

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

## ENVIRONMENTAL ASSESSMENT

**NUMBER:** CO-110-2008-180-EA

**CASEFILE/PROJECT NUMBER:** COC-57954

**PROJECT NAME:** APD Independence Unit 496-9A1

**LEGAL DESCRIPTION:** T4S, R96W, 6<sup>th</sup> P.M., NESW sec. 9

**APPLICANT:** ExxonMobil Oil Corp

**ISSUES AND CONCERNS:** Sage grouse habitat; reason this Independence Unit (IU) well was not combined with environmental assessment (EA) CO-110-2008-174-EA for two other IU wells.

### **DESCRIPTION OF PROPOSED ACTION AND ALTERNATIVES:**

***Background/Introduction:*** Well pad and portion of planned upgrading and all of new constructed access road will be on private surface. Agreement form from TOSCO to construct and drill included with application permit to drill (APD) package. On-site conducted on 10/03/2007 and well name was same at that time as submitted.

**Proposed Action:** ExxonMobil Oil Corp (hereafter ExxonMobil) proposes to construct one well pad and access road on private surface and drill a gas well. Split estate lands with federal minerals. *No pipeline route has been proposed at this time.* Well pad dimensions are as follows: 360' x 425' with an 80' x 200' production pad. Access road would entail upgrading 5.5 miles of existing road and constructing 3830' of new road with a disturbed width of 40' with a running surface of 18'. Three (3) miles of proposed access road to be upgraded would be on BLM surface (16,000' x 20' = 7.3 acres). A portion of the access road (4.0) miles will also serve as access to proposed well pad IU 396-31A as shown on Topo 'D' located in the well file. Total surface disturbance on BLM would be 7.3 acres. Approximate date work would start is 09/01/08.

The two-track and proposed new access road will feature a cleared width of approximately 40' with an 18' wide running surface. Road will be crowned, ditched, properly drained and surfaced in accordance with BLM 'Gold Book' standards prior to drilling operations to ensure safe, environmentally sound, year-round access.

- The maximum grade for new portions of the access road will not exceed 8%.
- Turnouts (10' x 100' w/50' transitional tapers) will be installed at 1000' intervals or will be intervisible, whichever is less. Turnout locations will be established when road is staked for construction.
- CMP's will be installed as required for ditch relief (spacing will be per road gradient criteria as specified in BLM 'Gold Book').
- No live stream crossings are required for the new/upgraded access road.
- Surfacing material, if required, will be hauled over existing roads from commercial sources in Rio Blanco County (i.e. Connell Gravel Pit).
- One cattle guard will be installed for this location.
- The proposed access road will be flagged prior to construction.
- At this time, Exxon Mobil plans to vent/flare the well for testing as per NTL4A. A sundry will be submitted with Facilities description for approval by BLM.
- Fresh water will be trucked from permitted ExxonMobil surface water storage facilities: Love Ranch Fresh Water Storage Pond (sec. 9, T2S, R97W) and B&M Fresh Water Storage Pond (sec.26, T2S, R97W).
- Water will be hauled to the location (from RBC #5) using existing/new roads as shown on attached "Water Haul Route" drawing # PC-08-022.
- Location sub-grade will be constructed by normal cut and fill methods.
- Surfacing material, if required, will be hauled over existing roads from commercial sources in Rio Blanco County (i.e. Connell Gravel Pit).
- Drill cuttings will be disposed of in the reserve or dry cuttings pit and buried with at least 4' of cover. E & P waste will be handled as defined, prescribed or permitted by the COGCC Rules.
- In the event that ExxonMobil Corporation has used diesel in the drilling mud system and the drill cuttings/fluids contain greater than 1% diesel net weight, these cuttings will be transported via tanker truck over existing roads to a state approved disposal site. Currently disposal sites on our approved list in the area are:
  - Ace Oilfield Disposal, Inc. Vernal, UT
  - RN Industries, Roosevelt, UT

- As an alternative, mud and cuttings will be solidified in place in a procedure as or to be approved by the COGCC.
- All mud cuttings will meet these requirements before being buried or removed from the location.
- All cuttings will have all harmful properties of the waste reduced or removed and the mobility of leachate constituents reduced or eliminated.
- The BLM will be contacted prior to testing the cuttings of our first well so the BLM may witness the testing procedures.
- Trash, waste paper, and other garbage will be contained in a fenced trash cage and hauled to a commercial disposal site.
- Salts that are not used in the drilling fluid will be removed from the location by the supplier.
- Sewage from the trailer houses will be disposed of in a manner meeting the Rio Blanco County Regulations, as under the guidance of Colorado Water Quality Control Commission, Department of Public Health and Environment. Portable, self-contained chemical toilets will be provided for human waste disposal. Upon completion and as needed, the toilet holding tanks will be pumped and the contents disposed of in an approved sewage disposal facility.
- Chemicals that are not used in the drilling and completion of the well will be removed from the location by the supplier.
- Drilling fluids will be allowed to evaporate in the reserve pit until the pit is dry enough for back-filling.
- Water produced during tests will be disposed of in the reserve pit as per Onshore Order Number 7.
- Oil produced during tests will be stored in test tanks until sold, at which time it will be hauled from the site. In the event fluids in the pit do not evaporate in a reasonable time, the fluids will be hauled to a state approved disposal site or will be mechanically evaporated.
- The reserve pit will be fenced on three sides with a 4-strand barbed or woven wire fence or cattle panels with gate openings during drilling and on the fourth side after the rig is released.
- No camps, airstrips, etc. will be constructed.
- All equipment and vehicles will be confined to the access road and pad area.

- Mud pits in the active circulation system will be steel pits.
- The reserve pit may be lined with an impermeable liner if needed to hold fluid.
- If snow is encountered, the snow will be removed before construction begins or the topsoil is disturbed and placed downhill of the proposed top-soil stockpile.
- All available top-soil will be stripped on well locations and access roads, prior to construction, and stockpiled for use in reclamation of the site. Top-soil stockpile will be clearly segregated from any spoil pile and placed where it can be easily retrieved without impact to natural features.
- Upon completion of the operation and disposal of trash and debris as prescribed above, pits will be backfilled and recontoured as soon as practical after they have dried.
- Unneeded disturbed surfaces remaining after completion to the surface production facilities will be shaped to match the surrounding terrain and seeded as specified by the BLM. Site specific BMPs will be applied per approved SWMP for this site. A copy of the SWMP will be provided to the BLM.
- When the well is abandoned, ExxonMobil will rehabilitate the road and location as per BLM specifications. Site specific BMPs will be applied per approved SWMP for this site. A copy of the SWMP will be provided to the BLM.
- Revegetation of the drill pad will comply with BLM specifications. Site specific BMPs will be applied per approved SWMP for this site. A copy of the SWMP will be provided to the BLM.
- Rehabilitation operations will start in a timely manner following the completion of operations, typically the following construction season.
- Surface is owned by TOSCO (IU 496-9A1) and minerals ownership is the Bureau of Land Management. The surface owner has stated that ExxonMobil is allowed to build this location (IU 496-9A1) and access road.
- An archaeological investigation and report will be prepared for the proposed access road and well site. Information will be submitted to the BLM.
- The onsite for these pads was conducted on 10/03/2007. The well site name at the time of the onsite was Independence Unit 496-9A.
- The nearest intermittent drainage is the Middle Fork of Stewart Gulch which is approximately 1600 ft. east of the location. The drainage is approximately 550 feet lower in elevation from the 7704' elevation of the pad.

- Total surface maximum disturbance of the pad and access road is estimated at 13 acres including the two-track upgrade. 7.3 acres of new disturbance (two track upgrade) would occur on BLM.
- Completed wells on this pad will continue to produce during drilling operations per Exxon Mobil Simultaneous Operations Guidelines.
- If applicable, Waterbreaks will be constructed per Figure 10 (Corrected Diagram) found on page 34 of the document *BLM: Surface Operating Standards for Oil and Gas Exploration and Development*.

**No Action Alternative:** The project would not be authorized and there would be no new environmental impacts as a result of the proposed action. No well pads or access roads would be constructed.

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

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

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

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

Date Approved: July 1, 1997

Decision Number/Page: Page 2-5

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

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

**STANDARDS FOR PUBLIC LAND HEALTH:** In January 1997, Colorado Bureau of Land Management (BLM) approved the Standards for Public Land Health. These standards cover upland soils, riparian systems, plant and animal communities, threatened and endangered species, and water quality. Standards describe conditions needed to sustain public land health

and relate to all uses of the public lands. Because a standard exists for these five categories, a finding must be made for each of them in an environmental analysis. These findings are located in specific elements listed below:

### **CRITICAL ELEMENTS**

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

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

The National Ambient Air Quality Standards (NAAQS) were established under the Federal Clean Air Act (CAA). The Air Pollution Control Division of the Department of Public Health and Environment (CDPHE) is the lead agency for air quality in Colorado and has developed the Colorado Ambient Air Quality Standards (CAAQS). The CAA and its amendments established the Prevention of Significant Deterioration (PSD) program to help protect attainment areas (Class I and Class II areas) and established limits to visibility impairment for Class I areas. The PSD program is applied to national parks and wilderness areas greater than 10,000 acres in size. The nearest Class I area is the Flat Tops Wilderness Area in the White River National Forest is east of the project area. Dinosaur National Monument is to the northwest of the project area and is a designated PSD Class II area with Class I protection status for SO<sub>2</sub>. New development projects in or near the PSD areas that would be a major source of pollutants (defined as either 250 tons/year or 150 tons/year, depending on the source) require the demonstration of Best Available Control Technology (BACT), an air quality analysis, an additional impacts analysis, and public involvement.

The White River Field Office resource area has been classified as either attainment or unclassified for all air pollutants (NAAQS and CAAQS standards), and most of the area has been designated for the prevention of significant deterioration class II for the PSD areas nearby.

Because the historic air quality in the White River Basin has been good, small changes in air quality may have noticeable and localized effects, especially on visibility.

*Environmental Consequences of the Proposed Action:* The proposed action includes the combined use of about 4 miles of access road for well 396-31A, constructing 1 well pad, building about 1.5 miles of upgraded access road and drilling activities. Total disturbance on BLM administered land will be about 7.3 acres. Visible dust is likely to increase due to construction and vehicle traffic during drilling, completion, hydraulic fracturing and production activities.

The Proposed Action would increase the level of inhalable particulate matter, specifically particles ten microns or less in diameter (PM<sub>10</sub>) associated with fugitive dust. In addition, increases in the following criteria pollutants: carbon monoxide, ozone (secondary pollutant), nitrogen dioxide, and sulfur dioxide would also occur due to combustion of fossil fuels which will likely be the highest during construction and drilling activities. Vehicle emissions are difficult to quantify due to varying environmental conditions and differences in individual vehicle emissions. Natural gas exploration, processing and transportation will result in the combustion of fuels for compressors and other equipment in addition to flaring. Non-criteria pollutants such as visibility, nitric oxide, air toxics (e.g. benzene) and total suspended particulates (TSP) may also experience slight, temporary increases as a result of the Proposed Action (no national ambient air quality standards have been set for non-criteria pollutants). Any potential increase in emissions would likely fall within NAAQ and CAAQ standards.

The Colorado Air Pollution Control Division (APCD) estimates the maximum PM<sub>10</sub> levels (24-hour average) in rural portions of western Colorado to be near 50 micrograms per cubic meter (µg/m<sup>3</sup>). This project is not likely to exceed this western Colorado dust standard or exceed Colorado air quality standards with mitigation of dust during construction and drilling activities. As no PSD Class I areas are located within a 10-mile radius of the project area, no adverse air quality impacts to these areas are expected to occur from the Proposed Action. No major source of pollutants (as defined by the PSD program) is anticipated under the Proposed Action. Therefore, the most likely and consistent impact from this project is periodic increases in fugitive dust. Fugitive dust production can be moderated by good road design and maintenance as well as dust abatement measures.

Cumulative air quality impacts would include an increase in surface disturbance within the region, which would expose bare soils and contribute to particulate matter in the air and reduced visibility and an increase in emissions from the combustion of fossil fuels. This project is unlikely to result in exceedances of the NAAQ and CAAQ standards and is likely to be under the PSD thresholds.

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

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

All access roads will be maintained according to BLM Manual Section 9113 standards (available for download at [http://www.blm.gov/co/st/en/fo/wrfo/oil\\_and\\_gas\\_wrfo.html](http://www.blm.gov/co/st/en/fo/wrfo/oil_and_gas_wrfo.html)) for road shape and drainage features at all times during construction, drilling and production.

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

## **CULTURAL RESOURCES**

*Affected Environment:* The proposed well pad and access road route have been inventoried at the Class III (100% pedestrian) level (Sauvageau and Slaughter 2008) with one site and three isolated finds located during the inventory. The site has been determined to be eligible for nomination to or listing on the National Register of Historic Places.

*Environmental Consequences of the Proposed Action:* The proposed action has the potential to adversely impact a known site that is considered eligible for listing on the National Register of Historic Places. If mitigation measures are strictly adhered to it is possible to proceed with the project without impacting any known cultural resources. However, previously undetected resources within 308 meters of the access road or well pad could still be adversely impacted by development due to construction related vibrations or unauthorized collection due to increased access to and activity in the area.

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

*Mitigation:* 1. The operator is responsible for informing all persons who are associated with the project operations that they will be subject to prosecution for knowingly disturbing 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.

3. All cultural resources must be avoided by all construction activity. A monitor shall be required to ensure that all construction activity avoids the cultural resources.

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

*Affected Environment:* There are no known occurrences of noxious weeds in the proposed project areas but the noxious weeds known to occur in the general project area include houndstongue (*Cynoglossum officinale*), mullein (*Verbascum thapsus*), and bull thistle (*Cirsium vulgare*), spotted and diffuse knapweeds (*Centaurea sp*) and leafy spurge (*Euphorbia esula*). The invasive alien annual cheatgrass occurs throughout the project area in association with unvegetated earthen disturbance along roads, wells, and pipelines.

*Environmental Consequences of the Proposed Action:* The proposed action will create approximately 7.3 acres of new earthen disturbance on BLM surface due to upgrading three miles of road surface. Additional disturbance totaling 15.6 acres will occur on privately owned surface due to upgrading and construction of 2.5 miles of road and construction of the pad. Disturbance associated with the Proposed Action could create a noxious weed problem by importing weed seed on vehicles and equipment or by creating suitable conditions (non-vegetated disturbed areas) for introduction of noxious weeds by other vectors. In addition to noxious weeds, invasive non-native species such as cheat grass could also establish on these areas. Establishment of noxious or invasive weeds would create problems through seed production in proportion to the number of plants and the duration of reproduction. Such increased seed production could foster aggressive competition with, or exclusion of, desired vegetation during reclamation, and could encourage the spread of these unwanted plants into adjacent native plant communities.

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

*Mitigation:* Invasive, non-native plants should be eliminated before any seed production has occurred. Eradication should make use of materials and methods approved in advance by the Authorized Officer.

The operator would clean all equipment to remove seed and soil prior to bringing equipment onto public lands within the project area.

## **MIGRATORY BIRDS**

*Affected Environment:* The proposed well pad and access road are situated along a long ridgeline broadly encompassed by mountain big sagebrush, piñon-juniper, and mountain shrub species including serviceberry, mountain mahogany and bitterbrush. Herbaceous understory is sparse but comprised of several perennial species including western wheatgrass, junegrass, *Stipa*, and a scattering of other grasses and forbs. Cheatgrass is present, but at low densities. Much of the disturbance occurring on public land involves areas heavily dominated with immature piñon-juniper and mixed mountain shrub species with small, scattered sagebrush dominated openings. Private lands are dominated with a mix of mountain big sagebrush heavily encroached with mountain shrub species with scattered, immature piñon-juniper.

There are a number of migratory birds that fulfill nesting functions in these sagebrush, mountain shrub and piñon-juniper communities during the months of May, June, and July, including several species identified as having higher conservation interest by the Rocky Mountain Bird Observatory, Partners in Flight program and the US Fish and Wildlife Service (USFWS) Birds of Conservation Concern (i.e., green-tailed towhee, Virginia's warbler, Brewer's sparrow, gray flycatcher, black-throated gray warbler and piñon jay).

Although this high plateau area has 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:* Pad and road construction are scheduled to take place during the late fall and/or winter. If this construction schedule is adhered to it will have no direct influence on nesting activities or nesting success of migratory birds. Birds returning to the area would initiate nesting activities in the face of ongoing disturbance. Should construction be delayed and take place during the late spring/summer it may result in nest loss or abandonment.

The proposed action would involve the removal of approximately seven acres of largely piñon-juniper and mountain shrub communities. All of the disturbance associated with public lands would be adjacent to an existing two-track. It is likely that nest densities along this road are depressed to a slight degree however it is suspected that increased traffic associated with the development of the well pad will further reduce nest densities, particularly within close proximity (50 – 100 meters) of the roadway. Indirectly road construction could impact an additional ~113 acres of functional forage and cover resources due to avoidance of habitats associated with increased traffic and construction activities. It is suspected that birds will return to the area once the traffic associated with the initial drilling and completion phase has diminished.

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. The extent and nature of the problem is not well defined, but is being actively investigated by the federal agencies and the 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 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.

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

*Affected Environment:* There are no threatened or endangered animal species that are known to inhabit or derive important use from the project area. Much of the project area (nearly all on private land) involves overall range for the greater sage-grouse, a BLM-sensitive species. These habitats are broadly suited for nesting, brood-rearing and winter use functions.

Approximately 0.7 miles of access road (located on public lands) traverse overall sage-grouse range but the present utility is variously influenced and compromised by Utah serviceberry expression or encroaching piñon pine and juniper. The remainder of the access road and the pad itself, which are located on private surface, are in areas that are currently occupied and used as summer and late-brood rearing habitat.

*Environmental Consequences of the Proposed Action:* There would be no conceivable impact to animals protected under the Endangered Species Act. The removal/alteration of approximately two acres (public land) of mountain shrub and piñon juniper habitats would have no direct influence on sage-grouse or the birds' suitable habitat base at the present time, however, strong emphasis on enhanced management (e.g., increased protection of reproductive functions and expansion of functional habitat) of the Piceance Parachute Roan (PPR) sage-grouse population is expected to continue and enhancement/restoration work will undoubtedly radiate from current population centers. The relatively close proximity of this ridgeline with the Barnes Ridge subpopulation may change the status of this area for sage-grouse within the foreseeable future.

Radio telemetry data collected by the Colorado Division of Wildlife (CDOW) show consistent use from multiple birds along the ridge where the pad and access road are proposed. The proposed action would remove or reduce the quality of approximately 16 acres of functional sage-grouse habitat. Under natural succession regimes, these communities would take anywhere from 20-40 years to return to preconstruction conditions, however, with interim reclamation conscientiously applied, many of the potentially deleterious modifications to sage-grouse habitat character would be minimized prior to and throughout the production phase.

More substantial are the indirect effects of this development on the utility of sage-grouse habitats adjacent to the access road. The literature is consistent in suggesting that vehicle activity generally has an adverse influence on sage-grouse distribution (avoidance and disuse of food and cover resources) and is implicated in potential disruption and displacement of reproductive activities. Heavy around-the-clock traffic would be expected in support of well drilling and completion operations (6-7 weeks) and, as proposed, produced water and condensate would be stored in on-site tanks that would require regular year-round visitation and transport by truck. Impacts associated with long traverses across occupied habitats (including winter snow removal) would persist for the foreseeable future.

The proposed action contributes to the incremental expansion of industrial development on the Piceance Basin sage-grouse population. The BLM, CDOW and other area operators are currently formulating plans to manage the development of natural gas resources on these sage-grouse ranges in an effort to reduce impacts on sage-grouse and associated habitat. The proposed action may contradict and largely negate benefits derived from these efforts. In order for ExxonMobil's well development timeframes to be consistent with those BLM and CDOW have negotiated with adjoining unit operators, all surface activity associated with this well, including pad construction, drilling, completion, and interim reclamation should be confined to the period of August through October 2009. This would relegate activity to a period when grouse are considered less vulnerable to activity-related impediments.

Further, and similar to the techniques used by cooperating unit operators, BLM recommends that ExxonMobil design and implement a production system that minimizes or precludes the use of on-pad production equipment and tank storage and truck-based fluid transport (i.e., piping fluids to facilities in adjacent valleys) as a means of minimizing subsequent year-round vehicle traffic across occupied sage-grouse habitats. The design should be capable of being interconnected with and accommodating anticipated production from additional wells planned for this, and adjacent, ridges. Additionally, aggressive use of interim reclamation techniques should be applied promptly after production is established, which, pending landowner approval, would include longer-term fencing to develop herbaceous ground cover capable of providing for secure use of reclaimed sites by grouse.

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

*Mitigation:* All surface activity associated with this well, including pad construction, drilling, completion, and interim reclamation should be confined to the period of August through October 2009.

It would be advantageous to the Piceance Parachute Roan (PPR) area sage-grouse population and most other forms of resident wildlife to develop a pipeline system that would transport fluids from the wellhead to more centralized gathering facilities located along pre-existing corridors of concentrated and essentially permanent forms of disturbance.

BLM recommends the design and use of a production system that avoids the use of tank storage and truck-based fluid transport (i.e., piping fluids to facilities in adjacent valleys) as a means of minimizing subsequent year-round traffic across occupied sage-grouse habitats. The design should be capable of being interconnected with and accommodating anticipated production from additional wells planned for this, and adjacent, ridges.

Full interim reclamation techniques and standards should be applied promptly after production is established, including longer-term fencing to promote development of herbaceous understories capable of sustaining grouse use in the near term. It is recommended that disturbed areas be seeded with a mix designed to reestablish forb species. The following forbs would be included in reclamation seed mixes as appropriate throughout sage-grouse range (all disturbance south of UTM point 740379 / 4402038 (NAD 83 Zone 12) in T4S 96W Section 5). It is recommended that the following seed mix be applied to private lands as well (T4S 96W Sections 8 and 9). Forb species in appropriate seed mix will be replaced with the following species at the rates (Pure Live Seed (PLS) pounds per acre) identified below:

Rocky Mountain Penstemon	0.5
Utah or northern sweetvetch	0.25
Blue flax (Maple Grove)	0.25

*Finding on the Public Land Health Standard for Threatened & Endangered species:* The project area has very little, if any, functional value for animals listed under the Endangered Species Act and, therefore, neither the proposed or no action alternative would have any effective influence on meeting the land health standard in this regard. The majority of the lands involving occupied sage-grouse habitat occur on private lands in which the land health standards are not applicable.

Although public land associated with the proposed action currently has no intrinsic value to sage-grouse, with intervention, it does possess potential to contribute to the expansion of habitats ostensibly suitable for sage-grouse occupation. This condition is the result of successional processes and is not considered an expression of inappropriate land use. Assuming that this parcel’s potential for contributing to PPR sage-grouse management would not occur for at least a decade, and that applied Conditions of Approval would aid in reducing the project’s long-term influences on the utility of sage-grouse habitat, the proposed action would not detract materially from the status of the land health standard.

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

*Affected Environment:* There are no plant species listed, proposed, or candidate to the Endangered Species Act, nor plants considered sensitive by the BLM, that are known to inhabit areas potentially influenced by the proposed action.

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

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

*Mitigation:* None

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

## **WASTES, HAZARDOUS OR SOLID**

*Affected Environment:* Fuels, oils, chemicals, and lubricants will be used during the project, and solid waste (human waste, garbage, etc.) will be generated during activities. There are no known hazardous or other solid wastes on the subject lands. No hazardous materials have been identified that will be used, stored or disposed of at sites included in the project area. ExxonMobil states in its SWMP that fracturing fluids will contain varying amounts of Potassium Chloride (KCl), FR-56 (a friction reducer), LoSurf 300 (a nonionic surfactant), and Optikleen WF (a viscosity reducing agent), all chemical compounds patented by or used by Halliburton. Potential environmental impacts from these agents are not well known.

In the Surface Use Plan (SUP), ExxonMobil has stated that the excess liquids may be removed from the reserve pit or mechanical evaporation will be used to reduce liquids before filling. Drill cuttings will be disposed of in the reserve or dry cuttings pit and buried with at least 4' of cover, unless the drill cuttings/fluids contain greater than 1% diesel net weight. In this case, these cuttings will be transported via tanker truck over existing roads to a state approved disposal site. Mud and cuttings may be solidified in place. Garbage will be contained onsite and then hauled to an approved disposal site. Sewage from trailers handled according to State and County regulation and portolets waste will be hauled to an approved sewage disposal site.

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

Since not all chemicals that will be used on the site have been disclosed, specifically chemicals used for drilling, completion and hydraulic fracturing operations impacts to groundwater may

occur. ExxonMobil has state likely chemicals to be used for hydraulic fracturing in their SWMP, but actual chemicals and amounts are not known. During hydraulic fracturing operations these chemicals are injected with water and engineered sands into the surrounding formation at depth to increase gas transmissivity to the well bore. Chemicals used in gas producing aquifers may change the solubility of metals and other compounds in the treated formation and will also locally increase transmissivity around the well bore. With proper well completion impacts between aquifers of varying water quality could potentially occur, but is unlikely due to the vertical displacement of “freshwater” aquifers ( $\leq 1,500$  ft below surface in general) and targeted gas producing zones ( $\geq 6,000$  ft below surface).

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

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

*Mitigation:* The following items should be added as conditions of approval.

Onsite sewage treatment on Federal Lands needs to be approved by the BLM via Sundry Notice by the AO.

Before drilling activities begin, update Surface Use Plan (SUP) via sundry to describe the intent of the operator to dispose of drilling cuttings and use of pits. Currently the pad diagram shows cuttings pits, the SUP discusses leaving the cuttings in the reserve pit, and the Stormwater Management Plan (SWMP) describes two different methods for disposing of dry cuttings.

The concentration of hazardous substances in the reserve pit at the time of pit backfilling must not exceed the standards set forth in the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA).

One purpose of the reserve pit is to contain drilling cuttings and fluids. These cuttings and fluids should only be removed for disposal, and not as part of a solidification process. Excess spoils should not be used to dry pits.

Excess soil from the cuttings or reserve pits that will not be needed during interim reclamation should be used in balancing the cut/fill on the pad or road construction and not stored.

If needed, mechanical evaporation in the pits should be done in such a way that there is no overspray beyond the pit boundaries. This will reduce the likelihood of salts and other potential contaminants being deposited on adjacent undisturbed vegetation.

Pits designed to contain fluids shall be constructed so that leaking or breaching problems are minimized and reclamation potential is maximized. At least 50 percent of the pit capacity shall be in cut material. When fractured rock or porous materials are encountered, pits shall be lined with an impermeable membrane to prevent leakage. Since all pits may receive fluids from completion and facing activities and soluble materials left in pits may migrate into the shallow

groundwater, all pits (including cuttings pits) should be lined with at least a 24 mil reinforced liner and closed as per Onshore Order requirements.

These standard methods will be used in lieu of an equally protective practices proposed by the operator and approved by the AO via sundry.

- a. When closing pits, liners should be left in place and not removed to solidify cuttings.
- b. Standard methods for single wells with a reserve pit are to evaporate or pump out fluids and properly dispose of them (if necessary to hasten pit closure), allow the pit to dry completely before burial, cut the liner above the mud-line and properly dispose of un used liner off-site, leave buried liner in place, fill the pit with the excess spoil pile and ensure proper compaction so there is no settling in the future.
- c. These standard methods would minimize the potential contamination of shallow groundwater by keeping potentially contaminated mud's and cuttings in place and minimizing the potential loss of contaminants from the reserve pit.

The pits should be closed as soon as possible after drilling and completion of this well, regardless if additional wells are planned for this pad. Reserve pits will be allowed to dry through natural evaporation for one four season cycle after the well is drilled (as per White River ROD/RMP). 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 (see SUP, EP has been identified). All pits shall be recontoured within 15 months after the well is drilled.

The release of any chemical, oil, petroleum product, produced water, or sewage, etc, (regardless of quantity) must be reported by the lease holder, to the Bureau of Land Management – WRFO Hazardous Materials Coordinator at (970) 878-3800.

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

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

*Environmental Consequences of the Proposed Action:* The proposed action includes the combined use of about 4 miles of access road for well 396-31A, constructing 1 well pad, building about 1.5 miles of upgraded access road and drilling activities. Total disturbance on BLM administered land will be about 7.3 acres. Total disturbance will be about 16.8 acres as referenced in the Stormwater Management Plan (SWMP).

The new access road will be built on the contour of a steep slope with cut and fill. There will be a need to drain the inside ditch along cut slope on the road. This can be done using at least 18” diameter culverts spaced at strategic locations or rolling dips. If this drainage is not properly done or if the old access road is not properly reclaimed shallow groundwater and surface runoff will be intercepted and concentrated on the surface, causing the deepening of these inside ditches and periodic flows over the road surface. If this continues maintenance of the road will be more

difficult and require continuous disturbance of the barrow ditches to maintain road shape. Proper spacing of lateral drains and protection of the road surface will allow for the barrow ditches to be reclaimed and reduce localized erosion.

The road may need to be surfaced with gravel to protect the crown shape and allow barrow ditches to be reclaimed. If the road shape is compromised rebuilding the crown of the road will require cleaning drainage ditches and rebuilding check dams.

Construction of the access road and pad will result in temporary disturbance causing increased erosion and surface runoff until re-vegetation efforts are successful. The proposed action indicates a culvert will be placed under the access road where it ties into the main road. With no gravel the access road will require more maintenance and is likely to not function as well as an all-weather road, this could result in localized erosion and sediment production off the road surface. If drainage features are not adequate on the new and updated access road overland flow will be concentrated in some areas and this will lead to localized erosion.

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

*Mitigation:* The following should be attached as conditions of approval.

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

Locate culverts or drainage dips in such a manner as to avoid discharge onto unstable terrain such as headwalls or slumps. Provide adequate spacing to avoid accumulation of water in ditches or road surfaces. Monitor culvert installations to ensure adequate armoring of inlet and outlet and no erosion of design. Patrol areas susceptible to road or watershed damage during periods of high runoff.

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

The new access roads should be built and maintained to BLM Manual Section 9113 standards (available for download at [http://www.blm.gov/co/st/en/fo/wrfo/oil\\_and\\_gas\\_wrfo.html](http://www.blm.gov/co/st/en/fo/wrfo/oil_and_gas_wrfo.html)) for road shape and drainage features. Culverts and waterbars should be installed according to 9113 standards and sized for the 10-year storm event with no static head and to pass a 25-year event without failing.

Before construction begins, update Surface Use Plan (SUP) via sundry with the following items to be approved by the BLM AO before construction begins:

- a. Submit a plan for lateral drainage features on the access road section shown in Figure 2.4 (rolling dip and/or culvert with ditch block). Also for this section, submit an analysis of the soils along the access road and justification for not surfacing the road with gravel to provide for all weather travel or submit a plan for surfacing the roads. Include the estimated slopes of cut and fill adjacent to the roads. Also please describe the use of top soil and vegetation removed from road right-of-way for reclamation of barrow ditches.
- b. Define the acreage amounts for the outer limits of surface disturbance for the pad. As per Onshore Order requirements, all proposed surface disturbance on-lease must be surveyed and staked including the outer limits of the area to be disturbed (catch points); and any off-location facilities. Specifically undisturbed areas that will be disturbed to install stormwater measures.
- c. Propose a design that raises the production pad at least 11 ft. to not be entirely in cut, and that will balance cut and fill for the production pad. Compaction specifications or other techniques can be used to ensure the stability of the production pad.
- d. Consider a pad design that better balances cut and fill on the pad.
- e. Restoration of Surface section of the SUP needs to be updated to define reclamation activities proposed during three distinct periods:
  - i. Stabilization of disturbed surfaces during drilling and completion activities not needed (i.e. cut and fill slopes and pipelines). Also, detail the use of vegetation material removed before earth work.
  - ii. Interim Reclamation – Define the production footprint after drilling and completion activities are finished and how areas will be recontoured and detailed description of top soil use.
  - iii. Final Reclamation – Define contours for final reclamation and plugging and abandonment procedures with regard to surface use and reclamation. Also, make sure to note final road configuration proposed.

A Reclamation Status Report will be submitted to the WRFO biannually for all actions that require disturbance of surface soils on BLM-administered lands as a result of the proposed action. Actions may include, but are not limited to, well pad and road construction, construction of ancillary facilities, or power line and pipeline construction. The Reclamation Status Report will be submitted by 15 May and 15 November of each calendar year, and will include the well number, legal description, project description (e.g., well pad or pipeline), reclamation status (e.g., interim or final), whether the well pad or pipeline has been re-vegetated and/or re-contoured, date seeded, photos of the reclaimed site, estimate of acres seeded and seeding method (e.g., disk-plowed, drilled, or both). Internal and external review of this plan 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 plan. The Reclamation Status Report will be submitted electronically via email as a Microsoft Excel table to Natural Resource Specialist, Brett Smithers ([brett\\_smithers@blm.gov](mailto:brett_smithers@blm.gov)).

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

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

*Affected Environment:* The nearest intermittent drainage is the Middle Fork of Stewart Gulch which is approximately 1600 ft. east of the location. The drainage is approximately 550 feet lower in elevation from the 7704' elevation of the pad.

*Environmental Consequences of the Proposed Action:* Construction would have no conceivable influence on BLM-administered wetlands or riparian habitat.

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

*Mitigation:* None

*Finding on the Public Land Health Standard for riparian systems:* The proposed action would have no conceivable potential for influencing riparian attributes addressed in the Standards.

## CRITICAL ELEMENTS NOT PRESENT OR NOT AFFECTED:

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

## NON-CRITICAL ELEMENTS

The following elements **must** be addressed due to the involvement of Standards for Public Land Health:

## SOILS

*Affected Environment:* The access passes through fragile soils and steep slopes in several locations (see the table below).

Soil Specializations within 30 Meters of the Pad Boundaries and the Road Centerline		
Type of Soil Concern	Approx. Acres Impacted	Stipulation
Fragile Soils	13	CSU 1
Slope > 40%	20	n/a

Fragile soils are areas that have been identified as having Controlled Surface Use (CSU 1) stipulation in the White River ROD/RMP. The White River ROD/RMP requires that areas with fragile soils present an engineered construction/reclamation plan unless an exception has been

granted based on additional soils information that shows soils do not meet the fragile soils criteria. Since no further soils information was provided by the operator the plan of development submitted by the operator may meet the engineered plan required, if the plan addresses the following specific concerns:

1. How soil productivity will be restored.
2. How surface runoff will be treated to avoid accelerated erosion such as riling, gullying, piping and mass wasting.

Where fragile soils occur along the access road, reclamation will be required to achieve the goals described above. The operator has not submitted such a plan or indicated any special measures for these areas to protect fragile soils. Since mitigation is likely to be more appropriate to assure successful reclamation then requiring additional planning by the operator it is applied as COAs in the water quality section. Mitigation will require immediate action if any of the erosion indicators are observed.

<b>Soil Classifications within 30 Meters of the Project (greater than 1 Acre in size)</b>	
<b>Soil Complex</b>	<b>Acres Potentially Impacted</b>
Rentsac channery loam, 5-50% slopes	20
Redcreek-Rentsac complex, 5-30% slopes	73
Parachute-Rhone loams, 5-30% slopes	39
Castner channery loam, 5-50% slopes	3
Starman-Vandamore complex, 5-40% slopes	11

*Environmental Consequences of the Proposed Action:* If reclamation is successful impacts from this project will be minor and localized to disturbed areas. The soils in this area have runoff characteristics that are medium to rapid, and the hazard of water erosion is moderate to very high. This means the majority of the surface disturbance has the potential to have difficult reclamation and might have more of a potential for localized erosion. Most of the fragile soils are in the Rentsac channery loam soils and occur along the access road.

If the seedbed is not stabilized, re-vegetation efforts will not be successful and erosion could become substantial. Loss of vegetation could increase surface runoff and erosion along the access, this is likely to be more common in the fragile soils that can be saline and have steep sections. This project is likely to result in localized erosion due to the poor soils and steep slopes on parts of the proposed roads. The mitigation applied in the Water Quality section should moderate these impacts.

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

*Mitigation:* See the Water Quality section

*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.

## VEGETATION (includes a finding on Standard 3)

*Affected Environment:* The proposed pad occurs in a transition area between mountain loam and pinyon/juniper ecological sites. The bulk of disturbance associated with the road traverses along a sagebrush and pinyon juniper dominated ridgeline. Mature shrubs including serviceberry, mountain mahogany, sagebrush, bitterbrush, and some gambel oak are the predominant understory shrub component. There is a considerable amount of bare ground between plants but herbaceous vegetation present is comprised of western wheatgrass, junegrass, Stipa, and a scattering of other grasses and forbs. Cheatgrass is present at a low level in many areas to be affected by the proposed action.

*Environmental Consequences of the Proposed Action:* Construction of the well pad and access road would remove all vegetation on disturbed areas. A portion of the well pad and shoulders of its access road could be reclaimed during the production phase. For the road approximately 12.7 acres (5.4 on private surface and 7.3 acres on BLM surface) and for the well pad site an area of approximately 0.4 acre would remain non-vegetated for a considerable length of time depending upon the success and life expectancy of the well(s) on this pad. Half or more of the original disturbance could be short-term and returned to the production of desirable perennial vegetation. The remaining disturbance would remain non-vegetated for the life of the well(s).

Disturbances associated with the proposal would be subject to an invasion of very competitive weedy plants, some native and some not, potentially creating problems for future reclamation efforts. At least two growing seasons are generally required for these species to develop sufficient seed for dominance of the disturbance. The longer it remains non-vegetated, the greater the chance for invasion. Once the disturbance becomes dominated by weedy species, reclamation with desirable native perennial species becomes very difficult. What should be a short-term impact could become a long-term invasion requiring additional resources and strategies before successful reclamation can be achieved.

Loss of shrub species and pinyon/juniper from disturbed sites would be a long-term impact resulting from initial removal of all vegetation. Sagebrush would be expected to begin re-establishment on disturbed areas within 10 years, with pre-disturbance levels achieved within 20 to 25 years. Deciduous shrub species (serviceberry, oakbrush, and bitterbrush) would be expected to take 15 to 20 years to begin re-establishment, and 40 to 50+ years to achieve pre-disturbance levels. The pinyon or juniper trees removed by disturbance would be a long-term loss. It would be likely to take at least 40 to 50 years for trees to begin appearing on the disturbed areas and over 100 years to achieve pre-disturbance levels.

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

*Mitigation:* All disturbed areas for the well pad and access road, with the exception of the access road travel surface area immediately around production facilities, will be reclaimed within the first growing season or prior to the first full growing season following disturbance. Interim reclamation will consist of excess stockpiled soil associated with pad construction being

pulled back over the portion of the well pad not being utilized for production facilities and access. Portions of the well pad undergoing interim reclamation will be returned to grade (as close as possible), promptly re-seeded, and biodegradable fabrics will be utilized on slopes exceeding 5% (e.g., fill slopes). All available topsoil material will be used on recontoured cut and fill slopes and areas outside the anchors (maintaining the viability of the soils for final reclamation); production facilities will be located in such a way that the surface disturbance available for effective interim reclamation is maximized (e.g., where access road enters the pad), and; all disturbed areas outside the deadman anchors will be recontoured to the extent practicable.

If interim reclamation is not practical (e.g. when drilling operations would require an extended period of time for multiple wells on a single pad), stockpiled topsoil will be covered with biodegradable fabrics such as (but not limited to) jute netting and seeded with the BLM-approved seed mixture below.

All reclaimed areas will be reseeded with the following seed mix:

**Recommended Seed Mix**

SPECIES	VARIETY (CULTIVAR)	PLS/AC
Slender Wheatgrass	San Luis	1.0 lbs
Bluebunch Wheatgrass or Beardless Bluebunch	Goldar or Anatone Whitmar	2.0 lbs
Thickspike Wheatgrass	Critana	1.0 lbs
Indian Ricegrass	Rimrock	2.0 lbs
Western Wheatgrass	Rosana	2.0 lbs
Utah Sweetvetch		1.0 lbs
Scarlet Globemallow		0.5 lbs
Cicer Milkvetch		1.0 lbs
Sainfoin or American Vetch		1.0 lbs
Antelope Bitterbrush		1.0 lbs
Mountain Mahogany		1.0 lbs
<b>TOTAL</b>		<b>13.5 lbs</b>

*\*Pure Live Seed per Acre*

Successful revegetation should be achieved within three years. The operator would be required to monitor the project site(s) throughout the life of the project, but especially important during the first three years post-construction, to detect presence of noxious/invasive species. Any such species would be eradicated using materials and methods approved in advance by the Authorized Officer. Final reclamation of the road and well pad following abandonment would be achieved with the native seed mix noted above.

*Finding on the Public Land Health Standard for plant and animal communities (partial, see also Wildlife, Aquatic and Wildlife, Terrestrial):* The plant communities within the area of the Proposed Action have an appropriate age structure and diversity of species which meet the

criteria established in the standard for vegetation. With successful reclamation, the Proposed Action would not change this status.

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

*Affected Environment:* The proposed well pad and access road are located along a long ridgeline dominated by mountain big sagebrush with areas heavily encroached with piñon-juniper and mountain shrub species including serviceberry, snowberry and mountain mahogany. The nearest channel system supporting riparian vegetation is Piceance Creek which is separated from the project area by over eight miles of ephemeral channel.

*Environmental Consequences of the Proposed Action:* Pad and road construction would have no direct impact on aquatic resources. With the application of BMPs associated with soil erosion there is no reasonable likelihood that fugitive sediments would have any influence on the function or condition of the Piceance Creek channel, its aquatic wildlife or associated habitats.

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

*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 riparian vegetation is separated from the project area by over eight miles of ephemeral channel. Neither the proposed or no-action alternative would have any reasonable potential to influence the function or condition of this system or its aquatic habitat values.

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

*Affected Environment:* The proposed well pad and access road are situated along a long ridgeline broadly encompassed by mountain big sagebrush, piñon-juniper, and mountain shrub species including serviceberry, mountain mahogany and bitterbrush. Herbaceous understory is sparse but comprised of several perennial species including western wheatgrass, junegrass, Stipa, and a scattering of other grasses and forbs. Cheatgrass is present, but at low densities. Much of the vegetation on public land involves areas heavily dominated with immature piñon-juniper and mixed mountain shrub species with small, scattered sagebrush openings. Private lands are dominated with a mix of mountain big sagebrush heavily encroached with mountain shrub species and scattered, immature piñon-juniper.

The majority of the public lands involved in this action are categorized by the Colorado Division of Wildlife as big game general winter range. These areas generally receive heaviest use from September through December and again in late-April through May. The higher elevation private lands dominated by mountain shrub communities are categorized as big game summer range. These areas are typically occupied from May through September.

The younger to middle-aged piñon-juniper woodlands along the access route do not provide adequate nesting substrate for woodland raptors. Cliffs and rock outcrops which provide nesting habitat for golden eagle and red-tailed hawk are absent from the project area.

Small mammal populations are poorly documented however, the species that are likely to occur in this area display broad ecological tolerance and are widely distributed throughout the Resource Area. No narrowly distributed or highly specialized species or subspecific populations are known to inhabit this area.

*Environmental Consequences of the Proposed Action:* Disturbances on public lands (i.e., road upgrades) would directly involve approximately seven acres of predominately piñon-juniper and mountain shrub habitats. Under natural succession regimes these communities would take anywhere from 20-40 years (sagebrush and mountain shrub) to 100+ years, depending on age (piñon-juniper). It is suspected that increases in traffic associated with pad construction and drilling activities may temporarily displace big game if coincident with heaviest use periods.

The long-term occupation of about four acres (associated with well pad) of forage and cover habitat would have minor localized influence on big game forage availability, but these reductions have cumulative connotations. Interim reclamation on the well pad would help offset herbaceous forage losses and accelerate the reestablishment of woody forage and cover components for all resident wildlife.

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

*Mitigation:* The use of interim reclamation techniques will be used to the extent practicable on this pad such that: 1) all available topsoil material would be used to rehabilitate recontoured cut and fill slopes and areas outside the anchors (maintaining the viability of the soils for final reclamation), 2) production facilities are located to maximize the extent of surface disturbance available for recontouring and reclamation after completion operations and through the productive life of the well (e.g., where access road enters pad), and 3) all disturbed areas are reseeded and, if necessary, effectively fenced to control livestock use once well completion activities have been finalized (this includes cut and fill slopes of roads and trial application on the roadbeds themselves).

*Finding on the Public Land Health Standard for plant and animal communities* (partial, see also Vegetation and Wildlife, Aquatic): Although the project area is being subjected to increasing levels of natural gas development, 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.

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

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

**ACCESS AND TRANSPORTATION**

*Affected Environment: Affected Environment:* Proposed action will impact Rio Blanco County (RBC) road 5 as well as BLM road 1008.

*Environmental Consequences of the Proposed Action:* It is likely with the continued increase in traffic of all types to service and construct these wells that road surface damage may occur as a result if road maintenance activities are not commensurate with the levels of road usage. An increase in route proliferation is also likely due to the increase in new roads being developed. No new access will be created.

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

*Mitigation:* All roads shall be constructed and maintained by permittee per “Gold Book” standards.

**FIRE MANAGEMENT**

*Affected Environment:* The proposed action is located within the D5 Cathedral/ Roan Plateau fire management polygon. The preferred fire management action within this polygon is to utilize wildland fire for resource benefit due to the amount as well as arrangement of vegetation and the historic exclusion of wildland fire.

The National Fire Plan calls for “firefighter and public safety” to be the highest priority for all fire management activities. In the pinion, juniper, and brush types common on the WRFO, roads and other man-made openings are commonly used as fuel breaks or barriers to control the spread of both wildland and prescribed fires. By reducing the activity fuels created from this proposal, future fire management efforts in this area should be safer for those involved and more effective.

*Environmental Consequences of the Proposed Action:* Due to the nature of the proposed action there is a need to clear the vegetation. Trees and brush are generally stockpiled adjacent to well pad locations or windrowed along roads or pipeline corridors and saved for reclamation purposes. The piles of trees and brush located along the proposed access road will be a heavier concentration than the surrounding area and will increase the intensity and behavior of a fire should one impact that area. The brush will decompose faster in comparison to pinion and juniper, which will remain on site for years and is very receptive to embers. The accumulation of these fuels if not adequately addressed will adversely affect any fire management actions.

*Environmental Consequences of the No Action Alternative:* Under this action, no environmental consequences will occur.

*Mitigation:* A 10 lb fire extinguisher and a shovel or Pulaski shall be on each piece of equipment and available for use for suppression should an accidental ignition occur as a result of construction. All ignitions will be reported to Craig Interagency Dispatch 970-826-5037 so that qualified fire personnel may assess the fire and determine the appropriate course of action.

All trees that are removed for construction that are not needed for reclamation purposes shall be removed of limbs and cut into 4 foot sections all the way down to 4 inches in diameter then placed along the road where they may be collect for fire wood. Materials that are less than 4 inches in diameter may be scattered away from the road surface or chipped then scattering the chips away from the roadway. Scattering of any of the material shall be done in a manner to avoid piling of the material and shall not exceed a depth of 12 inches.

## **FOREST MANAGEMENT**

*Affected Environment:* The proposed action for the Independence Unit 496-9A1 well pad and road navigates through pinion/juniper stands of varying age and structure. Theses stands range from mature closed canopy stands to sage brush parks where pinion/juniper regeneration is widely scattered.

*Environmental Consequences of the Proposed Action:* Due to the nature of the proposed action there is a need to clear away existing vegetation for construction and access within the right of way. There will be 2.6 miles of pinion/juniper woodlands affected for an estimated 6 acres. It is expected that pinion and juniper will again occupy the site in approximately 25 to 35 years post reclamation and will exhibit mature stand characteristics in 250+ years.

This is shared action with the proposed action for Independence Unit 396-31A1 well stated in the CO-110-08-094-EA document and has already been analyzed.

*Environmental Consequences of the No Action Alternative:* Under the no action alternative there would no Environmental consequences.

*Mitigation:* For reclamation purposes retain enough tree boles with root wads intact to adequately cover 20% of the surface. All remaining materials shall be removed of limbs and cut into 4 foot sections all the way down to 4 inches in diameter. These materials may then be placed along the road where they may be removed by the public or the ExxonMobil. Materials that are less than 4 inches in diameter may be scattered away from the road surface or chipped then chips shall be scattered away from the roadway to a depth less than 2 inches. If limbs are scattered it will be done in a manner not exceed a depth of 12 inches. Scattering of any of the material shall be done in a manner to avoid piling of the material. The White River Resource Management Plan Record of decision (1997) states that all commercial and non commercial woodlands removed as a result of development will be purchased prior to removal. This action is shared with the same action proposed in CO-110-08-094-EA for the Independence Unit 396-31A1 well in which the BLM has already submitted a bill to ExxonMobil and therefore ExxonMobil will not receive a bill for this proposed action.

## **GEOLOGY AND MINERALS**

*Affected Environment:* The surface geologic formation of the well location is the Uinta formation with a targeted zone in the lower Mesaverde. During drilling potential water, oil shale, and gas zones will be encountered from surface to the targeted zone. Fresh water aquifers that will be encountered during drilling are; the Perched in the Uinta, the A-groove, and B-groove in the Green River formation. These geologic zones along with upper portion of the Wasatch are known for difficulties in drilling and cementing.

This well is located in area where the oil shale mineral estate is non-federal minerals. The well will develop the natural gas resources on Federal oil and gas lease COC-57954.

*Environmental Consequences of the Proposed Action:* Drilling and completion of this well may adversely affect fresh water aquifers if there is loss of circulation or problems cementing the casing. However, the identified cementing and completion procedure of the proposed action isolates the formations and will prevent the migration of gas, water, and oil between formations. Development of these wells will deplete the hydrocarbon resources in the targeted formation. The placement of the well may affect the future recovery of the non-federal oil shale resource; however Exhibit A of lease COC-57954 contains special stipulations to protect the rights of the owner of the oil shale estate.

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

*Mitigation:* None

## HYDROLOGY AND WATER RIGHTS

*Affected Environment:* Water will be used for construction, drilling, completion and fracing operations as part of this action. Fresh water will be trucked from permitted ExxonMobil surface water storage facilities: Love Ranch fresh water storage pond (sec.9, T2S, R97W) and B&M fresh water storage pond (sec.26, T2S, R97W). The source of this water is from Piceance Creek.

*Environmental Consequences of the Proposed Action:* This action could deplete water sources and has the potential to impact water rights if sources are not properly permitted for this use. The operator has provided sufficient information in the SUP to indicate water rights will be protected.

*Environmental Consequences of the No Action Alternative:* no water would be used.

*Mitigation:* The following item should be attached as conditions of approval.

An estimate of the volumes of water that may be used for construction, drilling, completion, fracing and dust abatement will be provided to the WRFO hydrologist by well and by pad.

## PALEONTOLOGY

*Affected Environment:* The proposed action is located in an area generally mapped as the Uinta Formation (Tweto 1979) which the WRFO, BLM has classified as a PFYC 5 fossil bearing formation due to the high potential to produce scientifically noteworthy fossil resources.

*Environmental Consequences of the Proposed Action:* If it should become necessary to excavate into the underlying rock formation to construct the road, level the well pad or excavate the reserve/blooiie pits there is a potential to adversely impact scientifically important fossil resources.

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

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

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

If the operator wishes, at any time, to relocate activities to avoid the expense of mitigation and/or the delays associated with this process, the AO will assume responsibility for whatever

recording and stabilization of the exposed materials may be required. Otherwise, the operator will be responsible for mitigation cost. The AO will provide technical and procedural guidelines for the conduct of mitigation. Upon verification from the AO that the required mitigation has been completed, the operator will then be allowed to resume construction.

If at any time it becomes necessary to excavate into the underlying rock formation to construct the access road, level the well pad or excavate the reserve/blooiie pit an approved paleontological monitor shall be present before and during all such excavations.

## **RANGELAND MANAGEMENT**

*Affected Environment:* The well pad and approximately two miles of access road occur within the 2<sup>nd</sup> pasture of the West Stewart grazing allotment the remaining 3.5 miles of access road occurs in the 1<sup>st</sup> pasture of this same allotment. The Oldland Brothers Ranch is permitted to graze livestock in this allotment from early May through mid November. Livestock may be present in these two pastures from early May through late June and then again from early November through mid November each year.

Rangeland Improvements: A pasture division fence; range improvement project (RIP) number 204295; will be crossed by the access road in the middle of Section 5 (UTM NAD 83 Zone 13 226041E, 4402569N). There is also a small catchment pond; RIP # 207265, on the west side of the road approximately 150 feet south of this fence line and another on the east side of the road, on private surface approximately 2000 feet further south.

*Environmental Consequences of the Proposed Action:* The actions proposed would result in a forage loss to livestock of about 2 animal unit months (AUM). An AUM equates to the forage needs of a mature cow with calf for one month. Most of this loss would be only short-term until successful reclamation of disturbed areas could occur. Reclamation of the unused portions of the road and well pad would likely offset the short-term forage loss (creating about 1 AUM of available forage in the short term). Long-term loss of about 1 AUM would occur for the life of the project assuming the well is productive. Complete reclamation of the road and well pad would probably provide a small long-term increase above the present forage available to cattle.

The actions proposed could interfere with proper function of nearby range improvements. The fence and watering facility are necessary for control of cattle to achieve grazing objectives on the allotment. Damage to fences or watering facilities or gates left open would interfere with control of cattle and ultimately, proper utilization of the rangeland resource. These impacts would be greatest during the construction and drilling phases. ExxonMobil will be responsible for any and all damage to the described range improvements which were functional at the time of the on-site inspection (10/3/07).

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

*Mitigation:* The access road up the main ridge between Prechtle Gulch and West Twin Gulch crosses the pasture division fence between the 1<sup>st</sup> and 2<sup>nd</sup> pastures. The fence is located crossing the middle of section 5, T4S, R96W (UTM NAD 83 Zone 13 226041E, 4402569N). The crossing would require a cattleguard constructed to BLM specifications with a wire or metal gate adjacent to it. The cattleguard and gate will be installed prior to access road and location construction. The effectiveness of the fence would be maintained at all times during construction and operation. The cattleguard must be cleaned out as needed to maintain its function for the life of the project. The access road must be constructed in such a way to maintain the function and condition of the small catchment ponds. Sediment resulting from the road upgrades must be removed from these ponds.

## **REALTY AUTHORIZATIONS**

*Affected Environment:* A right-of-way will be required for the access road to the Independence Unit 496-9A well and will be an amendment to COC68263.

*Environmental Consequences of the Proposed Action:* Since the access route crosses unit and lease boundaries, the access road will require a right-of-way authorization. The road needs to be constructed to the Gold Book Standards and BLM Road Construction Standards. In T. 4 S., R. 96 W., Sections 5-8 and 18, the road is in Sage Grouse Habitat.

*Environmental Consequences of the No Action Alternative:* None

*Mitigation:* 1. The “Conditions of Approval” for the well and the mitigations measures stated in EA CO-110-2008-180 will be incorporated into and made a part of the right-of-way authorization. The original right-of-way grant for COC68263 remains in full force and effect.

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

## **REFERENCES CITED:**

Sauvageau, Nicole and Stephanie Slaughter

2008 ExxonMobil Corporation: A Class III Cultural Resources Inventory of the Proposed IDU 496-9A Well Pad and Access Road in Rio Blanco County, Colorado. Metcalf Archaeological Consultants, Eagle, Colorado.

Tweto, Ogden

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

**PERSONS / AGENCIES CONSULTED:** None

**INTERDISCIPLINARY REVIEW:**

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

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

## **CO-110-2008-180-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:** It is my decision to approve this action as described I the proposed action with the addition of the mitigation listed below.

### **MITIGATION MEASURES:**

1. All access roads will be maintained according to BLM Manual Section 9113 standards (available for download at [http://www.blm.gov/co/st/en/fo/wrfo/oil\\_and\\_gas\\_wrfo.html](http://www.blm.gov/co/st/en/fo/wrfo/oil_and_gas_wrfo.html)) for road shape and drainage features at all times during construction, drilling and production.
2. All access roads will be treated with water and/or a dust suppressant during construction and drilling activities so that there is not a visible dust trail behind vehicles. All vehicles will abide by company or public speed restrictions during all activities. If water is used as a dust suppressant, there should be no traces of oil or solvents in the water. Only water needed for abating dust should be applied; dust abatement should not be used as a water disposal option under any circumstances.
3. 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.

4. 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.
5. All cultural resources must be avoided by all construction activity. A monitor shall be required to ensure that all construction activity avoids the cultural resources.
6. Invasive, non-native plants should be eliminated before any seed production has occurred. Eradication should make use of materials and methods approved in advance by the Authorized Officer.
7. The operator would clean all equipment to remove seed and soil prior to bringing equipment onto public lands within the project area.
8. 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.
9. All surface activity associated with this well, including pad construction, drilling, completion, and interim reclamation should be confined to the period of August through October 2009.
10. It would be advantageous to the Piceance Parachute Roan (PPR) area sage-grouse population and most other forms of resident wildlife to develop a pipeline system that would transport fluids from the wellhead to more centralized gathering facilities located along pre-existing corridors of concentrated and essentially permanent forms of disturbance.
11. BLM recommends the design and use of a production system that avoids the use of tank storage and truck-based fluid transport (i.e., piping fluids to facilities in adjacent valleys) as a means of minimizing subsequent year-round traffic across occupied sage-grouse habitats.

The design should be capable of being interconnected with and accommodating anticipated production from additional wells planned for this, and adjacent, ridges.

12. Full interim reclamation techniques and standards should be applied promptly after production is established, including longer-term fencing to promote development of herbaceous understories capable of sustaining grouse use in the near term. It is recommended that disturbed areas be seeded with a mix designed to reestablish forb species. The following forbs would be included in reclamation seed mixes as appropriate throughout sage-grouse range. Forb species in appropriate seed mix will be replaced with the following species at the rates (Pure Live Seed (PLS) pounds per acre) identified below:

Rocky Mountain Penstemon	0.5
Utah or northern sweetvetch	0.25
Blue flax (Maple Grove)	0.25

13. Onsite sewage treatment on Federal Lands needs to be approved by the BLM via Sundry Notice by the AO.
14. Before drilling activities begin, update Surface Use Plan (SUP) via sundry to describe the intent of the operator to dispose of drilling cuttings and use of pits. Currently the pad diagram shows cuttings pits, the SUP discusses leaving the cuttings in the reserve pit, and the Stormwater Management Plan (SWMP) describes two different methods for disposing of dry cuttings.
15. The concentration of hazardous substances in the reserve pit at the time of pit backfilling must not exceed the standards set forth in the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA).
16. One purpose of the reserve pit is to contain drilling cuttings and fluids. These cuttings and fluids should only be removed for disposal, and not as part of a solidification process. Excess spoils should not be used to dry pits.
17. Excess soil from the cuttings or reserve pits that will not be needed during interim reclamation should be used in balancing the cut/fill on the pad or road construction and not stored.
18. If needed, mechanical evaporation in the pits should be done in such a way that there is no overspray beyond the pit boundaries. This will reduce the likelihood of salts and other potential contaminants being deposited on adjacent undisturbed vegetation.
19. Pits designed to contain fluids shall be constructed so that leaking or breaching problems are minimized and reclamation potential is maximized. At least 50 percent of the pit capacity shall be in cut material. When fractured rock or porous materials are encountered, pits shall be lined with an impermeable membrane to prevent leakage. Since all pits may receive fluids from completion and facing activities and soluble materials left in pits may migrate into the shallow groundwater, all pits (including cuttings pits) should be lined with at least a 24 mil reinforced liner and closed as per Onshore Order requirements.

20. These standard methods will be used in lieu of an equally protective practices proposed by the operator and approved by the AO via sundry.
  - a. When closing pits, liners should be left in place and not removed to solidify cuttings.
  - b. Standard methods for single wells with a reserve pit are to evaporate or pump out fluids and properly dispose of them (if necessary to hasten pit closure), allow the pit to dry completely before burial, cut the liner above the mud-line and properly dispose of un used liner off-site, leave buried liner in place, fill the pit with the excess spoil pile and ensure proper compaction so there is no settling in the future.
  - c. These standard methods would minimize the potential contamination of shallow groundwater by keeping potentially contaminated mud's and cuttings in place and minimizing the potential loss of contaminants from the reserve pit.
21. The pits should be closed as soon as possible after drilling and completion of this well, regardless if additional wells are planned for this pad. Reserve pits will be allowed to dry through natural evaporation for one four season cycle after the well is drilled (as per White River ROD/RMP). 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 (see SUP, EP has been identified). All pits shall be recontoured within 15 months after the well is drilled.
22. The release of any chemical, oil, petroleum product, produced water, or sewage, etc, (regardless of quantity) must be reported by the lease holder, to the Bureau of Land Management – WRFO Hazardous Materials Coordinator at (970) 878-3800.
23. Provide for erosion-resistant surface drainage by adding necessary drainage facilities and armoring prior to fall rain or snow. When erosion is anticipated, sediment barriers shall be constructed to slow runoff, allow deposition of sediment, and prevent it from leaving the site. In addition, straining or filtration mechanisms may also contribute to sediment removal from runoff.
24. 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. Monitor culvert installations to ensure adequate armoring of inlet and outlet and no erosion of design. Patrol areas susceptible to road or watershed damage during periods of high runoff.
25. Keep road inlet and outlet ditches, catchbasins, and culverts free of obstructions, particularly before and during spring runoff. Routine machine-cleaning of ditches should be kept to a minimum during wet weather. Leave the disturbed area in a condition that provides drainage with no additional maintenance.
26. The new access roads should be built and maintained to BLM Manual Section 9113 standards (available for download at [http://www.blm.gov/co/st/en/fo/wrfo/oil\\_and\\_gas\\_wrfo.html](http://www.blm.gov/co/st/en/fo/wrfo/oil_and_gas_wrfo.html)) for road shape and drainage features. Culverts and waterbars should

be installed according to 9113 standards and sized for the 10-year storm event with no static head and to pass a 25-year event without failing.

27. Before construction begins, update Surface Use Plan (SUP) via sundry with the following items to be approved by the BLM AO before construction begins:
- a. Submit a plan for lateral drainage features on the access road section shown in Figure 2.4 (rolling dip and/or culvert with ditch block). Also for this section, submit an analysis of the soils along the access road and justification for not surfacing the road with gravel to provide for all weather travel or submit a plan for surfacing the roads. Include the estimated slopes of cut and fill adjacent to the roads. Also please describe the use of top soil and vegetation removed from road right-of-way for reclamation of barrow ditches.
  - b. Define the acreage amounts for the outer limits of surface disturbance for the pad. As per Onshore Order requirements, all proposed surface disturbance on-lease must be surveyed and staked including the outer limits of the area to be disturbed (catch points); and any off-location facilities. Specifically undisturbed areas that will be disturbed to install stormwater measures.
  - c. Propose a design that raises the production pad at least 11 ft. to not be entirely in cut, and that will balance cut and fill for the production pad. Compaction specifications or other techniques can be used to ensure the stability of the production pad.
  - d. Consider a pad design that better balances cut and fill on the pad.
  - e. Restoration of Surface section of the SUP needs to be updated to define reclamation activities proposed during three distinct periods:
    - i. Stabilization of disturbed surfaces during drilling and completion activities not needed (i.e. cut and fill slopes and pipelines). Also, detail the use of vegetation material removed before earth work.
    - ii. Interim Reclamation – Define the production footprint after drilling and completion activities are finished and how areas will be recontoured and detailed description of top soil use.
    - iii. Final Reclamation – Define contours for final reclamation and plugging and abandonment procedures with regard to surface use and reclamation. Also, make sure to note final road configuration proposed.
28. A Reclamation Status Report will be submitted to the WRFO biannually for all actions that require disturbance of surface soils on BLM-administered lands as a result of the proposed action. Actions may include, but are not limited to, well pad and road construction, construction of ancillary facilities, or power line and pipeline construction. The Reclamation Status Report will be submitted by 15 May and 15 November of each calendar year, and will include the well number, legal description, project description (e.g., well pad or pipeline), reclamation status (e.g., interim or final), whether the well pad or pipeline has been re-vegetated and/or re-contoured, date seeded, photos of the reclaimed site, estimate of acres seeded and seeding method (e.g., disk-plowed, drilled, or both). Internal and external review of this plan 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 plan. The Reclamation Status Report will be submitted electronically via email as a

Microsoft Excel table to Natural Resource Specialist, Brett Smithers ([brett\\_smithers@blm.gov](mailto:brett_smithers@blm.gov)).

29. All disturbed areas for the well pad and access road, with the exception of the access road travel surface area immediately around production facilities, will be reclaimed within the first growing season or prior to the first full growing season following disturbance. Interim reclamation will consist of excess stockpiled soil associated with pad construction being pulled back over the portion of the well pad not being utilized for production facilities and access. Portions of the well pad undergoing interim reclamation will be returned to grade (as close as possible), promptly re-seeded, and biodegradable fabrics will be utilized on slopes exceeding 5% (e.g., fill slopes). All available topsoil material will be used on recontoured cut and fill slopes and areas outside the anchors (maintaining the viability of the soils for final reclamation); production facilities will be located in such a way that the surface disturbance available for effective interim reclamation is maximized (e.g., where access road enters the pad), and; all disturbed areas outside the deadman anchors will be recontoured to the extent practicable.
30. If interim reclamation is not practical (e.g. when drilling operations would require an extended period of time for multiple wells on a single pad), stockpiled topsoil will be covered with biodegradable fabrics such as (but not limited to) jute netting and seeded with the BLM-approved seed mixture below.
31. All reclaimed areas will be reseeded with the following recommended seed mix:

SPECIES	VARIETY (CULTIVAR)	PLS/AC
Slender Wheatgrass	San Luis	1.0 lbs
Bluebunch Wheatgrass or Beardless	Goldar or Anatone Whitmar	2.0 lbs
Thickspike Wheatgrass	Critana	1.0 lbs
Indian Ricegrass	Rimrock	2.0 lbs
Western Wheatgrass	Rosana	2.0 lbs
Utah Sweetvetch		1.0 lbs
Scarlet Globemallow		0.5 lbs
Cicer Milkvetch		1.0 lbs
Sainfoin or American Vetch		1.0 lbs
Antelope Bitterbrush		1.0 lbs
Mountain Mahogany		1.0 lbs
<b>TOTAL</b>		<b>13.5 lbs</b>

*\*Pure Live Seed per Acre*

32. Successful revegetation should be achieved within three years. The operator would be required to monitor the project site(s) throughout the life of the project, but especially important during the first three years post-construction, to detect presence of noxious/invasive species. Any such species would be eradicated using materials and

methods approved in advance by the Authorized Officer. Final reclamation of the road and well pad following abandonment would be achieved with the native seed mix noted above.

33. The use of interim reclamation techniques will be used to the extent practicable on this pad such that: 1) all available topsoil material would be used to rehabilitate recontoured cut and fill slopes and areas outside the anchors (maintaining the viability of the soils for final reclamation), 2) production facilities are located to maximize the extent of surface disturbance available for recontouring and reclamation after completion operations and through the productive life of the well (e.g., where access road enters pad), and 3) all disturbed areas are reseeded and, if necessary, effectively fenced to control livestock use once well completion activities have been finalized (this includes cut and fill slopes of roads and trial application on the roadbeds themselves).
34. All roads shall be constructed and maintained by permittee per “Gold Book” standards.
35. A 10 lb fire extinguisher and a shovel or Pulaski shall be on each piece of equipment and available for use for suppression should an accidental ignition occur as a result of construction. All ignitions will be reported to Craig Interagency Dispatch 970-826-5037 so that qualified fire personnel may assess the fire and determine the appropriate course of action.
36. All trees that are removed for construction that are not needed for reclamation purposes shall be removed of limbs and cut into 4 foot sections all the way down to 4 inches in diameter then placed along the road where they may be collect for fire wood. Materials that are less than 4 inches in diameter may be scattered away from the road surface or chipped then scattering the chips away from the roadway. Scattering of any of the material shall be done in a manner to avoid piling of the material and shall not exceed a depth of 12 inches.
37. For reclamation purposes retain enough tree boles with root wads intact to adequately cover 20% of the surface. All remaining materials shall be removed of limbs and cut into 4 foot sections all the way down to 4 inches in diameter. These materials may then be placed along the road where they may be removed by the public or the ExxonMobil. Materials that are less than 4 inches in diameter may be scattered away from the road surface or chipped then chips shall be scattered away from the roadway to a depth less than 2 inches. If limbs are scattered it will be done in a manner not exceed a depth of 12 inches. Scattering of any of the material shall be done in a manner to avoid piling of the material. The White River Resource Management Plan Record of decision (1997) states that all commercial and non commercial woodlands removed as a result of development will be purchased prior to removal. This action is shared with the same action proposed in CO-110-08-094-EA for the Independence Unit 396-31A1 well in which the BLM has already submitted a bill to ExxonMobil and therefore ExxonMobil will not receive a bill for this proposed action.
38. An estimate of the volumes of water that may be used for construction, drilling, completion, fracing and dust abatement will be provided to the WRFO hydrologist by well and by pad.
39. 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.

40. If at any time it becomes necessary to excavate into the underlying rock formation to construct the access road, level the well pad or excavate the reserve/bloolie pit an approved paleontological monitor shall be present before and during all such excavations.
41. The access road up the main ridge between Prechtle Gulch and West Twin Gulch crosses the pasture division fence between the 1<sup>st</sup> and 2<sup>nd</sup> pastures. The fence is located crossing the middle of section 5, T4S, R96W (UTM NAD 83 Zone 13 226041E, 4402569N). The crossing would require a cattleguard constructed to BLM specifications with a wire or metal gate adjacent to it. The cattleguard and gate will be installed prior to access road and location construction. The effectiveness of the fence would be maintained at all times during construction and operation. The cattleguard must be cleaned out as needed to maintain its function for the life of the project. The access road must be constructed in such a way to maintain the function and condition of the small catchment ponds. Sediment resulting from the road upgrades must be removed from these ponds.
42. The “Conditions of Approval” for the well and the mitigations measures stated in CO-110-2008-180-EA will be incorporated into and made a part of the right-of-way authorization. The original right-of-way grant for COC68263 remains in full force and effect.

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

**NAME OF PREPARER:** Keith Whitaker/Jay Johnson

**NAME OF ENVIRONMENTAL COORDINATOR:** Caroline P. Hollowed

**SIGNATURE OF AUTHORIZED OFFICIAL:**



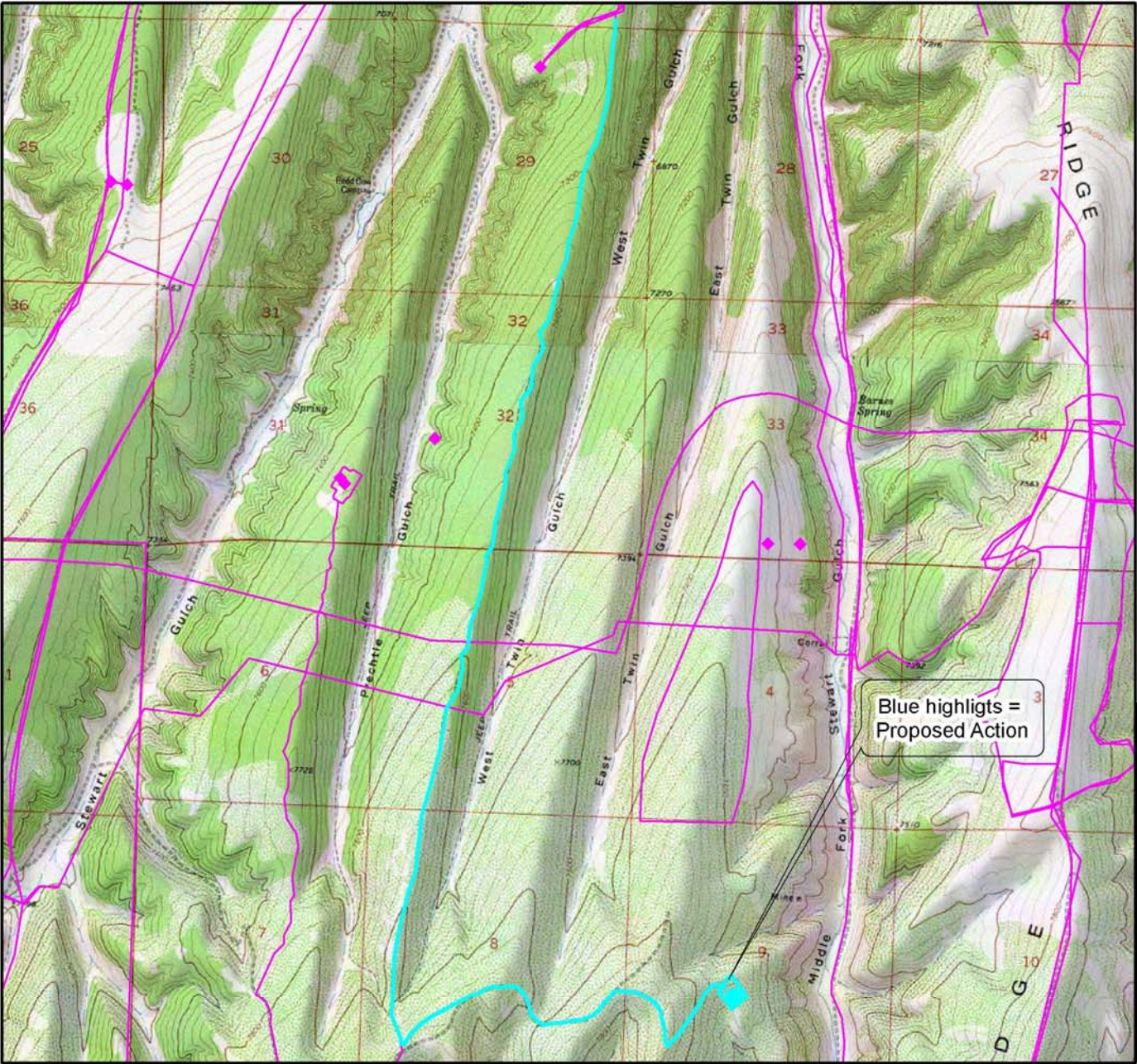
Field Manager

**DATE SIGNED:**

01/14/09

**ATTACHMENTS:** General Location map of the Proposed Action

# CO-110-2008-180-EA



**Legend**

- Projects: polygon
- Projects: line
- Projects: point
- Field office boundary

0 0.2 0.4 Miles

1/13/09

