

**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-110-2011-0007-EA

**CASEFILE/PROJECT NUMBER:** COC-45291  
Access Road ROW COC74681

**PROJECT NAME:** Whiting APD- WRD 23-33

**LEGAL DESCRIPTION:** T2N, R97W, Section 33, NW ¼ SW ¼, 6<sup>th</sup> PM

**APPLICANT:** Whiting Oil and Gas Corporation

**ISSUES AND CONCERNS:**

**DESCRIPTION OF PROPOSED ACTION AND ALTERNATIVES:**

***Background/Introduction:*** The White River Field Office (WRFO) received an Application for Permit to Drill (APD) from Whiting Oil and Gas Corporation (Whiting) on 10/06/10 for well WRD 23-33. This was followed by an onsite inspection on 10/21/10.

***Proposed Action:*** The proposed action includes constructing one well pad (400 ft x 450 ft) and drilling one well on the pad (see Table 1 for pad dimensions and total area disturbed). The well pad is proposed to be an expansion of a previously constructed location that contains two plugged and abandoned wells: WRD Federal 33-3 and WRD Federal 33-11A (see Figure 1). Both of these wells were plugged and abandoned in 1996.

The proposal indicates the applicant would upgrade the existing 351 ft of reclaimed access road to the well pad off of BLM 1258 and 7,478 ft of existing road up to Hwy 64 (7,829 ft total); the upgrade will require a +/- 30-50 ft construction right-of-way to build a 14-20 ft travel surface . In addition, the applicant will install 4,714 ft of gas gathering pipeline. The pipeline would be installed adjacent to the access road, then adjacent to the BLM road to the east until the tie-in point with an existing pipeline in SW T2N, R97W, Section 34 (see Figure 2). The pipeline installation will require no additional construction right-of-way in excess of that required for the access road, and the installation will utilize a wheel type trencher to minimize disturbance. Total acres disturbed including overburden to construct the well pad, access road upgrade and pipeline corridor would be approximately 13.6 acres.

**Table 1.** Pad dimensions and acres disturbed for the proposed well pad, access road, & pipeline.

<b>Well Pad</b>	<b>Dimensions (ft)</b>	<b>Disturbance<sup>a</sup> (Acres)</b>
WRD 23-33	400 x 450	5.1
Access Rd	7,829 x (+/-) 30-50 <sup>b</sup>	8.5
Pipelines	4,714 x 30 <sup>c</sup>	N/A <sup>c</sup>
<b>Total Acres Disturbed<sup>d</sup></b>		<b>13.6</b>

<sup>a</sup> Estimate includes total acres disturbed for pad surface and overburden.

<sup>b</sup> ROW width varies from less than 30 ft to more than 50 ft (see the road design survey details and diagrams for more details)

<sup>c</sup> ROW width of 30 ft encompasses both the access road and pipeline, therefore there is no additional disturbance acreage for the pipeline length.

<sup>d</sup> Estimate includes total acres disturbed for well pad, proposed access road and pipeline corridor.

The Surface Use Plan of Operation (SUPO) and APD for well WRD 23-33 is incorporated by reference, and summarized below:

### ***Access***

Approximately 351 ft of reclaimed access road will be utilized and maintained for well access, and 7,478 ft of exiting road will be improved and maintained. Best management practices (BMPs) as outlined in the BLM Manual 9113 will be utilized for all construction and operational activities related to this facility.

Improvement to existing roads will include some widening and all weather topping of the roadway. Bar ditches and waterbars will be maintained to minimize erosion. Dust control measures will be implemented during dry weather when necessary.

All brush, limbs, and other woody material will be stockpiled separately from the topsoil along the roadway, or near the well pad.

### ***Production Facilities and Pipelines***

If the well is productive, proposed facilities to be located on the well pad will be three 400 bbl stock tanks, a meter hut, and a separator.

Proposed gas gathering lines will be buried from the well head +/- 4,714 ft to the tie-in. On-lease pipelines will be 3-4" poly-steel line and will parallel the road. The lines will be trenched with a wheel type trencher to minimize disturbance.

All permanent structures (onsite for 6 months or longer) constructed or installed will be painted Juniper Green or prescribed color outlined in the approved permit to drill.

### ***Water Supply***

The source of water will be from a Dalbo, Inc owned facility/well, Permit #67426-F; located in NWNE Section 1-T1N-R97W. Water for drilling and dust control will be shipped to the location via tractor-trailer tanker type truck from the supply well to the location. The estimated volume of water to be used for drilling purposes is 80,000 bbls and the estimated volume of water to be used for dust control and other purposes is up to 20,000 bbls.

### ***Waste Disposal***

Drill cuttings are to be contained and buried in the reserve pit. Excess liquids will be removed from the pit and, if necessary, fly ash or another solidification agent may be used to consolidate pit contents to facilitate closure of the pit.

Garbage is to be contained in the trash cage. The trash cage will be totally enclosed with small mesh wire to prevent wind scattering and wildlife entry. All garbage will be hauled to an approved disposal site at the end of drilling/completing operations.

Any salts and/or chemicals which are an integral part of the drilling system will be disposed of in the same manner as the drilling fluid. Drilling, stimulation, completion, and testing fluids will be hauled to and disposed of at the following licensed facility: Dalbo, Inc. 2250 County Rd 319, Rifle, CO 81650.

Sewage will be disposed of in accordance with State regulations. The sewage waste will be pumped into a holding tank then hauled to the City of Meeker municipal sewage treatment facility in Meeker, Colorado.

While testing the well, the produced fluids (produced water, frac fluid, and possibly condensate) will be flowed back to a test tank. Any condensate will be skimmed and transferred to production tanks. Sand and produced fluids other than condensate will be transferred to the reserve pit until such time as the well is cleaned up sufficiently to produce pipeline quality gas. Any spills of oil, gas, salt water, or other produced fluids will be cleaned up and removed. Any non-hydrocarbon produced fluids will be hauled to and disposed of as outlined above to Dalbo, Inc.

The reserve pit will be constructed in the cut side of the pad and excavated with track hoe and Caterpillar type bladed equipment. The size of the reserve pit including freeboard area will be 200 ft x 80 ft x 12ft in depth. Total pit capacity with 2 ft freeboard will be 18,940 bbls. Total pit volume will be 5,060 cubic yards. Pit side angle will be a 1.5:1 slope. Overburden from the pit excavation will be stockpiled adjacent to the pit and stabilized as per the Plans for Surface Reclamation.

The reserve pit will meet Colorado Oil and Gas Conservation Commission (COGCC) standards. The pit will be cleaned and reclaimed per BLM and COGCC standards. The reserve pit will be sealed in such a manner as to prevent leakage of the fluids. Method available to insure containment of drilling fluids in the reserve pit include lining the pit with a minimum 24 mil plastic liner. The bottom of the pit shall be smooth and free of any sharp rocks. If the pit has a rocky bottom, it shall be bedded with a material such as soil, sand, straw, or hay to avoid the possibility of puncturing the liner. A minimum of a 2 foot freeboard will be maintained at the top edge around the perimeter of the pit at all times. All oil or floating debris will be removed from the pit immediately during the effective use of the pit until final closure of the pit is complete.

The pit will be fenced as per BLM Gold Book specifications. If the pit will be open for an extended period after drilling operations are complete it will be netted. There will be no

produced water storage or disposal of produced water/fluids in this pit. If at a future date a produced water pit is needed, it will be applied for under a separate application request.

### ***Wellsite Layout***

Topsoil storage piles will be matted, mulched, and pre-seeded for erosion stabilization. The overburden storage pile from the pit will be netted, mulched, and seeded to control erosion.

Fill bank edges around the perimeter of the pad will be netted to control channeling and erosion. Silt fencing wattles and/or staked straw bales will be used for erosion control around the perimeter of the pad.

There will be a 2 foot tall berm added to the top outside perimeter of the pad on the fill portions of the pad. The berm will be compacted fill material designed to prevent intense run-off events, silting, and erosion of the loose banks on the fill sides of the berms.

### ***Reclamation***

If necessary, a fence shall be installed around the perimeter of the area undergoing reclamation and shall be maintained in a manner to prevent cattle and large wildlife from entering the area. Posts are to be no more than 16.5' apart with 4 wires of at least 12.5 gauge, double strand twisted. Wire will be stretched taut between brace panels and wire spacing from the ground up will be 16", 22", 30", and 42".

The reserve pit shall be dewatered and solidified with inert material such as fly ash prior to back filling. The revised COGCC rules for pit closure will be followed. Pit overburden material will be used for fill material.

Topsoil shall be replaced when interim reclamation and re-seeding is started after drilling and completion operations are finished.

Permanent drainage controls will be initiated upon interim reclamation as per the "Plan for Surface Reclamation" (see Attachment 1).

Areas disturbed by pipeline and utility (if necessary) construction and installation will be reclaimed per the "Plan for Surface Reclamation" when and if the well is deemed productive. If the well is not productive, the access road coming off the BLM road will be reclaimed and reseeded.

A Pesticide Use Proposal will be filed for the production phase of operations when drilling and completion operations are finished.

**No Action Alternative:** The APD would be denied. Therefore, the well would not be drilled, the pad and access roads would not be constructed or upgraded, and the pipeline would not be installed.

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

**PURPOSE & 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.

The purpose of the action is to allow the development of Federal Leases on BLM surface through the drilling of the proposed well and associated actions. The need for the action is established by the BLM's responsibility under the authority of the Mineral Leasing Act of 1920 as amended by the Federal Land Policy and Management Act of 1976 (FLPMA) to respond to the request to develop the Federal Leases.

**Decision to be Made:** The BLM will decide whether or not to approve the APD, and if so, under what conditions.

**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:** 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 which might require special emission controls. Industrial facilities impacting the White

River Basin include coal mines, soda ash mines, natural gas processing plants, and power plants. The White River Basin has been classified as either attainment or unclassified for all air pollutants (National and Colorado Air Quality standards), and most of the area has been designated for the Prevention of Significant Deterioration (PSD) class II for the areas near Dinosaur National Monument. 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 would result in very minor increases in the level of inhalable particulate matter during construction and drilling, specifically particles ten microns or less in diameter (PM<sub>10</sub>) associated with fugitive dust. Soil disturbance resulting from construction of the well pad and access road, pipeline construction, and drilling is expected to cause increases in inhalable particulate matter, specifically PM<sub>10</sub> and PM<sub>2.5</sub>, in the immediate vicinity of the project area. Some of this dust may be transported by the wind and contribute to regional fugitive dust. As vegetation establishes in the reclaimed areas during production of the well, the only dust production that is likely is due to vehicles traveling for operation and maintenance of the well pad.

The Proposed Action will result in emissions in the following criteria pollutants: carbon monoxide, ozone (secondary pollutant), nitrogen dioxide, and sulfur dioxide.. Tanks, pits, storage and movement of drilling fluids, cuttings, and produced fluids will release volatile organic compounds (VOCs). VOCs can contain benzene and other hydrocarbons some may contribute to ozone levels. Ozone formation is driven by two major classes of directly emitted precursors: nitrogen oxides (NO<sub>x</sub>) and VOCs. Ozone can have human health impacts and is a priority pollutant. Ozone is a difficult pollutant to control because it is not emitted into the air, but actually formed in the atmosphere through a photochemical process.

Non-criteria pollutants such as visibility, nitric oxide, air toxics (e.g., benzene) and total suspended particulates (TSP) may 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 National or Colorado Air Quality Standards and it is likely to be under PSD thresholds.

*Environmental Consequences of the No Action Alternative:* No impacts would occur as a result of the No Action Alternative.

*Mitigation:* This item should be added as a condition of approval (COA) to reduce dust production.

- 1) All access roads will be treated with water and/or a chemical 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 it should 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 classification of the soils that would be disturbed to construct the well pad site, the road, and the proposed pipeline are shown in the table below. The access road is in poor shape, in soils that are difficult to work with and on steep slopes. There are some steep sections of the road that are going to be difficult to maintain, specifically 2 acres of soils considered fragile soils with slopes over 35 percent subject to a Controlled Surface Use (CSU) stipulation. Fragile soils have been identified in the 1997 RMP for the White River Field Office as requiring an engineering construction/reclamation plan to address the protection of these soils along the access road. Impacts in these soils for road construction are described below and mitigation is specified to comply with CSU-1.

The pad site has Abor clay loam soils, but is in a fairly flat area that has been previously disturbed for two abandoned wells. The proposed well pad would be larger than the previous disturbance, the pad cut/fill will be balance, meaning only the soil removed for the pits and topsoil will need to be stored on the site.

### **Soil Classifications within 30 Meters of the Project (greater than 1 Acre in size)**

<b>Soil Classification</b>	<b>Range Site Description</b>	<b>Potentially Impacted</b>
Blazon, moist-Rentsac Complex, 6-65% slopes	Pinyon Juniper woodland	20
Abor Clay Loam, 5-30% slopes	Clayey Foothills	7

*Environmental Consequences of the Proposed Action:* Building the well pad and road and installing the pipeline would physically disturb soils. Compaction due to construction activities would reduce aeration, permeability, and water-holding capacities of the soils. An increase in surface runoff could be expected from these areas and they are likely to be less resilient to erosion from surface runoff, potentially causing increased sheet, rill, and gully erosion.

Direct impacts on these lands resulting from the construction of the well pad, the access road, and reserve pit would include removal of vegetation, exposure of the soil, mixing of horizons, compaction, loss of topsoil productivity, susceptibility to wind and water erosion, loss of topsoil productivity, and contamination of soils with petroleum constituents. These direct impacts could result in increased indirect impacts such as runoff, erosion, and off-site sedimentation. If reclamation is successful, impacts from this project will be minor and localized to disturbed areas.

Contamination of surface and subsurface soils can occur from leaks or spills of chemicals used during pipeline installation as well as during pipeline operation, fuels and lubricants from construction equipment could also result in soil contamination. Leaks or spills could

compromise the productivity of the affected soils. Depending on the size and type of spill, the impact to soils would primarily consist of the loss of soil productivity. Typically contaminated soils would be removed and disposed of in a permitted facility or would be bioremediated in place.

The access road passes through soils that have a CSU-1 stipulation; therefore an engineering construction/ reclamation plan was required and requested on the onsite that would address the road upgrade. The plan titled Whiting Oil and Gas Corp WRD#23-33 Proposed Access Road was completed 11/22/2010 and submitted to BLM. This plan was reviewed by BLM and is sufficient, meets BLM Manual 9113 standards, and it describes proposed drainage features such as wing ditches and culverts and specifies gravel and turnouts for the road.

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

*Mitigation:* The following should be attached as COAs:

- 1) The structures and specifications described in the plan titled ‘Whiting Oil and Gas Corp WRD#23-33 Proposed Access Road’ (completed 11/22/10 and submitted as a part of the APD package) should be constructed before drilling activities begin and shall be maintained throughout production activities.
- 2) 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 if activities are otherwise approved by the Authorized Officer (AO).
- 3) In order to protect rangeland health standards for soils, erosion features such as rilling, gullyng, piping and mass wasting on the surface disturbance or adjacent to the surface disturbance as a result of this action will be addressed immediately after observation by contacting the AO and by submitting a plan to assure successful soil stabilization with BMPs to address 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:* There are no known hazardous or other solid wastes on the subject lands. No hazardous materials are known to have been used, stored, or disposed of at sites included in the project area.

*Environmental Consequences of the Proposed Action:* The proposed activities will use regulated materials and will generate some solid and sanitary wastes. The potential for harm to human health or the environment is presented by risks associated with spills of fuel, oil and/or hazardous substances during oil and gas operations. Accidents and mechanical breakdown of machinery are also possible.

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

*Mitigation:* The following conditions should be applied to the approval to mitigate potential impacts from the use of hazardous and solid wastes:

- 1) All lessees and/or operators shall comply with all federal, state and/or local laws, rules, and regulations, including but not limited to onshore orders and notices to lessees, addressing the emission of and/or the handling, use, and release of any substance that poses a risk of harm to human health or the environment.
- 2) Through all phases of oil and gas exploration, development, and production, all lessees and/or operators shall employ, maintain, and periodically update to the best available technology(s) aimed at reducing: 1) emissions, 2) fresh water use, and 3) the utilization, production, and release of any substance that poses a risk of harm to human health or the environment.
- 3) All substances that pose a risk of harm to human health or the environment shall be stored in appropriate containers. Fluids that pose a risk of harm to human health or the environment, including but not limited to produced water, shall be stored in appropriate containers and in secondary containment systems at 110% of the largest vessel's capacity. Secondary fluid containment systems, including but not limited to tank batteries shall be lined with a minimum 24 mil synthetic impermeable liner.
- 4) Where required by law or regulation to develop a plan for the prevention of releases or the recovery of a release of any substance that poses a risk of harm to human health or the environment, provide a current copy of said plan to the Bureau of Land Management's White River Field Office.
- 5) Construction sites and all facilities shall be maintained in a sanitary condition at all times; waste materials shall be disposed of promptly at an appropriate waste disposal site. "Waste" means all discarded matter including, but not limited to, human waste, trash, garbage, refuse, oil drums, petroleum products, ashes, and equipment.
- 6) As a reasonable and prudent lessee/operator in the oil and gas industry acting in good faith, a lessee/operator shall comply with the reporting requirements of Notice to Lessees-#3A; and, regardless of a substance's status as exempt or nonexempt or fault, shall, within 24 hours of the event, report an emission or release that may pose a risk of harm to human health or the environment, including the substance's chemical composition, to the Bureau of Land Management's White River Field Office at (970) 878-3800.
- 7) As a reasonable and prudent lessee/operator in the oil and gas industry, acting in good faith, all lessees/operators shall provide for the immediate clean-up and testing of air, water (surface and/or ground) and soils contaminated by the emission or release of any substance that may pose a risk of harm to human health or the environment, regardless of that substance's status as exempt or non-exempt. Where the lessee/operator fails, refuses or neglects to provide for the immediate clean-up and testing of air, water (surface and/or ground) and soils contaminated by the emission or release of any quantity of a substance that poses a risk of harm to human health or the environment, the Bureau of Land Management's White River Field Office may take measures to clean-up and test air, water (surface and/or

ground) and soils at the lessee/operator's expense. Such action will not relieve the lessee/operator of any liability or responsibility.

- 8) With the acceptance of this authorization, the commencement of operations under this authorization, or within thirty calendar days from the issuance of this authorization, whichever occurs first, the lessee/operator, and through the lessee/operator, its agents, employees, subcontractors, successors and assigns, stipulate and agree to indemnify, defend and hold harmless the United States Government, its agencies, and employees from all liability associated with the emission or release of substances that pose a risk of harm to human health or the environment.

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

*Affected Environment:* Surface Water: This project is in watersheds with unnamed tributaries to the White River. The following water segment may be impacted by this project:

**Water Quality Classification Table\***

Segment	Segment Name	Use Protected	Protected Beneficial Uses		
			Aquatic Life	Recreation	Agriculture
13a	All tributaries to the White River from Piceance Creek to Douglas Creek.	Yes	Warm 2	Non-Contact Recreation	Yes

\* Colorado Department Of Public Health And Environment, Water Quality Control Commission, Regulation No. 37 Classifications and Numeric Standards For Lower Colorado River Basin, Effective June 30, 2010

This segment is use-protected. Use protected means that the quality of these waters may be altered by actions so long as applicable use-based water quality classification and standards are met. This segment is protected for warm water aquatic life (Warm 2). The warm designation means the classification standards would be protective of aquatic life normally found in waters where the summer weekly average temperature frequently exceeds 20 °C. The Warm 2 designation means that it has been determined that these waters are not capable of sustaining a wide variety of warm water biota. These waters also have standards that are protective from non-contact recreation and agriculture.

*Environmental Consequences of the Proposed Action:* Clearing, grading, and soil stockpiling activities associated with the proposed action would alter overland flow and natural groundwater recharge patterns. Potential impacts include surface soil compaction caused by construction equipment and vehicles, which would likely reduce the soil's ability to absorb water, increasing the volume and rate of surface runoff, which in turn would cause increased surface erosion and interception of shallow groundwater along cut slopes.

Runoff associated with storm events may increase sediment/salt loads in surface waters down gradient of the disturbed areas. Sediment may be deposited and stored in minor drainages where it would be readily moved into the White River during heavy convection storms. Surface erosion would be greatest during the construction and early production phases of the project and would

be controlled using BMPs for stormwater. It is unlikely this increase in sedimentation would be measurable in the White River. Since the tributaries to the White River that drain this area are ephemeral no impacts that would cause an exceedance in water quality standards are expected.

The access road into the site does not meet BLM road standards and shows many areas of rutting and poor drainage. Without proper maintenance and improvement of this road for all-weather surfacing, impacts such as increased surface runoff and sedimentation will increase. The road currently has areas that are unstable and indications of poor maintenance practices such as mud-blading or flat blading that takes any road shape (such as crowned and ditched or inslope/outslope) out of the road surface. Inadequate drainage with berms made from the practice on the side of the road keeps water on the travel surface and will lead to poor conditions and further instability (See the Soils section for mitigation for this road).

Since this site has a spring nearby and ephemeral stream channels on either side, plus the well is within 5,000 feet of the White River, there is a potential for ground and surface water contamination if the pit fails. If the reserve pit leaks and fluid is lost there is the potential to contaminate shallow groundwater.

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

*Mitigation:* The following should be added as COAs:

- 1) Keep road inlet and outlet ditches, catchbasins, and culverts free of obstructions, particularly before and during spring run-off. 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.
- 2) 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 inlet and outlet. Patrol areas susceptible to road or watershed damage during periods of high runoff.
- 3) Culverts and waterbars should be installed according to BLM Manual 9113 standards and sized for the 10-year storm event with no static head and to pass a 25-year event without failing.
- 4) Pits designed to contain fluids shall be constructed so that leaking or breaching problems are minimized and reclamation potential is maximized. Therefore, pits containing fluid must not be breached (cut) and pit fluids must be removed or solidified before backfilling. Pits may be allowed to air dry subject to BLM approval, but the use of chemicals to aid in fluid evaporation, stabilization, or solidification must have prior BLM approval.
- 5) Whiting will remove all oil from of reserve pits within 24 hours and dispose of it in a proper disposal facility. The reserve pit will be allowed to dry through natural evaporation for one four season cycle after the well is drilled. If a pit has not dried by the end of this period, all remaining fluids and/or mud must be removed and disposed of in an approved manner.
- 6) Whiting shall close the reserve pit within 15 months after the well is drilled. The concentration of hazardous substances in the reserve pit at the time of pit backfilling must not

exceed the standards set forth in Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA).

*Finding on the Public Land Health Standard for water quality:* It is unlikely that the pad construction, improvement of access roads, or pipeline installation would result in an exceedence of state water quality standards.

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

*Affected Environment:* The proposed location is situated mid-slope on a bench approximately one mile from privately-owned portions of the White River. The White River is the nearest system supporting riparian vegetation.

*Environmental Consequences of the Proposed Action:* The proposed action is not expected to have any direct influence on the White River or its associated riparian 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 the White River or its associated riparian characteristics.

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

*Mitigation:* None

*Finding on the Public Land Health Standard for riparian systems:* The nearest system supporting riparian habitats is located approximately one mile from the project area. Neither the proposed nor the no action alternative would have any reasonable potential to influence the function or condition of the White River or its riparian values.

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

*Affected Environment:* Proposed WRD 23-33 is located within a mix of pinyon/juniper woodland and clayey foothills ecological sites. Approximately 1.5 acres of the proposed well pad has been previously disturbed, and is currently reclaimed. The proposed access route and pipeline also follows an existing road which has been cleared of vegetation. Vegetation cover of this site is comprised primarily of pinyon/juniper woodland, Wyoming big sagebrush, and rabbit brush with an understory of perennial grasses including needle and thread and Indian ricegrass. Undisturbed vegetation within the project area is comprised mainly of pinyon/juniper woodland.

*Environmental Consequences of the Proposed Action:* The proposed action would impact approximately 1.5 acres of previously disturbed and reclaimed vegetation community, 2.2 acres of previously disturbed and unvegetated area, and approximately 9.8 acres of undisturbed vegetation. The principal impact to vegetation would be complete removal of vegetation on the location, access road, and pipeline and the earthen disturbance associated with removal. In terms of plant community composition, structure, and function, the principal impact over the long term would occur if cheatgrass or noxious weeds are allowed to establish and proliferate on the

disturbed areas resulting from well pad, pipeline, and access road construction. If revegetation is prompt and effective, there likely would be no long term negative impact.

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

*Mitigation:* The following should be attached as COAs:

- 1) The operator shall adhere to measures regarding reclamation presented in the “Plan for Surface Reclamation” in the SUPO (Attachment 1).
- 2) Use seed that is certified and free of noxious weeds. All seed tags will be submitted to the *designated Natural Resource Specialist within 14 calendar days* from the time the seeding activities have ended via Sundry Notice (SN). The sundry 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.

*Finding on the Public Land Health Standard for plant and animal communities* (partial, see also Wildlife, Aquatic and Wildlife, Terrestrial): Upland plant communities in the project area currently meet the Standard and are expected to meet the Standard in the future following project implementation and successful reclamation of disturbed areas, as described in the SUPO which has been incorporated in to the proposed action of this document.

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

*Affected Environment:* There are two invasive, non-native species known to occur within the project area. The invasive alien cheatgrass (*Bromus tectorum*) is present in the project area in areas of unvegetated earthen disturbance associated with roads, pipelines, and well locations. The invasive annual forb halogeton (*Halogeton glomeratus*) is also known to occur in the vicinity of the proposed project and is also commonly found within unvegetated earthen disturbance.

*Environmental Consequences of the Proposed Action:* The proposed action would create about 10 acres of new earthen disturbance; which if it is not revegetated with desirable species and/or treated with herbicides to eradicate invasive, non-native species, would be invaded and dominated by undesirable species, increasing the potential for fire and the consequent further proliferation of cheatgrass. Noxious weeds could also spread from the project sites to surrounding native rangelands resulting in a long term negative impact by competing with native vegetation for habitat and nutrients. If left untreated invasive/non-native species may eventually overtake native vegetation communities, resulting in degraded range sites with higher risk of erosion and low forage production. The resulting increase of noxious weeds/cheatgrass could perpetuate a downward cycle of environmental degradation that would be largely irreversible if

native vegetation communities are replaced by invasive/non-native species. There would be a low likelihood of long term negative impact if the proposed mitigation is properly implemented.

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

*Mitigation:* The following should be attached as COAs:

- 1) Prior to construction, the applicant should submit Pesticide Use Proposals for the use of herbicides appropriate for control/eradication of the known invasive/ nonnative species, and any new invasive/non-native which establish as a result of the proposed action within and surrounding the proposed well location, and along the proposed pipeline and access ROW.
- 2) The operator should eliminate any noxious plants before any seed production has occurred. Application of pesticides and herbicides on public lands will conform to BLM manual 9015 and the BLM White River Resource Management Plan, Appendix B, Management of Noxious Weeds (BLM 1997). Eradication shall make use of materials and methods approved in advance by the BLM Authorized Officer. The applicant shall ensure that all off-road equipment is cleaned to remove seed and soil prior to commencing operations on public lands within the project area.

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

*Affected Environment:* Canyon Environmental performed a survey on October 27, 2010 for the proposed WRD Federal #23-33 well-pad, access road, and associated pipeline (Canyon 2010). The survey was conducted to determine the presence of threatened, endangered, candidate, and BLM sensitive species and their associated habitats within the project area. No special status plant species were found within the survey area for the proposed project. Potential or suitable habitat for special status plant species has not been identified within the project area.

*Environmental Consequences of the Proposed Action:* The proposed action is not expected to affect special status plant species or associated habitats.

*Environmental Consequences of the No Action Alternative:* The no action alternative is not expected to affect special status plant species or associated habitats.

*Mitigation:* None

*Finding on the Public Land Health Standard for Threatened & Endangered species:* The proposed and no-action alternatives are not expected to affect populations or habitats of plants associated with the Endangered Species Act or BLM sensitive species and, as such, should 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 animals listed, proposed or candidate to the Endangered Species Act that are known to inhabit or derive important use from the project area. Pinyon-juniper woodlands surrounding the proposed location have extremely limited potential to provide habitat for northern goshawk, a BLM sensitive species. Goshawks are a relatively rare resident in the White River Resource Area. In general this species prefers to nest in contiguous aspen stands, or spruce-fir/aspen mix stands. Within the last several decades however, approximately half a dozen nests have been found in low to mid elevation pinyon-juniper woodlands throughout the Piceance Basin. A raptor survey was conducted by Canyon Environment in October 2010. No nests structures were located within the vicinity of the project area (~70 acre survey area). The nearest known goshawk nest is nearly 10 miles from the project area.

Pinyon and juniper surrounding the proposed location may also provide potential roost sites for the three BLM sensitive bat species (Townsend's big-eared bat, fringed and Yuma myotis). The overall abundance of bats in the project area is likely constrained by the paucity of maternity and hibernation roost habitat that could be expected to harbor larger numbers of bats (e.g., caves, mines, buildings) and use of the project area is likely limited to the support of small numbers of non-breeding animals during the summer months.

There is a small sagebrush park ~ 30 meters southwest of the proposed location that likely provides habitat for Brewer's sparrow, a BLM sensitive species. Approximately half (1.6 acres) of the park contains encroaching pinyon which likely detracts from its utility to support nesting birds; the park may contain one nesting pair due to its size. It is suspected that due to the limited amount of sagebrush types involved with this action, the impacts to Brewer's sparrow would be discountable.

*Environmental Consequences of the Proposed Action:* Discussion pertaining to northern goshawk is addressed in Terrestrial Wildlife section.

*Environmental Consequences of the No Action Alternative:* There would be no direct or indirect influence on special status species under the no action alternative.

*Mitigation:* See mitigation in Migratory Bird section.

*Finding on the Public Land Health Standard for Threatened & Endangered species:* The area potentially influenced by the proposed and no action alternatives does not currently support habitats associated with listed animal species, therefore, neither alternative would influence the applicable rangeland health standards. The project area currently meets applicable land health standards for sensitive animal species at the landscape scale. Neither the proposed nor the no action alternative would detract from the continued meeting of these standards.

## MIGRATORY BIRDS

*Affected Environment:* The proposed location is situated on a narrow bench midway upslope from Highway 64. This location will be an expansion of an existing ~1.5 acre pad. The existing location has been reclaimed, but is in an early seral state with a primary vegetative cover of rabbitbrush, snakeweed, and gumweed. The existing location is surrounded by mixed-aged pinyon-juniper with Wyoming big sagebrush interspersed. The understory of the surrounding woodland community is comprised of low density perennial grasses.

The existing pad provides little in the way of forage and/or cover resources for migratory birds, however the surrounding sagebrush and pinyon-juniper communities provide suitable nesting habitat for many species of migratory birds during the breeding season (typically May 15 – July 15) including but not limited to: Bewick's wren, black-throated gray warbler, dusky flycatcher and gray flycatcher and blue-gray gnatcatcher, green-tailed towhee, and Vesper sparrow. The only Birds of Conservation Concern (BOCC; designated regionally by the US Fish and Wildlife Service (USFWS) for long-term declining population trends) within the project area are Brewer's sparrow (BLM sensitive species) and juniper titmouse.

Although these locations have no open water or wetland areas that support or attract waterfowl use, the development of reserve pits that contain drilling fluids have attracted waterfowl use, at least during the migratory period (i.e., local records: mid-March through late May; mid-October through late November).

*Environmental Consequences of the Proposed Action:* The proposed action (pad expansion and road upgrade) would remove approximately 12 acres of predominately pinyon-juniper woodlands and, to a lesser extent, Wyoming big sagebrush communities. Roughly 1.5 acres (existing location) is in an early seral state. These communities would take anywhere from 20-30 years (sagebrush) to several hundred years (pinyon-juniper) to return to preconstruction conditions following final reclamation. Construction outside of the breeding/nesting season would have no direct impact on migratory bird nesting success, although there would be indirect impacts associated with pad development and drilling (see discussion below). Should pad construction (vegetation removal) take place during the migratory bird nesting season (generally May 15 – July 15), there would be greater chance of displacement of birds, nest abandonment and potential mortality (mainly of nestlings).

Indirectly the proposed action could impact an additional 20 acres (associated mainly with pad development) of functional forage and cover resources due to reductions in nest densities and avoidance of habitats associated with increased human activity, vehicle traffic, and construction activities. Traffic associated with pad development may deter nesting immediately adjacent to roadways, although in general, most bird species tend to avoid nesting in close proximity to well-developed roads. Based on breeding bird densities in the White River Resource Area, the proposed action has the potential to displace 6-12 nesting pairs, which likely would be more generalized species, but may include some species of higher concern.

Discussions between Whiting representatives and BLM wildlife staff took place at the onsite (conducted 10/21/10). At this time it was agreed that any surface disturbing activities associated

with pad development would take place either prior to or after the migratory bird nesting season (May 15 – July 15).

It has been brought to BLM's attention that in certain situations migratory waterfowl have contacted drilling or frac fluids (i.e., stored in reserve pits) during or after completion operations and are suffering mortality in violation of the Migratory Bird Treaty Act (MBTA). The extent and nature of the problem is not well defined, but is being actively investigated by federal agencies and companies. Until the vectors of mortality are better understood, management measures must be conservative and relegated to preventing bird contact with frac and drilling fluids that may pose a problem.

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

*Mitigation:* The following should be attached as COAs:

- 1) The operator shall prevent use by migratory birds of reserve pits that store or are expected to store fluids which may pose a risk to such birds (e.g., migratory waterfowl, shorebirds, wading birds and raptors) during completion and after completion activities have ceased. Methods may include netting or other alternative methods that effectively prevent use and that 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 when completion activities are expected to begin. The BLM approved method will be applied within 24 hours after completion.
- 2) All earthwork (vegetation removal) associated with development of the proposed location will take place outside of the migratory bird nesting season (May 15 – July 15).

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

*Affected Environment:* The proposed pad is situated along a bench midway upslope (southwest) from Highway 64. The White River (located on the northeast side of 64), the nearest system supporting higher-order aquatic vertebrate populations, is approximately one mile from the project area. This system provides habitat for several native fish species including: flannelmouth sucker, bluehead sucker, roundtail chub (all BLM sensitive species), and speckled dace.

*Environmental Consequences of the Proposed Action:* Construction of the proposed well pad and access road upgrades would have no direct or indirect 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 the White River, its aquatic wildlife or associated habitats.

*Environmental Consequences of the No Action Alternative:* There would be no direct or indirect influence on downstream aquatic habitat under the no action alternative.

*Mitigation:* None

*Finding on the Public Land Health Standard for plant and animal communities* (partial, see also Vegetation and Wildlife, Terrestrial): The nearest system supporting aquatic wildlife is approximately one mile from the project area. Neither the proposed nor the no action alternative would have any reasonable potential to influence the function or condition of the White River or its aquatic habitat values.

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

*Affected Environment:* The proposed location is located midway up a pinyon-juniper slope, approximately one mile south of the White River. The existing location has been reclaimed, but is in an early seral state with a primary vegetative cover of rabbitbrush, snakeweed, and gumweed. The lower elevation pinyon-juniper habitats that encompass the project area are categorized by the Colorado Division of Wildlife as mule deer severe winter range - a specialized component of winter range that periodically supports virtually all of an area's deer under the most severe winter conditions (i.e., extreme cold and heavy snowpack). These ranges typically sustain big game use from December through April.

Mature components of pinyon-juniper surrounding the proposed location may provide suitable nest substrate for woodland raptors (buteo, accipiters), long-eared and great-horned owls and several smaller owl species. There is a known Cooper's hawk nest (last active in 2007) approximately ¼ mile from the proposed location. Additionally there are two historic golden eagle nests roughly 0.33 and 0.38 miles from the proposed location. A raptor survey was conducted by Canyon Environmental in October 2010. No nest structures were located within 300 meters of the proposed location or access road.

Small mammal populations are poorly documented. However, the 20 or so species that are likely to occur in this area are widely distributed and display broad ecological tolerance throughout the Great Basin or Rocky Mountain regions. Based on small mammal sampling conducted in the Piceance Basin in 2010, it is likely that the small mammal community associated with the project area is represented by relatively few generalized species, such as deer mouse and least chipmunk. No narrowly distributed or highly specialized species or sub-specific populations are known to occur in the project area.

*Environmental Consequences of the Proposed Action:* The proposed location is an expansion of an existing well pad. The existing location (roughly 1.5 acres in size) likely provides little in the way of forage and/or cover resources for big game and/or nongame species due to its degraded, early seral state. The expanded portion of the pad and road upgrades would remove approximately 12 acres of predominately woodland habitat for the life of the project. With the exception of three large privately-owned facilities (totaling ~ 300 acres) roughly three miles to the east, there is little in the way of development within 5 – 7 miles south, west, and east of the project area. North of the White River, approximately 2.3 miles from proposed location, there are several (approximately 7) existing well pads.

The lower elevation pinyon-juniper woodlands provide an important cover resource for mule deer, particularly during the winter months. The proposed location is located in mule deer severe

winter range and as such would be subject to RMP timing limitations designed to limit disturbance during the core period of occupation (January 1 – April 30).

As stated above, the proposed action would remove roughly 12 acres of mixed-aged pinyon-juniper woodlands. Under natural succession regimes, these communities would take several hundred years to return to preconstruction conditions. The proposed action would be considered an incremental reduction in woodland types throughout the Piceance Basin, but would not be expected to directly impact nesting success of woodland raptors. Surveys conducted in October 2010 indicated the absence of birds (i.e., no nest structures) within a 70 acre area of the proposed location.

*Environmental Consequences of the No Action Alternative:* There would be no direct or indirect influence on terrestrial wildlife or associated habitats under the no action alternative.

*Mitigation:* The following should be attached as COAs:

- 1) No development activities would be allowed from January 1 – April 30 to reduce impacts to big game during the critical winter period (TL-08 WRFO-ROD).

*Finding on the Public Land Health Standard for plant and animal communities* (partial, see also Vegetation and Wildlife, Aquatic): Overall, the project area meets the land health standards on a landscape scale. The proposed action is expected to incrementally reduce local habitat capacity over the life of the project. As conditioned by reclamation-related provisions, implementation of the proposed action would not interfere with continued landscape level maintenance of the land health standards.

## **WILD HORSES**

*Affected Environment:* Wild horses on public lands are protected under the Wild and Free Roaming Horse and Burro Act of 1971 and are managed by the BLM. The wild horses are managed by BLM to provide a healthy, viable breeding population with a diverse age structure.

BLM's Piceance-East Douglas Herd Management Area (HMA) consists of approximately 190,000 acres. The current configuration of the HMA provides for high summer range on the Cathedral Bluffs, surrounded by adjacent fall-winter-spring ranges in both the Piceance and Douglas Creek Basins.

The HMA is especially valuable because of the habitat diversity it contains. Vegetation consists of pinyon-juniper woodlands interspersed with sagebrush and greasewood. Wild horses rely on these woodlands during the summer months for shade and protection of newborn foals from predation and during the winter months for cover during severe winter storms. Over 90 percent of wild horse diet is comprised of grasses with shrubs becoming more important during periods of heavy snowfall when horses can less readily paw through snow cover to the grass below. Water intake is supplied by springs, man-made water developments, stock ponds, and perennial streams.

The population of the herd, prior to the spring 2010 foal crop, was estimated at 265 individuals. The management range is between 135 and 235 animals. The herd's annual production rate is on

the order of 20 percent. The wild horse population is controlled through round-ups approximately every fourth year. Wild horse viewing is a popular form of non-consumptive recreation.

*Environmental Consequences of the Proposed Action:* The proposed action is located in the HMA in the area known as Rocky Ridge and more specifically the northern face. Construction and operation of the proposed project would result in the disturbance of approximately 13.6 acres of land area within the HMA. The primary impact would be removal of existing vegetation and loss of forage and cover. The loss of 13.6 acres in the 190,000 acre HMA would be minimal. Wild horses could be disrupted by noise and fugitive dust associated with the proposed action's activities, particularly during foaling season but it is usually witnessed that the wild horses make efforts to avoid such areas when there is additional human presence. Generally, impacts to forage would be expected to be long term until complete reclamation of the site is achieved. Temporary impacts would be limited to the period during construction as well as intermittent impacts from fugitive dust occurring when road ways would be in use after construction.

In general, this area has previously been identified by both the WRFO and the Rio Blanco County Sheriff's department as an area that needs consideration for the repair and maintenance of current fences. WRFO has talked to the Colorado Department of Transportation (CDOT) regarding the condition of the current fences in the area as well as the process for fencing those sections of Colorado State Highway 64 (Hwy 64) further west, however, these issues remain unresolved, primarily due to budget constraints. Those sections of the Hwy 64 corridor that had no previous fence and are currently listed as open range may need to be changed due to that fact that several bands of wild horses are regularly reported either on the highway itself or in nearby barrow ditches, with a greater number of those sightings during the night time hours when vehicle visibility and the narrowness of the highway may cause additional occurrences of hitting wild horses on the highway. Because this project includes the upgrading of a current road that leads from the well pad to Hwy 64, the WRFO believes that these occurrences may become more frequent, therefore the risks would be greater to both the wild horses that utilize this portion of the HMA as well as the general public utilizing Hwy 64. WRFO would recommend that CDOT, Whiting Oil and Gas Corporation, and the WRFO join forces and resolve these issue(s).

*Environmental Consequences of the No Action Alternative:* There would be no impacts to the wild horse herd with a No Action Alternative.

*Mitigation:* The following should be attached as COAs:

- 1) The operator shall be required to install and maintain a horse proof cattleguard where the access road to WRD 23-33 connects to Hwy 64. This cattleguard will be installed at the time of the road upgrades; or as soon as the fence repairs/maintenance has been performed by CDOT along Hwy 64.
- 2) All installed cattleguards will be upgraded to a horse proof cattleguard so that the risk of wild horses being trapped in any of the installed cattleguards is reduced.
- 3) It is necessary for the company to make pre-construction contact with the WRFO in order to determine if any of the following mitigation is warranted: In order to protect wild horses

within this area, development activities may be delayed for a period in excess of 60 days during the spring foaling period between March 1 and June 15. The lessee may also be required to perform special conservation measures within this area including: 1) Habitat improvement projects in adjacent areas if development displaces wild horses from critical habitat, 2) disturbed watering areas would be replaced with an equal source of water having equal utility, and 3) activity/ improvements would provide for unrestricted movement of wild horses between summer and winter ranges.

## **CULTURAL RESOURCES**

*Affected Environment:* The proposed well pad, access road, and well tie pipeline route have been inventoried at the Class III (100% pedestrian) level (Conner and Davenport 2010, compliance dated 11/1/2010) with one previously recorded non-eligible historic trash scatter and three isolated finds recorded in the inventoried areas.

*Environmental Consequences of the Proposed Action:* There is a slight possibility that at least two of the isolated finds and the remaining portions of the historic can scatter could be impacted by upgrading of the access road and construction of the well tie pipeline, should the well be a producer.

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

*Mitigation:* The following should be attached as COAs:

- 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 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.

## PALEONTOLOGY

*Affected Environment:* The proposed well pad location, access road, and well tie pipeline are located in an area generally mapped as the Wasatch Formation (Tweto 1979) which the BLM WRFO has classified as a PFYC 5 formation meaning it is known to produce scientifically noteworthy fossil resources (Armstrong and Wolny 1989)

*Environmental Consequences of the Proposed Action:* There is a potential to impact scientifically noteworthy fossil resources if it becomes necessary to excavate into the underlying rock formation to upgrade the access road, construct the well tie pipeline, level the well pad or excavate the reserve/blooi/cuttings pit.

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

*Mitigation:* The following should be attached as Conditions of Approval (COAs):

- 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, well tie pipeline, level the well pad or excavate the reserve/blooi/cuttings pits a paleontological monitor shall be present for all such excavations.

**ELEMENTS NOT PRESENT OR NOT AFFECTED:**

No flood plains, prime and unique farmlands, exist within the area affected by the proposed action. There are also no known 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.

Other Element	NA or Not Present	Applicable or Present, Not Brought Forward for Analysis	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
Recreation		X	
Access and Transportation			X
Geology and Minerals			X
Areas of Critical 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 would traverse Visual Resource Management (VRM) II and III classified areas. The objective of the VRM II class is to retain the existing character of the landscape. Management activities may be visible but should not attract attention. The objective of the VRM III class is to partially retain the existing character of the landscape. The level of change to the characteristic landscape should be moderate. Management activities may attract attention but should not dominate the view of the casual observer. Changes should repeat the basic elements found in the predominant natural features of the characteristic landscape.

*Environmental Consequences of the Proposed Action:* The proposed action would require the removal of the vegetation to expand the existing roads and well pad, and install the pipeline, which would create a contrast. The contrast would be in line and color. The contrast will be greatest during construction activities due to the exposed dirt but will gradually reduce in difference as reclamation (recontouring and seeding) establishes a grass community that will begin to blend with the surrounding vegetation. The proposed action would be visible to a casual

observer traveling Colorado State Highway 64 because of the close proximity to the proposed action; Hwy 64 is a primary travel route between Meeker and Rangely. The proposed action would not dominate the view of the casual observer. By painting all above ground features Juniper Green to either blend with surrounding vegetation or to mimic existing vegetation in the background and by promptly seeding to establish grass on disturbed areas, the level of change to the characteristic landscape would be moderate and the VRM II and III classification would be retained.

*Environmental Consequences of the No Action Alternative:* There would be no additional environmental consequences.

*Mitigation:* The following should be attached as COAs:

- 1) Paint and regularly maintain all above ground features (for example: valves, pigging stations and pipe fence barriers) with Juniper Green (Standard Environmental Color Chart) within 6 months of completion. Seed disturbed areas as stated in the Reclamation section of the Proposed Action.

## **FIRE MANAGEMENT**

*Affected Environment:* The proposed action is located within the C6 Lower Piceance Basin Fire management polygon. The vegetation within this polygon is characterized as PJ Woodland, Wyoming Big Sagebrush. Naturally ignited wildland fire played a role in the function of the ecosystem and is encouraged within the C6 polygon to promote varying successional stages of vegetation through natural disturbances.

*Environmental Consequences of the Proposed Action:* Due to the existing tree cover of pinyon and juniper, there will be a need for the operator to clear some of these trees. If not adequately treated, these trees will result in elevated hazardous fuels conditions and remain on-site for many years. Vegetation removal and soil disturbance could provide an opportunity for noxious weeds and cheatgrass to establish or expand in the area, which would increase fine fuel loads. These accumulations of dead material are very receptive to fire brands and spotting from wind driven fires and can greatly accelerate the rate of spread of the fire front. If not treated the slash and woody debris will create an elevated hazardous dead fuel loading which could pose significant control problems in the event of a wildfire. Additionally there would be greater threat to the public, Whiting Oil and Gas Corporation personnel, and fire suppression personnel.

The National Fire Plan calls for “firefighter and public safety” to be the highest priority for all fire management activities. During the construction, drilling, and possibly the completion phases associated with the proposed project, fire management may have little choice but to suppress all fires within close proximity to the project area. This aggressive fire suppression response will prevent fire from playing a natural role in creating a vegetation mosaic.

*Environmental Consequences of the No Action Alternative:* There are no consequences to fire management under the No Action Alternative.

*Mitigation:* The following should be attached as Conditions of Approval (COAs):

- 1) When working on lands administered by White River Field Office, BLM, notify Craig Interagency Dispatch (970-826-5037) in the event of any fire. The reporting party will inform the dispatch center of fire location, size, status, smoke color, aspect, fuel type and contact information. The reporting party, or a representative of, should remain nearby in order to make contact with incoming fire resources to expedite actions taken towards an appropriate management response. The applicant and contractors will not engage in any fire suppression activities outside the approved project area. Accidental ignitions caused by welding, cutting, grinding, etc. will be suppressed by the applicant only if employee safety is not endangered and if the fire can be safely contained using hand tools and portable hand pumps. If chemical fire extinguishers are used the applicant must notify incoming fire resources on extinguisher type and the location of use. Natural ignitions caused by lightning will be managed by federal fire personnel. If a natural ignition occurs within the approved project area, the fire may be initially contained by the applicant only if employee safety is not endangered. The use of heavy equipment for fire suppression is prohibited, unless authorized by the Field Office Manager.
- 2) Slash and woody debris associated from the disturbance shall follow mitigations as written under the Forest Management section.

## **FOREST MANAGEMENT**

*Affected Environment:* The proposed action is located within a productive mature pinyon-juniper woodland stand as defined by a survey performed by White River Field Office personnel from 2003-2005. Productive exposure types occur primarily on lower gradient slopes and north and east aspects. Growth rates are higher in these areas due to soil features which allow for effective use of precipitation. This habitat type is further broken down based on the age class of the stand. In this case the affected stands are both mature and young. Mature pinyon/juniper trees on productive exposure establish themselves as the dominant plant community on the site. Young pinyon/juniper trees are a component of the plant community. Young trees tend to replace stands of plants such as sagebrush or mountain shrub communities over time. Young pinyon trees are stem dominated promoting a conical Christmas tree appearance. Young Juniper trees tend to have branches down to the ground and the duff layer may even cover the lowest branches. Both the young and mature stands are valuable locally as a source of fire wood and posts for fence construction. Encroachment sites of young pinyon trees are valuable for Christmas tree harvest. This area is considered “commercial” under the current Management Plan.

*Environmental Consequences of the Proposed Action:* The following table shows the estimated loss of woodland acres as a result of the proposed action. Following reclamation of it is expected that pinyon and juniper will invade the site within 50-70 years and would develop a mature stand within 250-350 years. Under the proposed action it is estimated that approximately 4.1 acres of woodlands would be removed. The loss of pinyon/juniper woodland would adversely affect wildlife and nesting habitat. Impacts would be long-term until woodlands regenerate successfully. Removal of mature and middle-aged pinyon and juniper trees would reduce the potential for outbreak of woodland diseases and pest infestations. By reducing the

stand size of pinyon and juniper trees in areas historically included in sagebrush and grass communities, it would increase the open areas preferred as foraging areas by wildlife, livestock and wild horses. Acceptance of mitigation measures outlined for fire management would reduce the build-up of cleared woody material from the Project Area, reducing the likelihood of slash contributing to possible large fire events.

Well Name	Acreage In Woodlands					
	Pad Acres	Access Rd. (Ac)	Pipeline	Acres Disturbed (Total)	Stand Class	Total Cords
WRD 23-33	.1	.7	0	.8	Mature Dry Exposure	1.6
	0	0.5	0	.5	Young Productive Exposure	1
	0.8	2	0	2.8	Mature Productive Exposure	8.4

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

*Mitigation:* The following should be attached as COAs:

- 1) 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.
  - Trees or shrubs that must be removed for construction or ROW preparation shall be cut down to a stump height of 6 inches or less prior to other heavy equipment operation.
  - Trees removed during construction that are not needed for reclamation purposes shall be cut in four foot lengths (down to 4 inches diameter) and placed in manageable stacks immediately adjacent to a public road to facilitate removal for company use or removal by the public.
  - Woody materials required for reclamation shall be stockpiled along the margins of the authorized use area separate from the topsoil piles. Once the disturbance has been recontoured and reseeded, stockpiled woody material shall be scattered across the reclaimed area where the material originated. Redistribution of woody debris will not exceed 20% ground cover. Woody material will be distributed in such a way to avoid large concentrations of heavy fuels and to effectively deter vehicle use.

## HYDROLOGY AND WATER RIGHTS

*Affected Environment:* Refer to the Water Quality, Surface and Ground section for a description of the surface and subsurface water resources in the proposed action area.

*Environmental Consequences of the Proposed Action:* Since not all the water in the White River is allocated for beneficial uses in Colorado, this project is unlikely to injure water rights due to water used for drilling, pipeline testing, or dust abatement.

More rapid runoff from disturbed and compacted soils might have some affect on surface runoff. This would result in higher peak flows during flood events as a result of extreme storm events in the late summer and fall. Drainage from well pads and access roads would elevate sediment production from disturbed areas. A more in-depth discussion of sediment loads and the potential impacts on water quality is provided in the Water Quality, Surface and Ground section of this document. These increases in peak flow and sediment production are not likely to be measureable in the White River.

*Environmental Consequences of the No Action Alternative:* The No Action Alternative would not impact hydrology or water rights in the project area.

*Mitigation:* None.

## RANGELAND MANAGEMENT

*Affected Environment:* The proposed well pad, pipeline, and access route are located within the Rocky Ridge pasture of the Yellow Creek grazing allotment (06030). Authorized livestock use within this pasture occurs during spring and mid winter as shown in the table below.

Authorized use Within the Rocky Ridge Pasture of Yellow Creek Allotment (06030)						
Pasture	Livestock		Grazing Period		%Public Land	Authorized Use (AUMs)
	Number	Kind	Begin	End		
Rocky Ridge	100	C	4/15	5/15	100	102
Rocky Ridge	120	C	1/1	1/31	100	122

*Environmental Consequences of the Proposed Action:* The proposed action would result in a short-term loss of less than 1 AUM of livestock forage. This initial loss of forage would be considered short term, if revegetation is prompt and effective there would be no net loss of livestock forage over the long term. Undisturbed vegetation within the project area is comprised mainly of pinyon/juniper woodland; forage production within these sites is generally low. Following successful revegetation of the vegetation manipulation associated with well pad and road construction, it is expected that forage available to livestock will increase slightly due to conversion of this area from a pinyon/juniper dominated site to a grass/forb site which have higher forage production value for grazing animals. As the project is proposed, no rangeland improvement projects will be affected.

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

*Mitigation:* The following should be attached as COAs:

- 1) If any range improvement projects such as fences, water developments, or other livestock handling/distribution facilities are damaged or destroyed as a result of implementation of the proposed action they shall be promptly repaired or replaced by the applicant to restore pre-disturbance functionality.

## ACCESS AND TRANSPORTATION

*Affected Environment:* The area of the proposed action has both numbered and unnumbered BLM roads that serve as the main access into the area off of Colorado State Highway (Hwy) 64. The BLM roads have a natural surface and are on slopes ranging from 12 percent slopes up to 50 percent before leveling out to a slope less than 12 percent the last 300 feet to the proposed well pad location. The use in the area is primarily recreational in nature with the majority of activity occurring from late August through December.

*Environmental Consequences of the Proposed Action:* The widening of and placing an all weather surface on BLM road 1258 and the unnumbered BLM road from Hwy 64 to the proposed well pad location may increase the amount of traffic in the area by the public. The improved route will allow the public to access the area in adverse weather conditions as opposed to attempting the same action when the route was naturally surfaced. Dust may increase during construction and during dry conditions that may impair visibility to see oncoming traffic and corners on steep slopes. The SUPO has stated that a dust control measure will be implemented during dry weather when necessary.

*Environmental Consequences of the No Action Alternative:* Under this alternative the traffic into the area will remain at its current rate.

*Mitigation:* The following should be attached as COAs:

- 1) During dry weather conditions and high traffic occurrences, the applicant will utilize a BLM WRFO approved dust suppressant to the road surface to increase visibility.

## REALTY AUTHORIZATIONS

*Affected Environment:* The off-lease portion of the access road to the WRD 23-33 will require a FLPMA right-of-way. Road right-of-way COC52867 is authorized to Chesapeake Operating, Inc. for the use of the same access road from Highway 64 to the oil & gas lease boundary.

*Environmental Consequences of the Proposed Action:* Right-of-way COC74681 will be 2,873 feet long with a width of 25 feet, containing 1.65 acres, more or less. Construction and use of the road must not negatively impact existing facilities. In order to avoid impacts to existing rights-of-way, Whiting Oil & Gas Corporation will need to coordinate with Chesapeake Operating, Inc. to determine access road maintenance responsibilities.

*Environmental Consequences of the No Action Alternative:* A FLPMA right-of-way would not be authorized if the application for a permit to drill the well was not approved.

*Mitigation:* The following should be attached as COAs:

- 1) For the purpose of determining joint maintenance responsibilities, the holder shall make road use plans known to all other authorized users of the road, currently Chesapeake Operating, Inc. Within 90 days of APD approval, the Authorized Officer shall be provided with copies of any maintenance agreement entered into.
- 2) All activities shall comply with all applicable local, state, and federal laws, statutes, regulations, standards, and implementation plans. This would include acquiring all required State and Rio Blanco County permits, effectively coordinating with existing facility ROW holders, and implementing all applicable mitigation measures required by each permit.

## **GEOLOGY AND MINERALS**

*Affected Environment:* The surface geologic formation of the well locations is the Anvil Points Member of the Green River formation. During drilling potential water, coal, and gas zones will be encountered from surface to the targeted zone.

*Environmental Consequences of the Proposed Action:* Casing and cementing procedures of the proposed action isolates the formations and will prevent the migration of gas, water, and oil between formations. The coal zones in the well area, located the Mesaverde formation, are deeper than 3,000 feet and will be isolated during the casing cementing procedure. Development of the well will remove the oil and gas resources from the targeted location.

*Environmental Consequences of the No Action Alternative:* The oil and gas resources in the targeted zones will not be recovered at this time.

*Mitigation:* None.

**CUMULATIVE IMPACTS SUMMARY:** This action is consistent with the scope of impacts addressed in the White River ROD/RMP. The cumulative impacts of oil and gas activities are addressed in the White River ROD/RMP for each resource value that would be affected by the proposed action.

## **REFERENCES CITED:**

- Armstrong, Harley J. and David G. Wolny  
1989 Paleontological Resources of Northwest Colorado: A Regional Analysis. Museum of Western Colorado, Grand Junction, Colorado.
- Canyon. 2010. Botanical Evaluation of the WRD Federal #23-33 Well Pad, Access Road, and Pipeline Connection. Canyon Environmental LLC, Provo, Utah
- Conner, Carl E., and Barbara Davenport  
2010 Class III Cultural Resources Inventory for the Proposed WRD #23-33 Well pad Location and Linear Route in Rio Blanco County, Colorado, for Whiting Oil & Gas Corporation. Grand River Institute, Grand Junction, Colorado. (10-11-25)

Tweto, Ogden

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

**PERSONS / AGENCIES CONSULTED:**

**INTERDISCIPLINARY REVIEW:** The proposed action was presented to, and reviewed by the White River Field Office interdisciplinary team on 10/19/2010.

<b>Name</b>	<b>Title</b>	<b>Area of Responsibility</b>	<b>Date Signed</b>
Bob Lange	Hydrologist	Air Quality, Water Quality (Surface and Ground), Hydrology and Water Rights, and Soils, Wastes, Hazardous or Solid	1/20/10
Michael Selle	Archaeologist	Cultural Resources, Paleontological Resources	12/20/10
Tyrell Turner	Rangeland Management Specialist	Invasive, Non-Native Species, Vegetation , Threatened and Endangered Plant Species, Areas of Critical Environmental Concern, Rangeland Management	1/14/11
Lisa Belmonte	Wildlife Biologist	Migratory Birds, Threatened, Endangered and Sensitive Animal Species, Terrestrial and Aquatic Wildlife, Wetlands and Riparian Zones	01/12/11
Jim Michels	Outdoor Recreation Planner	Wilderness, Access and Transportation, Recreation,	1/19/11
Jim Michels	Forester /Fire / Fuels Technician	Fire Management, Forest Management	1/19/11
Paul Daggett	Mining Engineer	Geology and Minerals	12/20/11
Stacey Burke	Realty Specialist	Realty Authorizations	1/20/11
Jim Michels	Natural Resource Specialist / Outdoor Recreation Planner	Visual Resources	1/19/11
Melissa J. Kindall	Range Technician	Wild Horses	1/26/11

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

## **DOI-BLM-CO-110-2010-0007-EA**

**FINDING OF NO SIGNIFICANT IMPACT (FONSI)/RATIONALE:** The environmental assessment and analysis of 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:** The environmental analysis indicates that the change in the environment associated with the proposed action is limited in both duration and intensity; that is, the proposed oil and gas development will have a life cycle of approximately thirty years at which time the land will be re-contoured and re-vegetated. The Federal Land Policy Management Act provides that the public lands be managed in a manner that recognizes the Nation's need for domestic sources of natural resources and utilized in the combination that will best meet the present and future needs of the American people, 43 U.S.C. §§1701(a) (12) and 1702 (c). It is therefore my decision to approve the Application for Permit to Drill and permit the associated and ancillary oil and gas development, (e.g., pad, road, pipeline, etc.)

This approval is subject to the following conditions of approval:

### **MITIGATION MEASURES:**

#### **Timing Limitations**

- 1) The operator shall plan all activities and operations in a manner so as to avoid infringing on any timing limitations, without the need to apply for exceptions to the specified timing limitations.
- 2) No development activities would be allowed from January 1 – April 30 to reduce impacts to big game during the critical winter period (TL-08 WRFO-ROD). [*Wildlife, Terrestrial*]
- 3) All earthwork (vegetation removal) associated with development of the proposed location will take place outside of the migratory bird nesting season (May 15 – July 15). [*Migratory Birds*]

#### **Pre-Construction Activities and Notifications**

- 4) Prior to construction, the applicant should submit Pesticide Use Proposals for the use of herbicides appropriate for control/eradication of the known invasive/ nonnative species, and any new invasive/non-native which establish as a result of the proposed action within and surrounding the proposed well location, and along the proposed pipeline and access ROW. [*Invasive, Non-native Species*]
- 5) The *designated Natural Resource Specialist* will be notified via email or phone 24 hours prior to beginning all construction-related activities associated with this project that result in

disturbance of surface soils. Construction-related activities may include, but are not limited to, pad and road construction, clearing pipeline corridors, trenching, etc. Notification of all construction-related activities, regardless of size, that result in disturbance of surface soils as a result of this project is required.

#### Post-Construction Notifications

- 6) In an attempt to track interim and final reclamation of federal actions related to the development of federal mineral resources, the operator shall provide the *designated Natural Resource Specialist* with geospatial data in a format compatible with the WRFO's ESRI ArcGIS Geographic Information System (GIS) (e.g., GIS point and polygon features). These data will be used to accurately locate and identify all geographic as-built (i.e., constructed and design implemented) features associated with this project and included in the Application for Permit to Drill (APD) or Sundry Notice (SN), as appropriate.
- These data shall be submitted within 60 days of construction completion. If the operator is unable to submit the required information within the specified time period, the operator shall notify the designated Natural Resource Specialist via email or by phone, and provide justification supporting an extension of the required data submission time period.
  - GIS polygon features may include, but are not limited to: full well pad footprints (including all stormwater and design features), constructed access roads/widths, existing roads that were upgraded/widths, and pipeline corridors.
  - Acceptable data formats are: (1) corrected global positioning system (GPS) files with sub-meter accuracy or better; (2) ESRI shapefiles or geodatabases; or (3) AutoCAD .dwg or .dxf files. If possible, both (2) and (3) should be submitted for each as-built feature. Geospatial data must be submitted in UTM Zone 13N, NAD 83, in units of meters. Data may be submitted as: (1) an email attachment or (2) on a standard compact disk (CD) in compressed (WinZip only) or uncompressed format. All data shall include metadata, for each submitted layer, that conforms to the *Content Standards for Digital Geospatial Metadata* from the Federal Geographic Data Committee standards. Questions shall be directed to WRFO BLM GIS staff at (970) 878-3800.

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  
Attn: Natural Resource Specialist  
220 East Market Street  
Meeker, Colorado 81641

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. Subsequent permit application processing may be dependent upon successful execution of this request, as stated above.

- 7) If for any reason the location or orientation of the geographic feature associated with the **proposed action changes**, the operator shall submit updated GIS "As-Built" data to

designated Natural Resource Specialist within 7 calendar days of the change. This information shall be **submitted via Sundry Notice**.

#### Pre & Post-Drilling Notifications

- 8) The *designated Natural Resource Specialist* will be notified via email or phone 24 hours prior to well spud (breaking ground for drilling surface casing).
- 9) The *designated Natural Resource Specialist* will be notified via email or phone 24 hours prior to commencing completion operations.

#### During Construction, Drilling, and Production Resource-Specific Mitigation:

##### *Air Quality and Access/Transportation*

- 10) All access roads will be treated with water and/or a BLM WRFO approved chemical dust suppressant during dry conditions, high traffic occurrences, 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 it should 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*

- 11) The structures and specifications described in the plan titled 'Whiting Oil and Gas Corp WRD#23-33 Proposed Access Road' (completed 11/22/10 and submitted as a part of the APD package) should be constructed before drilling activities begin and shall be maintained throughout production activities.
- 12) 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 if activities are otherwise approved by the Authorized Officer (AO).
- 13) In order to protect rangeland health standards for soils, erosion features such as rilling, gullying, piping and mass wasting on the surface disturbance or adjacent to the surface disturbance as a result of this action will be addressed immediately after observation by contacting the AO and by submitting a plan to assure successful soil stabilization with BMPs to address erosion problems.

##### *Wild Horses*

- 14) The operator shall be required to install and maintain a horse proof cattleguard where the access road to WRD 23-33 connects to Hwy 64. This cattleguard will be installed at the time of the road upgrades; or as soon as the fence repairs/maintenance has been performed by CDOT along Hwy 64.
- 15) All installed cattleguards will be upgraded to a horse proof cattleguard so that the risk of wild horses being trapped in any of the installed cattleguards is reduced.
- 16) It is necessary for the company to make pre-construction contact with the WRFO in order to determine if any of the following mitigation is warranted: In order to protect wild horses within this area, development activities may be delayed for a period in excess of 60 days during the spring foaling period between March 1 and June 15. The lessee may also be required to perform special conservation measures within this area including: 1) Habitat

improvement projects in adjacent areas if development displaces wild horses from critical habitat, 2) disturbed watering areas would be replaced with an equal source of water having equal utility, and 3) activity/ improvements would provide for unrestricted movement of wild horses between summer and winter ranges.

#### *Visual Resource Management*

17) Paint and regularly maintain all above ground features (for example: valves, pigging stations and pipe fence barriers) with Juniper Green (Standard Environmental Color Chart) within 6 months of completion. Seed disturbed areas as stated in the Reclamation section of the Proposed Action.

#### *Water Quality, Surface or Ground*

- 18) Keep road inlet and outlet ditches, catchbasins, and culverts free of obstructions, particularly before and during spring run-off. 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.
- 19) 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 inlet and outlet. Patrol areas susceptible to road or watershed damage during periods of high runoff.
- 20) Culverts and waterbars should be installed according to BLM Manual 9113 standards and sized for the 10-year storm event with no static head and to pass a 25-year event without failing.
- 21) Pits designed to contain fluids shall be constructed so that leaking or breaching problems are minimized and reclamation potential is maximized. Therefore, pits containing fluid must not be breached (cut) and pit fluids must be removed or solidified before backfilling. Pits may be allowed to air dry subject to BLM approval, but the use of chemicals to aid in fluid evaporation, stabilization, or solidification must have prior BLM approval.
- 22) Whiting will remove all oil from of reserve pits within 24 hours and dispose of it in a proper disposal facility. The reserve pit will be allowed to dry through natural evaporation for one four season cycle after the well is drilled. If a pit has not dried by the end of this period, all remaining fluids and/or mud must be removed and disposed of in an approved manner.
- 23) Whiting shall close the reserve pit within 15 months after the well is drilled. The concentration of hazardous substances in the reserve pit at the time of pit backfilling must not exceed the standards set forth in CERCLA

#### *Migratory Birds*

24) The operator shall prevent use by migratory birds of reserve pits that store or are expected to store fluids which may pose a risk to such birds (e.g., migratory waterfowl, shorebirds, wading birds and raptors) during completion and after completion activities have ceased. Methods may include netting or other alternative methods that effectively prevent use and that 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 when completion activities are expected to begin. The BLM approved method will be applied within 24 hours after completion.

### *Fire Management*

25) When working on lands administered by White River Field Office, BLM, notify Craig Interagency Dispatch (970-826-5037) in the event of any fire. The reporting party will inform the dispatch center of fire location, size, status, smoke color, aspect, fuel type and contact information. The reporting party, or a representative of, should remain nearby in order to make contact with incoming fire resources to expedite actions taken towards an appropriate management response. The applicant and contractors will not engage in any fire suppression activities outside the approved project area. Accidental ignitions caused by welding, cutting, grinding, etc. will be suppressed by the applicant only if employee safety is not endangered and if the fire can be safely contained using hand tools and portable hand pumps. If chemical fire extinguishers are used the applicant must notify incoming fire resources on extinguisher type and the location of use. Natural ignitions caused by lightning will be managed by federal fire personnel. If a natural ignition occurs within the approved project area, the fire may be initially contained by the applicant only if employee safety is not endangered. The use of heavy equipment for fire suppression is prohibited, unless authorized by the Field Office Manager.

### *Forest Management*

- 26) 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.
- Trees or shrubs that must be removed for construction or ROW preparation shall be cut down to a stump height of 6 inches or less prior to other heavy equipment operation.
  - Trees removed during construction that are not needed for reclamation purposes shall be cut in four foot lengths (down to 4 inches diameter) and placed in manageable stacks immediately adjacent to a public road to facilitate removal for company use or removal by the public.
  - Woody materials required for reclamation shall be stockpiled along the margins of the authorized use area separate from the topsoil piles. Once the disturbance has been recontoured and reseeded, stockpiled woody material shall be scattered across the reclaimed area where the material originated. Redistribution of woody debris will not exceed 20% ground cover. Woody material will be distributed in such a way to avoid large concentrations of heavy fuels and to effectively deter vehicle use.

### *Rangeland Management*

27) If any range improvement projects such as fences, water developments, or other livestock handling/distribution facilities are damaged or destroyed as a result of implementation of the proposed action they shall be promptly repaired or replaced by the applicant to restore pre-disturbance functionality.

### *Realty Authorizations*

28) For the purpose of determining joint maintenance responsibilities, the holder shall make road use plans known to all other authorized users of the road, currently Chesapeake Operating, Inc. Within 90 days of APD approval, the Authorized Officer shall be provided with copies of any maintenance agreement entered into.

29) All activities shall comply with all applicable local, state, and federal laws, statutes, regulations, standards, and implementation plans. This would include acquiring all required

State and Rio Blanco County permits, effectively coordinating with existing facility ROW holders, and implementing all applicable mitigation measures required by each permit.

*Waste, Hazardous or Solids*

- 30) All lessees and/or operators shall comply with all federal, state and/or local laws, rules, and regulations, including but not limited to onshore orders and notices to lessees, addressing the emission of and/or the handling, use, and release of any substance that poses a risk of harm to human health or the environment.
- 31) Through all phases of oil and gas exploration, development, and production, all lessees and/or operators shall employ, maintain, and periodically update to the best available technology(s) aimed at reducing: 1) emissions, 2) fresh water use, and 3) the utilization, production, and release of any substance that poses a risk of harm to human health or the environment.
- 32) All substances that pose a risk of harm to human health or the environment shall be stored in appropriate containers. Fluids that pose a risk of harm to human health or the environment, including but not limited to produced water, shall be stored in appropriate containers and in secondary containment systems at 110% of the largest vessel's capacity. Secondary fluid containment systems, including but not limited to tank batteries shall be lined with a minimum 24 mil synthetic impermeable liner.
- 33) Where required by law or regulation to develop a plan for the prevention of releases or the recovery of a release of any substance that poses a risk of harm to human health or the environment, provide a current copy of said plan to the Bureau of Land Management's White River Field Office.
- 34) Construction sites and all facilities shall be maintained in a sanitary condition at all times; waste materials shall be disposed of promptly at an appropriate waste disposal site. "Waste" means all discarded matter including, but not limited to, human waste, trash, garbage, refuse, oil drums, petroleum products, ashes, and equipment.
- 35) As a reasonable and prudent lessee/operator in the oil and gas industry acting in good faith, a lessee/operator shall comply with the reporting requirements of Notice to Lessees-#3A; and, regardless of a substance's status as exempt or nonexempt or fault, shall, within 24 hours of the event, report an emission or release that may pose a risk of harm to human health or the environment, including the substance's chemical composition, to the Bureau of Land Management's White River Field Office at (970) 878-3800.
- 36) As a reasonable and prudent lessee/operator in the oil and gas industry, acting in good faith, all lessees/operators shall provide for the immediate clean-up and testing of air, water (surface and/or ground) and soils contaminated by the emission or release of any substance that may pose a risk of harm to human health or the environment, regardless of that substance's status as exempt or non-exempt. Where the lessee/operator fails, refuses or neglects to provide for the immediate clean-up and testing of air, water (surface and/or ground) and soils contaminated by the emission or release of any quantity of a substance that poses a risk of harm to human health or the environment, the Bureau of Land Management's White River Field Office may take measures to clean-up and test air, water (surface and/or ground) and soils at the lessee/operator's expense. Such action will not relieve the lessee/operator of any liability or responsibility.

37) With the acceptance of this authorization, the commencement of operations under this authorization, or within thirty calendar days from the issuance of this authorization, whichever occurs first, the lessee/operator, and through the lessee/operator, its agents, employees, subcontractors, successors and assigns, stipulate and agree to indemnify, defend and hold harmless the United States Government, its agencies, and employees from all liability associated with the emission or release of substances that pose a risk of harm to human health or the environment.

#### *Cultural Resources*

38) 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.

39) 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.

#### *Paleontology*

40) 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.

- 41) If it becomes necessary to excavate into the underlying rock formation to construct the access road, well tie pipeline, level the well pad or excavate the reserve/blooi/cuttings pits a paleontological monitor shall be present for all such excavations.

#### Pre-Reclamation Notification

- 42) The *designated Natural Resource Specialist* 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, or constructing exclosures (e.g., fences) to exclude livestock from reclaimed areas.

#### Reclamation and Weed Management

- 43) The operator shall adhere to measures regarding reclamation presented in the “Plan for Surface Reclamation” in the SUPO. [*Vegetation*]
- 44) All seed tags will be submitted to the *designated Natural Resource Specialist* within 14 calendar days from the time the seeding activities have ended via Sundry Notice. The sundry 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 and phone number of the contractor that performed the work, 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. [*Vegetation*]
- 45) The operator should eliminate any noxious plants before any seed production has occurred. Application of pesticides and herbicides on public lands will conform to BLM manual 9015 and the BLM White River Resource Management Plan, Appendix B, Management of Noxious Weeds (BLM 1997). Eradication shall make use of materials and methods approved in advance by the BLM Authorized Officer. The applicant shall ensure that all off-road equipment is cleaned to remove seed and soil prior to commencing operations on public lands within the project area. [*Invasive, Non-native Species*]

## Information Sharing & Reclamation Monitoring

- 46) The Reclamation Status Report will be submitted electronically via email and as a hard-copy to WRFO Reclamation Coordinator, 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

The Reclamation Status Report will be submitted annually 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 September 30<sup>th</sup> of each calendar year, and will include the well number, API number, legal description, UTM coordinates (using the NAD83 datum, Zone 13N coordinate system), project description (e.g., well pad, pipeline, etc.), reclamation status (e.g., Phase I Interim, Phase II Interim, or Final), whether the well pad or pipeline has been re-vegetated and/or re-contoured, percent of the disturbed area that has been reclaimed, method used to estimate percent area reclaimed (e.g., qualitative or quantitative), technique used to estimate percent area reclaimed (e.g., ocular, line-intercept, etc.), 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 and GIS data showing each discrete point (i.e., well pad), polygon (i.e., area where seed was applied for Phase I and/or Phase II interim reclamation or area reclaimed for final reclamation), or polyline (i.e., pipeline) feature that was included in the report. Geospatial data shall be submitted: for each completed activity electronically to the designated BLM staff person responsible for the initial request and in accordance with WRFO geospatial data submittal standards (available from WRFO GIS Staff, or on the WRFO website). 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.

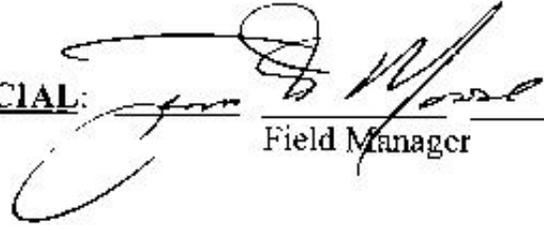
- 47) The operator will be required to meet with the WRFO reclamation staff in March or April of each calendar year and present a comprehensive work plan. The purpose of the plan is to provide information pertaining to reclamation activities that are expected to occur during the current growing season. Operators shall also provide a map that shows all reclamation sites where some form of reclamation activity is expected to occur during the current growing season.

**COMPLIANCE/MONITORING:** On-going compliance inspections and monitoring will be conducted by the BLM White River Field Office staff during and after construction. Specific mitigation developed in this document 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:** Briana Potts

**NAME OF ENVIRONMENTAL COORDINATOR:** Heather Sauls

**SIGNATURE OF AUTHORIZED OFFICIAL:**



Field Manager

**DATE SIGNED:**

3/2/11

**ATTACHMENTS:**

Attachment 1: Plan for Surface Reclamation  
Figure 1: Original Site and P&A Locations  
Figure 2: Proposed Pad, Access Rd, and Pipeline

## Attachment 1

### PLAN FOR SURFACE RECLAMATION

#### I. Reclamation Objectives:

The objective of interim reclamation is to restore desired vegetative cover and a portion of the landform sufficient to maintain healthy, biologically active topsoil; control erosion; and minimize habitat and forage loss, visual impact, and noxious/invasive weed establishment, during the productive life of the well or facilities.

The long-term objective of final reclamation is to return the land to a condition approximating that which existed prior to disturbance. This includes restoration of the landform, hydrologic systems, visual resources, wildlife habitats, and establishment of desired vegetative community. To ensure that the long-term objective will be reached through human and natural processes, actions will be taken to ensure standards are met for site stability, visual quality, hydrological functioning, and vegetative productivity.

#### II. Reclamation Performance Standards

The following reclamation performance standards will be met:

Interim Reclamation – Includes disturbed areas that may be redisturbed during operations and will be redisturbed at final reclamation to achieve restoration of the original landform and a natural vegetative community.

During the interim reclamation phase of operations, disturbed areas will be recontoured back to the original landform wherever possible, while allowing sufficient room for future workover operations. Interim reclamation areas meeting all performance standards for final reclamation will be deemed to be in final reclamation.

- Interim reclamation will be judged successful when the BLM authorized officer determines that:
  - Disturbed areas not needed for active, long-term production operations or vehicle travel have been recontoured, protected from erosion, and revegetated with a self-sustaining, vigorous, diverse, native (or as otherwise approved) plant community sufficient to minimize visual impacts, provide forage, stabilize soils, and impede the invasion of noxious, invasive, and non-native weeds.

Final Reclamation – Includes disturbed areas where the original landform and a natural vegetative community have been restored and it is anticipated the site will not be redisturbed for future development.

- Final Reclamation will be judged successful when the BLM authorized officer determines that:

- The original contour, or one which blends with the surrounding landform, has been restored for all disturbed areas including well pads, production facilities, roads, pipelines, and utility corridors.
- A self-sustaining, vigorous, diverse, desired plant community is established on the site, with a density sufficient to control erosion and invasion by non-native plants and to reestablish wildlife habitat or forage production. At a minimum, the established plant community will consist of species included in the seed mix and/or desirable species occurring in the surrounding natural vegetation.
- In agricultural areas, irrigation systems and soil conditions are reestablished in such a way as to ensure successful cultivation and harvesting of crops.
- Erosion features are equal to or less than surrounding area and erosion control is sufficient so that water naturally infiltrates into the soil and gully cutting, slumping, and deep or excessive rills (greater than 3 inches) are not observed.
- The site is free of State- or county-listed noxious weeds, oil field debris and equipment, and contaminated soil. Invasive, non-native, and undesirable weeds are controlled.

### III. Reclamation Actions (Minimum)

During initial well pad, production facility, road, pipeline, and utility corridor construction and prior to completion of the final well on the well pad, pre-interim reclamation stormwater management actions will be taken to ensure disturbed areas are quickly stabilized to control surface water flow and to protect both the disturbed and adjacent areas from erosion and siltation. This may involve construction and maintenance of temporary silt ponds, silt fences, berms, ditches, and mulching.

When the last well on the pad has been completed, some portions of the well location will undergo interim reclamation actions and some nonoperational portions of the well pad will usually undergo final reclamation actions at the same time. Most well locations will have limited areas of bare ground, such as a small area around production facilities or the surface of a small teardrop access road.

The following minimum reclamation actions will be taken to ensure that the reclamation objectives and standards are met. It may be necessary to take additional reclamation actions beyond the minimum in order to achieve the Reclamation Standards.

#### Reclamation - General

Notification:

- The BLM WRFO *designated Natural Resource Specialist* will be notified at least 24 hours prior to commencement of any reclamation operations.

#### Housekeeping:

- Within 30 days of well completion, the well location and surrounding areas(s) will be cleared of, and maintained free of, all debris, materials, trash, and equipment not required for production.
- No hazardous substances, trash, or litter will be buried or placed in pits. Upon well completion, any hydrocarbons in the pit will be remediated or removed within 72 hours.

#### Vegetation Clearing:

- Grass, forbs, and small woody vegetation, such as sagebrush will be excavated as the topsoil is removed.
- Large woody vegetation will be stripped and stored separately and respread evenly on the site following topsoil respreading.

#### Topsoil Management:

- Operations will disturb the minimum amount of surface area necessary to conduct safe and efficient operations.
- Topsoil depth is defined as the top layer of soil that contains 80% of the roots. In areas to be heavily disturbed, the top six inches of soil material, will be stripped and stockpiled. Topsoil will be clearly segregated and stored separately from subsoil.
- Soil amendments will be determined as part of the reclamation pre-assessment, and agreed to by both the operator and the BLM prior to disturbing the site.
- Earthwork for interim and final reclamation will be completed within 6 months of well completion or plugging unless a delay is approved *in writing* by the BLM authorized officer.
- Salvaging and spreading topsoil will not be performed when the ground or topsoil is frozen or too wet to adequately support construction equipment or so dry that dust clouds greater than 30 feet tall are created. If such equipment creates ruts in excess of three inches deep, the soil will be deemed too wet.
- No major depressions will be left that would trap water and cause ponding unless the intended purpose is to trap runoff and sediment.

#### Seeding:

- Seedbed Preparation. Initial seedbed preparation will consist of recontouring to the appropriate interim or final reclamation standard. All compacted areas to be seeded will be ripped to a minimum depth of 18 inches with a minimum furrow spacing of 2 feet, followed by recontouring the surface and then evenly spreading the stockpiled topsoil. Prior to seeding, the seedbed will be scarified to a depth of no less than 4 - 6 inches. If the site is to be broadcast seeded, the surface will be left rough enough to trap seed and snow, control erosion, and increase water infiltration .
- If broadcast seeding is to be used and is delayed, final seedbed preparation will consist of contour cultivating to a depth of 4 to 6 inches within 24 hours prior to seeding, dozer

tracking, or other imprinting in order to break the soil crust and create seed germination micro-sites.

- Seed Application. Seeding will be conducted no more than two weeks following completion of final seedbed preparation. A certified weed-free seed mix designed by the BLM (shown below) to meet reclamation standards will be used. The following seed mix and rates will be used on all disturbed surfaces, including pipelines and road cut & fill slopes:

BLM Native Seedmix #3		
Species of Seed	Cultivar	App. Rate PLS (lbs/ac)
Western Wheatgrass	Rosanna	2
Bluebunch Wheatgrass	Whitmar	2
Needle and Thread		1
Indian Ricegrass	Rimrock	2
Fourwing Saltbrush	Wytana	2
Utah Sweetvetch		1
American Vetch, Globemallow		1
		Total: 11

- The application rate shown in the table is based on 50 pure live seeds (PLS) per square foot, drill-seeded to no greater a depth than 0.25 inch. However, shrub species will be seeded during the winter on the ground surface or preferably on top of snow. In areas that will not be drill-seeded, the seed mix will be drop seeded or broadcast-seeded on surface roughened sites at twice the application rate shown in the table. If the site is harrowed or dragged, seed will be covered by no more than 0.25 inch of soil.
- No seeding will occur from March 15 to September 1. Fall seeding is preferred and will be conducted after September 1 and prior to ground freezing. Shrub species will be seeded separately and will be seeded during the winter. Spring seeding is less desirable and will be conducted after the frost leaves the ground and no later than March 15.

**Erosion Control and Mulching:**

- Where applicable, the mitigation techniques such as surface roughening and mulching will be used to keep water on site, thereby enhancing re-vegetation of the site and controlling erosion and runoff.
- All erosion control devices and materials will be installed and maintained to be fully functional until revegetation is determined successful by the BLM.
- Silt fencing, waddles, hay bales, and other erosion control devices will be used on were necessary to prevent soil movement from water erosion.

- Mulch will be used if necessary to control wind and water erosion, create vegetation micro-sites, and retain soil moisture on site. Mulches may include native grass hay, small-grain straw, wood fiber, live mulch, cotton, jute, or synthetic netting. Mulch will be certified free of noxious or invasive weed seeds and free from mold and fungi.
- If loose straw or hay mulch is used, it will be crimped into the soil to prevent blowing.

#### Pit Closure:

- Reserve pits will be closed and backfilled within six months of release of the rig. All reserve pits remaining open after six months will require written authorization of the authorized officer. Immediately upon well completion, any hydrocarbons or trash in the pit will be removed. Pits will be allowed to dry, be pumped dry or solidified in-situ prior to backfilling.
- Following completion activities, pit liners will be completely removed or removed down to the solids level and disposed of at an approved landfill, or treated to prevent their reemergence to the surface and interference with long-term successful revegetation. If it was necessary to line the pit with a synthetic liner, the pit will not be trenched (cut) or filled (squeezed) while containing fluids. When dry, the pit will be backfilled with a minimum of 5 feet of soil material. In relatively flat areas the pit area will be slightly mounded above the surrounding grade to allow for settling and to promote surface drainage away from the backfilled pit.

#### Management of Invasive, Noxious, and Non-Native Species:

- All reclamation equipment will be cleaned prior to use to reduce the potential for introduction of noxious weeds or other undesirable non-native species.
- An intensive and documented weed monitoring and control program will be implemented prior to site preparation for planting and will continue until interim or final reclamation is approved by the BLM.
- Each site where the BLM has not approved interim or final reclamation success will be monitored annually to determine the presence of any invasive, noxious, and undesirable species. Invasive, noxious, and undesirable species that have been identified during monitoring will be promptly treated and controlled, prior to the production of seed heads. A Pesticide Use Proposal (PUP) will be submitted to the BLM for approval prior to the use of herbicides.

#### Interim Reclamation Procedures - Specific

##### Recontouring:

- Interim reclamation actions will be completed no later than 6 months from when the final well on the location has been completed, weather permitting. The portions of the cleared well site not needed for active operational and safety purposes will be recontoured to the original contour if feasible, or if not feasible, to an interim contour that blends with the surrounding topography as much as possible. Sufficient semi-level area will remain for

setup of a workover rig and to park equipment. In some cases, rig anchors may need to be pulled and reset after recontouring to allow for maximum interim reclamation.

- If the well is a producer, the interim cut and fill slopes prior to re-seeding will not be steeper than a 3:1 ratio, unless the adjacent native topography is steeper. Note: Constructed slopes may be much steeper during drilling, but will be recontoured to the above ratios during interim reclamation.
- Roads and well production equipment, such as tanks, treaters, separators, vents, electrical boxes, and equipment associated with pipeline operation, will be placed on location so as to permit maximum interim reclamation of disturbed areas. If equipment is found to interfere with the proper interim reclamation of disturbed areas, the equipment will be moved so proper recontouring and revegetation can occur.

#### Application of Topsoil & Revegetation:

- Topsoil will be evenly respread and aggressively revegetated over the entire disturbed area not needed for all-weather operations including road cuts & fills and to within a few feet of the production facilities, unless an all-weather, surfaced, access route or small “teardrop” turnaround is needed on the well pad.
- In order to inspect and operate the well or complete workover operations, it may be necessary to drive, park, and operate equipment on restored, interim vegetation within the previously disturbed area. Damage to soils and interim vegetation will be repaired and reclaimed following use. To prevent soil compaction, under some situations, such as the presence of moist, clay soils, the vegetation and topsoil will be removed prior to workover operations and restored and reclaimed following workover operations.

#### Visual Resources Mitigation:

- Trees, if present, and tall vegetation will be left along the edges of the pads whenever feasible to provide screening.
- To help mitigate the contrast of recontoured slopes, reclamation will include measures to feather cleared lines of vegetation and to save and redistribute cleared trees, debris, and rock over recontoured cut and fill slopes.
- To help mitigate the contrast between the established perimeter vegetation and the newly established vegetation, sites will be seeded five feet further outside the disturbed area.
- To reduce the view of production facilities from visibility corridors and private residences, facilities will not be placed in visually exposed locations (such as ridgelines and hilltops).
- Production facilities will be clustered and placed away from cut slopes and fill slopes to allow the maximum recontouring of the cut and fill slopes.
- All long-term above ground structures will be painted Juniper Green (from the BLM “Supplemental Environmental Colors” chart) to blend with the natural color of the late summer landscape background.

### Final Reclamation Procedures - Specific

- Final reclamation actions will be completed within 6 months of well plugging, weather permitting.
- All disturbed areas, including roads, pipelines, pads, production facilities, and interim reclaimed areas will be recontoured to the contour existing prior to initial construction or a contour that blends indistinguishably with the surrounding landscape. Resalvaged topsoil will be respread evenly over the entire disturbed site to ensure successful revegetation. To help mitigate the contrast of recontoured slopes, reclamation will include measures to feather cleared lines of vegetation and to save and redistribute cleared trees, woody debris, and large rocks over recontoured cut and fill slopes.
- Stormwater management structures and drainage features (i.e. culverts and ditches) will only be installed when absolutely necessary to prevent erosion of fill material. Stormwater management structures and drainage features are not permanent features and will be removed and reseeded when the rest of the site is successfully revegetated and stabilized.
- To ensure timely revegetation, the pad will be fenced to the BLM's standards to exclude livestock grazing for the first two growing seasons or until seeded species become firmly established, whichever comes later. Fencing will meet standards found on page 18 of the Gold Book, 4<sup>th</sup> Edition, or will be fenced with operational electric fencing.
- Final abandonment of pipelines and flowlines will involve flushing and properly disposing of any fluids in the lines. All surface lines and any lines that are buried close to the surface that may become exposed in the foreseeable future due to water or wind erosion, soil movement, or anticipated subsequent use, must be removed. Deeply buried lines may remain in place unless otherwise directed by the authorized officer.

### Reclamation Monitoring and Final Abandonment Approval

- Reclaimed areas will be monitored annually. Actions will be taken to ensure that reclamation standards are met as quickly as reasonably practical and are maintained during the life of the permit.
- The designated WRFO Natural Resource Specialist will be notified via email or by phone 24 hours prior to beginning all reclamation activities associated with this project. Reclamation activities may include, but are not limited to, seed bed preparation that requires disturbance of surface soils, seeding, constructing exclosures (e.g., fences) to exclude livestock from reclaimed areas.
- All seed tags will be submitted via Sundry Notice to the designated Natural Resource Specialist within 14 calendar days from the time the seeding activities have ended. The sundry 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 operator will meet with the WRFO reclamation staff in March or April of each calendar year and present a comprehensive work plan. The purpose of the plan is to provide information pertaining to reclamation activities that are expected to occur during the current growing season. The operator will also provide a map that shows all reclamation sites where some form of reclamation activity is expected to occur during the current growing season.
- A Reclamation Status Report will be submitted electronically via email and as a hard-copy to WRFO Reclamation Coordinator. The hardcopy will be submitted to:

BLM, White River Field Office  
220 East Market Street  
Meeker, Colorado 81641  
Attn: Reclamation Coordinator

The Reclamation Status Report will be submitted annually 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 September 30<sup>th</sup> of each calendar year, and will include the well number, API number, legal description, UTM coordinates (using the NAD83 datum, Zone 13N coordinate system), project description (e.g., well pad, pipeline, etc.), reclamation status (e.g., Phase I Interim, Phase II Interim, or Final), whether the well pad or pipeline has been re-vegetated and/or re-contoured, percent of the disturbed area that has been reclaimed, method used to estimate percent area reclaimed (e.g., qualitative or quantitative), technique used to estimate percent area reclaimed (e.g., ocular, line-intercept, etc.), 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 and GIS data showing each discrete point (i.e., well pad), polygon (i.e., area where seed was applied for Phase I and/or Phase II interim reclamation or area reclaimed for final reclamation), or polyline (i.e., pipeline) feature that was included in the report. Geospatial data shall be submitted: for each completed activity electronically to the designated BLM staff person responsible for the initial request and in accordance with WRFO geospatial data submittal standards (available from WRFO GIS Staff, or on the WRFO website). 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.

- In an attempt to track interim and final reclamation of federal actions related to the development of federal mineral resources, the operator shall provide the designated Natural Resource Specialist with geospatial data in a format compatible with the WRFO's ESRI ArcGIS Geographic Information System (GIS). These data will be used to accurately locate and identify all geographic as-built (i.e., constructed) features

associated with this project and included in the Application for Permit to Drill (APD) or Sundry Notice (SN), as appropriate. These data shall be submitted within 60 days of construction completion. If the operator is unable to submit the required information within the specified time period, the operator shall notify the designated Natural Resource Specialist via email or by phone, and provide justification supporting an extension of the required data submission time period. GIS polygon features may include, but are not limited to, constructed access roads, existing roads that were upgraded, pipeline corridors, and well pad footprints. Acceptable data formats are: (1) corrected global positioning system (GPS) files with sub-meter accuracy or better; (2) ESRI shapefiles or geodatabases; or, (3) AutoCAD .dwg or .dxf files. If possible, both (2) and (3) should be submitted for each as-built feature. Geospatial data must be submitted in UTM Zone 13N, NAD 83, in units of meters. Data may be submitted as: (1) an email attachment; or (2) on a standard compact disk (CD) in compressed (WinZip only), or uncompressed format. All data shall include metadata, for each submitted layer, that conforms to the *Content Standards for Digital Geospatial Metadata* from the Federal Geographic Data Committee standards. Questions shall be directed to WRFO BLM GIS staff at (970) 878-3800.

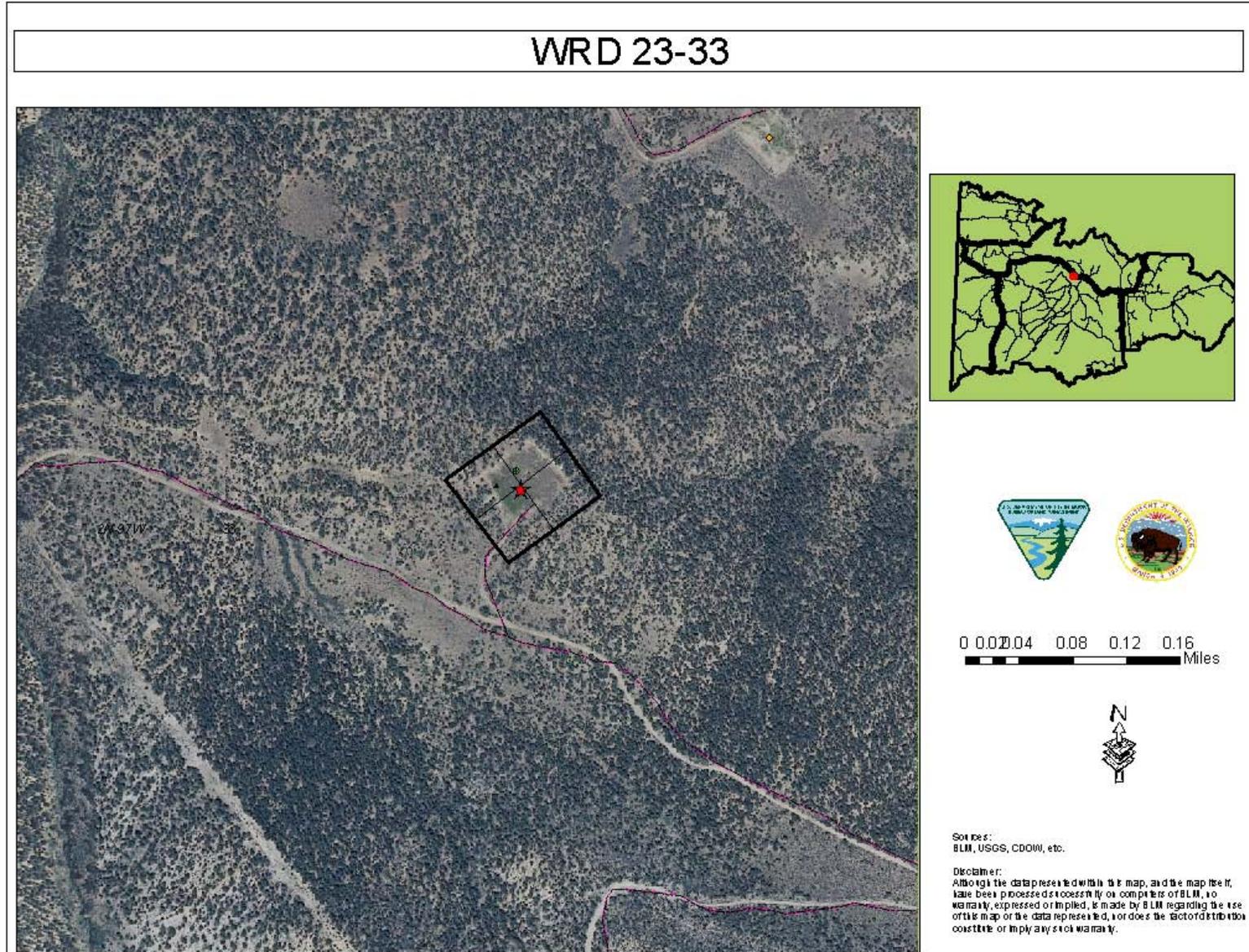
If the data is unable to be sent electronically, a compact disk(s) containing the data will be sent to:

BLM, White River Field Office  
Attn: NRS Staff  
220 East Market Street  
Meeker, Colorado 81641

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

- The authorized officer will be informed when reclamation has been completed, appears to be successful, and the site is ready for final inspection.

**Figure 1: Original Site and Plugged & Abandoned (P&A) Locations**



**Figure 2: Proposed Pad, Access Road, and Pipeline**

