

**U.S. Department of the Interior
Bureau of Land Management
Glenwood Springs Field Office
50629 Highway 6 & 24
Glenwood Springs, CO 81601**

ENVIRONMENTAL ASSESSMENT

NUMBER: CO-140-2005-062 EA

CASEFILE NUMBER: Leases # COC-27825 & # COC-27826

PROJECT NAME: Applications for Permit to Drill 4 Directional Wells from the existing PH25 Well Pad in Battlement Mesa Plan of Development area and install buried pipeline along existing road -BLM right-of-way (Benefiting program, Fluid Minerals 1310)

LEGAL DESCRIPTION:

Federal 25-1 (PH25 Pad) Surface location: T7S, R96W, Sec 25, SE¼NE¼
Bottom Hole: T7S, R96W, Sec 25, (490' FNL, 660' FEL)
Surface Owner: BLM
Federal Lease: COC-27825

Federal 25-2 (PH25 Pad) Surface location: T7S, R96W, Sec 25, SE¼NE¼
Bottom Hole: T7S, R96W, Sec 25, (860' FNL, 1980' FEL)
Surface Owner: BLM
Federal Lease: COC-27825

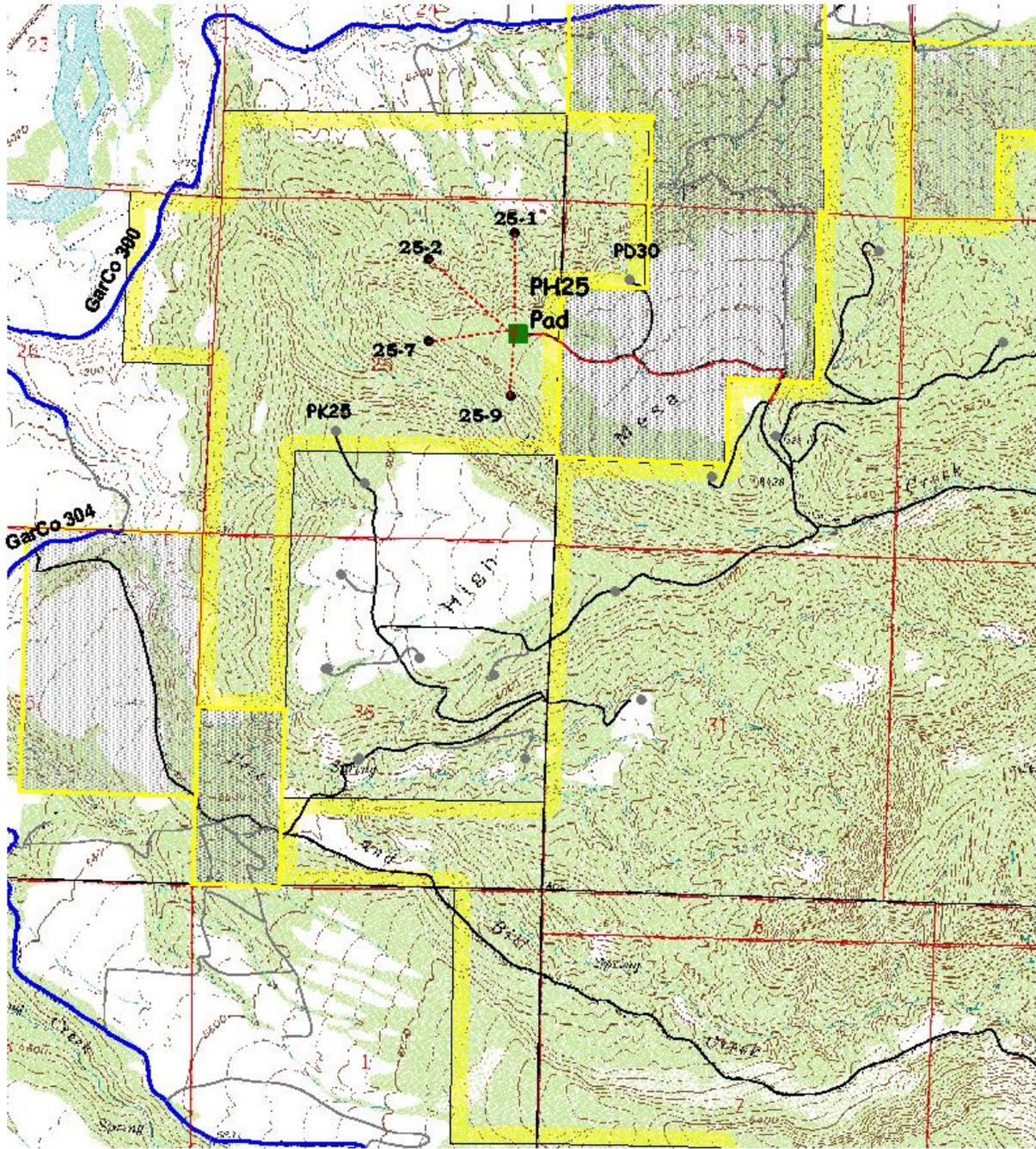
Federal 25-7 (PH25 Pad) Surface location: T7S, R96W, Sec 25, SE¼NE¼
Bottom Hole: T7S, R96W, Sec 25, (2180' FNL, 1980' FEL)
Surface Owner: BLM
Federal Lease: COC-27825

Federal 25-9 (PH25 Pad) Surface location: T7S, R96W, Sec 25, SE¼NE¼
Bottom Hole: T7S, R96W, Sec 25, (2150' FSL, 660' FEL)
Surface Owner: BLM
Federal Lease: COC-27826

APPLICANT: Tom Brown Inc.

DESCRIPTION OF PROPOSED ACTION AND ALTERNATIVES

Proposed Action: The proposed action is to directionally drill and develop 4 federal natural gas wells from the existing BLM well pad (PH25) as listed above and shown on Project Map. The reclaimed H-25-7-96S well located on the PH25 pad was drilled in 1981 disturbing approximately 2.5 acres. This well has been shut-in for the past 3½ years. Minor new surface disturbance (<½ acre) would occur on this well pad to provide necessary drilling space to accommodate the additional 4 wells increasing the



TBI's Existing PH25 Pad with 4 federal Directional Wells & Pipeline

T7S R96W Sec 25, SE¼NE¼ (PH25 pad)

Garfield County, CO

Surface Owners: BLM (PH25 Pad)

Day Break Realty, Inc. (Pipeline in Section 30)



Scale 1 : 24,000

1/25/05

overall pad disturbance to 2.9 acres. No new road construction is proposed; road maintenance will be the operator's responsibility. No public access is available to the sites as travel is required across Klebold property near the intersection County Roads 300 and 304.

A field on-site review for this site was conducted on October 21, 2004 by Jim Byers.

The gathering line to the PH25 pad is presently a 3" surface line laying dormant and out of service. However, a new 6" buried pipeline would be installed directly adjacent to the existing road access involving additional surface disturbance on public lands totaling approximately 1.3 acres. This pipeline would tie into Canyon Gas Resources' existing pipeline in NW¹/₄SE¹/₄ of Section 30 (public land which is off-lease) and terminate at the PH25 pad. A BLM right-of-way would be applied and obtained by Canyon Gas Resources as part of this proposed action. The pipeline right-of-way would be 50 feet in width and cross approximately 1100 feet of public land in 2 separate segments. Removal of the old surface pipeline would be stipulated in the right-of-way grant for the buried pipeline. Provisions of the pipeline right-of-way will be adhered to by the operator.

These wells qualify as GAP waivers 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 Application for Permit to Drill (APD) includes 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.

The PH25 pad and the proposed buried pipeline lie within pinon-juniper woodlands on the northern half of High Mesa approximately 11 miles southwest of Parachute, Colorado.

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.

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 Glenwood Springs Field Office is in the ongoing process of completing Land Health Assessments. These assessments are done on a landscape basis. A formal Land Health Assessment was completed on the lands affected by the actions addressed in this EA in 2001. Portions of these lands were found not to be meeting the Standards. Specific concerns related to the condition of the sagebrush and pinon-juniper habitats that comprise important big game winter range. Many sagebrush stands were in poor condition with old, decadent and severely hedged shrubs and little recruitment and establishment of younger age-class plants. In some sagebrush and pinon-juniper stands, understory vegetation was lacking and in many cases was dominated by cheatgrass. Based on the findings of this assessment, specific mitigation and reclamation practices will be required on the proposed action to move toward achieving conformance with the standards.

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. 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_31-4_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, 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.

However, truck traffic during the initial rig-up, well completion, rig-move, and production activities would likely produce high levels of dust in dry conditions without dust abatement.

- Emissions of particulate matter will be reduced through control of dust during construction and completion, and production activities. The operator will water the road and/or use magnesium chloride for dust abatement or other approved surfactant by the authorized officer.

Mitigation:

The operator is required to and responsible for applying dust abatement measures. The type of treatment may be changed and must be approved by the Authorized Officer to control dust; either by watering, application of various dust agents, surfactants, and/or application of road surfacing materials.

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

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

CULTURAL RESOURCES

Affected Environment:

A Class III cultural resource inventory (GSFO# 5405-8) has been conducted for the well location and pipeline. No historic properties have been identified within the area of potential effect.

Environmental Consequences/Mitigation:

According to the 2001 revised regulations [36CFR 800.4(d)(1)] for Section 106 of the National Historic Preservation Act (16U.S.C 470f) a determination for the proposed well is “**No Historic Properties Affected**”. No formal consultation with the Colorado State Historic Preservation Office (SHPO) was initiated in accordance with the Colorado BLM/SHPO Protocol (1998) and National Protocol (1997) for this well location and pipeline.

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 location, 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:

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 does not involve any prime or unique farmlands.

FLOODPLAINS, WETLANDS, RIPARIAN ZONES

Affected Environment: There will be no impacts to floodplains, riparian vegetation, or wetlands since these resources are not present within the area of proposed action.

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

INVASIVE, NON-NATIVE SPECIES

Affected Environment: The well pad and proposed pipeline lie within pinon-juniper woodlands with sparse understory vegetation characterized by cheatgrass and native bunchgrasses.

Environmental Consequences/Mitigation:

Surface-disturbing activities provide a niche for the invasion and establishment of noxious weeds. Particularly since cheatgrass already occurs in the project area, the potential for cheatgrass to dominate the site following disturbance is high. The APDs and Conditions of Approval include measures to re-vegetate the well site and pipeline with native perennial grasses and shrubs and native or desirable, nonnative forbs. The project proponent will adhere to the specified seed mix and will continue with reclamation activities, including reseeding if necessary, until interim reclamation measures are achieved. In addition, a standard Condition of Approval is attached requiring the project proponent to treat and control any invading noxious weeds. A Pesticide Use Proposal must be approved by BLM prior to commencing any herbicide spraying.

MIGRATORY BIRDS

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

Affected Environment: The project area is comprised mainly of pinyon-juniper woodlands with expanses of sagebrush nearby on private lands. Given this mix of vegetation, the project area provides both foraging and nesting habitat for a variety of migratory birds. Two species characteristic of pinyon/juniper woodlands, the pinyon jay and black-throated gray warbler, are listed on the USFWS's Bird of Conservation Concern List and may be present in the project area. Additional pinyon/juniper birds that may nest in the vicinity include the black-chinned hummingbird, gray flycatcher and juniper titmouse. Within the sagebrush vegetation, the sage sparrow, and Brewer's sparrow may occur.

No known raptor nests occur in the immediate vicinity of the well pad location or along the proposed pipeline. However, golden eagles, and red-tailed hawks nest in the nearby area. It is likely that these and other raptors forage near the well pad.

Environmental Consequences/Mitigation: The proposed action will involve minimal new disturbance as the well pad already exists and will be re-used to drill new directional wells. However, approximately 1.3 acres of additional surface disturbance will be attributed to the pipeline installation on public land adjacent to the existing road. It is possible that nest trees could be destroyed during tree clearing to accommodate the pipeline. However, given the small size of the project and the small amount of acreage to be affected, disturbance to individual bird species or harm to active nests is unlikely. It is likely that during pipeline installation, pad reconstruction, and well drilling and completion activities, individual birds will be displaced to adjacent habitats due to noise and human presence. Individual birds may be impacted but whole species or populations should not be affected. Limited public access into the pad locations will reduce some indirect impacts. Raptors should not be negatively affected as upland foraging habitat is plentiful in the area.

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 inventories. The Ute tribe has in the past, and continues to claim the area as 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, boreal toad, yellow-billed cuckoo, razorback sucker, Colorado pikeminnow, bonytail chub, and humpback chub.

Specific to the project location, none of the above federal or state listed species or federal candidate or proposed species or their habitat occurs within the project area. Potential habitat for the BLM Sensitive plant, *Penstemon harringtonii*, does occur in the sagebrush community immediately adjacent to the existing well pad disturbance. However, no *P. harringtonii* plants have been found on the existing pad, within the area proposed for pad expansion, or along the proposed pipeline alignment.

Environmental Consequences/Mitigation: Based on the lack of listed species habitat and occurrence records, the proposed action should have “No Effect” on any listed species or their habitats. In order to minimize the risk of invasion of noxious weeds or invasive, non-native plants into the adjacent plant community, the disturbed areas will be revegetated with a mixture of native perennial grasses and shrubs and native or desirable, nonnative forbs.

Analysis on the Public Land Health Standard for Threatened & Endangered species: Since there is no potential habitat for listed species in the project area and no known occurrences in the vicinity, the proposed action will have no effect on listed species. With implementation of the reclamation measures proposed above and in the COAs, the proposed action should not result in a failure of the area to achieve Standard 4 for special status, threatened and 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 action area lies within the Colorado River watershed. An unnamed ephemeral or intermittent drainage lies approximately ¼ mile north of the proposed action area and would likely drain any surface water runoff from the site. This section of the Colorado river is classified as aquatic life cold class 1, recreation class 1a, water supply and agriculture.

The state of Colorado has developed the 303(d) list which identifies impaired water bodies, waters not meeting water quality standards with technology based controls alone. No streams within the proposed action watershed area are known to be listed on the 303(d) list; suggesting water quality standards are currently being met

Ground Water

The nearest water well is located about 1½ mile to the west. The depth is 97 feet, and the aquifer is likely alluvial terrace deposits. Numerous other wells are found in the High Mesa area, with depths generally less than 200 feet.

Environmental Consequences/Mitigation:

Surface Water

Pad reconstruction and pipeline installation would result in the removal of vegetation and disturbance of soils that would increase sediment and salinity in surface water in the area. There is some risk that the impact to surface waters would be greater than anticipated should a high intensity thunder storm hit immediately following the surface disturbing activity and before mitigating measures are in place. With measures to control runoff water in place, reestablishment of vegetation, and proper engineering of roads, the increase in the amount of sediment in surface waters would be minimized. Culverts in road crossings of drainages would be required to pass a 25 year 6 hour storm event and would be installed during no flow or low flow conditions. Water produced during drilling activity would be contained in an engineered pit on the pad site and hauled to a disposal facility.

Negative impacts to surface waters would be expected to be minor and last for the most part for 3 years following the initial disturbance. Mitigating activity should be initiated prior to and during pad construction to avoid unnecessary degradation of surface water quality. There would be some minor long

term negative impacts to surface water quality from an increase in sediment coming from working surfaces that would not be rehabilitated until the wells are no longer producing and facilities are removed and the area rehabilitated.

Analysis on the Public Land Health Standard for water quality: A formal land health assessment was completed in the project area in 2001. At that time, there was no indication that water quality was a concern in the proposed action area. Consequently, with required mitigation, the proposed action would not likely prevent Standard 5 from being met.

Ground Water

The operator proposes to set and cement surface casing to 1000 feet, which is adequate for isolating and protecting all water zones which are currently being utilized.

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 description below is summarized from the Soil Survey of Rifle Area, Colorado Parts of Garfield and Mesa Counties (SCS 1977). PH25 is located on one soil map unit, designated as the Potts-Ildefonso complex (12 to 25% slopes). This unit is a strongly sloping to hilly soil unit found on mesas, alluvial fans and valley sides. Both of soils that make up this map unit are described as having medium surface runoff and moderate erosion hazards. Primary uses on this soil include limited grazing and wildlife habitat.

Environmental Consequences/Mitigation: There would be some loss of soil, some loss of soil productivity, and an increase in sedimentation resulting from reconstruction of the well pad and installation of the buried pipeline. The extent of these impacts on soils would not be great and would be expected to last for a relatively short period of time. The proposed action includes measures to prevent direct placement of fill material in drainages, limits reclaimed slopes to 3:1, and to re-vegetate disturbed areas. Reclamation measures such as contouring disturbed areas, roughing the soil surface, re-vegetating, and controlling runoff would help to limit soil erosion. The loss of soil and sedimentation would occur after the construction phase for a short term of from 1 to 3 years until re-vegetation occurs. There would be some minor permanent loss of soil.

Analysis on the Public Land Health Standard for upland soils: The proposed action, with required mitigation, would not likely prevent health standards for soils from being met.

VEGETATION (includes analysis on Standard 3)

Affected Environment: The original well pad was built within the pinyon-juniper woodland habitat. Reclamation potential on this site is satisfactory as evidenced from existing reclamation, although potential for cheatgrass to dominate the site following disturbance is high.

Pinon Ips beetle has infested the general area and pinyon tree mortality is evident. In a healthy pinyon forest, endemic populations of the pinyon Ips beetle serve to remove weak or damaged trees, thus thinning the forest. However, under drought situations, pinyon trees stressed by drought are increasingly susceptible to attack by Ips beetle. No destruction or removal of live pinyon trees would be necessary

during the pad reconstructions so the beetle problem would not be exacerbated by this action. A small number of pinyon trees (<10) could be removed during installation of the buried pipeline.

Environmental Consequences/Mitigation: The planned disturbed area of the pad reconstruction will lie within the approximate surface disturbance of the original pad. The proposed action would result in a long-term loss of vegetation on the portions of the pad needed for ongoing production activities and a long-term loss of mature pinyon and juniper vegetation throughout the disturbed area. With implementation of reclamation practices identified in the COAs, establishment of desirable herbaceous vegetative on the sites can be expected within 1-3 years following completion of drilling. Monitoring of the reclamation would occur as identified in COAs.

Mitigation: The pad will be fenced to exclude livestock grazing for the first two growing seasons or until 50% of the seeded species are producing seed. Any pinyon trees removed along the pipeline alignment during construction activities would be removed from the site to a suitable disposal location, chipped on location to eliminate any additional attraction to the tree(s) from ips beetles, or immediately buried on location during initial earthwork disturbance.

Analysis on the Public Land Health Standard for plant and animal communities (partial, see also Wildlife, Aquatic and Wildlife, Terrestrial): The Battlement Mesa Land Health Assessment determined that this portion of the landscape was functioning but that problems were evident. Problems noted were dominance of the area by cheatgrass, heavily hedged and decadent sagebrush and conifers that appeared stressed. The ongoing drought is probably a contributing factor in the susceptibility of the stand to Ips beetle infestation. The proposed mitigation regarding removal of pinyon trees would help limit the tree mortality expected with the ongoing Ips beetle infestation. 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.

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

Affected Environment: There are no aquatic systems at the proposed project sites. However, the well pad and pipeline will be located less than ¼ mile north and above Dry Creek, and 1.5 miles from the Colorado River. Dry Creek contains no aquatic wildlife as it is dry most of the year. The Colorado River contains a variety of fishes and aquatic insects.

Environmental Consequences/Mitigation:

The well pad will re-disturb approximately 2.9 acres of partially reclaimed habitat. The pipeline will disturb an additional X.X acres of upland habitat located along existing roads. There are no large cuts and fills associated with the construction of the pad or pipeline, and it is not likely that erosion potential will increase. Any sediment that reaches the Colorado River through rain and snowmelt events will be well within the background levels of the Colorado River. Minor potential increases in sediment would be undetectable and should have no impact to aquatic wildlife.

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 2001. 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 existing well pad is located within pinon-juniper community with an understory comprised of grasses and forbs. Although some native grasses are present, cheatgrass is dominant in the understory. The area contains habitat for big game and many species of small game and nongame mammals and birds.

The existing pad and proposed pipeline are located in mapped big game winter range that has been identified as High Value habitat. The Big Game Winter Habitat Timing Limitation (TL-1) is mapped for the area. The federal lease contains specific stipulation for important seasonal wildlife habitat, particularly for big game. The lease allows exploration, drilling and other development activities from June 1 through December 31. This limitation does not apply to maintenance and operations of producing wells. Compliance with this timing limitation will minimize impacts to wintering big game by prohibiting construction during the 5 month winter period, although exception criteria on the lease does allow consideration for waiver of the limitation in any given year by the Authorized Officer.

The proposed pipeline alignment within Section 30 crosses federal leases that do not contain winter timing limitations on the lease. However, the standard 5 month big game winter timing limitation will be placed on the pipeline right-of-way segment as a Condition of Approval resulting in shutdown of construction activities from December 1 through April 30.

In addition to big game, a variety of small game and non-game wildlife, and birds are found in the vicinity of these proposed wells. 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 diversity of habitats, and the relatively undisturbed nature of the area, the habitat is considered to be high quality.

Environmental Consequences/Mitigation: General impacts (short term, long term, and cumulative) to terrestrial wildlife were adequately addressed in 1999 FSEIS. 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.

The pad will be reconstructed to a finished size of 2.9 acres within the upland habitat. This will result in no new losses of forage and cover. Habitats will be further fragmented due to pad and road improvements and pipeline installation. It is likely that resident wildlife will be displaced during construction, drilling, and completion activities. Public access and use of the road to the proposed well site will be prevented due to controlled access on private lands. This will minimize some disturbance and reduce effective habitat loss.

For the pipeline construction work planned along the BLM right-of-way within Section 30, compliance with the Big Game Winter Habitat Timing Limitation identified in the 1999 Oil & Gas SEIS will minimize impacts to wintering big game by prohibiting pipeline construction during the 5 month winter period (December 1 through April 30), although exception criteria on the lease does allow consideration for waiver of the shutdown for the last 60 days of the period if mild winter conditions exist.

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 2001. The action should result in no further deterioration of the ability of the landscape to maintain or meet Standard 3 for 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.*”

The road and well density thresholds will not be exceeded via implementation of the proposed action, as no new road disturbance will occur. 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, it is possible that mitigation will be sought to offset habitat loss and fragmentation. Cumulative impacts will be monitored over time and as future development increases mitigation opportunities will be identified and pursued.

OTHER NON-CRITICAL ELEMENTS:

ACCESS AND TRANSPORTATION

Environmental Consequences/Mitigation: Existing road access to the well pad is through privately owned lands with no legal public access. 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 spring, 2005.

GEOLOGY AND MINERALS

Affected Environment/Environmental Consequences/Mitigation:

The target gas zones for the proposed directional wells are sands within the middle and lower part of the Williams Fork Formation (Mesaverde Group). The shallower Wasatch G sands may contain gas but are currently not an economic target. The wells will reach total depth in the Rollins Sandstone (base of Williams Fork). All coal zones are too deep for underground mining. The operator would be required to cement the production casing from total depth to about 200’ above the top of the Williams Fork Formation, which would isolate and protect all potentially producible gas zones.

NOISE:

Environmental Consequences/Mitigation: 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).

PALEONTOLOGY

Affected Environment: The proposed wells, pipeline 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 MANAGMENT:

Affected Environment: The proposed gas wells would be located on public land on the Dry Creek Pete & Bill Allotment # 08125. The table below summarizes the permitted grazing use on the allotments.

Allotment	Permittee	Livestock Kind & NO.	Season of Use	% PL	AUMs
Dry Creek Pete & Bill # 08125	Sharon Gardner	Cattle 36	05/01 – 06/15	100	54
		Cattle 36	10/01 – 10/31	3	1
		Cattle 10	10/01 – 10/31	100	10
		Cattle 10	10/01 – 10/31	100	10
	John & Phyllis Hyrup	Cattle 182	05/01 – 06/15	100	51
		Cattle 182	06/16 – 10/15	3	22

Environmental Consequences: Since 4 wells would be developed from the existing PH25 well pad, construction activities would result in minimal loss (< 1 AUM) of forage available to livestock. Rehabilitation of vegetation on the location would result in reestablishment of forage which usually takes about 3 years. Livestock may also be minimally disturbed by the increase in human activity during pad and pipeline construction and maintenance of the gas facilities.

Mitigation: It is not anticipated that the level of impacts from implementation of the proposed action would require adjustment of the livestock stocking rate. The level of forage utilization will be monitored on the allotment. If necessary, adjustments in livestock use will be made to protect land health. Fencing of the pad will be required to deter grazing impacts to the reclaimed pad area.

VISUAL RESOURCES

Affected Environment: The proposed pad and pipeline alignment are located within an area classified as VRM Class IV in the 1984 Glenwood Springs Resource Management Plan. The objective of this class is to provide for management activities which require major modifications of the existing character of the landscape. The level of change to the characteristic landscape can be high. These management activities may dominate the view and be the major focus of viewer attention. However, every attempt should be made to minimize the impact of these activities through careful location, minimal disturbance, and repeating the basic elements.

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. In particular, the proposed action will not be seen from the key viewing areas of the 1-70 corridor or the town of Rifle. Portions of the pad will be seen from the southern end of County Road 315.

Environmental Consequences/Mitigation: The proposed pad and pipeline lie within dense woodland vegetation and would create contrast in color, line, shape and texture. Large cut and fills also create contrast by introducing new colors, shapes and forms into the existing landscape. Interim reclamation of the well pads with seeded shrub and grass species would reduce the contrast after two to three growing seasons. After completion and reclamation, long term impacts are expected due to the removal of the trees and the presence of production facilities. VRM Class IV allows for major modifications within the landscape and therefore the proposed action meets VRM Class IV objectives.

The production facilities located on the pad in support of the existing well have been painted conforming environmental colors as specified in the COAs or lease terms. The additional well facilities including the metal containment ring will be painted Shale Green, based on 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
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 within 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 have 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, Assistant Construction Foreman, 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
Carla Scheck	Ecologist	Special Status Plants, Vegetation, Noxious Weeds
Bruce Fowler	Geologist	Ground Water/Minerals
Jim Wilkinson	Geologist	Paleontology
Mike Kinser	Rangeland Management Specialist	Riparian
Marty O'Mara	Petroleum Engineer	Downhole Conditions of Approval
Kay Hopkins	Outdoor Recreation Planner	Visual Resources
Mark Wimmer	Rangeland Management Specialist	Soil, Water and Air
Mike McGuire	Rangeland Management Specialist	Range

FONSI
CO-140-2005-062 EA
Tom Brown Inc. Permit to Drill 4 Directional Wells on Existing PH25 Well Pad
Federal 25-1, 25-2, 25-7 & 25-9
and Install 6" diameter Buried Pipeline to Pad under BLM Right-of-Way

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 Applications for Permit to Drill the federal directional wells [Federal 25-1, 25-2, 25-7 & 25-9] and construct the natural gas pipeline under BLM right-of-way 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: MAY 16 2005

CONDITIONS OF APPROVAL
APPLICATION FOR PERMIT TO DRILL

Company/Operator: **Tom Brown, Inc.**

PAD	PH-25	Location	SENE Sec 25, T07S, R96W	
Well Name	Well No.	API No.	Bottom Hole Location	Lease
Federal	25-1 (PH25)		NENE Sec 25 T07S, 96W	COC-27825
Federal	25-2 (PH25)		NWNE Sec 25 T07S, 96W	COC-27825
Federal	25-7 (PH25)		SWNE Sec 25 T07S, 96W	COC-27825
Federal	25-9 (PH25)		NESE Sec 25 T07S, 96W	COC-27826

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 Carol Snyder (970)244-3033, or Ed Fancher (970)244-3039, of the BLM Grand Junction office at least twenty-four (24) hours prior to running the surface and production casing and conducting the BOP test. **Contact Marty O'Mara (970)947-2825, BLM Glenwood Springs, at least 24 hours prior to spudding the well.**

**DOWNHOLE CONDITIONS OF APPROVAL FOR NOTICE TO DRILL
PH25 pad wells**

1. The production casing minimum TOC for each well is listed in the table below. This must be achieved during the primary cement job or through remedial cementing.

Well No.	Minimum TOC	
	TVD	MD
25-1 (PH25)	3393'	3647'
25-2 (PH25)	3348'	3769'
25-7 (PH25)	3308'	3527'
25-9 (PH25)	3308'	3445'

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. All prospectively valuable minerals encountered during drilling, will be recorded by depth and adequately protected. All oil and gas shows will be tested to determine commercial potential.
5. The neutron-density porosity log is proposed to be run from TD to surface casing, but is listed as optional. The neutron-density log **shall** be run from TD to surface casing **in at least one** of the four wells.

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.

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	H: 970.285.9473 Glenwood Springs	W: 970.947.2825 Fax 970.947.2829
Jerry Francis Petroleum Engineering Tech.	H: 970.242.8410	W: 970.244.3043 C: 970.250.5735
Carol Snyder Petroleum Engineering Tech.	H: 970.255.9339	W: 970.244.3033 C: 970.216.6146
Ed Fancher Petroleum Engineering Tech.	H: 970.242.9502	W: 970.244.3039 C: 970.640.4590
Jim Byers Natural Resource Specialist		W: 970.947.2804

BLM Fax: 970.244.3083

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.

SURFACE USE CONDITIONS OF APPROVAL

1. The paint color to be used on all surface facilities including the metal containment rings surrounding the tank batteries is Shale Green (5Y 4/2) . Storage tanks on the pad will be placed within the northeast quadrant of the pad to avoid setting tanks at edge of fillslope and maximize the reclaimed pad area.
2. Fencing to control grazing livestock within the BLM range allotment will be installed around the area of pad disturbance including the perimeter of excess material. This fencing will be of standard and type to keep livestock from penetrating the fenced perimeter. Fencing will be installed after dirtwork and seed application is completed for interim reclamation and prior to livestock turnout on the allotment.
3. Install steel frame gate or steel cattleguard with cement bases and bypass gate across the access road at BLM/DayBreak Realty property line which lies approximately 250 feet east of PT3.
4. Windrow all trees cleared from north side of pad along the west end of pad along the toe of fillslope between PT 8 and PT9. Furthermore, trees cleared from east side of pad will be windrowed at southeast corner of pad adjacent to excess material pile. All trees cleared for pad reconstruction will be used as ground cover after dirtwork is completed during pad reclamation process.
5. The unused 3½” diameter surface pipeline will be removed from public lands within 30 days from completion of buried gathering pipeline serving the wells on the PH25 pad.
6. Any pinon trees removed during the construction of the pad or the installation of buried pipeline will be cut, hauled and removed to suitable disposal site not on public land within 24 hours of being cut from stump or uprooted with equipment. Alternate method of disposal of pinon trees removed during the construction of the pad or pipeline installation would be chipped or buried within 24 hours of being cut from stump or uprooted with equipment.
7. Surface disturbance related to the construction of the well pad or buried pipeline will be limited to the staked project area.
8. 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.
9. Noxious weeds, which may be introduced due to soil disturbance associated with the proposed lease operations, will be treated by methods to be approved by the Authorized Officer. A Pesticide Use Plan (PUP) is required prior to use of any pesticide.
10. 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.
11. 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. 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.

12. 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.

13. 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 shrub, grass and forb species shall be applied. The following seed mix and rates will be used on all disturbed surfaces, including pipelines unless otherwise noted in the specific APD:

<u>Species of Seed</u>	<u>Variety</u>	<u>Application Rate (lbs/acre)</u>
Winterfat		1.0
4-wing Saltbush	Rincon	2.0
Shadscale		2.0
Western wheatgrass	Arriba	3.0
Bluebunch wheatgrass	P7	3.0
Indian ricegrass	Paloma	2.0
<u>Galleta</u>	Viva	<u>1.0</u>
Total:		14.0 lbs. PLS/acre Total

The above rate of application is listed in pounds of pure live seed (PLS)/acre. The seed will be certified and there will be no primary or secondary noxious weeds in the seed mixture. The operator shall notify the Authorized Officer 24 hours prior to seeding and shall provide evidence of certification of the seed mix to the Authorized Officer within 30 days of completion of the seed application.

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.** In areas that cannot be drilled, broadcast seed at 1½ times the application rate and cover ½ to 1 inch deep with a harrow or drag bar. 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.

Site Protection Practices

Reclaimed areas will be fenced to exclude livestock until seeded species have established. 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 actions needed to meet these objectives.

SPECIAL STIPULATIONS

1. Cultural Resources: 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 43 CFR 10.4(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 43 CFR 10.4 (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, 36 CFR 800.112). 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. 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, paleontological 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, paleontological 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, that are related to the authorizations activities, will be mitigated at the proponent's cost.

2. The holder(s) shall comply with all applicable Federal laws and regulations existing or hereafter enacted or promulgated. In any event, the holder(s) shall comply with the Toxic Substances Control Act of 1976, as amended (15 U.S.C. 2601, et seq.) with regard to any toxic substances that are used, generated by or stored on the right-of-way or on facilities authorized under this right-of-way grant. (See 40 CFR, Part 702-799 and especially, provisions on polychlorinated biphenyls, 40 CFR 761.1-761.193.) Additionally, any release of toxic substances (leaks, spills, etc.) in excess of the reportable quantity established by 40 CFR Part 117 shall be reported as required by the Comprehensive Environmental Response, Compensation and Liability Act of 1980, Section 102b. A copy of any report required or requested by any Federal agency or State government as a result of a reportable release or spill of any toxic substances shall be furnished to the authorized officer concurrent with the filing of the reports to the involved Federal agency or State government.
3. The holder of C- xxxxxx agrees to indemnify the United States against any liability arising from the release of any hazardous substance or hazardous waste (as these terms are defined in the Comprehensive Environmental Response, Compensation and Liability Act of 1980, 42 U.S.C. 9601, et seq.) or the Resource Conservation and Recovery Act of 1976, 42 U.S.C. 6901, et seq.) on the right-of-way (unless the release or threatened release is wholly unrelated to the right-of-way holder's activity on the right-of-way. This agreement applies without regard to whether a release is caused by the holder, its agent, or unrelated third parties.
4. The holder shall be responsible for weed control within the limits of the right-of-way. The holder is responsible for consultation with the authorized officer and/or local authorities for acceptable weed control methods. All vehicles and construction equipment must be washed prior to entering the right-of-way area. Washing may not be done on the right-of-way. Washing must be done at a location that will not contaminate the immediate area with weed seeds that may be on the vehicles and equipment.
5. Use of pesticides shall comply with applicable Federal and State laws. Pesticides shall be used only in accordance with their registered uses and within limitations imposed by the Secretary of the Interior. Prior to the use of pesticides, the holder shall obtain from the authorized officer written approval.
6. The proposed buried natural gas pipeline (not exceeding 6 " in diameter) will be installed within the designated project area as staked on the ground. All surface disturbances related to the pipeline construction will not exceed the 35 foot right-of-way width. Dust shall be controlled by the use of water or an approved dust retardant, as directed by the Glenwood Springs Field Office Manager.
7. The pipeline route shall be seeded with the seed mix indicated below. The holder shall seed all disturbed areas with the seed mixture(s) listed below. The seed mixture(s) shall be planted in the amounts specified in pounds of pure live seed (PLS)/acre. There shall be no primary or secondary noxious weed seed in the seed mixture. Seed shall be tested and the viability testing of seed shall be done in accordance with State law(s) and within 9 months prior to purchase. Commercial seed shall be either certified or registered seed. The seed mixture container shall be tagged in accordance with State law(s) and available for inspection by the authorized officer.

<u>Species of Seed</u>	<u>Variety</u>	<u>Application Rate (lbs/acre)</u>
Winterfat		1.0
4-wing Saltbush	Rincon	2.0
Shadscale		2.0
Western wheatgrass	Arriba	3.0
Bluebunch wheatgrass	P7	3.0
Indian ricegrass	Paloma	2.0
<u>Galleta</u>	Viva	<u>1.0</u>
Total:		14.0 lbs. PLS/acre Total

Prepare seedbed by contour cultivating four to six inches deep. **Drill seed ¼ to ½ inch deep following the contour.** In areas that cannot be drilled, broadcast seed at 1.5 times the application rate and cover ½ to 1 inch deep with a harrow or drag bar.

Note: Double application rate for broadcast application. Broadcasting of seed will be done as soon as possible after recontouring; if the ground has crusted the seed will be raked into the ground. In areas that can be drill planted, seed shall be planted using a drill equipped with a depth regulator to ensure proper depth of planting where drilling is possible. The seed mixture shall be evenly and uniformly planted over the disturbed area. (Smaller/heavier seeds have a tendency to drop to the bottom of the drill and are planted first. The holder shall take appropriate measures to ensure this does not occur). Where drilling is not possible, seed shall be broadcast. The seeding will be repeated until a satisfactory stand is established as determined by the authorized officer. Evaluation of growth will not be made before completion of the second growing season after seeding. The authorized officer is to be notified a minimum of seven days prior to seeding of the project.

8. All design, material, construction, operation, maintenance, and termination practices shall be in accordance with safe and proven engineering practices.

9. The holder shall restore drainages, to the greatest extent possible, to the original bank configuration, stream bottom width, and channel gradient. Loose soil, fill, and culverts shall be removed from drainage channels as directed by the authorized officer.

10. All surface disturbing construction activities must take place within the limits of the existing right-of-way.

11. All topsoil shall be stripped and conserved in stockpiles. The topsoil shall be evenly respread on completion of pipeline burial. Topsoil shall not be used for pipe padding.

12. No construction or routine maintenance activities shall be performed during periods when the soil is too wet to adequately support construction equipment.

13. The holder shall recontour disturbed areas to restore the site to the original contour of the ground as determined by the authorized officer.

14. Vegetation such as trees, stumps, brush, and boulders and rocks removed from the right-of-way shall not be left windrowed on the side of the right-of-way. The removed trees, stumps, brush, boulders and rocks must be evenly respread across the right-of-way and left so as not to extend more than two feet above the ground surface. Tree stumps will be cut from the trunk.

15. No construction shall occur from the period of December 1 to April 30 to protect wintering big game unless otherwise by the Authorized Officer.

16. Unless indicated otherwise in this "Exhibit B" all work must be done in accordance with the special stipulation prepared for the Tom Brown PH25 well pad environmental assessment prepared for the project (EA-CO140-2005-062).

17. Water bars will be installed to the satisfaction of the authorized officer.

18. Remedial reclamation to correct such problems as seeding failures or erosion may be required by the authorized officer.

19. The holder will begin all reclamation work as soon as possible after the pipe is laid.

20. All above ground structures will be painted with a color specified by the authorized officer. Use of this road to move equipment for location construction, drilling and completion activities is not allowed between December 1 and April 30 because of big game winter habitat values unless otherwise approved by the Glenwood Springs Field Office Manager.