U.S. Department of the Interior
Bureau of Land Management
White River Field Office
73544 Hwy 64
Meeker, CO 81641

ENVIRONMENTAL ASSESSMENT

NUMBER: CO-110-2006-053-EA

CASEFILE/PROJECT NUMBER (optional): COC 62051 (14-28-198)
COC 62054 (22-16-298)
COC 60745 (24-13-398)
COC 60748 (24-20-398)
COC 60738 (32-5-298)
COC 60734 (33-32-198)
COC 60739 (41-8-298)

PROJECT NAME: Williams' Wells 14-28-198, 22-16-298, 24-13-398, 24-20-398, 32-5-298, 33-32-198, 41-8-298, access roads and pipelines

LEGAL DESCRIPTION: T. 1 S., R. 98 W., Sec. 28 (14-28-198)
T. 2 S., R. 98 W., Sec. 16 (22-16-298)
T. 3 S., R. 98 W., Sec. 13 (24-13-398)
T. 3 S., R. 98 W., Sec. 20 (24-20-398)
T. 2 S., R. 98 W., Sec. 5 (32-5-298)
T. 1 S., R. 98 W., Sec. 32 (33-32-198)
T. 2 S., R. 98 W., Sec. 8 (41-8-298)

APPLICANT: Williams Production RMT Co.

ISSUES AND CONCERNS (optional): A separate right of way (ROW) application for the pipeline route for each location will be submitted by Bargath, Inc. The onsite for each location did not include a pipeline ROW, and a pipeline route was not discussed. Raptor surveys will be required for location 32-5-298 and access road prior to pad and road construction related activities.

DESCRIPTION OF PROPOSED ACTION AND ALTERNATIVES:

Background/Introduction: Applications have been received to construct seven well pads and access roads. Characteristics of each well site are summarized in the table below.

Well Number	Dominant Vegetation	Elevation	Well Density	Road Density	Drainage
14-28-198	Wyoming big sagebrush (*Artemisia tridentata* subsp. *Wyomingensis)s*	6,540 feet	<1 producing wells per square mile	1.18	Yellow Ck
22-16-298		6,759 feet		1.85	Ryan Gulch
24-20-398		7,499 feet		0.07	Black Sulphur
33-32-198		6,545 feet		1.33	Stakes Springs
24-13-398	Pinyon-juniper	7,080 feet		1.79	Black Sulphur
32-5-298		6,630 feet		1.45	Stakes Springs
41-8-298		6,770 feet		1.54	Stakes Springs

Proposed Action: The proposed action includes constructing seven well pads with dimensions of 250 x 400 feet (2.3 acres; 16.1 acres total). Total area disturbed including overburden to construct well pads will be approximately 17.5 acres. The table below summarizes the disturbance at each proposed well pad and access road.

Well Number	Pad Size (feet)	Disturbance (Acres)	New Access Road	Disturbance (Acres)
14-28-198	250 x 400	2.3	35 x 2,415	1.94
22-16-298	250 x 400	2.3	35 x 10,077	8.10
24-20-398	250 x 400	2.3	35 x 6,634	5.33
33-32-198	250 x 400	2.3	35 x 2,620	2.11
32-5-298	250 x 400	2.3	35 x 5,433	4.37
41-8-298	250 x 400	2.3	35 x 1,233	1.0
			Upgraded Access Road	22.85
24-13-398	250 x 400	2.3	35 x 26,430	21.24
	Total	**16.1**	**Total**	**44.09**
			Total acres disturbed	**60.19**

All access roads and surface disturbing activities will conform to standards outlined in the BLM Gold Book, *Oil and Gas Surface Operating Standards for Oil and Gas Development* (Sept 28, 2005)

Any fences crossed by an access road and /or pipeline to a well location will have a cattleguard installed and maintained to BLM specifications for the lifetime of the project. *All cattleguard/fence work will take place prior to well location, pipeline or plant construction.*

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.

All reserve pits will be fenced to BLM specifications. These specifications will be provided to the operator as part of the Conditions of Approval

Produced waste water could be confined to the pit for a period of 90 days after initial production. During the 90 day period the required waste analysis will be submitted for the Authorized Officer's approval, pursuant to Onshore Oil and Gas Order No. 7 (NTL-2B). A permanent steel tank will be installed in the ground next to the production facilities to contain any produced water for the duration of the well.

Water based reserve pit fluids will be backfilled within one year of construction or by the end of the succeeding summer to allow for evaporation of fluids unless an alternative method of disposal is approved. The backfilling of the reserve pit will be done in such a manner that the mud and associated solids will be confined to the pit and not squeezed out and incorporated into the surface materials. There will be a minimum of three feet of cover (overburden) on the pit. All remaining cutting will be solidified and buried in place, or disposed of in an approved manner. The stockpiled ground cover will be evenly distributed over the disturbed areas. The recommended seed mix to be used on all disturbed areas will be determined by the White River Field Office (WRFO). The dirt contractor will be provided with an approved copy of the surface use plan.

Williams will build a temporary lined pit to store frac water while completing the well. The frac pit will be reclaimed immediately following completion.

Chemical pesticides or any other control agent which represents a potential soil, air or water pollutant will not be utilized for any purpose on public lands without express written authorization from the Authorized Officer of the BLM.

The Operator or his contractor will notify the BLM, White River Field Office, (970) 878-3800, forty-eight (48) hours before starting reclamation work that involves earth-moving equipment and upon completion of restoration measures.

During the environmental assessment process for this area, cultural resource clearance inventories were submitted under separate cover by Grand River Institute. Paleo and threatened and endangered species surveys have been completed for the proposed location.

The pipeline routes will follow existing roads to these 7 wells. Estimated time for construction is 60-90 days. Pipeline construction will commence upon completion of the wells, weather permitting. If construction is to be delayed for any reason, BLM will be contacted, timing issues will be discussed and a new timetable agreed upon. Buried pipeline installation will entail the trenching of the surface in order to bury the pipe with a minimum cover of 36 inches. Trench width will be 24 inches maximum. Pipe will be welded on the surface and laid in the ditch. Material removed in the trenching process will be replaced as cover.

The anticipated start date is 1 July 2005. The anticipated duration for construction related activities is 45-60 days which includes drilling and completion.

No Action Alternative: Under the no action alternative, the application would be denied and the well pads and access roads would not be constructed**.**

ALTERNATIVES CONSIDERED BUT NOT CARRIED FORWARD: None

NEED FOR THE ACTION: To respond to request by applicant to exercise lease rights and develop potential 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: Pages 2-5 thru 2-6

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

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 Resource 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.

Environmental Consequences of the Proposed Action: Exhaust produced from production facilities and heavy equipment associated with the proposed actions combined with the increasing number of fluid mining activities in the Piceance Creek Basin will have cumulative impacts detrimental to local air quality. However, following completion of the proposed actions, air quality should return to near pre-construction levels in this location. During dry and windy periods, air quality may be compromised due to increased levels of fugitive particulate matter which is defined as fugitive emissions of particulate matter that are the direct or proximate result of man's activities (e.g. Materials left by man exposed to the wind or later acted upon by another force as the wind or automobile traffic, or particulate matter being thrown into the atmosphere by the operation of a heavy equipment). However, construction operations should not greatly compromise National Ambient Air Quality Standards (NAAQS) for particulate mater which calls for a maximum 24-hour average to be less than or equal to 150 $\mu g/m^3$. In addition, following successful reclamation, particulate mater is also likely to return to 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, 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 the roadway with gravels will also help mitigate production of fugitive particulate matter.

To reduce production of fugitive particulate matter originating from well pads and associated stockpiled soils (long term storage) interim reclamation will be required. Interim reclamation will consist of excess stockpiled soils associated with pad construction being pulled back over the portion of the well pad not being utilized for production facilities and access. Portions of the well pad undergoing interim reclamation will be returned to grade (as close as possible), promptly re-seeded, and biodegradable fabrics will be utilize on slopes exceeding 5% (e.g. fill slopes).

If interim reclamation is not practical (e.g. completion of drilling operation will require an extended period time (multiple well pads)), stockpiled topsoil will be covered with biodegradable fabrics such as (but not limited to) jute netting and seeded with a BLM approved seed mixture (see vegetation section of this document). Furthermore, soils stockpiled for short durations (e.g. during road/pipeline construction/maintenance) will be wetted during dry periods to reduce production of fugitive particulate matter.

CULTURAL RESOURCES

Affected Environment: Proposed 14-28-198 well and access route: The proposed well pad and access route have been inventoried at the Class III (100% pedestrian) level (Conner et al 2005a, 2005b, Compliance Dates 10/03/2005 and 1/09/2006) with two sites and six isolated finds identified in the areas inventoried.

Proposed 24-13-398 well and access route: The proposed well pad and access route have been inventoried at the Class III (100% pedestrian) level with one site located along the access route.

Proposed 32-5-298 well and access route: The proposed well pad and access route have been inventoried at the Class III (100% pedestrian) level (Conner 2005, Compliance Dated 8/01/2005) with two isolated finds located along the access road routes.

Proposed 41-8-298 well and access route: The proposed well pad and access route have been inventoried at the Class III (100% pedestrian) level (Conner 2005, Compliance Dated 8/01/2005) with one isolated find recorded along the proposed access route.

Proposed 22-16-298 well and access route: The proposed well pad and access route have been inventoried at the Class III (100% pedestrian) level (Conner et al 2005a, Compliance Dated 10/03/2005) with no sites or isolated finds located in the area inventoried for the well and road

Proposed 24-20-398 well and access route: The proposed well pad and access route have been inventoried at the Class III (100% pedestrian) level (Conner and Davenport 2005, Compliance Dated 7/21/2005) with no sites or isolated finds recorded in the inventoried area.

Proposed 33-32-198 well and access route: The proposed well pad and access route have been inventoried at the Class III (100% pedestrian) level (Conner 2005, Compliance Dated 6/17/2005) with no sites or isolated finds recorded in the inventoried area.

Environmental Consequences of the Proposed Action: Proposed 14-28-198 well and access route: If mitigation measures are strictly adhered to there should be minimal impacts to cultural resources. A few isolated finds could be adversely impacted but that would represent a relatively insignificant impact to the regional cultural database.

24-13-398 well and access route: If mitigation measures are strictly adhered to there will be no adverse impacts to the regional cultural resources database.

Proposed 32-5-298 well and access route: The proposed well pad will not impact any known cultural resources. However, two isolated finds could potentially be destroyed by the access route. The loss of the isolated finds represents a fairly minimal loss of data from the regional cultural resources database.

Proposed 41-8-298 well and access route: The proposed well pad will not impact any known cultural resources. However, one isolated find could potentially be destroyed by the access route. The loss of the isolated find represents a fairly minimal loss of data from the regional cultural resources database.

Proposed 22-16-298, 24-20-398, 33-32-198, wells and access routes: the proposed well pad and access route will not impact any known cultural resources.

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

Mitigation: For <u>all</u> well pad locations and access routes: 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.

Proposed 14-28-198 well pad and access route: Sites 5RB 5105 and 5167 must be avoided by the access road. A monitor for initial ground blading will be required in the vicinity of IF;s 5110-5113.

Proposed 24-13-398 well pad and access route: Site 5RB 5013 must be avoided by all road construction and maintenance activity.

INVASIVE, NON-NATIVE SPECIES

Affected Environment: The proposed action occurs in a roughly 72 square mile area in the middle and lower elevations of Piceance Basin. Noxious and problem weeds known to occur in this area include Russian, spotted and diffuse knapweed, yellow toadflax, mullein and bull thistle. The invasive annual cheatgrass (*Bromus tectorum*) occurs throughout the area primarily in association with unrevegetated soil disturbance.

Environmental Consequences of the Proposed Action: The proposed action will create about 95 acres of new earthen disturbance, which if it is not revegetated with desirable species and /or treated with herbicides to eradicate noxious weeds/ cheatgrass, will be invaded and dominated by noxious weeds/cheatgrass, which, in the case of cheatgrass, will increase the potential for fire and the consequent further proliferation of cheatgrass. Of particular concern is the route of the pipeline/access road to 24-20-398 which goes through an established area of Russian knapweed. Noxious weeds could also spread from the project sites to surrounding native rangelands resulting in a long term negative impact. The resulting proliferation of noxious weeds/cheatgrass would perpetuate a downward cycle of environmental degradation that will be largely irreversible. The will be a low likelihood of long term negative impact if the proposed mitigation is properly implemented.

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

Mitigation

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

For the 24-20-398 location all construction equipment shall be washed prior to leaving county 26 and entering onto BLM lands to prevent the establishment of noxious weeds within the prescribed burn area. The operator is required to remove all dirt and debris that could contain weed seeds by scraping off visible dirt and debris then thoroughly washing all earth moving equipment with a suitable power washer.

MIGRATORY BIRDS

Affected Environment: Regarding locations 14-28-198, 22-19-298, 24-13-398, 24-20-398, 32-5-298, 33-32-198 and 41-8-298, a variety of migratory bird species fulfill nesting functions in the project area's predominantly pinyon-juniper woodlands and Wyoming big sagebrush shrublands from late May through early August. Species associated with these woodland communities are typical and widely represented in the Resource Area and region. Those bird populations identified by the Rocky Mountain Bird Observatory Partners in Flight program as having higher conservation interest include Brewer's sparrow (which occur in sagebrush-dominated areas), and gray flycatcher, pinyon jay, juniper titmouse, black-throated gray warbler, and violet-green swallow, which occur in pinion-juniper dominated woodlands. The species identified are well distributed at appropriate densities in the White River Resource Area's extensive woodland and shrubland habitats.

Environmental Consequences of the Proposed Action: It is unlikely well pad and road construction-related activities at locations 14-28-198, 22-19-298, 24-13-398, 24-20-398, 32-5-298, 33-32-198 and 41-8-298 would have any negative impacts to nesting activities of migratory bird populations.

It is anticipated that construction-related activities would start as early as the beginning of April, 2006, with drilling operations extending into July, 2006. Heavy equipment use and high levels of activity associated with site construction would occur during the migratory bird nesting season and could potentially disrupt nesting activities. However, this temporary effect would have no discernible influence on the abundance of local breeding bird populations nor the viability of any breeding bird population affiliated with the pinyon-juniper or sagebrush type at any landscape scale. Therefore, affects to migratory bird nesting activities would most likely be discountable.

The development of reserve pits in the project area may be expected to attract waterfowl and other migratory birds for purposes of resting, foraging, or as a source of free water. It has recently been brought to the White River Field Office's attention that migratory waterfowl (i.e., teal and gadwall) have contacted oil-based drilling fluids 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 produced water and drilling and completion fluids that may pose a problem (e.g., acute or chronic toxicity, compromised insulation).

Environmental Consequences of the No Action Alternative: There would be no affect on migratory birds or their habitats under the no action alternative.

Mitigation: It will be the responsibility of the operator to effectively preclude migratory bird access to, or contact with, reserve pit contents that possess toxic properties (i.e., through ingestion or exposure) or have potential to compromise the water-repellent properties of birds' plumage. Exclusion methods may include netting, the use of "bird-balls", or other alternative methods that effectively eliminate migratory bird contact with pit contents and meet BLM's approval. It will be the responsibility of the operator to notify the BLM of the method that will be used to eliminate migratory bird use two weeks prior to initiation of drilling activities. The BLM-approved method will be applied within 24 hours after drilling activities have begun. All lethal and non-lethal events that involve migratory birds will be reported to a White River Field Office Petroleum Engineer Technician immediately.

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

Affected Environment: There are no threatened or endangered animals that are known to inhabit or derive important benefit from the project vicinity.

The proposed project area for locations 32-5-298 and 24-13-398 include suitable nesting habitat for BLM-sensitive raptor species. Areas potentially influenced by the proposed action for location 32-5-298 and 24-13-398 were surveyed for woodland raptor nesting activity by BLM biologists on 9 March 2006. Evidence of raptor nesting activities was recorded adjacent to the proposed location for well 24-13-398. No nests were observed in the project area for location 32-5-298

Locations 32-5-298 and 24-13-398 will bisect mature stands of Pinion-juniper. These mature stands possesses well developed forest canopies and large diameter trees to offer nest or roost habitat for northern goshawk and three species of bats (i.e., fringed and Yuma myotis, and Thompson's big-eared). The roosts and hiberacula of these BLM-sensitive bat species are almost solely associated with caves, buildings, and underground mines; woodland roost sites are expected to offer only limited day roost opportunity during the spring, summer and fall months. There is some evidence to suggest that bat roost trees may be more often situated within the interior of stands rather than on the stand margins.

Northern goshawk nesting habitat in the Piceance Basin can generally be described as contiguous stands of large diameter, mature to old Pinion-juniper. Often, these sites are located on north to

northwest facing slopes where conditions are generally more mesic. Suitable nesting habitat is also most often found mid-slope, or in the bottom of drainages with suitable nesting cover.

Location 24-20-398 includes suitable greater sage-grouse nesting habitat, though no sign of grouse use was recorded during onsite inspections by BLM biologists. Subsequent visits to the site did not reveal any indication of the site being used by sage grouse, though this conclusion was obtained with anecdotal information and is inconclusive.

Environmental Consequences of the Proposed Action: The proposed action would have no conceivable influence on animals listed under the Endangered Species Act.

Approximately 5 acres of mixed woodlands would be cleared as a result of the proposed action for location 32-5-298 and 24-13-398. The potential for goshawk nest activity in close proximity to location 32-5-298 is moderate and high for location 24-13-398.

Development of the 24-13-398 location and access road would occur within ¼ mile of a northern goshawk nest and, if synchronous with subsequent nesting, would have a high likelihood of failing an ongoing attempt. Pad and road construction, drilling, well completion, workover activity, and reclamation associated with the 24-13-398 location would be subject to the RMP-approved timing limitation stipulation TL-04, which disallows disruptive activity within ¼ mile of raptor nests from February 1 through August 15.

Considering the nearly 250,000 acres of pinyon-juniper woodland in Piceance Basin, the removal of approximately 5 acres of mature stands of Pinion-juniper is unlikely to have any substantive influence on the availability of bat roost substrate or the suitability of stands for bat roosting activity. Moreover, alternate road right-of-ways and well pad locations in this area would likely increase the extent of mature woodland clearing as well as bisect contiguous woodland stands.

As originally staked, the 24-20-398 location was situated within suitable sage-grouse nesting habitat. The location was subsequently moved off of the top of the ridge closer to the existing road to reduce direct loss of suitable nesting habitat and maximize the use of roadside habitats with suboptimal utility.

The temporary loss of approximately 2 acres of suboptimal sage-steppe habitats immediately adjacent to the proposed well location and access road would have little effective influence on sage-grouse populations that occur in the Piceance Basin. Moreover, effective long-term reclamation with native seed mixtures that enhance understory characteristics favoring grouse brood and nest habitat character would complement efforts by BLM and CDOW to improve sage-steppe habitat and enhance grouse populations in the Piceance Basin.

Environmental Consequences of the No Action Alternative: No immediate action would be authorized that would involve the adverse modification of Pinion-juniper or sagebrush habitat. Alternate pad locations would likely be situated off the county road, involving more extensive access needs and more extensive direct and indirect loss sage grouse habitat.

Mitigation: Pad and road construction, drilling, well completion, workover activity, and reclamation associated with the 24-13-398 location would be subject to the RMP-approved timing limitation stipulation TL-04, which disallows disruptive activity within ¼ mile of raptor nests from February 1 through August 15.

Finding on the Public Land Health Standard for Threatened & Endangered species: Depending on location, mid to high elevation Wyoming big sagebrush habitats available throughout the Piceance Basin are generally considered to be in marginal to good condition regarding habitat suitability, though this information is limited to specific areas and may not be representative of sage grouse habitat overall in the Piceance Basin. By relocating location 24-20-398 off the ridge and adjacent to an existing road, the proposed action's diminutive contribution to reductions in the overall utility and nesting habitat suitability is discountable. Under the no-action alternative or the proposed action, as conditioned, suitable nesting habitat within the proposed project area would continue to meet the land health standard for threatened & endangered animals.

WASTES, HAZARDOUS OR SOLID

Affected Environment: There are no known hazardous or other solid wastes on the subject lands. No hazardous materials are known to have been used, stored or disposed of at sites included in the project area.

Environmental Consequences of the Proposed Action: 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 would be properly disposed of.

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

Mitigation: The applicant shall be required to collect and properly dispose of any solid waste generated by the proposed actions.

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

Affected Environment: The proposed action is located in the Black Sulphur Creek (96.18 acres), Stake Springs (42.06 acres), Yellow Creek (12.64 acres), and Ryan Gulch (11.67 acres) catchment areas. Stake Springs is a tributary to Yellow Creek which is a tributary to the White River (tributary to Green River which is a tributary to the Colorado River), both are situated in stream segment 13b of the White River Basin. Ryan Gulch is a tributary to Piceance Creek which is also a tributary to the White River and is positioned in stream segment 16 of the White River basin. Black Sulphur Creek is a tributary to Piceance Creek (tributary to the White River)

and is situated in stream segment 20 of the White River Basin. A review of the Colorado's 1989 Nonpoint Source Assessment Report (plus updates), the 305(b) report, the 303(d) list, the White River Resource Area RMP, and the Unified Watershed Assessment was done to see if any water quality concerns have been identified. It should be noted that the White River from Piceance Creek to Douglas Creek has been listed on the states monitoring and evaluation list (M&E list) as being sediment impaired. In addition, the White River RMP has identified the main stem of Yellow Creek as a perennial stream NOT meeting water quality standards for suspended sediment and salinity.

The State has classified stream segment 13b "Use Protected". Stream segment 13b has been further designated by the state as being beneficial for the following uses: Warm Aquatic Life 2, Recreation 2, and Agriculture. The antidegredation review requirements in the Antidegredation Rule are not applicable to waters designated use-protected. For those waters, only the protection specified in each reach will apply. For stream segments 13b, minimum standards for four parameters have been listed. These parameters are: dissolved oxygen = 5.0 mg/l, pH = 6.5 - 9.0, Fecal Coliform = 2000/100 ml, and 630/100 ml E. coli. None of the surface disturbing activities in the Yellow Creek/Stake Springs catchment areas are situated near any floodplains or perennial water sources.

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 and 20. Stream segment 16 has been designated “Use Protected”. The antidegredation review requirements in the Antidegredation Rule are not applicable to waters designated use-protected. For those waters, only the protection specified in each reach will apply. The state has classified segment 16 as being beneficial for the following uses: Warm aquatic life 2, Recreation 2, and Agriculture. For stream segment 16 minimum standards for four parameters are listed as follows: dissolved oxygen = 5.0 mg/l, pH = 6.5 - 9.0, Fecal Coliform = 2000/100 ml, and 630/100 ml E. coli. None of the surface disturbing activities in the Ryan Gulch catchment areas are situated near any floodplains or perennial water sources.

Stream segment 20 of the White River Basin is defined as the mainstems of Black Sulphur and Hunter Creeks from their sources to their confluences with Piceance Creek. Segment 20 has not been designated use-protected. An intermediate level of water quality protection applies to waters that have not been designated outstanding waters or use-protected waters. For these waters, no degradation is allowed unless deemed appropriate following an antidegradation review. The state has classified segment 20 as being beneficial for the following uses: Cold aquatic life 1, Recreation 2, and Agriculture.
None of the surface disturbing activities in the Black Sulphur Creek catchment areas are situated near any floodplains or perennial water sources.

Ground Water: Surface geologic formation at the proposed location is Tertiary in age (Uinta Formation) and consists primarily of 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 hydrogeologic units within the Piceance Basin are listed in the following table.

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 Piceance Creek drainage basins upper and lower aquifers are separated by the semi-confining Mahogany Zone. Water well data from the Colorado Division of Water Resources (Topper et al., 2003) indicated that in central Rio Blanco County water wells are uncommon. Based on existing water well data near the project area, total concentration of dissolved constituents in the upper and lower aquifers is generally lower than 1000 milligrams per liter.

Environmental Consequences of the Proposed Action: Surface Water: New surface disturbing activities associated with the proposed actions will increased soil exposure to erosional processes. New surface disturbance will destroy existing vegetation and increase compaction. Increased compaction combined with reduced vegetation will further decrease infiltration rates and elevate erosive potential due to runoff (overland flows) and raindrop impact during storm events.

In addition, given the moderate/rapid permeability rates of the affected soils, leaks or spills of environmentally unfriendly substances are likely to be carried down gradient in local ground water. Contaminants being transported by local ground water may discharge into surface waters of Black Sulphur Creek, Yellow Creek, Stake Springs Draw, and Ryan gulch during wet periods. Contaminants in surface waters will be transported down gradient and potentially deteriorate surface water quality in Piceance Creek and the White River.

Ground Water: In the event of any leaks or spills, local ground water may be adversely impacted as runoff could carry contaminates down gradient to alluvial aquifers. Potential for ground water contamination increases if fractures in confining units are formed. Hydraulic conductivity increases exponentially along fracture zones resulting in rapid transport of fluids/contaminants 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 of the Upper Piceance Basin Aquifer and Piceance Creek Alluvial Aquifer.

Environmental Consequences of the No Action Alternative: None

Mitigation: The operator will be responsible for complying with all local, state, and federal water quality regulations (such as but not limited to Phase I Storm Water Permit, and Industrial Wastewater/Produced Water Permits). The operator will also be required to provide the BLM with documentation that all required permits were obtained.

Surface Water: All surface disturbing activities will strictly adhere to "Gold Book" 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) are not recommended on slopes less than 10% and will NOT be used as drainage relief structures for stream crossings/gullies or to drain inside drain ditches on slopes less than 3%. Based on the nature of the affected soils, drain dips will be utilized in place of CMPs in these locations. Energy dissipaters such as large gravels/small cobbles will be used at culvert and drainage dip outlets to minimize additional erosion. To mitigate water being channelized down roadways, all activity must 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. Furthermore, following abandonment of the well pad all disturbed surfaces will be recontoured to the original grade promptly covered with a sufficient amount of woody debris (if available) and revegetated with the appropriate seed mixture as outlined in the vegetation section of this document.

To mitigate surface erosion at well pads, interim reclamation will be required as outlined in the Air Quality mitigation section above. In addition, silt fences will be utilized on all slopes exceeding 5 % (e.g. cut/fill slopes and soil stockpiles).

Ground Water: Shallow aquifers shall be protected from hydrofracturing and the production of oil and gas by installation and cementing of surface and intermediate casing. Any groundwater produced from the Fort Union or Mesaverde Formations will be hauled off and disposed of due to poor water quality and therefore preventing adverse impacts to valuable surface and ground water resources. Environmentally unfriendly substances (e.g. diesel) must not be allowed to contact soils. The use of spill-guards (or equivalent spill prevention equipment) under and around pumping equipment is suggested at all locations to intercept such contaminants prior to contacting soils. Furthermore, to protect shallow ground water recharging the affected streams all pits shall be lined and all wastes associated with construction and drilling will be properly treated and disposed of as outlined in the proposed actions.

Finding on the Public Land Health Standard for water quality: All of the affected stream segments currently meet 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 segments should continue to meet standards.

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

Affected Environment: There are no wetlands or riparian communities potentially influence by the proposed action. The nearest perennial water sources are located 1 to 3.5 miles from the proposed pads in agricultural bottomlands in Yellow, Black Sulphur, and Piceance Creeks. These private pastures have no substantive riparian development.

Environmental Consequences of the Proposed Action: Riparian and wetland communities would not be directly or indirectly affected by pipeline installation.

Environmental Consequences of the No Action Alternative: There would be no immediate action authorized that would have potential to affect wetland or riparian communities.

Mitigation: None

Finding on the Public Land Health Standard for riparian systems: Because there are no riparian or wetland resources potentially influenced by the proposed or no-action alternatives, a land health standard finding is not relevant. There would be no change in the land health status of downstream riparian and wetland communities.

CRITICAL ELEMENTS NOT PRESENT OR NOT AFFECTED:

No flood plains, prime and unique farmlands, 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. The following table highlights important soil characteristics. A complete summary of this information can be

found at the White River Field Office. CSU-1 "fragile soils" have been mapped along access routes to location 24-20-398 and 24-13-398. Observation of a topographic map revealed that only the first 0.57 miles of the last 0.92 miles of the access road to site 24-13-398 would occur on slopes exceeding 35 percent. Controlled surface use (CSU) stipulations will apply to this portion of the roadway.

Soil Number	Soil Name	Acres w/in 30m radius	Slope	Ecological site	Salinity	Run Off	Erosion Potential	Bedrock
33	Forelle loam	0.45	3-8%	Rolling Loam	<2	Medium	Moderate	>60
40	Hagga loam	0.18		Swale Meadow	2-8	Slow	Slight	>60
64	Piceance fine sandy loam	2.8	5-15%	Rolling Loam	<2	Medium	Moderate to high	20-40
70	Redcreek-Rentsac complex	60.84	5-30%	PJ woodlands/PJ woodlands	<2	Very high	Moderate to high	10-20
73	Rentsac channery loam	25.97	5-50%	Pinyon-Juniper woodlands	<2	Rapid	Moderate to very high	10-20
75	Rentsac-Piceance complex	37.45	2-30%	PJ woodland /Rolling Loam	<2	Medium	Moderate to high	10-20
104	Yamac Loam	2.78	2-15%	Rolling Loam	<2	Medium	Slight to moderate	>60

33-Forelle loam (3 to 8 percent slopes) is a deep, well drained soil located on terraces and uplands. It formed in eolian and alluvial material derived dominantly from sedimentary rock. The native vegetation is mainly low shrubs and grasses. Elevation is 5,800 to 7,200 feet. The average annual precipitation is 15 to 18 inches, the average annual air temperature is 42 to 45 degrees F, and the average frost-free period is 80 to 105 days. Typically, the surface layer is pale brown loam 4 inches thick. The upper 12 inches of the subsoil is yellowish brown clay loam, and the lower 5 inches is light yellowish brown loam. The substratum to a depth of 60 inches or more is very pale brown loam. Permeability of this Forelle soil is moderate. Available water capacity is high. Effective rooting depth is 60 inches or more. Runoff is medium, and the hazard of water erosion is moderate. If this unit is used for urban development, the main limitations are low soil strength, the potential for shrinking and swelling, and the hazard of frost action. The possibility of settlement can be minimized by compacting the building site before construction is begun. If buildings are constructed on this unit, properly designing foundations and footings and diverting runoff away from buildings help to prevent structural damage because of shrinking and swelling. Access roads should be designed to provide adequate cut-slope grade, and drains are needed to control surface runoff and keep soil losses to a minimum.

40-Hagga loam (0 to 5 percent slopes) is a deep, poorly drained soil found on flood plains and alluvial valley floors. It formed in alluvium derived dominantly from sandstone and shale. Areas are long and narrow and are 20 to 300 acres. The native vegetation is mainly water-tolerant grasses. Elevation is 5,800 to 7,200 feet. The average annual precipitation is 15 to 16 inches, the average annual air temperature is 43 to 45 degrees F, and the average frost-free period

is 85 to 105 days. Typically, the surface layer is light brownish gray loam 5 inches thick. Below this to a depth of 60 inches or more is stratified silty clay loam to loamy fine sand. The color is variable because of wetness and stratification. Permeability of this Hagga soil is moderately slow. Available water capacity is high. Effective rooting depth is 60 inches or more for water-tolerant plants, but it is limited to depths between 10 and 20 inches for non-water-tolerant plants. Runoff is slow, and the hazard water erosion is slight. A seasonal high water table is at a depth of 12 to 24 inches in spring and early in summer. This soil is subject to brief periods of flooding in spring and summer. The concentration of salts and alkali in the surface layer limits the production of plants suitable for hay and pasture. Leaching of the salts from the surface layer is limited by the high water table. Drainage and irrigation water management reduce the concentration of salts. Salt-tolerant species are most suitable for planting. Proper grazing practices, weed control, and fertilizer are needed to insure maximum quality of forage.

64-Piceance fine sandy loam (5 to 15 percent slopes) is a moderately deep, well drained soil located on uplands and broad ridgetops. It formed in eolian material and colluvium derived dominantly from sandstone. Areas are elongated and are 20 to 600 acres. The native vegetation is mainly low shrubs, grasses, and a few pinyon trees. Elevation is 6,300 to 7,500 feet. The average annual precipitation is 15 to 18 inches, the average annual air temperature is 42 to 45 degrees F, and the average frost-free period is 80 to 105 days. Typically, the surface layer is brown fine sandy loam 4 inches thick. The upper 5 inches of the subsoil is brown loam, and the lower 13 inches is light yellowish brown loam. The substratum is very pale brown channery loam 8 inches thick. Hard sandstone is at a depth of 30 inches. Permeability of this Piceance soil is moderate. Available water capacity is moderately low. Effective rooting depth is 20 to 40 inches. Runoff is slow to medium, and the hazard of water erosion is moderate to high.

70-Redcreek-Rentsac complex (5 to 30 percent slopes) is located on mountainsides and ridges. Areas are elongated and are 40 to 300 acres. The native vegetation is mainly pinyon and juniper trees with an understory of shrubs and grasses. Elevation is 6,000 to 7,400 feet. The average annual precipitation is 14 to 18 inches, the average annual air temperature is 42 to 45 degrees F, and the average frost-free period is 85 to 105 days. This unit is 60 percent Redcreek sandy loam and 30 percent Rentsac channery loam. The Redcreek soil is shallow and well drained. It formed in residual and eolian material derived dominantly from sandstone. Typically, the surface layer is brown sandy loam about 4 inches thick. The next layer is brown, calcareous sandy loam about 7 inches thick. The underlying material is very pale brown, calcareous channery loam 5 inches thick. Hard sandstone is at a depth of 16 inches. Depth to hard sandstone or hard shale ranges from 10 to 20 inches.Permeability of the Redcreek soil is moderately rapid. Available water capacity is very low. Effective rooting depth is 10 to 20 inches. Runoff is medium, and the hazard of water erosion is moderate to high.

The Rentsac soil is shallow and well drained. It formed in residuum derived dominantly from sandstone. Typically, the upper part of the surface layer is grayish brown channery loam about 5 inches thick. The next layer is brown very channery loam about 4 inches thick. The underlying material is very pale brown extremely flaggy loam 7 inches thick. Hard sandstone is at a depth of 16 inches. Depth to hard sandstone or hard shale ranges from 10 to 20 inches. Permeability of the Rentsac soil is moderately rapid. Available water capacity is very low. Effective rooting depth is 10 to 20 inches. Runoff is medium, and the hazard of water erosion is moderate to high.

73-Rentsac channery loam (5 to 50 percent slopes) is a shallow, well drained soil located on ridges, foothills, and side slopes. It formed in residuum derived dominantly from calcareous sandstone. The native vegetation is mainly pinyon, juniper, brush, and grasses. Elevation is 6,000 to 7,600 feet. The average annual precipitation is 14 to 18 inches, the average annual air temperature is 42 to 45 degrees F, and the average frost-free period is 80 to 105 days. Typically, the surface layer is grayish brown channery loam about 5 inches thick. The next layer is very channery loam about 4 inches thick. The underlying material is extremely flaggy light loam 7 inches thick. Hard sandstone is at a depth of 16 inches. Depth to sandstone ranges from 10 to 20 inches. Permeability of this Rentsac soil is moderately rapid. Available water capacity is very low. Effective rooting depth is 10 to 20 inches. Runoff is rapid, and the hazard of water erosion is moderate to very high.

75-Rentsac-Piceance complex (2 to 30 percent slopes) is situated on uplands, broad ridges, and foothills. The native vegetation is mainly sparse stands of pinyon and juniper and open areas of sagebrush. Elevation is 6,000 to 7,600 feet. The average annual precipitation is 14 to 18 inches, the average annual air temperature is 42 to 45 degrees F, and the average frost-free period is 80 to 105 days. This unit is 60 percent Rentsac channery loam that has slopes of 8 to 30 percent and 30 percent Piceance fine sandy loam that has slopes of 2 to 15 percent. The Piceance soil is generally on north-facing side slopes and is in more concave areas than the Rentsac soil. The Rentsac soil is shallow and well drained. It formed in residuum derived dominantly from sandstone. Typically, the surface layer is grayish brown channery loam about 5 inches thick. The next layer is brown, strongly calcareous very channery loam about 4 inches thick. The underlying material is very pale brown extremely flaggy light loam 7 inches thick. Hard sandstone is at a depth of 16 inches. Depth to sandstone ranges from 10 to 20 inches. In some areas the surface layer is flaggy loam. Permeability of the Rentsac soil is moderately rapid. Available water capacity is very low. Effective rooting depth is 10 to 20 inches. Runoff is medium, and the hazard of water erosion is moderate to high. The Piceance soil is moderately deep and well drained. It formed in eolian material and colluvium derived dominantly from sandstone. Typically, the surface layer is brown fine sandy loam 4 inches thick. The upper 5 inches of the subsoil is brown loam, and the lower 13 inches is light yellowish brown loam. The substratum is very pale brown channery light loam 8 inches thick. Hard sandstone is at a depth of 30 inches. Depth to sandstone or hard shale ranges from 20 to 40 inches. In some areas the surface layer is loam or sandy loam. Permeability of the Piceance soil is moderate. Available water capacity is low. Effective rooting depth is 20 to 40 inches. Runoff is slow to medium, and the hazard of water erosion is slight to moderate.

104-Yamac loam (2 to 15 percent slopes) is a deep, well drained soil found on rolling uplands, terraces, and fans. It formed in eolian and alluvial material. The native vegetation is mainly low shrubs and grasses. Elevation is 5,800 to 7,100 feet. The average annual precipitation is 13 to 16 inches, the average annual air temperature is 40 to 45 degrees F, and the average frost-free period is 80 to 105 days. Typically, the surface layer is brown loam 4 inches thick. The upper 8 inches of the subsoil is brown loam, and the lower 10 inches is highly calcareous loam. The upper 26 inches of the substratum is very pale brown loam, and the lower part to a depth of 60 inches or more is pale brown loam. Permeability of this Yamac soil is moderate. Available

water capacity is moderate to high. Effective rooting depth is 60 inches or more. Runoff is medium, and the hazard of water erosion is slight to moderate.

Environmental Consequences of the Proposed Action: Approximately 95% of all surface disturbances will occur on soils which range from moderate to very high erosive potential (soil units 70, 73, and 75) and are calcareous in nature (soil units 70, 73, and 75). Improper drainage from the project areas will increase potential for overland flows accelerating erosion rates leading to soil piping, sink holes formation, head cutting and gully formation. Removal of limited ground cover will also expose soils to erosional processes. Heavy traffic will increase soil compaction decreasing infiltration rates which in turn will also increase potential for erosive overland flows.

Leaks or spills of environmentally unfriendly substances on or near pad sites may contaminate soils hindering revegetation efforts. Soils unable to support a healthy plant community will be less cohesive (due to lack of root structure) and more vulnerable to erosional processes.

Environmental Consequences of the No Action Alternative: None

Mitigation: Comply with "Gold Book" surface operating standards for constructing well pads, pipelines and access roads (copies of the "Gold Book" can be obtained at the WRFO). The identified portion of access road to location 24-13-398 will require and engineered design and reclamation plan which is to be approved by the area manager prior to construction. Interim reclamation will be required as addressed in the Air and Water Quality portions of this document. To mitigate contamination of soils and local ground water, environmentally unfriendly substances (e.g. diesel) must not be allowed to contact soils. The use of impermeable matting under equipment (tanks, pumps, or other equipment used in handling potentially hazardous liquids) is recommended to intercept contaminants prior to contacting soils. Complete reclamation will follow abandonment of well pads. New access roads and well pads will be recontoured and 100% of disturbed surfaces will be revegetated with the suggested seed mixture as outlined in the vegetation section of this document.

Finding on the Public Land Health Standard for upland soils: Currently, soils in the vicinity of the proposed action exhibit infiltration and permeability rates that are appropriate to soil type, landform, climate, and geologic processes. The proposed actions will cause decreases in both infiltration and permeability rates due to soil compaction and loss of vegetal cover. However, with proper mitigation soils health standards will continue to be met.

VEGETATION (includes a finding on Standard 3)

Affected Environment: Dominant vegetation at the proposed locations 14-28-198, 22-16-298, 24-20-398 and 33-32-198 is Wyoming big sagebrush (*Artemisia tridentata* subsp. *wyomingensis*). Dominant vegetation at the proposed location for 24-13-398, 32-5-298, and 41-8-298 is Pinyon- juniper.

Environmental Consequences of the Proposed Action: Two impacts will/could occur as a result of access road, location and pipeline construction;

1) The 95 acres of road, pad and pipeline construction will accelerate the rate of plant community fragmentation which is presently occurring in this area of Piceance Basin.

2) 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 pad, pipeline and access road construction.

Environmental Consequences of the No Action Alternative: None

Mitigation: 1) Promptly revegetate all disturbed areas with Native Seed mix #3. 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

Native Seed mix #3		
Western wheatgrass (Rosanna)	2	Gravelly 10"-14", Pinyon/Juniper Woodland, Stony Foothills, 147 (Mountain Mahogany)
Bluebunch wheatgrass (Whitmar)	2	
Needle and thread	1	
Indian ricegrass (Rimrock)	2	
Fourwing saltbush (Wytana)	1	
Utah sweetvetch	1	

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 and landscape basis and is expected to continue to meet the Standard in the future following implementation of the proposed action and mitigation.

WILDLIFE, AQUATIC (includes a finding on Standard 3)

Affected Environment: The proposed locations are at least 1 mile from perennial systems that are capable of supporting aquatic communities (see Wetlands and Riparian Zones section above).

Environmental Consequences of the Proposed Action: Aquatic habitats associated with downstream perennial systems would not be measurably influenced by proposed well construction or pipeline installation.

Environmental Consequences of the No Action Alternative: There would be no immediate action authorized that would have potential to affect wetland or riparian communities. Although alternate locations could be presented under this alternative, they would probably be as unlikely to involve aquatic resources as the proposed action.

Mitigation: None

Finding on the Public Land Health Standard for plant and animal communities (partial, see also Vegetation and Wildlife, Terrestrial): Because there are no aquatic habitats or animals potentially influenced by the proposed or no-action alternatives, a land health standard finding is not relevant. The proposed and no action alternatives would have no measurable influence on aquatic habitats associated with downstream systems (see Wetlands and Riparian Zones section above).

WILDLIFE, TERRESTRIAL (includes a finding on Standard 3)

Affected Environment: All proposed locations include big game winter range, though none of the locations are classified as deer critical winter habitat. One of the most important functions of areas classified as big game winter range is fulfilled during the early spring periods (April through early May).

The proposed project area for locations 32-5-298 and 24-13-398 include suitable nesting habitat for raptors. Areas potentially influenced by the proposed action for location 32-5-298 and 24-13-398 were surveyed for woodland raptor nesting activity by BLM biologists on 9 March 2006. Evidence of raptor nesting activities were recorded adjacent to the proposed location for well 24-13-398. No nests were observed in the project area for location 32-5-298

Nongame bird abundance and composition associated with the project areas' woodland and shrubland habitats are considered representative and complete with no obvious deficiencies in composition. Small mammal populations and distribution are poorly documented; however, the species potentially occurring on these sites are widely distributed throughout the State and the Great Basin or Rocky Mountain regions. All of these upland species display broad ecological tolerance and are documented from habitats ranging from foothill to alpine sites. No narrowly distributed or highly specialized species or sub-specific populations are known to occur in Piceance Basin.

Environmental Consequences of the Proposed Action: Big game impacts associated with unregulated vehicle use that result in avoidance and disuse of affected habitats, and increased energetic demands during critical periods, were addressed in the White River ROD/RMP. To stabilize road density and its influence on big game physiology and habitat utility, an effective road density objective of $\leq$3 miles per square mile was established in the White River ROD/RMP on big game winter ranges. Road density equals approximately 1.18, 1.85, 1.79, 0.07, 1.45, 1.33, and 1.54 miles of road per square mile at locations 14-28-198, 22-16-298, 24-13-398, 24-20-398, 32-5-298, 33-32-198, and 41-8-298, respectively.

The prevailing 2004 and 2005 winter weather conditions have been marked by unseasonably mild temperatures, including diminished snow pack and early emergence of herbaceous forage. Deer appear to be in remarkably good condition for this time of year. It is recommended that no condition of approval be applied to this action as these conditions meet the exception criteria for the WRFO severe winter range timing limitation stipulation. By implementing reclamation measures recommended in the mitigation section, short and long term habitat integrity, particularly for big game, would remain essentially unaffected.

Based on survey results, it is unlikely that development of the 14-28-198, 22-16-298, 33-32-198, 24-20-398, and 41-8-298 locations would have potential to disrupt non BLM-sensitive raptor nest efforts.

Environmental Consequences of the No Action Alternative: No immediate action would be authorized that would involve the adverse modification of terrestrial wildlife habitats. Alternate pad locations may be increasingly likely to be situated more distant from established roads, thereby involving more extensive access needs and more extensive direct and indirect involvement of functional habitat.

Mitigation: None

Finding on the Public Land Health Standard for plant and animal communities (partial, see also Vegetation and Wildlife, Aquatic): This project should have no conceivable influence on the condition or function of terrestrial habitats or wildlife associated with these habitats and therefore, would have no influence on continued maintenance of associated land health standards.

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

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

Non-Critical Element	NA or Not Present	Applicable or Present, No Impact	Applicable & Present and Brought Forward for Analysis
Wild Horses	X		

ACCESS AND TRANSPORTATION

Affected Environment: Wells 14-28-198 and 33-32-198 are accessed by Rio Blanco County (RBC) road 24. Wells 32-5-298 and 41-8-298 are accessed by RBC roads 24 and 68. Well 22-16-298 will likely be accessed by RBC roads 26 and 85 and an unnumbered BLM route that currently is utilized to access Shell Frontier location 11-16-299. Well 24-20-398 will be accessed by RBC roads 26 and BLM road 1182. Well 24-13-398 will be accessed by RBS roads 26 and 29 and further by BLM road 1014. All locations are in travel management areas where cross-country motorized travel is limited to existing roads and trails from October 1 through April 30 of each year. The remainder of the year cross-country travel is permitted so long as no resource damage occurs.

Environmental Consequences of the Proposed Action: Due to the increase in traffic on RBC and BLM roads the number of motor vehicle accidents will likely continue to increase and the road surface will likely degrade if not properly maintained. No new public access will be created by the proposed action.

Environmental Consequences of the No Action Alternative: None.

Mitigation: Default speed limit for all BLM routes is 25 miles per hour.

FIRE MANAGEMENT

Affected Environment: The proposed well locations involve approximately 7.75 miles of road and pipeline construction and/or road improvement and about acres 9.2 acres of drill pad clearing for an approximate total of 32.9 acres of disturbance in pinyon/juniper stands.

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

Location 24-20-398 is located within the perimeter of a planed prescribed burn. Implementation was initiated in May 2004 and approximately 780 acres were treated. The second unit is slated for treatment as soon as the runoff is complete and before initial green up has begun in the spring of 2006. This is primarily dependent upon weather conditions but is expected to be as soon as mid April or as late as early June of 2006. Approximately 800 acres are scheduled for treatment this year.

Environmental Consequences of the Proposed Action: Due to the existing tree cover of pinion and juniper, there will be a need for the operator to clear the trees associated with the disturbance. If not adequately treated, these trees will result in elevated hazardous fuels conditions and remain on-site for many years. These accumulations of dead material are very receptive to fire brands and spotting from wind driven fires and can greatly accelerate the rate of spread of the fire front. The road(s) associated with this project may be used by the general public for a variety of uses, including access for fire wood gathering, hunting and other dispersed recreational activities. Increased public use of an area will nearly always result in an increased potential for man-caused wildland fires. If not treated the slash and woody debris will create an elevated hazardous dead fuel loading which could pose significant control problems in the event of a wildfire. Additionally there would be greater threat to the public, Williams, Williams contractors, and fire suppression personnel.

With relation to the 24-20-398 location, since the anticipated construction date (late summer 2006) will be after the planned prescribed fire the area will be freshly burned and very susceptible to noxious weed establishment.

Should construction and drilling operations begin prior to the implementation of the scheduled prescribed burn there would be little likelihood that the prescribed burn could be allowed to be completed due to the risk to William's personnel and sub-contractors and their associated equipment.

Environmental Consequences of the No Action Alternative: There would be no tree removal or disturbance to cause significant dead fuel loading.

Mitigation: The operator has two options for treatment of slash from this project. A hydro-ax or other mulching type machine could be used to remove the trees. The machines are capable of shredding trees up to 12" in diameter and 15' tall as well as mowing brush like a conventional brush beater. It generally leaves small branches and pieces of wood from pencil size up to bowling ball size and the mulch is evenly scattered across the surface. This would effectively breakdown the woody fuel and scatters the debris thereby eliminating any hazardous fuel load adjacent to the new road and well pad. The other option would be to cut trees and have them removed for firewood, posts, or other products. The branches and tops should be lopped and scattered to a depth of 24 inches or less. If the products are left for collection by the general public, they should be stacked in small manageable piles along the roadside or pad to facilitate removal. For material brought back onto the pipeline r-o-w the material should be evenly scattered, so as to not create jackpots, and the material should not exceed 5 tons /acre.

Construction of the 24-20-398 well location will not begin until after June 1, 2006 by this time either the planned prescribed fire will be complete or out of prescription to implement this year and will need to be completed in spring 2007.

For the 24-20-398 location all construction equipment shall be washed prior to leaving county 26 and entering onto BLM lands to prevent the establishment of noxious weeds within the prescribed burn area. The operator is required to remove all dirt and debris that could contain

weed seeds by scraping off visible dirt and debris then thoroughly washing all earth moving equipment with a suitable power washer.

FOREST MANAGEMENT

Affected Environment: The 24-13-398 well pad (2.3 acres) and 100 feet of access road (1 acre) are within mature pinyon/juniper woodlands. The 33-32-198 well pad and access road are within a sagebrush site that has encroaching pinyon/juniper woodlands. The 32-5-298 well pad (2.3 acres) and one mile of access road (4 acres) are within mixed aged stands of pinyon/juniper woodlands. The 41-8-298 well pad is within a sparse stand of young pinyon/juniper woodlands. The stands associated with the 24-13-398 and 32-5-298 wells are considered commercial, based on quality production and accessibility. Within the White River ROD/RMP a limit of 25 acres per year for clearcutting of woodlands is permitted. These stands are also used by the local population as a source of firewood and fence posts, and are authorized under personal use permits.

Environmental Consequences of the Proposed Action: Under the proposed action 9.6 acres of woodland would be removed. The estimated volume of material removed is estimated at 128 cords. The removal of woodland resources is within that established within the land use plan. Following reclamation pinions and junipers are expected to reoccupy the site and develop into mature woodlands. Establishment is expected to take up to 30 years and mature woodlands developing in 250+ years. With the mitigation listed below there would not be problems with disease/insects or vehicle use along the pipeline.

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

Mitigation: The applicant will be billed for the forest materials removed as described by the proposed action. Forestry concurs with mitigation proposed by fire management. This would also decrease the opportunity for an outbreak of pine beetle.

GEOLOGY AND MINERALS

Affected Environment: The surface geologic formation of the well locations is Uinta and Williams's targeted zone is located in the lower Mesaverde/upper Mancos. During drilling potential water, oil shale, sodium, and gas zones will be encountered from surface to the targeted zone. Fresh water aquifers that will be encountered during drilling are the Perched in the Uinta, the A-groove, B-groove and the Dissolution Surface in the Green River formation. This aquifer zones and portions of the Wasatch are known for difficulties in drilling and cementing.

William's well # 14-28-198 is located in Natural Soda's Federal sodium lease COC-0119986 approximately 2 miles west of Natural Soda's solution mining well field and water monitoring wells. Wells #35-5-298 and 41-8-298 are located in American Alkali's Federal sodium lease COC-0120057 approximately 3 miles west and south of Natural Soda's solution mining well field and water monitoring wells. Wells 14-28-198, 33-2-198, and 32-5-298 are in the area

identified in the ROD/RMP as available for multi mineral leasing. Wells 41-8-298, 22-16-298, 24-20-398 and 24-13-398, are in an area identified as available for both sodium and oil shale leasing.

According to the approved mine plan Natural Soda is required by the EPA, BLM, and Colorado Department of Natural Resources Division of Minerals and Geology to monitor the water quality and hydrostatic head of each of these aquifers.

Environmental Consequences of the Proposed Action: Drilling and completion of this well may adversely affect the aquifers and the monitoring wells if there is loss of circulation or problems cementing the casing. However, the approved cementing and completion procedure of the proposed action isolates the formations if done correctly, will prevent the migration of gas, water, and oil between formations. Development of these wells will deplete the hydrocarbon resources in the targeted formation.

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

Mitigation: The sodium lease holders shall be notified by the operator of the plans to drill wells 14-28-198, 35-5-298 and 41-8-298 prior to the commencement of surface disturbing act ivies.

To prove ownership of any aquifer contamination or drilling influence a fluorescent dye other than Rhodamin WT, should be added to all drilling fluids used through the Green River formation.

For wells 14-28-198, 35-5-298 and 41-8-298 drilling fluid should be sampled and analyzed for pH and conductivity every 100 feet from surface to 100 feet below the Dissolution surface. Williams should document fluid losses during drilling operations through the Green River Formation. The analysis of the fluid samples and fluid loss documentation will be supplied to the BLM Meeker office within 30 days of drilling.

PALEONTOLOGY

Affected Environment: Proposed 14-28-198, 22-16-298, 24-13-398, 24-20-398, 32-5-298, 33-32-198, and 41-8-298 well pad locations and access routes: The proposed well pad locations and access routes are in an area generally mapped as the Uinta Formation (Tweto 1979) which the BLM, WRFO has classified as a Condition I fossil formation meaning it is known to produce scientifically important fossil resources.

Environmental Consequences of the Proposed Action: Proposed 14-28-198, 22-16-298, 24-13-398, 24-20-398, 32-5-298, 33-32-198, and 41-8-298 well pad locations and access routes: Should it become necessary, at any time, to excavate into the underlying rock formation to prepare a road, level a well pad or excavate the reserve/blooie pit there is a potential to adversely impact scientifically important fossil resources.

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

Mitigation: Proposed 14-28-198, 22-16-298, 24-13-398, 24-20-398, 32-5-298, 33-32-198, and 41-8-298 well pad locations and access routes: 1. The operator is responsible for informing all persons who are associated with the project operations that they will be subject to prosecution for knowingly disturbing paleontological sites, or for collecting fossils. If fossil materials are uncovered during any project or construction activities, the operator is to immediately stop activities in the immediate area of the find that might further disturb such materials, and immediately contact the authorized officer (AO). Within five working days the AO will inform the operator as to:

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

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

2. A paleontological inventory of all exposed rock outcrops in the well pad and access road areas shall be inventoried by an approved paleontologist with a report detailing the results of the inventory submitted to the BLM with mitigation recommendations, as appropriate, prior to the initiation of any construction.

3. If at any time it becomes necessary to excavate into the underlying rock to prepare the access route, level the well pad or excavate the reserve/blooie pit a paleontological monitor shall be present for such excavations.

RANGELAND MANAGEMENT

Affected Environment: The proposed action occurs within the Square S (06027), Black Sulphur (06029), Reagle (06026) and Fawn Creek (06024) allotments. The areas of the affected allotments are licensed for spring and fall grazing use. The timing and length of grazing use varies by allotment.

Environmental Consequences of the Proposed Action: The proposed action, 95 acres of disturbance, will result in a direct loss of forage to the four livestock operations on the affected allotments until/if the pipeline routes are successfully revegetated. The loss will be as follows:

Black Sulphur - 2 AUMs

Square S	-	2 AUMs
Reagles	-	2 AUMs
Fawn Creek	-	3 AUMs

Dust damage to vegetation could at least double the forage loss. This proposed action could interfere with proper functioning of the range improvements near the proposal. The fences and water sources in this area are necessary for control of cattle to achieve grazing objectives on four grazing allotments and to keep cattle from straying into the wrong grazing use area. Damage to fences or gates left open interferes with control of cattle and ultimately with proper utilization of the rangeland resource. Damage to watering facilities could affect water availability and distribution of livestock, resulting in increased grazing pressure on areas that have water available for livestock.

The access road and pipeline for location 33-32-198 crosses the Square S allotment boundary fence in NESE Sec 32, T 2S R 98W. This same access road crosses the Equity water line at about the same location. The access road and pipeline for location 22-16-298 crosses the Square S allotment boundary fence in SESW Sec 16.

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

Mitigation: A minimum 20 foot wide cattleguard with a 16 foot gate next to it will be installed at both locations where access roads intersect the above mentioned existing fencelines *prior* to access road and well location construction. All fence and cattleguard work will be completed to BLM specifications. A copy of these specifications will included as part of the conditions of approval. The integrity of the fences is to be maintained at all times. If the Equity waterline is damaged, it will be replaced to BLM specifications.

If produced or drilling water is hauled during the period May 155 to October 15, the operator will be required to water access roads or otherwise provide for dust abatement in order to reduce damage to and loss of vegetation.

REALTY AUTHORIZATIONS

Affected Environment: The project will entail the construction, operation, and maintenance of seven additional 4-inch buried lateral pipelines and will be an amendment to Bargath's existing right-of-way COC67991.

Environmental Consequences of the Proposed Action: The seven wells to be serviced by this amendment are in the Ryan Gulch Unit area. The pipelines will follow the access road from each well to a tie-in point on the Ryan Gulch gathering system.

1. RGU 41-8-298 is 506 feet in length, 30 feet in width = 0.35 acres.
2. RGU 35-2-298 is 6,135 feet in length, 30 feet in width = 4.23 acres.
3. RGU 33-32-198 is 2,294.2 feet in length, 30 feet in width = 1.58 acres

4. RGU 14-28-198 is 2,617.3 feet in length, 30 feet in width = 1.80 acres
5. RGU 22-16-298 is 36.5 feet in length, 30 feet in width = 0.03 acres
6. RG 24-20-398 is 16,258 feet in length 30 feet in width = 11.20 acres
7. RG 24-13-398 is 50,059.4 feet in length 30 feet in width = 34.48 acres

Environmental Consequences of the No Action Alternative: None

Mitigation: 1. The holder shall construct, operate, and maintain the facilities, improvements, and structures within this right-of-way in strict conformity with the plan(s) of development which was (were) approved and made part of the grant on issuance Any relocation, additional construction, or use that is not in accord with the approved plan(s) of development, shall not be initiated without the prior written approval of the authorized officer. A copy of the complete right-of-way grant, including all stipulations and approved plan(s) of development, shall be made available on the right-of-way area during construction, operation, and termination. Noncompliance with the above will be grounds for an immediate temporary suspension of activities if it constitutes a threat to public health and safety or the environment.

2. The holder shall contact the authorized officer at least five days prior to the anticipated start of construction and/or any surface disturbing activities. The authorized officer may require and schedule a preconstruction conference with the holder prior to the holder's commencing construction and/or surface disturbing activities on the right-of-way. The holder and/or his representative shall attend this conference. The holder's contractor, or agents involved with construction and/or any surface disturbing activities associated with the right-of-way, shall also attend this conference to review the stipulations of the grant including the plans(s) of development.

3. No surface disturbing activities shall take place on the subject right-of-way until the associated APD is approved. The holder will adhere to special stipulations in the Surface Use Program of the approved APD, relevant to any right-of-way facilities.

4. The holder shall be responsible for weed control on disturbed areas within the limits of the right-of-way. The holder is responsible for consultation with the authorized officer and/or local authorities for acceptable weed control methods (within limits imposed in the grant stipulations).

5. The holder shall protect all survey monuments found within the right-of-way. Survey monuments include, but are not limited to, General Land Office and Bureau of Land Management Cadastral Survey Corners, reference corners, witness points, U.S. Coastal and Geodetic benchmarks and triangulation stations, military control monuments, and recognizable civil (both public and private) survey monuments. In the event of obliteration or disturbance of any of the above, the holder shall immediately report the incident, in writing, to the authorized officer and the respective installing authority if known. Where General Land Office or Bureau of Land Management right-of-way monuments or references are obliterated during operations, the holder shall secure the services of a registered land surveyor or a Bureau cadastral surveyor to restore the disturbed monuments and references using surveying procedures found in the Manual of Surveying Instructions for the Survey of the Public Lands in the United States, latest edition. The holder shall record such survey in the appropriate county and send a copy to the authorized

officer. If the Bureau cadastral surveyors or other Federal surveyors are used to restore the disturbed survey monument, the holder shall be responsible for the survey cost.

6. The holder shall survey and clearly mark the centerline and/or exterior limits of the right-of-way prior to any surface disturbing activity, as determined by the authorized officer.

7. No construction or routine maintenance activities shall be performed during periods when the soil is too wet to adequately support construction equipment. If such equipment creates ruts in excess of three inches deep, the soil shall be deemed too wet to adequately support construction equipment.

8. The holder shall conduct all activities associated with the construction, operation, and termination of the right-of-way within the authorized limits of the right-of-way.

9. The holder shall inform the authorized officer within 48 hours of any accidents on federal lands that require reporting to the Department of Transportation as required by 49 CFR Part 195.

10. The holder is prohibited from discharging oil or other pollutants into or upon the navigable waters of the United States, adjoining shorelines, or the waters of the contiguous zone in violation of Section 311 of the Clean Water Act as amended, 33 U.S.C. 1321, and the regulations issued thereunder, or applicable laws of the State(s) of xx and regulations issued thereunder. Holder shall give immediate notice of any such discharge to the authorized officer and such other Federal and State officials as are required by law to be given such notice.

11. Prior to any discharge, hydrostatic testing water will be tested and processed, if necessary, to ensure that the water meets local, State or Federal water quality standards. Prior to discharge of hydrostatic testing water from the pipeline, the holder shall design and install a suitable energy dissipater at the outlets, and design and install suitable channel protection structures necessary to ensure that there will be no erosion or scouring of natural channels within the affected watershed as a result of such discharge. The holder will be held responsible for any erosion or scouring resulting from such discharge. Sandbags, rock, or other materials or objects installed shall be removed from the site upon completion of hydrostatic testing.

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.

Environmental Consequences of the Proposed Action: The public will lose approximately 20 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.

Environmental Consequences of the No Action Alternative: No loss of dispersed recreation potential.

Mitigation: None

VISUAL RESOURCES

Affected Environment: The proposed actions 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: Visual sensitivity in the area is low because access to the area is limited. Additionally, distance and intervening terrain shield the area from the most highly traveled route by a casual observer in the area, the Piceance Creek Road (CR 5). Local ranchers, a growing number of oil and gas company employees and contractors, and a few recreational visitors during hunting season make up the potential viewing public. The seven proposed well pads, with their associated access roads and pipelines, would alter the landscape character. Removal of vegetation and recontouring of the natural surface during construction would introduce linear features into the landscape and offer contrasting soil and vegetation colors and patterns that had not previously been there. This change would lessen in the long term as exposed areas are reclaimed and bare soil is not so extensively evident. Additionally, above-ground natural gas production facilities would introduce man-made industrial facilities that would draw attention due to their size, color, and shape. The use of natural, non-reflective paint tones would reduce the visual impact of the facilities.
Viewed from the middle-background, the changes in the overall landscape of the project area would appear to be moderate and would not dominate the natural character of the landscape since they would be dispersed over a fairly large area. The character of the landscape would be partially retained, meeting the standards of the VRM III classification.

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

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

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

REFERENCES CITED:

Conner, Carl E.

2005 Class III Cultural Resources Inventory for Four Proposed Well Locations (RGU 12-3-298D, RGU 32-5-298, RGU 41-8-298 and the RGU 33-7-298) and Related Linear Routes (8700 feet) in Rio Blanco County, Colorado for Williams Production RMT. Grand River Institute, Grand Junction, Colorado.

2005 Class III Cultural Resources inventory for Ten Proposed RGU Well Locations and Short Access Routes in Rio Blanco County for Williams Production RMT [Fed. RGU Well Nos.: 23-6-297, 13-36-198, 24-29-198, 31-30-198, 31-32-198, 22-35-198, 44-1-298, 12-10-298D, 42-11-298]. Grand River Institute, Grand Junction, Colorado.

Conner, Carl E. and Barbara J. Davenport

2005 Class III Cultural Resource Inventory Report for Six Proposed Well Locations and Related Access Routes South of Black Sulphur Creek in Rio Blanco County, Colorado for Williams Production RMT. Grand River Institute, Grand Junction, Colorado.

Conner, Carl E., Barbara Davenport, Dana Archuleta and Jim Conner

2005 Class III Cultural Resources Inventory Report for Thirteen Proposed Well Locations and Related Linear Routes in Rio Blanco County, Colorado for Williams Production RMT. Grand River Institute, Grand Junction, Colorado.

2005 Addendum: Class III Cultural Resources Inventory Report for Thirteen Proposed Well Locations and Related Linear Routes in Rio Blanco County, Colorado for Williams Production RMT: Relocation of access to the RGU 22-20-198 and RGU 14-28-198 Wells. Grand River Institute, Grand Junction, Colorado.

Topper, R., K.L. Spray, W.H. Bellis, J.L. Hamilton, and P.E. Barkmann. 2003. Groundwater Atlas of Colorado, Special Publication 53. Prepared for State of Colorado Department of Natural Resources, Division of Minerals and Geology. Colorado Geological Survey. Denver, 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
Nate Dieterich	Hydrologist	Air Quality, Water Quality, Surface and Ground Hydrology and Water Rights, Soils
Tamara Meagley	Natural Resource Specialist	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
Brett Smithers	Natural Resource Specialist-Wildlife Biologist	Migratory Birds, Threatened, Endangered and Sensitive Animal Species, Wildlife, Wetlands and Riparian Zones, Wildlife Terrestrial and Aquatic
Melissa Kindall	Hazmat Collateral	Wastes, Hazardous or Solid
Chris Ham	Outdoor Recreation Planner	Wilderness, Access and Transportation, Recreation
Ken Holsinger	Natural Resource Specialist	Fire Management
Robert Fowler	Forester	Forest Management
Paul Daggett	Mining Engineer	Geology and Minerals
Penny Brown	Realty Specialist	Realty Authorizations
Keith Whitaker	Natural Resource Specialist	Visual Resources
Valerie Dobrich	Natural Resource Specialist	Wild Horses

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

CO-110-2006-053-EA

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

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

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, 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 the roadway with gravels will also help mitigate production of fugitive particulate matter.

2. To reduce production of fugitive particulate matter originating from well pads and associated stockpiled soils (long term storage) interim reclamation will be required. Interim reclamation will consist of excess stockpiled soils associated with pad construction being pulled back over the portion of the well pad not being utilized for production facilities and access. Portions of the well pad undergoing interim reclamation will be returned to grade (as close as possible), promptly re-seeded, and biodegradable fabrics will be utilize on slopes exceeding 5% (e.g. fill slopes).

3. If interim reclamation is not practical (e.g. completion of drilling operation will require an extended period time (multiple well pads)), stockpiled topsoil will be covered with biodegradable fabrics such as (but not limited to) jute netting and seeded with a BLM approved seed mixture (see vegetation section of this document). Furthermore, soils stockpiled for short durations (e.g. during road/pipeline construction/maintenance) will be wetted during dry periods to reduce production of fugitive particulate matter.

4. For all well pad locations and access routes: 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.

5. 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.

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

7. For the 24-20-398 location all construction equipment shall be washed prior to leaving county 26 and entering onto BLM lands to prevent the establishment of noxious weeds within the prescribed burn area. The operator is required to remove all dirt and debris that could contain weed seeds by scraping off visible dirt and debris then thoroughly washing all earth moving equipment with a suitable power washer.

8. It will be the responsibility of the operator to effectively preclude migratory bird access to, or contact with, reserve pit contents that possess toxic properties (i.e., through ingestion or exposure) or have potential to compromise the water-repellent properties of birds' plumage. Exclusion methods may include netting, the use of "bird-balls", or other alternative methods that effectively eliminate migratory bird contact with pit contents and meet BLM's approval. It will be the responsibility of the operator to notify the BLM of the method that will be used to eliminate migratory bird use two weeks prior to initiation of drilling activities. The BLM-approved method will be applied within 24 hours after drilling activities have begun. All lethal and non-lethal events that involve migratory birds will be reported to a White River Field Office Petroleum Engineer Technician immediately.

9. Pad and road construction, drilling, well completion, workover activity, and reclamation associated with the 24-13-398 location would be subject to the RMP-approved timing limitation stipulation TL-04, which disallows disruptive activity within ¼ mile of raptor nests from February 1 through August 15.

10. The applicant shall be required to collect and properly dispose of any solid waste generated by the proposed actions.

11. The operator will be responsible for complying with all local, state, and federal water quality regulations (such as but not limited to Phase I Storm Water Permit, and Industrial Wastewater/Produced Water Permits). The operator will also be required to provide the BLM with documentation that all required permits were obtained.

Surface Water: All surface disturbing activities will strictly adhere to "Gold Book" 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) are not recommended on slopes less than 10% and will NOT be used as drainage relief structures for stream crossings/gullies or to drain inside drain ditches on slopes less than 3%. Based on the nature of the affected soils, drain dips will be utilized in place of CMPs in these locations. Energy dissipaters such as large gravels/small cobbles will be used at culvert and drainage dip outlets to minimize additional erosion. To mitigate water being channelized down roadways, all activity must 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. Furthermore, following abandonment of the well pad all disturbed surfaces will be recontoured to the original grade promptly covered with a sufficient amount of woody debris (if available) and revegetated with the appropriate seed mixture as outlined in the vegetation section of this document.

12. To mitigate surface erosion at well pads, interim reclamation will be required as outlined in the Air Quality mitigation section above. In addition, silt fences will be utilized on all slopes exceeding 5 % (e.g. cut/fill slopes and soil stockpiles).

Ground Water: Shallow aquifers shall be protected from hydrofracturing and the production of oil and gas by installation and cementing of surface and intermediate casing. Any groundwater produced from the Fort Union or Mesaverde Formations will be hauled off and disposed of due to poor water quality and therefore preventing adverse impacts to valuable surface and ground water resources. Environmentally unfriendly substances (e.g. diesel) must not be allowed to contact soils. The use of spill-guards (or equivalent spill prevention equipment) under and around pumping equipment is suggested at all locations to intercept such contaminants prior to contacting soils. Furthermore, to protect shallow ground water recharging the affected streams all pits shall be lined and all wastes associated with construction and drilling will be properly treated and disposed of as outlined in the proposed actions.

13. The operator shall comply with "Gold Book" surface operating standards for constructing well pads, pipelines and access roads (copies of the "Gold Book" can be obtained at the WRFO). The identified portion of access road to location 24-13-398 will require and engineered design and reclamation plan which is to be approved by the area manager prior to construction. Interim reclamation will be required as addressed in the Air and Water Quality portions of this document. To mitigate contamination of soils and local ground water, environmentally unfriendly substances (e.g. diesel) must not be allowed to contact soils. The use of impermeable matting under equipment (tanks, pumps, or other equipment used in handling potentially hazardous liquids) is recommended to intercept contaminants prior to contacting soils. Complete reclamation will follow abandonment of well pads. New access roads and well pads will be

recontoured and 100% of disturbed surfaces will be revegetated with the suggested seed mixture as outlined in the vegetation section of this document.

14. The operator shall promptly revegetate all disturbed areas with Native Seed mix #3. 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

Native Seed mix #3		
Western wheatgrass (Rosanna)	2	Gravelly 10"-14", Pinyon/Juniper Woodland, Stony Foothills, 147 (Mountain Mahogany)
Bluebunch wheatgrass (Whitmar)	2	
Needle and thread	1	
Indian ricegrass (Rimrock)	2	
Fourwing saltbush (Wytana)	1	
Utah sweetvetch	1	

15. 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

16. Default speed limit for all BLM routes is 25 miles per hour.

17. The operator has two options for treatment of slash from this project. A hydro-ax or other mulching type machine could be used to remove the trees. The machines are capable of shredding trees up to 12" in diameter and 15' tall as well as mowing brush like a conventional brush beater. It generally leaves small branches and pieces of wood from pencil size up to bowling ball size and the mulch is evenly scattered across the surface. This would effectively breakdown the woody fuel and scatters the debris thereby eliminating any hazardous fuel load adjacent to the new road and well pad. The other option would be to cut trees and have them removed for firewood, posts, or other products. The branches and tops should be lopped and scattered to a depth of 24 inches or less. If the products are left for collection by the general public, they should be stacked in small manageable piles along the roadside or pad to facilitate removal. For material brought back onto the pipeline r-o-w the material should be evenly scattered, so as to not create jackpots, and the material should not exceed 5 tons /acre.

18. Construction of the 24-20-398 well location will not begin until after June 1, 2006 by this time either the planned prescribed fire will be complete or out of prescription to implement this year and will need to be completed in spring 2007.

19. For the 24-20-398 location all construction equipment shall be washed prior to leaving county 26 and entering onto BLM lands to prevent the establishment of noxious weeds within the prescribed burn area. The operator is required to remove all dirt and debris that could contain weed seeds by scraping off visible dirt and debris then thoroughly washing all earth moving equipment with a suitable power washer.

20. The applicant will be billed for the forest materials removed as described by the proposed action. Forestry concurs with mitigation proposed by fire management. This would also decrease the opportunity for an outbreak of pine beetle.

21. The sodium lease holders shall be notified by the operator of the plans to drill wells 14-28-198, 35-5-298 and 41-8-298 prior to the commencement of surface disturbing act ivies.

22. To prove ownership of any aquifer contamination or drilling influence a fluorescent dye other than Rhodamin WT, should be added to all drilling fluids used through the Green River formation.

23. For wells 14-28-198, 35-5-298 and 41-8-298 drilling fluid should be sampled and analyzed for pH and conductivity every 100 feet from surface to 100 feet below the Dissolution surface. Williams should document fluid losses during drilling operations through the Green River Formation. The analysis of the fluid samples and fluid loss documentation will be supplied to the BLM Meeker office within 30 days of drilling.

24. Proposed 14-28-198, 22-16-298, 24-13-398, 24-20-398, 32-5-298, 33-32-198, and 41-8-298 well pad locations and access routes: 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.

25. A paleontological inventory of all exposed rock outcrops in the well pad and access road areas shall be inventoried by an approved paleontologist with a report detailing the results of the inventory submitted to the BLM with mitigation recommendations, as appropriate, prior to the initiation of any construction.

26. If at any time it becomes necessary to excavate into the underlying rock to prepare the access route, level the well pad or excavate the reserve/blooie pit a paleontological monitor shall be present for such excavations.

27. A minimum 20 foot wide cattleguard with a 16 foot gate next to it will be installed at both locations where access roads intersect the above mentioned existing fencelines *prior* to access road and well location construction. All fence and cattleguard work will be completed to BLM specifications. A copy of these specifications will included as part of the conditions of approval. The integrity of the fences is to be maintained at all times. If the Equity waterline is damaged, it will be replaced to BLM specifications.

28. If produced or drilling water is hauled during the period May 155 to October 15, the operator will be required to water access roads or otherwise provide for dust abatement in order to reduce damage to and loss of vegetation.

29. The holder shall construct, operate, and maintain the facilities, improvements, and structures within this right-of-way in strict conformity with the plan(s) of development which was (were) approved and made part of the grant on issuance Any relocation, additional construction, or use that is not in accord with the approved plan(s) of development, shall not be initiated without the prior written approval of the authorized officer. A copy of the complete right-of-way grant, including all stipulations and approved plan(s) of development, shall be made available on the right-of-way area during construction, operation, and termination. Noncompliance with the above will be grounds for an immediate temporary suspension of activities if it constitutes a threat to public health and safety or the environment.

30. The holder shall contact the authorized officer at least five days prior to the anticipated start of construction and/or any surface disturbing activities. The authorized officer may require and schedule a preconstruction conference with the holder prior to the holder's commencing construction and/or surface disturbing activities on the right-of-way. The holder and/or his representative shall attend this conference. The holder's contractor, or agents involved with construction and/or any surface disturbing activities associated with the right-of-way, shall also attend this conference to review the stipulations of the grant including the plans(s) of development.

31. No surface disturbing activities shall take place on the subject right-of-way until the associated APD is approved. The holder will adhere to special stipulations in the Surface Use Program of the approved APD, relevant to any right-of-way facilities.

32. The holder shall be responsible for weed control on disturbed areas within the limits of the right-of-way. The holder is responsible for consultation with the authorized officer and/or local authorities for acceptable weed control methods (within limits imposed in the grant stipulations).

33. The holder shall protect all survey monuments found within the right-of-way. Survey monuments include, but are not limited to, General Land Office and Bureau of Land Management Cadastral Survey Corners, reference corners, witness points, U.S. Coastal and Geodetic benchmarks and triangulation stations, military control monuments, and recognizable civil (both public and private) survey monuments. In the event of obliteration or disturbance of any of the above, the holder shall immediately report the incident, in writing, to the authorized officer and the respective installing authority if known. Where General Land Office or Bureau of Land Management right-of-way monuments or references are obliterated during operations, the

holder shall secure the services of a registered land surveyor or a Bureau cadastral surveyor to restore the disturbed monuments and references using surveying procedures found in the Manual of Surveying Instructions for the Survey of the Public Lands in the United States, latest edition. The holder shall record such survey in the appropriate county and send a copy to the authorized officer. If the Bureau cadastral surveyors or other Federal surveyors are used to restore the disturbed survey monument, the holder shall be responsible for the survey cost.

34. The holder shall survey and clearly mark the centerline and/or exterior limits of the right-of-way prior to any surface disturbing activity, as determined by the authorized officer.

35. No construction or routine maintenance activities shall be performed during periods when the soil is too wet to adequately support construction equipment. If such equipment creates ruts in excess of three inches deep, the soil shall be deemed too wet to adequately support construction equipment.

36. The holder shall conduct all activities associated with the construction, operation, and termination of the right-of-way within the authorized limits of the right-of-way.

37. The holder shall inform the authorized officer within 48 hours of any accidents on federal lands that require reporting to the Department of Transportation as required by 49 CFR Part 195.

38. The holder is prohibited from discharging oil or other pollutants into or upon the navigable waters of the United States, adjoining shorelines, or the waters of the contiguous zone in violation of Section 311 of the Clean Water Act as amended, 33 U.S.C. 1321, and the regulations issued thereunder, or applicable laws of the State(s) of xx and regulations issued thereunder. Holder shall give immediate notice of any such discharge to the authorized officer and such other Federal and State officials as are required by law to be given such notice.

39. Prior to any discharge, hydrostatic testing water will be tested and processed, if necessary, to ensure that the water meets local, State or Federal water quality standards. Prior to discharge of hydrostatic testing water from the pipeline, the holder shall design and install a suitable energy dissipater at the outlets, and design and install suitable channel protection structures necessary to ensure that there will be no erosion or scouring of natural channels within the affected watershed as a result of such discharge. The holder will be held responsible for any erosion or scouring resulting from such discharge. Sandbags, rock, or other materials or objects installed shall be removed from the site upon completion of hydrostatic testing.

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

NAME OF PREPARER: Brett Smithers

NAME OF ENVIRONMENTAL COORDINATOR: Caroline Hollowed

SIGNATURE OF AUTHORIZED OFFICIAL: _____
Field Manager

DATE SIGNED: 3/23/06

ATTACHMENTS: Location map of the proposed action

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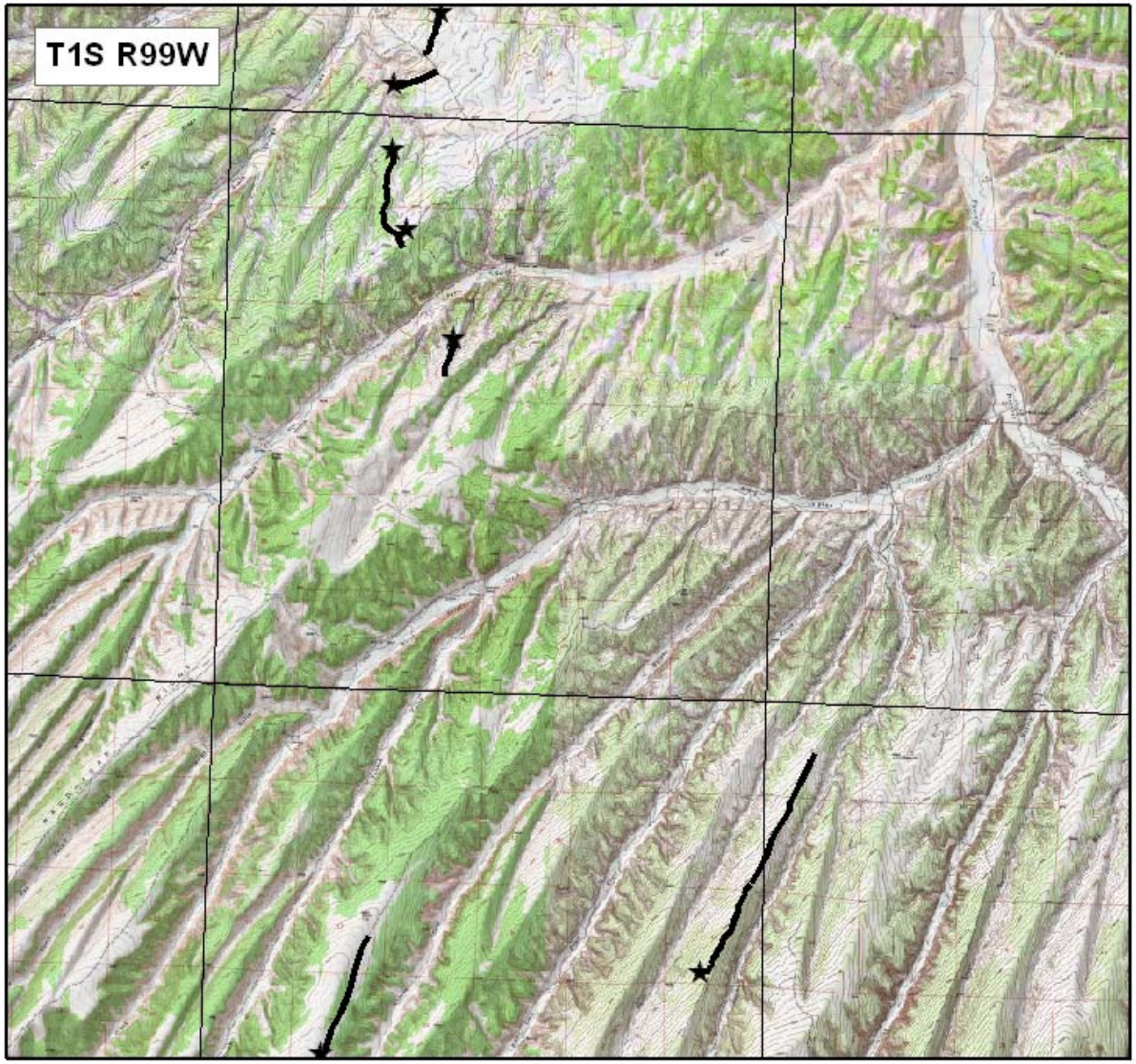

Townships
Access Routes
Proposed Wells

N

0 20 40 80
Miles

3/22/2006