time, to relocate activities to avoid the expense of mitigation and/or the delays associated with this process, the AO will assume responsibility for whatever recordation and stabilization of the exposed materials may be required. Otherwise, the operator will be responsible for mitigation cost. The AO will provide technical and procedural guidelines for the conduct of mitigation. Upon verification from the AO that the required mitigation has been completed, the operator will then be allowed to resume construction.

2. If it becomes necessary to excavate into the underlying rock formation to construct the access road, level the well pad, excavate the reserve/blooi/cutting pit or bury the well tie pipeline a paleontological monitor shall be present prior to the initiation of any such excavation.

#### **ELEMENTS NOT PRESENT OR NOT AFFECTED:**

No flood plains, prime and unique farmlands, or Wilderness exist within the area affected by the proposed action. There are also no Native American religious or environmental justice concerns associated with the proposed action.

**OTHER ELEMENTS:** For the following elements, only those brought forward for analysis will be addressed further.

Non-Critical Element	NA or Not Present	Applicable or Present, No Impact	Applicable & Present and Brought Forward for Analysis
Visual Resources			X
Fire Management			X
Forest Management			X
Hydrology/Water Rights		X	
Rangeland Management			X
Realty Authorizations		X	
Wild Horses	X		
Recreation		X	
Access and Transportation			X
Geology and Minerals			X
Areas of Environmental Concern	X		
Wilderness	X		
Wild and Scenic Rivers	X		
Cadastral	X		
Socio-Economics		X	
Law Enforcement	X		

## VISUAL RESOURCES

*Affected Environment:* The proposed action is planned on Magnolia Bench, an area that is currently being developed for natural gas exploration and production. Magnolia Bench is within a visual resource management (VRM) Class 3 area. This area is managed so that the activities should not dominate the view but may attract some attention as well as managed to partially retain the existing character of the local landscape. The Magnolia Bench area has many disturbances related to natural gas development that attract attention due to the size and nature of the developed features. Surface disturbances range from compressor stations to well pads and the entire infrastructure that is required to operate them. The access roads and pipeline disturbances fragment the vegetative structure and are easily identified from a distance as a surface disturbance.

*Environmental Consequences of the Proposed Action:* The well pads total disturbance is 18.60 acres and the pipeline is 11.922 acres. These structures will impact the visual resource and will be identified from a distance. Painting all production facilities juniper green to match the vegetation color will mitigate visual resource.

*Environmental Consequences of the No Action Alternative:* Under the No Action Alternative, there would be no impact on any field of view.

*Mitigation:* All permanent (onsite for six [6] months or longer) structures, facilities and equipment placed above ground shall be painted Munsell Soil Color Chart Juniper Green, or equivalent within six months of installation.

## **FIRE MANAGEMENT**

*Affected Environment:* The proposed action is located within two WRFO fire management polygons, the B8 Magnolia Oil & Gas polygon and the D4 Little Hills polygon. The intent of the B8 polygon is to manage fires at a small size because of the concentration of natural gas facilities. The intent of the D4 polygon is to allow wildland fire to play a more natural role on the landscape. This portion of the D4 polygon is under extensive drilling for natural gas and there is a lot of infrastructure associated with it, from various types of power lines to structures located around actively drilling well pads, which all result in limiting the ability to use wildland fire for resource benefit.

*Environmental Consequences of the Proposed Action:* Due to the nature of the proposed action, there is a need to clear the vegetation from the area and piled either for reclamation purposes or left for public retrieval. The piles of pinion and juniper will remain on site for many years posing a concentrated dead fuel loading that will be difficult to suppress or manage. Throughout the construction and drilling process there will be an increase in the probability of a human caused ignition.

*Environmental Consequences of the No Action Alternative:* None

*Mitigation:* Several options may be considered for treatment of slash from this project. A hydro-ax or other mulching type machine could be used to remove the trees. The machines are capable of shredding trees up to 12" in diameter and 15' tall as well as mowing brush like a conventional brush beater. It generally leaves small branches and pieces of wood from pencil size up to bowling ball size. The mulch is evenly scattered across the surface and the tires or tracks distribute the weight of the equipment. This effectively breakdown the woody fuel and scatters the debris thereby eliminating any hazardous fuel load adjacent to the road and pipeline corridors and areas adjacent to the well pad clearing. The other option would be to cut trees and have them removed for firewood, posts, or other products for all materials outside of what is required for reclamation. The branches and tops should be lopped and scattered to a depth of 24 inches or less. If the products are left for collection by the general public, they should be piled along the road side or pad to facilitate removal.

During construction, there shall be one 10 lb A/B/C rated fire extinguisher, one shovel and/or Pulaski or axe for each piece of equipment on site and ready for use in the event of an accidental fire ignition as a result of construction. No fire suppression actions shall be taken on any fire in the area unless directed by the incident commander. In the event of an accidental ignition or natural ignition resulting in a fire in the area, the contractor or a representative will contact Craig Fire Dispatch at 970-878-5037 so that a qualified fire crew can evaluate the situation for the safety of all crews in the area and determine the appropriate management action.

**FOREST MANAGEMENT**

*Affected Environment:* The proposed action will occur in mature stands of pinion and juniper (P/J). The location of this action is within stands of P/J that have been fragmented through energy development for power lines, pipelines, roads and well pads. This action is adjacent to existing disturbances.

*Environmental Consequences of the Proposed Action:* Due to the nature of the proposed action, there is a need to clear away the pinion/juniper trees that are located within the area of the proposed action. The total area woodlands that are expected to be affected are 10.95 acres. The table below illustrates the volume, in cords, of trees that is estimated to be removed.

Well Name	Acreage In Woodlands					
	Pad Acres	Access Rd. (Ac)	Pipeline	Acres Disturbed (Total)	Stand Class	Total Cords
PCU 296 and PCU 297-	10.95	0	0	10.95	Mature P/J	131.4

It is expected that pinion and juniper will again occupy the site in approximately 25 to 35 years post reclamation and will exhibit mature stand characteristics in 250+ years.

*Environmental Consequences of the No Action Alternative:* None.

*Mitigation:* In accordance with the 1997 White River RMP/ROD page 2-22, all trees removed in the process of construction shall be purchased from the BLM. For reclamation purposes retain enough tree boles, that are removed of limbs and have the root wads intact, to adequately cover no more than 20% of the surface for the well pad and stockpile the material adjacent to the topsoil stockpile. Additionally, where pinion and juniper trees were present prior to construction, retain enough trees which are limbed and have root wads intact to adequately cover no more than 20% of the surface for the pipeline disturbance. Trees to be removed shall be cut down or masticated to a stump height of six inches prior to other heavy equipment operations. Trees that are removed for construction that are not needed for reclamation purposes shall be cut in four foot lengths (down to 4 inches diameter) and placed adjacent to the disturbance where the material is easily accessed by the public. Material that is left for collection by the general public should be stacked in small manageable piles along the roadside to facilitate easy removal. Remaining woody material shall be stockpiled for use in reclamation

purposes. Once the disturbance has been recontoured and reseeded, stockpiled woody material shall be placed in the right of way. Redistribution of woody material will not exceed 20% ground cover (using ocular estimation) in order to provide surface cover that provides for varied microclimatic conditions and sites for seedling protection that complements vegetation restoration.

Woody vegetation that is *not* stockpiled for public removal and *not* necessary for reclamation, will be scattered away from the disturbance to a height of 18 inches or less. Chipped material shall be scattered away from the disturbance in a manner to avoid piling.

## RANGELAND MANAGEMENT

*Affected Environment:* The proposed 297-11C well location access road and pipeline is within the Hatch Gulch (06028) allotment. This allotment is used by the CW Brennan and Mantle Ranch livestock operations in late fall and winter. Their permitted use is as follows:

Allotment	Permit Number	Livestock	Period of Use	Percent Public Land	Authorized Use (AUM)	Allotment
Hatch Gulch	051422 Brennan	150	Cattle	11/01-11/30	100	148
		300	Cattle	12/01-12/31	100	306
		150	Cattle	01/01-01/31	100	153
	051423 Mantle	56	Cattle	12/01-12/31	100	57

The proposed 296-6A1 well location, access road and pipeline is located within the Little Hills (06006) allotment. This allotment is permitted to Burke Brothers as follows:

Allotment	Permit Number	Livestock	Period of Use	Percent Public Land	Authorized Use (AUM)	
06006	Little Hills	50	C	04/15-04/30	26	
		110	C	05/01-10/30	662	
	Burke Brothers	051405	5	H	05/01-10/30	30
			98	C	05/01-10/30	590
			100	C	05/01-10/30	602
			145	C	12/01-12/31	148

*Environmental Consequences of the Proposed Action:* The proposed action will disturb approximately 30 acres, resulting in the long term loss of about 5 AUMs of livestock forage and an additional 2 AUMs of forage due to dust damage to vegetation.

*Environmental Consequences of the No Action Alternative:* There will be no change from the present situation.

*Mitigation:* None

## ACCESS AND TRANSPORTATION

*Affected Environment:* The proposed action will impact State Highway 64 and 13 as well as Rio Blanco county roads 3, 5, 76, BLM roads 1174, 1266 and unnumbered BLM roads.

*Environmental Consequences of the Proposed Action:* The increase traffic and travel on these roads will lead to surface degradation.

*Environmental Consequences of the No Action Alternative:* None

*Mitigation:* The lessee is responsible for maintaining roads to the well pads according Gold Book standards and BLM Manual Section 9113 standards for road shape and drainage features at all times during construction, drilling and production.

## REALTY AUTHORIZATIONS

*Affected Environment:* The roads and pipelines are located within the Piceance Creek Unit boundary, therefore a right-of-way is not required.

*Environmental Consequences of the Proposed Action:* No additional realty action is necessary.

*Environmental Consequences of the No Action Alternative:* None

*Mitigation:* None

## GEOLOGY AND MINERALS

*Affected Environment:* The surface geologic formation of the well locations is Uinta and Exxon Mobil's targeted zone is in the Mesaverde. Surface location of well pad PCU 297-11C is approximately 2,300 feet north of the Dudley Bluff Graben's surface expression. During drilling potential water, oil shale, sodium, and gas zones will be encountered from surface to the targeted zone. Aquifers that will be encountered during drilling are the Perched in the Uinta, the A-groove, B-groove and the Dissolution Surface in the Green River formation. These aquifer zones along with the Wasatch formation are known for difficulties in drilling and cementing. Oil shale and sodium resources are located in the Green River formation. The bottom hole locations of all the proposed wells are located on ExxonMobil's Federal Oil and Gas Piceance Creek Unit COC-47666X.

*Environmental Consequences of the Proposed Action:* The cementing procedure of the proposed actions isolates the formations and will prevent the migration of gas, water, and oil between formations. Isolation of the oil shale, sodium and coal resources will also be accomplished. However, conventional recovery of the coals is not considered feasible at the depths that are encountered in the well. Fracturing may exist parallel to the Dudley Bluff Graben

and may cause difficulties during down hole operations. Development of this well will deplete the natural gas resources in the targeted formation.

*Environmental Consequences of the No Action Alternative:* The natural gas resources in the targeted zone would not be recovered at this time.

*Mitigation:* None

**CUMULATIVE IMPACTS SUMMARY:** Cumulative impacts from oil and gas development were analyzed in the White River Resource Area Proposed Resource Management Plan/Final Environmental Impact Statement (PRMP/FEIS) completed in June 1996. Current development, including the proposed action, has not exceeded the cumulative impacts from the foreseeable development analyzed in the PRMP/FEIS.

#### **REFERENCES CITED:**

Bott, Tracy. 2008. ExxonMobil Corporation: A Class III Cultural Resources Inventory of the Proposed PCU 296-6A Well Development in Rio Blanco County, Colorado. Metcalf Archaeological Consultants, Inc., Eagle, Colorado.

Ingelfinger, F. and S. Anderson. 2004. Passerine response to roads associated with natural gas extraction in a sagebrush steppe habitat. *Western North American Naturalist* 64:385-395.

Lyon, A.G. and S.H. Anderson. 2003. Potential gas development impacts on sage grouse nest initiation and movement. *Wildlife Society Bulletin* 31:486-491.

Robertson, Brett. 2008. ExxonMobil Oil Corporation: A Class III Cultural Resources Inventory of the Proposed Piceance Creek Unit (PCU) 297-11C Well Pad, Access Road and Pipeline in Rio Blanco County, Colorado. Metcalf Archaeological Consultants, Inc., Eagle, Colorado

Squires, J.R., Anderson, S.H., and R. Oakleaf. 1993. Home range size and habitat use patterns of nesting prairie falcons near oil developments in northeastern Wyoming. *Journal of Field Ornithology* 64:1-10.

Tweto, Ogden. 1979. Geologic Map of Colorado. United States Geologic Survey, Department of the Interior, Reston, Virginia.

U.S. Fish and Wildlife Service. 2002. Birds of conservation concern 2002. Division of Migratory Bird Management, Arlington, Virginia. 99 pp.

**PERSONS / AGENCIES CONSULTED:** Rio Blanco County, Colorado Division of Wildlife

**INTERDISCIPLINARY REVIEW:**

<b>Name</b>	<b>Title</b>	<b>Area of Responsibility</b>
Bob Lange	Hydrologist	Air Quality, Wastes (Hazardous or Solids), Water Quality (Surface and Ground), Hydrology and Water Rights, and Soils.
Maggie Marston	Botanist	Areas of Critical Environmental Concern, Threatened and Endangered Plant Species
Michael Selle	Archeologist	Cultural Resources, Paleontological Resources
Mark Hafkenschiel	Rangeland Management Specialist	Invasive, Non-Native Species, Vegetation , Rangeland Management
Heather Sauls	Wildlife Biologist	Migratory Birds, Threatened, Endangered and Sensitive Animal Species, Terrestrial Wildlife
Lisa Belmonte	Wildlife Biologist	Aquatic Wildlife, Wetlands and Riparian Zones
Andrew Burrows	Outdoor Recreation Planner	Wilderness, Access and Transportation, Recreation,
Jim Michels	Fire / Fuels Technician	Fire Management
		Forest Management
Paul Daggett	Mining Engineer	Geology and Minerals
Stacey Burke	Realty Specialist	Realty Authorizations
Andrew Burrows	Natural Resource Specialist	Visual Resources
Melissa Kindall	Range Technician	Wild Horses

# **Finding of No Significant Impact/Decision Record (FONSI/DR)**

## **DOI-BLM-CO-110-2009-0079-EA**

**FINDING OF NO SIGNIFICANT IMPACT (FONSI)/RATIONALE:** The environmental assessment and analyzing the environmental effects of the proposed action have been reviewed. The approved mitigation measures (listed below) result in a Finding of No Significant Impact on the human environment. Therefore, an environmental impact statement is not necessary to further analyze the environmental effects of the proposed action.

**DECISION/RATIONALE:** It is my decision to approve the proposed action with the addition of the mitigation listed below.

### **MITIGATION MEASURES:**

#### 1. Air Quality

All access roads will be maintained according to BLM Manual Section 9113 standards for road shape and drainage features at all times during construction, drilling and production.

All access roads will be treated with water and/or a dust suppressant during construction and drilling activities so that there is not a visible dust trail behind vehicles. All vehicles will abide by company or public speed restrictions during all activities. If water is used as a dust suppressant, there should be no traces of oil or solvents in the water and shall be properly permitted for this use by the State of Colorado. Only water needed for abating dust should be applied; dust abatement should not be used as a water disposal option under any circumstances.

#### 2. Soils

All construction and drilling activity shall cease when soils or road surfaces become saturated to a depth of three inches unless there are safety concerns or activities are otherwise approved by the Authorized Officer.

If erosion features such as riling, gullyng, piping and mass wasting occur at anytime in the future on disturbed surfaces the erosion features will be addressed immediately after observation by contacting the AO and submitting a plan to assure successful soil stabilization with BMPs to address the erosion problems.

#### 3. Wastes, Hazardous or Solid

Onsite sewage treatment needs to be approved by the BLM via Sundry Notice by the AO. All sewage should be disposed of off-site as per the Surface Use Plan.

For all pits, at least 50 percent of the pit capacity shall be in cut material.

All pits shall be lined with at least a 24 mil liner. Pits containing fluids must not be breached (cut) and pit fluids must be removed or solidified before backfilling.

Reserve pits would be allowed to air dry for no more than one four-season cycle. The use of chemicals to aid in fluid evaporation, stabilization, or solidification must have prior BLM approval. If there are still fluids in the reserve pit after one four season cycle following the drilling of the approved wells (regardless of if additional wells are planned), the operator will close the pits and submit via sundry notice the location for disposal or use of any pit fluids removed.

The concentration of hazardous substances in the reserve pit at the time of pit backfilling must not exceed the standards set forth in CERCLA. Fill the pit with the excess spoil pile with at least 4 feet of clean dry sub-soil and ensure proper compaction so there is no settling in the future.

The release of any chemical, oil, petroleum product, produced water, or sewage, etc, must be contained immediately, cleaned up as soon as possible, and reported by the project proponent to the Bureau of Land Management according to Notice to Lessees and Operators of Onshore Federal and Indian Oil and Gas Leases (NTL-3A).

#### 4. Water Quality, Surface and Ground

Provide for erosion-resistant surface drainage by adding necessary drainage facilities and armoring prior to fall rain or snow. When erosion is anticipated, sediment barriers shall be constructed to slow runoff, allow deposition of sediment, and prevent it from leaving the site. In addition, straining or filtration mechanisms may also contribute to sediment removal from runoff.

Locate culverts or drainage dips in such a manner as to avoid discharge onto unstable terrain such as headwalls or slumps. Provide adequate spacing to avoid accumulation of water in ditches or road surfaces. Install culverts with adequate armoring of inlets and outlets. Patrol areas susceptible to road or watershed damage during periods of high runoff.

Keep road inlet and outlet ditches, catchbasins, and culverts free of obstructions, particularly before and during spring runoff. Routine machine-cleaning of ditches should be kept to a minimum during wet weather. Leave the disturbed area in a condition that provides drainage with no additional maintenance.

Access roads should be built and maintained to BLM Manual Section 9113 standards for road shape and drainage features. Culverts and waterbars should be installed according to 9113 standards and sized for the 10-year storm event with no static head and to pass a 25-year event without failing.

If mechanical means are used to evaporate fluids in the reserve pit there will be no overspray allowed outside of the pit.

Cut and fill slopes described in the Interim Reclamation Plan should be 3:1 or 4:1 to facilitate vegetation growth on these slopes and no soils should be stockpiled during interim reclamation for pad 296-6A1 and on 297-11C.

5. Vegetation

The designated natural resource specialist (NRS) for this project is Jay Johnson; phone: (970) 878-3854; Email: Jay\_Johnson@blm.gov.

The designated NRS will be notified 24 hours prior to beginning all construction-related activities associated with this project that result in disturbance of surface soils via email or by phone. Construction-related activities may include, but are not limited to: pad and road construction, clearing pipeline corridors, trenching, etc. Notification for all construction-related activities, regardless of size, that result in disturbance of surface soils as a result of this project is required.

All disturbed areas shall be seeded with Native Seed Mix #2 (see below). The elevation and vegetation community for this location are: Mid Elevation Sagebrush (5,500-7,200 ft). Therefore it is recommended that this site be seeded between September 1 and March 15. If an alternate date of seeding is requested, contact the BLM WRFO designated Natural Resource Specialist working with ExxonMobil prior to seeding for approval.

Cultivar	Species	Scientific Name	Application Rate (lbs PLS/acre)
Rosanna	Western Wheatgrass	<i>Pascopyrum smithii</i>	3.5
Nezpar	Indian Ricegrass	<i>Achnatherum hymenoides</i>	2.5
Whitmar	Bluebunch Wheatgrass	<i>Pseudoroegneria spicata ssp. inermis</i>	3
Critana	Thickspike Wheatgrass	<i>Elymus lanceolatus ssp. lanceolatus</i>	2.5
Lodorm	Green Needlegrass	<i>Nassella viridula</i>	2
Timp	Northern Sweetvetch	<i>Hedysarum boreale</i>	3
	Arrowleaf Balsamroot	<i>Balsamorhiza sagittata</i>	3
<b>TOTALS</b>			19.5

All seed tags will be submitted to the designated NRS within 14 calendar days from the time the seeding activities have ended via Sundry Notice (SN). The SN will include the purpose of the seeding activity (i.e., seeding well pad cut and fill slopes, seeding pipeline corridor, etc.). In addition, the SN will include the well or well pad number associated with the seeding activity, if applicable, the name of the contractor that performed the work, his or her phone number, the method used to apply the seed (e.g., broadcast, hydro-seeded, drilled), whether the seeding activity represents interim or final reclamation, an estimate of the total acres seeded, an attached map that clearly identifies all disturbed areas that were seeded, and the date the seed was applied.

The designated NRS will be notified 24 hours prior to beginning all reclamation activities associated with this project via email or by phone. Reclamation activities may include, but are not limited to, seed bed preparation that requires disturbance of surface soils, seeding, constructing exclosures (i.e., fences) to exclude livestock from reclaimed areas.

In an attempt to track interim and final reclamation of federal actions related to the development of federal mineral resources, the operator shall submit Geographic Information System (GIS) data to the White River Field Office (WRFO) for any post construction (i.e., “as-built”) polygon feature that was included in the Application for Permit to Drill (APD) or Sundry Notice, and associated with the proposed action. GIS polygon features may include, but are not limited to, constructed access roads, existing roads that were upgraded, pipeline corridors, and well pad footprints. Geospatial data will be submitted as ArcView datasets (i.e., shapefiles or features), ArcInfo coverages, or as ArcView compatible data files (e.g., AutoCAD export .dwg files). All AutoCAD files must include the projection information and/or spatial (datum) reference to allow import into a spatially referenced GIS format. The preferred spatial reference for AutoCAD .dwg files is State Plane, Colorado North, NAD83, feet. GIS data shall be submitted electronically to BLM, WRFO Natural Resource Specialist, Brett Smithers ([brett\\_smithers@blm.gov](mailto:brett_smithers@blm.gov); Phone: [970] 878-3818) using the 1983 Geographic Coordinate System (NAD 83 datum). These data shall be submitted within 14 calendar days from the time when construction-related activities have ended for all geographic features associated with the proposed action. If the operator is unable to submit the required information within the specified time period, the operator shall notify the designated BLM contact person (see below) via email or by phone, and provide justification supporting an extension of the required data submission time period. Internal and external review of the reporting process and the adequacy of the associated information to meet established goals will be conducted on an on-going basis. New information or changes in the reporting process will be incorporated into the request, as appropriate. If the operator is unable to send the data electronically, the operator shall submit the data on compact disk(s) to:

BLM, White River Field Office  
220 East Market Street  
Meeker, Colorado 81641  
Attn: Brett Smithers

If for any reason the location or orientation of the geographic feature associated with the proposed action changes, the operator shall submit updated GIS data to BLM, WRFO within 7 calendar days of the change. This information should be submitted via Sundry Notice.’

A Reclamation Status Report will be submitted to the WRFO biannually for all actions that require disturbance of surface soils on BLM-administered lands as a result of the proposed action. Actions may include, but are not limited to, well pad and road construction, construction of ancillary facilities, or power line and pipeline construction. The Reclamation Status Report will be submitted by 15 April and 15 August of each calendar year, and will include the well number, API number, legal description, UTM coordinates, project description (e.g., well pad, pipeline, etc.), reclamation status (e.g., interim or final), whether

the well pad or pipeline has been revegetated and/or re-contoured, date seeded, photos of the reclaimed site, estimate of acres seeded, seeding method (e.g., broadcast, drilled, hydro-seeded, etc.), and contact information for the person(s) responsible for developing the report. The report will be accompanied with maps showing each point (i.e., well pad), polygon, or polyline (i.e., pipeline) feature that was included in the report. Geospatial data will be submitted using the NAD83 UTM, Zone 12 North projected coordinate system, the Transverse Mercator projection, and the GCS North American 1983 geographic coordinate system (NAD 83 datum). In addition, scanned copies of seed tags that accompanied the seed bags will be included with the report. Internal and external review of the WRFO Reclamation Status Report, and the process used to acquire the necessary information will be conducted annually, and new information or changes in the reporting process will be incorporated into the report. The Reclamation Status Report will be submitted electronically via email and as a hard-copy to Natural Resource Specialist, Brett Smithers ([brett\\_smithers@blm.gov](mailto:brett_smithers@blm.gov)). Please submit the hardcopy to:

BLM, White River Field Office  
 220 East Market Street  
 Meeker, Colorado 81641  
 Attn: Brett Smithers

6. Invasive, Non-Native Species

The operator will be required to monitor the project area for the life of the project and eradicate all noxious and invasive species which occur on site using materials and methods approved in advance by the Authorized Officer.

7. Threatened, Endangered, and Sensitive Animal Species

No development or construction activities associated with PCU 296-6A1 (and the access road and pipeline that serve it) will be allowed from April 15 through July 7 in order to protect sage-grouse nesting habitat.

The following prescribed seed mix and seeding rates will be applied during reclamation in T2S, R96W, Sections 5, 6, and 8:

Cultivar	Species	Scientific Name	Application Rate (PLS/acre)
Rosanna	Western Wheatgrass	<i>Pascopyrum smithii</i>	3 lb
Nezpar	Indian Ricegrass	<i>Achnatherum hymenoides</i>	2.5 lb
Whitmar	Bluebunch Wheatgrass	<i>Pseudoroegneria spicata ssp. inermis</i>	2.5 lb
Critana	Thickspike Wheatgrass	<i>Elymus lanceolatus ssp. lanceolatus</i>	2 lb
Lodorm	Green Needlegrass	<i>Nassella viridula</i>	1.5 lb
Timp	Northern Sweetvetch	<i>Hedysarum boreale</i>	3.5 lb
	Scarlet Globemallow	<i>Sphaeralcea coccinea</i>	5 oz
	Arrowleaf Balsamroot	<i>Balsamorhiza sagittata</i>	3 lb
Maple Grove	Lewis Flax	<i>Linum lewisii</i>	1 lb

## 8. Migratory Birds

No development activities (including vegetation clearing, construction, drilling, etc) shall be permitted for PCU 297-11C1 from April 1 through August 15, or until dispersal of young (raptors).

If construction is delayed and does not begin until after February 1, 2010, then another raptor survey (of suitable woodland habitat within 300 meters of all the proposed projects and of suitable cliff/rock nesting habitat within 400 meters of all the proposed projects) will be required prior to issuing a notice to proceed.

The operator shall prevent use by migratory birds (e.g. migratory waterfowl, shorebirds, wading birds, and raptors) of reserve pits that store or are expected to store fluids which may pose a risk to birds. Methods may include netting or other alternative methods that effectively prevent use and meet BLM approval. It will be the responsibility of the operator to notify the BLM of the method that will be used to prevent use two weeks prior to the commencement of completion activities. The BLM-approved method will be applied within 24 hours of the commencement of completion activities. All lethal and non-lethal events that involve migratory birds will be reported to the Petroleum Engineer Technician immediately.

## 9. Wildlife, Terrestrial

To minimize increases in road density on big game ranges and to improve reclamation success, the operator shall condition the pipelines so that they cannot be used as a road (including use by off-road vehicles). Additionally, the exiting two-tracks that lead to the PCU 296-6A1 location shall be reclaimed to final reclamation standards.

To minimize disturbance to mule deer severe winter range habitat, no construction or other disruptive activities are permitted from January 1 through April 30 for the PCU 297-11C1 location.

To help monitor possible impacts to big game and raptors as result of drilling, completion, and well maintenance (i.e., work-over) activities, the operator shall notify the designated NRS the day the drilling rig moves on to the location and inform him or her of the move. In addition, the operator shall notify the designated NRS within 24 hours from the time the drilling rig moves off the location, when the completion rig moves on to the location and when the completion rig moves off the location. Well maintenance operations will also be reported to the designated NRS within 24 hours from the time the work-over rig moves on to the location and when the work-over rig moves off the location. The designated NRS for this project is: Jay Johnson (Phone: 970.878.3854; Email: jay\_johnson@blm.gov).

## 10. Cultural Resources

For both well pads: The operator is responsible for informing all persons who are associated with the project operations that they will be subject to prosecution for knowingly disturbing

historic or archaeological sites, or for collecting artifacts. If historic or archaeological materials are uncovered during any project or construction activities, the operator is to immediately stop activities in the immediate area of the find that might further disturb such materials, and immediately contact the authorized officer (AO). Within five working days the AO will inform the operator as to:

- whether the materials appear eligible for the National Register of Historic Places
- the mitigation measures the operator will likely have to undertake before the site can be used (assuming in situ preservation is not necessary)
- a timeframe for the AO to complete an expedited review under 36 CFR 800-11 to confirm, through the State Historic Preservation Officer, that the findings of the AO are correct and that mitigation is appropriate.

If the operator wishes, at any time, to relocate activities to avoid the expense of mitigation and/or the delays associated with this process, the AO will assume responsibility for whatever recordation and stabilization of the exposed materials may be required. Otherwise, the operator will be responsible for mitigation cost. The AO will provide technical and procedural guidelines for the conduct of mitigation. Upon verification from the AO that the required mitigation has been completed, the operator will then be allowed to resume construction.

Pursuant to 43 CFR 10.4(g) the holder of this authorization must notify the AO, by telephone, with written confirmation, immediately upon the discovery of human remains, funerary items, sacred objects, or objects of cultural patrimony. Further, pursuant to 43 CFR 10.4(c) and (d), you must stop activities in the vicinity of the discovery and protect it for 30 days or until notified to proceed by the authorized officer.

Well Pad 296-6A: The site located south of the well pad is off limits to all construction and drilling personnel. No one should wander more than 100 meters south from the drill rig during drilling operations.

## 11. Paleontology

The operator is responsible for informing all persons who are associated with the project operations that they will be subject to prosecution for knowingly disturbing paleontological sites, or for collecting fossils. If fossil materials are uncovered during any project or construction activities, the operator is to immediately stop activities in the immediate area of the find that might further disturb such materials, and immediately contact the authorized officer (AO). Within five working days the AO will inform the operator as to:

- whether the materials appear to be of noteworthy scientific interest
- the mitigation measures the operator will likely have to undertake before the site can be used (assuming in situ preservation is not feasible)

If the operator wishes, at any time, to relocate activities to avoid the expense of mitigation and/or the delays associated with this process, the AO will assume responsibility for whatever recordation and stabilization of the exposed materials may be required. Otherwise, the operator will be responsible for mitigation cost. The AO will provide technical and procedural guidelines for the conduct of mitigation. Upon verification from the AO that the

required mitigation has been completed, the operator will then be allowed to resume construction.

If it becomes necessary to excavate into the underlying rock formation to construct the access road, level the well pad, excavate the reserve/blooi/cutting pit or bury the well tie pipeline a paleontological monitor shall be present prior to the initiation of any such excavation.

## 12. Visual Resources

All permanent (onsite for six [6] months or longer) structures, facilities and equipment placed above ground shall be painted Munsell Soil Color Chart Juniper Green, or equivalent within six months of installation.

## 13. Fire Management

Several options may be considered for treatment of slash from this project. A hydro-ax or other mulching type machine could be used to remove the trees. The machines are capable of shredding trees up to 12" in diameter and 15' tall as well as mowing brush like a conventional brush beater. It generally leaves small branches and pieces of wood from pencil size up to bowling ball size. The mulch is evenly scattered across the surface and the tires or tracks distribute the weight of the equipment. This effectively breakdown the woody fuel and scatters the debris thereby eliminating any hazardous fuel load adjacent to the road and pipeline corridors and areas adjacent to the well pad clearing. The other option would be to cut trees and have them removed for firewood, posts, or other products for all materials outside of what is required for reclamation. The branches and tops should be lopped and scattered to a depth of 24 inches or less. If the products are left for collection by the general public, they should be piled along the road side or pad to facilitate removal.

During construction, there shall be one 10 lb A/B/C rated fire extinguisher, one shovel and/or Pulaski or axe for each piece of equipment on site and ready for use in the event of an accidental fire ignition as a result of construction. No fire suppression actions shall be taken on any fire in the area unless directed by the incident commander. In the event of an accidental ignition or natural ignition resulting in a fire in the area, the contractor or a representative will contact Craig Fire Dispatch at 970-878-5037 so that a qualified fire crew can evaluate the situation for the safety of all crews in the area and determine the appropriate management action.

## 14. Forest Management

In accordance with the 1997 White River RMP/ROD page 2-22, all trees removed in the process of construction shall be purchased from the BLM. For reclamation purposes retain enough tree boles, that are removed of limbs and have the root wads intact, to adequately cover no more than 20% of the surface for the well pad and stockpile the material adjacent to the topsoil stockpile. Additionally, where pinion and juniper trees were present prior to construction, retain enough trees which are limbed and have root wads intact to adequately cover no more than 20% of the surface for the pipeline disturbance. Trees to be removed

shall be cut down or masticated to a stump height of six inches prior to other heavy equipment operations. Trees that are removed for construction that are not needed for reclamation purposes shall be cut in four foot lengths (down to 4 inches diameter) and placed adjacent to the disturbance where the material is easily accessed by the public. Material that is left for collection by the general public should be stacked in small manageable piles along the roadside to facilitate easy removal. Remaining woody material shall be stockpiled for use in reclamation purposes. Once the disturbance has been recontoured and reseeded, stockpiled woody material shall be placed in the right of way. Redistribution of woody material will not exceed 20% ground cover (using ocular estimation) in order to provide surface cover that provides for varied microclimatic conditions and sites for seedling protection that complements vegetation restoration.

Woody vegetation that is *not* stockpiled for public removal and *not* necessary for reclamation, will be scattered away from the disturbance to a height of 18 inches or less. Chipped material shall be scattered away from the disturbance in a manner to avoid piling.

15. Access and Transportation

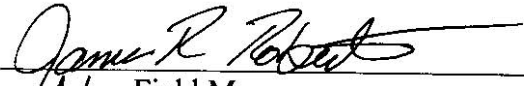
The lessee is responsible for maintaining roads to the well pads according Gold Book standards and BLM Manual Section 9113 standards for road shape and drainage features at all times during construction, drilling and production.

**COMPLIANCE/MONITORING:** On-going compliance inspections and monitoring of drilling, production and post-production activities will be conducted by White River Field Office staff during construction of well pad and access road. Specific mitigation developed in this Environmental Assessment and the lease terms and conditions will be followed. The operator will be notified of compliance-related issues in writing, and depending on the nature of the issue(s), will be provided 30 days to resolve such issues.

**NAME OF PREPARER:** Jay Johnson

**NAME OF ENVIRONMENTAL COORDINATOR:** Caroline Hollowed

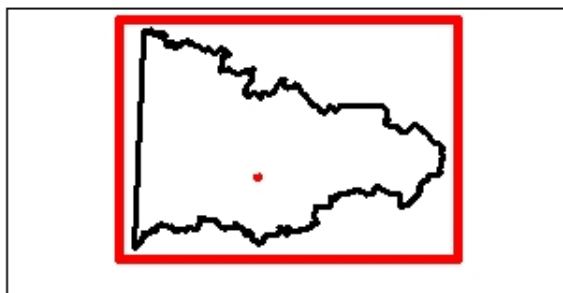
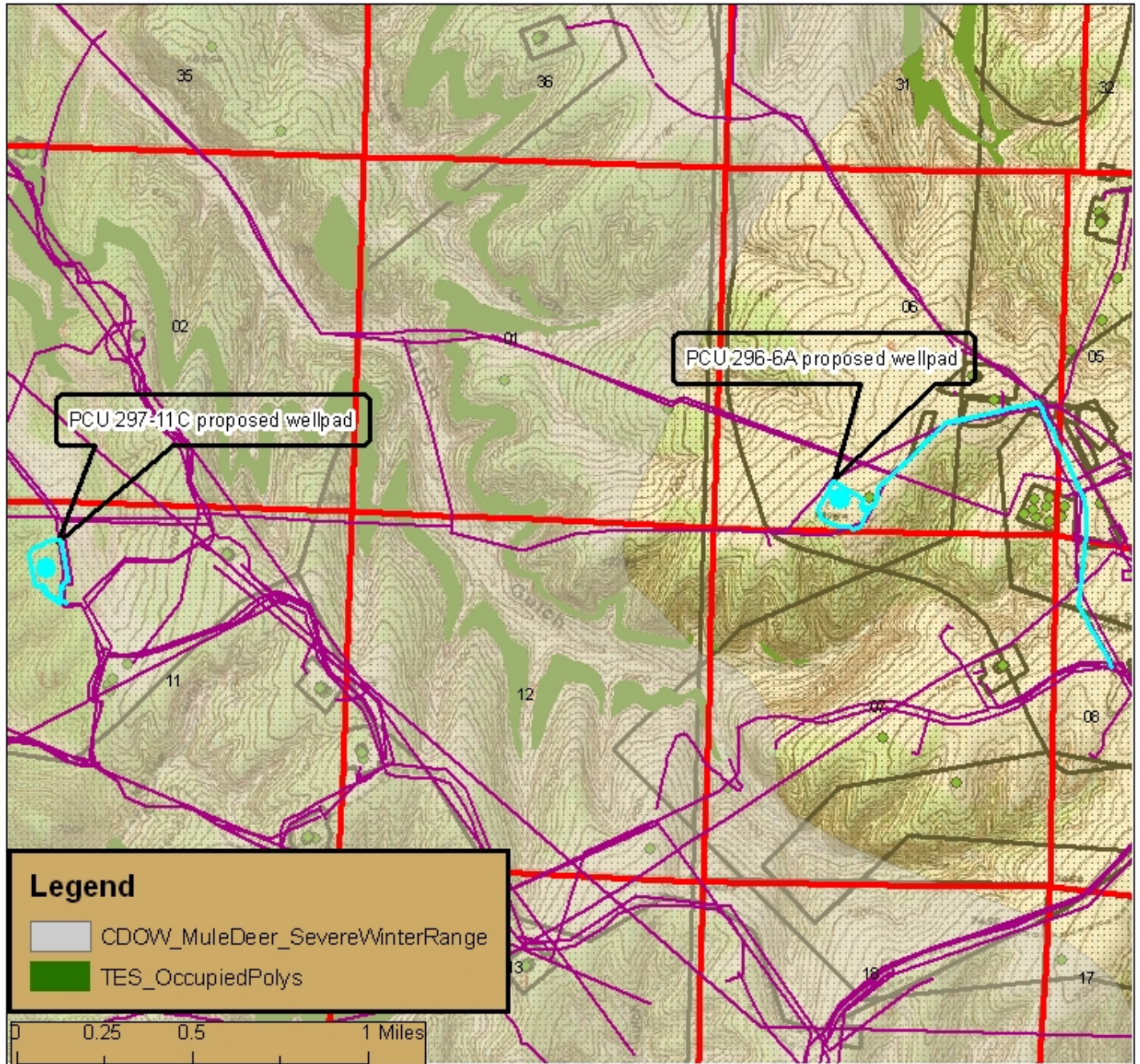
**SIGNATURE OF AUTHORIZED OFFICIAL:**

  
Acting Field Manager

**DATE SIGNED:** 7/16/09

**ATTACHMENTS:** Map of Proposed Action

**DOI-BLM-CO-110-2009-0079-EA, ExxonMobil - 2 proposed wellpads, access roads and pipelines:  
PCU 296-6A1-A10, and PCU 297-11C1-C9; T2S, R96W, section 10; and T2S, R97W, section 11.**



07/14/2009

Sources:  
BLM, USGS, CDOW, etc.

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