

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

ENVIRONMENTAL ASSESSMENT

NUMBER: CO-110-2004-161-EA

CASEFILE/PROJECT NUMBER (optional): COC-64835

PROJECT NAME: APD FF 8005B (E36-498)

LEGAL DESCRIPTION: T4S, R98W, SWNW sec.36, 6thP.M.

APPLICANT: ENCANA Oil & Gas(USA) Inc

ISSUES AND CONCERNS (optional):

DESCRIPTION OF PROPOSED ACTION AND ALTERNATIVES:

Background/Introduction: Well #8005B is located in the southeastern portion of EnCana's Figure Four Project Area on private surface.

Proposed Action The applicant proposes to construct an access road ROW initially 25' x 50' (0.03 ac.), which would be reduced to approximately 25' x 30' (0.02 ac.) after partial reclamation; construct a well pad (4.25 ac); and drill a gas well. After completion of the well the surface disturbance from the well pad would be reduced to 2.25 acres. A pipeline, 6,100' in length with a diameter of 6 inches, will be buried from well #8005B to the proposed pipeline for well # 8017 and connect to the existing 10-inch BF gathering system. The initial disturbance from the construction of the pipeline ROW will be 50' x 6,100' (7 ac). After the completion of the pipeline the ROW will be completely revegetated. If the well is a non-producer, the applicant will plug the borehole; recontour to as near original contours as possible, and seed the disturbed area to establish acceptable vegetative cover. If the well is a producer, the applicant will contour and seed areas not needed for production to establish vegetative cover and reduce the size of the footprint of environmental impact.

No Action Alternative: No well would be developed. No access road, pipeline or well pad would be constructed.

NEED FOR THE ACTION: To respond to the request by applicant to exercise lease rights and develop hydrocarbon reserves.

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

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

Date Approved: July 1, 1997

Decision Number/Page: Page 2-5

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

AFFECTED ENVIRONMENT / ENVIRONMENTAL CONSEQUENCES / MITIGATION MEASURES:

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

CRITICAL ELEMENTS

AIR QUALITY

Affected Environment: The meteorological data collected in 1984 at the Occidental Shale Tract Cb (BLM 1999) are considered to be representative of the area. The wind data show that the wind blows from the southeast to the southwest approximately 67 percent of the time. Therefore, on an average annual basis, pollutants would be transported northward approximately 67 percent of the time.

Existing air quality in the region is acceptable based on State of Colorado standards for the protection of human health. Garfield County, where well #8005b is located, is designated as an attainment area, meaning that the concentration of criteria pollutants in the ambient air is less than the National Ambient Air Quality Standards. Additionally, representative monitoring of air quality in the general area indicates that the existing air quality is well within acceptable standards.

Under the Prevention of Significant Deterioration (PSD) provisions of the Clean Air Act (CAA) administered by the State of Colorado, incremental increases of specific pollutant concentrations are limited above a legally defined baseline level. Many national parks and wilderness areas are designated as PSD Class I. The PSD program protects air quality within Class I areas by allowing only slight incremental increases in pollutant concentrations. Areas of the state not

designated as PSD Class I are classified as Class II. For Class II areas, greater incremental increases in ambient pollutant concentrations are allowed as a result of controlled growth. The area surrounding the Project is designated as PSD Class II.

Environmental Consequences of the Proposed Action: The only sources of potential air pollution from Well # 8005B would be a dehydrator and produced water tank. Compression for the well would be from an offsite location. For these minor sources of air pollution, impacts are expected to be insignificant.

Environmental Consequences of the No Action Alternative: Under the No Action Alternative, construction and development of the well would not occur. Therefore, no impacts would result.

Mitigation: To reduce the emission of fugitive dust from access roads, routine road watering or other approved methods would be required.

CULTURAL RESOURCES

Affected Environment: The proposed well pad location has been inventoried at the Class III (100% pedestrian) level (Bott 2004 (MAC), Compliance Dated 8/24/2004) with no new cultural resources identified in the project area.

Environmental Consequences of the Proposed Action: There would be no impacts to any known cultural resources from construction of the proposed well pad location.

Environmental Consequences of the No Action Alternative: Under the No Action alternative, no impact to cultural resources would occur.

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

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

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

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

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

INVASIVE, NON-NATIVE SPECIES

Affected Environment: Weed invasion and establishment is moderate to high within the White River Field Office area. The most frequent disturbance areas include roadsides and adjacent washes. The most common species found within the area of the proposed action are houndstongue, leafy spurge, yellow toadflax, bull thistle, Canada thistle, and the invasive grass species, downy brome/cheatgrass (*Bromus tectorum*). Specific negative effects of noxious and invasive weeds can include: 1) reduction in the overall visual character of any area; 2) competition with, or elimination of native plants; 3) reduction or fragmentation of wildlife habitats; and 4) increased soil erosion.

Environmental Consequences of the Proposed Action: Disturbed areas and recently revegetated areas are susceptible to invasion by noxious weeds and invasive species, which compete with native species and result in a deterioration of ecological conditions. Under some circumstances, noxious weeds could be numerous enough to interfere with revegetation or could invade natural vegetation and agricultural lands outside the disturbed area. Ground-disturbing projects can introduce invasive weeds if heavy equipment and other vehicles carry weed seeds and vegetative propagules from infested locations to the well location.

Several project activities would help to control the spread of noxious weeds, including revegetation, use of weed-free seed, noxious weed inventories conducted prior to disturbance, periodic monitoring during each growing season, cleaning of equipment, and noxious weed identification training for employees. Additionally, Garfield County Special Use Permits would require the control of noxious weeds. Under the Colorado Weed Management Act, landowners are required to control noxious weeds on lands under their control. If this is not done, the Garfield County weed board would have the authority to enter private lands and perform control measures at EnCana's expense, after notification and a hearing.

Given the regulatory mechanism that ensures compliance and EnCana's commitment to monitor and control noxious weeds, significant negative impacts from the spread of noxious weeds would be unlikely with the following mitigation.

Environmental Consequences of the No Action Alternative: Under the No Action alternative, current trends and conditions with respect to noxious weed infestation in the Project

Area would likely continue.

Mitigation: In order to prevent the introduction and/or spread of noxious weed species into the Project Area the following measures would be implemented:

EnCana and their contractors would power-wash all construction equipment and vehicles prior to the start of construction. Any construction or operational vehicles traveling between the project location and outside areas would be power-washed on a weekly basis.

EnCana will revegetate all portions of the well pad and the ROW not utilized for the operational phase of the proposed action. Reseeding would be accomplished using native plant species indigenous to the project area. Post-construction seeding applications would continue until determined successful by the BLM.

Weed control would be conducted through an Approved Pesticide Use and Weed Control Plan from the Authorized Officer. Weed monitoring and reclamation measures would be continued on an annual basis (or as frequently as the Authorized Officer determines) throughout the 20 to 30 year life of the project.

MIGRATORY BIRDS

Affected Environment: Migratory bird species that are federally listed under the Endangered Species Act (ESA) of 1973, as amended or listed as Sensitive by the BLM, are addressed in the section on Special Status Species. This section addresses migratory birds that may inhabit the mountain shrub community within the area of the proposed action. Species classified as High-Priority birds by Partners in Flight are denoted by an asterisk (*).

Bird species commonly associated with the mountain shrub communities include the common poorwill*, Virginia's warbler*, wild turkey, plumbeous vireo, orange-crowned warbler, black-headed grosbeak, green-tailed towhee, Lewis' woodpecker*, and broad-tailed hummingbird. Bird species commonly associated with the aspen woodlands near the proposed well include the broad-tailed hummingbird*, violet-green swallow*, house wren, Lincoln's sparrow, white-crowned sparrow, dark-eyed junco, mountain bluebird, western wood-pewee, warbling vireo, and white-breasted nuthatch.

Environmental Consequences of the Proposed Action: Impacts to migratory birds within the project area would be dependent upon the season of construction. If construction and drilling of the proposed well pad are completed in the fall, many of the migratory species would have left the area. If the proposed well construction and drilling were to occur during the peak nesting months in spring/summer, the proposed action could result in nest abandonment, direct mortality, reproductive failure, displacement of birds, and destruction of nests. This would have a greater impact on high-priority migratory bird species that may be nesting in the area due to the smaller population size and limited distribution found in these species. Ground-nesting bird species would be susceptible to nest destruction and mortality due to vehicle traffic and equipment placement. Shrub nesting species may also be affected due to destruction of shrubs. In addition,

evaporation ponds located at drilling sites could potentially expose birds to contaminated waters, as birds would potentially use these ponds for bathing and as insect foraging areas.

Environmental Consequences of the No Action Alternative: Under the No Action alternative, the Proposed Action would not be implemented. Therefore, no impacts would result.

Mitigation: All EnCana and contract employees would be prohibited from carrying firearms or bringing dogs. Personnel would be instructed at a pre-construction meeting about the nature of the wildlife species that occur on the work site, potential impacts to these species, and measures that should be taken to avoid or minimize impacts. In order to reduce the possibility of exposure to waste water and drilling fluids, all reserve pits would be netted to prevent birds from entering contaminated waters. According to the USFWS (2004), a maximum mesh size of 1 1/2 inches will allow for snow-loading and will exclude most birds. Netting should be suspended a minimum of 4 to 5 feet from the surface of the pond to prevent the net from sagging into the pond during heavy snow-loads. Side nets would also be used to prevent ground entry of migratory bird species.

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

Affected Environment: Threatened, endangered, and sensitive animal species that may occur in the vicinity of the project area include the greater sage-grouse. The greater sage-grouse is considered a BLM Species of Special Concern and has also been petitioned for federal listing as threatened or endangered (FR 04-8870, April 2004). Greater sage-grouse are restricted to sagebrush habitats. According to CDOW records, less than half of the previously identified leks are currently active. Numerous factors including range management treatments, energy development, drought, and predation may have contributed to this decline. In an attempt to determine how the proposed development may potentially affect sage-grouse habitat, on-site field evaluations were conducted by Buys & Associates. All contiguous sagebrush steppe habitats, as well as all riparian areas, were determined to be potential sage-grouse habitat. The closest suitable sage grouse habitat is approximately 1 mile to the west of well #8005b in T4S, R98W, Section 35. No suitable sage grouse habitat was reported to be present in Section 36. However, the entire Figure Four Project Area is within the greater sage-grouse winter habitat and overall range (CDOW-NDIS 2003).

Environmental Consequences of the Proposed Action: Some potential impacts of development to sage-grouse include: (1) direct habitat loss from well, road, and pipeline construction, (2) increased human activity, including noise, causing avoidance and displacement, (3) direct mortality from poaching, vehicular collisions and predation, and (4) fragmentation causing avoidance and displacement. Nesting and lek habitat is found in T4S; R98W; Sections 7, 19-20, 26-29, and 34-35. No leks were reported from Section 36.

Environmental Consequences of the No Action Alternative: Under the No Action alternative, the Proposed Action would not be implemented. Therefore, no impacts would result.

Mitigation: Since this project area falls within the Figure Four GAP, the mitigation package developed and approved for that area may also apply to sagebrush management within this area if deemed appropriate by BLM.

Finding on the Public Land Health Standard for Threatened & Endangered Species: Neither the Proposed Action nor the No Action alternative is expected to have an influence on any threatened or endangered wildlife species.

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

Affected Environment: Special Status plants include federally listed and candidate endangered and threatened species, BLM sensitive species, and those considered rare by the Colorado Natural Heritage Program (CNHP). Threatened and endangered plant species are not expected to occur within the Project Area (T. Meagley, BLM, personal communication, May 24, 2004). Within the Figure Four Gap potential habitat occurs in specific locations. Botanical surveys of these areas are being conducted in the spring of 2004. This proposed location does not fall in the specific areas identified as habitat.

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 Threatened & Endangered Species: There is no reasonable likelihood that the Proposed Action or No Action alternative would have an influence on the condition or function of threatened, endangered or sensitive plant species.

WASTES, HAZARDOUS OR SOLID

Affected Environment: There are no known hazardous or other solid wastes at the site of proposed well #8005b. No hazardous materials are known to have been used, stored or disposed of at this site.

Environmental Consequences of the Proposed Action: No listed or extremely hazardous materials in excess of threshold quantities are proposed for use in this project. Commercial preparations of fuels, lubricants, drilling muds utilized for this project would be stored, used, and transported in a manner consistent with applicable laws. The generation of hazardous wastes is not anticipated. Details on handling of waste materials are provided in the Application for Permit to Drill.

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

Mitigation: All solid wastes generated from construction, drilling and completion operations at well #8005B will be collected and properly disposed.

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

Affected Environment: Surface Water The proposed action is located between two major basins, Piceance Creek Basin (which discharges into the White River) and Roan Creek Basin (which discharges into the Colorado River). These drainages are characterized by steep-sided, rugged terrain with intersecting gulches incised into plateau areas. The creeks within one-half mile of the well #8005B are East Whiskey Gulch, East Branch of Willow Creek, and East Branch of Camp Gulch. These streams are ephemeral, with flow occurring only during spring snowmelt and after summer thunderstorms.

Groundwater Groundwater occurs in both bedrock and alluvial aquifers beneath the Piceance Basin. The principal water-bearing bedrock units within the basin include the Uinta Formation and parts of the Green River Formation. The lower portions of the Green River Formation and the underlying Wasatch Formation consist of low-permeability clays, shales, and sandstones and form an aquitard beneath the Project Area. The aquifer systems extend over 700 square miles (Robson and Saulnier 1981) and contain an estimated groundwater reserve of 25 million acre-feet (BLM 1983). Groundwater gradients within the basin range from about 20 to as much as 120 feet per mile (Robson and Saulnier 1981). The groundwater system within the basin in the vicinity of the Project Area is divided into three aquifers: 1) Alluvial Aquifer, 2) Upper Aquifer, and 3) Lower Aquifer (Weeks and Welder 1974). Recharge areas for the Upper and Lower Aquifers are present on the top of the Douglas Plateau and Roan Cliffs to the south of the Project Area. The estimated total recharge to the Piceance Basin aquifer systems north of the Colorado River is about 30,400 acre-feet per year (Glover et al 1998).

The chemical quality of groundwater in the Piceance Basin varies both within and among the aquifers. Water from the Alluvial, Upper, and Lower Aquifers generally does not meet all applicable drinking water standards. In particular, the concentration of total dissolved solids exceeds 500 mg/L in all but 3 of the 75 water analyses reported by Ficke, Weeks, and Welder (1974) and Weeks and Welder (1974). In the project area the total concentration of dissolved constituents in the upper and lower aquifers is generally lower than 1000 milligrams per liter. The concentration of dissolved solids generally increases from the basin margins to the center of the basin.

Environmental Consequences of the Proposed Action: Surface Water. Water to be used for drilling of well #8005B will be hauled by truck from Rangely. Increased short-term sedimentation of the ephemeral streams could potentially occur during the construction of the well pad, access road, and pipeline. Potential hydrocarbon contamination of surface water could occur near oil and gas facilities. To reduce the potential for hydrocarbon contamination of surface water during drilling operations berms capable of holding at least 110% of the tank volume would be constructed.

Groundwater Potential impacts to groundwater resources from the proposed action include contamination of groundwater with produced water, drilling mud, or petroleum. Alluvial aquifers in the Piceance Basin could potentially be contaminated by releases of petroleum from compressor stations, wellheads, and conveyance pipelines. Limited use of alluvial groundwater for domestic use and stock watering is the only present use.

Environmental Consequences of the No Action Alternative: Under the No Action alternative, the proposed action would not be implemented. Thus, no impacts to surface and groundwater are anticipated.

Mitigation: Protection of surface and groundwater resources would be accomplished by using the Conditions of Approval (COAs) from the White River ROD/RMP. The COAs for construction of roads, tanks and pits, oil and gas wells, and pipelines that apply to surface water resources include:

- Sedimentation control structures
- Stockpiling of topsoils
- Locating roads, pipelines, and other facilities away from watercourses, where possible
- Sloping, crowning, and ditching of roads
- Requirements for culvert construction
- Requirements for tank and pit construction and reclamation
- Well drilling, plugging, and completion requirements
- Requirements for pipeline construction
- Revegetation of access road and well pad cut- and fill-slopes

Additional mitigation, above and beyond the COAs described for the Proposed Action, would include regular inspection of well pads, including topsoil stockpiles, cut- and fill-slopes, roads, and pipeline corridors for signs of erosion and runoff problems.

Liquid hydrocarbons produced during completion operations would be placed in tanks at the location inside dike/berm that would contain at least 110% of the volume of the largest tank. Produced waste water would be confined to a lined reserve pit or storage tank for a period not to exceed ninety days after initial production. Prior to disposal, the water would be analyzed and the results submitted to the BLM. Any spills of oil gas, salt water or other noxious fluids would be reported to BLM and immediately cleaned up and removed to an approved disposal site.

Finding on the Public Land Health Standard for Water Quality: The proposed action is unlikely to have an effect on East Whiskey Gulch, East Branch of West Willow Creek, and East Branch of Camp Gulch, ability to meet the Land Health Standards since they are more than ¼ mile from well #8005B. Therefore, the Public Land Health Standard for water quality would continue to be met.

CRITICAL ELEMENTS NOT PRESENT OR NOT AFFECTED:

No ACECs, flood plains, riparian or wetland systems, prime and unique farmlands, or wild and scenic rivers, exist within the area affected by the proposed action. Furthermore, there is no

reasonable likelihood that the proposed action or no action alternative would have an influence on whether riparian or wetland habitats would meet the Public Land Health Standard since there are none. 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: Detailed maps of the soils that cover the area of the proposed action are contained in “Soil Survey of Douglas-Plateau Area, Colorado, Parts of Garfield and Mesa Counties” (USDA 2003), Sheets 6 and 7. The soil map units in the vicinity of the proposed action are described in the following table.

Soil Units in the Vicinity of well #8005B (Garfield County) (from USDA 2003).

Soil Map Number	Soil Mapping Unit Mapping Name	Topographic Position	Slope	Soil Texture	Depth Class	Erosion Potential
55	Parachute-Irigul complex	Mountain ridges and the crests and sides of hills	5 to 30%	Loam, very channery loam	Moderately deep	Very High
56	Parachute-Irigul-Rhone complex	Mountain ridges and the crests and sides of hills	25 to 50%	Loam, very channery loam	Moderately deep	Very High

These soils generally support a sparse vegetation cover of salt-tolerant shrubs, grasses, and lichens. Soils that are highly susceptible to water erosion are also present within the Project Area. The surface of these soils generally have a high portion of fine materials with little organic matter, which leads to little infiltration and rapid runoff.

Environmental Consequences of the Proposed Action: Potential impacts to soils from the proposed action include removal of vegetation, mixing of soil horizons, soil compaction, increased susceptibility of the soils to wind and water erosion, contamination of soils by petroleum products, and loss of topsoil productivity. As part of the proposed action, topsoil would be conserved. Topsoil excavated from well pad locations would be scalped, stockpiled, and seeded to preserve it for future reclamation of the well pad at the end of the project life.

Contamination of surface and subsurface soils near well #8005B could occur. Sources of potential contamination include leaks from the wellhead, conveyance pipeline, produced water sump, and condensate storage tank. Petroleum released to surface soils infiltrates the soil and can migrate vertically until the water table is encountered.

Environmental Consequences of the No Action Alternative: Under the No Action alternative, neither surface disturbance nor impacts to soils would occur.

Mitigation: Protection of soils resources would be accomplished by using the Conditions of Approval (COAs) from the White River ROD/RMP. The COAs for construction of roads, tanks and pits, oil and gas wells, and pipelines that apply to protection of soils resources would be utilized. Additionally, Best Management Practices (BMPs) employed during construction of the proposed action would include, silt fences, water bars on the road, sediment traps, and berms. Storage tanks would be surrounded by a dike/berm capable of holding at least 110% of the largest tank volume.

Mitigation of the potential for petroleum contamination of soils would include regular inspection of project facilities for the presence of leaks or spills. If soil contamination is discovered, the Colorado Oil and Gas Conservation Commission (COGCC) would be notified immediately and remediation of the contamination conducted. This remediation would consist of excavation of the impacted soils, transport of the contaminated soils to a facility licensed to accept petroleum-contaminated soils, and backfilling of the excavation with clean fill.

Finding on the Public Land Health Standard for Upland Soils: The proposed action would not affect the ability of the soil to meet the Land Health Standard.

VEGETATION (includes a finding on Standard 3)

Affected Environment: Well #8005B would be located on the top of a ridge. The dominant vegetation community in the area is mountain shrub, which typically occurs at elevations between 6,000 and 8,000 feet. Serviceberry (*Amelanchier alnifolia*), sagebrush (*Artemisia* sp.), and bitterbrush (*Purshia tridentata*) are present in this area. The ridge of the Project Area consists mainly of barren rocks. Some stands of quaking aspen (*Populus tremuloides*) are found in small isolated pockets approximately 300 feet from the Project Area in a drainage area on a north-facing protected slope.

Environmental Consequences of the Proposed Action: Direct impacts from construction of project facilities would include the disturbance or removal of vegetation. Disturbance would be short term (temporary construction work zones and pipeline installation) or long term (well pad and access road) for the life of the project. Areas of short term disturbance would be reclaimed as soon as possible after well completion activities, while areas of vegetation occupied by the well pad and access road would be reclaimed at the conclusion of the project.

Indirect impacts would include loss of vegetation due to trampling and soil compaction; accidental spills of fuels, lubricants, and fugitive dust; and the introduction of noxious weeds in disturbed areas that would compete with desired species and invade contiguous native plant communities. In addition, fragmentation of plant communities may occur.

Environmental Consequences of the No Action Alternative: Under the No Action alternative, there would be no change from the present conditions.

Mitigation: To ensure proper revegetation of disturbed areas after construction activities, EnCana would reseed those areas with a BLM-certified weed free seed mixture. These areas

would be inspected to confirm revegetation success, and reseeded, if necessary.

Finding on the Public Land Health Standard for Plant and Animal Communities (partial, see also Wildlife, Aquatic and Wildlife, Terrestrial): The Project Area will continue to meet the Public Land Health Standard.

WILDLIFE, AQUATIC (includes a finding on Standard 3)

Affected Environment: There is no aquatic wildlife within the Project Area, since the drainages within 0.5 mile of well #8005B are ephemeral.

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, Terrestrial): There is no aquatic wildlife in the Project Area.

WILDLIFE, TERRESTRIAL (includes a finding on Standard 3)

Affected Environment: Wildlife species occurrences are typically dependent on habitat availability, relative carrying capacities, and degree of existing habitat disturbance. The vegetation community in the project area is primarily mountain shrub, including serviceberry, sagebrush, and bitterbrush. Approximately 300 feet to the north of the pad on a north-facing slope are some stands of aspen trees.

Based on data from the Colorado Division of Wildlife (CDOW), well #8005B is in elk and deer summer ranges. Upland game birds that occur include mourning dove, blue grouse, and greater sage-grouse. The upland game bird species of most concern is the greater sage-grouse, which is classified as a Species of Special Concern by the CDOW. Sage-grouse are discussed in greater detail in the section on Special Status Wildlife Species. On-site field evaluations were conducted in May 2004 at all proposed well pads, roads, and pipelines within the Figure Four Area (B&A 2004). The majority of active nests occurred in aspen trees within mature aspen stands. Red-tailed hawk nests were reported in Sections 24 and 35, which are adjacent to Section 36.

Because of its limited extent, elk summer range has been designated as critical habitat in the White River Field Office area (USDI-BLM 1994). Because of its limited extent, mule deer summer range has been designated as critical habitat in the White River Field Office area (USDI-BLM 1994).

Environmental Consequences of the Proposed Action: The principle potential wildlife impacts likely to be associated with the Proposed Action include: (1) direct loss of wildlife

habitat, (2) decreased use of wildlife habitats through displacement of some wildlife species, (3) decrease in reproductive success and nutritional condition from increased energy expenditure due to physical responses to disturbance, (4) increase in the potential for collisions between big game other wildlife and motor vehicles, and (5) increase in the potential for poaching and harassment of wildlife.

Surface disturbances associated with the proposed action would result in the direct loss of elk and mule deer summer habitat. In addition, human activity associated with drilling activities and increased traffic could result in increased mortality from vehicle collisions and temporarily displace elk and mule deer. Both species commonly avoid areas of human activity and would potentially disperse up to 300 feet from all activity areas (Hollowed, E., personal communication, May 2004). These disturbances would have minimal impact, thus no timing restrictions on construction activities would be mandated.

The greater sage-grouse and waterfowl may occur in the vicinity of well #8005B. Habitat use is expected to be low, most likely because of the minimal amount of existing water sources in the area. Given these circumstances, it is likely that uncovered evaporation ponds developed during drilling periods could attract waterfowl and upland game birds. Pits would be netted with fine mesh to preclude bird use.

Construction and drilling activities may potentially increase direct impacts (including legal hunting, poaching, destruction of nests, and collisions with vehicles) of waterfowl and upland game birds, as well as indirectly add to displacement of these species in the area. In addition to human related direct mortality, coyote predation could also be increased. Coyotes readily use roadways (particularly traveled/compacted roadways) as travel corridors. The construction of a new access road could increase the potential for coyote/prey interactions.

An inventory of raptor nests was conducted by Buys & Associates (2004) which identified red-tailed hawk nests near the proposed well (#8005B). Possible effects of the proposed action on raptor species include: (1) increased mortality (including poaching and collisions with vehicles), (2) loss or degradation of potential nesting and foraging habitats, and (3) indirect disturbance from human activity (including hunting, collisions, and noise). Increased traffic during construction and drilling activities has the potential to disturb nesting or roosting raptors and may cause raptors to disperse from the area for short periods of time.

Environmental Consequences of the No Action Alternative: Since the proposed action would not be implemented under the No Action alternative, no impacts would occur.

Mitigation: For all wildlife occurring, the following mitigation would be implemented: All EnCana and contract employees would be prohibited from carrying firearms or bringing dogs to the Project Area.

In order to reduce incidents of illegal kill and harassment of wildlife, all EnCana personnel and contract employees would be instructed on BLM regulations and state wildlife laws. Personnel would also be instructed at a pre-construction meeting about the nature of the wildlife species that occur on the work site, potential impacts to these species, and measures to be taken to avoid

or minimize impacts.

EnCana would utilize remote telemetry equipment to reduce the frequency of well site visits, which would partially mitigate the potential for wildlife/vehicle collisions and effects of animal displacement due to increased traffic and human presence.

The effects of elk and mule deer habitat reduction would be partially mitigated through interim reclamation of pipeline ROWs and unutilized well pad areas by planting native herbaceous and shrub seed mixtures beneficial to these species.

To minimize the potential for winter disturbance to greater sage-grouse, snowmobiles would be used to access well pad, therefore minimizing the amount of snow compaction on project area roads.

EnCana would conduct to an annual raptor nest inventory and a one-mile radius during the drilling and construction phase. The raptor nest inventory would be conducted between late-April and early-June of each year in order to determine the activity status of existing raptor nests and presence of any new nests. This inventory would consist of ground surveys to document the activity of previously identified raptor nests as well as to potentially identify additional nesting species. Data from these annual surveys would then be provided to EnCana, the USFWS, and the BLM. If this project (well 8005B and associate pipeline) involves construction activities occurring between February 1 and August 15, a current raptor survey must be conducted prior to initiating surface disturbing activities. It is the responsibility of Encana to contact the BLM and/or a third party contractor to have these surveys conducted.

EnCana also would retain trees and snags as hunting perches for raptors. Prey species also use trees and snags as nesting areas and over-wintering habitat. EnCana would reclaim disturbed areas and obliterate roads as soon as possible following construction, operation, and completion of project activities.

Finding on the Public Land Health Standard for Plant and Animal Communities:
Construction and drilling of well #8005B and the associated access road and pipeline would not jeopardize the viability of animal populations. It would have no significant consequence on terrestrial habitat condition, utility, or function, or any discernible affect on animal abundance or distribution at any landscape scale.

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

Non-Critical Element	NA or Not Present	Applicable or Present, No Impact	Applicable and Present and Brought Forward for Analysis
Access and Transportation			X
Cadastral Survey	X		
Fire Management		X	

Non-Critical Element	NA or Not Present	Applicable or Present, No Impact	Applicable and Present and Brought Forward for Analysis
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: Most of the roads on BLM lands leading to the proposed action are primitive and intended for access to areas for dispersed recreational and fire-fighting purposes. Off-highway vehicle (OHV) use is “limited” to existing travel routes for the period of October 1st to April 30th each year to protect wildlife resources. Most of the recreational OHV use is associated with hunting in the fall. In addition to recreational visitation, local ranchers and oil and gas operators use the current road system for grazing management activities, maintenance of and access to private property, and existing mineral exploration and development activities.

Environmental Consequences of the Proposed Action: Implementation of the proposed action is projected to temporarily increase traffic on State Highway 64, County Road 5 and County Road 69. The Colorado accident rate for rural highways is approximately 1.22 accidents/million miles. A slight increase in the number of accidents per year may occur as a result of the Proposed Action. Over the 20 to 30 year operating life of the Proposed Action, vehicle traffic to the Project Area would drop to lower levels after construction and well drilling was concluded. It is estimated that vehicle traffic would include truck trips associated with transportation of water, condensate hauling, produced water hauling, truck trips associated with deliveries of equipment and parts, periodic well work-over, and daily commuter round-trips associated with maintenance crews in pickup trucks. These vehicle trips would have a minor impact on traffic volumes and accident rates. Routine maintenance-related vehicle trips and condensate haul traffic would occur on a regularly scheduled basis over the life of the project.

Environmental Consequences of the No Action Alternative: Under the No Action alternative, there would be no additional traffic.

Mitigation: None.

GEOLOGY AND MINERALS

Affected Environment: The proposed action is located within the northern province of the

Piceance Basin. The Piceance Basin is a broad, asymmetric, southeast-northwest trending structural basin consisting of a series of alternating anticlines and synclines. The mineral resources within the Piceance Basin include oil and gas deposits, major deposits of oil shale, deposits of natural sodium bicarbonate (nahcolite), and minor amounts of sand and gravel. Oil and gas deposits are found throughout the Piceance Basin.

In the area, there are thirteen existing or permitted EnCana well locations that are presently under development. well #8005B, identified as a “wildcat” well in the APD will be drilled through the following formations: Uinta Green River, Douglas Creek, Wasatch, Ohio Creek, William Fork, Rollins, Cozette, Corcoran, and Segoe. The total depth of the well is expected to be 10,500 feet. The well is located on lands which the oil shale resources are privately owned. No mining method to date has provided a viable method to economically extract oil from shale. Nevertheless, oil shale is regarded as a valuable potential resource for the future.

Environmental Consequences of the Proposed Action: Potential impacts to geologic resources from the proposed action include changes to the local topography and slope stability. Well pads along the ridge tops would be excavated into the bedrock and would change the local topography to square- or rectangular-shaped along the ridge site of the proposed well.

Potential impacts to natural gas resources include the depletion of the resources due to active extraction by the proposed action. Potential impacts to oil shale resources include the removal of small amounts of the oil shale during drilling and future conflict of orderly development of oil shale resources with gas well location. Potential impacts to salable mineral resources would include reduction of sand and gravel deposits. Gravel needed for facilities would be hauled in by truck from a local gravel pit over existing access roads to the Project Area.

Environmental Consequences of the No Action Alternative: No impacts would occur under the No Action alternative, since the Proposed Action would not be implemented.

Mitigation: None

PALEONTOLOGY

Affected Environment: The proposed well pad location is located in an area mapped as the Uintah Formation (Tweto 1979) which the BLM has categorized as a Condition I formation, meaning it is a known producer of scientifically important fossil resources.

Environmental Consequences of the Proposed Action: If it becomes necessary to excavate into the underlying bedrock formation to level the well pad or excavate the reserve/blooiie pit there is a potential to impact 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: All exposed rock outcrops shall be inventoried for fossil resources with a report submitted to the BLM detailing the results of the inventory and any recommended

mitigation should fossil be present on the surface. If at any time it becomes necessary to excavate into the underlying bedrock formation to level the well pad or construct the reserve/bloolie pit a paleontological monitor shall be present during all such excavations.

RANGELAND MANAGEMENT

Affected Environment: Current land uses within and adjacent to the proposed action consist of wildlife habitat, dispersed recreation (particularly seasonal hunting), cattle ranching, and limited oil and gas exploration and production. Many of these locations are served by access roads that have already been upgraded. The site for well #8005B is on private surface within a grazing allotment.

Environmental Consequences of the Proposed Action: Grazing cattle would be temporary displaced during construction activities, and longer in those areas where vegetation would be lost for the life of the project (i.e., well pads). The largest negative impacts to livestock grazing as a result of the proposed action would be from physical and spatial disturbance, noise and short term loss of forage. Range conditions would return to their pre-project state following closure and reclamation of project-related disturbance.

Environmental Consequences of the No Action Alternative: There would be no impact to grazing lands and range management under the No Action alternative.

Mitigation: None, no additional mitigation is needed for rangeland resources.

RECREATION

Affected Environment: Well #8005B is located in the southeastern portion of the Figure Four Unit, on land that is owned by ranching interests. Recreational activities on these private lands generally occur only by permission of the landowners. In some cases, hunting rights are leased to outfitters, while in other cases, limited public hunting is allowed.

Environmental Consequences of the Proposed Action: 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: Under the No Action alternative, the Proposed Action would not be allowed. Thus, impacts to recreational activities would not occur.

Mitigation: Project-related vehicle traffic, construction activity, and well drilling and completion work would not occur in the early morning and late afternoon hours during big game hunting seasons in permitted outfitter areas to minimize the displacement of game and disruption of hunting.

VISUAL RESOURCES

Affected Environment: The proposed action is in a VRM Class III designation. According to guidelines that address visual resource management, the objective in VRM Class III areas is, “to partially retain the existing character of the landscape.

Environmental Consequences of the Proposed Action: Because of the remote location of well #8005B, visual impacts would only be visible to a few private property owners and a small number of recreational users in the area driving on the primitive dirt roads within and adjacent to the proposed action. Since it would not be visible from major highways, parks, populated areas, or scenic vantage points, and would only affect a small number of users of the immediate area, the visual impacts are considered to be minor. The VRM Class III designation would continue to be met.

Environmental Consequences of the No Action Alternative: Under the No Action alternative, the proposed action would not be allowed. Therefore, visual impacts would not occur.

Mitigation: Night lighting during construction and drilling would be kept to the minimum required and would use shielded downcast fixtures to reduce off-site glare. Flaring of the completed well would be carried out as quickly as possible and screened from distant view using berms, and the natural topography to the extent practical. The surface facilities would be painted Juniper Green to reduce visual contrast, unless prohibited by OSHA regulations. Surface gas gathering pipelines would not be painted and would be allowed to weather and blend in with the natural environment.

CUMULATIVE IMPACTS SUMMARY: Compliance with NEPA requires analysis of the cumulative impacts of the Proposed Action and alternatives. Cumulative impacts are those resulting from the incremental impact of an alternative when added to other past, present, and reasonably foreseeable future actions, regardless of who has taken those actions. Cumulative impacts can result from individually minor, but collectively significant actions taking place over a period of time.

The geographic context of cumulative impacts varies by the resource. For example, air quality and or socioeconomic cumulative impacts may affect an entire region, or a multi-county area. Cumulative wildlife impacts may only occur within a specific wildlife habitat, or watershed. The Cumulative Impact Assessment Area (CIAA) encompasses the Figure Four Project Area, adjacent BLM lands, and private properties. Several reasonably foreseeable future activities could potentially occur in the vicinity of the CIAA over the life of this project, in addition to the development of the 327 wells identified in the Figure Four Project Area EA 2004. If well #8005B is productive, it is reasonably foreseeable that EnCana would likely drill additional wells and install additional gas metering, separation, dehydration, tanks and other ancillary facilities and increase the amount of compression to serve the additional gas production in the Figure Four Unit. Since EnCana would utilize existing well pads, roads, and pipelines, where feasible, little

additional ground disturbance would be required to develop the foreseeable future development scenario. Should additional wells be proposed by EnCana, an amended GAP would be filed with BLM and another NEPA document would be prepared, as required, to analyze the potential environmental effects of such development.

Other reasonably foreseeable BLM management activities and/or private activities that would continue include livestock grazing, road improvements, and recreational activities. No timber sales are expected to occur on BLM lands within the CIAA over the next 5 years. Residential development activities on private lands within the CIAA are expected to be minimal over the next 3 to 5 years. Livestock grazing is likely to continue at existing levels on private lands. Each of the activities mentioned above, when added to past and present land uses in the CIAA, has the potential to result in positive and/or negative cumulative impacts on environmental resources.

The reasonably foreseeable future activities (RFFA) in the vicinity of the Project Area are likely to include the following:

- Figure Four Project (327 new wells)
- Oil and gas development projects in other parts of the Piceance Creek basin
- Other mineral development, including oil shale, sodium, and sand and gravel mining
- Livestock grazing
- Residential development
- Recreational activities (e.g., hunting)
- County road improvements

These activities could each add to the impacts from the construction and development of well #8005B. This would result in cumulative impacts to the critical elements in the Project Area (i.e., air quality; cultural resources; migratory birds; threatened, endangered and sensitive species; water quality). The proposed action and other RFFAs would also cumulatively impact the non-critical elements for which Standards for Public Land Health have been established, including soils, vegetation, aquatic and terrestrial wildlife) and other non-critical elements, including access and transportation, geology and minerals, hydrology and water rights, paleontology, rangeland management, realty authorizations, recreation, and visual resources. Quantitative data on these reasonably foreseeable future activities are not available at this time. However, some levels of these other activities are reasonably certain to occur. Therefore, they would cumulatively add to the impacts of the proposed construction and drilling of well #8005B, and construction of the access road, pipeline, and production facility.

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PERSONS / AGENCIES CONSULTED:

INTERDISCIPLINARY REVIEW:

List of Preparers

Project Team		
Name	Affiliation	Responsibility
Marion Fischel	Buys & Associates	Project Manager, Report Writing
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Dave Nicholson	Buys & Associates	Geology, Soils, Water Resources
Kirby Carroll	Buys & Associates	Wildlife Resources, T/E Species
Andy Dworak	Buys & Associates	Vegetation, Wetlands, T/E Species
Don Douglas	Buys & Associates	Air Quality, Air Modeling, Noise
Doug Henderer	Buys & Associates	Air Quality
Elizabeth Pennefather O'Brien	Metcalf Archaeological Consultants	Cultural Resources
Roger Melick	Buys & Associates	GIS/Figures/Maps
Melissa Wood	Buys & Associates	Document Editing & Production

BLM Review Team

Name	Title	Area of Responsibility
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Carol Hollowed	Planning Environmental Coordinator	Planning and Environmental Coordination
Scott Archer	Air Quality Specialist	Air Quality
Tamara Meagley	NSR	Threatened and Endangered Plant Species
Michael Selle	Archaeologist	Cultural Resources Paleontological Resources
Robert Fowler	Forester	Forestry
Mark Hafkenschiel	Rangeland Management Specialist	Invasive, Non-Native Species
Glenn Klingler	Wildlife Biologist	Migratory Birds

Name	Title	Area of Responsibility
Glenn Klingler	Wildlife Biologist	Threatened, Endangered and Sensitive Animal Species, Wildlife
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Carol Hollowed	Hydrologist	Soils
Mark Hafkenschiel	Rangeland Management Specialist	Vegetation
Glenn Klingler	Wildlife Biologist	Wildlife Terrestrial and Aquatic
Chris Ham	Outdoor Recreation Planner	Access and Transportation
Ken Holsinger	NRS	Fire Management
Paul Daggett	Mining Engineer	Geology and Minerals
Mark Hafkenschiel	Rangeland Management Specialist	Rangeland Management
Penny Brown	Realty Specialist	Realty Authorizations
Chris Ham	Outdoor Recreation Planner	Recreation & Wilderness
Keith Whitaker	Natural Resource Specialist	Visual Resources

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

CO-110-2004-161-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.

Buys and Associates, an environmental consulting firm, with the guidance, participation, and independent evaluation of the Bureau of Land Management (BLM) prepared this document. The BLM, in accordance with 40 CFR 1506.5 (a) and (c), is in agreement with the findings of the analysis and approves and takes responsibility for the scope and content of this document.

DECISION/RATIONALE: It is my decision to approve development well #8005B and associated facilities, as described in the proposed action with the mitigation measures listed below.

MITIGATION MEASURES: 1. To reduce the emission of fugitive dust from access roads, routine road watering or other approved methods would be required.

2. 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.

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

4. EnCana and their contractors would power-wash all construction equipment and vehicles prior to the start of construction. Any construction or operational vehicles traveling between the project location and outside areas would be power-washed on a weekly basis.

5. EnCana will revegetate all portions of the well pad and the ROW not utilized for the operational phase of the proposed action. Reseeding would be accomplished using native plant species indigenous to the project area. Post-construction seeding applications would continue until determined successful by the BLM.

6. Weed control would be conducted through an Approved Pesticide Use and Weed Control Plan from the Authorized Officer. Weed monitoring and reclamation measures would be continued on an annual basis (or as frequently as the Authorized Officer determines) throughout the 20 to 30 year life of the project.

7. All EnCana and contract employees would be prohibited from carrying firearms or bringing dogs. Personnel would be instructed at a pre-construction meeting about the nature of the wildlife species that occur on the work site, potential impacts to these species, and measures that should be taken to avoid or minimize impacts. In order to reduce the possibility of exposure to waste water and drilling fluids, all reserve pits would be netted to prevent birds from entering contaminated waters. According to the USFWS (2004), a maximum mesh size of 1 1/2 inches will allow for snow-loading and will exclude most birds. Netting should be suspended a minimum of 4 to 5 feet from the surface of the pond to prevent the net from sagging into the pond during heavy snow-loads. Side nets would also be used to prevent ground entry of migratory bird species.

8. All solid wastes generated from construction, drilling and completion operations at well #8005B will be collected and properly disposed.

9. Protection of surface and groundwater resources would be accomplished by using the Conditions of Approval (COAs) from the White River ROD/RMP . The COAs for construction of roads, tanks and pits, oil and gas wells, and pipelines that apply to surface water resources include:

- Sedimentation control structures
- Stockpiling of topsoils
- Locating roads, pipelines, and other facilities away from watercourses, where possible
- Sloping, crowning, and ditching of roads
- Requirements for culvert construction
- Requirements for tank and pit construction and reclamation

- Well drilling, plugging, and completion requirements
- Requirements for pipeline construction
- Waterbarring of roads and pipelines to minimum standards
- Revegetation of access road and well pad cut- and fill-slopes

10. Additional mitigation, above and beyond the COAs described for the Proposed Action, would include regular inspection of the well pad, including the topsoil stockpile, cut- and fill-slopes, road, and pipeline corridor for signs of erosion and runoff problems.

11. Liquid hydrocarbons produced during completion operations would be placed in bermed tanks at the location. Produced waste water would be confined to a lined reserve pit or storage tank for a period not to exceed ninety days after initial production. Prior to disposal, the water would be analyzed and the results submitted to the BLM. Any spills of oil gas, salt water or other fluids would be immediately cleaned up and removed to a BLM-approved disposal site.

12. Surface stipulations described in Appendix A of the White River ROD/RMP (BLM 1997) would reduce the potential for erosion-related impacts. In addition to surface stipulations, the application of Conditions of Approval (COAs) during the excavation of the well pad, access road, minimization of surface disturbance, salvaging and stockpiling of topsoil, and revegetation would reduce the potential for soil impacts.

13. Additional Best Management Practices (BMPs) that would be employed during construction of project facilities include, silt fences, water bars on the road, sediment traps, and berms. To reduce the potential for hydrocarbon contamination of soils, pipelines, and associated collection piping would be designed to minimize the potential for spills and leaks. Storage tanks would be surrounded by a berm capable of holding at least 110% of the tank volume.

14. Mitigation of the potential for petroleum contamination of soils would include regular inspection of project facilities for the presence of leaks or spills. If soil contamination is discovered, the Colorado Oil and Gas Conservation Commission (COGCC) would be notified immediately and remediation of the contamination conducted. This remediation would consist of excavation of the impacted soils, transport of the contaminated soils to a facility licensed to accept petroleum-contaminated soils, and backfilling of the excavation with clean fill.

15. To ensure proper revegetation of disturbed areas after construction activities, EnCana would reseed those areas with a BLM-certified “weed free” seed mixture. These areas would be inspected to confirm revegetation, and reseeded, if necessary.

16. All EnCana and contract employees would be prohibited from carrying firearms or bringing dogs to the Project Area.

17. In order to reduce incidents of illegal kill and harassment of wildlife, all EnCana personnel and contract employees would be instructed on BLM regulations and state wildlife laws. Personnel would also be instructed at a pre-construction meeting about the nature of the wildlife species that occur on the work site, potential impacts to these species, and measures to be taken to avoid or minimize impacts.

18. EnCana would utilize remote telemetry equipment to reduce the frequency of well site visits, which would partially mitigate the potential for wildlife/vehicle collisions and effects of animal displacement due to increased traffic and human presence.

19. EnCana would limit the unauthorized public use of access roads via gates/barriers to minimize recreational use of previously isolated areas, thus reducing wildlife/human interactions and potential conflicts. Gates would be placed at BLM property boundaries and at ridgeline access points. Vehicular access would only be allowed by EnCana employees visiting wells sites, and by grazing allotment owners.

20. The effects of elk and mule deer habitat reduction would be partially mitigated through interim reclamation of pipeline ROWs and unutilized well pad areas by planting native herbaceous and shrub seed mixtures beneficial to these species.

21. To minimize the potential for winter disturbance to greater sage-grouse, snowmobiles would be used to access well pad, therefore minimizing the amount of snow compaction on Project Area roads.

22. EnCana would conduct to an annual raptor nest inventory and a one-mile radius during the drilling and construction phase. The raptor nest inventory would be conducted between late-April and early-June of each year in order to determine the activity status of existing raptor nests and presence of any new nests. This inventory would consist of ground surveys to document the activity of previously identified raptor nests as well as to potentially identify additional nesting species. Data from these annual surveys would then be provided to EnCana, the USFWS, and the BLM. If this project (well 8005B and associate pipeline) involves construction activities occurring between February 1 and August 15, a current raptor survey must be conducted prior to initiating surface disturbing activities. It is the responsibility of EnCana to contact the BLM and/or a third party contractor to have these surveys conducted.

23. EnCana also would retain trees and snags within the Project Area as hunting perches for raptors. Prey species also use trees and snags as nesting areas and over-wintering habitat. EnCana would reclaim disturbed areas and obliterate roads as soon as possible following construction, operation, and completion of project activities.

24. All exposed rock outcrops shall be inventoried for fossil resources with a report submitted to the BLM detailing the results of the inventory and any recommended mitigation should fossil be present on the surface. If at any time it becomes necessary to excavate into the underlying bedrock formation to level the well pad or construct the reserve/blooiie pit a paleontological monitor shall be present during all such excavations.

25. Project-related vehicle traffic, construction activity, and well drilling and completion work would not occur in the early morning and late afternoon hours during big game hunting seasons in permitted outfitter areas to minimize the displacement of game and disruption of hunting.

26. Night lighting during construction and drilling would be kept to the minimum required and would use shielded downcast fixtures to reduce off-site glare. Flaring of completed wells would be carried out as quickly as possible. All surface facilities would be painted a natural earth tone

color selected by the BLM to reduce visual contrast, unless prohibited by OSHA regulations. Surface gas gathering pipelines would not be painted and would be allowed to weather and blend in with the natural environment.

27. Seed all disturbed areas with the following seed mixture:

SPECIES (VARIETY)	LBS. PLS/ACRE
Bluebunch wheatgrass (Secar)	2
Slender wheatgrass (Primar)	2
Big bluegrass (Sherman)	1
Canby bluegrass (Canbar)	1
Mountain brome (Bromar)	2

28. Since this project area falls within the Figure Four GAP, the mitigation package developed and approved for that area may also apply to sagebrush management within this area if deemed appropriate by BLM.

NAME OF PREPARER: Marion Fischel
Buys and Associates

NAME OF ENVIRONMENTAL COORDINATOR: *Carolme P. Hollowed 9/16/04*

SIGNATURE OF AUTHORIZED OFFICIAL: *Kent E. Walter* 
Field Manager

DATE SIGNED: *09/16/04*

ATTACHMENTS: Location map of the proposed action.

Location of Proposed Action CO-110-2004-161-EA

