

U.S. Department of the Interior
Bureau of Land Management
Glenwood Springs Field Office
2425 S. Grand Avenue, Suite 101
Glenwood Springs, CO 81601

ENVIRONMENTAL ASSESSMENT

NUMBER: CO-140-2006-094 EA

CASEFILE NUMBER: Lease # COC-58680

PROJECT NAME: Applications for Permit to Drill 1 Exploratory Well (Federal 12-7C) from new Proposed Pad northeast of DeBeque (Benefiting program, Fluid Minerals 1310)

LEGAL DESCRIPTION:

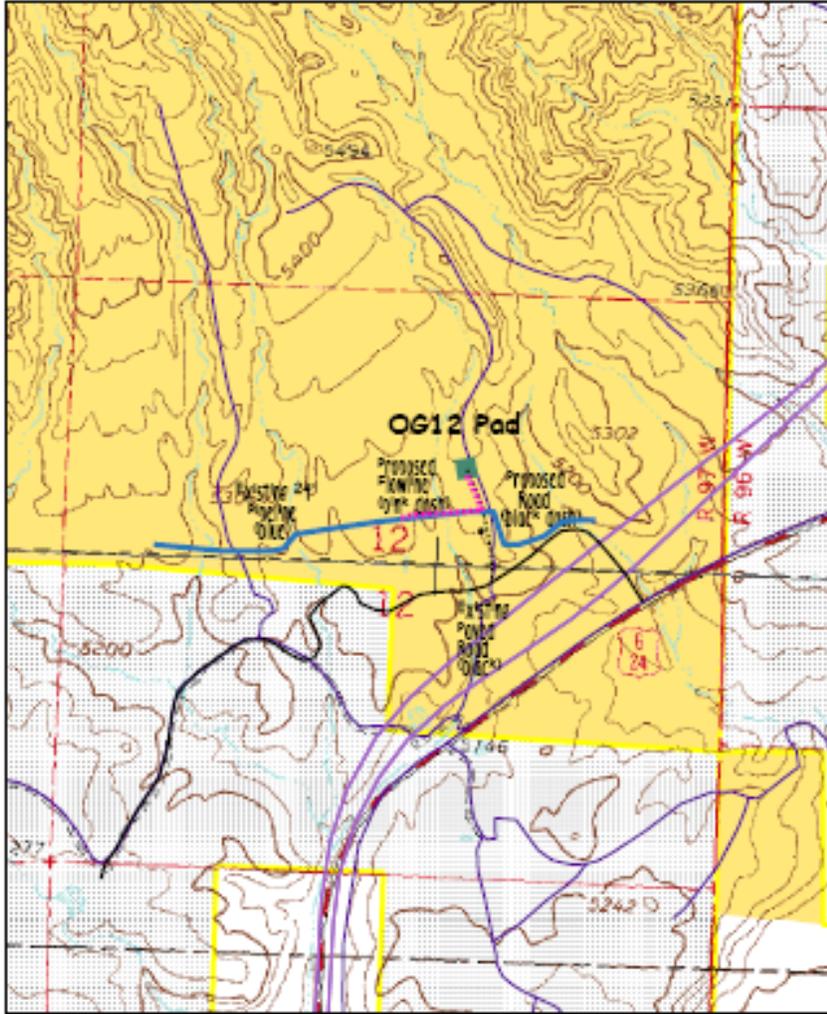
Federal 12-7C	Surface location: T8S, R97W, Sec 12, SW $\frac{1}{4}$ NE $\frac{1}{4}$, 6 th P.M.
(OG12 Pad)	Bottom Hole: T8S, R97W, Sec 12, (1980' FNL, 1980' FEL)
	Surface Owner: BLM
	Federal Lease: COC-58680

APPLICANT: EnCana Oil & Gas (USA) Inc.

DESCRIPTION OF PROPOSED ACTION AND ALTERNATIVES

Proposed Action: The proposed action would allow the operator to directionally drill and develop initially one federal natural gas well from a proposed BLM well pad as listed above and shown on Project Map. The well pad, with a surface disturbance of 3.9 acres, would be situated in salt desert shrub vegetative community dominated by cheatgrass on south-facing flats north of Interstate 70 and the Colorado River. A new access road (approx 790 feet on BLM, 18-22 foot width, crowned and ditched road) would be constructed to the pad. Road grade would not exceed 8%. Sideslopes along the proposed road would average less than 15%. Public motorized access is available to the area of public lands on paved road off old Highway 6 and 24. The flowline for the well would be buried in trench along access road for approximately 100 feet south of pad, then trenched another 800 feet within reclaimed area of existing 24" pipeline to an existing pipeline valve riser. Operator will also install 300 hp field compressor and 2-5 MMCF/day dehydration unit on the well pad to increase gas pressure in gathering line thus allowing entry into the 24" main trunk pipeline at riser. The compressor will be installed with hospital-grade (critical silencer) muffler to minimize noise output. The dehydration/separator unit will be needed to remove water from the well flowline allowing entry of "clean" gas into the 24" market pipeline. All actions proposed on BLM would occur on lease – no right-of-way authorizations would be needed.

The proposed access road to the pad will require excavation of material at the junction with existing paved BLM road. Excess material will be brought forward to pad and used to transition the road grade from flat mesa to the 9 foot fill at pad's southern edge. Disturbed area for the project would include 3.9 acres for pad, 0.5 acres for access road, and 0.6 acres for the gathering pipeline totaling 5.0 acres. Operator would fence the perimeter of disturbed area around pad and install cattleguard at road's entrance onto pad prior to spudding the well to restrict livestock use on pad.



EnCana's Proposed OG12 pad

T85 R97W Sec 12, SWNE 6th P.M. (OG12 pad - BLM surface)
 Garfield County, CO



The exploratory well qualifies as a GAP waiver as defined in Appendix B of the 1999 SEIS.

The proposed action includes drilling and completion operations, installation of production facilities (pipeline, separator/dehydrator, water tank, etc.), production of natural gas, and intermediate and final reclamation measures. The Applications for Permit to Drill (APD) include a drilling program and a multi-point surface use and operations plan that describe details of well pad construction and interim reclamation. The proposed action will be implemented consistent with the oil and gas lease (listed above), federal regulations (43 CFR 3100), the Record of Decision and Resource Management Plan Amendment March 1999, and the operational measures included in the APD as well as the Conditions of Approval (COA) attached to the APD.

No Action Alternative: The proposed action involves federal subsurface minerals that are encumbered with federal oil and gas leases, which grants the lessee a right to explore and develop the lease. The no action constitutes denial of the proposed action and could be used to prevent unnecessary and undue degradation. Absent a non-discretionary statutory prohibition against drilling, BLM cannot deny the right to drill and develop the leasehold. Only Congress can completely prohibit development activities (Western Colorado Congress, 130 IBLA 244, 248 (1994), citing *Union Oil Co. of California v. Morton*, 512 F.2d 743, 750-51 (9th Cir. 1975)). For this reason, the No Action alternative has been considered but eliminated.

Summary of Lease Stipulations (#COC-58680) which would apply to Proposed Action:

- NSO to protect special status plant species on habitat areas
- TL from 12/1 through 4/30 to protect big game winter range with exception under mild winter conditions for the last 60- days of the closure
- TL from 12/16 through 3/15 to protect grouse crucial winter habitat
- CSU to protect fragile soils
- CSU to protect scenic values of Class II visual management area
- LN indicating need for special biological/botanical inventory and special mitigative measures

NEED FOR THE ACTION: The purpose and need is to authorize the Application for Permit to Drill (APD) to satisfy federal lease obligations that will in turn provide natural gas for commercial marketing to the public.

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: Glenwood Springs Resource Management Plan.

Date Approved: **Amended in November 1991 - Oil and Gas Leasing and Development - Final Supplemental Environmental Impact Statement;** amended Nov. 1996 - Colorado Standards and Guidelines; amended in August 1997 - Castle Peak Travel Management Plan; **amended in March 1999 - Oil and Gas Leasing & Development Final Supplemental Environmental Impact Statement;** amended in November 1999 - Red Hill Plan Amendment; and amended in September 2002 – Fire Management Plan for Wildland Fire Management and Prescriptive Vegetation Treatment Guidance.

Decision Number/Page: The proposed action is located on leases in area designated Open for oil and gas leasing in 1984 in the Glenwood Springs Resource Management Plan (page 14 and map 4).

Decision Language: The FSEIS described the environmental effects, including the cumulative effects, of oil and gas development, but did not authorize the construction of any individual well locations. This EA is more site-specific than the FSEIS and includes the results of the on-the-

ground inventories for cultural resources and special status plant and animal species, if appropriate. This EA tiers to both the DSEIS and FSEIS and the information in the FSEIS is incorporated by reference. The EA will focus on specific issues and will not deal with the larger regional issues addressed in the FSEIS. The proposed action has been reviewed for and is in compliance with the FSEIS (43 CFR 1610.5, BLM 1617.3) - Page or Decision Number: Pages 1-5, Record of Decision dated March 24, 1999.

Standards for Public Land Health: In January 1997, Colorado Bureau of Land Management (BLM) approved the Standards for Public Land Health. The five 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. A formal Land Health Assessment was completed on the lands affected by the actions addressed in this EA in 2005. Portions of these lands were found not to be meeting the Standards.

The following narrative describes causal factors pertinent to the proposed action for failure to meet standards in the assessment: “Habitat fragmentation, loss of habitat, and increased human use associated with natural gas exploration and development is resulting in a failure to meet Standard 3 or a trend away from meeting Standard 3 for wildlife on 16,511 acres of public land. The physical loss of habitat is due primarily to the abundance of roads, well pads, pipelines, compressor stations and other ancillary facilities required to produce and transport natural gas. In addition habitat for some species is “effectively lost” as animals are displaced from preferred habitats in areas with intense human activity associated with natural gas development.”

“The driving surface of the roads and the working portion of the pads remain unvegetated for the life of the wells. However, the portions of the roads and pads not needed for operation of the wells are to be reclaimed “in the interim” until the well is done producing. Unreclaimed well pads and roads or improperly reclaimed pads and roads are also contributing to the failure to meet this standard for vegetation.”

Because a standard exists for these five categories, the impact analysis must address whether the proposed action or any alternatives being analyzed would result in impacts that would maintain, improve, or deteriorate land health conditions for that specific parameter. These analyses are located in specific elements listed below:

AFFECTED ENVIRONMENT / ENVIRONMENTAL CONSEQUENCES / MITIGATION MEASURES:

CRITICAL ELEMENTS

AIR QUALITY

Affected Environment: The proposed action area (Garfield County) has been described as an attainment area under CAAQS and NAAQS (Colorado Ambient Air Quality Standards and National Ambient Air Quality Standards). An attainment area is an area where ambient air pollution amounts are determined to be below NAAQS standards. For further details, refer to the Draft Roan Plateau RMPA EIS, page 3_20-22.

Environmental Consequences/Mitigation: The Draft Roan Plateau EIS, pages 4_31-48, describes potential effects from oil and gas development. Analysis was completed with regard to greenhouse gas emissions, a near-field and far-field analysis for carbon monoxide, particulate matter (PM₁₀ and PM_{2.5}),

sulfur dioxide, and hazardous air pollutants including: benzene, ethylbenzene, formaldehyde, hydrogen sulfide, toluene, and xylenes. Sulfur and nitrogen deposition analysis, acid neutralizing capacity, and visibility screening-level analysis were also completed in the Draft EIS. Findings indicate that no adverse long term effects would be realized under the Draft Roan Plateau EIS plan. It is anticipated that the proposed action in this document would not likely produce adverse effects to air quality when compared to the Roan Plateau plan.

Activities described in the proposed action would result in localized short-term increases in vehicle and equipment emissions. Concentrations of emissions would be below applicable ambient air quality standards as analyzed in the Draft Roan Plateau EIS mentioned above. However, it is anticipated that construction activities along with production activities associated with the proposed action would likely produce high levels of dust in dry conditions without dust abatement. To mitigate dust generated by these activities, the operator will be required to implement dust abatement strategies as needed by watering the access road and construction areas and/or by applying a surfactant approved by the Authorized Officer.

AREAS of CRITICAL ENVIRONMENTAL CONCERN, WILD AND SCENIC RIVERS and WILDERNESS

Affected Environment: There are no Wilderness Areas or Wilderness Study Areas, citizen proposed wilderness areas, ACECs, or Wild and Scenic Rivers within the proposed project area.

CULTURAL RESOURCES

Affected Environment: A Class III cultural resource inventory (5406-9) was conducted which encompassed the proposed well location, the proposed access road, and pipeline. One historic property (5GF3899) was identified potentially eligible for listing on the National Register of Historic Places.

Environmental Consequences/Mitigation: Avoidance of the historic property to achieve a determination of “No Historic Properties Affected” in accordance with the National Historic Preservation Act (16U.S.C 470f), National BLM/SHPO Programmatic Agreement (1997), and Colorado Protocol (1998). Formal consultation with the Colorado State Historic Preservation Office (SHPO) was not initiated as the historic property will be avoided.

Indirect long term cumulative impacts from increased access and personnel could result in a range of impacts to known and undiscovered cultural resources in the vicinity of the locations, from illegal collection and excavation to vandalism.

The importance of the Education/Discovery Stipulation needs to be stressed to EnCana and their subcontractors informing them of their responsibilities to protect and report any cultural resources encountered on public land during operations under this permit.

Mitigation:

- All vehicular traffic and personnel are to be restricted to the approved well pad, access road, and existing pipeline disturbance during all phases of operation. To this end a fence will be required to be built around the perimeter of the well location restricting vehicular traffic from traveling outside approved corridors.
- EnCana, their subcontractors, and/or their personnel need to be made aware that “Any person who, without a permit, injures, destroys, excavates, appropriates or removes any historic or prehistoric ruin, artifact, object of antiquity, Native American remains, Native American cultural

item or archaeological resources on public lands is subject to arrest and penalty of law. (16USC433, 16USC470, 18USC641, 18USC1170, and 18USC1361)

- A standard Education/Discovery Condition of Approval for Cultural Resource protection will be attached to the APDs.

ENVIRONMENTAL JUSTICE

Affected Environment: Review of 2001 data from US Census Bureau indicates the median annual income of Garfield County averages \$43,560 and is neither an impoverished or wealthy county. Median annual income of Eagle County averages \$51,578 and is not impoverished but is considered a wealthy county. U.S. Census Bureau data from July, 2002 shows the minority population of Garfield and Eagle County comprises less than 3 % of the total population¹.

Garfield County		Eagle County	
Median Household Income		Median Household Income	
Estimate	90% Confidence Interval	Estimate	90% Confidence Interval
\$43,560	\$40,491 to \$46,613	\$51,578	\$47,958 to \$55,177

Environmental Consequences/Mitigation: The proposed action and alternatives are not expected to create a disproportionately high and adverse human health impact or environmental effect on minority or low-income populations within the area.

FARMLANDS, PRIME AND UNIQUE

Affected Environment: The proposed action would not involve any prime or unique farmlands.

FLOODPLAINS, WETLANDS, RIPARIAN ZONES

Affected Environment: There would be no impact to these resources. There are no floodplains, riparian zones, or wetlands within the proposed action area.

Analysis on the Public Land Health Standard for riparian systems: Not Affected

INVASIVE, NON-NATIVE SPECIES

Affected Environment: The pad lies within a salt desert scrub vegetation type consisting of Wyoming sagebrush and greasewood. There is a dense understory of the noxious weed, cheatgrass, as well as other undesirable invasive plants such as clasping pepperweed and Russian thistle. Very few native plants occur in the project area.

Environmental Consequences: Surface-disturbing activities provide a niche for the invasion and establishment of noxious and non-native species, particularly when these species are already present in the surrounding area. Because cheat grass is already a dominant component of the vegetation on the pad, the potential for cheat grass invasion following construction is extremely high.

¹ Table CO-EST2002-ASRO-02-08-County Population Estimates by Race Alone and Hispanic or Latino Origin: July 1, 2002
Source: Population Division, U.S. Census Bureau
Release Date: September 18, 2003

Mitigations: In order to minimize the high potential for invasion of cheat grass and other weeds, these steps will be taken:

- All disturbed areas not needed for immediate access to the wells will be seeded with a mixture of native shrubs and grasses, and native or desirable non-native forbs. The seed mix designed to reclaim the disturbed areas can be found in the Vegetation section. The project proponent will adhere to the specified seed mix and will continue with reclamation activities, including additional reseeding if necessary, until interim reclamation objectives are achieved.
- The seed will be certified free of noxious weeds. All seed to be applied to public land must have a valid seed test, within one year of the acceptance date, from a seed analysis lab by a registered seed analyst (Association of Official Seed Analysts). The seed lab shall show no more than 0.5 percent by weight of “other weed” seeds; and the seed lot shall contain no “noxious, prohibited, or restricted weed” seeds according to the All States Noxious Test. Seed may contain up to 2.0 percent of “other crop” seed by weight which includes the seed of other agronomic crops and native plants; however, a lower percent of other crop seed is recommended. Seed tags shall be supplied to the Glenwood Springs BLM Energy Office Ecologist at least 14 days prior to the date of proposed seeding for acceptance. Seed which does not meet the above criteria shall not be applied to public lands.
- A Standard Condition of Approval is attached requiring the project proponent to monitor for the presence of any Colorado-listed noxious weeds at least once or twice annually during the growing season until final reclamation of the pad is complete. The project proponent will promptly treat and control any noxious weeds. A Pesticide Use Proposal must be approved by BLM prior to the use of herbicides.

Because cheat grass is already abundant in the general vicinity, it may not be feasible to completely eliminate it from the project area. Therefore, if the area adjacent to the project site contains less than a 50% cover of cheat grass, interim reclamation will be considered acceptable when the cover of cheat grass on the project site does not exceed 5%. If the area adjacent to the project site contains more than a 50% cover of cheat grass, interim reclamation will be considered acceptable when the cover of cheat grass on the project site does not exceed 50%.

MIGRATORY BIRDS

Affected Environment: The project area is comprised primarily of salt desert shrub, sagebrush, greasewood, and snakeweed vegetation with some juniper trees present nearby. In addition, cheatgrass, clasping pepperweed, and Russian thistle are common within the understory. It appears that the site may be a portion of an old fire that has since become overgrown with weedy species. The project site and larger area provide cover, forage, and nesting habitat for a variety of migratory birds. Given the vegetation in the area and at the site it is unlikely that any birds of Conservation Concern reside in the project area.

No raptor nests are known to occur in the immediate vicinity of the proposed well pad, road, or pipeline locations. However, golden eagles are known to nest in the nearby vicinity. It is likely that these and other raptors forage in the area where the new well pad, road, and pipeline facilities will be placed.

Environmental Consequences/Mitigation: The proposed action will involve new disturbance of approximately 5.0 acres of salt desert shrub vegetation and weedy species associated with well pad, pipeline, and road construction. Portions of the disturbed acreage will be reclaimed which could improve habitats vs. the weeds that currently dominate the area. The proposed action will result in a small loss of

nesting, breeding, roosting, perching, and foraging habitat for migratory birds. Individual birds will be impacted where trees, shrubs, and understory vegetation is removed to accommodate natural gas infrastructure. It is possible that individual nests could be destroyed if the well pad and road are constructed during the spring nesting season. In addition, currently intact habitats will be fragmented. This fragmentation will result in reduced habitat patch size which negatively impacts bird species that require large expanses of intact habitat. In addition to the physical loss of habitat and fragmentation, it is likely that during all construction activities, individual birds will be displaced to adjacent habitats due to noise and human presence. Despite the impacts to individual birds, it is highly unlikely that birds would be impacted at the species or population level. The development of reserve pits in the project area may be expected to attract waterfowl and other migratory birds for purposes of resting, foraging, or as a source of free water. The extent and nature of the problem is not well defined, but management measures must be conservative and relegated to preventing bird contact with produced water and drilling and completion fluids that may pose a problem (e.g., acute or chronic toxicity, compromised insulation). Raptors should not be negatively affected as upland foraging habitat is plentiful in the area.

Mitigation:

It will be the responsibility of the operator to comply with the Migratory Bird Treaty Act with respect to “take” of migratory bird species. As such, the operator is requested to prevent use by migratory birds of reserve pits, produced water pits, and evaporation pits, that store or are expected to store fluids which may pose a risk to such birds (e.g., migratory waterfowl, shorebirds, wading birds and raptors) during completion and after completion activities have ceased. Several established methods to prevent bird access are known to work. Methods may include but are not limited to netting, the use of bird-balls, or other alternative methods that effectively prevent bird access/use. Regardless of the method used, it will be applied within 24 hours after completion activities have begun. All lethal and non-lethal events that involve migratory birds will be reported to the Natural Resource Specialist immediately upon their discovery.

NATIVE AMERICAN RELIGIOUS CONCERNS

Affected Environment: At present, no Native American concerns are known by the GSFO within the project area and none were identified during the inventory. The Ute tribes currently claim this area as part of their ancestral homeland. If new data is disclosed, new terms and conditions may have to be negotiated to accommodate their concerns.

Environmental Consequences/Mitigation: Indirect impacts from increased access and personnel could result in a range of impacts to unknown cultural resources from illegal collection to vandalism. The importance of the Education/Discovery Stipulation needs to be stressed to EnCana and their subcontractors. A standard Education/Discovery Condition of Approval for Cultural Resource protection will be attached to the APD.

THREATENED, ENDANGERED, AND SENSITIVE SPECIES (includes analysis on Standard 4)

Affected Environment: According to the latest species list from the U. S. Fish and Wildlife Service, the following federally listed and candidate species may reside or be impacted by actions occurring in Garfield County: bald eagle, Canada lynx, Mexican spotted owl, black-footed ferret, Uinta Basin hookless cactus, Parachute beardtongue, DeBeque phacelia, yellow-billed cuckoo, razorback sucker, Colorado pikeminnow, bonytail chub, and humpback chub.

Specific to the project location, no federal or state listed species, federal proposed or candidate species, or BLM Sensitive species (collectively called special status species) or their habitat occur directly within the

project area footprint. The Colorado River in close proximity to the proposed pad is mapped as bald eagle winter range. In addition, a known bald eagle roost site is located within ¼ mile of the proposed pad. Designated Critical Habitat for the Colorado pikeminnow and razorback sucker is located within the Colorado River and its 100-year floodplain within ½ mile of the pad. In addition, three BLM sensitive fish species are known to inhabit the Colorado River near the project area, the flannelmouth sucker, bluehead sucker, and roundtail chub.

After conducting a complete floristic inventory of the project footprint in May 2006 (Western Ecological), no federally listed or BLM sensitive plant species were found within the area of proposed surface disturbance; however, there is a known location of the Uinta Basin hookless cactus located approximately 500 feet from the edge of the south east corner of the proposed pad. There are five other known locations of the Uinta Basin hookless cactus within a two mile radius of the site, but there is no potential habitat within the area of proposed surface disturbance for this plant. There is also a population of the BLM sensitive Adobe thistle within ¼ mile of the pad, but there is no suitable habitat for this plant in the project area. There is a DeBeque phacelia population within a ½ mile of the pad to the west, but no potential habitat for this species occurs in the project area. No other federally listed or candidate plant species or BLM sensitive plant species or their habitats are found in the vicinity of the project area.

Environmental Consequences/Mitigation:

Bald eagle

Although close, the known bald eagle roost site and mapped winter range habitats are located outside of the project sites area of influence. The action will have “**No Effect**” to bald eagles or their habitats

Colorado pikeminnow & razorback sucker

Although Designated Critical Habitat for these fish is located in close proximity to the proposed action, the well pads, roads, and pipelines will be constructed well above the river on a mesa away from the river. It is possible that the action will result in small increases in sediment reaching the river over time, but the Colorado River carries a tremendous amount of sediment and the minor amount of additional sediment will be within background levels currently carried by the river. No detectible increase in sediment will occur. Furthermore, these fish are well adapted to the high sediment loads traditionally carried by the Colorado River. Periodic flooding and sediment have always played a part in the maintenance of these fish’s habitats. The action will have “**No Effect**” to either the razorback sucker or Colorado pikeminnow or their habitat.

Flannelmouth sucker, roundtail chub, bluehead sucker:

Although habitat and occurrence records for these fish is located in close proximity to the proposed action, the well pad, road, and pipeline will be constructed well above the river on a mesa away from the river. It is possible that the action will result in small increases in sediment reaching the river over time, but the Colorado River carries a tremendous amount of sediment and the minor amount of additional sediment will be within background levels currently carried by the river. No detectible increase in sediment will occur. Furthermore, these fish are well adapted to the high sediment loads traditionally carried by the Colorado River. Periodic flooding and sediment have always played a part in the maintenance of these fish’s habitats. The action will have no impacts to these native fishes or their habitat.

Uinta Basin hookless cactus

Habitat for the Uinta Basin hookless cactus occurs adjacent to the area of proposed surface disturbance; however, there is no habitat present within the area of proposed disturbance, nor were any Uinta Basin hookless cacti found within the project area. There is a high canopy cover of cheat grass present, and the ground has been previously disturbed and compacted making it unsuitable habitat for the cactus. There is a known location of the cactus, a population of two plants, approximately 500 feet south east of the area of proposed surface disturbance. Construction of the proposed well pad and access road will not result in direct impacts to the Uinta Basin hookless cactus since it lies outside of the area where ground disturbance will take place. Indirect impacts to the hookless cactus and its habitat could result from noxious weed invasion following surface disturbing activities. Noxious weeds are aggressive and develop dense stands which outcompete native species. Mitigation to address this potential indirect impact can be found in the Invasive, Non-Native Species section above.

DeBeque phacelia

There is a DeBeque phacelia population ½ mile to the west of the project area, but there is no suitable habitat within the project area for this species. DeBeque phacelia occurs on sparsely vegetated steep clay slopes on Atwell Gulch and Shire Members of the Wasatch Formation. This soil type was not present within the project area; therefore, there will be no direct or indirect impacts to this species or its' habitat as a result of the project.

Adobe thistle

A new location of this sensitive species was found within ¼ mile west of the proposed pad, but no suitable habitat occurs in the project area for this species. Adobe thistle prefers open, disturbed areas with reddish tan vertisol soils with shrink-swell cracks. This soil type was not present within the project area; therefore, there will be no direct or indirect impacts to this species or its' habitat as a result of the project.

Based on the lack of potential habitat or occurrence records for any other special status species, the proposed action should have "No Effect" on any other listed or BLM sensitive species or their habitats. In addition, no indirect or offsite impacts are anticipated.

Analysis on the Public Land Health Standard for Threatened & Endangered species: Since there is no potential habitat for special status species in the project area and no offsite or indirect impacts are anticipated if the COAs are implemented, the proposed action should have no effect on any special status species. The proposed action should not result in a failure of the area to achieve Standard 4 for special status, threatened or endangered species.

WASTES, HAZARDOUS OR SOLID

Affected Environment: All wastes will be managed in accordance with the applicable Oil and Gas regulations and On-Shore Orders.

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

Affected Environment:

Surface Water

The proposed pad and access road are bound on the east and west by unnamed ephemeral drainages while the proposed flowline would cross the western drainage in the reclaimed area of the existing 24" pipeline. Proposed activities occur within an unnamed sub-watershed approximately 13,872 acres in size. The two drainages in the vicinity are G-Type (Rosgen, 1996) channels and are characterized by steep slopes consisting of pinyon-juniper community types. Southeast of the proposed area and Highway I-70, the eastern drainage joins an unnamed ephemeral creek that is tributary to the Colorado River. The western

ephemeral drainage along with several other unnamed ephemeral drainages is tributary to the Colorado River south of the proposed area.

The State of Colorado has developed *Stream Classifications and Water Quality Standards* (CDPHE, Water Quality Control Commission, Regulation No. 37) that identify beneficial uses of water and numeric standards used to determine allowable concentrations of water quality parameters. The two unnamed ephemeral drainages are designated as use-protected stream segments. The use-protected designation refers to waters that the State of Colorado has determined do not warrant the level of protection provided by the outstanding waters designation or the antidegradation rule (CDPHE, Water Quality Control Commission, Regulation No. 31).

These segments are classified aquatic life warm 2, recreation 1b, and agriculture. Aquatic life warm class 2 refers to waters not capable of sustaining a wide variety of cold or warm water biota due to habitat, flows, or uncorrectable water quality conditions. Recreation class 1b refers to stream segments where there is a potential for primary contact recreation. The agriculture class refers to waters that are suitable for irrigation or livestock use. Numeric standards include a comprehensive list of physical, biological, inorganic, and metal standards that have been established to protect the designated uses above. At this time there is no water quality data for the two unnamed ephemeral drainages.

The State of Colorado has developed a *303(d) List of Water Quality Limited Segments Requiring TMDLS* (CDPHE, Water Quality Control Commission, Regulation No. 93) that identifies stream segments that are not currently meeting water quality standards with technology based controls alone. The two unnamed ephemeral drainages are within the Lower Colorado River Basin segment COLCLC13a that consists of tributaries to the Colorado River below Parachute Creek. These two drainages are not listed for any impairment.

The State of Colorado has developed a *Monitoring and Evaluation List* (CDPHE, Water Quality Control Commission, Regulation No. 94) that identifies water bodies suspected to have water quality problems. The two unnamed ephemeral drainages do not fall into any listed segment. However, the Colorado River from Parachute Creek to the Gunnison River (segment COLCLC02) is listed for sediment.

Environmental Consequences/Mitigation: Proposed activities would temporarily remove soil and vegetation resulting in an increase in erosion potential and offsite sedimentation. With measures to control runoff water in place, reestablishment of vegetation, and proper engineering of roads; the potential for sediment transport to the two ephemeral drainages would be minimized. The following mitigation measures will be implemented to protect surface water.

- The operator will consult with the State of Colorado Water Quality Control Division regarding stormwater discharge permits prior to commencing construction activities. All construction activities that disturb one acre or greater require a stormwater discharge permit. Written documentation to the Authorized Officer is required to indicate that appropriate permits have been obtained or are not required by the permitting agency.
- Roads will be crowned, ditched, surfaced, and constructed to BLM Gold Book standards.
- Well pads will be constructed to BLM Gold Book standards. Fill slopes will be seeded to minimize erosion and protected with silt fences to prevent sediment from leaving the site.
- An engineered frac pit would be constructed on the well pad after drilling is completed to store fracing material and other byproducts of production activities.

Ground Water

Surface casing would be set to 800', which would provide adequate protection for any usable water zones which are currently being utilized. Any usable water zones encountered below the surface casing interval would also be required to be protected by placing cement across the water zone.

Analysis on the Public Land Health Standard for water quality: The proposed action with associated mitigation would not likely prevent standard 5 for water quality from being met.

NON-CRITICAL ELEMENTS

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

SOILS (includes analysis on Standard 1)

Affected Environment: The soil map from the *Soil Survey of Douglas-Plateau Area, Colorado: Parts of Garfield and Mesa Counties* (USDA Soil Conservation Service, 2003) indicates that the proposed pad, access road, and the proposed flowline east of the western drainage are located on the soil map unit Travessilla-Rock outcrop complex. The remaining portion of the proposed flowline that extends approximately 300 feet west of the western drainage is located on the soil map unit Bunkwater very fine sandy loam. Following is a brief description of the soil map units encountered in the proposed action area.

- Travessilla-Rock outcrop complex typically occurs on dissected mesas, at elevations from 5,400 to 6,800 feet, and on slopes from 10 to 35%. Approximately 45% of this unit is Travesisilla fine sandy loam and 40% rock outcrop. The fine sandy loam is shallow, well drained, and has moderately rapid permeability. Erosion hazard is very severe and surface runoff is rapid. Primary uses for this soil include livestock grazing, wood production, and wildlife habitat.
- Bunkwater very fine sandy loam is a deep, well drained soil that occurs on structural benches from 5,000 to 6,000 feet and on slopes from 1 to 8 percent. Erosion hazard is severe and surface runoff is slow. Primary uses for this soil include livestock grazing and wildlife habitat.

Environmental Consequences/Mitigation: There would be some soil loss, loss of soil productivity, and an increase in sediment available for transport resulting from construction activities. Due to the close proximity of the proposed action to the two drainages, the following mitigation measures will be implemented to minimize potential negative impacts associated with soil loss and transport.

- Reclamation measures such as contouring disturbed areas, roughing the soil surface, re-vegetating, and controlling runoff will minimize soil erosion and transport by stabilizing areas and capturing sediment.
- Due to the severe erosion potential of the area soils, the proposed access road will be crowned, ditched, graveled, and include drainage features in accordance with BLM Gold Book standards. In addition, the proposed well pad will be constructed to BLM Gold Book standards and include Best Management Practices (BMPs) designed to minimize erosion and offsite sedimentation.
- Roads should be periodically re-graveled when ruts exceed 6 inches in depth or as directed by the Authorized Officer. Initial gravel application will be a minimum lift of 4 inches.

Analysis on the Public Land Health Standard for upland soils: The proposed action would not likely prevent standard 1 from being achieved.

VEGETATION (includes analysis on Standard 3)

Affected Environment: The vegetation within the project area consists of salt desert scrub vegetation with an overstory of Wyoming sagebrush, greasewood and snakeweed. The east and west edges of the pad are bordered by juniper. The herbaceous layer is dominated by cheatgrass, as well as other undesirable invasive plants such as clasping pepperweed and Russian thistle. There is a very sparse cover of native grasses and forbs.

Environmental Consequences: The well pad would result in an estimated 3.9 acres of disturbance, and a new access road and gathering pipeline would result in additional disturbance of 1.1 acres, for a total of 5 acres of disturbance. In order to accommodate access to the well (if production occurs), about 2 acres would not be reclaimed during the life of the well. With implementation of reclamation practices identified in the COA's, establishment of desirable herbaceous vegetation on the unused portions of the pad, pipeline and road could be restored within 2 to 3 years. The establishment of mature shrubs could take from 5 to 25 years. However, because of the periodic workovers and the potential for additional well bores to be drilled from this pad, it is likely that vegetation would remain in an early seral stage for the life of the wells.

Mitigation: The following steps will be taken to successfully reclaim the disturbed area:

- A specified seed mix designed to meet interim reclamation standards using a mixture of native shrubs and grasses, and native or desirable non-native forbs will be used. Revegetating the area will help prevent noxious and invasive weed establishment, maintain big game winter range habitat and prevent erosion. The following seed mix and rates will be used on all disturbed surfaces within the project area:

Species of Seed	Variety	Drilled Application Rate* (PLS lbs/acre)
Wyoming big sagebrush		0.1
Shadscale saltbush		2.7
4-wing saltbush		3.4
Western wheatgrass	Arriba	4.1
Galleta	Viva	2.8
Sandberg bluegrass		0.5
Scarlet globemallow		0.5
Sainfoin	Eski	8.7
TOTAL		22.8 PLS lbs/acre

* In areas that cannot be drilled, broadcast seed at twice the application rate and cover ¼ to ½ deep with a harrow or drag bar.

- The project area will be fenced to exclude livestock grazing for the first two growing seasons or until the seeded species or native volunteer species become firmly established. The seeded species will be considered firmly established when at least 50% of the new plants are producing seed.

Analysis of the Public Land Health Standard for plant and animal communities (partial, see also Wildlife, Aquatic and Wildlife, Terrestrial): The Rifle West Land Health Assessment, completed in 2005,

determined that this portion of the landscape was not meeting Standard 3. Problems noted were the widespread invasion of cheatgrass with a corresponding loss of other functional groups such as perennial native grasses and forbs. Also, sagebrush communities were dominated by old, decadent sagebrush with poor recruitment. The surface disturbance associated with the proposed action has the potential to encourage expansion and dominance of the site by cheatgrass. The Invasive, Non-native Species section includes provisions to revegetate the disturbances with native vegetation and to control noxious weeds. If successfully revegetated, the proposed action may result in a localized improvement in vegetative conditions by improving the density, frequency and composition of native plant species.

WILDLIFE, AQUATIC (includes **analysis** on Standard 3)

Affected Environment: The well pad is to be placed between two small ephemeral drainages that feed the Colorado River approximately 1 mile to the south. The Colorado River contains a variety of fishes and aquatic insects.

Environmental Consequences/Mitigation:

It is likely that site-specific erosion potential will be increased due to clearing of vegetation to accommodate the new well pads, access roads, and transmission pipelines required. This will be the case until such time as adequate vegetation establishment is obtained on reclaimed portions of disturbed areas. Roads will increase the chance for erosion and sedimentation indefinitely. Increased sediment can reduce aquatic insect productivity as streams become silted and clean gravels and cobbles are covered. Sediment that ultimately reaches the Colorado River will have no impacts to fisheries as sediment levels are projected to be well within the background levels for the Colorado River and minor potential increases in sediment would be undetectable.

Analysis on the Public Land Health Standard for plant and animal communities (partial, see also Vegetation and Wildlife, Terrestrial): A formal land health assessment was completed in 2005. The proposed action should result in no negative effects to aquatic wildlife and will have no negative effects on the ability to maintain or meet Standard 3 for aquatic wildlife.

WILDLIFE, TERRESTRIAL (includes **analysis** on Standard 3)

Affected Environment: The project area is comprised primarily of salt desert shrub vegetation with some juniper trees present nearby. In addition, cheatgrass, clasping pepperweed, and Russian thistle are common at the site. It appears that the site may be a portion of an old disturbance that has since become overgrown with weedy species. The project site and larger area provide cover, forage, and breeding habitat for a variety of big game, small game, and non-game mammals, birds, and reptiles. The area is also mapped as crucial big game winter range, and the lease contains a big game winter timing limitation stipulation restricting surface uses (other than operation and maintenance of production facilities) from December 1 through April 30.

Environmental Consequences/Mitigation: General impacts (short term, long term, and cumulative) to terrestrial wildlife were adequately addressed in the 1999 FSEIS. At this time a site-specific habitat assessment has not been conducted to determine the quality of the habitat. However, based on existing data and maps, the site is somewhat degraded given the weedy species present. The site does not provide high quality habitat but is still important as severe winter range for big game. The action will result in direct and indirect losses of habitat, further fragment remaining habitats, and result in increased human use in the area. This will negatively impact some terrestrial wildlife species.

Standard measures are incorporated into the APD along with other measures (i.e., automatic well reporting, and reclamation) to conform to the FSEIS that will help to mitigate wildlife impacts. Public access and use of the roads for all the proposed well sites will be prevented due to controlled access on private lands. This will minimize disturbance and reduce effective habitat loss.

Mitigation:

The winter timing stipulation placed on the leases will apply from December 1 through April 30, with the applicable exception criteria.

Analysis on the Public Land Health Standard for plant and animal communities (partial, see also Vegetation and Wildlife, Aquatic): A formal land health assessment was completed in 2005. The action will result in direct and indirect losses of habitat, further fragment remaining habitats, and result in increased human use in the area. Given the level of activity in the greater area, the proposed action will further trend the watershed away from meeting Standard 3 for some terrestrial wildlife species.

THRESHOLD ANALYSIS FOR WILDLIFE AND WILDLIFE HABITAT MITIGATION: In the FSEIS Record of Decision (March 1999) on page 14 it states that: *“Within high value or crucial big game winter range, the operator is required to implement specific measures to reduce impacts of oil and gas operations on wildlife and wildlife habitat.. Measures to reduce impacts would generally be considered when well density exceeds four wells per 640 acres, or when road density exceeds three miles of road per 640 acres.”* Furthermore, Lease Notice GS-LN-05 states: *“Within high value or crucial big game winter range, the operator is required to implement specific measures to reduce impacts of oil and gas operations on wildlife and wildlife habitat.”*

This proposed well is exploratory. As such, the road and well density thresholds will not be exceeded via implementation of the proposed action. As such offsite or replacement mitigation measures to reduce impacts to wildlife are not currently being considered. However, as future activity increases in the area, and a Geographical Area Plan (GAP) is initiated, it is possible that mitigation will be sought to offset habitat loss and fragmentation. Cumulative impacts will be addressed in greater detail within the GAP and mitigation opportunities will be identified and pursued.

OTHER NON-CRITICAL ELEMENTS:

ACCESS AND TRANSPORTATION

Affected Environment: Public access is available to the proposed OG12 pad via paved BLM road. A cable wire gate is presently installed with steel posts at the intersection of paved road and proposed beginning of pad access road. In checking with staff personnel, there is no indication why the cable gate is needed. The gate will be removed during pad access road construction.

Environmental Consequences: Truck traffic will be the heaviest during rig-up, completion activities, and the rig-move to the next location. The proposed drilling and completion activities on the federal wells will likely commence in summer, 2005.

GEOLOGY AND MINERALS

Affected Environment/Environmental Consequences/Mitigation:

The proposed target gas zones are sands within the middle and lower part of the Williams Fork Formation and underlying Iles Formation (Cozzette and Corcoran Sandstones). The shallower Wasatch G sands may be present but have low potential for producible gas. All coal zones are too deep for underground mining. The operator proposes to cement the production casing from total depth to 200' above the top of the

Mesaverde, which would isolate the formations and gas zones and prevent migration of any gas or fluids from one zone to another.

NOISE:

Affected Environment: Proposed pad lies within ¼ mile of Interstate 70. Noise levels at the site are presently created by traffic from interstate.

Environmental Consequences: There will be increased levels of noise during the construction, drilling, and completion phases of the proposed action. The noise will be most noticeable along the roads used to haul equipment and at the well site. Drilling activities are subject to noise abatement procedures as defined in the Colorado Oil and Gas Conservation Commission Rules and Regulations (Aesthetic & Noise Control Regulations). Additionally, with the installation of 300 hp compressor at well pad, noise from this unit will emanate when it is operating.

Mitigation: To minimize noise levels during operation of the compressor, a hospital-grade muffler will be installed on the unit and remain functional during periods of compressor operation.

PALEONTOLOGY

Affected Environment: The proposed pad and access road fall within a Condition I area for possible sites of paleontological or scientific value. However, dense soil and vegetation cover rock outcrops and as a result a paleontological survey would not be required for those specific potentially fossiliferous areas prior to BLM project authorization. If scientifically important fossils are discovered during construction activities and cannot be avoided, mitigation may be necessary.

All persons associated with operations under this authorization should be informed that any objects or sites of paleontological value, such as vertebrate or scientifically important invertebrate fossils, should not be destroyed, damaged or removed.

Environmental Consequences/Mitigation: A standard Education/Discovery Condition of Approval for Paleontology Resource protection will be attached to the APDs.

RANGE MANAGEMENT:

Affected Environment: The well pad would be located in the County Line Allotment # 08923 which has 3 different permittees listed below. The allotment consists of 4,570 acres and provides 193 AUMs of forage. Full use was taken on the allotment in spring, 2006

The permit is as follows:

David & Chris Long	65 C	05/01 to 05/30	100% Public	64 AUMs
Todd Farrington	32 C	05/01 to 05/30	100% Public	32 AUMs
Frank Dix	98 C	05/01 to 05/30	100% Public	97 AUMs

There is an old Utilization Plot in the SWNW Sec 11, T.8 S., R.97 W.

There is a new Photo Point in the SWSW Sec 11, T.8 S., R.97 W.

There is a Frequency/Apparent Trend transect 133 degrees from the Photo Point.

Environmental Consequences/Mitigation: Due to the lack of spring moisture this year, the cattle used this allotment heavily because forage was scarce. They should not have stayed the full period of use

permitted. Utilization was very severe. Any rehabilitation/revegetation in the past would have been hard hit.

Rehabilitation of the disturbed area in the future will have to be fenced and/or the permittees will have to be asked to not use this allotment. All range improvement projects that are altered during construction will be replaced.

VISUAL RESOURCES

Affected Environment: The northern edge of the proposed pad lies within an area classified as VRM Class II in the 1984 Glenwood Springs Resource Management Plan. The objective of Class II areas is to retain the existing character of the landscape. The level of change to the characteristic landscape should be low. Management activities may be seen, but should not attract the attention of the casual observer. Any changes must repeat the basic elements of form, line, color, and texture found in the predominant natural features of the characteristic landscape.

The southern half of the well pad, along with the access road and pipeline, would be located in an area classified as VRM Class III in the 1984 Resource Management Plan. The objective of this class is to partially retain the existing character of the landscape. The level of change to the characteristic landscape should be moderate. Management activities may attract attention but should not dominate the view of the casual observer. Changes should repeat the basic elements found in the predominant natural features of the characteristic landscape.

The protection of VRM classes, landscape character and scenic quality on private lands and split estate is discussed on pages 3-41 through 3-45 of the FSEIS. The impacts of development are also discussed on pages 4-49 through 4-54 of the FSEIS. The proposed action will not affect any of the key viewing areas or viewsheds described in the FSEIS. After conducting field review of the project and requiring the operator to move the pad further north away from Interstate 70, the proposed disturbances would not be expected to be visible from the key viewing areas of the 1-70 corridor or the town of Parachute/Battlement Mesa.

Environmental Consequences/Mitigation: The construction of the well pad, pipeline and road will create contrast by removing the salt desert shrub vegetation and exposing bare ground. Interim reclamation of the pad and pipeline with seeded shrub and grass species would reduce the contrast after two to three growing seasons. After completion of interim reclamation work, the well site would be visible from the immediate vicinity and nearby mesas due to the production facilities. The proposed site, however, would not be visible from nearby Interstate 70 nor the Colorado River and would not attract the attention of the casual observer. The proposed action would conform to VRM Class Objectives.

The production facilities, including the metal containment ring, located on the pad in support of the proposed well would be painted Juniper Green, as determined by on-site recommendations. Efforts should be made to leave as much existing vegetation as possible to screen the excavated disturbance. The facilities should be placed against the cut side of the pad, where feasible.

For the following elements, those brought forward for analysis will be formatted as shown above.

Non-Critical Element	NA or Not Present	Applicable or Present, No Impact	Applicable & Present and Brought Forward for Analysis
Travel/Access			X

Cadastral Survey	x		
Fire/Fuels Management	x		
Forest Management	x		
Geology and Minerals			x
Hydrology/Water Rights			x
Law Enforcement	x		
Paleontology			x
Noise			x
Range Management			x
Realty Authorizations	x		
Recreation	x		
Socio-Economics	x		
Transportation			x
Visual Resources			x

CUMULATIVE IMPACTS SUMMARY:

The 2004 Draft Roan Plateau Resource Management Plan Amendment & Environmental Impact Statement released in November, 2004 (DEIS, 2004) analyzed 5 alternatives for oil and gas development in the Roan Plateau planning area. These alternatives assessed impacts, including cumulative impacts, for oil and gas development scenarios ranging from 855 to 1582 new gas wells on public lands. The drilling of the wells addressed in this Environmental Assessment is well below the low range of development analyzed in the DEIS.

Since the completion of the 1999 Oil and Gas Leasing and Development FSEIS, the number of wells analyzed in subsequent NEPA documents has exceeded the 230 federal wells forecast in the RFD for lands outside the NOSR Production Area. However, drilling technology advancements has drastically reduced the expected surface disturbance of 3.4 acres per well or 1,020 acres from Federal wells analyzed in the 1999 FSEIS. The FSEIS analysis was based on a reasonably foreseeable development scenario, including the numbers of wells, well spacing, equipment necessary, and assumed emission rates. Since completion of the FSEIS, the majority of new wells has been drilled directionally and, in many instances, are being drilled from existing well pads, thereby reducing the overall anticipated surface impact addressed in the 1999 FSEIS.

The air quality analysis conducted in the 2004 DEIS does assess the impacts to the airshed from oil and gas development within and around the Roan Plateau Planning Area. The proposed action addressed in this document, which could include well pad and/or road construction, well drilling and well completion work typical for oil and gas development, would not represent a significant increase in emissions relative to the emissions assumed in the 2004 DEIS

PERSONS / AGENCIES CONSULTED:

- RuthAnn Morss, Permit Agent, EnCana Oil & Gas (USA) Inc.
- Joe Schmid, Construction Foreman, EnCana Oil & Gas (USA) Inc.
- Dayton Slauch, Surveyor, Tri-State Land Surveying , Inc.
- Brenda Linster Herndon, Permit Agent - Gathering, EnCana Oil & Gas (USA) Inc.
- Preston Nelson, Permit Coordinator - Gathering, EnCana Oil & Gas (USA) Inc.

INTERDISCIPLINARY REVIEW:

<u>Name</u>	<u>Title</u>	<u>Area of Responsibility</u>
Jim Byers	Natural Resource Specialist	Team Leader
Cheryl Harrison	Archaeologist	Cultural Resources, Native American Religious Concerns
Tom Fresques	Wildlife Biologist	Terrestrial & Aquatic Wildlife, Special Status Wildlife Species
Beth Brenneman	Ecologist	Special Status Plants, Vegetation, Noxious Weeds
Bruce Fowler	Geologist	Ground Water/Minerals
Harley Armstrong	Paleontologist	Paleontology
Mike Kinser	Rangeland Management Specialist	Riparian
Marty O'Mara	Petroleum Engineer	Downhole Conditions of Approval
Kay Hopkins	Outdoor Recreation Planner	Visual Resources
Jeff O'Connell	Hydrologist	Air, Riparian, Surface Water, Soil
Isaac Pittman	Rangeland Management Specialist	Range

FONSI
CO-140-2006-094 EA

EnCana Oil & Gas (USA) Inc. Proposal to Drill Well on Proposed Well Pad
Directionally Drill the Federal 12-7C well (OG12 pad)

The environmental assessment and analyzing the environmental effects of the proposed action have been reviewed. The approved mitigation measures result in a Finding of No Significant Impact on the human environment. Therefore, an environmental impact statement is not necessary to further analyze the environmental effects of the proposed action.

DECISION RECORD

DECISION: It is my decision to approve the Application for Permit to Drill to directionally drill a single well [Federal 12-7C on OG12 Pad] with the Conditions of Approval in order to provide for the orderly, economical and environmentally sound exploration and development of oil and gas resources on valid oil and gas leases.

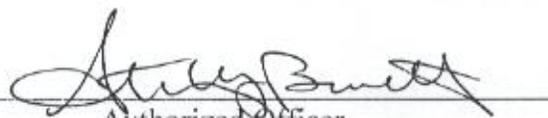
RATIONALE:

1. Approval of the proposed action is validating the rights granted with the federal oil and gas leases to develop the leasehold to provide commercial commodities of oil and gas.
2. The environmental impacts have been mitigated with measures included in the Surface Use Plan and the attached Conditions of Approval.

MITIGATION MEASURES: Mitigation measures are included in the Surface Use Plan and Conditions of Approval for both surface and drilling operations.

NAME OF PREPARER: Jim Byers, Natural Resource Specialist

SIGNATURE OF AUTHORIZED OFFICIAL:


Authorized Officer

DATE SIGNED:

JUL 31 2006

Well: Federal 12-7C
 OG12 Pad
 Operator: EnCana Oil & Gas (USA) Inc.

CONDITIONS OF APPROVAL
APPLICATION FOR PERMIT TO DRILL

Company/Operator: **EnCana Oil & Gas (USA), Inc.**

PAD	OG12	Location	SWNE Sec 12, T08S, R97W	
Well Name	Well No.	API No.	Bottom Hole Location	Lease
Federal	12-7 C (OG12)		SWNE Sec 12 T08S, R97W	COC-58680

NOTIFICATION REQUIREMENTS

- Location Construction - at least forty-eight (48) hours prior to construction of location and access roads.
- Spud Notice - at least twenty-four (24) hours prior to spudding the well.
- Casing String and Cementing - at least twenty-four (24) hours prior to running casing and cementing all casing strings.
- BOP and Related Equipment Tests - at least twenty-four (24) hours prior to initiating pressure tests.
- First Production-Notice - within five (5) business days after new well begins, or production resumes after well has been off production for more than ninety (90) days.
- Reclamation - At least (24) hours prior to re-shaping the well pad.

For more specific details on notification requirements, please check the Conditions of Approval for Notice to Drill and Surface Use Program.

APD approval is valid for a period of one (1) year from the signature date. An extension period may be granted, if requested, prior to the expiration of the original approval period.

Please contact Marty O'Mara (970) 947-5221 of the Glenwood Springs field office at least 24 hours prior to spud.

Please contact Steve Ficklin (970) 947-5213, or Jennifer Gallegos (970) 947-5220 of the Glenwood Springs field office at least 24 hours prior to running the surface and production casing and conducting the BOP test.

Well: Federal 12-7C
OG12 Pad
Operator: EnCana Oil & Gas (USA) Inc.

**DOWNHOLE CONDITIONS OF APPROVAL FOR NOTICE TO DRILL
FEDERAL (OG12) PAD**

1. The TOC for the production casing needs to be a minimum of 200' above the Mesa Verde Formation or to the base of the surface casing either during the primary cement job or through remedial cementing. The TOC for each well must be a minimum depth of:

<u>Well No.</u>	<u>MD</u>	<u>Minimum TOC</u>	<u>TVD</u>
12-7C (OG12)	1500'		1488'

2. A cement bond log (CBL) will be run from the production casing shoe to **TOC** and shall be utilized to determine the bond quality for the production casing.
3. Any usable water zones encountered below the surface casing shall be isolated and or protected by cementing across the zone. The minimum requirement is to cement from 50 feet above to 50 feet below each usable water zone encountered.
4. Open hole logs (PEX) shall be run in the surface section of the hole to determine shallow gas and waters. This COA is necessary only for the first well drilled on a pad.

REGULATORY REMINDERS

Approval of this application does not warrant or certify that the applicant holds legal or equitable title to those rights in the subject lease which would entitle the applicant to conduct operations thereon.

All drilling operations, unless otherwise specifically approved in the APD, must be conducted in accordance with Onshore Oil and Gas Order No. 2.

All lease and/or unit operations will be conducted in such a manner that full compliance is made with applicable laws, regulations (43 CFR 3100), Onshore Oil and Gas Orders, and the approved plan of operations. The operator is fully responsible for the actions of his subcontractors.

A copy of the approved application for permit to drill (APD), including the conditions of approval and accompanying surface use plan will be furnished to the field representative by the operator to insure compliance and will be available to authorized personnel at the drillsite whenever active construction or drilling operations are underway.

Be aware fire restrictions may be in effect when location is being constructed and/or when well is being drilled. Contact the appropriate Surface Management Agency for information.

Well: Federal 12-7C
OG12 Pad
Operator: EnCana Oil & Gas (USA) Inc.

Section 102(b)(3) of the Federal Oil and Gas Royalty Management Act of 1982, as implemented by the applicable provisions of the operating regulations at Title 43 CFR 3162.4-1(c), requires that "not later than the 5th business day after any well begins production on which royalty is due anywhere on a lease site or allocated to a lease site, or resumes production in the case of a well which has been off production for more than 90 days, the operator shall notify the authorized officer by letter or sundry notice, Form 3160-5, or orally to be followed by a letter or sundry notice, of the date on which such production has begun or resumed."

If you fail to comply with this requirement in the manner and time allowed, you shall be liable for a civil penalty of up to \$10,000 per violation for each day such violation continues, not to exceed a maximum of 20 days. See Section 109(c)(3) of the Federal Oil and Gas Royalty Management Act of 1982 and the implementing regulations at Title 43 CFR 3162.4-1(b)(5)(ii).

In the event after-hours approval or notification is necessary, please contact one of the following individuals:

Marty O'Mara Petroleum Engineer	C: 970.319.5837 BLM Fax: 970.947.5267	W: 970.947.5221
Steve Ficklin Petroleum Engineer Tech	C: 970.319.2509	W: 970.947.5213
Jennifer Gallegos Petroleum Engineer Tech	C: 970.319.2211	W: 970.947.5220
Jim Byers Natural Resource Specialist	C: 970.319.2532	W: 970.947.5222

Well: Federal 12-7C
OG12 Pad
Operator: EnCana Oil & Gas (USA) Inc.

EPA'S LIST OF NONEXEMPT EXPLORATION AND PRODUCTION WASTES

While the following wastes are nonexempt, they are not necessarily hazardous.

- Unused fracturing fluids or acids
- Gas plant cooling tower cleaning wastes
- Painting wastes
- Oil and gas service company wastes, such as empty drums, drum rinsate, vacuum truck rinsate, sandblast media, painting wastes, spent solvents, spilled chemicals, and waste acids
- Vacuum truck and drum rinsate from trucks and drums, transporting or containing nonexempt waste
- Refinery wastes
- Liquid and solid wastes generated by crude oil and tank bottom reclaimers
- Used equipment lubrication oils
- Waste compressor oil, filters, and blowdown
- Used hydraulic fluids
- Waste solvents
- Waste in transportation pipeline-related pits
- Caustic or acid cleaners
- Boiler cleaning wastes
- Boiler refractory bricks
- Incinerator ash
- Laboratory wastes
- Sanitary wastes
- Pesticide wastes
- Radioactive tracer wastes
- Drums, insulation and miscellaneous solids.

Well: Federal 12-7C
OG12 Pad
Operator: EnCana Oil & Gas (USA) Inc.

SURFACE USE CONDITIONS OF APPROVAL

1. The paint color to be used on all surface facilities, including the 300 hp compressor, dehydration unit and any metal containment rings surrounding the tank batteries, is Juniper Green (Sherwin Williams Federal Standard Color Deck 595 B Colors as: #34130)

To help minimize noise levels generated by the 300 hp compressor unit, hospital grade (critical silencer) muffler will be installed and remain fully functional during operation of the unit. Operation of the compressor will conform to COGCC Noise Abatement (Rule 802) regulations.

All facilities (including storage tank(s), production pack/separator, compressor unit and dehydration unit) on the pad will be located on the north half of the pad to limit viewing from nearby Interstate 70. Additionally, to minimize visibility of storage tank(s) planned for pad, low-profile “squatty” tanks will be installed and set in north half of pad as well. All facilities will be located on the pad so they are no more than 100 feet from the wellhead or other flammable source.

2. Existing trees along the east and west sides of pad will be protected from disturbance. To minimize casting of excavated material into dry gulches alongside the pad and preserve the visual character of the landscape, no storm water trenches or silt retention ponds will be installed along the east or west side of the pad without written BLM authorization. Furthermore, the edge of well pad will be constructed to avoid sidecasting of material into dry gulches.

3. Roads will be crowned, ditched, surfaced, and constructed to BLM Gold Book standards. Roads should be periodically re-graveled when ruts exceed 6 inches in depth or as directed by the Authorized Officer. Initial gravel application will be a minimum lift of 6 inches.

Excess material generated from access road construction at junction with BLM paved road will be placed in depression of old 2-track route and seeded per reclamation COA. Furthermore, the existing cable wire gate and steel posts will be removed and disposed properly. Additional excess material will be moved with dozer, front end loader and/or dump truck to the southern edge of pad and used to achieve road grade under 8% for road entrance onto pad. Once drilling and completion work is finished on the initial well, the existing 2-track that continues north of pad will be re-established and remain open for use by the public.

4. Prior to spudding the well, operator will erect standard, serviceable range fence around the pad perimeter (edge of disturbance) and install cattleguard with concrete bases (H-20 class) across pad access road to restrict grazing livestock from accessing the pad.

5. The operator is responsible for applying dust abatement measures as needed or directed by the Authorized Officer. The level and type of treatment (watering or application of various dust agents, surfactants and road surfacing material) may be changed in intensity and must be approved by the Authorized Officer. Dust control is needed to prevent heavy plumes of dust from road use that create safety problems and disperses heavy amounts of particulate matter on adjacent vegetation.

6. The project proponent is required to monitor for the presence of any Colorado-listed noxious weeds at least once or twice annually during the growing season until final reclamation of the pad is complete. The project proponent will promptly treat and control any noxious weeds. A Pesticide Use Proposal must be approved by BLM prior to the use of herbicides.

7. The operator will consult with the State of Colorado Water Quality Control Division regarding

Formatted: Bullets and Numbering

Well: Federal 12-7C
OG12 Pad
Operator: EnCana Oil & Gas (USA) Inc.

Stormwater Discharge Permits prior to commencing construction activities. All construction activities that disturb one acre or greater require a Stormwater Discharge Permit. Written documentation to the BLM Authorized Officer is required within 30 days of the APD approval date to indicate that appropriate permits have been obtained. Written documentation may be a copy of the Stormwater Discharge Permit or an official verification letter from the State Water Quality Control Division to the operator that includes the Permit Certification Number. For further information contact Jeff O'Connell, Hydrologist of the Glenwood Springs Energy Office at 970-947-5215 or Jeffrey_O'Connell@blm.gov. Appropriate documents may be sent via electronic mail, faxed (970-947-5267), or mailed to Jeff O'Connell at the Glenwood Springs Energy Office.

8. Remote monitoring will be conducted during the winter months to minimize site visits to pad locations and reduce traffic impacts to wintering big game wildlife. In addition, scheduled winter visits (those other than for emergency purposes), should be scheduled between 10 a.m. and 3 p.m. to further minimize disturbance to wintering big game wildlife.

9. Cultural Resource Education/Discovery Stipulation

All persons in the area who are associated with this project must be informed that if anyone is found disturbing historic, archaeological, or scientific resources, including collecting artifacts, the person or persons will be subject to prosecution.

Pursuant to 43CFR10.4(g), the BLM authorized officer must be notified, by telephone, with written confirmation, immediately upon the discovery of human remains, funerary items, sacred objects, or objects of cultural patrimony. Further, pursuant to 43CFR10.4 (c) and (d), activities must stop in the vicinity of the discovery and the discovery must be protected for 30 days or until notified to proceed by the authorized officer.

If in connection with operations under this contract the project proponent, his contractors, subcontractors, or the employees of any of them, discovers, encounters or becomes aware of any objects or sites of cultural or paleontological value or scientific interest such as historic or prehistoric ruins, graves or grave markers, fossils, or artifacts, the proponent shall immediately suspend all operations in the vicinity of the cultural or paleontological resource and shall notify the BLM authorized officer of the findings (16 U.S.C. 470h-3, 36CFR800.112). Operations may resume at the discovery site upon receipt of written instructions and authorization by the authorized officer. Approval to proceed will be based upon evaluation of the resource. Evaluation shall be by a qualified professional selected by the authorized officer from a federal agency insofar as practicable. When not practicable, the holder shall bear the cost of the services of a non-federal professional.

Within five working days the authorized officer will inform the holder as to:

- whether the materials appear eligible for the National Register of Historic Places;
- the mitigation measures the holder will likely have to undertake before the site can be used (assuming in situ preservation is not necessary); and,
- a time frame for the authorized officer to complete an expedited review under 36 CFR 800.11, or any agreements in lieu thereof, to confirm through the State Historic Preservation Officer that the findings of the authorized officer are correct and the mitigation is appropriate.

The proponent may relocate activities to avoid the expense of mitigation and/or the delays associated with this process, as long as the new area has been appropriately cleared of resources and the exposed materials are recorded and stabilized. Otherwise, the proponent will be responsible for mitigation costs. The authorized officer will provide technical and procedural guidelines for the conduct of mitigation.

Well: Federal 12-7C
OG12 Pad
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Upon verification from the authorized officer that the required mitigation has been completed, the proponent will then be allowed to resume construction.

Antiquities, historic, prehistoric ruins, or objects of scientific interest that are outside of the authorization boundaries but directly associated with the impacted resource will also be included in this evaluation and/or mitigation.

Antiquities, historic, prehistoric ruins, or objects of scientific interest, identified or unidentified, that are outside of the authorization and not associated with the resource within the authorization will also be protected. Impacts that occur to such resources, which are related to the authorizations activities, will be mitigated at the proponent's cost including Native American consultation cost.

10. All persons associated with operations under this authorization must be informed that any objects or sites of paleontological or scientific value, such as vertebrate or scientifically important invertebrate fossils, shall not be damaged, destroyed, removed, moved or disturbed. If in connection with operations under this authorization any of the above resources are encountered the proponent shall immediately suspend all activities in the immediate vicinity of the discovery that might further disturb such materials and notify the BLM authorized officer of the findings. The discovery must be protected until notified to proceed by the authorized officer.

As feasible, the proponent shall suspend ground-disturbing activities at the discovery site and immediately notify the BLM authorized officer of any finds. The BLM authorized officer will, as soon as feasible, have a BLM-permitted paleontologist check out the find and record and collect it if warranted. If ground-disturbing activities cannot be immediately suspended, the proponent shall work around or set the discovery aside in a safe place to be accessed by the BLM-permitted paleontologist.

11. Reclamation Plan. Refer to Appendix I. Surface Reclamation of the 6/98 GSFO's Draft Supplemental EIS for Oil & Gas Leasing Development (pages I-1 through I-8) for specific reclamation goals, objectives, timelines, measures and monitoring methods. These guidelines will be followed in completing the reclamation of disturbed surfaces on well pads, access roads and pipelines

Some effective practices that will be implemented during reclamation include, but are not limited to: proper siting of the well pad to minimize impacts, the immediate seeding of disturbed areas after construction, proper storage and redistribution of topsoil, reshaping cut and fill slopes, seeding with specified seed mix within the first available growing season after disturbance, deep ripping (>18 inches on 2 foot centers), fencing reclaimed areas to protect from livestock use, and the use of riprap, slash or other erosion control structures to help control sediment loss.

The 4 Reclamation Categories defined on Page I-8 of Appendix I (6/98 GSFO's Draft Supplemental EIS for Oil & Gas Leasing Development) will be used in gauging the progress of reclamation monitoring.

Seed Mix Application Practices

A specified seed mix designed to meet interim reclamation standards while providing forage and browse for wintering elk and deer using a mixture of native shrubs and grasses and native or desirable non-native forbs shall be applied. The following seed mix and rates will be used on all disturbed surfaces:

Species of Seed	Variety	Drilled Application Rate* (PLS lbs/acre)
Wyoming big sagebrush		0.1
Shadscale saltbush		2.7
4-wing saltbush		3.4
Western wheatgrass	Arriba	4.1

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Galleta	Viva	2.8
Sandberg bluegrass		0.5
Scarlet globemallow		0.5
Sainfoin	Eski	8.7
TOTAL		22.8 PLS lbs/acre

* In areas that cannot be drilled, broadcast seed at 2 times the application rate and cover ¼ to ½ deep with a harrow or drag bar.

The above rate of application is listed in pounds of pure live seed (PLS)/acre. The seed will be certified free of noxious weeds. All seed to be applied to public land must have a valid seed test, within one year of the acceptance date, from a seed analysis lab by a registered seed analyst (Association of Official Seed Analysts). The seed lab shall show no more than 0.5 percent by weight of “other weed” seeds; and the seed lot shall contain no “noxious, prohibited, or restricted weed” seeds according to the All States Noxious Test. Seed may contain up to 2.0 percent of “other crop” seed by weight which includes the seed of other agronomic crops and native plants; however, a lower percent of other crop seed is recommended. Seed tags or other official documentation shall be supplied to the Glenwood Springs BLM Energy Office Ecologist at least 14 days prior to the date of proposed seeding for acceptance. Seed which does not meet the above criteria shall not be applied to public lands.

Upon completion of backfilling, leveling, ripping to minimum 18 inch depth on 2 foot centers, and recontouring, the stockpiled topsoil will be evenly spread over the reclaimed areas(s). Prior to reseeding, all disturbed surfaces will be scarified and left with a rough surface. No depressions will be left that would trap water and form ponds.

The prepared seedbed will be seeded within 24 hours after completing dirt work unless a change is requested by the operator and approved by the Authorized Officer. Prepare the seedbed by contour cultivating 4-6 inches deep. **Drill seed ¼ to ½ inch deep** following the contour. All seeding will be conducted after September 1 and prior to ground frost. Spring seeding will be done after the frost leaves the ground and no later than May 15th. If the seeding is unsuccessful, operator will be required to make subsequent seedings until the reclamation objectives identified in Appendix I. Surface Reclamation of the 6/98 GSFO’s Draft Supplemental EIS for Oil & Gas Leasing Development are met.

Erosion Control Practices

The cut and fill slopes will be protected against rilling and erosion with measures such as water bars, lateral furrows, or other measures approved by the Authorized Officer. Weed free straw bales, straw “wattles”, straw matting or a well-anchored fabric silt fence will be used on cuts and fill slopes to protect against soil erosion.

Topsoil Practices

During well pad, road and/or pipeline construction, topsoil will be stripped to a minimum depth of 6 inches and segregated from other subsurface material piles (ie. excess material from reserve pit construction). If topsoil is less than 6 inches, the top 6 inches of surface material will be stripped and piled. Topsoil pile will be seeded with sterile cover crop (ReGreen) or BLM specified seed mix identified herein within 48 hours of stripping the topsoil.

Site Protection Practices

The project area will be fenced to exclude livestock grazing for the first two growing seasons or until the seeded species or native volunteer species become firmly established. The seeded species will be

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considered firmly established when at least 50% of the new plants are producing seed. The Authorized Officer will approve the type of fencing. Fencing shall be to BLM standards

The operator will submit an annual reclamation report by December 31 to the Authorized Officer. The report will document compliance with all aspects of the reclamation objectives. The report will specify if the reclamation objectives are likely to be achieved and what additional actions were taken or are needed to meet these objectives.