

Mesa Energy Partners, LLC
BDU 1-2-199
SHL: 1,361' FNL 2,002' FWL (NE/4 NW/4) Lot 7
BHL: $\pm 951'$ FNL $\pm 1,952'$ FEL (NW/4 NE4) Lot 6
Sec. 1 T1S R99W
Rio Blanco County, Colorado
Federal Lease: COC62815

SURFACE USE PLAN OF OPERATIONS

This Application for Permit to Drill (APD) is filed under the Notice of Staking (NOS) process as stated in Onshore Order No. 1 and supporting Bureau of Land Management (BLM) documents. All specific concerns of the BLM representatives are addressed herein, as are specific stipulations from the BLM.

* Specific stipulations arising from an onsite meeting are shown as starred.

WELL LOCATION AND INTRODUCTION:

The wellsite was staked at 1,361' FNL 2,002' FWL (NE/4 NW/4) Lot 7 of Sec. 1 T1S R99W on May 5, 2010 by Uintah Engineering & Land Surveying (Uintah), surveyor, on behalf of Mesa, on a site that is geologically and topographically acceptable. The bottomhole location is $\pm 951'$ FNL $\pm 1,952'$ FEL (NW/4 NE4) Lot 6. The wellsite lies within the federal Buckhorn Draw Unit boundary identified by Serial Register No. COC73788X.

A NOS was submitted to BLM in Meeker on March 1, 2010, for this location.

DIRECTIONS TO LOCATION:

Beginning in the town of Rangely, Colorado, proceed easterly, then northeasterly along Highway 64 ± 9.0 miles to the junction Highway 64 and County Road 122 (CR 122). Turn right and proceed southerly, then southeasterly ± 16.3 miles to the junction of CR 122 and County Road 24X (CR 24X). Turn left and proceed northeasterly, then southeasterly on CR 122 ± 4.0 miles to the existing access road for the BDU 1-2-199. Turn right and proceed southerly, then southeasterly ± 0.6 miles to the proposed BDU 1-2-199 location.

1) EXISTING ROADS (See Topo A and B)

- A) The well is a development/confirmation well.
- B) Existing roads within 1.00 mile consists of a gravel resource road, and a paved county road.
- C) Plans for improvement and/or maintenance of existing roads are to maintain in as good or better conditions than at present.

2) PLANNED ACCESS ROADS (See Topo A and B)

Construction complete – No additional surface disturbance is anticipated.

3) LOCATION OF EXISTING WELLS

Within a 1-mile radius:

Proposed	NONE
Drilling	NONE
Abandoned	NONE
Disposal/injection	NONE
Shut-In	NONE
Producing	SEE TABLE 1

LOCATION OF EXISTING PRODUCING FACILITIES OPERATED BY MESA ENERGY PARTNERS, LLC

Within one (1) mile: SEE TABLE 1

The nearby well data has been taken from the COGCC website on May 19, 2010.

4) NEW PRODUCTION FACILITIES PROPOSED

- A) The production facility shall initially consist of one 400 bbl condensate tank, two 400 bbl water tanks, 1 separator and a pigging station. BLM will be contacted via Sundry Notice (SN) if the production facility changes.
- B) Dimensions of the existing facility are 200' x 376' = 75,200 ft², for drilling operations. Approximate total disturbance is ±5.18 acres.
- C) Traveled portion of production site is gravel surfaced. Any additional site preparation for production will be done with standard excavation equipment using native materials. If needed, additional surface material will be obtained from commercial sources or an approved borrow area. Construction and maintenance will not be performed when the ground or topsoil is frozen or too wet to adequately support construction equipment. If such equipment creates ruts in excess of four (4) inches deep, the soil will be deemed too wet.
- D) All above ground permanent structures will be painted to blend with the surrounding landscape and per BLM recommendations. The typical paint color for this area is Juniper Green (no Munsell color). To reduce the view of production facilities from visibility corridors and private residences, facilities will not be placed in visually exposed locations (such as ridgelines and hilltops). All production facilities will be painted within six months of installation. Facilities that are required to comply with Occupation Safety and Health Administration (OSHA) Rules and Regulations will be excluded from this painting requirement.
The tallest structure will be no greater than 20' in height.
- E) Production facilities may vary according to actual reservoir discovered. Production facilities will be clustered and placed away from cut slopes and fill slopes to allow the maximum re-contouring of cut and fill slopes.
- F) A dike will be constructed completely around any production facilities which contain fluids (i.e. production tanks, produced water tanks, etc.) These dikes will be constructed of compacted subsoil, be impervious, hold 110% of the capacity of the largest tank, and be independent of the back cut.
- G) No facilities will be constructed off location.
- H) Run off and sediment control Best Management Practices (BMPs) will be implemented and maintained according to the Buckhorn Draw Unit Storm Water Management Plan.

- I) Mesa shall protect all survey monuments, witness corners, reference monuments and bearing trees in the affected areas against disturbance during construction, operation, maintenance and termination of the facilities authorized herein.
- J) Mesa shall immediately notify the Authorized Officer (AO) in the event that any corners, monuments or markers are disturbed or are anticipated to be disturbed. If any monuments, corner or accessories are destroyed, obliterated or damaged during construction, operation or maintenance, Mesa shall secure the services of a Registered Land Surveyor to restore the disturbed monuments, corner or accessories, at the same location, using surveying procedures found in the Manual of Surveying Instructions for the Survey of the public Lands of the United States, latest edition. Mesa shall ensure that the Registered Land Surveyor properly records the survey in compliance with the Colorado Revised Statutes 38-53-101 through 38-53-112 (1973) and shall send a copy to the AO.
- K) Pursuant to Onshore Order No. 7 (OSO #7), this is a request for authorization for reserve pit disposal of water produced from this well for a period of 90 days from the date of initial production. A permanent disposal method must be approved by BLM and in operation prior to the end of this 90-day period. In order to meet this deadline, an application for the proposed permanent disposal method will be submitted along with any necessary water analyses, in compliance with OSO #7 as soon as possible, but no later than 45 days after the date of first production. Any method of disposal, which has not been approved prior to the end of the authorized 90-day period, will be considered as an Incident of Noncompliance and will be grounds for issuing a shut-in order until an acceptable manner for disposing of said water is provided and approved by BLM.

5) LOCATION OF WATER SUPPLY

- A) Water to be used for the drilling and completing of this well may be delivered to the location via (1) pumping through a water pipeline, or (2) hauling by truck over the roads.. The water source may be from (1) recycled flow back water (frac water from completions), production water gathered from producing wells, or some combination thereof resulting from ongoing operations in the Piceance Basin that may be treated for reuse, or (2) fresh water from available water rights in the Piceance Basin.
- B) The fresh water providers are Williams and EnCana. Due to possible summer water restrictions it is imperative that multiple sources be available for use. Williams fresh water will come from their nearby *Ryan Gulch Ranch* fresh water loadout located at 39.864375 latitude and 108.430068 longitude. EnCana's fresh water source will come from the *Foote Ranch* loading facility located at -108.246316 latitude and 40.008838 longitude, NAD83.
- C) Mesa Energy estimates that we will use ~5,000 bbls of fresh water for drilling, and ~50,000 bbls of either fresh or recycled water for completions. The amount of water used for dust abatement is estimated to be ~ 1,000 bbls/year. If it becomes necessary to truck water, CR 24, CR24X, and CR 91 will be utilized.

6) SOURCE OF CONSTRUCTION MATERIALS

- A) If necessary, additional construction materials will consist of native materials from borrow ditches and location areas.
- B) Surfacing materials will be obtained from available permitted sources, if needed, and consist of pit gravel.

7) WASTE DISPOSAL

- A) Drill cuttings will be buried in reserve pit when dry.
- B) Drilling fluid will be evaporated and then buried in the reserve pit when dry.
- C) Completion fluids will be flowed to the reserve pit and allowed to evaporate.
- D) Reserve pit layout is illustrated on Sheet 4.
- E) Reserve pit will be lined with a synthetic liner 12 mil or thicker. The reserve pit liner shall be made of any manmade synthetic material of sufficient size and qualities to sustain a hydraulic conductivity no greater than 1×10^{-7} cm/sec after installation and which is sufficiently reinforced to withstand normal wear and tear associated with the installation and pit use thereof. The liner shall be chemically compatible with all substances that may be put into the pit.
- F) Reserve pit will be fenced on three sides during drilling operations and on fourth side at time of rig release. Pit will remain fenced until backfilled.
- G) Flare pit for air drilling will (if used) be located minimum 100' from well bore.
- H) Produced fluid will be contained in test tanks during completion and testing.
- I) Drilling fluids including salts and chemicals will be contained. Upon termination of drilling and completion operations, the mud will be transferred to another drilling location for use, dewatered and recycled, or removed and disposed of at an approved waste disposal facility within ninety (90) day after termination of drilling and completion activities.
- J) In the event that adverse weather conditions prevent removal of the fluids from the mud system within this time period, an extension may be granted by the AO upon receipt of a written request from Mesa.
- K) Produced fluids – liquid hydrocarbons produced during completion operations will be gathered in flow back tanks or a completion pit on location. Produced waste water will be confined to a completion pit or flow back tanks for a period not to exceed ninety (90) days after initial production.
- L) Produced fluids – liquid hydrocarbons produced during production operations will be confined to a pit (water storage pit) or flow back tanks for a period not to exceed ninety (90) days. It may also be recycled and used for drilling, completion or fracing for another well or location. Excess water may be piped or trucked to disposal wells and/ trucked to a commercial disposal facility.
- M) Sewage disposal facilities will be in accordance with State and Local Regulations. Sewage may not be buried on location or put in a borehole. Colorado Department of Public Health and Environmental (CDPHE) Regulations prevent this unless a CDPHE Permit is obtained.
- N) Garbage and other waste - burnable waste will be contained in a portable trash cage which will be totally enclosed with small mesh wire. Cage and contents will be transported to and trash dumped at a CDPHE approved Sanitary Landfill upon completion of operations.
- O) Trash will be picked up if scattered and contained in trash cage as soon as practical after rig is moved off.
- P) Upon release of the drilling rig, rathole and mousehole will be filled. Debris and equipment not required for production will be removed.
- Q) Any spills of oil, gas, salt water or other potentially hazardous substances will be reported immediately to the BLM, and other responsible parties, and will be mitigated immediately, as appropriate, through clean up or removal to an approved disposal site.

8) ANCILLARY FACILITIES

- A) Self-contained travel-type trailers may be used on site during drilling operations.

- B) Certified Colorado Department of Housing units will be provided for use in the extraction of gas on COGCC approved pads. These units will be used by Essential Personnel and will abide by Federal, State, and local regulations which directly pertain to Temporary Living Quarters (TLQ).
 - C) Construction Methods Well Pads (Preconstruction/Construction/Interim/Final reclamation): refer to Buckhorn Draw Master Stormwater Management Plan, this plan is on file at the operator's field office and is available for review and inspection upon request.
 - D) Potable water will be provided by water haulers certified by the Colorado Department of Public Health & Environment.
 - E) Septic will be held in County approved engineered ISDS Vault and Haul systems.
 - F) Waste materials generated by and from these units will be contained in wildlife proof containers and will be hauled weekly, or as needed.
- 9) WELLSITE LAYOUT (See Sheets 1C, 3, 4, 5, 6, and 7)
- A) See attached drillsite plat and cut/fill diagram.
 - B) Roads and well production equipment, such as tanks, treaters, separators, vents, electrical boxes, and equipment associated with pipeline operation, will be placed on location so as to permit maximum interim reclamation of disturbed areas. If equipment is found to interfere with the proper interim reclamation of disturbed areas, the equipment may be moved so proper re-contouring and revegetation can occur.
 - C) No additional surface disturbance is anticipated.
 - D) Topsoil and spoils pile will be clearly separated as shown on Sheets 3 and 6.
 - E) Erosion control measures will be applied pursuant to Mesa's General Permit to Discharge Stormwater under the Colorado Pollutant Discharge Elimination System and accompanying Stormwater Management Plan.
 - F) To control drainage, the BMPs for this location are perimeter ditch/berm, cut slope diversion.
- 10) PIPELINES AND FLOWLINES
All flowlines and pipelines will remain within the federal Buckhorn Draw Unit. No separate Right-of-Way applications should be necessary.
- 11) SURFACE RESTORATION (General)
- A) Salvaging and spreading topsoil will not be performed when the ground or topsoil is frozen or too wet to adequately support construction equipment. If such equipment creates ruts in excess of four (4) inches deep, the soil will be deemed too wet.
 - B) Earthwork for interim and final reclamation must be completed within six (6) months of well completion or plugging (weather permitting).
 - C) In areas that will not be drill-seeded, the seed mix will be broadcast-seeded at twice the application rate shown and covered 0.25 to 0.5 inches deep with a harrow or drag bar or will be broadcast-seeded into imprints, such as fresh dozer cleat marks.
 - D) No seeding will occur from May 15 to September 15. Fall seeding is preferred and will be conducted after September 15 and prior to ground freezing. Spring seeding will be conducted after the frost leaves the ground and no later than May 15.
 - E) Annual or noxious weeds shall be controlled on all disturbed areas as directed by the Field Office Manager. An intensive weed monitoring and control program will be implemented beginning the first growing season after interim and final reclamation.

Noxious weeds that have been identified during monitoring will be promptly treated and controlled. A Pesticide Use Proposal (PUP) will be submitted to the BLM for approval prior to the use of herbicides. All reclamation equipment will be cleaned prior to use to reduce the potential for introduction of noxious weeds or other undesirable non-native species. The operator will coordinate all weed and insect control measures with state and/or local management agencies.

- F) Reclaimed areas will be monitored annually. Actions will be taken to ensure that reclamation standards are met as quickly as reasonably practical.
- G) Reclamation monitoring will be documented in a reclamation report and submitted to the AO. The report will document compliance with all aspects of the reclamation objectives and standards, identify whether the reclamation objectives and standards are likely to be achieved in the near future without additional actions, and identify actions that have been or will be taken to meet the objectives and standards. The report will also include acreage figures for: Initial Disturbed Acres; Successful Interim Reclaimed Acres; Successful Final Reclaimed Acres. Reports will not be submitted for sites approved by the AO in writing as having met interim or final reclamation standards. Any time 30% or more of a reclaimed area is re-disturbed, monitoring will be reinitiated.
- H) The AO will be informed when reclamation has been completed, is successful, and the site is ready for final inspection.

INTERIM RESTORATION (Production)

- A) Rehabilitation of unneeded, previously disturbed areas will consist of backfilling and contouring the reserve pit area, back sloping and contouring all cut and fill slopes. These areas will be re-seeded.
- B) Wellpad size will be reduced to minimum size necessary to conduct safe operations. Cuts and fills will be reduced to 3:1 or shallower.
- C) Reserve pits will be closed and backfilled as soon as the pit contents are dry enough to do so, or no later than the end of the next full summer following rig release, whichever comes first, to allow sufficient time for the pit contents to dry. Reserve pits remaining open after this period will require written authorization of the AO. Immediately upon well completion, any hydrocarbons or trash in the reserve and flare pits will be removed. Pits will be allowed to dry, be pumped dry, or solidified in-situ prior to backfilling.
- D) Following completion activities, pit liners will be removed or removed to the solids level and disposed of at an approved landfill, or treated to prevent their reemergence to the surface and interference with long-term successful revegetation. If it was necessary to line the pit with a synthetic liner, the pit will not be trenched (cut) or filled (squeezed) while containing fluids. When dry, the pit will be backfilled with a minimum of five (5) feet of soil material. In relatively flat areas, the pit area will be slightly mounded to allow for settling and to promote surface drainage away from the backfilled pit.
- E) The portions of the cleared well site not needed for operational and safety purposes will be re-contoured to the original contour if feasible, or if not feasible, to an interim contour that blends with the surrounding topography as much as possible. Sufficient level area will remain for setup of a workover rig and to park equipment. In some cases, rig anchors may need to be pulled and reset after re-contouring to allow for maximum interim reclamation.
- F) Topsoil will be evenly re-spread and aggressively re-vegetated over the entire disturbed area not needed for all-weather operations including road cuts & fills and to within a few feet of the production facilities, unless an all-weather, surfaced, access route or small "teardrop" turnaround is needed on the wellpad.

- G) Initial seedbed preparation will consist of backfilling, leveling, and ripping all compacted areas. Final seedbed preparation will consist of contour cultivating to a depth of 4" - 6" inches within 24 hours prior to seeding. Seeding will be conducted no more than 24 hours following completion of final seedbed preparation. A certified weed-free seed mix designed by BLM (shown below) to meet reclamation standards will be used. The seed mix will be used on all disturbed surfaces including pipelines and road cut & fill slopes.
 - H) To help mitigate the contrast of re-contoured slopes, reclamation will include measures to feather cleared lines of vegetation and to save and redistribute cleared trees, debris, and rock over re-contoured cut and fill slopes.
 - I) A proposed seed mixture for this location is:
BLM Native Seed Mix #3
 - J) Reclamation will be considered successful if the following criteria are met:
 - 70% of pre-disturbance cover
 - 90% dominate species*
 - Erosion features equal to or less than surrounding area
- *The vegetation will consist of species included in the seed mix and/or occurring in the surrounding natural vegetation.

FINAL RESTORATION (P & A – Removal of equipment)

- A) Flowlines on location will be removed before site reclamation and all flowlines between the wellsite and production facilities will remain in place and will be filled with water.
- B) If necessary to ensure timely revegetation, the pad will be fenced to BLM standards to exclude livestock grazing for the first two growing seasons or until seeded species become firmly established, whichever comes later. Fencing will meet standards found on page 18 of the Gold Book, 4th Edition, or will be fenced with operational electric fencing.
- C) Revegetation will be accomplished by planting mixed grasses as specified below. Revegetation is recommended for road area as well as around production site.
- D) A proposed seed mixture for this location is:
BLM Native Seed Mix #3
- E) Initial seedbed preparation will consist of backfilling, leveling, and ripping all compacted areas. Final seedbed preparation will consist of contour cultivating to a depth of 4" to 6" within 24 hours prior to seeding. Seeding will be conducted no more than 24 hours following completion of final seedbed preparation. A certified weed-free seed mix designed by BLM (shown above) to meet reclamation standards will be used. The seed mix will be used on all disturbed surfaces including pipelines and road cut & fill slopes.
- F) Distribute topsoil, if any remains, evenly over the location, and seed according to the above seed mixture. If needed the access road and location shall be ripped or disked prior to seeding. Perennial vegetation must be established. Additional work shall be required in case of seeding failures, etc.
- G) All disturbed areas, including roads, pipelines, pads, production facilities, and interim reclaimed areas will be re-contoured to the contour existing prior to initial construction or a contour that blends indistinguishably with the surrounding landscape. Re-salvaged topsoil will be spread evenly over the entire disturbed site to ensure successful revegetation. To help mitigate the contrast of re-contoured slopes, reclamation will include measures to feather cleared lines of vegetation and to save and redistribute cleared trees, woody debris, and large rocks over re-contoured cut and fill slopes.

12) GENERAL INFORMATION

- A) Project area is situated in the undulating uplands north of the White River.
- B) Topographic and geologic features – high-relief area, well drained, sand and silt deposition, surrounded by rock outcrops with highly eroded drainages.
- C) Soil characteristics – loam.
- D) Flora consists of: Big sagebrush, PJ, Bitterbrush, Broomweed, Slender wheatgrass, Indian ricegrass, Junegrass, and Phlox.
- E) Fauna observed: none; assume: mule deer, elk, coyotes, rabbits, raptors, prairie dogs, and rodents.
- F) Concurrent surface use - grazing and hunting.
- G) Mineral Lessor - Bureau of Land Management
White River Field Office
220 E. Market Street
Meeker, CO 81641 Phone: 970-878-3800
- H) Surface Owner
Drillsite/Access- Bureau of Land Management
White River Field Office
220 E. Market Street
Meeker, CO 81641 Phone: 970-878-3800
- I) Proximity of water, occupied dwellings or other features: unnamed intermittent drainage $\pm 1,450'$ to the east.
- J) Archaeological, cultural and historical information for the new construction on federal lands will be contained in a report and submitted separately by Greer Services.
- K) If any fossils are discovered during construction, the operator shall cease construction immediately and notify the AO so as to determine the significance of the discovery.
- L) A Class III (100% pedestrian) cultural resource inventory shall be completed prior to disturbance by a qualified professional archaeologist in the following areas: Well location. A report of the inventory will be submitted and approved by the BLM with stipulations as appropriate in order to comply with EO 11593 and Section 106 of the National Historic Preservation Act of 1966. See Section “General Information – K” above
- M) The operator is responsible for informing all persons in the area who are associated with this project that they will be subject to prosecution for knowingly disturbing historic or archaeological sites, or for collecting artifacts. If historic or archaeological materials are uncovered during construction, the operator is to immediately stop work that might further disturb such materials, and contact the AO. The AO will inform the operator as to the work needed to determine the following:
 - Whether the materials appear eligible for the National Register of Historic Places;
 - The mitigation measures the operator will likely have to undertake before the site can be used (assuming in site preservation is not necessary); and,
 - A timeframe for the AO to complete an expedited review to acquire the State Historic Preservation Officer’s concurrence that the findings of the AO are correct and that mitigation is appropriate.

- N) Mesa maintains a file, per 29 CFR 1910.1200(g) containing current Material Safety Data Sheets (MSDS) for all chemicals, compounds, and/or substances which are used during the course of construction, drilling, completion, and production operations for this project. Hazardous materials (substances) which may be transported across these lands may include drilling mud and cementing products which are primarily inhalation hazards, fuels (flammable and/or combustible), materials that may be necessary for well completion/stimulation activities such as flammable or combustible substances and acids/gels (corrosives). The opportunity for Superfund Amendments and Reauthorization Act (SARA) listed Extremely Hazardous Substances (EHS) at the site is generally limited to proprietary treating chemicals. All hazardous substances, EHS, and commercial preparations will be handled in an appropriate manner to minimize the potential for leaks or spills to the environment.