

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

ENVIRONMENTAL ASSESSMENT

NUMBER: CO-110-2004-149-EA

CASEFILE/PROJECT NUMBER (optional): COC-65561 (8601C and 8602A),
COC-50267 (8608C and 8610C)

PROJECT NAME: EnCana Eureka/Double Willow Exploratory Wells

LEGAL DESCRIPTION Well Pad A07 497 (8601C and 8602A) T4S, R97W, NENE Sec. 7
Well Pad H18 497 (8608C and 8610C) T4S, R97W, SENE Sec.18

APPLICANT: EnCana Oil & Gas (USA) Inc.

DESCRIPTION OF PROPOSED ACTION AND ALTERNATIVES:

Proposed Action: The applicant proposes to develop four gas wells, two wells on each of the two well pads. The well pad locations are designated A07 497 and H18 497. (During the on-sites and surveys of these locations, they were referred to as the DW-P016 and the DW-P017, respectively.) The locations are about 1¼ miles apart at the southernmost end of Big Jimmy Ridge. Included in the proposed action are:

- improvement of the existing 10.75 mile access road up the ridge from the Hunter Creek road to the A07 497 and the H18 497; the improved access road would have an 18-20 foot running surface, be crowned and ditched, with additions to the existing water bars as needed;
- construction of 0.15 mile of road to the A07 497;
- construction of 0.2 mile of road to the H18 497;
- construction of a 7,800' pipeline buried in the road south from the A07 497 to the H18 497;
- construction of a 3,900' buried pipeline south from H18 497 to a tie-in with a pipeline in West Willow Creek;
- the fence encountered by the new access road to well pad A07 497 will be relocated; the relocated fence will be constructed to BLM specifications with a 4-wire, barbed wire fence for big game ranges.

All new surface disturbances for access roads, pipelines and well pads would be located on federal lands administered by BLM. Total potential disturbance on BLM land would be as much as 78 acres – 64.9 acres for the improved access road, 2.1 acres for new access roads, 4.4 acres for the pipeline route from the H18 497, 3.5 acres for the well pad at A07 497, and 3.2 acres for the well pad at H18 497.

No Action Alternative: No wells would be developed. No well pads or roads would be improved or constructed and no pipelines would be installed.

NEED FOR THE ACTION: EnCana has submitted Applications for Permits to Drill (APDs) in order to exercise their federal mineral lease rights.

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

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

Date Approved: July 1, 1997

Decision Number/Page: Page 2-5: “Make federal oil and gas resources available for leasing and development in a manner that provides reasonable protection for other resource values.”

Decision Language: The proposed action has been reviewed for conformance with this plan (43 CFR 1610.5, BLM 1617.3). The action conforms to the decisions/pages of the plan listed above.

AFFECTED ENVIRONMENT / ENVIRONMENTAL CONSEQUENCES / MITIGATION MEASURES:

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

CRITICAL ELEMENTS

AIR QUALITY

Affected Environment: The proposed action is within a Class II Prevention of Significant Deterioration (PSD) air quality area. No Class I PSD areas are within 40 miles of the project area.

The principal air quality parameter likely to be affected by the project is the inhalable particulate level (PM₁₀ - particles ten microns or less in diameter). Although no monitoring data are available for the survey area, it can be surmised that the air quality is good because the Colorado Air Pollution Control Division (APCD) estimates the maximum PM₁₀ levels (24-hour average) in rural portions of western Colorado like the Piceance Basin to be less than 50 micrograms per cubic meter. This estimate is well below the National Ambient Air Quality Standard for PM₁₀ of 150 µg/m³.

Environmental Consequences of the Proposed Action: The proposed action would result in short term, local impacts on air quality during and after construction, due to dust being blown into the air. However, airborne particulate matter should not exceed Colorado air quality standards on an hourly or daily basis. Following successful revegetation of the sites, airborne particulate matter should return to near pre-construction levels

Environmental Consequences of the No Action Alternative: None

Mitigation: Implement dust abatement measures described in the APD's 13 Point Surface Use Plan.

CULTURAL RESOURCES

Affected Environment: Well Pad A07 497: The proposed well pad and access road have been inventoried at the Class III (100% pedestrian) level (Conner and Davenport 2004, Compliance Dated 5/12/2004). No cultural resources had previously been recorded in the area and none were identified in the inventory.

Well Pad H18 497: The proposed well pad and access road have been inventoried at the Class III (100% pedestrian) level (Conner and Davenport 2004, Compliance Dated 5/12/2004). No cultural resources had previously been recorded in the area and none were identified in the inventory.

Road Upgrades: The proposed road upgrade was included in three separate cultural inventories. The southern portion of the access road, 8.25 miles, has been inventoried at the Class III (100% pedestrian) level in two reports (Conner and Davenport 2004, Compliance Dated 5/12/2004; Conner and Davenport 2004, Compliance Dated 5/27/2004). The 2.5 miles at the northernmost section of the access road has been inventoried (Conner and Davenport 2004, Compliance Dated 8/11/2004) with two sites and three isolated finds located in the area inventoried.

Proposed Pipelines: The well tie-in pipeline between the A07 497 and the H18 497 was included in the Class III inventory of the upper road upgrade (Conner and Davenport 2004, Compliance Dated 5/12/2004). The well tie-in pipeline from the H18 497 pad down into West

Willow Creek has been inventoried at the Class III (100% pedestrian) level (Conner 2004, Compliance Dated 7/21/2004) with no new cultural resources identified in the inventoried pipeline route.

Environmental Consequences of the Proposed Action: Construction of the proposed well pads, the pipeline between them, and their new access roads would not impact any known cultural resources. Upgrade of the 10.75 miles of the existing road up Big Jimmy Ridge would not impact any known cultural resources provided all mitigations procedures are adhered to.

Environmental Consequences of the No Action Alternative: None

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

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

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

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

3. Sites 5RB 4794 and 4795 are to be avoided by all construction and maintenance activities (map routed to NRS).

INVASIVE, NON-NATIVE SPECIES

Affected Environment: Well Pad A07 497: The well pad and proposed access road were inventoried for the presence of any noxious or invasive weeds on April 21, 2004. The inventory included approximately 40 acres (a minimum radius of 700 feet around the pad center stake and at least 100 feet either side of the flagged access road). No noxious weeds were found. The only invasive non-native species noted was cheat grass, which occurs in a few isolated locations adjacent to existing roads in the area.

Well Pad H18 497: The well pad and proposed access road were inventoried for the presence of any noxious or invasive weeds on April 21, 2004. The inventory included approximately 40 acres (a minimum radius of 700 feet around the pad center stake and at least 100 feet either side of the flagged access road). No noxious weeds or invasive non-native species were found.

Road Upgrades: The 9.5 miles of road upgrade were inventoried for presence of any noxious or invasive weeds on May 5, 2004. Approximately 50 feet either side of the existing roads was inventoried which included two short flagged re-routes. No noxious weeds were found. The only invasive non-native species noted was cheat grass, which occurred in a few isolated locations adjacent to existing roads in the area.

Proposed Pipelines: The proposed road and pipeline route between A07 497 and H18 497 was inventoried on June 10, 2004. The proposed pipeline route from pad H18 497 to the tie-in point in West Willow Creek was inventoried on July 7, 2004. No noxious or invasive weeds were found along the proposed routes.

Environmental Consequences of the Proposed Action: This general area of the Piceance Basin has infestations of houndstongue, musk thistle, yellow toadflax, leafy spurge and spotted knapweed, all of which are being treated by BLM, local ranchers and others. The disturbance associated with the proposed action could create a noxious weed problem by importing weed seed on vehicles and equipment or by having suitable conditions present (non-vegetated disturbed areas) for introduction of noxious weeds by other vectors. In addition to noxious weeds, invasive non-native species such as cheat grass could also establish on these areas. Establishment of noxious or invasive weeds would create problems through seed production in proportion to the number of plants and the duration they are reproducing. Increased seed production of noxious or invasive plants could aggressively compete with or exclude desired vegetation during reclamation. The noxious or invasive species seed production could also encourage the spread of these unwanted plants into the adjacent native plant communities.

Environmental Consequences of the No Action Alternative: None

Mitigation: Eliminate any noxious or invasive plants before any seed production has occurred. Eradication should make use of materials and methods approved in advance by the Authorized Officer. Application of herbicides must be under field supervision of an EPA-certified pesticide applicator.

The operator will clean all off-road equipment to remove seed and soil prior to commencing operations on public lands within the project area.

Other mitigation is included in the Vegetation section.

MIGRATORY BIRDS

Affected Environment: A large array of migratory birds nest during the months of May, June and July within the sagebrush, pinyon-juniper and mountain shrub communities that are found in the area of the proposed action. Bird populations associated with these communities that have a high conservation interest (i.e., Rocky Mountain Bird Observatory, Partners in Flight program) are listed in the following table. There are no specialized or narrowly endemic species known to occupy the project area.

Birds of High Conservation Priority by Habitat Association

Sagebrush	Pinyon-juniper	Mountain shrub
Brewer’s sparrow Green-tailed towhee	Pinyon jay, black-throated gray warbler, Juniper titmouse, gray flycatcher, gray vireo, violet-green swallow	Blue grouse Common poorwill

Environmental Consequences of the Proposed Action: Construction or upgrade of roads, well pads and pipelines would result in disturbance on about 78 acres of sagebrush, pinyon-juniper and mountain shrub habitat. Although the proposed action would represent an incremental and longer term reduction in the extent of the habitat associations described, implementation of the proposed action would have no measurable influence on the abundance or distribution of breeding migratory birds at the scale of the proposed action. Nesting of migratory birds may be disrupted and nests could be lost should the construction activities occur during the May through June period.

Environmental Consequences of the No Action Alternative: None

Mitigation: None

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

Affected Environment: The area of the proposed action includes no federally listed animal species and no habitat for such species. The special status species of concern in the project area are two Colorado BLM Sensitive Species, greater sage-grouse and northern goshawk.

Well Pad A07 497, access road and pipeline: The short access road and well pad are located on the west side of Big Jimmy Ridge in scattered mature and younger pinyon-juniper and tall dense service berry. The larger pinyon and juniper trees in the vicinity (700’ radius from the edge of the pad location) of the well pad and surrounding area were searched for evidence of raptor (primarily accipiters) nesting activity. No nesting activity was noted. Although the upper third of Big Jimmy Ridge is within the normal range of the greater sage grouse, a BLM sensitive species, no sage grouse habitat is located near the well pad or the access road.

Well Pad H18 497, access road and pipeline: The access road, well pad, and pipeline are located within the normal range of the greater sage-grouse. The short access road to the pad passes through a dense serviceberry thicket onto a side ridge where the well pad is located.

Approximately half the pad is located on a bald knob, an area of low growing dwarf shrubs and perennial grasses and forbs. The remainder of the pad is located in Mountain big sagebrush on the fringe of the bald knob and in areas of serviceberry. Evidence of recent sage grouse use in the form of tracks and droppings was documented in the vicinity of the proposed pad during a field visit in May 2004. Droppings were found on the side ridge to the east of the pad and tracks were observed in the two-track road on the main ridge west of the well pad. A lek is located within two miles to the south and the evidence of the inventory indicates nesting may be occurring in the vicinity of the well pad. Suitable raptor nest sites don't occur within the vicinity of the site as neither cliffs nor pinyon-juniper trees are present

Road Upgrades: The northern third of the road up Big Jimmy Ridge passes through a mixture of pinyon-juniper woodland and Basin big sagebrush parks and is within the normal range of the greater sage-grouse. Dense serviceberry and encroachment of pinyon-juniper limit suitable sage grouse habitat to the flatter portions of the main ridge and to wider side ridges prior to their steep drop off into side canyons. Evidence of recent sage-grouse use in the form of tracks and droppings was documented in the vicinity of two potential well sites, including the H18 497 (but not the A07 497).

Occasional large pinyon and junipers are present on the lower portion of Big Jimmy Ridge. The existing frequently used and maintained road makes it highly unlikely raptors are nesting within the corridor to be impacted by increased traffic.

Environmental Consequences of the Proposed Action: Construction of the well pad at H18 497 would remove sage-grouse habitat currently being utilized and create an obstruction for sage-grouse use of the ridge to the east. Several acres of habitat will be lost as a result of pad construction and access to approximately 80 acres of grouse habitat will be hindered. Future restoration of sage-grouse populations on Big Jimmy Ridge may also be jeopardized, since providing a travel corridor in this area is necessary to maintaining connections to the core sage-grouse population on the Roan Plateau to the south. The pad location cannot be shifted because the slope quickly increases off the ridge top. The pipeline from the well pad to the south would extend for a short distance through suitable habitat before dropping steeply into West Willow Creek. Two to three acres of sagebrush habitat would be removed in a strip along the Big Jimmy Ridge as that road is upgraded through the sagebrush parks in the upper portion of the ridge.

Suitable trees for raptor nest sites either don't occur within the vicinity of the proposed action (H18 497) or the nests are not present, so no impacts on raptors are anticipated

Environmental Consequences of the No Action Alternative: None.

Mitigation: These wells represent an exploration phase for these Units. Should the Eureka/Double Willow Units go to a production phase, a comprehensive mitigation plan for

greater sage-grouse and other potentially affected species will be developed for the Units at that time.

Finding on the Public Land Health Standard for Threatened & Endangered species: The standard with regard to the northern goshawk is being met and will continue to be met. The standard with regard to the greater sage-grouse will not be affected by the two well pads, the pipelines or the road improvements included in the proposed action. The cumulative effect of other future actions in the Eureka and Double Willow Units could, however, lead to a negative finding for the greater sage-grouse.

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 proposed action.

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 operator shall be required to collect and properly dispose of any solid wastes generated by this project.

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

Affected Environment: Surface Water The proposed A07 497 well pad and access road and the long existing road up Big Jimmy Ridge are located within the Hunter Creek drainage. The proposed H18 497 well pad and pipeline are located in the Willow Creek drainage. The road and pipeline between the two locations is on the ridge between the two drainages. Willow Creek and Hunter Creek are both tributary to the perennial Piceance Creek, a tributary of the White River which ultimately flows into the Colorado River. Water quality standards and guidance for drainages within the Lower Colorado River Basin are included in CDPHE-WQCC Regulation No. 37 (2004a).

Willow Creek is listed as the mainstem of Willow Creek from the source to the confluence with Piceance Creek (Segment 17 of the White River). It has use designations of aquatic life cold 2, recreation 2, and agriculture, with a use-protected aquatic designation. Recreation Class 2 designation is for streams where primary contact recreation does not exist and cannot be

reasonably expected to exist in the future, regardless of water quality. The recreation class 2 designation for Willow Creek is due to its ephemeral or intermittent nature and limited access.

Hunter Creek is listed as the mainstem of Hunter Creek from the source to the confluence with Piceance Creek (Segment 20 of the White River). Hunter Creek has use designations of aquatic life cold 2, recreation 1b, and agriculture. It is noted that there is an exception to Table Value Standards for iron (aquatic – chronic) in Segment 20.

The “Status of Water Quality in Colorado – 2004” (April, 2004) was reviewed for information related to the project area drainages. Willow Creek was noted to have fully-supporting aquatic life cold 2, fully-supporting recreation 2, and fully-supporting agriculture designated uses. Willow Creek also has a Colorado integrated reporting category of 1, which is described as: “fully supporting for all uses, all uses have been assessed and all uses are fully supporting the designated uses.” Hunter Creek was noted to have fully-supporting aquatic life cold 1, not assessed recreation 2, and fully-supporting agriculture designated uses. Hunter Creek was assigned a Colorado integrated reporting category of 2, which is described as: “some uses have been assessed and all uses assessed are fully supporting the designated uses, other uses have not been assessed.”

Newly promulgated Colorado Regulations Nos. 93 and 94 (May, 2004) were reviewed for information related to the project area drainages. Regulation No. 93 is the State’s list of water-quality-limited segments requiring Total Maximum Daily Loads (TMDLs). The 2004 list of segments needing development of TMDLs includes one segment within the White River - segment 9b, White River tributaries North & South Forks to Piceance Creek; specifically the Flag Creek portion (for impairment from selenium with a low priority for TMDL development).

Regulation 94 is the State’s list of water bodies identified for monitoring and evaluation, to assess water quality and determine if a need for TMDLs exists. The list includes five White River segments that are potentially impaired – 9 (ph), 12, 13a, 21, and 22 (all due to sediment). Neither Willow Creek (segment 17) nor Hunter Creek (segment 20), were listed.

Ground Water The project area is located within the Piceance Basin whose primary ground-water resource is the alluvium of the Colorado River and major tributaries (Topper et al., 2003). Saturated Tertiary rocks in the basin are comprised of two primary units, the Upper and Lower Piceance Basin aquifers which are separated by the Mahogany confining unit. Information presented in Topper et al. (2003) indicate the following approximate depths to potentiometric surfaces within hydrogeologic units: upper Piceance Basin aquifer 600 feet, lower Piceance Basin aquifer 700 feet, and Mesaverde aquifer 400 feet (based on a surface elevation of 7,400 feet). Water well data from the Colorado Division of Water Resources (Topper et al., 2003) indicated that in central Rio Blanco County, water wells are not common in the Basin with approximately half having a total depth less than 300-feet and approximately half being greater than 300-feet. Dissolved solids concentration in the project area within both the Upper and Lower Piceance Basin aquifers is approximately 1,000 milligrams per liter. Primary hydrogeologic units within the Piceance Basin are listed in the following table.

Summary of Hydrogeologic Units					
Hydrogeologic Unit	Thickness (ft)	Approx Avg Depth (ft)	Conductivity (ft/day)	Yield (gpm)	Transmissivity (ft ² /day)
Upper Piceance Basin aquifer	0 – 1,400	700	<0.2 to >1.6	1 to 900	610 to 770
Lower Piceance Basin aquifer	0 – 1,870	2,800	<0.1 to >1.2	1 to 1,000	260 to 380
Mesaverde aquifer	Averages 3,000	7,700	NL	NL	NL

Table information from Toppler et al. (2003)
Abbreviations: ft – feet, approx – approximate, avg – average, gpm – gallons per minute, and NL – not listed.

A groundwater well is located 7,500 feet north of the proposed A07 497 well pad (the Ebler Well). The well produces groundwater from the Green River Uinta Formation, which is conveyed down a six-mile waterline for livestock watering. The well has a total depth of 1,083 feet. It is cemented and cased off from the surface to 885 feet, and 3/8 inch gravel pack is from 885 feet to 1,083 feet. The well showed a sustained yield of 11.66 gallons per minute.

Environmental Consequences of the Proposed Action: Surface Water: The primary potential water quality impact would be from additional sediment resulting from the proposed access road, drill pad and pipeline construction. Removal of vegetative cover results in the potential for increased soil erosion near newly disturbed areas. Runoff-producing storm events could increase sediment loads in ephemeral channels. Depending on the soils affected, salt content in the sediment may also degrade water quality.

Ground Water: Impact on groundwater resources is not anticipated. However, if there is lost circulation during drilling, the potential exists for the aquifers to commingle and/or drilling fluids to be introduced into the aquifer. Shallow aquifers are protected from hydrofracturing and the production of oil and gas by installation and cementing of surface and intermediate casing. The objective of surface and intermediate casing is specifically, to case off and isolate shallow aquifers. Hydrofracturing used to stimulate natural gas production of the Mesaverde formation is anticipated to extend a maximum of 500 feet horizontally from each well bore and not vertically. Any groundwater produced from the Mesaverde Formation would be hauled off and disposed of because of its poor water quality and would be therefore prevented from adversely impacting surface water.

Depleting the vegetation cover needed to protect watersheds from raindrop impact and runoff could cause short-term erosion problems and increased sedimentation to the White River watershed until successful mitigation has been implemented and proven to be successful. The magnitude of these impacts is dependent on the amount of surface disturbance and climatic conditions during the time the soils are exposed to the elements.

Mitigation such as revegetation of the unused portion of the well pad as soon as possible, placing gravel on areas that would not be revegetated or placing check dams to control runoff from the access road and pad would help to minimize these impacts.

Environmental Consequences of the No Action Alternative: Under the No Action Alternative, the existing dirt road would not be improved. The marginal improvement in erosion and sedimentation control brought about by the upgrade would not occur.

Mitigation: Oil and Gas operations are considered to be a light industrial activity by the Colorado Department of Public Health and Environment. As an industrial discharger, the applicant is required to obtain a permit authorizing the discharge of stormwater from these sites. The permit requires development of a stormwater management plan showing how BMPs would be used to control runoff and sediment transport.

When preparing the site, all suitable topsoil should be stripped from the surface of the location and stockpiled for reclamation for use, once the drilling is completed.

All sediment control structures or disposal pits will be designed to contain a 100-year, 6-hour storm event. Storage volumes within these structures will have a design life of 25 years.

All activity shall cease when soils or road surfaces become saturated to a depth of three inches unless otherwise approved by the Authorized Officer.

Provide vegetation or artificial stabilization of cut and fill slopes in the design process. Avoid establishment of vegetation where it inhibits drainage from the road surface or where it restricts safety or maintenance.

Eliminate undesirable berms that retard normal surface runoff.

Finding on the Public Land Health Standard for water quality: Water quality in the stream segments within the area of the proposed action meet the criteria established in the standard. With successful reclamation, the proposed action would not change this status.

CRITICAL ELEMENTS NOT PRESENT OR NOT AFFECTED:

No flood plains, riparian or wetland systems, prime and unique farmlands, threatened, endangered or sensitive plant species, wild and scenic rivers, Areas of Critical Environmental Concern or wilderness exist within the area affected by the proposed action. The Public Land Health Standards for wetland or riparian systems and threatened, endangered or sensitive plant species are not applicable to this action, since neither the proposed action nor the no-action alternative would have any influence on these. 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 soil types in the project area occur from 6,000 to 8,900 feet in elevation. The average annual precipitation in the project area is 14 to 22 inches, the average annual temperature is 37 to 45 degrees F, and the average frost-free period is approximately 80

to 105 days. The proposed pad and associated road improvement, road construction, and pipeline construction occur within six soil units inventoried by the Natural Resources Conservation Service (NRCS). Soil units, names, and characteristics are listed in the following table (SCS, 2004):

Soil Map Unit	Soil Unit Name	Slope (%)	Ecological Site	Effective Rooting Depth (in)	Runoff	Erosion Potential	Bedrock Depth (in)
33	Forelle loam	3 - 8	Rolling Loam	≥ 60	Medium	Moderate	>60
43	Irigul-Parachute Complex	5 - 30	Mountain Loam	10 - 20	Medium to rapid	Slight to very high	10-40
64	Piceance fine sandy loam	5 - 15	Rolling Loam	20 - 40	Slow to medium	Moderate to high	20-40
70	Redcreek-Rentsac Complex	5 - 30	Pinion-Juniper Woodland	10 - 20	Medium	Moderate to high	10-20
73	Rentsac channery loam	5 - 50	Pinion-Juniper Woodland	10 - 20	Rapid	Moderate to very high	10-20
87	Starman-Vandamore Complex	5 - 40	Dry Exposure	10 - 20	Medium	Moderate to very high	10-40
91	Torriothents Rock outcrop complex	15 - 90	Stony Foothills	10 - 20	Very rapid	Very high	N/A
96	Veatch Channery loam	12 - 50	Loamy Slopes	20 - 40	Medium	Moderate to very high	20-40

Environmental Consequences of the Proposed Action: All soil units have listed salinity values of less than 2 Mmhos per centimeter. None of the unit mapping indicates a fragile soil with slopes greater than 35 percent, the criteria that would trigger implementation of a Controlled Surface Use stipulation.

Road, well pad and pipeline construction would remove surface cover and disturb soils, thus potentially increasing soil erosion, and reducing soil health and productivity. The proposed action includes approximately 10.7 miles of road improvement, 0.4 miles of new road construction, 2.2 miles of pipeline construction and 6.7 acres of well pad construction. The table below shows the calculated disturbance by soil mapping unit for each of the elements of the proposed action. The calculations assume the construction width of 50 feet listed in the APD. The road improvement, new road construction, and pipeline construction that would connect A07 497 and H18 497 have been assumed to occur within the same 50 foot disturbance width.

Facility	Soil Mapping Unit							Total Area (acres)
	33	43	64	70	73	87	91	
Road Upgrade								
Feet	9,850	12,175	6,325	26,225	1,950			
Acres	11.3	14.0	7.3	30.1	2.2			64.9
New Roads								
Feet		1,100				800		
Acres		1.2				0.9		2.1
Pipeline								

Facility	Soil Mapping Unit								Total Area (acres)
	33	43	64	70	73	87	91	96	
Feet						2,700	1,000	200	
Acres						3.1	1.1	0.2	4.4
Well Pads									
Acres		3.5				3.2			6.7
Total Area									
Acres	11.3	18.7	7.3	30.1	2.2	7.2	1.1	0.2	78.1

The total area over all soil units is 78.1 acres. It is noted that the majority of this area is road improvement where the existing two-track will be upgraded to an 18-20-foot running surface within a 50-foot wide construction zone.

Environmental Consequences of the No Action Alternative: Under the No Action Alternative, the existing dirt road would not be improved. The marginal improvement in erosion and sedimentation control brought about by the upgrade would not occur.

Mitigation: Segregation of topsoil material and replacement of top soil in its respective original position (last out, first in) would assist in the reestablishment of soil health and productivity. Erosion control practices and Best Management Practices must be implemented, and reseeding of the disturbed areas would be done in accordance with BLM stipulations.

Water bars or dikes shall be constructed on all of the rights-of-way, and across the full width of the disturbed area, as directed by the authorized officer.

Slopes within the disturbed area shall be stabilized by non-vegetative practices designed to hold the soil in place and minimize erosion. Vegetation cover shall be reestablished to increase infiltration and provide additional protection from erosion.

When erosion is anticipated, sediment barriers shall be constructed to slow runoff, allow deposition of sediment, and prevent it from leaving the site. In addition, straining or filtration mechanisms may also contribute to sediment removal from runoff.

Finding on the Public Land Health Standard for upland soils: Soils within the area of the proposed action meet the criteria established in the standard for upland soils. With successful reclamation, the proposed action would not change this status.

VEGETATION (includes a finding on Standard 3)

Affected Environment: Well Pad A07 497: The vegetation association at the pad and access road is a mountain shrub community with a moderate amount of encroachment of pinyon pine. Estimated vegetation cover from major species or group of species is noted in the following table:

Species	% Cover
Serviceberry	25%
Sagebrush	15%

Species	% Cover
Pinyon	10%
Bitterbrush	5%
Native grasses	15%
Native forbs	5%
Bare ground	25%

The ecological site at well pad A07 497 and its access road is a Loamy Slopes range site. This site is in a mid-seral community due to the understory suppression created by the large stature, over-mature serviceberry and sagebrush, and the encroaching pinyon trees. Annual air-dry vegetation production is estimated at 600 lbs/acre, well below the normal production for this site.

Well Pad H18 497: The vegetation association at the well pad is about half mountain sagebrush and half grassland. The access road crosses a mountain shrub community. Estimated vegetation cover from major species or group of species is noted in the following table:

Species-% Cover	Mountain Sagebrush	Mountain Shrub	Grassland
Mtn sagebrush	35%	15%	
Serviceberry	10%	40%	
Bitterbrush	5%	5%	
Native Grasses	20%	20%	45%
Native Forbs	15%	10%	30%
Bare ground	15%	10%	25%

The ecological site at well pad H18 497 is half Dry Exposure and half Loamy Slopes range site. The access road for this pad crosses a Brushy Loam range site. All three range sites contain an upper-seral plant community that is in a healthy condition showing little stress from existing land use practices. Annual air-dry vegetation production is estimated at 200 lbs/ac on the Dry Exposure range site, 600 lbs/ac on the Loamy Slopes range site, and 1500 lbs/ac on the Brushy Loam range site.

Road Upgrades: The first seven miles of the proposed road upgrade traverses an old pinyon/juniper chaining. The vegetation adjacent to the initial three miles of this section is primarily a Wyoming sagebrush plant community with some regeneration of pinyon and juniper. The understory is crested wheatgrass, native grasses and forbs. The next four miles of this section is a Wyoming sage, serviceberry and pinyon pine plant community. The cover of serviceberry and pinyon pine has increased in this section to nearly that of Wyoming sage. Understory vegetation is a mix of native grasses and forbs also in about equal cover.

The ecological site of this seven mile section of road is a Pinyon/Juniper Woodland that is in an early to mid-seral plant community due to the disturbance of the old chaining. This original road disturbance should probably contain most of the new disturbance of the anticipated upgrading. Actual disturbance of adjacent vegetation beyond the original disturbance is likely to be limited.

The remaining 2.5 miles of the road upgrade up to well pad A07 497 follows a two-track trail except for a minor reroute. This section is a Wyoming sagebrush and serviceberry plant community with moderate encroachment of pinyon pine. Understory includes bitterbrush, snowberry, native grasses and native forbs. This plant community is very similar to that of well pad A07 497 with similar cover values. The ecological site for this section is a Loamy Slopes range site that is in a mid-seral condition.

Proposed Pipelines: The A07 497 and the H18 497 would be connected by a 1.25 mile road with a pipeline buried in or adjacent to the road. The first mile would be an upgrade of an existing two track and the remainder would be a new road. The road and pipeline would traverse a plant community very similar to that at pad A07 497 for about 0.5 mile. From this point, a loss of the pinyon pine occurs as elevation increases and the pipeline would traverse a mountain sage community (Loamy Slopes range site) with cover and production values similar to the mountain sage community at pad H18 497. From H18 497, the second proposed pipeline drops from the ridge top into West Willow Creek. The vegetation along the route changes from Loamy Slopes to a Dry Exposure range site to a Stony Foothills range site. The Dry Exposure site is similar to the Grassland site at pad H18 497. The Stony Foothills site is a sparsely vegetated southern exposed steep slope with considerable bare ground (60 % to 70 %).

Environmental Consequences of the Proposed Action: Construction of the two well pads and access roads would remove all vegetation on disturbed areas. An area of about 7 acres could remain non-vegetated for a considerable length of time depending upon the success and life expectancy of the wells on the two sites. The longer the disturbance remains non-vegetated, the greater the chance for invasion of weedy plants onto the site. Some of those weedy species can create problems in future reclamation efforts and some may be totally non-desirable (refer to the discussion of noxious and invasive non-native species above).

A portion of each well pad and its access roads could be reclaimed during the gas production phase. Half or more of the original disturbance could be short term and returned to the production of desirable perennial vegetation. The remaining disturbance would remain non-vegetated for the life of the wells.

The road upgrade would remove some sagebrush and minor amounts of forbs and grass that have re-established on the old disturbance of the road (first 7 miles). The remaining 2.5 miles of road upgrade would remove a 20 to 25 foot strip of native vegetation adjacent to the existing road which could result in as much as 8 acres of total vegetation removal. A portion of this disturbance, perhaps one-half, could be reclaimed after road construction, resulting in a short-term disturbance.

Construction of new access roads to the pads and the pipeline between the two pads would remove about two acres of native vegetation. The proposed pipeline from H18 497 down the hill to West Willow Creek would remove another 4.4 acres. This disturbance would remain non-vegetated for only a short period of time if successfully reclaimed.

The greatest long-term impact on vegetation, aside from the long term-use of the roads and well pads (the non-vegetated portion), would be the loss of the native shrub component of the plant

community. Sagebrush would likely return to any reclaimed areas in approximately 20 years. However, the serviceberry and bitterbrush are not likely to return to the disturbance for at least 50 years. Attempts in the past to re-establish either species have had only marginal success.

Environmental Consequences of the No Action Alternative: None

Mitigation: All disturbed areas for the pipeline and roads with the exception of the road travel surface would be reclaimed within the first growing season or prior to the first full growing season following disturbance with one of the seed mixes described in the Mitigation Measures. Successful revegetation should be achieved within three years. The operator will be required to monitor the project site(s) for a minimum of three years post construction to detect the presence of noxious/invasive species. Any such species that occur will be eradicated using materials and methods approved in advance by the Authorized Officer.

Areas of the well pads not used during any production phase, including cut and fill slopes, would be contoured to about 5 to 1 slopes, have topsoil redistributed and revegetated with Native Seed Mixture #2, described in the Mitigation Measures, prior to the first full growing season following completion of drilling.

Final reclamation of roads and well pads following abandonment would be achieved with one of the seed mixes described in the Conditions of Approval.

Finding on the Public Land Health Standard for plant and animal communities (partial, see also Wildlife, Aquatic and Wildlife, Terrestrial): Vegetation at the sites of the proposed action currently meets the standard and would continue to meet the standard with the implementation of the proposed action.

WILDLIFE, AQUATIC (includes a finding on Standard 3)

Affected Environment: There is no aquatic wildlife within the project area.

Environmental Consequences of the Proposed Action: None.

Environmental Consequences of the No Action Alternative: None.

Mitigation: None.

Finding on the Public Land Health Standard for plant and animal communities (partial, see also Vegetation and Wildlife, Aquatic): Because there is no aquatic wildlife within the project area, the standard is not applicable.

WILDLIFE, TERRESTRIAL (includes a finding on Standard 3)

Affected Environment: The proposed well pad sites, new access roads, tie-in pipelines and upgraded access road are all on Big Jimmy Ridge, a north/south running ridge extending from Piceance Creek south to the Roan Divide. The north end is a mixture of pinyon-juniper woodland and Basin big sagebrush parks. Moving south and gaining in elevation, mountain shrub and younger, encroaching stands of pinyon-juniper dominate the ridge top, with mature pinyon-juniper dominating the side canyons and slopes into Hunter Creek on the west and Willow Creek on the east. The southern section of Big Jimmy Ridge is a series of Mountain big sagebrush flats and swales, bald knobs interspersed with serviceberry thickets along the ridge top and dense stands of mountain shrubs on the side hills. On this upper part of the ridge, the flat portion of the main ridge is often constricted to an area less than ¼ mile wide. Elevation of the proposed action extends from 6200 feet on Piceance Creek to 8200 feet at H18 497.

The entire area of the proposed action, including road, well pads and pipelines is located on normal elk winter range. The southernmost two miles of the access road, near Piceance Creek, is severe winter range for mule deer. The proposed well pads and pipelines are mule deer summer range with the intervening area considered deer winter range. Habitat of the greater sage-grouse, all raptors, including BLM sensitive species, and migratory birds are discussed earlier in this EA in the Migratory Bird Section and the Threatened, Endangered and Special Status Wildlife Section.

Environmental Consequences of the Proposed Action: The improvement of the existing road from Hunter Creek to the well sites, construction of the access roads and well pads and of the pipeline from H18 497 into West Willow Creek would result in a loss of 4.4 acres of big game habitat. Only a portion of the habitat would be lost long-term as revegetation of the pipeline and portions of the well pads would take place within several years. However, habitat lost through increased road width and the portions of the well pads maintained until production ceases would be a long-term loss. Increases in disturbance to wildlife on a ¼ mile corridor would impact approximately 1920 acres. Since the roads are already in place, the impact won't be disturbance of new areas, but more frequent disturbance of areas already subject to disturbance. The greatest impact on mule deer would be on the approximately 1½ miles of road located within severe winter range near Piceance Creek.

Environmental Consequences of the No Action Alternative: No additional disturbance of wintering big game associated with commercial oil and gas development, or net loss of habitat to normal and severe winter range would occur at this time and this place.

Mitigation: Surface-disturbing activities on the segment of Big Jimmy Ridge road located on severe/critical deer winter range should be prohibited between December 1 and April 30. The BLM reserves the right to alter the dates of this condition based on local winter weather conditions. It is the responsibility of EnCana to contact BLM prior to initiating surface disturbing activities to determine if this condition is in effect.

Finding on the Public Land Health Standard for plant and animal communities (partial, see also Vegetation and Wildlife, Terrestrial): This project would not jeopardize the viability of any animal population. It would have no significant consequence on terrestrial habitat condition,

utility, or function, nor have any discernible effect on animal abundance or distribution at any landscape scale. The public land health standard will thus be met.

OTHER NON-CRITICAL ELEMENTS: For the following elements, only those checked in the last column will be addressed further in this EA.

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	
Paleontology			X
Rangeland Management			X
Realty Authorizations			X
Recreation			X
Socio-Economics		X	
Visual Resources			X
Wild Horses	X		

ACCESS AND TRANSPORTATION

Affected Environment: The principal access route to the proposed well pads is south from Piceance Creek, up Hunter Creek a short distance and then up the road that proceeds along Big Jimmy Ridge, BLM Road 1011. This road is already fairly well developed, with ditches along much of its length and water bars placed roughly every two-tenths of a mile for the first seven miles. The quality of the road deteriorates as the route progresses to the south. The improved access road would have an 18-20 foot running surface on its entire length, would be crowned and ditched, with additions to the existing water bars and the addition of surface material as needed. Traffic along the road appears to be infrequent, limited to ranchers and, in season, hunters.

The entire proposed action is within an area where motorized vehicle traffic is limited to existing roads from October 1 to April 30 each year. Cross-country motorized vehicle travel is allowed from May 1 to September 30 as long as no resource damage occurs as a result.

Environmental Consequences of the Proposed Action: The upgrade of the existing road up Big Jimmy Ridge would not affect motorized vehicle use patterns in the area since the road is for the most part already in fairly good condition and is the principal access up the ridge. Construction and operation of four gas wells at the two proposed sites would cause a temporary increase in traffic up the road for a period of two or four months. After that, well service traffic

would be regular but of low intensity. The new access road to the A07 497 site would not likely create the opportunity for access onto the west face of Big Jimmy Ridge. The same dense mountain shrub that limits cross-country travel off the ridge road exists near the well pad and would limit cross-country travel there as well. The new access road to the H18 497 would make the existing, steep access road to the area redundant. Closure and reclamation of that road would be required.

Environmental Consequences of the No Action Alternative: None.

Mitigation: The applicant would be required to close and reclaim the existing short access road to the site of the H18 497 well pad that would be replaced by the new access road.

FIRE MANAGEMENT

Affected Environment: The actions proposed all occur within an area that has minimal constraints on the use of wildfires to achieve public land health objectives. Nearly all the plant communities in the general vicinity of the project area are mature with considerable fuel loads. Most of these communities are rejuvenated by fire to maintain healthy, diverse plant communities.

Environmental Consequences of the Proposed Action: Development of oil and gas facilities in this area could restrict BLM's ability to use wildfires to achieve public land health objectives for the plant communities in and around these facilities. Any naturally occurring fires in this area would likely be put out while they are small. Large areas of mature vegetation would continue a downward decline in diversity of plant species, especially herbaceous species.

Environmental Consequences of the No Action Alternative: None

Mitigation: Implement the fire avoidance and prevention measures described in the APD's 13 Point Surface Use Plan.

GEOLOGY AND MINERALS

Affected Environment: The surficial geology in the project area is the shallow dipping Tertiary Uinta Formation within the Green River Formation (Tweto, 1979). The Green River Formation is comprised of organic-rich shaley limestone, shale, marlstone, and sandstone, and is rich in fish, insect and plant fossils. The Green River Formation contains very substantial amounts of "oil shale" which is actually a kerogen-rich marlstone (Foutz, 1994). Other mineral resources in the project include gas, coal, and nahcolite. EnCana's targeted zone in all the wells is in the Mesaverde. During drilling, potential water, oil shale, coal, oil and gas zones would be encountered from the surface to the targeted zone. This area is identified in the ROD/RMP as available for underground oil shale leasing and development.

Environmental Consequences of the Proposed Action: The cementing procedure of the proposed actions isolates the formations and would prevent the migration of gas, water, and oil between formations. The coal zones located in the Mesaverde will also be isolated during this procedure. These zones are at a depth greater than 3,000 feet and the coal is not recoverable by conventional methods. Development of these wells would deplete the hydrocarbon resources in the targeted formation. Depending on the number of additional wells, future development of underground mining of the oil shale in and around existing wells may be limited.

Environmental Consequences of the No Action Alternative: None.

Mitigation: None.

PALEONTOLOGY

Affected Environment: The proposed well pads, road upgrade and road construction, and pipeline construction all are located in an area mapped as the Uinta Formation (Tweto 1979). BLM has classified the Uinta as a Category I formation, meaning that it is a known producer of scientifically significant fossils.

Environmental Consequences of the Proposed Action: Since the elements of the proposed action would all occur within the Uinta formation, there is a potential for impacting fossil resources if it is necessary to excavate into the underlying bedrock formation to construct the well pads, including the reserve/blooiie pit, to construct or upgrade the access roads or to install the pipelines.

Environmental Consequences of the No Action Alternative: None

Mitigation: A monitor shall be present at any time that it becomes necessary to excavate into the underlying bedrock formation in order to bury the pipeline, level the well pad or excavate the reserve/blooiie pit.

Should fossil resources be discovered at any time during construction, all construction activity in the vicinity of the discovery shall cease until the BLM and an approved paleontologist have time to evaluate the discovery and recover the remains. Work shall not resume in the area of the find without written approval of the authorized officer.

RANGELAND MANAGEMENT

Affected Environment: The road upgrade, well pads and pipeline all occur within Pat Johnson's grazing use area of the Piceance Mountain grazing allotment. He is permitted to run cattle on this allotment from May through mid-November each year. The road upgrade lies within the lower pasture that is grazed in May through mid-June. The two well pads and pipeline lie within the middle pasture that is grazed mid-June through mid-July and again in October and November.

Rangeland Improvements: A water well (Ebler Well) with a six-mile gravity-flow waterline provides livestock water to the lower pasture. The well and waterline are near the existing road that will be upgraded. These facilities are offset on the west side of the road about 30 to 50 feet. The well is located about 1.3 miles from the proposed well pad A07 497. The existing road to the A07 497 passes through a livestock fence that separates the lower and middle pastures. The new access road to this pad crosses this fence in two locations.

Environmental Consequences of the Proposed Action: The actions proposed would result in a forage loss to livestock of about 4 animal unit months (AUM). An AUM equates to the forage needs of a mature cow with calf for one month. Most of this loss would be only short term until successful reclamation of disturbed areas had occurred. Reclamation of the pipeline and unused portions of the roads and well pads would likely offset the short term forage loss (creating about 4 AUMs of available forage in the short term). Complete reclamation of the roads, pipeline and well pads would probably provide a small increase above the present forage available to cattle.

The actions proposed could interfere with proper functioning of the range improvements near the proposal. The fences and watering facilities are necessary for control of cattle to achieve grazing objectives on the grazing allotment. Damage to fences or watering facilities or gates left open interfere with control of cattle and ultimately proper utilization of the rangeland resource. These impacts would be greatest during the construction and drilling phases.

Environmental Consequences of the No Action Alternative: None

Mitigation: To protect the critical need for livestock water, down-hole drilling operations need to address protection and functionality of the Ebler Well.

To protect the livestock watering facilities (water well and waterline), any road upgrade activities, e.g. brush removal, water cutouts, borrow areas, etc., adjacent to the well or waterline should occur on the east side of the existing road.

Any permanent crossing of a livestock fence on public land will require a cattleguard constructed to BLM specifications with a wire or metal gate adjacent to it.

The fence encountered by the new access road to well pad A07 497 will be relocated to the lower side of the road to eliminate the need for two cattleguards. The relocated fence will be constructed to BLM specifications with a 4-wire, barbed wire fence for big game ranges.

REALTY AUTHORIZATIONS

Affected Environment: The main access route for the proposed action would use the existing Big Jimmy Ridge road, BLM Road 1011, for approximately 10.75 miles, beginning off the units and crossing unit boundaries. Any transportation pipelines would also cross unit boundaries eventually as they moved production to processing facilities outside the Eureka and Double Willow Units.

Environmental Consequences of the Proposed Action: Since the main access road begins off the units and crosses unit boundaries, a right-of-way would be required. The APDs for the wells have been accepted as an application for a ROW and this action has been serialized as COC67942. Any transportation pipelines would also require a ROW, since they will be crossing unit boundaries and moving production to processing facilities outside the Eureka and Double Willow Units.

Environmental Consequences of the No Action Alternative: None.

Mitigation: A “Notice to Proceed” stipulation will be included in the ROW grant for the pipelines, that will only allow construction of these pipelines to begin when the wells are producing. The “Conditions of Approval” for each well will be made a part of the ROW grant stipulations plus any standard stipulations from the BLM ROW manual that apply.

RECREATION

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

The project area and the surrounding Willow Creek area most closely resemble a Recreation Opportunity Spectrum (ROS) class of Semi-Primitive Motorized (SPM). A natural appearing environment with few administrative controls typically characterizes an SPM recreation setting; there is low interaction between users but evidence of other users may be present. An SPM recreation experience is characterized by a high probability of isolation from the sights and sounds of humans that offers an environment with challenge and risk.

Environmental Consequences of the Proposed Action: The public would lose approximately 8 acres of dispersed recreation potential while wells are in operation. The public would most likely not recreate in the vicinity of these facilities and would be dispersed elsewhere. If drilling coincides with hunting seasons (September through November), it would most likely disrupt the experience sought by those recreationists.

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

Environmental Consequences of the No Action Alternative: None of the loss of dispersed recreation potential would occur and there would be and no impact on hunting recreationists.

Mitigation: None

VISUAL RESOURCES

Affected Environment: The entire project area is on public lands administered by BLM that have received a VRM Class III designation. The management goal for this class is to partially retain the existing character of the landscape. The change brought about by activities on lands with VRM III designation may be evident. The visual contrast may be moderate but should not dominate the natural landscape character. Changes should repeat the basic elements found in the predominant natural features of the characteristic landscape. Public access to the area of the proposed actions is highly constrained and a limited number of local residents, hunters in season and oil and gas company employees and contractors make up the potential viewing public.

Environmental Consequences of the Proposed Action: The upgrade of the existing access road up Big Jimmy Ridge would not alter the existing character of the landscape. The two proposed well pads – A07 497 and H18 497 – and their associated access roads and pipelines would alter the landscape character. Removal of vegetation and recontouring of the natural surface change the color and line of the landscape. The location of the well pads on prominent sites near the ridgeline or on an exposed slope magnifies the effect. The change would lessen in the long-term as exposed areas were reclaimed and bare soil was not so extensively evident. Viewed from a distance, the changes would appear to be moderate and would not dominate the natural character of the landscape, meeting the standards of the VRM III classification.

Environmental Consequences of the No Action Alternative: None

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

Disturbed areas shall be restored as nearly as possible to their original contour.

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

REFERENCES CITED

Conner, Carl E. 2004. Class III Cultural Resources Inventory of the Proposed Short Pipeline Route Between the DWP017 and the BFU #19-2&3 in Rio Blanco and Garfield Counties, CO. Grand River Institute. Grand Junction, Colorado.

Conner, Carl E. and Barbara J. Davenport. 2004a. Class III Cultural Resource Inventory Report for Seven Proposed Well Locations and Their Related New Access Roads in the Eureka and Double Willow Lease Areas in Rio Blanco County, Colorado for Encana Oil and Gas (USA) Inc. Grand River Institute. Grand Junction, Colorado.

Conner, Carl E. and Barbara J. Davenport. 2004b. Class III Cultural Resource Inventory Report for Eight Proposed Well Locations and An Existing 6.8 Mile-long Access in the Eureka and Double Willow Lease Areas for Encana Oil and Gas (USA) Inc. 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.

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

PERSONS / AGENCIES CONSULTED:

INTERDISCIPLINARY REVIEW:

Project Team		
Name	Title	Area of Responsibility
BLM Oversight		
Keith Whitaker	Natural Resource Specialist	Project Lead; Visual Resources
Glenn Klingler	Wildlife Biologist	Migratory Birds; Threatened, Endangered and Sensitive Animal Species; Wildlife; Wetlands and Riparian Zones
Tamara Meagley	Natural Resource Specialist	Areas of Critical Environmental Concern; Threatened and Endangered Plant Species
Chris Ham	Outdoor Recreation Planner	Recreation; Wilderness; Access and Transportation
Mark Hafkenschiel	Range Conservationist	Vegetation; Invasive, Non-Native Species; Rangeland Management
Michael Selle	Archeologist	Cultural and Paleontological Resources
Caroline Hollowed	Hydrologist	Air Quality; Water Quality, Surface and Ground; Hydrology and Water Rights; and Soils
Paul Daggett	Mining Engineer	Geology and Minerals
Penny Brown	Realty Specialist	Realty Authorizations
Ken Holsinger	Natural Resource Specialist	Fire Management
Bob Fowler	Forester	Forest Management
Valerie Dobrich	Wild Horse Specialist	Wild Horses
Marty O'Mara	Petroleum Engineer	Wastes, Hazardous or Solid

WestWater Engineering (Third Party Contractor)		
Dan McWilliams	Senior Engineer	Air Quality and Soils
Steve Moore	Environmental Scientist	Areas of Critical Environmental Concern; Cultural Resources; Paleontological Resources; Wastes, Hazardous or Solid; Access and Transportation; Wilderness; Realty Authorizations; Recreation; and Visual Resources
Rusty Roberts	Range Conservationist	Threatened and Endangered Plant Species; Invasive, Non-Native Species; Wetlands and Riparian Zones; Vegetation; Fire Management; Rangeland Management; and Wild Horses
Doug McVean	Wildlife Biologist	Migratory Birds; Threatened, Endangered and Sensitive Animal Species; Wildlife, Terrestrial and Aquatic
Kim Kaal	Senior Geologist	Water Quality, Surface and Ground; Hydrology and Water Rights; Geology and Minerals
Mike Klish	Environmental Scientist	Forest Management

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

CO-110-2004-149-EA

FINDING OF NO SIGNIFICANT IMPACT (FONSI)/RATIONALE: The environmental assessment, analyzing the environmental effects of the proposed action, has been reviewed. The approved mitigation measures (attached Conditions of Approval) for wells 8601C and 8602A (at location A07 497) and wells 8608C and 8610C (at location H18 497) 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 for wells 8601C, 8602A, 8608C, and 8610C.

DECISION/RATIONALE: It is my decision to approve the development of wells 8601C, 8602A, 8608C, and 8610C. The proposed action is in concert with the objectives of the White River ROD/RMP in that it would allow development of federal oil and gas resources in a manner that provides reasonable protection for other resource values. Protection for other resource values will be assured by implementation of the mitigation measures described below and attached to the APDs as Conditions of Approval.

MITIGATION MEASURES: 1. Eliminate any noxious or invasive plants before any seed production has occurred. Eradication should make use of materials and methods (Pesticide Use Proposal) approved in advance by the Authorized Officer. Application of herbicides must be under field supervision of an EPA-certified pesticide applicator.

2. The operator will clean all off-road equipment to remove seed and soil prior to commencing operations on public lands within the project area.

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

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

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

4. Sites 5RB 4794 and 4795 are to be avoided by all construction and maintenance activities (map routed to NRS).
5. The operator shall be required to collect and properly dispose of any solid wastes generated by this project.
6. 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.
7. When preparing the site, all suitable topsoil should be stripped from the surface of the location and stockpiled for reclamation use once the drilling is completed. (RMP 4)
8. All sediment control structures or disposal pits will be designed to contain a 100-year, 6-hour storm event. Storage volumes within these structures will have a design life of 25 years. (RMP 6)
9. All activity shall cease when soils or road surfaces become saturated to a depth of three inches unless otherwise approved by the Authorized Officer. (RMP 8)
10. Provide vegetation or artificial stabilization of cut and fill slopes in the design process. Avoid establishment of vegetation where it inhibits drainage from the road surface or where it restricts safety or maintenance. (RMP 24)
11. Eliminate undesirable berms that retard normal surface runoff. (RMP 35)
12. Water bars or dikes shall be constructed on all of the rights-of-way, and across the full width of the disturbed area, according to the following standard or as directed by the authorized officer. (RMP 96)

<u>Grade</u>	<u>Spacing</u>
2 %	Every 200 feet
2-4 %	Every 100 feet
4-5 %	Every 75 feet
5+ %	Every 50 feet

13. Slopes within the disturbed area shall be stabilized by non-vegetative practices designed to hold the soil in place and minimize erosion. Vegetation cover shall be reestablished to increase infiltration and provide additional protection from erosion. (RMP 97)

14. When erosion is anticipated, sediment barriers shall be constructed to slow runoff, allow deposition of sediment, and prevent it from leaving the site. In addition, straining or filtration mechanisms may also contribute to sediment removal from runoff. (RMP 98)

15. Areas of the well pad not used during any production phase would be contoured to about 5 to 1 slopes, have topsoil redistributed and reseeded with one of the seed mixes described in the Conditions of Approval prior to the first full growing season following completion of drilling

16. All disturbed areas for the pipeline and roads with the exception of the road travel surface would be reclaimed within the first growing season or prior to the first full growing season following disturbance with one of the seed mixes described in the Conditions of Approval. Successful revegetation should be achieved within three years.

17. Final reclamation of roads and well pads following abandonment would be reclaimed with the following native seed mixes. Native Mix #2 in pounds of pure live seed per acre (lbs/pls/ac) (Source White River ROD/RMP Appendix B, Conditions of Approval):

Western wheatgrass (Rosanna)	2 lbs/pls/ac
Indian ricegrass (Rimrock)	1 lbs/pls/ac
Bluebunch wheatgrass (Whitmar)	2 lbs/pls/ac
Thickspike wheatgrass (Critana)	2 lbs/pls/ac
Green needlegrass (Lodorm)	1 lbs/pls/ac
Globemallow	0.5 lbs/pls/ac

18. Surface disturbing activities on the segment of Big Jimmy Ridge road located on severe/critical deer winter range should be prohibited between December 1 and April 30. The BLM reserves the right to alter the dates of this condition based on local winter weather conditions. It is the responsibility of EnCana to contact BLM prior to initiating surface disturbing activities to determine if this condition is in effect.

19. A monitor shall be present at any time that it becomes necessary to excavate into the underlying bedrock formation in order to bury the pipeline, level the well pad or excavate the reserve/blooiie pit.

20. Should fossil resources be discovered at any time during construction, all construction activity in the vicinity of the discovery shall cease until the BLM and an approved paleontologist have time to evaluate the discovery and recover the remains. Work shall not resume in the area of the find without written approval of the authorized officer.

21. To protect the livestock watering facilities (water well and waterline), any road upgrade activities near Ebler Point, e.g., brush removal, water cutouts, borrow areas, etc., adjacent to the well or waterline should take place on the east side of the existing road.

22. Any crossing of a livestock fence on public land will require a cattleguard constructed to BLM specifications.

23. The fence encountered by the new access road to well pad A07 497 will be relocated to the lower side of the road to eliminate the need for two cattleguards. The relocated fence will be constructed to BLM specifications for a 4-wire, barbed wire fence on big game ranges.

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

25. Disturbed areas shall be restored as nearly as possible to their original contour.

26. A "Notice to Proceed" stipulation will be included in the ROW grant for the pipelines, that will only allow construction of these pipelines to begin when these wells are producing. The "Conditions of Approval" for each well will be made a part of the ROW grant stipulations plus any standard stipulations from the BLM ROW manual that apply.

27. The applicant would be required to close and reclaim the existing short access road to the site of the H18 497 well pad that would be replaced by the new access road.

28. These wells represent an exploration phase for these Units. Should the Eureka/Double Willow Units go to a production phase, a comprehensive mitigation plan for greater sage-grouse and other potentially affected species will be developed for the Units at that time.

29. To protect the critical need for livestock water, down-hole drilling operations need to address protection and functionality of the Ebler Well.

NAME OF PREPARER: WestWater Engineering
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Telephone: (970) 241-7076

NAME OF ENVIRONMENTAL COORDINATOR: *Carolene P. Hollman 8/12/04*

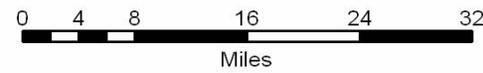
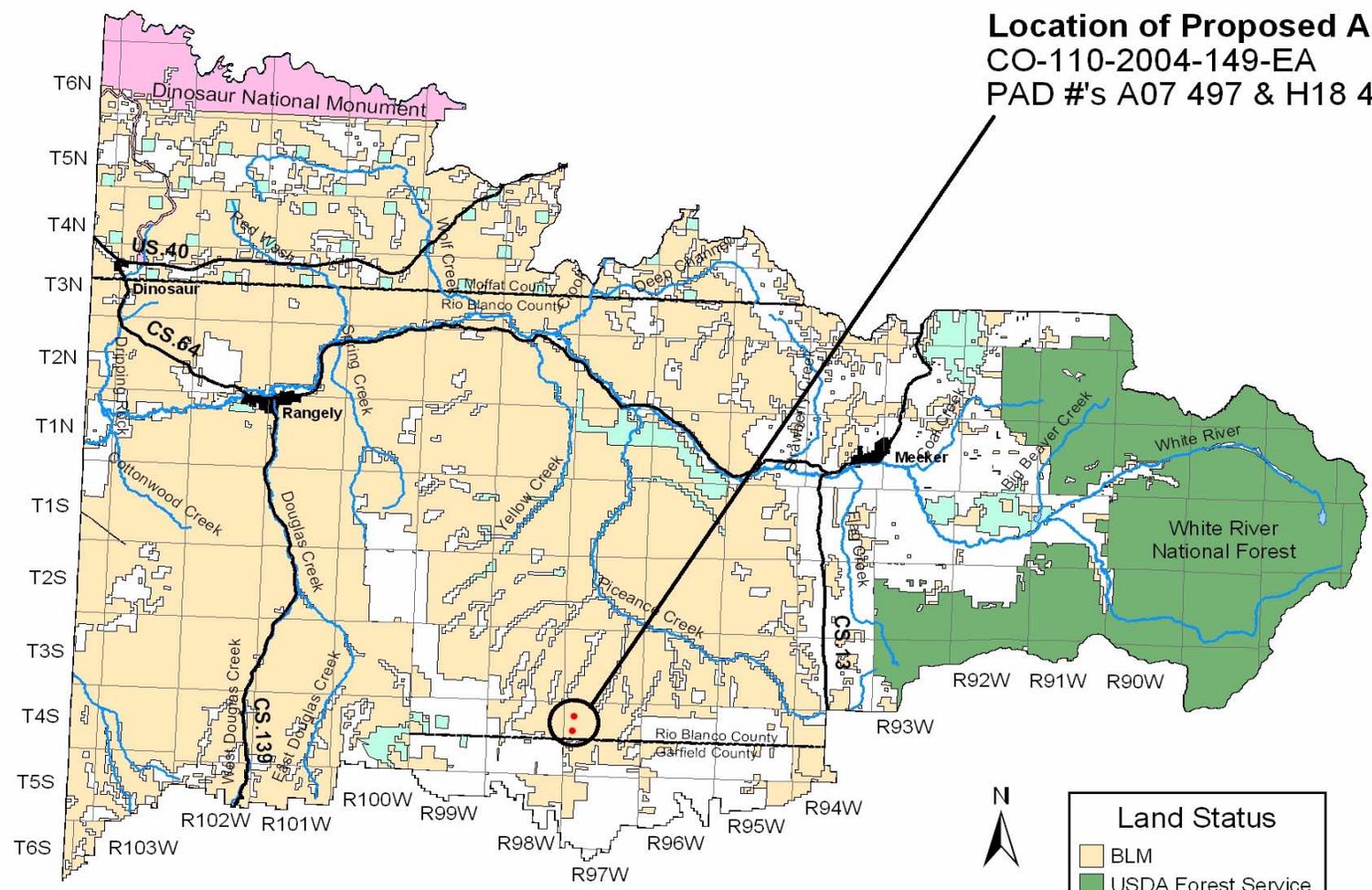
SIGNATURE OF AUTHORIZED OFFICIAL: *Vernon R. Bell*
Field Manager

DATE SIGNED: *8/12/04*

ATTACHMENTS: Location Map of the Proposed Action
Conditions of Approval

BLM White River Resource Area

Location of Proposed Action
 CO-110-2004-149-EA
 PAD #'s A07 497 & H18 497



Land Status	
	BLM
	USDA Forest Service
	National Park Service
	Colorado State