

**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-110-2006-163-EA

CASEFILE/PROJECT NUMBER: COC-061047

PROJECT NAME: APD for Federal #2S-95-14-14AP

LEGAL DESCRIPTION: T2S, R95W, SWSW sec.14, 6th P.M.

APPLICANT: XTO Energy Inc.

ISSUES AND CONCERNS: At initial on site concern was raised that access road might be on fragile soils, but it was determined by hydrologist (Nathan Dieterich) that this concern did not exist.

DESCRIPTION OF PROPOSED ACTION AND ALTERNATIVES:

Background/Introduction: On site conducted on 11/29/06 on snowmobiles/foot. Proposed well pad will be located on plugged and abandoned well pad.

Proposed Action: XTO Energy Inc (hereafter XTO) has submitted an APD for well #2S-95-14-14AP. XTO proposes to construct a new access road for 2,112' x 50' ROW (2.4 ac.), upgrade an existing two track road for 2,640' x 30' additional ROW (2 ac.), install 8,050' of buried pipeline (parallel to access road and existing fence line) (800' x 30' ROW along fence=0.6 ac.) (7,250' x 10' addl. ROW along access road=1.66 ac.), and construct a well pad 450' x 290' (4 ac including cut/fill slopes) with an adjacent production pad 200' x 100' (0.5 ac.). All surface disturbances will be on BLM lands. Approximate total surface disturbance would be 12 acres.

- Maximum travel surface width will be 25' or less.
- Maximum grades will not exceed 10% after construction.
- No turnouts are planned at this time. Turnouts may be specified in the approved APD.
- Only native materials will be used during construction. If necessary, gravel or rock may be purchased and used to improve road conditions and travel.
- Roads will be crowned and bar ditches will be located along either side. 18-24" diameter culverts will be installed if necessary.
- No cattleguards are planned at this time. Cattleguards will be installed if needed, and will meet or exceed BLM specifications.

Surface disturbance and vehicular travel will be limited to the approved location and access road only. Any additional surface area needed must be approved by BLM in advance.

If any additional right-of-way is necessary, no surface disturbing activities shall take place on the subject right-of-way until the associated APD is approved. The holder will adhere to conditions of approval in the Surface Use Program of the approved APD, relevant to any right-of-way facilities.

If a right-of-way is secured, boundary adjustments in the lease or unit shall automatically amend this right-of-way to include that portion of the facility no longer contained within the lease or unit. In the event of an automatic amendment to this right-of-way grant, the prior on-lease/unit conditions of approval of this facility will not be affected even though they would now apply to facilities outside of the lease/unit as a result of a boundary adjustment. Rental fees, if appropriate, shall be recalculated based on the conditions of this grant and the regulations in effect at the time of an automatic amendment.

If at any time the facilities located on public lands authorized by the terms of the lease are no longer included in the lease (due to a contraction in the unit or other lease or unit boundary change) the BLM will process a change in authorization to the appropriate statute. The authorization will be subject to appropriate rental, or other financial obligations as determined by the BLM.

If the Fed 2S-95-14-14AP well is productive, the access road will be rehabilitated as needed and brought to Resource (Class III) Road Standards within a time period specified by the BLM. If upgraded, the access road must be maintained at these standards until the well is properly abandoned. If this time frame cannot be met, the Field Office Manager will be notified so that temporary drainage control can be installed along the access road.

On site production facilities would consist of a wellhead, flow lines (typ. 3" dia.), artificial lifting system (if necessary), wellhead compression (if necessary), gas/oil/water separator (3 phase), gas measurement and water measurement equipment, and a heated enclosure/building for weather and environmental protection. The tank battery will typically be constructed and surrounded by a berm constructed to contain 1½ times the volume of the largest tank (s). The tanks typically necessary for the production of this well will be one 400 bbl steel, above ground tank for the collection and sale of oil/condensate and two 400 bbl steel above ground tanks for produced water. All loading lines and valves for these tanks will be placed inside the berm surrounding the tank battery.

All oils/condensates/gases produced and measured for sales shall conform to the provisions of 43 CFR 3162.7 and Onshore Oil and Gas Order No. 4 and No. 5, respectively. The measurement and sales of all gases and oils produced from this lease (Fed. # COC-062027) will be sold from a sales point (gas flow meter or tank) that remains within the lease boundary. The sales point will not be used for the additional measurement and sales of (off-lease) gases and oils without receiving prior approval from the BLM.

Other on-site equipment and system may include methanol injection and winter weather protection.

All permanent (in place for six months or longer) structures constructed or installed on the well site location will be painted a flat, nonreflective color to match the standard environmental colors, as specified by the conditions of approval (COAs) in the APD. All facilities will be painted within 6 months of installation. Facilities required compliance with the Occupational Safety and Health Act (OSHA) may be excluded.

Off site facilities are typically located at the central delivery point (CDP) station and usually include central compression, gas processing, separation, tanks, pits, electronics, gas measurement and possibly a produced water disposal (SWD) well.

The well will be produced into a proposed 8" steel field gathering gas pipeline and transported to a pipeline to service other XTO wells. A 4" steel water line will be laid in the same ditch. These proposed pipelines will be located within 15-25' of the access roads or fence line to location and can share the same area of disturbance along with the access roads/fence line during construction. The proposed pipeline route and tie-in point are depicted in Exhibit "TOPO C".

There are no plans to include power lines in this application. In the event power is required, a ROW application will be submitted to the appropriate agencies.

Water will be piped from an unidentified source through lines typically laid on top of the ground. If necessary, water may also be trucked via third party to the location over approved access roads.

Water obtained on private land, or land administered by another agency, will require approval from the owner or agency for use of said water.

Pad construction material will be obtained from: (if the material is Federal owned, a map will be included showing the location of the material): All construction material will be purchased from private landowners and/or from a commercial gravel/materials pit. All material will be trucked to location via third party trucking using only approved access roads. The use of materials under BLM jurisdiction will conform to 43 CFR 3610.2-3, if applicable.

The reserve pit will be typically lined with a synthetic material, ~12 mils in thickness. The reserve pit shall be located in cut material, with at least 50% of the pit volume below original ground level. Three sides of the reserve pit will be fenced before drilling starts. The fourth side will be fenced as soon as drilling is completed, and shall remain in place until the pit is dry. The amount of time the pit may remain open will typically be specified by the Conditions of Approval (COAs) in the APD. Once dry, the pit liner will be cut and removed at the mud line and the pit will be covered and buried in place.

Trash must be contained in a trash cage and hauled away to an approved disposal site as necessary but no later than at completion of drilling operations.

Sewage from trailers and chemical portable toilets will be removed on a regular basis by a third party contractor and disposed of at an authorized sanitary waste facility.

Any and all chemicals used during the drilling and completion of the well will be kept to a minimum and stored within the boundaries of the well pad. The third party chemical contractor will be responsible for containment and clean-up and removal of all spilled chemicals on location.

No ancillary facilities will be required during the drilling or completion of the well.

All equipment and vehicles that will be used to drill and complete this well will remain within the boundaries of the approved well pad. Any equipment and or vehicles parked or stored off of the location will be considered trespassing on private land and will NOT be tolerated.

Materials obtained from the construction of location, like topsoil and vegetation will be stockpiled as indicated and permitted by the approved APD. The stockpiles themselves may be outside the approved boundaries of the well pad.

The top 6" of topsoil material will be removed from the location and stockpiled separately as specified by the approved APD.

Topsoil along the access road will be reserved in place adjacent to the road as indicated by the approved APD.

Within 30-45 days after completion of well, all equipment that is not necessary for production shall be removed.

The reserve pit and that portion of the location not needed for production will be reclaimed in a given time period as specified by the BLM in the approved APD.

Before any dirt work to restore the location takes place, the reserve pit must be dry and ready for burial. If necessary, any approvals needed to commence the burial operation will be obtained.

All road surfacing will be removed prior to the rehabilitation of roads, if necessary.

Reclaimed roads will have the berms and cuts reduced and will be closed to vehicle use.

All disturbed areas will be recontoured to replicate the natural slope.

The stockpiled topsoil will be evenly distributed over the disturbed area.

Prior to reseeding, all disturbed areas, including the access roads will be scarified and left with a rough surface.

Seed will be drilled or broadcast between during a time specified by the BLM and or state. If seeded areas are broadcast; a harrow or some other implement will be dragged over the seeded area to assure uniform seed coverage.

The seed mixture will be specified by BLM.

If necessary an abandonment marker will be one of the following, as specified by BLM:

- at least 4' above ground level, or
- at restored ground level, or
- below ground level.

In any case the marker shall be inscribed with the following: operator name, lease number, well name and surveyed description (township, range, section and either $\frac{1}{4}\frac{1}{4}$ or footages).

Both the surface and the minerals are owned by the United States Federal Government and are managed by the Bureau of Land Management, Meeker, CO.

A BLM approved contractor will submit the appropriate reports to the agency as required for archaeological concerns. Special stipulations will be included in the COAs of the approved APD.

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 contact the appropriate BLM Field Office for further instructions.

A BLM approved contractor will submit the appropriate reports for threatened and endangered species concerns to the agency as required. Special stipulations will be included in the COAs of the approved APD.

Current wildlife restrictions and closure dates, if applicable, will be specified in the approved APD.

This APD serves as an application for any necessary off-lease Right-of-Ways.

Total surface disturbance on BLM would be approximately 12 acres.

The date the work would start would be July 2007.

No Action Alternative: The project would not be authorized and there would be no new environmental impacts as a result of the proposed action.

ALTERNATIVES CONSIDERED BUT NOT CARRIED FORWARD: None

NEED FOR THE ACTION: To respond to the request by the applicant to exercise lease rights to construct access road, well pad, and install pipelines to develop hydrocarbon reserves.

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

AIR QUALITY

Affected Environment: The entire White River Field Office (WRFO) area has been classified as either attainment or unclassified for all pollutants, and most of the area has been designated prevention of significant deterioration (PSD) class II. The proposed action is not located within a thirty mile radius of any special designation air sheds or non-attainment areas. The air quality criteria pollutant likely to be most affected by the proposed actions is the level of inhalable particulate matter, specifically particles ten microns or less in diameter (PM₁₀) associated with fugitive dust. In addition, slight increases in the following criteria pollutants: carbon monoxide, ozone (secondary pollutant), nitrogen dioxide, and sulfur dioxide may also occur during construction due to the combustion of fossil fuels associated with construction and drilling operations. Also, non-criteria pollutants such as visibility, nitric oxide, air toxics (e.g. benzene) and total suspended particulates (TSP) may also experience slight short term increases as a result of the proposed actions (no national ambient air quality standards have been set for non-criteria pollutants). Unfortunately, no monitoring data is available for the survey area.

However, it is apparent that current air quality near the proposed location is good because only one location on the western slope (Grand Junction, CO) is monitoring for criteria pollutants other than PM₁₀. Furthermore, the Colorado Air Pollution Control Division (APCD) estimates the maximum PM₁₀ levels (24-hour average) in rural portions of western Colorado like the Piceance Basin to be near 50 micrograms per cubic meter (µg/m³). This estimate is well below the National Ambient Air Quality Standard (NAAQS) for PM₁₀ (24-hour average) of 150 µg/m³ (CDPHE-APCD, 2005).

Environmental Consequences of the Proposed Action: Impacts detrimental to air quality resulting from the proposed actions can be expected as carbon monoxide, ozone (secondary pollutant), nitrogen dioxide, particulate matter, and sulfur dioxide levels are elevated within the airshed. Construction equipment producing elemental and organic carbon via fuel combustion combined with surface disturbing activities that leave soils exposed to eolian processes will both increase production of particulate matter (PM₁₀) during construction. Elemental and organic carbon existing in the air as PM₁₀ can reduce visibility and increase the potential of respiratory health problems to exposed parties. However, following initial construction, suggested mitigation, and successful interim reclamation, criteria pollutant levels should return to near pre-construction levels.

Environmental Consequences of the No Action Alternative: None

Mitigation: The operator will be responsible for complying with all local, state, and federal air quality regulations as well as providing documentation to the BLM that they have done so. To minimize production of fugitive particulate matter (fugitive dust) from associated access roads, vehicle speeds must not exceed 15 mph *or* dust plume must not be visible at appropriate designated speeds for road design. In addition, the application of a BLM approved dust suppressant (e.g. water or chemical stabilization methods) will be required during dry periods when dust plumes are visible at speeds less than or equal to 15 mph. Surfacing access roads with gravels will also help mitigate production of fugitive particulate matter. Land clearing, grading, earth moving or excavation activities will be suspended when wind speeds exceed a sustained velocity of 20 miles per hour. Disturbed areas will be restored to original contours, and revegetated with a BLM preferred seed mixture. Following seeding, woody debris cleared from the ROW will be pulled back over the pipeline to increase effective ground cover and help retain soil moisture.

Construction equipment will be maintained in good operating condition to ensure that engines are running efficiently. Vehicles and construction equipment with emission controls will also be maintained to ensure effective pollutant emission reductions.

CULTURAL RESOURCES

Affected Environment: Proposed 2S-95-14-14AP well pad, access route and well tie pipeline: The proposed action has been inventoried at the Class III (100% pedestrian) level (Reed and Hays, 2006, Compliance Dated 2/15/2007) with no new cultural resources in any of the areas inventoried.

Environmental Consequences of the Proposed Action: The proposed action will not impact any known cultural resources however previously undetected resources within 308 meters of the construction areas could be adversely impacted by vibrations from construction and drilling or by increased unauthorized collection do to improved access into the area as a result of the project.

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.

INVASIVE, NON-NATIVE SPECIES

Affected Environment: Noxious weeds known to occur in the project area include houndstongue (*Cynoglossum officinale*) and mullein (*Verbascum thapsus*). There are isolated occurrences of both these species within a mile of the project area. The invasive alien annual cheatgrass occurs throughout the project area in association with unvegetated earthen disturbance along roads and trails.

Environmental Consequences of the Proposed Action: The proposed action will create 10 acres of new earthen disturbance, which if it is not promptly and effectively revegetated with desirable species and /or treated with herbicides to eradicate noxious weeds/cheatgrass, will be invaded and dominated by noxious weeds/cheatgrass, increasing the potential for fire and the consequent further proliferation of cheatgrass/noxious weeds. Noxious weeds could also spread from the project sites to surrounding native rangelands resulting in a long term negative impact to native plant communities. The resulting increase in noxious weeds/cheatgrass could cause environmental degradation that will be largely irreversible. There will be a low likelihood of long term negative impact if the proposed mitigation is properly implemented.

Environmental Consequences of the No Action Alternative: There will be no change from the present situation which is a relatively noxious weed and invasive species free environment.

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

MIGRATORY BIRDS

Affected Environment: There are a number of migratory birds that fulfill nesting functions in the big sagebrush and mixed shrub communities traversed by this project 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 (i.e., Virginia's warbler, green-tailed towhee and Brewer's sparrow).

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: Construction and drilling associated with this project is scheduled to begin, at the earliest, in late-July 2007 and would be finalized prior to the 2008 breeding season (mid-May). It is likely that the pipeline would also be installed prior to mid-May and as such, this project would have no direct influence on breeding bird nesting activity during the 2007 or 2008 breeding season.

The proposed action would remove approximately 12 acres of sagebrush/mixed shrub habitat. These communities would likely take anywhere from 25-50 years to return to preconstruction conditions. Based on local breeding bird information, this habitat base would be expected to support about 12 nesting pairs, most of which would be more generalized species (e.g., chipping sparrow, spotted and green-tailed towhees, blue-gray gnatcatcher), but would undoubtedly involve up to 6 pair of higher interest species. Interim reclamation techniques would likely benefit grassland species (e.g., meadowlark) in the short-term. Based on the local extent of

available habitat, this project would have discountable influence on the distribution or abundance of bird populations at the smallest landscape scale.

It has recently 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 action authorized that would have potential to disrupt the breeding activities or habitats of migratory birds.

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, the use of bird-balls, 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 activities have begun. All lethal and non-lethal events that involve migratory birds will be reported to the Petroleum Engineer Technician immediately.

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

Affected Environment: There are no animals listed, proposed, or candidate to the Endangered Species Act that are known to inhabit or derive important benefit from the project area. The Magnolia area hosts a small, remnant population of greater sage-grouse that are the target of population and habitat restoration efforts by the BLM and Colorado Division of Wildlife (CDOW). The greater sage-grouse is considered a BLM-sensitive species and is the subject of considerable management emphasis on a local and national basis, including concerted habitat restoration activities by BLM and CDOW. Suitable habitat is generally confined to a relatively narrow 2- to 3-mile band of sage-steppe habitats north of Rio Blanco County (RBC) 3 and several miles west of the project site. Recently relocated after being displaced from a site immediately adjacent to RBC 3, Magnolia's single sage-grouse strutting ground (up to 8 roosters in 2005) is located about 2500' north of RBC 3 (county road likely used for heavy equipment access).. This insular population fulfills virtually all its life history requirements, including nesting, brood-rearing and wintering functions in this constricted band of habitat roughly between Greasewood Gulch and Dark Canyon. This habitat corridor has become increasingly isolated from potential habitats lying to the south and west by frequent traffic along RBC 3, heavy gas drilling activity along its southern rim, and a spate of gas processing and compressor

facility installation on its southwest corner. The habitat parcel itself is bisected by a series of ridgeline roads and a number of pipeline and powerline corridors.

Environmental Consequences of the Proposed Action Although this project is not situated in, nor would it directly affect, suitable sage-grouse habitat, it is likely well development would involve a certain amount of traffic on RBC 3 that would traverse several miles of greater sage-grouse habitat used throughout the year by Magnolia population. Project development is scheduled such that it would not coincide with the more sensitive period of reproduction, including nesting and brood-rearing, although it is likely that vehicle traffic will encounter birds through the fall and winter along the access road.

Increased traffic associated with this well would elevate factors that increase the risk of direct bird mortality (e.g., vehicle collisions). Efforts to reduce the risk of vehicle collisions and confining disturbances to least critical timeframes (see mitigation below) would minimize mortality and the short and longer term deterioration of habitat utility. Effectively implemented, these actions would reduce impacts to the Magnolia sage-grouse population to discountable levels.

It is not considered necessary to limit access to the well-site through the strutting period, since activity would be confined to an existing county road that was in place prior to the time of lek establishment and the well access is no closer than 0.6 mile from the lek site.

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: It is recommended that during construction, drilling, and completion operations associated with this well, the Cascade Gulch access route be used to the maximum extent possible. Necessary use of RBC 3 from Magnolia Camp east should strictly avoid the periods before 9:00 am and after 4:00 pm.

In those areas that are composed predominantly of shrubs, woody debris cleared from the road and pipeline corridor should be redistributed uniformly across the pipeline corridor after final recontouring and seeding operations are complete.

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 animals 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.

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

Affected Environment: There are no threatened or endangered or BLM sensitive plant species that are known to inhabit or derive potential habitat from the project area.

Environmental Consequences of the Proposed Action: No threatened, endangered or BLM sensitive plant species will be influenced by the proposed action.

Environmental Consequences of the No Action Alternative: None

Mitigation: None

Finding on the Public Land Health Standard for Threatened & Endangered species: No threatened, endangered or BLM sensitive plant species or associated potential habitat will be affected by the proposed action, therefore there will be no conceivable influence on the Public Land Health Standard.

WASTES, HAZARDOUS OR SOLID

Affected Environment: Fuels, oils, 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 are known to have been used, stored or disposed of at sites included in the project area.

Environmental Consequences of the Proposed Action: No listed or extremely hazardous materials in excess of threshold quantities are proposed for use in this project. While commercial preparations of fuels and lubricants proposed for use may contain some hazardous constituents, they would be stored, used and transported in a manner consistent with applicable laws, and the generation of hazardous wastes would not be anticipated. Solid wastes will be properly disposed of. Accidental spills or leaks associated with equipment failures, refueling or maintenance of equipment, and storage of fuel, oil, or other fluids could cause soil, surface water and/or groundwater contamination. With implementation of the mitigation measures described below, impacts would be low and temporary.

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

Mitigation: Construction sites and roadways shall be maintained in a sanitary condition at all times; waste materials at those sites shall be disposed of promptly at an appropriate waste disposal site. "Waste" means all discarded matter including, but not limited to, human waste, trash, garbage, refuse, oil drums, petroleum products, ashes, and equipment.

The holder(s) shall comply with all applicable Federal laws and regulations existing or hereafter enacted or promulgated. In any event, the holder(s) shall comply with the Toxic Substances Control Act of 1976, as amended (15 U.S.C. 2601, et seq.) with regard to any toxic substances that are used, generated by or stored on the right-of-way or on facilities authorized under this right-of-way grant. (See 40 CFR, Part 702-799 and especially, provisions on polychlorinated biphenyls, 40 CFR 761.1-761.193.) Additionally, any release of toxic substances (leaks, spills, etc.) in excess of the reportable quantity established by 40 CFR, Part 117 shall be reported as required by the Comprehensive Environmental Response, Compensation and Liability Act of

1980, Section 102b. A copy of any report required or requested by any Federal agency or State government as a result of a reportable release or spill of any toxic substances shall be furnished to the authorized officer concurrent with the filing of the reports to the involved Federal agency or State government.

The operator of lease #COC-061047 agrees to indemnify the United States against any liability arising from the release of any hazardous substance or hazardous waste (as these terms are defined in the Comprehensive Environmental Response, Compensation, and Liability Act of 1980, 42 U.S.C 9601, et.seq. or the Resource Conservation and Recovery Act of 1976, 42 U.S.C. 6901, et. seq.) on the right-of-way (unless the release or threatened release is wholly unrelated to the right-of-way holder's activity on the right-of-way). This agreement applies without regard to whether a release is caused by the holder, its agent, or unrelated third parties.

The operator shall submit its Spill Prevention Containment and Countermeasure (SPCC) plan to the authorized officer prior to scheduled start up.

If during any phase of the construction, operation, or termination of the pipeline or related facilities any oil or other pollutant should be discharged from the pipeline system, or from containers or vehicles impacting Federal lands, the control and total removal, disposal, and cleanup of such oil or other pollutant, wherever found, shall be the responsibility of the holder, regardless of fault. Upon failure of holder to control, cleanup, or dispose of such discharge on or affecting Federal lands, or to repair all damages to Federal lands resulting from, the authorized officer may take such measures as he deems necessary to control and cleanup the discharge and restore the area, including, where appropriate, the aquatic environment and fish and wildlife habitats, at the full expense of the holder. Such action by the authorized officer shall not relieve the holder of any liability or responsibility.

A release of any chemical, oil, petroleum product, produced water, or sewage, etc, (regardless of quantity) must be reported to the Bureau of Land Management – WRFO Hazardous Materials Coordinator, Tom Johnson at (970) 878-3800 or [Thomas L. Johnson@blm.gov](mailto:Thomas_L_Johnson@blm.gov). The Colorado Department of Public Health and Environment (CDPHE) should be notified, if applicable, through the 24-hour spill reporting line at 1 (877) 518-5608.

If the operator encounters any waste dump sites, on or adjacent to the project area, they must be reported to the BLM.

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

Affected Environment: The proposed action is located on the drainage divide between the Middle Piceance Creek and Lower Piceance Creek fifth level watersheds. The proposed well pad location, pipelines, and access road are all situated in stream segment 16 of the White River Basin. 6th and 7th level watersheds directly impacted by the proposed actions are Open Gulch and Dry Thirteenmile Creek. Open Gulch is an ephemeral tributary to Dry Thirteen Mile Gulch which is an ephemeral tributary to Piceance Creek. The White River is a tributary to the Green River (in Utah) which is a tributary to the Colorado River.

The “Status of Water Quality in Colorado –2006” (CDPHE 2006b) and Regulation No. 37 Classifications and Numeric Standards for Lower Colorado River Basin (CDPHE 2005a) were reviewed for information relating to drainages within the project area. Stream segment 16 of the White River Basin is defined as all tributaries to Piceance Creek, including all wetlands, lakes and reservoirs, from the source to the confluence with the White River, except for the specific listings in segments 17, 19, and 20. The State has classified stream segment 16 of the White River Basin as “Use Protected” and further designated as beneficial for the following uses: Warm Aquatic Life 2, Recreation 2, and Agriculture. The antidegradation review requirements in the Antidegradation Rule are not applicable to waters designated use-protected. For those waters, only the protection specified in each reach will apply. For this reach, minimum standards for four parameters have been listed. These parameters are: dissolved oxygen = 5.0 milligrams per liter (mg/l), pH = 6.5 - 9.0, and Fecal Coliform = 2,000/100 milliliters (ml) and 630/100 ml E. coli. Numeric standards for inorganic compounds and metals can be found within Regulation No. 37 Classifications and Numeric Standards for Lower Colorado River Basin (CDPHE 2005a).

Newly promulgated Colorado Regulations Nos. 93 and 94 (CDPHE 2006c and 2006d, respectively) were reviewed for information related to the proposed project area drainages. Regulation No. 93 is the State’s Section 303(d) list of water-quality-limited segments requiring Total Maximum Daily Loads (TMDLs). The 2006 303(d) list of segments needing development of TMDLs includes two segments within the White River - segment 9b, White River tributaries North and South Forks to Piceance Creek, specifically the Flag Creek portion (for impairment from selenium with a low priority for TMDL development) and segment 22, tributaries to the White River, Douglas Creek to the Colorado/Utah boarder, specifically West Evacuation Wash, and Douglas Creek (sediment impairments). Regulation 94 is the State’s list of water bodies identified for monitoring and evaluation, to assess water quality and determine if a need for TMDLs exists. The list includes two White River segments that are potentially impaired – 9 (Flag Creek) and 22 (Soldier Creek). Stream segment 16 was not listed.

Within the Piceance Creek drainage basin, the quality of the surface water and ground water are related, except during periods of extensive runoff due to storms and snowmelt, when streams are freshened. During other periods, approximately 80 percent of the annual flow of Piceance Creek originates as discharge from alluvial and bedrock aquifers. During steady-flow conditions on March 26, 1981, analysis of the major dissolved constituents at numerous sites in Piceance Creek generally indicated increases in the downstream direction. The concentrations of dissolved solids, bicarbonate, sulfate, and sodium increased due to the discharge of water from the bedrock aquifers to the stream valley and tributaries (Tobin, 1987).

Ground Water: Surface geologic formation at the proposed location is Tertiary in age (Uinta Formation) and consists primarily of interbedded sandstone and siltstone. A review of the US Geological Survey Ground Water Atlas of the United States (Topper et al., 2003) was done to assess ground water resources at the location of the proposed action. The proposed action is located in the Piceance Creek structural basin. Primary bedrock aquifers within the Piceance Basin are listed in table 1.

Table 1:

Summary of Hydrogeologic Units						
Hydrogeologic Unit	Stratigraphic Unit	Physical Description	Thickness	Hydraulic Conductivity	Yield	TDS
			(ft)	(ft/day)	(gpm)	mg/L
Upper Piceance Basin aquifer	Uinta Formation	sandstone, fractured siltstone, fractured marlstone	0 – 1,400	<0.2 to >1.6	1- 900	500-1,000
Mahogany confining unit	Green River Formation	dolomitic marlstone and shale	500-1,800	<0.01	<25	NL
Lower Piceance Basin aquifer	Green River Formation	shale, fine-grained sandstone, fractured marlstone	0 – 1,870	<0.1 to >1.2	1-1,000	1,000-10,000
Basal confining unit	Green River Formation, Wasatch Formation	claystone, siltstone, clay rich oil shale, marlstone, channel sandstone	0-6,800	<0.01	<10-100	NL
Fort Union aquifer	Fort Union Formation	Coarse-grained sandstone	Very thin	NL	NL	NL
Mesaverde aquifer	Mesaverde Group	sandstone interbedded shale and coal	Averages 3,000	0.0001-1.0	NL	NL
Mancos confining unit	Mancos Shale	mostly shale but Frontier Sandstone may be local aquifer	>7,000	NL	NL	NL
Abbreviations: ft = feet, approx = approximate, avg = average, gpm = gallons per minute, mg = milligrams, L = liters, and NL = not listed.						

Table information from Topper et al. (2003).

The water chemistry of the upper bedrock aquifers is dominated by dissolved calcium, magnesium, and bicarbonate along the rim of the basin; and by sodium, magnesium, bicarbonate, and sulfate in the central part of the basin. These constituents are characteristic of water in the upper aquifers, principally the Uinta Formation. Sodium and bicarbonate are the dominant dissolved constituents in the upper aquifers generally are lower than 1,000 milligrams per liter. Characteristic trace elements include strontium in concentrations of several milligrams per liter in the Uinta Formation, and fluoride in concentrations of greater than 1 milligram per liter in water samples from the lower part of the upper aquifers (Tobin, 1987).

Environmental Consequences of the Proposed Action: Surface Water: Clearing, grading, and soil stockpiling activities may temporarily alter overland flow and natural groundwater recharge patterns. Near-surface soil compaction caused by construction equipment and vehicles could reduce the soil’s ability to absorb water and could increase surface runoff, sedimentation and salt loading to surface waters in of the Colorado River System. The magnitude and duration of potential impacts to surface runoff and groundwater recharge would depend on soil depth, soil type, vegetation type and density, slope, aspect, erosive force of rainfall or surface runoff, and duration and extent of construction activities. Impacts would likely be greatest immediately following completion of construction activities and would likely decrease thereafter due to reclamation procedures.

Toxic metals and organic substances associated with fluid mineral development (such as substances found in produced water) that are relatively insoluble in water may be adsorbed on the surface of sediments and transported with sediment to surface waters further deteriorating water quality in the Colorado River System. In addition, spills or leaks of produced water or mechanical means of produced water evaporation which may result in overspray would result in increased salt deposits (notably sodium and chlorides). Salt deposition resulting from spills, leaks, or overspray may adversely impact the health of surrounding vegetation reducing effective ground cover and increasing the potential for soil erosion. In addition, salts deposits would likely be carried down gradient to surface waters of the Colorado River system deteriorating water quality.

Ground Water: In the event of any leaks or spills, local ground water may be adversely impacted as runoff could carry contaminants down gradient to alluvial/colluvial aquifers such as the Timber Gulch alluvium, which is situated down gradient from the proposed actions. Potential for ground water contamination in bedrock aquifers increases if fractures in confining units are formed. Hydraulic conductivity increases exponentially along fracture zones resulting in rapid transport of fluids/contaminants (e.g. drilling/fracturing fluids) in these areas. The upper and lower Piceance Basin aquifers have differing water qualities, mixing will degrade water quality in the upper aquifer which is generally of better quality. Storage or surface disposal methods (e.g. evaporation ponds) for produced water would also elevate potential for contaminating ground water in local shallow colluvial/alluvial aquifers, Upper Piceance Basin Aquifer, and Piceance Creek Alluvial Aquifer.

Environmental Consequences of the No Action Alternative: Potential adverse environmental impacts resulting from energy development at the proposed location would not occur.

Mitigation: All surface disturbing activities on BLM administered lands will strictly adhere to “Gold Book” (fourth edition) surface operating standards for oil and gas exploration and development (copies of the “Gold Book” can be obtained at the WRFO). Corrugated metal pipes (CMPs) and drainage dips shall be located in such a manner as to avoid discharge onto unstable terrain such as headwalls or slumps. CMPs are not recommended on roads that have gradients less than 10 percent. Based on the nature of the affected soils, drain dips will be utilized in place of CMPs in these locations. The use of drain dips on road gradients greater than 10 percent should be avoided. Energy dissipaters such as large gravels/small cobbles will be used at culvert and drainage dip inlets/outlets to minimize additional erosion. To mitigate water being channelized down the roadway, all activity will stop when soils or road surfaces become saturated to a depth of three inches. Mud blading will be prohibited in attempts to reduce further soil displacement (unless otherwise approved by the BLM).

The operator will consult with the State of Colorado Water Quality Control Division (contact Matt Czahor at: 303-692-3575 or matthew.czahor@state.co.us) regarding Stormwater Discharge Permits prior to commencing construction activities. All construction activities that disturb one acre or greater require a Stormwater Discharge Permit. Written documentation to the BLM Authorized Officer is required prior to the start of construction to indicate that appropriate permits have been obtained. XTO has filed a General Permit Application with the Colorado

Department of Public Health and Environment (CDPHE) to permit stormwater discharges associated with construction of well pads, access roads, pipelines, storage areas and related disturbances. This permit was approved, assigned certification number COR-038830, and is on file at the BLM-WRFO. The stormwater management plan (SWMP) contains an appendix for each site, one acre or more, where surface disturbance is required that will outline additional site specific mitigation measures aimed at minimizing the impacts of stormwater runoff. For further information contact the WRFO Hydrologist at 970-878-3800 or the appropriate documents may be faxed (970-878-3805), or mailed to WRFO Hydrologist at the White River Field Office.

To mitigate additional soil erosion at the well pad and potential increased sediment and salt loading to nearby surface waters, all disturbed areas affected by drilling or subsequent operations, except areas reasonably needed for production operations, shall be reclaimed as early and as nearly as practicable to their original condition and shall be maintained to control dust and minimize erosion. To allow optimal opportunity for interim reclamation of well pads, all tanks and production facilities will be situated on the access road side of the well pad (unless otherwise approved by the WRFO-BLM Field Manager). Reclamation efforts on all pipelines will be final. Interim reclamation of well pads and final reclamation of pipeline right of ways (ROW) will commence as follows:

- Debris and waste materials other than de minimus amounts, including, but not limited to, concrete, sack bentonite and other drilling mud additives, sand, plastic, pipe and cable, as well as equipment associated with the drilling, re-entry or completion operations shall be removed.
- Stockpiled topsoil and spoil piles will be separated and clearly labeled to prevent mixing during reclamation efforts.
- Stockpiled topsoil will be seeded with a BLM approved seed mixture. Topsoil stockpiles that will potentially remain in place for extended periods of time (e.g. multi-well locations) will be covered with biodegradable fabrics such as (but not limited to) jute netting or Curlex and seeded with the appropriated seed mixture.
- Stockpiled topsoil segregated from spoil piles will be replaced during reclamation in its respective original position (last out, first in) to minimize mixing of soil horizons.
- Stockpiled soils (spoil and topsoil) will be pulled back over all disturbed surfaces affected by pipeline/road construction, drilling or subsequent operations, except areas reasonably needed for production operations. Areas on *well pads* not needed for production operations shall be partially reshaped as early and as nearly as practicable to near pre-construction contours. Pipelines will be recontoured to pre-construction contours as soon as construction activities cease.
- The operator will ensure stockpiled topsoil is evenly distributed over the **top** of spoil used in recontouring/partial-reshaping efforts.
- Recontoured/partially-reshaped areas will be seeded with a BLM-approved seed mixture. For slopes greater than or equal to 15%, mechanical methods (e.g., biodegradable fabrics, sterile straw mulch, hydromulching) to stabilize reclaimed slopes will be implemented in order to achieve soil moisture retention, promote desired vegetative growth, and protect soils from eolian processes. Reseeding alone will not qualify.
- Following seeding and placement of biodegradable fabrics, woody debris cleared during initial construction will be pulled back over the recontoured/partially-reshaped areas to act as flow deflectors and sediment traps.

- The operator will be responsible for excluding livestock grazing from all reclaimed portions of *well pads*. To eliminate livestock utilization of reclaimed areas prior to successful reclamation, a 4-strand BLM Type-D barbed wire fence with braced wooden corners or net wire fence brought to the ground surface built to BLM specifications will be constructed around all reclaimed portions of the well pad including cut and fill slopes immediately after interim reclamation is concluded (within 2 weeks) unless otherwise instructed by the BLM. A BLM specified cattleguard will be placed at the time of fence construction where the well access road bisects the fenceline that surrounds the well pad's disturbance imprint. Once reclaimed plant species are fully established on disturbed sites as determined by the BLM (e.g. Desired Plant Community (DPC), Public Land Health Standards), the fence and cattle guard will be completely removed by the applicant after a minimum of two growing seasons. This will allow for reclaimed plant species to establish without grazing pressure from livestock.
- The operator will be responsible for achieving a reclamation success rate for interim reclamation and final abandonment of sufficient vegetative ground cover from reclaimed plant species within three growing seasons after the application of seed. Additional reclamation efforts will be undertaken at the operators expense if: after the first growing season there is no positive indicators of successful establishment of seeded species (e.g. germination); after the second year seeded species are not yet established (e.g. producing seed); and after the third growing season seeded vegetative communities lack persistence (e.g. reproductively capable of enduring drought conditions and sustaining the seeded community). Following the third growing season, ground cover of reclaimed seed species shall be at a Desired Plant Community (DPC) in relation to the seed mix as deemed appropriate by the BLM. Reclamation achievement will be evaluated using the Public Land Health Standards that include indicators of rangeland health. Rehabilitation efforts must be repeated if it is concluded that the success rate is below an acceptable level as determined by the BLM.
- A Reclamation Status Report will be submitted to the WRFO biannually for all actions that require disturbance of surface soils on BLM-administered lands as a result of the proposed action. Actions may include, but are not limited to, well pad and road construction, construction of ancillary facilities, or power line and pipeline construction. The Reclamation Status Report will be submitted by 15 April and 15 August of each calendar year, and will include the well number, 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).

Upon final abandonment of the well pad, new access road, and completion of pipelines, 100% of all disturbed surfaces will be restored to pre-construction contours, and revegetated with a BLM preferred seed mixture. Natural drainage patterns will be restored and stabilized with a combination of vegetative (seeding) and non-vegetative (straw bails, woody debris, straw

waddles, biodegradable fabrics...) techniques. All available woody debris will be pulled back over recontoured areas (woody debris will not account for more than 20% of total surface cover) to help stabilize soils, trap moisture, and provide cover for vegetation. Monitoring and additional reclamation efforts will persist until reclamation is proven successful (as determined by the BLM).

Finding on the Public Land Health Standard for water quality: Stream segment 16 of the White River Basin currently meets water quality standards set by the state. However, many of the upper tributaries are ephemeral, flow only in direct response to storm events/snowmelt and do not meet the standards during periods of flow. By following all suggested mitigation measures, water quality in the affected stream segment should continue to meet standards.

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

Affected Environment: The closest channel supporting riparian vegetation is Dry Thirteenmile Creek which is separated from the project area by approximately two miles of overland or ephemeral channel.

Environmental Consequences of the Proposed Action: This project is situated just off a gentle-gradient ridge separated from the nearest riparian community by two miles of overland flow and ephemeral channel. Pad and road construction would have no direct impact on aquatic habitats. With the application of best management practices (BMPs) associated with soil erosion there is no reasonable likelihood that fugitive sediments would have any influence on the function or condition of the Dry Thirteenmile Creek or its associated riparian value.

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 riparian systems: The riparian zones along Thirteenmile Creek are currently meeting the Land Health Standards for a riparian system. Pad, pipeline, and road construction would have no direct impact on riparian/wetland 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 Dry Fork channel or its associated riparian resources.

CRITICAL ELEMENTS NOT PRESENT OR NOT AFFECTED:

No ACECs, 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 (includes a finding on Standard 1)

Affected Environment: The following data is a product of an order III soil survey conducted by the Natural Resources Conservation Service (NRCS) in Rio Blanco County, CO. Table 2 highlights important soil characteristics. A complete summary of this information can be found at the White River Field Office.

Table 2:

Soil Number	Soil Name	Slope	Affected Acres w/in 30 m	Ecological site	Salinity	Run Off	Erosion Potential	Bedrock
42	Irigul channery loam	5-50%	14.45	Loamy Slopes	<2	Med to rapid	Very high	10-20
43	Irigul-Parachute complex	12-45% 5-30%	34.43	Loamy Slopes/Mountain Loam	<2	Rapid	Slight to high	10-20
58	Parachute Loam	25-75%	2.08	Brushy Loam	<2	Med	Very high	20-40

42-Irigul channery loam (5 to 50 percent slopes) is a shallow, well drained soil located on ridges and mountainsides. It formed in residuum derived from sandstone and hard shale. The native vegetation is mainly grasses and shrubs. Elevation is 7,600 to 8,700 feet. The average annual precipitation is 18 to 22 inches, the average annual air temperature is 37 to 39 degrees F, and the average frost-free period is 45 to 75 days. Typically, the surface layer is grayish brown channery loam 5 inches thick. The underlying material is brown extremely channery loam 7 inches thick. Hard sandstone is at a depth of 12 inches. Depth to hard sandstone or shale is 10 to 20 inches. Permeability of this Irigul soil is moderate. Available water capacity is very low. Effective rooting depth is 10 to 20 inches. Runoff is medium to rapid, and the hazard of water erosion is very high.

43-Irigul-Parachute complex (5 to 30 percent slopes) is found primarily on ridges and mountainsides. The native vegetation is mainly grasses and shrubs. Elevation is 7,600 to 8,500 feet. The average annual precipitation is 18 to 22 inches, the average annual air temperature is 37 to 39 degrees F, and the average frost-free period is 45 to 75 days. This unit is 60 percent Irigul channery loam and 30 percent Parachute loam. The Irigul soil is mainly in convex areas, and the Parachute soil is in slightly concave areas. The Irigul soil is shallow and well drained. It formed in residuum derived from sandstone and hard shale. Typically, the surface layer is grayish brown channery loam 5 inches thick. The underlying material is brown extremely channery loam 7 inches thick. Hard sandstone is at a depth of 12 inches. Depth to hard sandstone or shale is 10 to 20 inches.

Permeability of the Irigul soil is moderate. Available water capacity is very low. Effective rooting depth is 10 to 20 inches. Runoff is medium to rapid, and the hazard of water erosion is very high.

The Parachute soil is moderately deep and well drained. It formed in residuum derived dominantly from sandstone. Typically, the surface layer is grayish brown loam 4 inches thick. The upper 20 inches of the subsoil is grayish brown loam channery loam, and the lower 8 inches is pale brown extremely channery sandy loam 6 inches thick. Sandstone is at a depth of 38 inches. Depth to sandstone or shale ranges from 20 to 40 inches.

Permeability of the Parachute soil is moderate. Available water capacity is low. Effective rooting depth is 20 to 40 inches. Runoff is medium, and the hazard of water erosion is moderate to very high.

58-Parachute loam (25 to 75 percent slopes) is a moderately deep, well drained soil found on ridges and mountainsides. It formed in residuum derived dominantly from sandstone. Slopes generally face north. The native vegetation is mainly brush and grasses. Elevation is 7,500 to 8,700 feet. The average annual precipitation is 18 to 22 inches, the average annual air temperature is 37 to 39 degrees F, and the average frost-free period is 45 to 75 days. Typically, the surface layer is grayish brown loam 4 inches thick. The upper 10 inches of the subsoil is loam, and the lower 10 inches is channery loam. The next layer is very channery loam 8 inches thick. The substratum is extremely channery sandy loam 6 inches thick. Fractured sandstone is at a depth of 38 inches. Depth to sandstone ranges from 20 to 40 inches. Permeability of the Parachute soil is moderate. Available water capacity is low. Effective rooting depth is 20 to 40 inches. Runoff is medium, and the hazard of water erosion is very high.

Environmental Consequences of the Proposed Action: Clearing and grading of well pads, pipeline right of ways and access road will remove protective vegetative cover from the affected soils accelerating the erosion process. New surface disturbing activities may also introduce noxious and invasive plant species which lack appropriate soil stabilizing characteristics promoting increased soil erosion. Grading, trenching, and backfilling activities could cause mixing of the soil horizons and could result in reduced soil fertility reducing revegetation potential. Water erosion of soils associated with construction activities (rutting of roads, etc...) will likely result in a net loss of valuable topsoil by sheet, rill, and gully erosion. Eroded topsoil and subsoil may increase salt loading and sedimentation to surface waters down gradient disturbed areas. Increased sedimentation/salt loads could adversely impact water quality and aquatic life.

Unauthorized use of newly constructed access roads during wet conditions will deteriorate road surfaces decreasing effectiveness of drainage structures. Improper design/drainage from newly constructed access roads will result in elevated erosion rates down gradient and complicate reclamation efforts.

Any leaks or spills of environmentally unfriendly substances (e.g. diesel fuel, fracturing fluids, produced water...) could compromise the productivity of affected soils. Decreased soil productivity will hinder reclamation efforts and leave soils further exposed to erosional processes.

Environmental Consequences of the No Action Alternative: Potential adverse environmental impacts resulting from energy development at the proposed location would not occur.

Mitigation: Mitigate soil loss from roadway and surrounding area by restricting road access to authorized personal only. The operator will be responsible for segregating topsoil material and backfilling of topsoil in its respective original position (last out, first in) to assist in the reestablishment of soil health and productivity. Erosion and sediment control measures will be installed on all slopes exceeding five percent to mitigate soil loss. Erosion and sediment control measures will be maintained until upland areas are stabilized.

Mud blading will be prohibited and all activity shall cease when soils or road surfaces become saturated to a depth of three inches (on BLM administered lands) unless otherwise approved by the AO. All disturbed surfaces will be restored to natural contours and revegetated with a BLM approved seed mixture. Interim reclamation will follow the mitigation outlined in the Water Quality portion of this document. All pits shall be lined to prevent contents from reserve pits from seeping into surrounding soils, contaminating local ground water, reducing soil productivity and compromising reclamation success.

Finding on the Public Land Health Standard for upland soils: Soils in the vicinity of the proposed action currently are meeting the standards. By following all suggested mitigation techniques and reclamation procedures, soil health should remain unchanged from current conditions.

VEGETATION (includes a finding on Standard 3)

Affected Environment: The proposed action will take place in a mid elevation mixed mountain shrub vegetation type. The corresponding ecological site is Loamy slopes. The dominant vegetation aspect is Utah serviceberry /mountain big sagebrush with scattered mottes of Gambel Oak. There is a diverse understory of grasses and forbs.

Environmental Consequences of the Proposed Action: Two primary negative impacts will/could occur as a result of access road, pad and pipeline construction; 1) The 12 acres disturbed as a result of pipeline, access road and pad construction will accelerate the process of plant community fragmentation which is presently occurring on the area east at the head of the Dry fork watershed in the eastern part of Piceance Basin. This impact is unmitigated in the short term and likely, longer. In terms of plant community composition, structure and function, the principal negative impact over the long term would occur if cheatgrass or noxious weeds are allowed to establish and proliferate on the disturbed areas resulting from well location, pipeline and access road construction. Drilling multiple wells from a single pad, while limiting disturbance and plant community fragmentation over both the short and long term, will not completely mitigate the negative impact of the proposed action upon native plant communities. In this instance, XTO has not indicated whether they will drill multiple wells from this location

which is in important consideration in determining the cumulative impacts of oil and gas development in this watershed.

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

Mitigation: Promptly revegetate all disturbed areas not necessary for production on the access road, pipeline and location including roadside and pad cut and fill slopes with Native Seed mix #2. Revegetation will commence immediately after construction and will not be delayed until the following fall. Debris will not be scattered on the pipeline until after seeding operations are completed. Seed mixture rates are Pure Live Seed (PLS) pounds per acre. Drill seeding is the preferred method of application.

Seed Mix #	Species (Variety)	Lbs. PLS per Acre	Ecological Sites
2	Western wheatgrass (Rosanna)	2	Deep Loam, Loamy
	Indian ricegrass (Rimrock)	1	10"-14", Loamy
	Bluebunch wheatgrass (Whitmar)	2	Breaks, Loamy
	Thickspike wheatgrass (Critana)	1	Slopes, Rolling Loam,
	Letterman needlegrass	1	Valley Bench
	Globemallow*	0.5	
	Alternates: for*; Utah sweetvetch, balsamroot, American vetch		

All roadside and well location cut and fill slopes will be revegetated immediately after construction with the seed mixture(s) specified in the conditions of approval. Such revegetation will be either temporary or permanent.

Revegetation operations will start immediately following the completion of recontouring/dirt work operations.

If construction/development occurs between April 15 and November 15, the operator will be required to water or surface access roads to reduce airborne dust and damage to roadside vegetation communities

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

WILDLIFE, AQUATIC (includes a finding on Standard 3)

Affected Environment: This pad is separated from the nearest perennial reach (Dry Thirteenmile Creek) by approximately two miles. Thirteenmile Creek supports sporadic flows and a simple invertebrate community. Piceance Creek, a perennial stream that is heavily influenced by seasonal irrigation drawdown, is the nearest system that supports a vertebrate community (e.g., small discontinuous populations of leopard frog, speckled dace, and flannel-

mouthing sucker). Piceance Creek is separated from the proposed action by about 6 miles with the nearest BLM-administered reach just under one mile downstream of this point.

Environmental Consequences of the Proposed Action: This project is situated just off a gentle-gradient ridge separated from the nearest aquatic system by two miles of overland flow and ephemeral channel. Pad and road construction would have no direct impact on aquatic habitats. With the application of best management practices (BMPs) associated with soil erosion there is no reasonable likelihood that fugitive sediments would have any influence on the function or condition of the Dry Thirteenmile or Piceance Creek channels or their associated aquatic values.

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 Public Land Health Standards are not applicable to downstream reaches that support prolonged intermittent or perennial flows since they are substantially private or State-owned. The nearest BLM-administered reach is nearly 7 miles downstream. Neither the proposed or no-action alternative would have any reasonable potential to influence the function or condition of subtending channels or their aquatic habitat values

WILDLIFE, TERRESTRIAL (includes a finding on Standard 3)

Affected Environment: The location itself is partially situated on an abandoned pad with nearly all of the access following an existing two-track. The sagebrush/ mountain shrub dominated mid-elevation slopes surrounding the project are categorized by the Colorado Division of Wildlife as big game winter range. These ranges are used extensively by deer and elk from September through December and again in April and May. Although the project area is used primarily during seasonal migration and the early winter months, smaller numbers of deer and elk summer across the project area in mesic draws.

There is no potential raptor nesting habitat (e.g., pinyon-juniper/aspen woodlands or rock outcrops) in the vicinity of the project area.

Non-game wildlife using this area are typical and widely distributed in extensive like habitats across the Resource Area and northwest Colorado; there are no narrowly endemic or highly specialized species known to inhabit those lands potentially influenced by this action.

Environmental Consequences of the Proposed Action: The proposed action represents an incremental reduction in big game winter range. Approximately 2000 feet (~ 2.5 acres) of new access road will be required for pad access. While this does not add substantively to road density in this area, increasing frequency of use would expand the extent of avoidance-related effects (i.e., behavioral avoidance and habitat disuse; increased energetic demands). Localized road

density is currently about 3.8 miles per square mile, well exceeding the White River ROD/RMP density objective of 3 miles per square mile established for big game winter ranges in the White River ROD/RMP. Because of the existing road network in this area, it is not feasible to mitigate the adverse effects of roads on big game habitat utility through gating. The only means of regulating vehicular use on this access is through the cooperation of the private landowner in section 15, in which case effective gating at the mouth of the draw (center of section 21) would reduce effective habitat loss to minor proportions.

The long-term occupation of about 12 acres of foraging area (pad and access road) would have negligible influence on big game forage availability, with the herbaceous component ultimately offset by reclamation.

Environmental Consequences of the No Action Alternative: There would be no action authorized that would have potential to affect resident wildlife populations or associated habitat.

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).

In the event newly constructed access roads on BLM surface are no longer needed for well maintenance or development (i.e., all roadbeds beyond well pad in southwest quarter of section 21), the roads will be recontoured to original grade (i.e., cuts and fills not merely reduced as in the Conditions of Approval) prior to reclamation and subsequent vehicle use effectively precluded.

Finding on the Public Land Health Standard for plant and animal communities (partial, see also Vegetation and Wildlife, Aquatic): On a landscape scale, the project area meets the public land health standards for terrestrial animal communities. The proposed action is considered an incremental addition to those lands dedicated to mineral development, but would not detract appreciably from continued meeting of the land health standard at the landscape scale.

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		

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

ACCESS AND TRANSPORTATION

Affected Environment: Proposed action will impact Rio Blanco County (RBC) roads 5 and 3 as well as BLM roads 1161 and 1162 in addition to several unnumbered unnamed two-track routes. An upgrade indicates an existing route (typically 10-15 feet in width) persists but will need considerable upgrading in width (30 feet) to be used safely.

Environmental Consequences of the Proposed Action: Nearly 1 mile of new/upgraded roads will be produced by this proposed action and of that approximately 1 mile will be constructed in Open Seasonally travel management areas. 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.

Environmental Consequences of the No Action Alternative: No new roads would be upgraded or constructed.

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

GEOLOGY AND MINERALS

Affected Environment: The proposed well pad is located on Lease COC-61047 in the easternmost part of the Piceance Creek drainage basin. Physiographically, the proposed well pad is located on a ridge at the head of a side drainage of Rough Gulch, a north-south trending drainage which empties into Thirteen Mile Creek (a major tributary of the southern Piceance Creek drainage system). The project is geologically positioned along the eastern boundary of the

Mesaverde gas play area, about two miles east of the ExxonMobil's Piceance Creek Oil and Gas Unit and roughly two miles west of the Grand Hogback monocline. The surface geologic formation at the proposed site is the Uinta Formation, consisting predominantly of sandstones and siltstones of Eocene age (Tweto, 1979). XTO's targeted zone is the Mesaverde formation. Significant subsurface mineral resources that probably underlie the Uinta Formation in the immediate vicinity include coal, oil shale, oil, and gas. According to the White River ROD/RMP, Lease COC-61047 is within an area open to oil and gas mineral extraction activity only - multi-mineral, oil shale, and sodium leasing is not available in the immediate vicinity. Lastly, there are no regions of fragile soils or excessive slopes associated with the project location specified in XTO's proposal.

Environmental Consequences of the Proposed Action: Drilling and completion of this well may adversely affect aquifers in the area if there is loss of circulation or problems cementing the casing. However, the cementing and completion procedure of the proposed well is designed to isolate the hydrocarbon-bearing formations and prevent the migration of fluids between formations. Production of the well will deplete the hydrocarbon resources of the targeted formation, although the proposed activities may limit future development of other subsurface minerals on the lease, particularly oil shale resources of the Eocene Green River Formation and coal deposits of the Mesaverde Group. Conventional recovery of the coal resources, however, is not considered feasible because these deposits occur at depths greater than 10,000 feet TVD below the surface.

Environmental Consequences of the No Action Alternative: Hydrocarbon resources would not be produced and royalty revenues would not be generated at this time.

Mitigation: None

PALEONTOLOGY

Affected Environment: Proposed 2S-95-14-14AP well pad, access route and well tie pipeline: The proposed well pad, access road and well tie pipeline are located in an area generally mapped as the Uinta Formation (Tweto 1979) which the WRFO. BLM has classified as a Condition I formation meaning it is known to produce scientifically important fossil remains.

Environmental Consequences of the Proposed Action: If it becomes necessary to excavate into the underlying rock formation to construct the road, level the well pad, excavate the reserve/blooiie pit or bury the well tie pipeline there is a potential to impact scientifically important fossil resources.

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

Mitigation: 1. The operator is responsible for informing all persons who are associated with the project operations that they will be subject to prosecution for knowingly disturbing paleontological sites, or for collecting fossils. If fossil materials are uncovered during any

project or construction activities, the operator is to immediately stop activities in the immediate area of the find that might further disturb such materials, and immediately contact the authorized officer (AO). Within five working days the AO will inform the operator as to:

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

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

RANGELAND MANAGEMENT

Affected Environment: The proposed action is within the Hyberger allotment (06009) which is permitted to the Buckles Ranch (Chad and Eleanor Carter) as follows:

Livestock		Period of Use	Percent Public Land	Public Acres	Authorized Use (AUM)	Minimum Rest Requirement	Mgmt Cat.
No.	Kind						
70	C	06/01-10/31	100	1873	352	04/10-06/10 Yearly 06/10-07/15 1 in 2	I

Environmental Consequences of the Proposed Action: The proposed action will disturb approximately 12 acres, resulting in the long term loss of 2 AUMs of livestock forage and an additional 2 AUMs of forage due to dust damage to vegetation.

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

Mitigation: A 20 foot cattle guard with a gate next to it will be installed where the access road crosses the Reed Place/Hyberger allotment boundary fence in NENE Sec 15 T 2 S R 95 W. This cattleguard will be built and installed to BLM specifications which will be included in approval of this APD.

This cattleguard is to be installed during access road construction and *prior to* location construction. Pipeline work along the existing allotment boundary fence will be completed in such a manner that it does not negatively affect the function of the existing fence.

REALTY AUTHORIZATIONS

Affected Environment: The proposed action is located in the same area and on the same lease, COC61047, as existing actions. COC69027, 69028, and 69597 authorize the off-lease portions of the access road, gas pipeline, and water pipeline ROWs for other XTO wells. There

has been little development in the area other than by the applicant and the records do not show any other linear or facility ROWs.

Environmental Consequences of the Proposed Action: Off-lease ROWs are in place and the proposed additions are all on-lease.

Environmental Consequences of the No Action Alternative: none

Mitigation: none

RECREATION

Affected Environment: The proposed action occurs within the White River Extensive Recreation Management Area (ERMA). BLM custodially manages the ERMA to provide for unstructured recreation activities such as hunting, dispersed camping, hiking, horseback riding, wildlife viewing and off-highway vehicle use.

The project area has been delineated a Recreation Opportunity Spectrum (ROS) class of Semi-Primitive Motorized (SPM). SPM physical and social recreation setting is typically characterized by a natural appearing environment with few administrative controls, low interaction between users but evidence of other users may be present. SPM recreation experience is characterized by a high probability of isolation from the sights and sounds of humans that offers an environment that offers challenge and risk.

Environmental Consequences of the Proposed Action: The public will lose approximately 12 acres of dispersed recreation potential while wells are in operation. The public will most likely not recreate in the vicinity of these facilities and will be dispersed elsewhere. If action coincides with hunting seasons (September through November) it will most likely disrupt the experience sought by those recreationists.

With the introduction of new well pads and roads, an increase of traffic could be expected increasing the likelihood of human interactions, the sights and sounds associated with the human environment and a less naturally appearing environment.

Environmental Consequences of the No Action Alternative: No loss of dispersed recreation potential and no impact to hunting recreationists.

Mitigation: None.

VISUAL RESOURCES

Affected Environment: The proposed action would be located in an area with a VRM III classification. The objective of this class is to partially retain the existing character of the landscape. The level of change to the characteristic landscape should be moderate. Management

activities may attract attention but should not dominate the view of the casual observer. Changes should repeat the basic elements found in the predominant natural features of the characteristic landscape.

Environmental Consequences of the Proposed Action: The well pad would be located in a bowl surrounded by a ridge line, and not visible from RBC 5 or RBC 3, which would be the routes traveled by a casual observer. A rancher or seasonal big game hunters in the immediate area would be the most likely persons, other than energy related activity, to view the proposed action. The well pad would be located in serviceberry/sagebrush with pinyon/juniper trees in the immediate background. Any above ground production facilities should be painted Juniper Green to blend with and mimic the surrounding and closely occurring vegetation types. The level of change to the characteristic landscape would be low and the objectives of the VRM III classification would be retained.

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

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

CUMULATIVE IMPACTS SUMMARY: Cumulative impacts from oil and gas development were analyzed in the White River Resource Area PRMP/FEIS. Current development, including the actions proposed in this EA, has not exceeded the foreseeable development analyzed in the PRMP/FEIS.

REFERENCES CITED:

Reed, Karen and Heidi Guy Hayes

2006 Cultural Resource Inventory of the Proposed XTO Federal Wells 2S-95-15-42BP, 2S-95-16-24AP, and 2S-95-14-14AP Rio Blanco County, Colorado. SWCA Environmental Consultants, Broomfield, Colorado.

Tweto, Ogden

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

PERSONS / AGENCIES CONSULTED: None

INTERDISCIPLINARY REVIEW:

Name	Title	Area of Responsibility
------	-------	------------------------

Name	Title	Area of Responsibility
Caroline Hollowed	Hydrologist, P & EC	Air Quality, Water Quality, Surface and Ground Hydrology and Water Rights, Soils
Ken Holsinger	Botanist	Areas of Critical Environmental Concern, Threatened and Endangered Plant Species
Michael Selle	Archeologist	Cultural Resources, Paleontological Resources
Mark Hafkenschiel	Rangeland Management Specialist	Invasive, Non-Native Species, Vegetation , Rangeland Management
Lisa Belmonte	Wildlife Biologist	Migratory Birds, Threatened, Endangered and Sensitive Animal Species, Wildlife, Wildlife Terrestrial and Aquatic, Wetlands and Riparian Zones
Tom Johnson	Hydrologist	Wastes, Hazardous or Solid, s
Chris Ham	Outdoor Recreation Planner	Wilderness, Access and Transportation, Recreation,
Ken Holsinger	Botanist	Fire Management
Ken Holsinger	Botanist	Forest Management
Paul Daggett	Mining Engineer	Geology and Minerals
Linda Jones	Realty Specialist	Realty Authorizations
Keith Whitaker	Natural Resource Specialist	Visual Resources
Melissa J. Kindall	Range Technician	Wild Horse

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

CO-110-2007-163-EA

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

DECISION/RATIONALE: It is my decision to approve development of the proposed well #2S-95-14-14AP, new access road, upgrade of existing two track road, and the buried pipeline with an adjacent production pad as described in the proposed action with the mitigation listed below. The proposed action, with the following mitigation, are in concert with the objectives of the White River ROD/RMP in that they would allow development of federal oil and gas resources in a manner that provides reasonable protection for other resource values. Protection for other resource values will be assured by implementation of the mitigation measures described below and attached to the APDs as Conditions of Approval.

MITIGATION MEASURES:

1. The operator will be responsible for complying with all local, state, and federal air quality regulations as well as providing documentation to the BLM that they have done so. To minimize production of fugitive particulate matter (fugitive dust) from associated access roads, vehicle speeds must not exceed 15 mph *or* dust plume must not be visible at appropriate designated speeds for road design. In addition, the application of a BLM approved dust suppressant (e.g. water or chemical stabilization methods) will be required during dry periods when dust plumes are visible at speeds less than or equal to 15 mph. Surfacing access roads with gravels will also help mitigate production of fugitive particulate matter. Land clearing, grading, earth moving or excavation activities will be suspended when wind speeds exceed a sustained velocity of 20 miles per hour. Disturbed areas will be restored to original contours, and revegetated with a BLM preferred seed mixture. Following seeding, woody debris cleared from the ROW will be pulled back over the pipeline to increase effective ground cover and help retain soil moisture.
2. Construction equipment will be maintained in good operating condition to ensure that engines are running efficiently. Vehicles and construction equipment with emission controls will also be maintained to ensure effective pollutant emission reductions.
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.

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.

4. Promptly revegetate all disturbed areas not necessary for production including pad and access road cut and fill slopes with Native Seed mix #2 (see Vegetation). The operator will be required to monitor the project area for the life of the project and eradicate all noxious and invasive species which occur on site using materials and methods approved in advance by the Authorized Officer.

5. 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, the use of bird-balls, 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 activities have begun. All lethal and non-lethal events that involve migratory birds will be reported to the Petroleum Engineer Technician immediately.

6. It is recommended that during construction, drilling, and completion operations associated with this well, the Cascade Gulch access route be used to the maximum extent possible. Necessary use of RBC 3 from Magnolia Camp east should strictly avoid the periods before 9:00 am and after 4:00 pm.

7. In those areas that are composed predominantly of shrubs, woody debris cleared from the road and pipeline corridor should be redistributed uniformly across the pipeline corridor after final recontouring and seeding operations are complete.

8. Construction sites and roadways shall be maintained in a sanitary condition at all times; waste materials at those sites shall be disposed of promptly at an appropriate waste disposal site. "Waste" means all discarded matter including, but not limited to, human waste, trash, garbage, refuse, oil drums, petroleum products, ashes, and equipment.

9. The holder(s) shall comply with all applicable Federal laws and regulations existing or hereafter enacted or promulgated. In any event, the holder(s) shall comply with the Toxic Substances Control Act of 1976, as amended (15 U.S.C. 2601, et seq.) with regard to any toxic substances that are used, generated by or stored on the right-of-way or on facilities authorized under this right-of-way grant. (See 40 CFR, Part 702-799 and especially, provisions on polychlorinated biphenyls, 40 CFR 761.1-761.193.) Additionally, any release of toxic substances (leaks, spills, etc.) in excess of the reportable quantity established by 40 CFR, Part 117 shall be reported as required by the Comprehensive Environmental Response, Compensation and Liability Act of 1980, Section 102b. A copy of any report required or requested by any Federal agency or State government as a result of a reportable release or spill of any toxic substances shall be furnished to the authorized officer concurrent with the filing of the reports to the involved Federal agency or State government.

10. The operator of lease #COC-061047 agrees to indemnify the United States against any liability arising from the release of any hazardous substance or hazardous waste (as these terms are defined in the Comprehensive Environmental Response, Compensation, and Liability Act of 1980, 42 U.S.C 9601, et seq. or the Resource Conservation and Recovery Act of 1976, 42 U.S.C. 6901, et seq.) on the right-of-way (unless the release or threatened release is wholly unrelated to the right-of-way holder's activity on the right-of-way). This agreement applies without regard to whether a release is caused by the holder, its agent, or unrelated third parties.

11. The operator shall submit its Spill Prevention Containment and Countermeasure (SPCC) plan to the authorized officer prior to scheduled start up.

12. If during any phase of the construction, operation, or termination of the pipeline or related facilities any oil or other pollutant should be discharged from the pipeline system, or from containers or vehicles impacting Federal lands, the control and total removal, disposal, and cleanup of such oil or other pollutant, wherever found, shall be the responsibility of the holder, regardless of fault. Upon failure of holder to control, cleanup, or dispose of such discharge on or affecting Federal lands, or to repair all damages to Federal lands resulting from, the authorized officer may take such measures as he deems necessary to control and cleanup the discharge and restore the area, including, where appropriate, the aquatic environment and fish and wildlife habitats, at the full expense of the holder. Such action by the authorized officer shall not relieve the holder of any liability or responsibility.

13. A release of any chemical, oil, petroleum product, produced water, or sewage, etc, (regardless of quantity) must be reported to the Bureau of Land Management – WRFO

Hazardous Materials Coordinator, Tom Johnson at (970) 878-3800 or Thomas_L_Johnson@blm.gov. The Colorado Department of Public Health and Environment (CDPHE) should be notified, if applicable, through the 24-hour spill reporting line at 1 (877) 518-5608.

14. If the operator encounters any waste dump sites, on or adjacent to the project area, they must be reported to the BLM.

15. All surface disturbing activities on BLM administered lands will strictly adhere to “Gold Book” (fourth edition) surface operating standards for oil and gas exploration and development (copies of the “Gold Book” can be obtained at the WRFO). Corrugated metal pipes (CMPs) and drainage dips shall be located in such a manner as to avoid discharge onto unstable terrain such as headwalls or slumps. CMPs are not recommended on roads that have gradients less than 10 percent. Based on the nature of the affected soils, drain dips will be utilized in place of CMPs in these locations. The use of drain dips on road gradients greater than 10 percent should be avoided. Energy dissipaters such as large gravels/small cobbles will be used at culvert and drainage dip inlets/outlets to minimize additional erosion. To mitigate water being channelized down the roadway, all activity will stop when soils or road surfaces become saturated to a depth of three inches. Mud blading will be prohibited in attempts to reduce further soil displacement (unless otherwise approved by the BLM).

16. The operator will consult with the State of Colorado Water Quality Control Division (contact Matt Czahor at: 303-692-3575 or matthew.czahor@state.co.us) regarding Stormwater Discharge Permits prior to commencing construction activities. All construction activities that disturb one acre or greater require a Stormwater Discharge Permit. Written documentation to the BLM Authorized Officer is required prior to the start of construction to indicate that appropriate permits have been obtained. XTO has filed a General Permit Application with the Colorado Department of Public Health and Environment (CDPHE) to permit stormwater discharges associated with construction of well pads, access roads, pipelines, storage areas and related disturbances. This permit was approved, assigned certification number COR-038830, and is on file at the BLM-WRFO. The stormwater management plan (SWMP) contains an appendix for each site, one acre or more, where surface disturbance is required that will outline additional site specific mitigation measures aimed at minimizing the impacts of stormwater runoff. For further information contact the WRFO Hydrologist at 970-878-3800 or the appropriate documents may be faxed (970-878-3805), or mailed to WRFO Hydrologist at the White River Field Office.

17. To mitigate additional soil erosion at the well pad and potential increased sediment and salt loading to nearby surface waters, all disturbed areas affected by drilling or subsequent operations, except areas reasonably needed for production operations, shall be reclaimed as early and as nearly as practicable to their original condition and shall be maintained to control dust and minimize erosion. To allow optimal opportunity for interim reclamation of well pads, all tanks and production facilities will be situated on the access road side of the well pad (unless otherwise approved by the WRFO-BLM Field Manager). Reclamation efforts on all pipelines will be final. Interim reclamation of well pads and final reclamation of pipeline right of ways (ROW) will commence as follows:

- Debris and waste materials other than de minimus amounts, including, but not limited to, concrete, sack bentonite and other drilling mud additives, sand, plastic, pipe and cable, as well as equipment associated with the drilling, re-entry or completion operations shall be removed.
- Stockpiled topsoil and spoil piles will be separated and clearly labeled to prevent mixing during reclamation efforts.
- Stockpiled topsoil will be seeded with a BLM approved seed mixture. Topsoil stockpiles that will potentially remain in place for extended periods of time (e.g. multi-well locations) will be covered with biodegradable fabrics such as (but not limited to) jute netting or Curlex and seeded with the appropriated seed mixture.
- Stockpiled topsoil segregated from spoil piles will be replaced during reclamation in its respective original position (last out, first in) to minimize mixing of soil horizons.
- Stockpiled soils (spoil and topsoil) will be pulled back over all disturbed surfaces affected by pipeline/road construction, drilling or subsequent operations, except areas reasonably needed for production operations. Areas on *well pads* not needed for production operations shall be partially reshaped as early and as nearly as practicable to near pre-construction contours. Pipelines will be recontoured to pre-construction contours as soon as construction activities cease.
- The operator will ensure stockpiled topsoil is evenly distributed over the **top** of spoil used in recontouring/partial-reshaping efforts.
- Recontoured/partially-reshaped areas will be seeded with a BLM-approved seed mixture. For slopes greater than or equal to 15%, mechanical methods (e.g., biodegradable fabrics, sterile straw mulch, hydromulching) to stabilize reclaimed slopes will be implemented in order to achieve soil moisture retention, promote desired vegetative growth, and protect soils from eolian processes. Reseeding alone will not qualify.
- Following seeding and placement of biodegradable fabrics, woody debris cleared during initial construction will be pulled back over the recontoured/partially-reshaped areas to act as flow deflectors and sediment traps.
- The operator will be responsible for excluding livestock grazing from all reclaimed portions of *well pads*. To eliminate livestock utilization of reclaimed areas prior to successful reclamation, a 4-strand BLM Type-D barbed wire fence with braced wooden corners or net wire fence brought to the ground surface built to BLM specifications will be constructed around all reclaimed portions of the well pad including cut and fill slopes immediately after interim reclamation is concluded (within 2 weeks) unless otherwise instructed by the BLM. A BLM specified cattleguard will be placed at the time of fence construction where the well access road bisects the fenceline that surrounds the well pad's disturbance imprint. Once reclaimed plant species are fully established on disturbed sites as determined by the BLM (e.g. Desired Plant Community (DPC), Public Land Health Standards), the fence and cattle guard will be completely removed by the applicant after a minimum of two growing seasons. This will allow for reclaimed plant species to establish without grazing pressure from livestock.
- The operator will be responsible for achieving a reclamation success rate for interim reclamation and final abandonment of sufficient vegetative ground cover from reclaimed plant species within three growing seasons after the application of seed. Additional reclamation efforts will be undertaken at the operators expense if: after the first growing season there is no positive indicators of successful establishment of seeded species (e.g.

germination); after the second year seeded species are not yet established (e.g. producing seed); and after the third growing season seeded vegetative communities lack persistence (e.g. reproductively capable of enduring drought conditions and sustaining the seeded community). Following the third growing season, ground cover of reclaimed seed species shall be at a Desired Plant Community (DPC) in relation to the seed mix as deemed appropriate by the BLM. Reclamation achievement will be evaluated using the Public Land Health Standards that include indicators of rangeland health. Rehabilitation efforts must be repeated if it is concluded that the success rate is below an acceptable level as determined by the BLM.

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

18. Upon final abandonment of the well pad, new access road, and completion of pipelines, 100% of all disturbed surfaces will be restored to pre-construction contours, and revegetated with a BLM preferred seed mixture. Natural drainage patterns will be restored and stabilized with a combination of vegetative (seeding) and non-vegetative (straw bails, woody debris, straw waddles, biodegradable fabrics...) techniques. All available woody debris will be pulled back over recontoured areas (woody debris will not account for more than 20% of total surface cover) to help stabilize soils, trap moisture, and provide cover for vegetation. Monitoring and additional reclamation efforts will persist until reclamation is proven successful (as determined by the BLM).

19. Mitigate soil loss from roadway and surrounding area by restricting road access to authorized personnel only. The operator will be responsible for segregating topsoil material and backfilling of topsoil in its respective original position (last out, first in) to assist in the reestablishment of soil health and productivity. Erosion and sediment control measures will be installed on all slopes exceeding five percent to mitigate soil loss. Erosion and sediment control measures will be maintained until upland areas are stabilized.

20. Mud blading will be prohibited and all activity shall cease when soils or road surfaces become saturated to a depth of three inches (on BLM administered lands) unless otherwise approved by the AO. All disturbed surfaces will be restored to natural contours and revegetated with a BLM approved seed mixture. Interim reclamation will follow the mitigation outlined in the Water Quality portion of this document. All pits shall be lined to prevent contents from

reserve pits from seeping into surrounding soils, contaminating local ground water, reducing soil productivity and compromising reclamation success.

21. Promptly revegetate all disturbed areas not necessary for production on the access road, pipeline and location including roadside and pad cut and fill slopes with Native Seed mix #2. Revegetation will commence immediately after construction and will not be delayed until the following fall. Debris will not be scattered on the pipeline until after seeding operations are completed. Seed mixture rates are Pure Live Seed (PLS) pounds per acre. Drill seeding is the preferred method of application.

Seed Mix #	Species (Variety)	Lbs. PLS per Acre
2	Western wheatgrass (Rosanna)	2
	Indian ricegrass (Rimrock)	1
	Bluebunch wheatgrass (Whitmar)	2
	Thickspike wheatgrass (Critana)	1
	Letterman needlegrass	1
	Globemallow	0.5

22. All roadside and well location cut and fill slopes will be revegetated immediately after construction with the seed mixture(s) specified in the conditions of approval. Such revegetation will be either temporary or permanent.

23. Revegetation operations will start immediately following the completion of recontouring/dirt work operations.

24. If construction/development occurs between April 15 and November 15, the operator will be required to water or surface access roads to reduce airborne dust and damage to roadside vegetation communities

25. 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).

26. In the event newly constructed access roads on BLM surface are no longer needed for well maintenance or development (i.e., all roadbeds beyond well pad in southwest quarter of section 21), the roads will be recontoured to original grade (i.e., cuts and fills not merely reduced as in the Conditions of Approval) prior to reclamation and subsequent vehicle use effectively precluded.

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

28. 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.

29. A 20 foot cattle guard with a gate next to it will be installed where the access road crosses the Reed Place/Hyberger allotment boundary fence in NENE Sec 15 T 2 S R 95 W. This cattleguard will be built and installed to BLM specifications which will be included in approval of this APD.

30. This cattleguard is to be installed during access road construction and *prior to* location construction. Pipeline work along the existing allotment boundary fence will be completed in such a manner that it does not negatively affect the function of the existing fence.

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

NAME OF PREPARER: Keith Whitaker

NAME OF ENVIRONMENTAL COORDINATOR: Caroline P. Hollowed

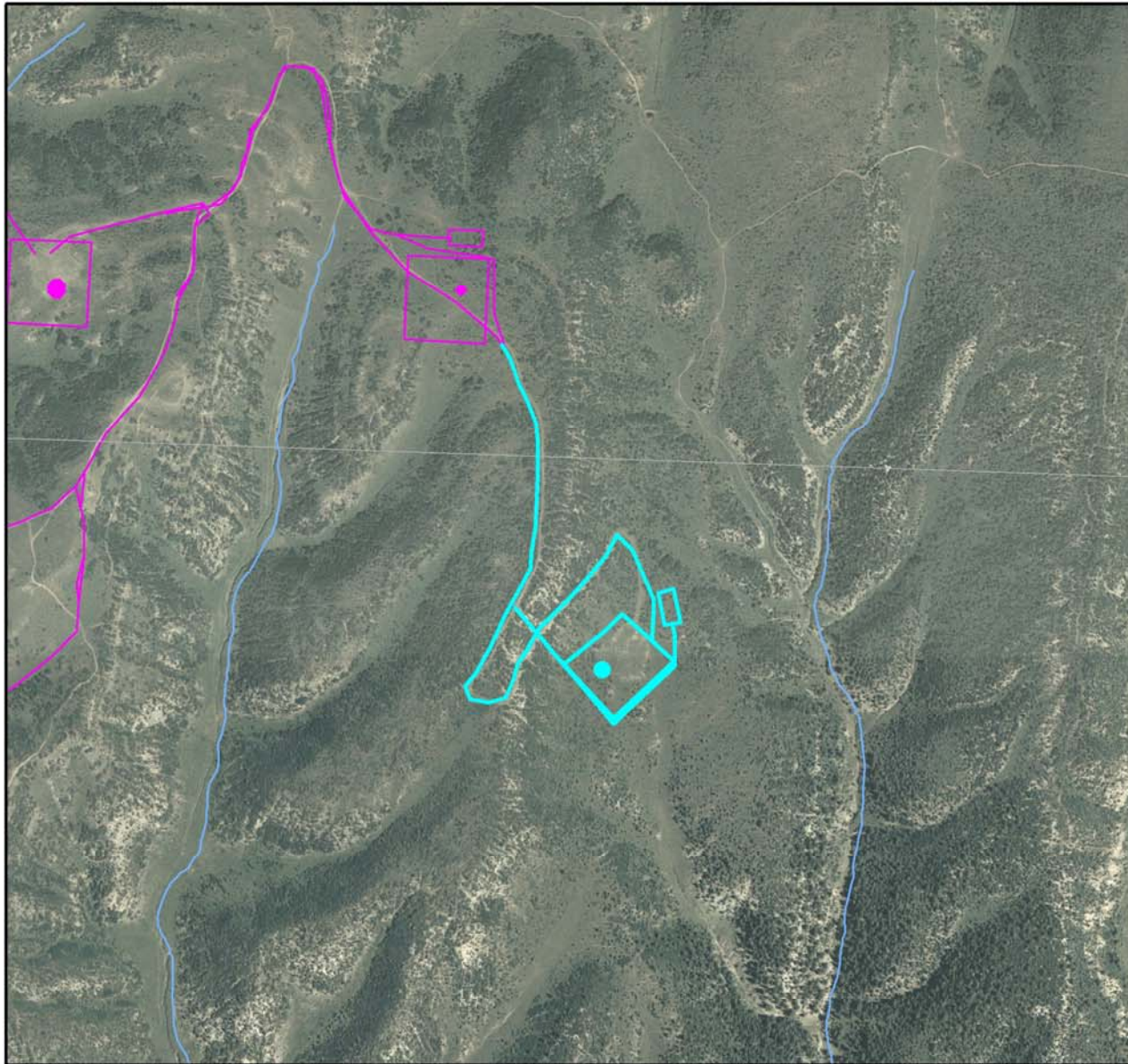
SIGNATURE OF AUTHORIZED OFFICIAL:

 (Acting)
Field Manager





DATE SIGNED: 8/03/07

ATTACHMENTS: General Location Map of the Proposed Action

Figure 1: Location Map for CO-110-2007-163-EA



Legend

-  Projects: polygon
-  Projects: line
-  Projects: point
-  Rivers and streams

1:12,000



8/02/07

