

JUL 10 2015

North Lea 3 Fed Com #4H

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Surface Use Plan of Operations

Introduction

The following surface use plan of operations will be followed and carried out once the APD is approved. No other disturbance will be created other than what was submitted in this surface use plan. If any other surface disturbances is needed after the APD is approved, a BLM approved sundry notice or right of way application will be acquired prior to any new surface disturbances.

Before any surface disturbance is created, stakes or flagging will be installed to mark boundaries of permitted areas of disturbance, including soils storage areas. As necessary, slope, grade, and other construction control stakes will be placed to ensure construction in accordance with the surface use plan. All boundary markers will be maintained in place until final construction cleanup is completed. If disturbance boundary markers are disturbed or knocked down, they will be replaced before construction proceeds.

If terms and conditions are attached to the approved APD and amend any of the proposed actions in this surface use plan, we will adhere to the terms and conditions.

1. Construction**a. Notification**

The BLM shall administer compliance and monitor construction of the access road and well pad. Notify the Carlsbad Field Office at (575) 234-5909 at least 3 working days prior to commencing construction of the access road and/or well pad.

b. Topsoil

The operator shall strip the top portion of the soil (root zone) from the entire well pad area and stockpile the topsoil along the edge of the well pad as depicted in the APD. The root zone is typically six (6) inches in depth. All the stockpiled topsoil will be redistributed over the interim reclamation areas. Topsoil shall not be used for berming the pad or facilities. For final reclamation, the topsoil shall spread over the entire pad area for seeding preparation.

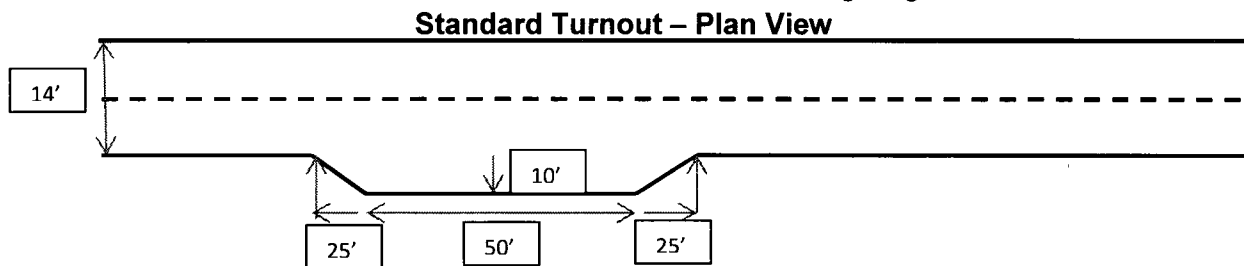
Other subsoil (below six inches) stockpiles must be completely segregated from the topsoil stockpile. Large rocks or subsoil clods (not evident in the surrounding terrain) must be buried within the approved area for interim and final reclamation,

2. Existing Roads

- a. The existing access road route to the proposed project is depicted on Land Survey Plat. No new surface disturbance will be done, unless otherwise noted in the New or Reconstructed Access Roads sections of this surface plan.

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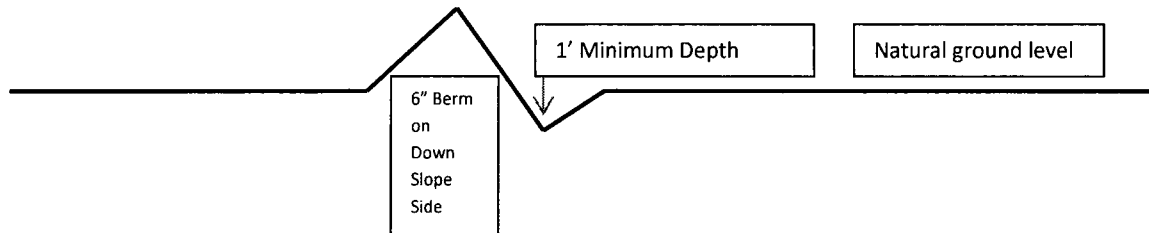
- b. The Existing access road route to the proposed project does not cross lease or unit boundaries, so a BLM right-of –way grant will not be acquired for this proposed road route.
- c. Existing oil and gas roads utilized top access the proposed project will be maintained be crowning, clearing ditches, and fixing potholes. All existing structures on the entire access route such as cattleguards, other range improvement projects, culverts etc. will be properly repaired or replaced if they are damaged or have deteriorated beyond practical use.
- d. The access road shall have a driving surface that creates the smallest possible surface disturbance and does not exceed fourteen (14) feet in width. The maximum width of surface disturbance, when constructing the access road, shall not exceed twenty-five (25) feet.
- e. Surfacing material is not required on the new access road driving surface. If the operator elects to surface the new access road or pad, the Surfacing material may be required to be removed at the time of reclamation.
- f. Where possible, no improvements should be made on the unsurfaced access road other than to remove vegetation as necessary, road irregularities, safety issue, or to fill low areas that may sustain standing water.
- g. The Authorized Officer reserves the right to require surfacing of any portion of the access road at any time deemed necessary. Surfacing may be required in the even the road deteriorates, erodes, road traffic increase, or it is determined to be beneficial for future field development. The surfacing depth and type of material will be determined at the time of notification.
- h. Crowning shall be done on the access road driving surface. The road crown shall have a grade of approximately 2% (i.e., a 14' wide road). The road shall conform to figure 1; cross section and plans for typical road construction.
- i. Ditching shall be required on both sides of the road
- j. Vehicle turnouts shall be constructed on the road. Turnouts shall be constructed on all blind curves. Turnouts shall conform to the following diagram:



- k. Drainage control systems shall be constructed on the entire length of road (e.g. ditches, side hill, out-sloping, and in-sloping, lead-off ditches, culvert installation, and low water crossing). A typical lead-off ditch has a minimum depth of 1 foot below and berm of 6 inches above natural ground level. The berm shall be on the down-slop side of the lead-off ditch. All lead-off ditches shall be graded to drain water with a 1 percent minimum to 3 percent maximum ditch slope. The spacing interval are variable for lead-off ditches ad shall be

determined according to the formula for spacing intervals of lead-off ditches, but may be amended depending upon existing soil types and centerline road slope (in %);

Cross Section of a Typical Lead off Ditch



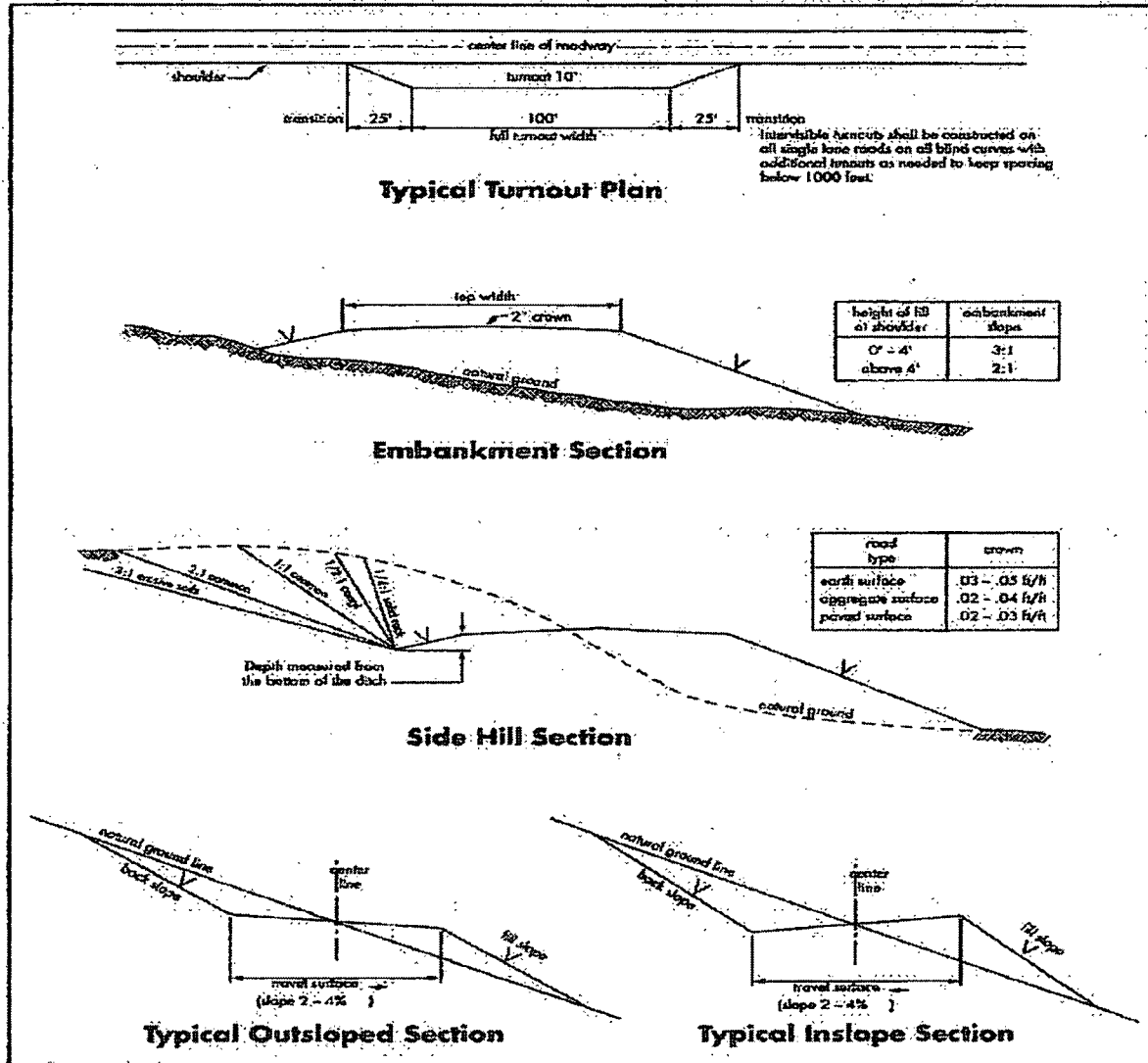
Formula for Spacing Interval of Lead-off Ditches

Example – on a 4% road slope that is 400 feet long, the water flow shall drain water into a lead-off ditch. Spacing intervals shall be determined by the following formula:

$$400 \text{ foot road with } 4\% \text{ road slope: } \frac{400}{4\%} + 100' = 200' \text{ lead-off ditch interval}$$

3. New or Reconstructed Access Road

- a. A new road will be constructed as per the attached road map plat.



4. Location of Existing Wells

- A 1 mile radius map has been attached with the APD.

5. Location of Existing and/or Proposed Production Facilities

- All permanent, lasting more than 6 months, above ground structures including but not limited to pumpjacks, storage tanks, barrels, pipeline risers, meter housing, etc. That are not subject to safety requirements will be painted a non-reflective paint floor that blends in with the surrounding landscape. The paint color will be one of the

colors from the BLM Standard Environmental Colors chart selected by the BLM authorized officer.

- b. All proposed production facilities that are located on the well pad will be strategically placed to allow for maximum interim reclamation, recontouring, and revegetation of the well location.
- c. Production from the proposed well will be contained on an onsite battery. See attached drawing included with APD.
- d. A pipeline to transport production will be installed from the proposed well to the central production facility that is currently being used on the Lea Unit #31H.
 - i. We plan to install a 2.875 inch Steel (tubing) pipeline below surface from the proposed well to the production facility. The maximum working pressure of the pipeline will be 7,260 psi; however we will not operate this pipeline at an internal pressure in excess of 250 psi.
 - ii. Attached drawing depicts the proposed production pipeline route from the well to the production facility.
 - iii. The proposed pipeline will be below surface.
- e. If any plans change regarding the production facility or other infrastructure (pipeline, electric line, etc.), we will submit a sundry notice or right of way (if applicable) prior to installation of construction.
- f. An electric line will be applied for through a sundry notice or BLM right-of-way at a later date.

6. Location and Types of Water

- a. The source and location of the water supply are as follows: The well will be drilled with a combination of fresh water and brine water based mud systems. The water will be obtained from commercial suppliers in the area and/or piped or hauled to the location by transport trucks over an existing road. Any temporary pipelines for transfer of water will be installed along existing roads and removed within one week following the final use of such pipelines.

7. Construction Materials

- a. Construction material that will be used to build the well pad and road will be caliche.
- b. All material required for construction of the drill pad and access roads will be obtained from private, state, or federal pits. If the well pad is flipped to acquire caliche underneath the well pad, Read and Stevens shall stay within the approved well pad area when performing these operations. A federal mineral material permit will be acquired prior to flipping the location for caliche or acquiring caliche from a federal pit.

8. Methods of Handling Waste

- a. Drilling fluids and produced oil and water from the well during completion operations will be stored safely and disposed of properly in an NMOCD-approved disposal facility.
- b. Garbage and trash produced during drilling and completion operations will be collected in a trash bin and disposed of properly at a state approved site. All trash on and around the well site will be collected for disposal.
- c. Human waste and grey water will be properly contained and disposed of properly at a disposal facility.
- d. After drilling and completion operations, trash, chemicals, salts, frac sand and other waste material will be removed and disposed of properly at a disposal site.
- e. The well will be drilled utilizing a closed loop system. Drill cuttings will be properly disposed of into steel tanks and taken to an NMCOD-approved disposal facility.

9. Ancillary facilities

- a. No ancillary facilities will be needed for this proposed project.

10. Well Site Layout

- a. The proposed drilling pad was staked and surveyed by a professional surveyor. The attached survey plat of the well site depicts the drilling pad layout as staked.
- b. Attached are rig layout and a site layout diagrams.
- c. Topsoil Salvaging:
Grass, forbs, and small woody vegetation, such as sagebrush will be excavated as the topsoil is removed. Large woody vegetation will be stripped and stored separately and respread evenly on the site following topsoil resspreading. Topsoil depth is defined as the top layer of soil that contains 80% of the roots. In areas to be heavily disturbed, the top 6 inches of soil material will be stripped and stockpiled on the perimeter of the well location and along the perimeter of the access road to control run-on and run-off, to keep topsoil viable, and to make redistribution of topsoil more efficient during interim reclamation. Stockpiled topsoil should include vegetative material. Topsoil will be clearly segregated and stored separately from subsoils. Contaminated soil will not be stockpiled, but properly treated and handled prior to topsoil salvaging.

11. Plans for Surface Reclamation

- a. Reclamation Objectives:
 - i. The objective of interim reclamation is to restore vegetative cover and a portion of the landform sufficient to maintain healthy, biologically active topsoil; control erosion; and minimize habitat and forage loss, visual impact, and weed infestation, during the life of the well or facilities.

- ii. The long-term objective of final reclamation is to return the land to a condition approximating that which existed prior to disturbance. This includes restoration of the landform and natural vegetative community, hydrologic systems, visual resources, and wildlife habitats. To ensure that the long-term objective will be reached through human and natural processes, actions will be taken to ensure standards are met for site stability, visual quality, hydrological functioning, and vegetative productivity
- iii. The BLM will be notified at least 3 days prior to commencement of any reclamation procedures.
- iv. If circumstances allow, interim reclamation and/or final reclamation actions will be completed no later than 6 months from when the final well on the location has been completed or plugged. We will request written permission from the BLM if more time is needed.

b. Interim Reclamation

- i. Interim reclamation will be performed 6 months after the last well on the pad has been drilled.
- ii. Within 30 days of well completion, the well location and surrounding areas will be cleared of, and maintained free of, all materials, trash, and equipment not required for production.
- iii. In areas planned for interim reclamation, all the surfacing material will be removed and returned to the original mineral pit or recycled to repair or build roads and well pads.
- iv. The areas planned for interim reclamation will then be recontoured to the original contour if feasible, or if not feasible, to an interim contour that blends with the surrounding topography as much as possible. Where applicable, the fill material of the well pad will be backfilled into the cut to bring the area back to the original contour. The interim cut and fill slopes prior to re-seeding will not be steeper than a 3:1 ratio, unless the adjacent native topography is steeper. Note: Constructed slopes may be much steeper during drilling, but will be recontoured to above ratios during interim reclamation.
- v. Topsoil will be evenly respread and aggressively revegetated over the entire disturbed area not needed for all-weather operations including cuts & fills. To seed the area, the proper BLM seed mixture, free of noxious weeds, will be used. Final seedbed preparation will consist of contour cultivating to a depth of 4 to 6 inches within 24 hours prior to seeding, dozer tracking, or other imprinting in order to break the soil crust and create seed germination micro-sites.
- vi. Proper erosion control methods will be used on the area to control erosion, runoff and siltation of the surrounding area.
- vii. The interim reclamation will be monitored periodically to ensure that vegetation has reestablished and that erosion is controlled.

c. Final Reclamation (well pad, buried pipelines, etc.)

- i. Prior to final reclamation procedures, the well pad, road, and surrounding area will be cleared of material, trash, and equipment.
- ii. All surfacing material will be removed and returned to the original mineral pit or recycled to repair or build roads and well pads.
- iii. All disturbed areas, including roads, pipelines, pads, production facilities, and interim reclaimed areas will be recontoured to the contour existing prior to initial construction or a contour that blends indistinguishably with the surrounding landscape. Topsoil that was spread over the interim reclamation areas will be stockpiled prior to recontouring. The topsoil will be redistributed evenly over the entire disturbed site to ensure successful revegetation.
- iv. After all the disturbed areas have been properly prepared, the areas will be seeded with the proper BLM seed mixture, free of noxious weeds. Final seedbed preparation will consist of contour cultivating to a depth of 4 to 6 inches within 24 hours prior to seeding, dozer tracking, or other imprinting in order to break the soil crust and create seed germination micro-sites.
- v. Proper erosion control methods will be used on the entire area to control erosion, runoff and siltation of the surrounding area.
- vi. All unused equipment and structures including pipelines, electric line poles, tanks, etc. that serviced the well will be removed.
- vii. All reclaimed areas will be monitored periodically to ensure that revegetation occurs, that the area is not redisturbed, and that erosion is controlled.

d. Surface Restoration:

- i. For both onsite and trench burials: clean mineral materials may be used to backfill on top of the liner installation or to backfill excavated pit areas to a backfill level that reaches the natural topsoil depth of the surrounding terrain or 1 foot below surface level, which is greater. (In sandy soils, 2 feet of topsoil material is required.) Clean and viable topsoil must be used as the top fill on the excavations and reclamation areas in order to establish vegetation. Topsoil materials must be a good match to that of the surrounding terrain. The surface of the reserve pit reclamation and/or trench burial should be re-contoured to match that of that native terrain. Erosion control measures must be installed to ensure that reclamation stabilizes and establishes vegetation. If erosion issues develop, the erosion issues must be addressed immediately by bringing in additional backfill material and re-establishing erosion control measures. The location must be seeded with an appropriate BLM seed mix for the soil type of the area.
- ii. The surface of the reserve pit reclamation and/or trench burial should be re-contoured to match that of that native terrain.

- iii. Erosion control measures must be installed to ensure that reclamation stabilizes and establishes vegetation. If erosion issues develop, the erosion issues must be addressed immediately by bringing in additional backfill material and re-establishing erosion control measures.
- iv. The location must be seeded with an appropriate BLM seed mix for the soil type of the area.

12. Federal Mineral Materials Pit

Payment shall be made to the BLM prior to removal of any federal mineral materials. Call the Carlsbad Field Office at (575) 234-5972

13. Well Pad Surfacing

Surfacing of the well pad is required.

If the Operator elects to surface the well pad, the surfacing material may be required to be removed at the time of reclamation.

The well pad shall be constructed in a manner which creates the smallest possible surface disturbance, consistent with safety and operational needs.

14. Enclosure Fencing (Cellars & Pits)

Enclosure Fencing

The operator will install and maintain enclosure fencing for all open well cellars to prevent access to public, livestock, and large forms of wildlife before and after drilling operations until the pit is free of fluids and the operator initiates backfilling. (For examples of enclosure fencing design, refer to BLM's Oil and Gas Gold Book, Enclosure Fence Illustrations, Figure 1, Page 18.)

15. On Lease Access Roads

Cattle guards

An appropriately sized cattle guard(s) sufficient to carry out the project shall be installed and maintained at fence crossing(s)

Any existing cattle guard(s) on the access road shall be repaired or replaced if they are damaged or have deteriorated beyond practical use. The operator shall be responsible for the condition of the existing cattle guard(s) that are in place and are utilized during lease operations.

A gate shall be constructed and fastened securely to H-braces.

Fence Requirement

Where entry is required across a fence line, the fence shall be braced and tied off on both sides of the passageway prior to cutting.

The operator shall notify the private surface landowner or the grazing allotment holder prior to crossing any fence(s).

16. Surface Ownership

- a. The surface ownership of the proposed project is federal.
Surface Owner: BLM
- b. A good faith effort will be made to provide a copy of the APD Surface Use Plan of Operations to the private surface owner.

17. Archaeological, Paleontology & Historical Sites

Any cultural and/or paleontological resource discovered by the operator or by any person working on the operator's behalf shall immediately report such findings to the Authorized Officer. The operator is fully accountable for the actions of their contractors and subcontractors. The operator shall suspend all operations in the immediate area if such discovery until written authorization to proceed is issued by the Authorized Officer. An evaluation of the discovery shall be made by the Authorized Officer to determine the appropriate actions that shall be required to prevent the loss of significant cultural or scientific values of the discovery. The operator shall be held responsible of the cost of the proper mitigation measures that the Authorized Officer assesses after consultation with the operator on the evaluation and decisions of the discovery. Any unauthorized collection or disturbance of cultural or paleontological resources may result in a shutdown order by the Authorized Officer.

18. Noxious Weeds

The operator shall be held responsible if noxious weeds become established within the areas of operations. Weed control shall be required on the disturbed land where noxious weeds exist, which includes the roads, pads, associated pipeline corridor, and adjacent land affected by the establishment of weeds due to this action. The operator shall consult with the Authorized Officer for acceptable weed control methods, which include following EPA and BLM requirements and policies.

19. Special Requirement(s)

Timing Limitation Stipulation / Condition of Approval for lesser prairie-chicken:

Oil and gas activities including 3-D geophysical exploration, and drilling will not be allowed in lesser prairie-chicken habitat during the period from March 1st through June 15th annually. During that period, other activities that produce noise or involve human activity, such as the maintenance of oil and gas facilities, pipeline, road, and well pad construction, will be allowed to except between 3:00am and 9:00am. The 3:00 am to 9:00 am restriction will not apply to normal, around-the-clock operations, such as venting, flaring, or pumping, which do not require a human presence during this period. Additionally, no new drilling will be allowed within up to 200 meters of leks known at the time of permitting. Normal vehicle use on existing roads will not be restricted. Exhaust noise from pump jack engines must be muffled or otherwise controlled so as not to exceed 75 db measured at 30 feet from the source of the noise.

Ground-level Abandoned Well Marker to avoid raptor perching:

Upon the plugging and subsequent abandonment of the well, the well marker will be installed at the ground level on a plate containing the pertinent information for the plugged well. Or more installation details, contact the Carlsbad Field Office at 575-234-5972

Communitization Agreement

A Communitization Agreement covering the acreage dedicated to this well must be filed for approval with the BLM. The effective date of the agreement shall be prior to any sales.

20. Other Information

- a. No other information is needed at this time.


21. Maps and Diagrams

- a. Land Survey Plat
- b. Well Site Diagram
- c. Interim Reclamation
- d. Rig Layout Diagram
- e. Closed Loop Diagram

Read and Steven, Inc

Operator Certification: Application for Permit to Drill
North Lea 3 Fed Com 4H
Lea County, New Mexico

I hereby certify that I, or persons under my direct supervision, have inspected the proposed drill site and access route; that I am familiar with the conditions which presently exist; that the statements made in the Application for Permit to Drill (APD) package are, to the best of my knowledge, true and correct; and that the work associated with the operations proposed herein will be performed by Legacy Reserves Operating, LP. and its contractors and subcontractors in conformity with this plan and the terms and conditions under which it is approved. I also certify responsibility for the operations conducted on that portion of the leased lands associated with this application with bond coverage provided by BLM Bond Number NMB-2310. This statement is subject to the provisions of the 18U.S.C.1001 for filing a false statement.

Signed: 

Steve Morris

Contract Drilling Engineer on
Behalf of Tim Collier

Dated: 6/5/14