PECOS DISTRICT
DRILLING CONDITIONS OF APPROVAL

OPERATOR'S NAME:	LEGACY RESERVES OPERATING
LEASE NO.:	NMNM0001747
WELL NAME & NO.:	41H –LEA UNIT
SURFACE HOLE FOOTAGE:	2270'/S & 1580'/w
BOTTOM HOLE FOOTAGE	330'/N & 2210'/W
LOCATION:	Section 24.,T20S., R.34E., NMP
COUNTY:	Lea County, New Mexico

HOBBS OCD
MAY 07 2018
RECEIVED

Potash	○ None	◉ Secretary	○ R-111-P
Cave/Karst Potential	◉ Low	○ Medium	○ High
Variance	○ None	◉ Flex Hose	○ Other
Wellhead	◉ Conventional	○ Multibowl	
Other	☐4 String Area	☒Capitan Reef	☐WIPP

A. Hydrogen Sulfide

1. A Hydrogen Sulfide (H2S) Drilling Plan shall be activated 500 feet prior to drilling into the **Yates - Seven Rivers** formation. As a result, the Hydrogen Sulfide area must meet Onshore Order 6 requirements, which includes equipment and personnel/public protection items. If Hydrogen Sulfide is encountered, please provide measured values and formations to the BLM.

B. CASING

1. The **13 3/8** inch surface casing shall be set at approximately **1745** feet (a minimum of 25 feet into the Rustler Anhydrite and above the salt) and cemented to the surface.

   a. If cement does not circulate to the surface, the appropriate BLM office shall be notified and a temperature survey utilizing an electronic type temperature survey with surface log readout will be used or a cement bond log shall be run to verify the top of the cement. Temperature survey will be run a minimum of six hours after pumping cement and ideally between 8-10 hours after completing the cement job.

   b. Wait on cement (WOC) time for a primary cement job will be a minimum of **24 hours in the Potash Area** or 500 pounds compressive strength, whichever is greater. (This is to include the lead cement)

   c. Wait on cement (WOC) time for a remedial job will be a minimum of 4 hours after bringing cement to surface or 500 pounds compressive strength,

whichever is greater.

d. If cement falls back, remedial cementing will be done prior to drilling out that string.

2. The minimum required fill of cement behind the **9 5/8** inch intermediate casing is:

Option 1:

- Cement to surface. If cement does not circulate see B.1.a, c-d above. **Wait on cement (WOC) time for a primary cement job is to include the lead cement slurry due to Capitan Reef and Potash.**

Option 2:

Operator has proposed DV tool at depth of 3950', but will adjust cement proportionately if moved. DV tool shall be set a minimum of 50' below previous shoe and a minimum of 200' above current shoe. Operator shall submit sundry if DV tool depth cannot be set in this range. If an ECP is used, it is to be set a minimum of 50' below the shoe to provide cement across the shoe. If it cannot be set below the shoe, a CBL shall be run to verify cement coverage.

a. First stage to DV tool: Cement to circulate. If cement does not circulate off the DV tool, contact the appropriate BLM office before proceeding with second stage cement job.

b. Second stage above DV tool:
   - Cement to surface. If cement does not circulate, contact the appropriate BLM office. **Wait on cement (WOC) time for a primary cement job is to include the lead cement slurry due to Capitan Reef and Potash.**

Option 3:

Operator has proposed DV tool at depth of 3950' and 1800', but will adjust cement proportionately if moved. DV tool shall be set a minimum of 50' below previous shoe and a minimum of 200' above current shoe. Operator shall submit sundry if DV tool depth cannot be set in this range. If an ECP is used, it is to be set a minimum of 50' below the shoe to provide cement across the shoe. If it cannot be set below the shoe, a CBL shall be run to verify cement coverage.

a. First stage to DV tool: Cement to circulate. If cement does not circulate off the DV tool, contact the appropriate BLM office before proceeding with second stage cement job.

b. Second stage above DV tool:

- Cement to circulate. If cement does not circulate off the DV tool, contact the appropriate BLM office before proceeding with third stage cement job.

c. Third stage above DV tool:

- Cement to surface. If cement does not circulate, contact the appropriate BLM office. **Wait on cement (WOC) time for a primary cement job is to include the lead cement slurry due to Capitan Reef and potash.**

❖ **Special Capitan Reef requirements.** If lost circulation (50% or greater) occurs below the Base of the Salt, the operator shall do the following:

- Switch to fresh water mud to protect the Capitan Reef and use fresh water mud until setting the intermediate casing. The appropriate BLM office is to be notified for a PET to witness the switch to fresh water.

- Daily drilling reports from the Base of the Salt to the setting of the intermediate casing are to be submitted to the BLM CFO engineering staff via e-mail by 0800 hours each morning. Any lost circulation encountered is to be recorded on these drilling reports. The daily drilling report should show mud volume per shift/tour. Failure to submit these reports will result in an Incidence of Non-Compliance being issued for failure to comply with the Conditions of Approval. If not already planned, the operator shall run a caliper survey for the intermediate well bore and submit to the appropriate BLM office.

3. The minimum required fill of cement behind the **5 1/2** inch production casing is:

- Cement should tie-back at least **50 feet above the Capitan Reef** (Top of Capitan Reef estimated at 3150'). Operator shall provide method of verification.

C. PRESSURE CONTROL

1. Variance approved to use flex line from BOP to choke manifold. Manufacturer's specification to be readily available. No external damage to flex line. Flex line to be installed as straight as possible (no hard bends).

2. Minimum working pressure of the blowout preventer (BOP) and related equipment (BOPE) required for drilling below the surface casing shoe shall be **3000 (3M)** psi.

3. Minimum working pressure of the blowout preventer (BOP) and related equipment (BOPE) required for drilling below the **9 5/8** inch intermediate casing shoe shall be **5000 (5M)** psi.

D. SPECIAL REQUIREMENT(S)

Commercial Well Determination

A commercial well determination will need to be submitted after production has been established for at least six months.

Unit Wells

The well sign for a unit well shall include the unit number in addition to the surface and bottom hole lease numbers. This also applies to participating area numbers. If a participating area has not been established, the operator can use the general unit designation, but will replace the unit number with the participating area number when the sign is replaced.

Waste Minimization Plan (WMP)

In the interest of resource development, submission of additional well gas capture development plan information is deferred but may be required by the BLM Authorized Officer at a later date.

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GENERAL REQUIREMENTS

The BLM is to be notified in advance for a representative to witness:

a. Spudding well (minimum of 24 hours)
b. Setting and/or Cementing of all casing strings (minimum of 4 hours)
c. BOPE tests (minimum of 4 hours)

☒ Chaves and Roosevelt Counties
Call the Roswell Field Office, 2909 West Second St., Roswell NM 88201.
During office hours call (575) 627-0272.
After office hours call (575)

☒ Eddy County
Call the Carlsbad Field Office, 620 East Greene St., Carlsbad, NM 88220, (575) 361-2822

☒ Lea County
Call the Hobbs Field Station, 414 West Taylor, Hobbs NM 88240, (575) 393-3612

1. Unless the production casing has been run and cemented or the well has been properly plugged, the drilling rig shall not be removed from over the hole without prior approval.

   a. In the event the operator has proposed to drill multiple wells utilizing a skid/walking rig. Operator shall secure the wellbore on the current well, after installing and testing the wellhead, by installing a blind flange of like pressure rating to the wellhead and a pressure gauge that can be monitored while drilling is performed on the other well(s).
   b. When the operator proposes to set surface casing with Spudder Rig
      - Notify the BLM when moving in and removing the Spudder Rig.
      - Notify the BLM when moving in the 2nd Rig. Rig to be moved in within 90 days of notification that Spudder Rig has left the location.
      - BOP/BOPE test to be conducted per Onshore Oil and Gas Order No. 2 as soon as 2nd Rig is rigged up on well.

2. Floor controls are required for 3M or Greater systems. These controls will be on the rig floor, unobstructed, readily accessible to the driller and will be operational at all times during drilling and/or completion activities. Rig floor is defined as the area immediately around the rotary table; the area immediately above the substructure on which the draw works are located, this does not include the dog house or stairway area.

3. The record of the drilling rate along with the GR/N well log run from TD to surface (horizontal well – vertical portion of hole) shall be submitted to the BLM office as well as all other logs run on the borehole 30 days from completion. If available, a digital copy of the logs is to be submitted in addition to the paper copies. The Rustler top and top and bottom of Salt are to be recorded on the Completion Report.

A. CASING

1. Changes to the approved APD casing program need prior approval if the items substituted are of lesser grade or different casing size or are Non-API. The Operator can exchange the components of the proposal with that of superior strength (i.e. changing from J-55 to N-80, or from 36# to 40#). Changes to the approved cement program need prior approval if the altered cement plan has less volume or strength or if the changes are substantial (i.e. Multistage tool, ECP, etc.). The initial wellhead installed on the well will remain on the well with spools used as needed.

2. Wait on cement (WOC) for Potash Areas: After cementing but before commencing any tests, the casing string shall stand cemented under pressure until both of the following conditions have been met: 1) cement reaches a minimum compressive strength of 500 psi for all cement blends, 2) until cement has been in place at least 24 hours. WOC time will be recorded in the driller's log.

3. Wait on cement (WOC) for Water Basin: After cementing but before commencing any tests, the casing string shall stand cemented under pressure until both of the following conditions have been met: 1) cement reaches a minimum compressive strength of 500 psi at the shoe, 2) until cement has been in place at least 8 hours. WOC time will be recorded in the driller's log. See individual casing strings for details regarding lead cement slurry requirements.

4. Provide compressive strengths including hours to reach required 500 pounds compressive strength prior to cementing each casing string. Have well specific cement details onsite prior to pumping the cement for each casing string.

5. No pea gravel permitted for remedial or fall back remedial without prior authorization from the BLM engineer.

6. On that portion of any well approved for a 5M BOPE system or greater, a pressure integrity test of each casing shoe shall be performed. Formation at the shoe shall be tested to a minimum of the mud weight equivalent anticipated to control the formation pressure to the next casing depth or at total depth of the well. This test shall be performed before drilling more than 20 feet of new hole.

7. If hardband drill pipe is rotated inside casing, returns will be monitored for metal. If metal is found in samples, drill pipe will be pulled and rubber protectors which have a larger diameter than the tool joints of the drill pipe will be installed prior to continuing drilling operations.

8. Whenever a casing string is cemented in the R-111-P potash area, the NMOCD requirements shall be followed.

B. PRESSURE CONTROL

1. All blowout preventer (BOP) and related equipment (BOPE) shall comply with well control requirements as described in Onshore Oil and Gas Order No. 2 and API RP 53 Sec. 17.

2. If a variance is approved for a flexible hose to be installed from the BOP to the choke manifold, the following requirements apply: Check condition of flexible line from BOP to choke manifold, replace if exterior is damaged or if line fails test. Line to be as straight as possible with no hard bends and is to be anchored according to Manufacturer's requirements. The flexible hose can be exchanged with a hose of equal size and equal or greater pressure rating. Anchor requirements, specification sheet and hydrostatic pressure test certification matching the hose in service, to be onsite for review. These documents shall be posted in the company man's trailer and on the rig floor.

3. 5M or higher system requires an HCR valve, remote kill line and annular to match. The remote kill line is to be installed prior to testing the system and tested to stack pressure.

4. If the operator has proposed a multi-bowl wellhead assembly in the APD. The following requirements must be met:

    a. Wellhead shall be installed by manufacturer's representatives, submit documentation with subsequent sundry.
    b. If the welding is performed by a third party, the manufacturer's representative shall monitor the temperature to verify that it does not exceed the maximum temperature of the seal.
    c. Manufacturer representative shall install the test plug for the initial BOP test.
    d. Operator shall perform the intermediate casing integrity test to 70% of the casing burst. This will test the multi-bowl seals.
    e. If the cement does not circulate and one inch operations would have been possible with a standard wellhead, the well head shall be cut off, cementing operations performed and another wellhead installed.

5. The appropriate BLM office shall be notified a minimum of 4 hours in advance for a representative to witness the tests.

    a. In a water basin, for all casing strings utilizing slips, these are to be set as soon as the crew and rig are ready and any fallback cement remediation has been done. The casing cut-off and BOP installation can be initiated four hours after

installing the slips, which will be approximately six hours after bumping the plug. For those casing strings not using slips, the minimum wait time before cut-off is eight hours after bumping the plug. BOP/BOPE testing can begin after cut-off or once cement reaches 500 psi compressive strength (including lead when specified), whichever is greater. However, if the float does not hold, cut-off cannot be initiated until cement reaches 500 psi compressive strength (including lead when specified).

b. In potash areas, for all casing strings utilizing slips, these are to be set as soon as the crew and rig are ready and any fallback cement remediation has been done. For all casing strings, casing cut-off and BOP installation can be initiated at twelve hours after bumping the plug. However, **no tests** shall commence until the cement has had a minimum of 24 hours setup time.

c. The tests shall be done by an independent service company utilizing a test plug not a cup or J-packer. The operator also has the option of utilizing an independent tester to test without a plug (i.e. against the casing) pursuant to Onshore Order 2 with the pressure not to exceed 70% of the burst rating for the casing. Any test against the casing must meet the WOC time for water basin (8 hours) or potash (24 hours) or 500 pounds compressive strength, whichever is greater, prior to initiating the test (see casing segment as lead cement may be critical item).

d. The test shall be run on a 5000 psi chart for a 2-3M BOP/BOP, on a 10000 psi chart for a 5M BOP/BOPE and on a 15000 psi chart for a 10M BOP/BOPE. If a linear chart is used, it shall be a one hour chart. A circular chart shall have a maximum 2 hour clock. If a twelve hour or twenty-four hour chart is used, tester shall make a notation that it is run with a two hour clock.

e. The results of the test shall be reported to the appropriate BLM office.

f. All tests are required to be recorded on a calibrated test chart. A copy of the BOP/BOPE test chart and a copy of independent service company test will be submitted to the appropriate BLM office.

g. The BOP/BOPE test shall include a low pressure test from 250 to 300 psi. The test will be held for a minimum of 10 minutes if test is done with a test plug and 30 minutes without a test plug. This test shall be performed prior to the test at full stack pressure.

h. BOP/BOPE must be tested by an independent service company within 500 feet of the top of the Wolfcamp formation if the time between the setting of the intermediate casing and reaching this depth exceeds 20 days. This test does not exclude the test prior to drilling out the casing shoe as per Onshore Order No. 2.

C. DRILLING MUD

Mud system monitoring equipment, with derrick floor indicators and visual and audio alarms, shall be operating before drilling into the Wolfcamp formation, and shall be used until production casing is run and cemented.

D. WASTE MATERIAL AND FLUIDS

All waste (i.e. drilling fluids, trash, salts, chemicals, sewage, gray water, etc.) created as a result of drilling operations and completion operations shall be safely contained and disposed of properly at a waste disposal facility. No waste material or fluid shall be disposed of on the well location or surrounding area.

Porto-johns and trash containers will be on-location during fracturing operations or any other crew-intensive operations.

PECOS DISTRICT
SURFACE USE
CONDITIONS OF APPROVAL

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LEASE NO.:	NMNM0001747
WELL NAME & NO.:	41H –LEA UNIT
SURFACE HOLE FOOTAGE:	2270'/S & 1580'/w
BOTTOM HOLE FOOTAGE	330'/N & 2210'/W
LOCATION:	Section 24.,T20S., R.34E., NMP
COUNTY:	Lea County, New Mexico

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Standard Conditions of Approval (COA) apply to this APD. If any deviations to these standards exist or special COAs are required, the section with the deviation or requirement will be checked below.

Approval Date: 04/16/2018

I. GENERAL PROVISIONS

The approval of the Application For Permit To Drill (APD) is in compliance with all applicable laws and regulations: 43 Code of Federal Regulations 3160, the lease terms, Onshore Oil and Gas Orders, Notices To Lessees, New Mexico Oil Conservation Division (NMOCD) Rules, National Historical Preservation Act As Amended, and instructions and orders of the Authorized Officer. Any request for a variance shall be submitted to the Authorized Officer on Form 3160-5, Sundry Notices and Report on Wells.

II. PERMIT EXPIRATION

If the permit terminates prior to drilling and drilling cannot be commenced within 60 days after expiration, an operator is required to submit Form 3160-5, Sundry Notices and Reports on Wells, requesting surface reclamation requirements for any surface disturbance. However, if the operator will be able to initiate drilling within 60 days after the expiration of the permit, the operator must have set the conductor pipe in order to allow for an extension of 60 days beyond the expiration date of the APD. (Filing of a Sundry Notice is required for this 60 day extension.)

III. 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 of 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 for 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.

IV. 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.

V. SPECIAL REQUIREMENT(S)

Unit Wells: The well sign for a unit well shall include the unit number in addition to the surface and bottom hole lease numbers. This also applies to participating area numbers. If a participating area has not been established, the operator can use the general unit designation, but will replace the unit number with the participating area number when the sign is replaced.

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 except between 3:00 am and 9:00 am. 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 ground level on a plate containing the pertinent information for the plugged well. For more installation details, contact the Carlsbad Field Office at 575-234-5972.

This authorization is subject to your Certificate of Participation and/or Certificate of Inclusion under the New Mexico Candidate Conservation Agreement. Because it involves surface disturbing activities covered under your Certificate, your Habitat Conservation Fund Account with the Center of Excellence for Hazardous Materials Management (CEHMM) will be debited according to Exhibit B Part 2 of the Certificate of Participation.

Power lines shall be constructed and designed in accordance to standards outlined in "Suggested Practices for Avian Protection on Power lines: The State of the Art in 2006" Edison Electric Institute, APLIC, and the California Energy Commission 2006. The holder shall assume the burden and expense of proving that pole designs not shown in the above publication deter raptor perching, roosting, and nesting. Such proof shall be provided by a raptor expert approved by the Authorized Officer. The BLM reserves the right to require modification or additions to all power line structures placed on this right-of-way, should they be necessary to ensure the safety of large perching birds. The holder without liability or expense shall make such modifications and/or additions to the United States.

VI. 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.

When construction operations are being conducted on this well, the operator shall have the approved APD and Conditions of Approval (COA) on the well site and they shall be made available upon request by the Authorized Officer.

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 be 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.

C. CLOSED LOOP SYSTEM

Tanks are required for drilling operations: No Pits.

The operator shall properly dispose of drilling contents at an authorized disposal site.

D. 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.

E. WELL PAD SURFACING

Surfacing of the well pad is not 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.

F. EXCLOSURE FENCING (CELLARS & PITS)

Exclosure Fencing
The operator will install and maintain exclosure 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 exclosure fencing design, refer to BLM's Oil and Gas Gold Book, Exclosure Fence Illustrations, Figure 1, Page 18.)

G. ON LEASE ACCESS ROADS

Road Width
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.

Surfacing
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.

Where possible, no improvements should be made on the unsurfaced access road other than to remove vegetation as necessary, road irregularities, safety issues, or to fill low areas that may sustain standing water.

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 event the road deteriorates, erodes, road traffic increases, 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.

Crowning
Crowning shall be done on the access road driving surface. The road crown shall have a grade of approximately 2% (i.e., a 1" crown on a 14' wide road). The road shall conform to Figure 1; cross section and plans for typical road construction.

Ditching
Ditching shall be required on both sides of the road.

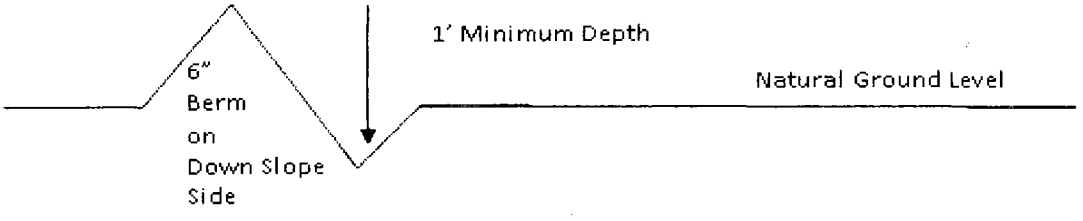
Turnouts
Vehicle turnouts shall be constructed on the road. Turnouts shall be intervisible with interval spacing distance less than 1000 feet. Turnouts shall conform to Figure 1; cross section and plans for typical road construction.

Drainage

Drainage control systems shall be constructed on the entire length of road (e.g. ditches, sidehill outsloping and insloping, lead-off ditches, culvert installation, and low water crossings).

A typical lead-off ditch has a minimum depth of 1 foot below and a berm of 6 inches above natural ground level. The berm shall be on the down-slope side of the lead-off ditch.

Cross Section of a Typical 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 and 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 %);

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 interval shall be determined by the following formula:

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

Cattle guards

An appropriately sized cattle guard sufficient to carry out the project shall be installed and maintained at fence/road crossings. Any existing cattle guards on the access road route 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 guards that are in place and are utilized during lease operations.

Fence Requirement

Where entry is granted 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 fences.

Public Access

Public access on this road shall not be restricted by the operator without specific written approval granted by the Authorized Officer.

Construction Steps

1. Salvage topsoil
2. Construct road
3. Redistribute topsoil
4. Revegetate slopes

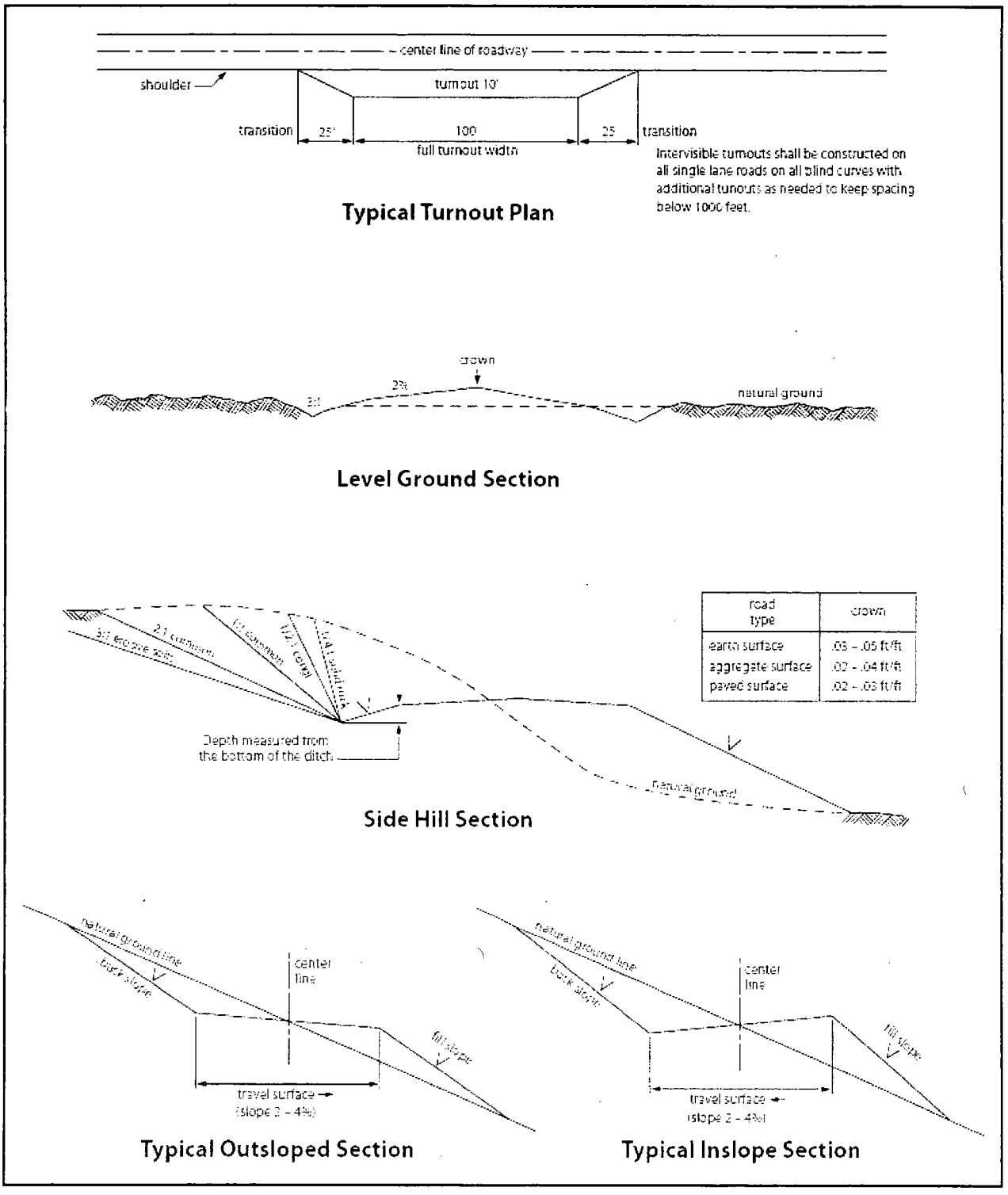


Figure 1. Cross-sections and plans for typical road sections representative of BLM resource or FS local and higher-class roads.

VII. PRODUCTION (POST DRILLING)

A. WELL STRUCTURES & FACILITIES

Placement of Production Facilities
Production facilities should be placed on the well pad to allow for maximum interim recontouring and revegetation of the well location.

Exclosure Netting (Open-top Tanks)
Immediately following active drilling or completion operations, the operator will take actions necessary to prevent wildlife and livestock access, including avian wildlife, to all open-topped tanks that contain or have the potential to contain salinity sufficient to cause harm to wildlife or livestock, hydrocarbons, or Resource Conservation and Recovery Act of 1976-exempt hazardous substances. At a minimum, the operator will net, screen, or cover open-topped tanks to exclude wildlife and livestock and prevent mortality. If the operator uses netting, the operator will cover and secure the open portion of the tank to prevent wildlife entry. The operator will net, screen, or cover the tanks until the operator removes the tanks from the location or the tanks no longer contain substances that could be harmful to wildlife or livestock. Use a maximum netting mesh size of 1 ½ inches. The netting must not be in contact with fluids and must not have holes or gaps.

Chemical and Fuel Secondary Containment and Exclosure Screening
The operator will prevent all hazardous, poisonous, flammable, and toxic substances from coming into contact with soil and water. At a minimum, the operator will install and maintain an impervious secondary containment system for any tank or barrel containing hazardous, poisonous, flammable, or toxic substances sufficient to contain the contents of the tank or barrel and any drips, leaks, and anticipated precipitation. The operator will dispose of fluids within the containment system that do not meet applicable state or U. S. Environmental Protection Agency livestock water standards in accordance with state law; the operator must not drain the fluids to the soil or ground. The operator will design, construct, and maintain all secondary containment systems to prevent wildlife and livestock exposure to harmful substances. At a minimum, the operator will install effective wildlife and livestock exclosure systems such as fencing, netting, expanded metal mesh, lids, and grate covers. Use a maximum netting mesh size of 1 ½ inches.

Open-Vent Exhaust Stack Exclosures
The operator will construct, modify, equip, and maintain all open-vent exhaust stacks on production equipment to prevent birds and bats from entering, and to discourage perching, roosting, and nesting. (*Recommended exclosure structures on open-vent exhaust stacks are in the shape of a cone.*) Production equipment includes, but may not be limited to, tanks, heater-treaters, separators, dehydrators, flare stacks, in-line units, and compressor mufflers.

Containment Structures

Proposed production facilities such as storage tanks and other vessels will have a secondary containment structure that is constructed to hold the capacity of 1.5 times the largest tank, plus freeboard to account for precipitation, unless more stringent protective requirements are deemed necessary.

Painting Requirement
All above-ground structures including meter housing that are not subject to safety requirements shall be painted a flat non-reflective paint color, **Shale Green** from the BLM Standard Environmental Color Chart (CC-001: June 2008).

STANDARD STIPULATIONS FOR SURFACE INSTALLED PIPELINES

A copy of the application (Grant, Sundry Notice, APD) and attachments, including stipulations, survey plat and/or map, will be on location during construction. BLM personnel may request to you a copy of your permit during construction to ensure compliance with all stipulations.

Holder agrees to comply with the following stipulations to the satisfaction of the Authorized Officer:

1. The holder shall indemnify the United States against any liability for damage to life or property arising from the occupancy or use of public lands under this grant.

2. The holder shall comply with all applicable Federal laws and regulations existing or hereafter enacted or promulgated. In any event, the holder shall comply with the Toxic Substances Control Act of 1976 as amended, 15 USC 2601 et seq. (1982) with regards 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, 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 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, 42 U.S.C. 6901, et seq.) on the Right-of-Way (unless the release or threatened release is wholly unrelated to activity of the Right-of-Way holder's activity on the Right-of-Way), or resulting from the activity of the Right-of-Way holder 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 liable for damage or injury to the United States to the extent provided by 43 CFR Sec. 2883.1-4. The holder shall be held to a standard of strict liability for damage or injury to the United States resulting from pipe rupture, fire, or spills caused or substantially aggravated by any of the following within the right-of-way or permit area:

a. Activities of the holder including, but not limited to construction, operation, maintenance, and termination of the facility.
b. Activities of other parties including, but not limited to:
    (1) Land clearing.
    (2) Earth-disturbing and earth-moving work.
    (3) Blasting.
    (4) Vandalism and sabotage.
c. Acts of God.

The maximum limitation for such strict liability damages shall not exceed one million dollars ($1,000,000) for any one event, and any liability in excess of such amount shall be determined by the ordinary rules of negligence of the jurisdiction in which the damage or injury occurred.

This section shall not impose strict liability for damage or injury resulting primarily from an act of war or from the negligent acts or omissions of the United States.

5. If, during any phase of the construction, operation, maintenance, or termination of the pipeline, any oil, salt water, or other pollutant should be discharged from the pipeline system, impacting Federal lands, the control and total removal, disposal, and cleaning up of such oil, salt water, or other pollutant, wherever found, shall be the responsibility of the holder, regardless of fault. Upon failure of the holder to control, dispose of, or clean up such discharge on or affecting Federal lands, or to repair all damages resulting therefrom, on the Federal lands, the Authorized Officer may take such measures as he deems necessary to control and clean up the discharge and restore the area, including, where appropriate, the aquatic environment and fish and wildlife habitats, at the full expense of the holder. Such action by the Authorized Officer shall not relieve the holder of any responsibility as provided herein.

6. All construction and maintenance activity will be confined to the authorized right-of-way width of **20** feet. If the pipeline route follows an existing road or buried pipeline right-of-way, the surface pipeline must be installed no farther than 10 feet from the edge of the road or buried pipeline right-of-way. If existing surface pipelines prevent this distance, the proposed surface pipeline must be installed immediately adjacent to the outer surface pipeline. All construction and maintenance activity will be confined to existing roads or right-of-ways.

7. No blading or clearing of any vegetation will be allowed unless approved in writing by the Authorized Officer.

8. The holder shall install the pipeline on the surface in such a manner that will minimize suspension of the pipeline across low areas in the terrain. In hummocky of duney areas, the pipeline will be "snaked" around hummocks and dunes rather then suspended across these features.

9. The pipeline shall be buried with a minimum of **24** inches under all roads, "two-tracks," and trails. Burial of the pipe will continue for 20 feet on each side of each crossing. The condition of the road, upon completion of construction, shall be returned to at least its former state with no bumps or dips remaining in the road surface.

10. The holder shall minimize disturbance to existing fences and other improvements on public lands. The holder is required to promptly repair improvements to at least their former state. Functional use of these improvements will be maintained at all times. The holder will contact the owner of any improvements prior to disturbing them. When necessary to pass through a fence line, the fence shall be braced on both sides of the passageway prior to cutting of the fence. No permanent gates will be allowed unless approved by the Authorized Officer.

11. In those areas where erosion control structures are required to stabilize soil conditions, the holder will install such structures as are suitable for the specific soil conditions being encountered and which are in accordance with sound resource management practices.

12. Excluding the pipe, all above-ground structures not subject to safety requirement shall be painted by the holder to blend with the natural color of the landscape. The paint used shall be a color which simulates "Standard Environmental Colors" – **Shale Green**, Munsell Soil Color No. 5Y 4/2; designated by the Rocky Mountain Five State Interagency Committee.

13. The pipeline will be identified by signs at the point of origin and completion of the right-of-way and at all road crossings. At a minimum, signs will state the holder's name, BLM serial number, and the product being transported. Signs will be maintained in a legible condition for the life of the pipeline.

14. The holder shall not use the pipeline route as a road for purposes other than routine maintenance as determined necessary by the Authorized Officer in consultation with the holder. The holder will take whatever steps are necessary to ensure that the pipeline route is not used as a roadway.

15. Any cultural and/or paleontological resource (historic or prehistoric site or object) discovered by the holder, or any person working on his behalf, on public or Federal land shall be immediately reported to the authorized officer. Holder shall suspend all operations in the immediate area of such discovery until written authorization to proceed is issued by the authorized officer. An evaluation of the discovery will be made by the authorized officer to determine appropriate cultural or scientific values. The holder will be responsible for the cost of evaluation and any decision as to proper mitigation

measures will be made by the authorized officer after consulting with the holder.

16. 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, powerline 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.

17. Surface pipelines must be less than or equal to 4 inches and a working pressure below 125 psi.

STANDARD STIPULATIONS FOR OVERHEAD ELECTRIC DISTRIBUTION LINES

A copy of the grant and attachments, including stipulations, survey plat and/or map, will be on location during construction. BLM personnel may request to you a copy of your permit during construction to ensure compliance with all stipulations.

Holder agrees to comply with the following stipulations to the satisfaction of the Authorized Officer:

1. The holder shall indemnify the United States against any liability for damage to life or property arising from the occupancy or use of public lands under this grant.

2. The holder shall comply with all applicable Federal laws and regulations existing or hereafter enacted or promulgated. In any event, the holder shall comply with the Toxic Substances Control Act of 1976 as amended, 15 USC 2601 et seq. (1982) with regards 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, 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 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, 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), or resulting from the activity of the Right-of-Way holder 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. There will be no clearing or blading of the right-of-way unless otherwise agreed to in writing by the Authorized Officer.

5. Power lines shall be constructed and designed in accordance to standards outlined in "Suggested Practices for Avian Protection on Power lines: The State of the Art in 2006" Edison Electric Institute, APLIC, and the California Energy Commission 2006 . The holder shall assume the burden and expense of proving that pole designs not shown in the above publication deter raptor perching, roosting, and nesting. Such proof shall be provided by a raptor expert approved by the Authorized Officer. The BLM reserves the right to require modification or additions to all powerline structures placed on this right-of-way, should they be necessary to ensure the safety of large perching birds. Such modifications and/or additions shall be made by the holder without liability or expense to the United States.

Raptor deterrence will consist of but not limited to the following: triangle perch discouragers shall be placed on each side of the cross arms and a nonconductive perching deterrence shall be placed on all vertical poles that extend past the cross arms.

6. The holder shall minimize disturbance to existing fences and other improvements on public lands. The holder is required to promptly repair improvements to at least their former state. Functional use of these improvements will be maintained at all times. The holder will contact the owner of any improvements prior to disturbing them. When necessary to pass through a fence line, the fence shall be braced on both sides of the passageway prior to cutting the fence. No permanent gates will be allowed unless approved by the Authorized Officer.

7. The BLM serial number assigned to this authorization shall be posted in a permanent, conspicuous manner where the power line crosses roads and at all serviced facilities. Numbers will be at least two inches high and will be affixed to the pole nearest the road crossing and at the facilities served.

8. Upon cancellation, relinquishment, or expiration of this grant, the holder shall comply with those abandonment procedures as prescribed by the Authorized Officer.

9. All surface structures (poles, lines, transformers, etc.) shall be removed within 180 days of abandonment, relinquishment, or termination of use of the serviced facility or facilities or within 180 days of abandonment, relinquishment, cancellation, or expiration of this grant, whichever comes first. This will not apply where the power line extends service to an active, adjoining facility or facilities.

10. Any cultural and/or paleontological resource (historic or prehistoric site or object) discovered by the holder, or any person working on his behalf, on public or Federal land shall be immediately reported to the Authorized Officer. Holder shall suspend all operations in the immediate area of such discovery until written authorization to proceed

is issued by the Authorized Officer. An evaluation of the discovery will be made by the Authorized Officer to determine appropriate actions to prevent the loss of significant cultural or scientific values. The holder will be responsible for the cost of evaluation and any decision as to proper mitigation measures will be made by the Authorized Officer after consulting with the holder.

11. Special Stipulations:
    - For reclamation remove poles, lines, transformer, etc. and dispose of properly.
    - Fill in any holes from the poles removed.

VIII. INTERIM RECLAMATION

During the life of the development, all disturbed areas not needed for active support of production operations should undergo interim reclamation in order to minimize the environmental impacts of development on other resources and uses.

Within six (6) months of well completion, operators should work with BLM surface management specialists (Jim Amos: 575-234-5909) to devise the best strategies to reduce the size of the location. Interim reclamation should allow for remedial well operations, as well as safe and efficient removal of oil and gas.

During reclamation, the removal of caliche is important to increasing the success of revegetating the site. Removed caliche that is free of contaminants may be used for road repairs, fire walls or for building other roads and locations. In order to operate the well or complete workover operations, it may be necessary to drive, park and operate on restored interim vegetation within the previously disturbed area. Disturbing revegetated areas for production or workover operations will be allowed. If there is significant disturbance and loss of vegetation, the area will need to be revegetated. Communicate with the appropriate BLM office for any exceptions/exemptions if needed.

All disturbed areas after they have been satisfactorily prepared need to be reseeded with the seed mixture provided below.

Upon completion of interim reclamation, the operator shall submit a Sundry Notices and Reports on Wells, Subsequent Report of Reclamation (Form 3160-5).

X. FINAL ABANDONMENT & RECLAMATION

At final abandonment, well locations, production facilities, and access roads must undergo "final" reclamation so that the character and productivity of the land are restored.

Earthwork for final reclamation must be completed within six (6) months of well plugging. All pads, pits, facility locations and roads must be reclaimed to a satisfactory revegetated, safe, and stable condition, unless an agreement is made with the landowner or BLM to keep the road and/or pad intact.

After all disturbed areas have been satisfactorily prepared, these areas need to be revegetated with the seed mixture provided below. Seeding should be accomplished by drilling on the contour whenever practical or by other approved methods. Seeding may need to be repeated until revegetation is successful, as determined by the BLM.

Operators shall contact a BLM surface protection specialist prior to surface abandonment operations for site specific objectives (Jim Amos: 575-234-5909).

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 ground level on a plate containing the pertinent information for the plugged well.

Seed Mixture 2, for Sandy Sites

The holder shall seed all disturbed areas with the seed mixture listed below. The seed mixture shall be planted in the amounts specified in pounds of pure live seed (PLS)* per acre. There shall be no primary or secondary noxious weeds in the seed mixture. Seed will be tested and the viability testing of seed will be done in accordance with State law (s) and within nine (9) months prior to purchase. Commercial seed will be either certified or registered seed. The seed container will be tagged in accordance with State law(s) and available for inspection by the authorized officer.

Seed will be planted using a drill equipped with a depth regulator to ensure proper depth of planting where drilling is possible. The seed mixture will be evenly and uniformly planted over the disturbed area (smaller/heavier seeds have a tendency to drop 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 will be broadcast and the area shall be raked or chained to cover the seed. When broadcasting the seed, the pounds per acre are to be doubled. 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 at least one full growing season after seeding.

Species to be planted in pounds of pure live seed* per acre:

Species	lb/acre
Sand dropseed (Sporobolus cryptandrus)	1.0
Sand love grass (Eragrostis trichodes)	1.0
Plains bristlegrass (Setaria macrostachya)	2.0

*Pounds of pure live seed:
Pounds of seed **x** percent purity **x** percent germination = pounds pure live seed

PECOS DISTRICT
SURFACE USE
CONDITIONS OF APPROVAL

OPERATOR'S NAME:	LEGACY RESERVES OPERATING
LEASE NO.:	NMNM0001747
WELL NAME & NO.:	41H –LEA UNIT
SURFACE HOLE FOOTAGE:	2270'/S & 1580'/w
BOTTOM HOLE FOOTAGE	330'/N & 2210'/W
LOCATION:	Section 24.,T20S., R.34E., NMP
COUNTY:	Lea County, New Mexico

TABLE OF CONTENTS

Standard Conditions of Approval (COA) apply to this APD. If any deviations to these standards exist or special COAs are required, the section with the deviation or requirement will be checked below.

I. GENERAL PROVISIONS

The approval of the Application For Permit To Drill (APD) is in compliance with all applicable laws and regulations: 43 Code of Federal Regulations 3160, the lease terms, Onshore Oil and Gas Orders, Notices To Lessees, New Mexico Oil Conservation Division (NMOCD) Rules, National Historical Preservation Act As Amended, and instructions and orders of the Authorized Officer. Any request for a variance shall be submitted to the Authorized Officer on Form 3160-5, Sundry Notices and Report on Wells.

II. PERMIT EXPIRATION

If the permit terminates prior to drilling and drilling cannot be commenced within 60 days after expiration, an operator is required to submit Form 3160-5, Sundry Notices and Reports on Wells, requesting surface reclamation requirements for any surface disturbance. However, if the operator will be able to initiate drilling within 60 days after the expiration of the permit, the operator must have set the conductor pipe in order to allow for an extension of 60 days beyond the expiration date of the APD. (Filing of a Sundry Notice is required for this 60 day extension.)

III. 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 of 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 for 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.

IV. 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.

V. SPECIAL REQUIREMENT(S)

Unit Wells: The well sign for a unit well shall include the unit number in addition to the surface and bottom hole lease numbers. This also applies to participating area numbers. If a participating area has not been established, the operator can use the general unit designation, but will replace the unit number with the participating area number when the sign is replaced.

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 except between 3:00 am and 9:00 am. 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 ground level on a plate containing the pertinent information for the plugged well. For more installation details, contact the Carlsbad Field Office at 575-234-5972.

This authorization is subject to your Certificate of Participation and/or Certificate of Inclusion under the New Mexico Candidate Conservation Agreement. Because it involves surface disturbing activities covered under your Certificate, your Habitat Conservation Fund Account with the Center of Excellence for Hazardous Materials Management (CEHMM) will be debited according to Exhibit B Part 2 of the Certificate of Participation.

Power lines shall be constructed and designed in accordance to standards outlined in "Suggested Practices for Avian Protection on Power lines: The State of the Art in 2006" Edison Electric Institute, APLIC, and the California Energy Commission 2006. The holder shall assume the burden and expense of proving that pole designs not shown in the above publication deter raptor perching, roosting, and nesting. Such proof shall be provided by a raptor expert approved by the Authorized Officer. The BLM reserves the right to require modification or additions to all power line structures placed on this right-of-way, should they be necessary to ensure the safety of large perching birds. The holder without liability or expense shall make such modifications and/or additions to the United States.

VI. 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.

When construction operations are being conducted on this well, the operator shall have the approved APD and Conditions of Approval (COA) on the well site and they shall be made available upon request by the Authorized Officer.

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 be 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.

C. CLOSED LOOP SYSTEM

Tanks are required for drilling operations: No Pits.

The operator shall properly dispose of drilling contents at an authorized disposal site.

D. 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.

E. WELL PAD SURFACING

Surfacing of the well pad is not 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.

F. EXCLOSURE FENCING (CELLARS & PITS)

Exclosure Fencing
The operator will install and maintain exclosure 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 exclosure fencing design, refer to BLM's Oil and Gas Gold Book, Exclosure Fence Illustrations, Figure 1, Page 18.)

G. ON LEASE ACCESS ROADS

Road Width
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.

Surfacing
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.

Where possible, no improvements should be made on the unsurfaced access road other than to remove vegetation as necessary, road irregularities, safety issues, or to fill low areas that may sustain standing water.

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 event the road deteriorates, erodes, road traffic increases, 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.

Crowning
Crowning shall be done on the access road driving surface. The road crown shall have a grade of approximately 2% (i.e., a 1" crown on a 14' wide road). The road shall conform to Figure 1; cross section and plans for typical road construction.

Ditching
Ditching shall be required on both sides of the road.

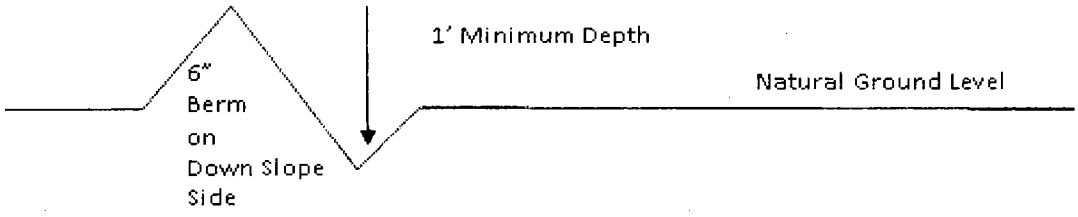
Turnouts
Vehicle turnouts shall be constructed on the road. Turnouts shall be intervisible with interval spacing distance less than 1000 feet. Turnouts shall conform to Figure 1; cross section and plans for typical road construction.

Drainage

Drainage control systems shall be constructed on the entire length of road (e.g. ditches, sidehill outsloping and insloping, lead-off ditches, culvert installation, and low water crossings).

A typical lead-off ditch has a minimum depth of 1 foot below and a berm of 6 inches above natural ground level. The berm shall be on the down-slope side of the lead-off ditch.

Cross Section of a Typical 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 and 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 %);

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 interval shall be determined by the following formula:

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

Cattle guards

An appropriately sized cattle guard sufficient to carry out the project shall be installed and maintained at fence/road crossings. Any existing cattle guards on the access road route 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 guards that are in place and are utilized during lease operations.

Fence Requirement

Where entry is granted 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 fences.

Public Access

Public access on this road shall not be restricted by the operator without specific written approval granted by the Authorized Officer.

Construction Steps

1. Salvage topsoil
2. Construct road
3. Redistribute topsoil
4. Revegetate slopes

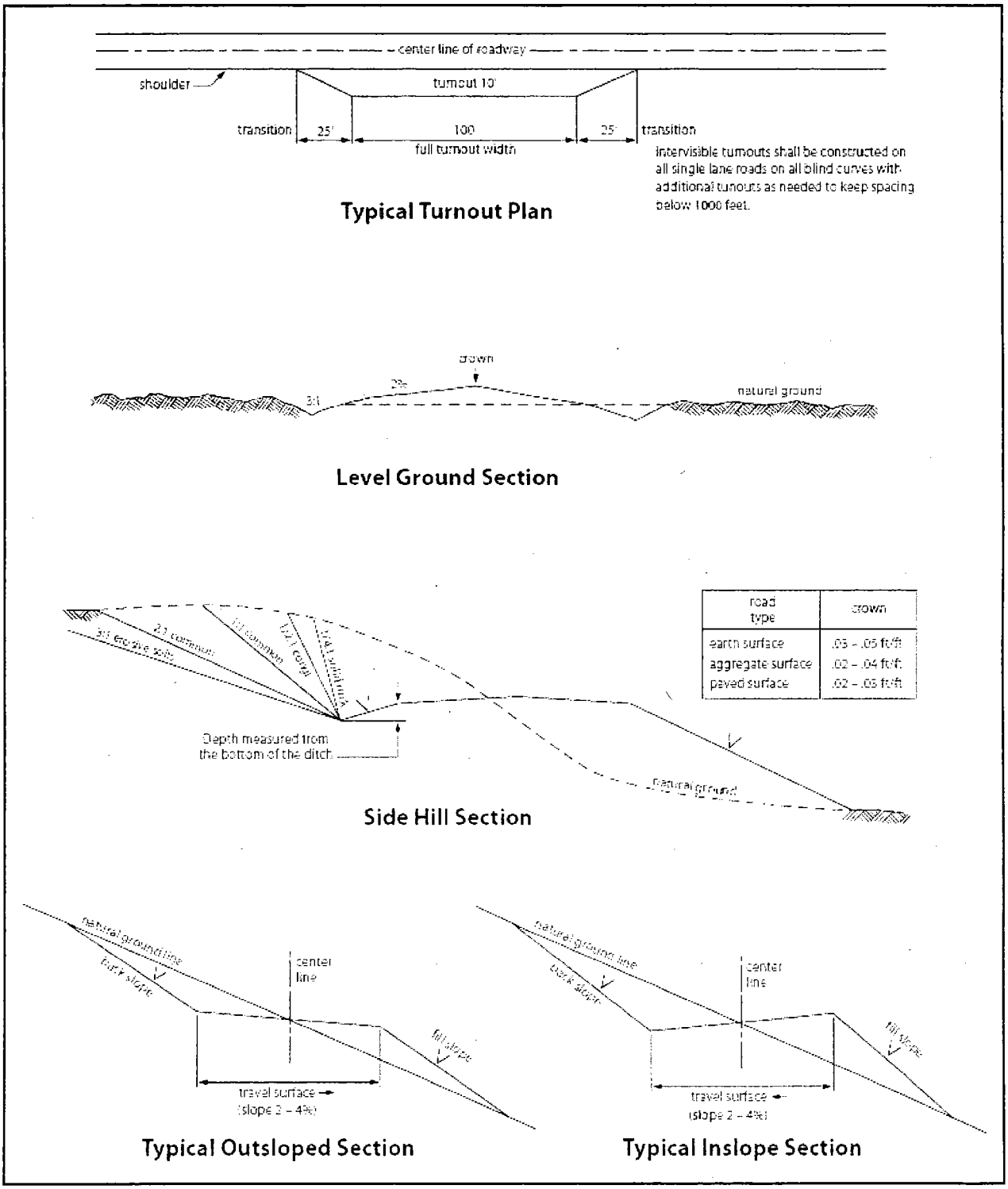


Figure 1. Cross-sections and plans for typical road sections representative of BLM resource or FS local and higher-class roads.

VII. PRODUCTION (POST DRILLING)

A. WELL STRUCTURES & FACILITIES

Placement of Production Facilities
Production facilities should be placed on the well pad to allow for maximum interim recontouring and revegetation of the well location.

Exclosure Netting (Open-top Tanks)
Immediately following active drilling or completion operations, the operator will take actions necessary to prevent wildlife and livestock access, including avian wildlife, to all open-topped tanks that contain or have the potential to contain salinity sufficient to cause harm to wildlife or livestock, hydrocarbons, or Resource Conservation and Recovery Act of 1976-exempt hazardous substances. At a minimum, the operator will net, screen, or cover open-topped tanks to exclude wildlife and livestock and prevent mortality. If the operator uses netting, the operator will cover and secure the open portion of the tank to prevent wildlife entry. The operator will net, screen, or cover the tanks until the operator removes the tanks from the location or the tanks no longer contain substances that could be harmful to wildlife or livestock. Use a maximum netting mesh size of 1 ½ inches. The netting must not be in contact with fluids and must not have holes or gaps.

Chemical and Fuel Secondary Containment and Exclosure Screening
The operator will prevent all hazardous, poisonous, flammable, and toxic substances from coming into contact with soil and water. At a minimum, the operator will install and maintain an impervious secondary containment system for any tank or barrel containing hazardous, poisonous, flammable, or toxic substances sufficient to contain the contents of the tank or barrel and any drips, leaks, and anticipated precipitation. The operator will dispose of fluids within the containment system that do not meet applicable state or U. S. Environmental Protection Agency livestock water standards in accordance with state law; the operator must not drain the fluids to the soil or ground. The operator will design, construct, and maintain all secondary containment systems to prevent wildlife and livestock exposure to harmful substances. At a minimum, the operator will install effective wildlife and livestock exclosure systems such as fencing, netting, expanded metal mesh, lids, and grate covers. Use a maximum netting mesh size of 1 ½ inches.

Open-Vent Exhaust Stack Exclosures
The operator will construct, modify, equip, and maintain all open-vent exhaust stacks on production equipment to prevent birds and bats from entering, and to discourage perching, roosting, and nesting. (*Recommended exclosure structures on open-vent exhaust stacks are in the shape of a cone.*) Production equipment includes, but may not be limited to, tanks, heater-treaters, separators, dehydrators, flare stacks, in-line units, and compressor mufflers.

Containment Structures

Proposed production facilities such as storage tanks and other vessels will have a secondary containment structure that is constructed to hold the capacity of 1.5 times the largest tank, plus freeboard to account for precipitation, unless more stringent protective requirements are deemed necessary.

Painting Requirement
All above-ground structures including meter housing that are not subject to safety requirements shall be painted a flat non-reflective paint color, **Shale Green** from the BLM Standard Environmental Color Chart (CC-001: June 2008).

STANDARD STIPULATIONS FOR SURFACE INSTALLED PIPELINES

A copy of the application (Grant, Sundry Notice, APD) and attachments, including stipulations, survey plat and/or map, will be on location during construction. BLM personnel may request to you a copy of your permit during construction to ensure compliance with all stipulations.

Holder agrees to comply with the following stipulations to the satisfaction of the Authorized Officer:

1. The holder shall indemnify the United States against any liability for damage to life or property arising from the occupancy or use of public lands under this grant.

2. The holder shall comply with all applicable Federal laws and regulations existing or hereafter enacted or promulgated. In any event, the holder shall comply with the Toxic Substances Control Act of 1976 as amended, 15 USC 2601 et seq. (1982) with regards 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, 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 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, 42 U.S.C. 6901, et seq.) on the Right-of-Way (unless the release or threatened release is wholly unrelated to activity of the Right-of-Way holder's activity on the Right-of-Way), or resulting from the activity of the Right-of-Way holder 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 liable for damage or injury to the United States to the extent provided by 43 CFR Sec. 2883.1-4. The holder shall be held to a standard of strict liability for damage or injury to the United States resulting from pipe rupture, fire, or spills caused or substantially aggravated by any of the following within the right-of-way or permit area:

a. Activities of the holder including, but not limited to construction, operation, maintenance, and termination of the facility.
b. Activities of other parties including, but not limited to:
    (1) Land clearing.
    (2) Earth-disturbing and earth-moving work.
    (3) Blasting.
    (4) Vandalism and sabotage.
c. Acts of God.

The maximum limitation for such strict liability damages shall not exceed one million dollars ($1,000,000) for any one event, and any liability in excess of such amount shall be determined by the ordinary rules of negligence of the jurisdiction in which the damage or injury occurred.

This section shall not impose strict liability for damage or injury resulting primarily from an act of war or from the negligent acts or omissions of the United States.

5. If, during any phase of the construction, operation, maintenance, or termination of the pipeline, any oil, salt water, or other pollutant should be discharged from the pipeline system, impacting Federal lands, the control and total removal, disposal, and cleaning up of such oil, salt water, or other pollutant, wherever found, shall be the responsibility of the holder, regardless of fault. Upon failure of the holder to control, dispose of, or clean up such discharge on or affecting Federal lands, or to repair all damages resulting therefrom, on the Federal lands, the Authorized Officer may take such measures as he deems necessary to control and clean up the discharge and restore the area, including, where appropriate, the aquatic environment and fish and wildlife habitats, at the full expense of the holder. Such action by the Authorized Officer shall not relieve the holder of any responsibility as provided herein.

6. All construction and maintenance activity will be confined to the authorized right-of-way width of **20** feet. If the pipeline route follows an existing road or buried pipeline right-of-way, the surface pipeline must be installed no farther than 10 feet from the edge of the road or buried pipeline right-of-way. If existing surface pipelines prevent this distance, the proposed surface pipeline must be installed immediately adjacent to the outer surface pipeline. All construction and maintenance activity will be confined to existing roads or right-of-ways.

7. No blading or clearing of any vegetation will be allowed unless approved in writing by the Authorized Officer.

8. The holder shall install the pipeline on the surface in such a manner that will minimize suspension of the pipeline across low areas in the terrain. In hummocky of duney areas, the pipeline will be "snaked" around hummocks and dunes rather then suspended across these features.

9. The pipeline shall be buried with a minimum of **24** inches under all roads, "two-tracks," and trails. Burial of the pipe will continue for 20 feet on each side of each crossing. The condition of the road, upon completion of construction, shall be returned to at least its former state with no bumps or dips remaining in the road surface.

10. The holder shall minimize disturbance to existing fences and other improvements on public lands. The holder is required to promptly repair improvements to at least their former state. Functional use of these improvements will be maintained at all times. The holder will contact the owner of any improvements prior to disturbing them. When necessary to pass through a fence line, the fence shall be braced on both sides of the passageway prior to cutting of the fence. No permanent gates will be allowed unless approved by the Authorized Officer.

11. In those areas where erosion control structures are required to stabilize soil conditions, the holder will install such structures as are suitable for the specific soil conditions being encountered and which are in accordance with sound resource management practices.

12. Excluding the pipe, all above-ground structures not subject to safety requirement shall be painted by the holder to blend with the natural color of the landscape. The paint used shall be a color which simulates "Standard Environmental Colors" – **Shale Green**, Munsell Soil Color No. 5Y 4/2; designated by the Rocky Mountain Five State Interagency Committee.

13. The pipeline will be identified by signs at the point of origin and completion of the right-of-way and at all road crossings. At a minimum, signs will state the holder's name, BLM serial number, and the product being transported. Signs will be maintained in a legible condition for the life of the pipeline.

14. The holder shall not use the pipeline route as a road for purposes other than routine maintenance as determined necessary by the Authorized Officer in consultation with the holder. The holder will take whatever steps are necessary to ensure that the pipeline route is not used as a roadway.

15. Any cultural and/or paleontological resource (historic or prehistoric site or object) discovered by the holder, or any person working on his behalf, on public or Federal land shall be immediately reported to the authorized officer. Holder shall suspend all operations in the immediate area of such discovery until written authorization to proceed is issued by the authorized officer. An evaluation of the discovery will be made by the authorized officer to determine appropriate cultural or scientific values. The holder will be responsible for the cost of evaluation and any decision as to proper mitigation

measures will be made by the authorized officer after consulting with the holder.

16. 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, powerline 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.

17. Surface pipelines must be less than or equal to 4 inches and a working pressure below 125 psi.

STANDARD STIPULATIONS FOR OVERHEAD ELECTRIC DISTRIBUTION LINES

A copy of the grant and attachments, including stipulations, survey plat and/or map, will be on location during construction. BLM personnel may request to you a copy of your permit during construction to ensure compliance with all stipulations.

Holder agrees to comply with the following stipulations to the satisfaction of the Authorized Officer:

1. The holder shall indemnify the United States against any liability for damage to life or property arising from the occupancy or use of public lands under this grant.

2. The holder shall comply with all applicable Federal laws and regulations existing or hereafter enacted or promulgated. In any event, the holder shall comply with the Toxic Substances Control Act of 1976 as amended, 15 USC 2601 et seq. (1982) with regards 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, 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 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, 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), or resulting from the activity of the Right-of-Way holder 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. There will be no clearing or blading of the right-of-way unless otherwise agreed to in writing by the Authorized Officer.

5. Power lines shall be constructed and designed in accordance to standards outlined in "Suggested Practices for Avian Protection on Power lines: The State of the Art in 2006" Edison Electric Institute, APLIC, and the California Energy Commission 2006 . The holder shall assume the burden and expense of proving that pole designs not shown in the above publication deter raptor perching, roosting, and nesting. Such proof shall be provided by a raptor expert approved by the Authorized Officer. The BLM reserves the right to require modification or additions to all powerline structures placed on this right-of-way, should they be necessary to ensure the safety of large perching birds. Such modifications and/or additions shall be made by the holder without liability or expense to the United States.

Raptor deterrence will consist of but not limited to the following: triangle perch discouragers shall be placed on each side of the cross arms and a nonconductive perching deterrence shall be placed on all vertical poles that extend past the cross arms.

6. The holder shall minimize disturbance to existing fences and other improvements on public lands. The holder is required to promptly repair improvements to at least their former state. Functional use of these improvements will be maintained at all times. The holder will contact the owner of any improvements prior to disturbing them. When necessary to pass through a fence line, the fence shall be braced on both sides of the passageway prior to cutting the fence. No permanent gates will be allowed unless approved by the Authorized Officer.

7. The BLM serial number assigned to this authorization shall be posted in a permanent, conspicuous manner where the power line crosses roads and at all serviced facilities. Numbers will be at least two inches high and will be affixed to the pole nearest the road crossing and at the facilities served.

8. Upon cancellation, relinquishment, or expiration of this grant, the holder shall comply with those abandonment procedures as prescribed by the Authorized Officer.

9. All surface structures (poles, lines, transformers, etc.) shall be removed within 180 days of abandonment, relinquishment, or termination of use of the serviced facility or facilities or within 180 days of abandonment, relinquishment, cancellation, or expiration of this grant, whichever comes first. This will not apply where the power line extends service to an active, adjoining facility or facilities.

10. Any cultural and/or paleontological resource (historic or prehistoric site or object) discovered by the holder, or any person working on his behalf, on public or Federal land shall be immediately reported to the Authorized Officer. Holder shall suspend all operations in the immediate area of such discovery until written authorization to proceed

is issued by the Authorized Officer. An evaluation of the discovery will be made by the Authorized Officer to determine appropriate actions to prevent the loss of significant cultural or scientific values. The holder will be responsible for the cost of evaluation and any decision as to proper mitigation measures will be made by the Authorized Officer after consulting with the holder.

11. Special Stipulations:
    - For reclamation remove poles, lines, transformer, etc. and dispose of properly.
    - Fill in any holes from the poles removed.

VIII. INTERIM RECLAMATION

During the life of the development, all disturbed areas not needed for active support of production operations should undergo interim reclamation in order to minimize the environmental impacts of development on other resources and uses.

Within six (6) months of well completion, operators should work with BLM surface management specialists (Jim Amos: 575-234-5909) to devise the best strategies to reduce the size of the location. Interim reclamation should allow for remedial well operations, as well as safe and efficient removal of oil and gas.

During reclamation, the removal of caliche is important to increasing the success of revegetating the site. Removed caliche that is free of contaminants may be used for road repairs, fire walls or for building other roads and locations. In order to operate the well or complete workover operations, it may be necessary to drive, park and operate on restored interim vegetation within the previously disturbed area. Disturbing revegetated areas for production or workover operations will be allowed. If there is significant disturbance and loss of vegetation, the area will need to be revegetated. Communicate with the appropriate BLM office for any exceptions/exemptions if needed.

All disturbed areas after they have been satisfactorily prepared need to be reseeded with the seed mixture provided below.

Upon completion of interim reclamation, the operator shall submit a Sundry Notices and Reports on Wells, Subsequent Report of Reclamation (Form 3160-5).

X. FINAL ABANDONMENT & RECLAMATION

At final abandonment, well locations, production facilities, and access roads must undergo "final" reclamation so that the character and productivity of the land are restored.

Earthwork for final reclamation must be completed within six (6) months of well plugging. All pads, pits, facility locations and roads must be reclaimed to a satisfactory revegetated, safe, and stable condition, unless an agreement is made with the landowner or BLM to keep the road and/or pad intact.

After all disturbed areas have been satisfactorily prepared, these areas need to be revegetated with the seed mixture provided below. Seeding should be accomplished by drilling on the contour whenever practical or by other approved methods. Seeding may need to be repeated until revegetation is successful, as determined by the BLM.

Operators shall contact a BLM surface protection specialist prior to surface abandonment operations for site specific objectives (Jim Amos: 575-234-5909).

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 ground level on a plate containing the pertinent information for the plugged well.

Seed Mixture 2, for Sandy Sites

The holder shall seed all disturbed areas with the seed mixture listed below. The seed mixture shall be planted in the amounts specified in pounds of pure live seed (PLS)* per acre. There shall be no primary or secondary noxious weeds in the seed mixture. Seed will be tested and the viability testing of seed will be done in accordance with State law (s) and within nine (9) months prior to purchase. Commercial seed will be either certified or registered seed. The seed container will be tagged in accordance with State law(s) and available for inspection by the authorized officer.

Seed will be planted using a drill equipped with a depth regulator to ensure proper depth of planting where drilling is possible. The seed mixture will be evenly and uniformly planted over the disturbed area (smaller/heavier seeds have a tendency to drop 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 will be broadcast and the area shall be raked or chained to cover the seed. When broadcasting the seed, the pounds per acre are to be doubled. 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 at least one full growing season after seeding.

Species to be planted in pounds of pure live seed* per acre:

Species	lb/acre
Sand dropseed (Sporobolus cryptandrus)	1.0
Sand love grass (Eragrostis trichodes)	1.0
Plains bristlegrass (Setaria macrostachya)	2.0

*Pounds of pure live seed:
Pounds of seed **x** percent purity **x** percent germination = pounds pure live seed

AFMSS

U.S. Department of the Interior
BUREAU OF LAND MANAGEMENT

Operator Certification Data Report

04/23/2018

Operator Certification

I hereby certify that I, or someone under my direct supervision, have inspected the drill site and access route proposed herein; that I am familiar with the conditions which currently exist; that I have full knowledge of state and Federal laws applicable to this operation; that the statements made in this 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 in conformity with this APD package and the terms and conditions under which it is approved. I also certify that I, or the company I represent, am responsible for the operations conducted under this application. These statements are subject to the provisions of 18 U.S.C. 1001 for the filing of false statements.

NAME: Brian Wood **Signed on:** 12/15/2017

Title: President

Street Address: 37 Verano Loop

City: Santa Fe **State:** NM **Zip:** 87508

Phone: (505)466-8120

Email address: afmss@permitswest.com

Field Representative

Representative Name: Matthew Dickson

Street Address: P.O. Box 10848

City: Midland **State:** TX **Zip:** 79702

Phone: (432)689-5204

Email address:

LEGACY RESERVES OPERATING, L. P.

HYDROGEN SULFIDE (H2S) CONTINGENCY PLAN
LEA UNIT 41H
Assumed 100 ppm ROE = 3000'

100 ppm H2S concentration shall trigger activation of this plan.

This is an open drilling site. H_2S monitoring equipment and emergency response equipment will be rigged up and in use when the company drills out from under surface casing. H_2S monitors, warning signs, wind indicators and flags will be in use.

A. All personnel shall receive proper H2S training in accordance with Onshore Order 6 III.C.3.a

B. Briefing Area: Two perpendicular areas will be designated by signs and readily accessible.

C. Required Emergency Equipment:

- Well control equipment
  a. Flare line 150' from wellhead to be ignited by flare gun.
  b. Choke manifold with a remotely operated choke.
  c. Mud/Gas Separator.

- Protective Equipment for essential personnel.
  Breathing apparatus:
  a. Rescue Packs (SCBA) – 1 unit shall be placed at each briefing area. 2 units shall be stored in the safety trailer.
  b. Work/Escape packs – 4 packs shall be stored on the rig floor with sufficient air hose not to restrict work activity.
  c. Emergency Escape Packs – 4 packs shall be stored in the doghouse for emergency evacuation.

  Auxiliary Rescue Equipment:
  a. Stretcher
  b. Two OSHA full body harness
  c. 100 ft. 5/8" OSHA approved rope
  d. One 20# class ABC fire extinguisher

- H2S detection and monitoring Equipment:
  The stationary detector with three sensors will be placed in the upper doghouse, set to visually alarm @ 10 ppm and audible @ 14 ppm. Calibrate a minimum of every 30 days or as needed. The sensors will be placed in the following places: Rig floor, Bell nipple, end of flare line or where well bore fluid is being discharged (Gas sample tubes will be stored in the safety trailer).

- Visual warning systems.
  a. One color code condition sign will be placed at the entrance to the site reflecting the possible conditions at the site.
  b. A colored condition flag will be on display, reflecting the current condition, at the drilling site.
  c. Two wind socks will be placed in strategic locations being visible from all angles.

- Mud Program:
  The mud program has been designated to minimize the volume of H2S circulated to surface. The operator will have the necessary mud products to minimize hazards while drilling in H2S bearing zones.

- Metallurgy:
  a. All drill strings, casings, tubing, wellhead, blowout preventer, drilling spool, kill lines, choke manifold and lines, shall be suitable for H2S service.
  b. All elastomers used for packing and seals shall be H2S trim.

- Communication:
  Communication will be via two way radio in emergency and company vehicles. Cell phones and land lines where available.

H_2S Operations

Though no H_2S is anticipated during the drilling operation, this contingency plan will provide for methods to ensure the well is kept under control in the event an H_2S reading of 100 ppm or more are encountered. Once personnel are safe and the proper protective gear is in place and on personnel, the operator and rig crew essential personnel will ensure the well is under control, suspend drilling operations and shut-in the well (unless pressure build up or other operational situations dictate suspending operations will prevent well control), increase the mud weight and circulate all gas from the hole utilizing the mud/gas separator downstream of the choke, the choke manifold and the emergency flare system located 150' from the well. Bring the mud system into compliance and the H_2S level below 10 ppm, then notify all emergency officers that drilling ahead is practical and safe.

Proceed with drilling ahead only after all provisions of Onshore Order 6, Section III.C. have been satisfied.

Ignition of Gas source

Should control of the well be considered lost and ignition considered, take care to protect against exposure to Sulfur Dioxide (SO_2). Intentional ignition must be coordinated with the NMOCD and local officials. Additionally the NM State Police may become involved. NM State Police shall be the Incident Command on scene of any major release. Take care to protect downwind whenever this is an ignition of the gas.

Characteristics of H_2S and SO_2

Common Name	Chemical Formula	Specific Gravity	Threshold Limit	Hazardous Limit	Lethal Concentration
Hydrogen Sulfide	H_2S	1.189 Air = I	10 ppm	100 ppm/hr	600 ppm
Sulfur Dioxide	SO_2	2.21 Air = I	2 ppm	N/A	1000 ppm

Contacting Authorities

Legacy Reserves Operating's personnel must liaison with local and state agencies to ensure a proper response to a major release. Additionally, the OCD must be notified of the release as soon as possible but no later than 4 hours. Agencies will ask for information such as type and volume of release, wind direction, location of release, etc. Be prepared with all information available including directions to site. The following call list of essential and potential

responders has been prepared for use during a release. Legacy's response must be in coordination with the State of New Mexico's "Hazardous Materials Emergency Response Plan" (HMER).

Emergency Assistance Telephone List

PUBLIC SAFETY:	***911 or***
Lea County Sheriff or Police	(575) 396-3611
Fire Department	(575) 397-9308
Hospital	(575) 492-5000
Ambulance	911
Department of Public Safety	(392) 392-5588
Oil Conservation Division	(575) 748-1823
New Mexico Energy, Minerals & Natural Resources Department	(575) 748-1283

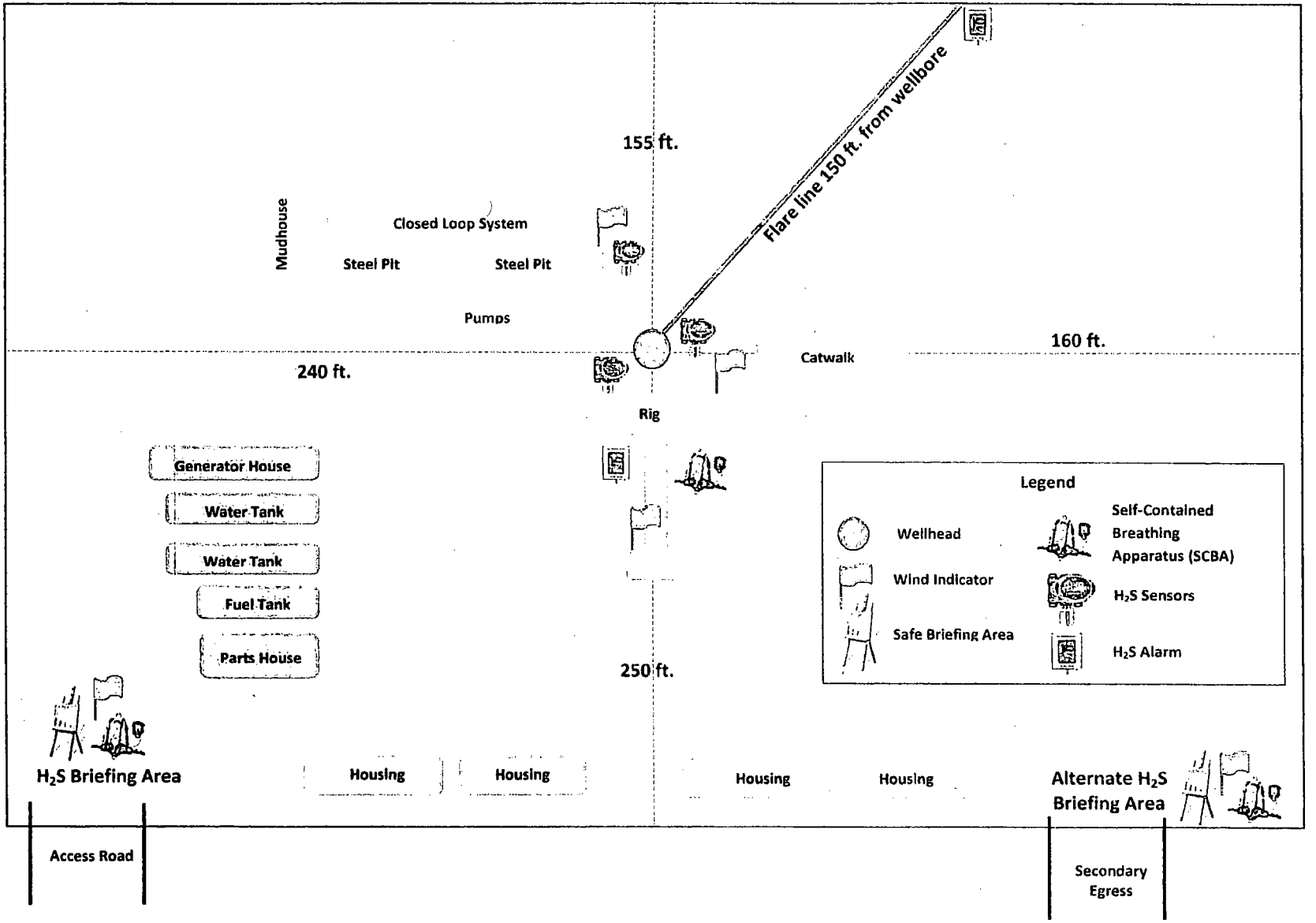
LEGACY RESERVES OPERATING LP	
Legacy Reserves Operating LP	Office (432) 689-5200
Drilling Manager: Daniel Breeding	Office (432) 689-5200 Cell (432) 853-1680
Drilling Engineer: Matthew Dickson	Office (432) 689-5200 Cell (432) 212-5698
Operations Manager: Ernie Hanson	Office (432) 689-5200 Cell (432) 230-9009
Legacy Company Representative: Rick Massey	Cell (575) 942-4035

DRILLING CONTRACTOR-McVAY 4	
Tool Pusher: Terry Johnson	Cell: (575) 370-5620
Relief Tool Pusher: Olin Vaught	Cell: (575) 631-7799
Drilling Manager: Michael McVay	Office: (575) 397-3311 Cell: (575) 602-1839

LEGACY SAFETY	***Hobbs (575) 393-7233***
EHS Coordinator:Field Operations Manager: Randy Williams	Office: (432) 689-5200 Cell: (432) 260-5566
Field Safety Technician: Randy Turner	Office: (432) 689-5200 Cell: (432) 536-6473

Evacuee Description:
Residents: THERE ARE NO RESIDENTS WITHIN 3000' ROE.

H2S Briefing Areas and Alarm Locations



LEGACY
RESERVES

Legacy Reserves
Project: Lea County, NM (NAD-27 2015)
Site: Lea Unit #41H
Well: Lea Unit #41H
Wellbore: Lateral #1
Plan: Design #2 (Lea Unit #41H/Lateral #1)

Section Details

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSect	Target
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
2	9227.04	0.00	0.00	9227.04	0.00	0.00	0.00	0.00	0.00	
3	10127.04	90.00	4.09	9800.00	571.50	40.87	10.00	4.09	572.96	
4	17531.60	90.00	4.09	9800.00	7957.20	569.00	0.00	0.00	7977.52	BHL-D2 (LU#41H/L1)

WELL DETAILS: Lea Unit #41H

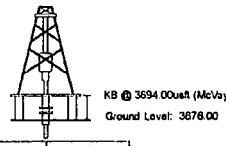
Ground Elevation:: 3676.00
RKB Elevation: KB @ 3694.00usft (McVay 4)
Rig Name: McVay 4

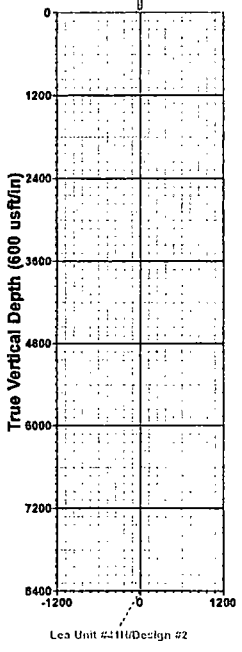
Northing	Easting	Latitude	Longitude
567485.60	761608.90	32° 33' 26.902 N	103° 31' 0.166 W

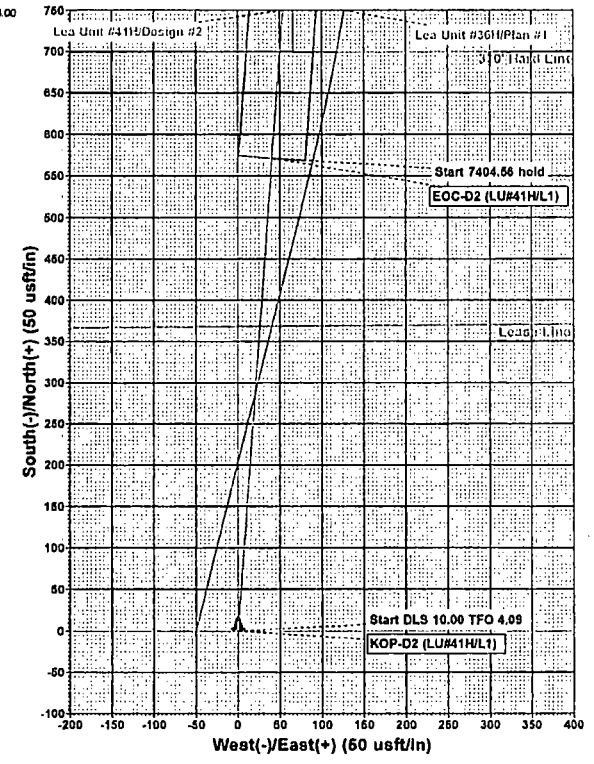
G T M

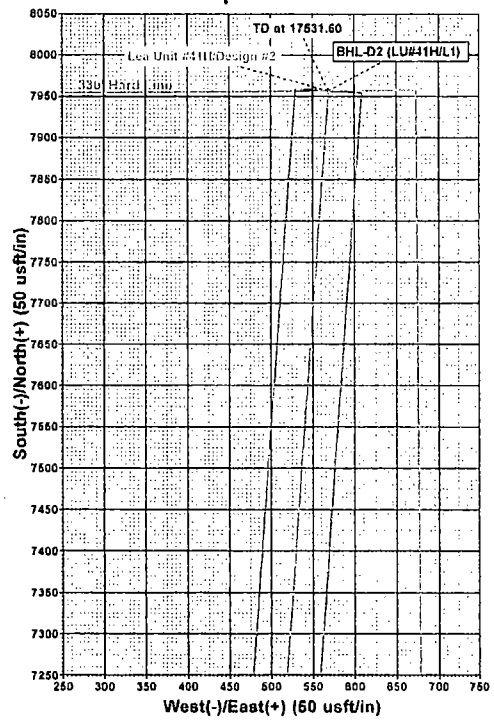
Azimuths to Grid North
True North: -0.44°
Magnetic North: 6.72°

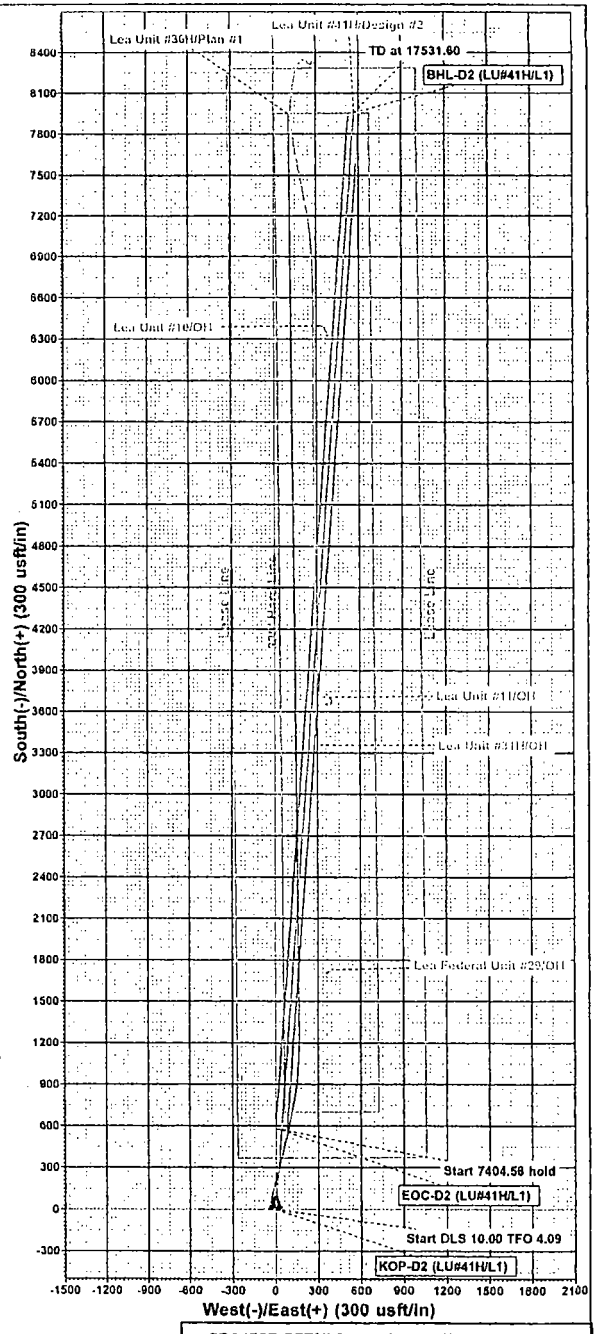
Magnetic Field
Strength: 48338.8snT
Dip Angle: 60.40°
Date: 7/17/2015
Model: IGRF2015

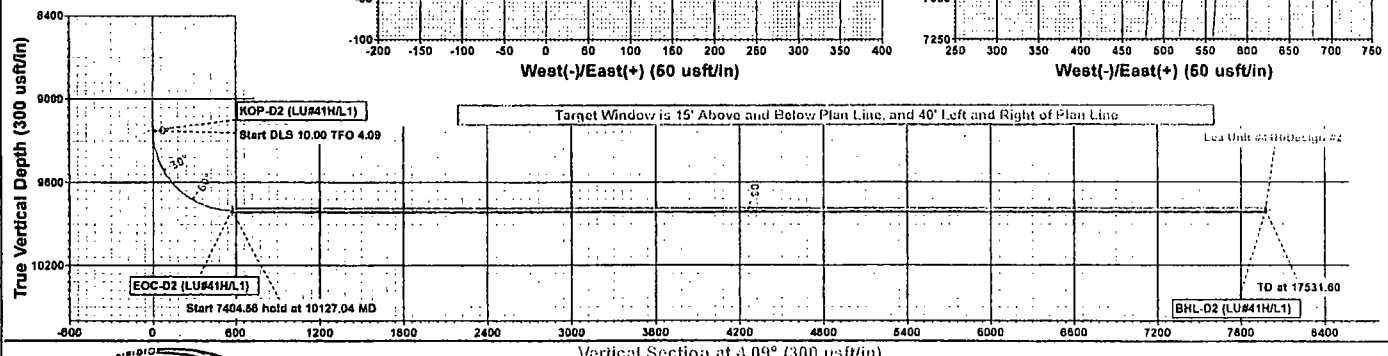












Terra Directional Services
3705 South County Road 1210, Midland, TX 79706
Office: (432) 618-1210

Plan: Design #2 (Lea Unit #41H/Lateral #1)
eated By: Well Planner Date: 9:02, December 06 2016

PROJECT DETAILS: Lea County, NM (NAD-27 2015)
Geodetic System: US State Plane 1927 (Exact solution)
Datum: NAD 1927 (NADCON CONUS)
Ellipsoid: Clarke 1866
Zone: New Mexico East 3001
System Datum: Mean Sea Level
Local North: Grid

Legacy Reserves

Lea County, NM (NAD-27 2015)
Lea Unit #41H
Lea Unit #41H

Lateral #1

Plan: Design #2

Standard Planning Report

06 December, 2016

TERRA DIRECTIONAL SERVICES, L.L.C.

Database:	EDM 5000.1 Single User Db	**Local Co-ordinate Reference:**	Well Lea Unit #41H
Company:	Legacy Reserves	**TVD Reference:**	KB @ 3694.00usft (McVay 4)
Project:	Lea County, NM (NAD-27 2015)	**MD Reference:**	KB @ 3694.00usft (McVay 4)
Site:	Lea Unit #41H	**North Reference:**	Grid
Well:	Lea Unit #41H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Lateral #1		
Design:	Design #2		

Project	Lea County, NM (NAD-27 2015)		
Map System:	US State Plane 1927 (Exact solution)	**System Datum:**	Mean Sea Level
Geo Datum:	NAD 1927 (NADCON CONUS)		
Map Zone:	New Mexico East 3001		

Site	Lea Unit #41H				
Site Position:		**Northing:**	567,485.60 usft	**Latitude:**	32° 33' 26.902 N
From:	Map	**Easting:**	751,608.90 usft	**Longitude:**	103° 31' 0.156 W
Position Uncertainty:	0.00 usft	**Slot Radius:**	13.20 in	**Grid Convergence:**	0.44 °

Well	Lea Unit #41H					
Well Position	**+N/-S**	0.00 usft	**Northing:**	567,485.60 usft	**Latitude:**	32° 33' 26.902 N
	+E/-W	0.00 usft	**Easting:**	751,608.90 usft	**Longitude:**	103° 31' 0.156 W
Position Uncertainty		0.00 usft	**Wellhead Elevation:**	0.00 usft	**Ground Level:**	3,676.00 usft

Wellbore	Lateral #1				
Magnetics	**Model Name**	**Sample Date**	**Declination (°)**	**Dip Angle (°)**	**Field Strength (nT)**
	IGRF2015	7/17/2015	7.16	60.40	48,339

Design	Design #2				
Audit Notes:					
Version:		**Phase:**	PLAN	**Tie On Depth:**	0.00
Vertical Section:	**Depth From (TVD) (usft)**	**+N/-S (usft)**	**+E/-W (usft)**	**Direction (°)**	
	0.00	0.00	0.00	4.09	

Plan Sections

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	TFO (°)	Target
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
9,227.04	0.00	0.00	9,227.04	0.00	0.00	0.00	0.00	0.00	0.00	
10,127.04	90.00	4.09	9,800.00	571.50	40.87	10.00	10.00	0.45	4.09	
17,531.60	90.00	4.09	9,800.00	7,957.20	569.00	0.00	0.00	0.00	0.00	BHL-D2 (LU#41H/L1)

Database:	EDM 5000.1 Single User Db	**Local Co-ordinate Reference:**	Well Lea Unit #41H
Company:	Legacy Reserves	**TVD Reference:**	KB @ 3694.00usft (McVay 4)
Project:	Lea County, NM (NAD-27 2015)	**MD Reference:**	KB @ 3694.00usft (McVay 4)
Site:	Lea Unit #41H	**North Reference:**	Grid
Well:	Lea Unit #41H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Lateral #1		
Design:	Design #2		

Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
100.00	0.00	0.00	100.00	0.00	0.00	0.00	0.00	0.00	0.00
200.00	0.00	0.00	200.00	0.00	0.00	0.00	0.00	0.00	0.00
300.00	0.00	0.00	300.00	0.00	0.00	0.00	0.00	0.00	0.00
400.00	0.00	0.00	400.00	0.00	0.00	0.00	0.00	0.00	0.00
500.00	0.00	0.00	500.00	0.00	0.00	0.00	0.00	0.00	0.00
600.00	0.00	0.00	600.00	0.00	0.00	0.00	0.00	0.00	0.00
700.00	0.00	0.00	700.00	0.00	0.00	0.00	0.00	0.00	0.00
800.00	0.00	0.00	800.00	0.00	0.00	0.00	0.00	0.00	0.00
900.00	0.00	0.00	900.00	0.00	0.00	0.00	0.00	0.00	0.00
1,000.00	0.00	0.00	1,000.00	0.00	0.00	0.00	0.00	0.00	0.00
1,100.00	0.00	0.00	1,100.00	0.00	0.00	0.00	0.00	0.00	0.00
1,200.00	0.00	0.00	1,200.00	0.00	0.00	0.00	0.00	0.00	0.00
1,300.00	0.00	0.00	1,300.00	0.00	0.00	0.00	0.00	0.00	0.00
1,400.00	0.00	0.00	1,400.00	0.00	0.00	0.00	0.00	0.00	0.00
1,500.00	0.00	0.00	1,500.00	0.00	0.00	0.00	0.00	0.00	0.00
1,600.00	0.00	0.00	1,600.00	0.00	0.00	0.00	0.00	0.00	0.00
1,700.00	0.00	0.00	1,700.00	0.00	0.00	0.00	0.00	0.00	0.00
1,800.00	0.00	0.00	1,800.00	0.00	0.00	0.00	0.00	0.00	0.00
1,900.00	0.00	0.00	1,900.00	0.00	0.00	0.00	0.00	0.00	0.00
2,000.00	0.00	0.00	2,000.00	0.00	0.00	0.00	0.00	0.00	0.00
2,100.00	0.00	0.00	2,100.00	0.00	0.00	0.00	0.00	0.00	0.00
2,200.00	0.00	0.00	2,200.00	0.00	0.00	0.00	0.00	0.00	0.00
2,300.00	0.00	0.00	2,300.00	0.00	0.00	0.00	0.00	0.00	0.00
2,400.00	0.00	0.00	2,400.00	0.00	0.00	0.00	0.00	0.00	0.00
2,500.00	0.00	0.00	2,500.00	0.00	0.00	0.00	0.00	0.00	0.00
2,600.00	0.00	0.00	2,600.00	0.00	0.00	0.00	0.00	0.00	0.00
2,700.00	0.00	0.00	2,700.00	0.00	0.00	0.00	0.00	0.00	0.00
2,800.00	0.00	0.00	2,800.00	0.00	0.00	0.00	0.00	0.00	0.00
2,900.00	0.00	0.00	2,900.00	0.00	0.00	0.00	0.00	0.00	0.00
3,000.00	0.00	0.00	3,000.00	0.00	0.00	0.00	0.00	0.00	0.00
3,100.00	0.00	0.00	3,100.00	0.00	0.00	0.00	0.00	0.00	0.00
3,200.00	0.00	0.00	3,200.00	0.00	0.00	0.00	0.00	0.00	0.00
3,300.00	0.00	0.00	3,300.00	0.00	0.00	0.00	0.00	0.00	0.00
3,400.00	0.00	0.00	3,400.00	0.00	0.00	0.00	0.00	0.00	0.00
3,500.00	0.00	0.00	3,500.00	0.00	0.00	0.00	0.00	0.00	0.00
3,600.00	0.00	0.00	3,600.00	0.00	0.00	0.00	0.00	0.00	0.00
3,700.00	0.00	0.00	3,700.00	0.00	0.00	0.00	0.00	0.00	0.00
3,800.00	0.00	0.00	3,800.00	0.00	0.00	0.00	0.00	0.00	0.00
3,900.00	0.00	0.00	3,900.00	0.00	0.00	0.00	0.00	0.00	0.00
4,000.00	0.00	0.00	4,000.00	0.00	0.00	0.00	0.00	0.00	0.00
4,100.00	0.00	0.00	4,100.00	0.00	0.00	0.00	0.00	0.00	0.00
4,200.00	0.00	0.00	4,200.00	0.00	0.00	0.00	0.00	0.00	0.00
4,300.00	0.00	0.00	4,300.00	0.00	0.00	0.00	0.00	0.00	0.00
4,400.00	0.00	0.00	4,400.00	0.00	0.00	0.00	0.00	0.00	0.00
4,500.00	0.00	0.00	4,500.00	0.00	0.00	0.00	0.00	0.00	0.00
4,600.00	0.00	0.00	4,600.00	0.00	0.00	0.00	0.00	0.00	0.00
4,700.00	0.00	0.00	4,700.00	0.00	0.00	0.00	0.00	0.00	0.00
4,800.00	0.00	0.00	4,800.00	0.00	0.00	0.00	0.00	0.00	0.00
4,900.00	0.00	0.00	4,900.00	0.00	0.00	0.00	0.00	0.00	0.00
5,000.00	0.00	0.00	5,000.00	0.00	0.00	0.00	0.00	0.00	0.00
5,100.00	0.00	0.00	5,100.00	0.00	0.00	0.00	0.00	0.00	0.00
5,200.00	0.00	0.00	5,200.00	0.00	0.00	0.00	0.00	0.00	0.00
5,300.00	0.00	0.00	5,300.00	0.00	0.00	0.00	0.00	0.00	0.00

Database:	EDM 5000.1 Single User Db	**Local Co-ordinate Reference:**	Well Lea Unit #41H
Company:	Legacy Reserves	**TVD Reference:**	KB @ 3694.00usft (McVay 4)
Project:	Lea County, NM (NAD-27 2015)	**MD Reference:**	KB @ 3694.00usft (McVay 4)
Site:	Lea Unit #41H	**North Reference:**	Grid
Well:	Lea Unit #41H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Lateral #1		
Design:	Design #2		

Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
5,400.00	0.00	0.00	5,400.00	0.00	0.00	0.00	0.00	0.00	0.00
5,500.00	0.00	0.00	5,500.00	0.00	0.00	0.00	0.00	0.00	0.00
5,600.00	0.00	0.00	5,600.00	0.00	0.00	0.00	0.00	0.00	0.00
5,700.00	0.00	0.00	5,700.00	0.00	0.00	0.00	0.00	0.00	0.00
5,800.00	0.00	0.00	5,800.00	0.00	0.00	0.00	0.00	0.00	0.00
5,900.00	0.00	0.00	5,900.00	0.00	0.00	0.00	0.00	0.00	0.00
6,000.00	0.00	0.00	6,000.00	0.00	0.00	0.00	0.00	0.00	0.00
6,100.00	0.00	0.00	6,100.00	0.00	0.00	0.00	0.00	0.00	0.00
6,200.00	0.00	0.00	6,200.00	0.00	0.00	0.00	0.00	0.00	0.00
6,300.00	0.00	0.00	6,300.00	0.00	0.00	0.00	0.00	0.00	0.00
6,400.00	0.00	0.00	6,400.00	0.00	0.00	0.00	0.00	0.00	0.00
6,500.00	0.00	0.00	6,500.00	0.00	0.00	0.00	0.00	0.00	0.00
6,600.00	0.00	0.00	6,600.00	0.00	0.00	0.00	0.00	0.00	0.00
6,700.00	0.00	0.00	6,700.00	0.00	0.00	0.00	0.00	0.00	0.00
6,800.00	0.00	0.00	6,800.00	0.00	0.00	0.00	0.00	0.00	0.00
6,900.00	0.00	0.00	6,900.00	0.00	0.00	0.00	0.00	0.00	0.00
7,000.00	0.00	0.00	7,000.00	0.00	0.00	0.00	0.00	0.00	0.00
7,100.00	0.00	0.00	7,100.00	0.00	0.00	0.00	0.00	0.00	0.00
7,200.00	0.00	0.00	7,200.00	0.00	0.00	0.00	0.00	0.00	0.00
7,300.00	0.00	0.00	7,300.00	0.00	0.00	0.00	0.00	0.00	0.00
7,400.00	0.00	0.00	7,400.00	0.00	0.00	0.00	0.00	0.00	0.00
7,500.00	0.00	0.00	7,500.00	0.00	0.00	0.00	0.00	0.00	0.00
7,600.00	0.00	0.00	7,600.00	0.00	0.00	0.00	0.00	0.00	0.00
7,700.00	0.00	0.00	7,700.00	0.00	0.00	0.00	0.00	0.00	0.00
7,800.00	0.00	0.00	7,800.00	0.00	0.00	0.00	0.00	0.00	0.00
7,900.00	0.00	0.00	7,900.00	0.00	0.00	0.00	0.00	0.00	0.00
8,000.00	0.00	0.00	8,000.00	0.00	0.00	0.00	0.00	0.00	0.00
8,100.00	0.00	0.00	8,100.00	0.00	0.00	0.00	0.00	0.00	0.00
8,200.00	0.00	0.00	8,200.00	0.00	0.00	0.00	0.00	0.00	0.00
8,300.00	0.00	0.00	8,300.00	0.00	0.00	0.00	0.00	0.00	0.00
8,400.00	0.00	0.00	8,400.00	0.00	0.00	0.00	0.00	0.00	0.00
8,500.00	0.00	0.00	8,500.00	0.00	0.00	0.00	0.00	0.00	0.00
8,600.00	0.00	0.00	8,600.00	0.00	0.00	0.00	0.00	0.00	0.00
8,700.00	0.00	0.00	8,700.00	0.00	0.00	0.00	0.00	0.00	0.00
8,800.00	0.00	0.00	8,800.00	0.00	0.00	0.00	0.00	0.00	0.00
8,900.00	0.00	0.00	8,900.00	0.00	0.00	0.00	0.00	0.00	0.00
9,000.00	0.00	0.00	9,000.00	0.00	0.00	0.00	0.00	0.00	0.00
9,100.00	0.00	0.00	9,100.00	0.00	0.00	0.00	0.00	0.00	0.00
9,200.00	0.00	0.00	9,200.00	0.00	0.00	0.00	0.00	0.00	0.00
9,227.04	0.00	0.00	9,227.04	0.00	0.00	0.00	0.00	0.00	0.00
Start DLS 10.00 TFO 4.09									
9,250.00	2.30	4.09	9,249.99	0.46	0.03	0.46	10.00	10.00	0.00
9,300.00	7.30	4.09	9,299.80	4.63	0.33	4.64	10.00	10.00	0.00
9,350.00	12.30	4.09	9,349.06	13.11	0.94	13.14	10.00	10.00	0.00
9,400.00	17.30	4.09	9,397.39	25.84	1.85	25.91	10.00	10.00	0.00
9,450.00	22.30	4.09	9,444.42	42.73	3.06	42.84	10.00	10.00	0.00
9,500.00	27.30	4.09	9,489.79	63.64	4.55	63.80	10.00	10.00	0.00
9,550.00	32.30	4.09	9,533.17	88.41	6.32	88.64	10.00	10.00	0.00
9,600.00	37.30	4.09	9,574.21	116.86	8.36	117.16	10.00	10.00	0.00
9,650.00	42.30	4.09	9,612.62	148.77	10.64	149.15	10.00	10.00	0.00
9,700.00	47.30	4.09	9,648.09	183.90	13.15	184.37	10.00	10.00	0.00
9,750.00	52.30	4.09	9,680.35	221.98	15.87	222.55	10.00	10.00	0.00
9,800.00	57.30	4.09	9,709.17	262.72	18.79	263.39	10.00	10.00	0.00

Database:	EDM 5000.1 Single User Db	**Local Co-ordinate Reference:**	Well Lea Unit #41H
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Project:	Lea County, NM (NAD-27 2015)	**MD Reference:**	KB @ 3694.00usft (McVay 4)
Site:	Lea Unit #41H	**North Reference:**	Grid
Well:	Lea Unit #41H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Lateral #1		
Design:	Design #2		

Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
9,850.00	62.30	4.09	9,734.31	305.81	21.87	306.59	10.00	10.00	0.00
9,900.00	67.30	4.09	9,755.60	350.92	25.09	351.81	10.00	10.00	0.00
9,950.00	72.30	4.09	9,772.86	397.71	28.44	398.72	10.00	10.00	0.00
10,000.00	77.30	4.09	9,785.97	445.82	31.88	446.96	10.00	10.00	0.00
10,050.00	82.30	4.09	9,794.83	494.89	35.39	496.15	10.00	10.00	0.00
10,100.00	87.30	4.09	9,799.36	544.54	38.94	545.93	10.00	10.00	0.00
10,127.04	90.00	4.09	9,800.00	571.50	40.87	572.96	10.00	10.00	0.00
Start 7404.56 hold at 10127.04 MD									
10,200.00	90.00	4.09	9,800.00	644.27	46.07	645.92	0.00	0.00	0.00
10,300.00	90.00	4.09	9,800.00	744.02	53.20	745.92	0.00	0.00	0.00
10,400.00	90.00	4.09	9,800.00	843.76	60.34	845.92	0.00	0.00	0.00
10,500.00	90.00	4.09	9,800.00	943.51	67.47	945.92	0.00	0.00	0.00
10,600.00	90.00	4.09	9,800.00	1,043.25	74.60	1,045.92	0.00	0.00	0.00
10,700.00	90.00	4.09	9,800.00	1,143.00	81.73	1,145.92	0.00	0.00	0.00
10,800.00	90.00	4.09	9,800.00	1,242.74	88.87	1,245.92	0.00	0.00	0.00
10,900.00	90.00	4.09	9,800.00	1,342.49	96.00	1,345.92	0.00	0.00	0.00
11,000.00	90.00	4.09	9,800.00	1,442.24	103.13	1,445.92	0.00	0.00	0.00
11,100.00	90.00	4.09	9,800.00	1,541.98	110.26	1,545.92	0.00	0.00	0.00
11,200.00	90.00	4.09	9,800.00	1,641.73	117.40	1,645.92	0.00	0.00	0.00
11,300.00	90.00	4.09	9,800.00	1,741.47	124.53	1,745.92	0.00	0.00	0.00
11,400.00	90.00	4.09	9,800.00	1,841.22	131.66	1,845.92	0.00	0.00	0.00
11,500.00	90.00	4.09	9,800.00	1,940.96	138.79	1,945.92	0.00	0.00	0.00
11,600.00	90.00	4.09	9,800.00	2,040.71	145.93	2,045.92	0.00	0.00	0.00
11,700.00	90.00	4.09	9,800.00	2,140.45	153.06	2,145.92	0.00	0.00	0.00
11,800.00	90.00	4.09	9,800.00	2,240.20	160.19	2,245.92	0.00	0.00	0.00
11,900.00	90.00	4.09	9,800.00	2,339.94	167.32	2,345.92	0.00	0.00	0.00
12,000.00	90.00	4.09	9,800.00	2,439.69	174.46	2,445.92	0.00	0.00	0.00
12,100.00	90.00	4.09	9,800.00	2,539.43	181.59	2,545.92	0.00	0.00	0.00
12,200.00	90.00	4.09	9,800.00	2,639.18	188.72	2,645.92	0.00	0.00	0.00
12,300.00	90.00	4.09	9,800.00	2,738.92	195.85	2,745.92	0.00	0.00	0.00
12,400.00	90.00	4.09	9,800.00	2,838.67	202.99	2,845.92	0.00	0.00	0.00
12,500.00	90.00	4.09	9,800.00	2,938.41	210.12	2,945.92	0.00	0.00	0.00
12,600.00	90.00	4.09	9,800.00	3,038.16	217.25	3,045.92	0.00	0.00	0.00
12,700.00	90.00	4.09	9,800.00	3,137.91	224.38	3,145.92	0.00	0.00	0.00
12,800.00	90.00	4.09	9,800.00	3,237.65	231.52	3,245.92	0.00	0.00	0.00
12,900.00	90.00	4.09	9,800.00	3,337.40	238.65	3,345.92	0.00	0.00	0.00
13,000.00	90.00	4.09	9,800.00	3,437.14	245.78	3,445.92	0.00	0.00	0.00
13,100.00	90.00	4.09	9,800.00	3,536.89	252.91	3,545.92	0.00	0.00	0.00
13,200.00	90.00	4.09	9,800.00	3,636.63	260.05	3,645.92	0.00	0.00	0.00
13,300.00	90.00	4.09	9,800.00	3,736.38	267.18	3,745.92	0.00	0.00	0.00
13,400.00	90.00	4.09	9,800.00	3,836.12	274.31	3,845.92	0.00	0.00	0.00
13,500.00	90.00	4.09	9,800.00	3,935.87	281.44	3,945.92	0.00	0.00	0.00
13,600.00	90.00	4.09	9,800.00	4,035.61	288.58	4,045.92	0.00	0.00	0.00
13,700.00	90.00	4.09	9,800.00	4,135.36	295.71	4,145.92	0.00	0.00	0.00
13,800.00	90.00	4.09	9,800.00	4,235.10	302.84	4,245.92	0.00	0.00	0.00
13,900.00	90.00	4.09	9,800.00	4,334.85	309.97	4,345.92	0.00	0.00	0.00
14,000.00	90.00	4.09	9,800.00	4,434.59	317.11	4,445.92	0.00	0.00	0.00
14,100.00	90.00	4.09	9,800.00	4,534.34	324.24	4,545.92	0.00	0.00	0.00
14,200.00	90.00	4.09	9,800.00	4,634.09	331.37	4,645.92	0.00	0.00	0.00
14,300.00	90.00	4.09	9,800.00	4,733.83	338.50	4,745.92	0.00	0.00	0.00
14,400.00	90.00	4.09	9,800.00	4,833.58	345.64	4,845.92	0.00	0.00	0.00
14,500.00	90.00	4.09	9,800.00	4,933.32	352.77	4,945.92	0.00	0.00	0.00
14,600.00	90.00	4.09	9,800.00	5,033.07	359.90	5,045.92	0.00	0.00	0.00
14,700.00	90.00	4.09	9,800.00	5,132.81	367.03	5,145.92	0.00	0.00	0.00

Database:	EDM 5000.1 Single User Db	**Local Co-ordinate Reference:**	Well Lea Unit #41H
Company:	Legacy Reserves	**TVD Reference:**	KB @ 3694.00usft (McVay 4)
Project:	Lea County, NM (NAD-27 2015)	**MD Reference:**	KB @ 3694.00usft (McVay 4)
Site:	Lea Unit #41H	**North Reference:**	Grid
Well:	Lea Unit #41H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Lateral #1		
Design:	Design #2		

Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
14,800.00	90.00	4.09	9,800.00	5,232.56	374.17	5,245.92	0.00	0.00	0.00
14,900.00	90.00	4.09	9,800.00	5,332.30	381.30	5,345.92	0.00	0.00	0.00
15,000.00	90.00	4.09	9,800.00	5,432.05	388.43	5,445.92	0.00	0.00	0.00
15,100.00	90.00	4.09	9,800.00	5,531.79	395.57	5,545.92	0.00	0.00	0.00
15,200.00	90.00	4.09	9,800.00	5,631.54	402.70	5,645.92	0.00	0.00	0.00
15,300.00	90.00	4.09	9,800.00	5,731.28	409.83	5,745.92	0.00	0.00	0.00
15,400.00	90.00	4.09	9,800.00	5,831.03	416.96	5,845.92	0.00	0.00	0.00
15,500.00	90.00	4.09	9,800.00	5,930.77	424.10	5,945.92	0.00	0.00	0.00
15,600.00	90.00	4.09	9,800.00	6,030.52	431.23	6,045.92	0.00	0.00	0.00
15,700.00	90.00	4.09	9,800.00	6,130.26	438.36	6,145.92	0.00	0.00	0.00
15,800.00	90.00	4.09	9,800.00	6,230.01	445.49	6,245.92	0.00	0.00	0.00
15,900.00	90.00	4.09	9,800.00	6,329.76	452.63	6,345.92	0.00	0.00	0.00
16,000.00	90.00	4.09	9,800.00	6,429.50	459.76	6,445.92	0.00	0.00	0.00
16,100.00	90.00	4.09	9,800.00	6,529.25	466.89	6,545.92	0.00	0.00	0.00
16,200.00	90.00	4.09	9,800.00	6,628.99	474.02	6,645.92	0.00	0.00	0.00
16,300.00	90.00	4.09	9,800.00	6,728.74	481.16	6,745.92	0.00	0.00	0.00
16,400.00	90.00	4.09	9,800.00	6,828.48	488.29	6,845.92	0.00	0.00	0.00
16,500.00	90.00	4.09	9,800.00	6,928.23	495.42	6,945.92	0.00	0.00	0.00
16,600.00	90.00	4.09	9,800.00	7,027.97	502.55	7,045.92	0.00	0.00	0.00
16,700.00	90.00	4.09	9,800.00	7,127.72	509.69	7,145.92	0.00	0.00	0.00
16,800.00	90.00	4.09	9,800.00	7,227.46	516.82	7,245.92	0.00	0.00	0.00
16,900.00	90.00	4.09	9,800.00	7,327.21	523.95	7,345.92	0.00	0.00	0.00
17,000.00	90.00	4.09	9,800.00	7,426.95	531.08	7,445.92	0.00	0.00	0.00
17,100.00	90.00	4.09	9,800.00	7,526.70	538.22	7,545.92	0.00	0.00	0.00
17,200.00	90.00	4.09	9,800.00	7,626.44	545.35	7,645.92	0.00	0.00	0.00
17,300.00	90.00	4.09	9,800.00	7,726.19	552.48	7,745.92	0.00	0.00	0.00
17,400.00	90.00	4.09	9,800.00	7,825.94	559.61	7,845.92	0.00	0.00	0.00
17,500.00	90.00	4.09	9,800.00	7,925.68	566.75	7,945.92	0.00	0.00	0.00
17,531.60	90.00	4.09	9,800.00	7,957.20	569.00	7,977.52	0.00	0.00	0.00
TD at 17531.60									

Design Targets

Target Name - hit/miss target - Shape	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude
KOP-D2 (LU#41H/L1) - plan hits target center - Point	0.00	0.00	9,227.04	0.00	0.00	567,485.60	751,608.90	32° 33' 26.902 N	103° 31' 0.156 W
BHL-D2 (LU#41H/L1) - plan hits target center - Rectangle (sides W80.00 H7,404.56 D30.00)	0.00	4.09	9,800.00	7,957.20	569.00	575,442.80	752,177.90	32° 34' 45.594 N	103° 30' 52.794 W
EOC-D2 (LU#41H/L1) - plan hits target center - Point	0.00	0.00	9,800.00	571.50	40.87	568,057.10	751,649.76	32° 33' 32.554 N	103° 30' 59.628 W

Database:	EDM 5000.1 Single User Db	**Local Co-ordinate Reference:**	Well Lea Unit #41H
Company:	Legacy Reserves	**TVD Reference:**	KB @ 3694.00usft (McVay 4)
Project:	Lea County, NM (NAD-27 2015)	**MD Reference:**	KB @ 3694.00usft (McVay 4)
Site:	Lea Unit #41H	**North Reference:**	Grid
Well:	Lea Unit #41H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Lateral #1		
Design:	Design #2		

Plan Annotations

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates +N/-S (usft)	+E/-W (usft)	Comment
9,227.04	9,227.04	0.00	0.00	Start DLS 10.00 TFO 4.09
10,127.04	9,800.00	571.50	40.87	Start 7404.56 hold at 10127.04 MD
17,531.60	9,800.00	7,957.20	569.00	TD at 17531.60

LEGACY RESERVES

Legacy Reserves

Lea County, NM (NAD-27 2015)
Lea Unit #41H
Lea Unit #41H

Lateral #1
Design #2

Anticollision Report

06 December, 2016

TDS TERRA DIRECTIONAL SERVICES, L.L.C.

Company:	Legacy Reserves	**Local Co-ordinate Reference:**	Well Lea Unit #41H
Project:	Lea County, NM (NAD-27 2015)	**TVD Reference:**	KB @ 3694.00usft (McVay 4)
Reference Site:	Lea Unit #41H	**MD Reference:**	KB @ 3694.00usft (McVay 4)
Site Error:	0.00 usft	**North Reference:**	Grid
Reference Well:	Lea Unit #41H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.00 usft	**Output errors are at**	2.00 sigma
Reference Wellbore	Lateral #1	**Database:**	EDM 5000.1 Single User Db
Reference Design:	Design #2	**Offset TVD Reference:**	Offset Datum

Reference	Design #2		
Filter type:	NO GLOBAL FILTER: Using user defined selection & filtering criteria		
Interpolation Method:	Stations	**Error Model:**	ISCWSA
Depth Range:	Unlimited	**Scan Method:**	Closest Approach 3D
Results Limited by:	Maximum center-center distance of 9,999.98 usft	**Error Surface:**	Elliptical Conic
Warning Levels Evaluated at:	2.00 Sigma	**Casing Method:**	Not applied

Survey Tool Program **Date** 12/6/2016

From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description
0.00	17,531.56	Design #2 (Lateral #1)	MWD	MWD - Standard

Summary

Site Name Offset Well - Wellbore - Design	Reference Measured Depth (usft)	Offset Measured Depth (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Separation Factor	Warning
Lea County Offset Wells						
Lea Federal Unit #29 - OH - OH	11,303.25	9,780.27	258.54	203.52	4.699	CC, ES, SF
Lea Unit #10 - OH - OH	15,960.08	9,742.00	126.92	3.19	1.026	Level 2, CC, ES, SF
Lea Unit #11 - OH - OH	13,296.18	9,785.02	93.79	16.20	1.209	Level 2, CC, ES, SF
Lea Unit #31H - OH - OH	17,531.60	9,750.81	507.16	380.88	4.016	CC, ES, SF
Lea Unit #36H						
Lea Unit #36H - Lateral #1 - Plan #1	9,227.04	9,228.04	50.00	8.79	1.213	Level 2, CC
Lea Unit #36H - Lateral #1 - Plan #1	9,250.00	9,250.99	50.04	8.72	1.211	Level 2, ES, SF

Offset Design Lea County Offset Wells - Lea Federal Unit #29 - OH - OH — Offset Site Error: 0.00 usft

Survey Program: 100-ISCWSA-GYRO-3 — Offset Well Error: 0.00 usft

Reference Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
0.00	0.00	0.00	0.00	0.00	0.00	11.82	1,701.80	356.00	1,738.80				
100.00	100.00	77.80	77.80	0.09	0.07	11.82	1,701.75	356.03	1,738.60	1,738.43	0.16	N/A	
200.00	200.00	180.92	180.92	0.32	0.25	11.82	1,701.56	356.14	1,738.43	1,737.88	0.56	3,124.052	
293.92	293.92	269.93	269.92	0.53	0.41	11.83	1,701.37	356.30	1,738.28	1,737.36	0.92	1,882.261	
300.00	300.00	275.00	275.00	0.54	0.42	11.83	1,701.37	356.32	1,738.28	1,737.34	0.95	1,837.764	
400.00	400.00	375.31	375.31	0.77	0.60	11.84	1,701.40	356.66	1,738.38	1,737.04	1.34	1,297.894	
470.98	470.98	446.98	446.98	0.93	0.73	11.84	1,701.34	356.79	1,738.35	1,736.72	1.62	1,070.170	
500.00	500.00	472.90	472.89	0.99	0.77	11.85	1,701.35	356.84	1,738.37	1,736.64	1.73	1,002.602	
600.00	600.00	577.88	577.86	1.22	0.96	11.85	1,701.40	356.99	1,738.45	1,736.31	2.14	812.772	
616.30	616.30	592.30	592.30	1.25	0.98	11.85	1,701.39	356.99	1,738.44	1,736.24	2.20	789.916	
700.00	700.00	675.92	675.92	1.44	1.13	11.85	1,701.45	357.06	1,738.51	1,735.98	2.53	686.131	
800.00	800.00	777.12	777.11	1.67	1.31	11.85	1,701.45	357.12	1,738.53	1,735.59	2.93	592.392	
900.00	900.00	877.17	877.17	1.89	1.48	11.86	1,701.44	357.16	1,738.52	1,735.19	3.33	521.400	
914.14	914.14	890.14	890.14	1.92	1.50	11.86	1,701.43	357.16	1,738.52	1,735.13	3.39	513.029	
1,000.00	1,000.00	974.94	974.93	2.12	1.65	11.86	1,701.49	357.19	1,738.57	1,734.84	3.73	466.178	
1,100.00	1,100.00	1,073.37	1,073.37	2.34	1.82	11.86	1,701.51	357.22	1,738.61	1,734.48	4.13	421.360	
1,200.00	1,200.00	1,172.49	1,172.49	2.56	1.99	11.86	1,701.69	357.28	1,738.79	1,734.26	4.53	384.252	
1,300.00	1,300.00	1,274.13	1,274.13	2.79	2.16	11.86	1,701.80	357.27	1,738.90	1,733.97	4.93	352.745	
1,400.00	1,400.00	1,378.10	1,378.10	3.01	2.34	11.85	1,701.79	357.11	1,738.85	1,733.52	5.34	325.912	
1,500.00	1,500.00	1,486.57	1,486.57	3.24	2.52	11.84	1,701.51	356.77	1,738.54	1,732.79	5.75	302.497	

CC - Min centre to center distance or covergent point, SF - min separation factor, ES - min ellipse separation

Company:	Legacy Reserves	**Local Co-ordinate Reference:**	Well Lea Unit #41H
Project:	Lea County, NM (NAD-27 2015)	**TVD Reference:**	KB @ 3694.00usft (McVay 4)
Reference Site:	Lea Unit #41H	**MD Reference:**	KB @ 3694.00usft (McVay 4)
Site Error:	0.00 usft	**North Reference:**	Grid
Reference Well:	Lea Unit #41H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.00 usft	***Output errors are at***	2.00 *sigma*
Reference Wellbore	Lateral #1	**Database:**	EDM 5000.1 Single User Db
Reference Design:	Design #2	**Offset TVD Reference:**	Offset Datum

Offset Design Lea County Offset Wells - Lea Federal Unit #29 - OH - OH

Offset Site Error: 0.00 usft

Survey Program: 100-ISCWSA-GYRO-3

Offset Well Error: 0.00 usft

Reference Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
1,600.00	1,600.00	1,582.18	1,582.17	3.46	2.68	11.82	1,701.19	356.16	1,738.09	1,731.95	6.14	283.167	
1,700.00	1,700.00	1,678.68	1,678.67	3.69	2.85	11.80	1,700.93	355.45	1,737.67	1,731.14	6.53	266.065	
1,800.00	1,800.00	1,775.00	1,774.99	3.91	3.01	11.78	1,700.88	354.74	1,737.48	1,730.55	6.92	250.936	
1,802.50	1,802.50	1,778.51	1,778.50	3.92	3.02	11.78	1,700.88	354.72	1,737.47	1,730.54	6.94	250.511	
1,900.00	1,900.00	1,875.00	1,874.99	4.14	3.19	11.78	1,701.16	354.75	1,737.75	1,730.43	7.32	237.293	
2,000.00	2,000.00	1,964.97	1,964.95	4.36	3.34	11.80	1,701.55	355.35	1,738.29	1,730.59	7.71	225.593	
2,100.00	2,100.00	2,067.10	2,067.08	4.59	3.53	11.81	1,702.01	355.93	1,738.85	1,730.74	8.11	214.415	
2,200.00	2,200.00	2,165.64	2,165.62	4.81	3.70	11.83	1,702.39	356.60	1,739.37	1,730.86	8.51	204.438	
2,300.00	2,300.00	2,266.28	2,266.25	5.04	3.88	11.84	1,702.91	356.94	1,739.94	1,731.03	8.91	195.248	
2,400.00	2,400.00	2,365.62	2,365.59	5.26	4.06	11.85	1,703.14	357.38	1,740.26	1,730.95	9.31	186.894	
2,500.00	2,500.00	2,467.51	2,467.49	5.49	4.24	11.86	1,703.59	357.71	1,740.76	1,731.04	9.72	179.127	
2,600.00	2,600.00	2,568.84	2,568.81	5.71	4.42	11.86	1,704.07	357.86	1,741.26	1,731.14	10.12	172.006	
2,700.00	2,700.00	2,665.18	2,665.15	5.94	4.60	11.86	1,704.47	358.07	1,741.71	1,731.19	10.52	165.553	
2,800.00	2,800.00	2,759.08	2,759.04	6.16	4.77	11.86	1,705.19	358.71	1,742.59	1,731.68	10.91	159.670	
2,900.00	2,900.00	2,835.72	2,835.66	6.39	4.91	11.92	1,706.15	360.11	1,744.21	1,732.93	11.27	154.713	
3,000.00	3,000.00	2,933.60	2,933.48	6.61	5.08	12.00	1,708.00	363.09	1,746.68	1,735.01	11.67	149.631	
3,100.00	3,100.00	3,025.12	3,024.93	6.84	5.25	12.09	1,709.86	366.18	1,749.38	1,737.32	12.06	145.050	
3,200.00	3,200.00	3,131.26	3,130.99	7.06	5.45	12.19	1,712.09	369.76	1,752.14	1,739.66	12.48	140.437	
3,300.00	3,300.00	3,227.24	3,226.90	7.28	5.62	12.27	1,714.00	372.92	1,754.79	1,741.92	12.87	136.321	
3,400.00	3,400.00	3,330.12	3,329.70	7.51	5.81	12.36	1,716.22	375.99	1,757.54	1,744.25	13.28	132.317	
3,500.00	3,500.00	3,425.00	3,424.52	7.73	5.98	12.43	1,718.26	378.81	1,760.28	1,746.60	13.68	128.699	
3,600.00	3,600.00	3,531.73	3,531.19	7.96	6.18	12.50	1,720.51	381.53	1,762.88	1,748.76	14.10	125.060	
3,700.00	3,700.00	3,635.95	3,635.37	8.18	6.37	12.55	1,722.57	383.60	1,765.24	1,750.73	14.51	121.651	
3,800.00	3,800.00	3,743.55	3,742.94	8.41	6.57	12.59	1,724.39	385.21	1,767.20	1,752.27	14.93	118.350	
3,900.00	3,900.00	3,846.53	3,845.90	8.63	6.76	12.62	1,726.02	386.55	1,769.03	1,753.68	15.34	115.286	
4,000.00	4,000.00	3,949.39	3,948.75	8.86	6.95	12.65	1,727.28	387.73	1,770.47	1,754.72	15.76	112.361	
4,100.00	4,100.00	4,053.54	4,052.89	9.08	7.14	12.67	1,728.48	388.73	1,771.81	1,755.64	16.17	109.550	
4,200.00	4,200.00	4,158.98	4,158.32	9.31	7.34	12.70	1,729.49	389.69	1,772.94	1,756.35	16.59	106.873	
4,300.00	4,300.00	4,261.98	4,261.32	9.53	7.53	12.73	1,730.13	390.78	1,773.78	1,756.78	17.00	104.341	
4,400.00	4,400.00	4,362.16	4,361.48	9.76	7.72	12.76	1,730.76	391.97	1,774.65	1,757.25	17.40	101.954	
4,500.00	4,500.00	4,467.17	4,466.48	9.98	7.91	12.79	1,731.16	393.14	1,775.26	1,757.44	17.82	99.639	
4,600.00	4,600.00	4,575.00	4,574.30	10.21	8.10	12.82	1,731.25	393.90	1,775.49	1,757.26	18.23	97.397	
4,700.00	4,700.00	4,663.74	4,663.04	10.43	8.27	12.84	1,731.75	394.71	1,776.21	1,757.60	18.61	95.422	
4,800.00	4,800.00	4,763.00	4,762.29	10.66	8.45	12.86	1,732.36	395.46	1,776.98	1,757.96	19.02	93.434	
4,900.00	4,900.00	4,864.03	4,863.32	10.88	8.64	12.88	1,732.92	396.25	1,777.69	1,758.26	19.43	91.510	
5,000.00	5,000.00	4,955.88	4,955.16	11.11	8.81	12.90	1,733.55	397.19	1,778.59	1,758.77	19.82	89.752	
5,100.00	5,100.00	5,057.72	5,056.99	11.33	9.00	12.93	1,734.57	398.15	1,779.78	1,759.55	20.23	87.987	
5,200.00	5,200.00	5,154.47	5,153.73	11.56	9.17	12.93	1,735.70	398.48	1,781.00	1,760.37	20.63	86.328	
5,300.00	5,300.00	5,253.36	5,252.61	11.78	9.35	12.95	1,736.65	399.21	1,782.09	1,761.06	21.04	84.719	
5,400.00	5,400.00	5,352.64	5,351.88	12.00	9.54	12.96	1,737.92	399.79	1,783.47	1,762.03	21.44	83.172	
5,500.00	5,500.00	5,464.02	5,463.26	12.23	9.74	12.97	1,738.87	400.47	1,784.43	1,762.56	21.87	81.579	
5,600.00	5,600.00	5,569.02	5,568.26	12.45	9.94	12.97	1,739.37	400.69	1,784.95	1,762.65	22.29	80.083	
5,700.00	5,700.00	5,671.42	5,670.65	12.68	10.13	12.99	1,739.79	401.29	1,785.48	1,762.78	22.70	78.660	
5,800.00	5,800.00	5,769.92	5,769.15	12.90	10.31	13.01	1,739.98	401.92	1,785.81	1,762.71	23.10	77.312	
5,900.00	5,900.00	5,869.65	5,868.88	13.13	10.49	13.03	1,740.23	402.61	1,786.21	1,762.71	23.50	76.006	
6,000.00	6,000.00	5,969.71	5,968.94	13.35	10.67	13.05	1,740.35	403.31	1,786.48	1,762.58	23.90	74.744	
6,090.23	6,090.23	6,059.17	6,058.39	13.56	10.85	13.07	1,740.18	403.92	1,786.45	1,762.17	24.27	73.593	
6,100.00	6,100.00	6,075.00	6,074.22	13.58	10.86	13.07	1,740.18	403.96	1,786.45	1,762.14	24.31	73.497	
6,200.00	6,200.00	6,172.41	6,171.63	13.80	11.03	13.10	1,740.12	404.85	1,786.60	1,761.90	24.70	72.331	
6,300.00	6,300.00	6,276.87	6,276.08	14.03	11.22	13.12	1,740.01	405.67	1,786.67	1,761.57	25.11	71.167	
6,301.13	6,301.13	6,277.92	6,277.13	14.03	11.22	13.12	1,740.01	405.68	1,786.67	1,761.55	25.11	71.155	
6,400.00	6,400.00	6,377.14	6,376.35	14.25	11.40	13.15	1,739.84	406.48	1,786.69	1,761.19	25.50	70.061	

CC - Min centre to center distance or covergent point, SF - min separation factor, ES - min ellipse separation

Company:	Legacy Reserves	**Local Co-ordinate Reference:**	Well Lea Unit #41H
Project:	Lea County, NM (NAD-27 2015)	**TVD Reference:**	KB @ 3694.00usft (McVay 4)
Reference Site:	Lea Unit #41H	**MD Reference:**	KB @ 3694.00usft (McVay 4)
Site Error:	0.00 usft	**North Reference:**	Grid
Reference Well:	Lea Unit #41H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.00 usft	**Output errors are at**	2.00 sigma
Reference Wellbore	Lateral #1	**Database:**	EDM 5000.1 Single User Db
Reference Design:	Design #2	**Offset TVD Reference:**	Offset Datum

Offset Design Lea County Offset Wells - Lea Federal Unit #29 - OH - OH — **Offset Site Error:** 0.00 usft

Survey Program: 100-ISCWSA-GYRO-3 — **Offset Well Error:** 0.00 usft

Reference Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
6,500.00	6,500.00	6,484.07	6,483.28	14.48	11.59	13.17	1,739.31	407.00	1,786.30	1,760.40	25.90	68.962	
6,600.00	6,600.00	6,583.59	6,582.80	14.70	11.76	13.18	1,738.85	407.33	1,785.94	1,759.65	26.29	67.930	
6,700.00	6,700.00	6,685.76	6,684.98	14.93	11.92	13.18	1,738.43	407.24	1,785.51	1,758.83	26.68	66.925	
6,800.00	6,800.00	6,784.32	6,783.53	15.15	12.07	13.18	1,738.13	407.03	1,785.17	1,758.10	27.07	65.958	
6,900.00	6,900.00	6,875.00	6,874.20	15.38	12.21	13.17	1,737.99	406.62	1,784.92	1,757.48	27.44	65.046	
6,930.51	6,930.51	6,917.95	6,917.16	15.44	12.26	13.17	1,737.87	406.54	1,784.82	1,757.24	27.58	64.713	
7,000.00	7,000.00	6,988.76	6,987.96	15.60	12.39	13.15	1,737.53	406.07	1,784.39	1,756.54	27.85	64.065	
7,100.00	7,100.00	7,089.69	7,088.89	15.83	12.55	13.13	1,737.00	405.12	1,783.67	1,755.42	28.24	63.151	
7,200.00	7,200.00	7,192.09	7,191.28	16.05	12.71	13.11	1,736.41	404.26	1,782.91	1,754.27	28.64	62.256	
7,300.00	7,300.00	7,293.90	7,293.08	16.28	12.87	13.08	1,735.73	403.33	1,782.05	1,753.02	29.03	61.384	
7,400.00	7,400.00	7,391.63	7,390.81	16.50	13.03	13.05	1,735.06	402.31	1,781.15	1,751.73	29.42	60.545	
7,500.00	7,500.00	7,493.32	7,492.49	16.72	13.19	13.03	1,734.36	401.40	1,780.28	1,750.47	29.81	59.716	
7,600.00	7,600.00	7,595.51	7,594.67	16.95	13.35	13.01	1,733.65	400.66	1,779.45	1,749.24	30.21	58.909	
7,700.00	7,700.00	7,696.19	7,695.34	17.17	13.52	12.99	1,732.83	399.83	1,778.47	1,747.87	30.60	58.121	
7,800.00	7,800.00	7,794.15	7,793.30	17.40	13.67	12.98	1,732.09	399.19	1,777.58	1,746.59	30.99	57.364	
7,900.00	7,900.00	7,890.16	7,889.30	17.62	13.83	12.96	1,731.40	398.43	1,776.70	1,745.33	31.37	56.630	
8,000.00	8,000.00	7,991.05	7,990.19	17.85	14.00	12.94	1,730.73	397.73	1,775.89	1,744.13	31.77	55.902	
8,100.00	8,100.00	8,093.61	8,092.75	18.07	14.16	12.92	1,729.95	396.80	1,774.95	1,742.78	32.17	55.182	
8,200.00	8,200.00	8,191.69	8,190.82	18.30	14.32	12.90	1,729.11	396.02	1,773.94	1,741.39	32.56	54.489	
8,300.00	8,300.00	8,289.04	8,288.16	18.52	14.48	12.89	1,728.45	395.41	1,773.15	1,740.20	32.95	53.821	
8,400.00	8,400.00	8,387.86	8,386.96	18.75	14.65	12.88	1,727.82	394.96	1,772.43	1,739.09	33.34	53.166	
8,500.00	8,500.00	8,487.10	8,486.22	18.97	14.81	12.87	1,727.18	394.56	1,771.71	1,737.98	33.73	52.526	
8,600.00	8,600.00	8,584.70	8,583.82	19.20	14.98	12.86	1,726.86	394.13	1,771.28	1,737.16	34.12	51.911	
8,700.00	8,700.00	8,683.95	8,683.07	19.42	15.14	12.84	1,726.46	393.65	1,770.78	1,736.27	34.52	51.303	
8,800.00	8,800.00	8,790.60	8,789.71	19.65	15.32	12.83	1,725.91	392.96	1,770.13	1,735.21	34.92	50.687	
8,900.00	8,900.00	8,892.39	8,891.49	19.87	15.49	12.80	1,725.20	392.01	1,769.24	1,733.92	35.32	50.089	
9,000.00	9,000.00	8,993.10	8,992.19	20.10	15.66	12.78	1,724.50	391.01	1,768.35	1,732.63	35.72	49.506	
9,100.00	9,100.00	9,089.95	9,089.05	20.32	15.82	12.75	1,723.89	390.14	1,767.54	1,731.43	36.11	48.947	
9,200.00	9,200.00	9,183.83	9,182.92	20.55	15.98	12.72	1,723.55	389.19	1,766.96	1,730.46	36.50	48.412	
9,227.04	9,227.04	9,211.11	9,210.19	20.61	16.03	12.72	1,723.48	388.88	1,766.82	1,730.22	36.61	48.265	
9,250.00	9,249.98	9,232.84	9,231.92	20.66	16.07	8.63	1,723.48	388.64	1,766.31	1,729.61	36.70	48.134	
9,300.00	9,299.80	9,284.58	9,283.66	20.77	16.15	8.70	1,723.31	388.04	1,761.89	1,724.99	36.90	47.750	
9,350.00	9,349.06	9,332.38	9,331.46	20.88	16.23	8.86	1,723.23	387.56	1,753.29	1,716.20	37.09	47.266	
9,400.00	9,397.39	9,375.00	9,374.07	20.99	16.31	9.11	1,723.22	387.14	1,740.56	1,703.28	37.28	46.690	
9,450.00	9,444.42	9,417.31	9,416.37	21.10	16.38	9.46	1,723.37	386.68	1,723.88	1,686.42	37.46	46.019	
9,500.00	9,489.79	9,458.44	9,457.51	21.21	16.45	9.92	1,723.66	386.11	1,703.33	1,665.70	37.64	45.258	
9,550.00	9,533.17	9,495.91	9,495.97	21.31	16.52	10.52	1,723.99	385.69	1,679.05	1,641.25	37.80	44.417	
9,600.00	9,574.21	9,540.86	9,539.91	21.43	16.59	11.34	1,724.44	385.22	1,651.19	1,613.22	37.97	43.484	
9,650.00	9,612.62	9,587.29	9,586.34	21.56	16.67	12.42	1,724.68	384.70	1,619.69	1,581.55	38.14	42.467	
9,700.00	9,648.09	9,614.34	9,613.39	21.71	16.72	13.70	1,724.85	384.45	1,585.09	1,546.82	38.27	41.421	
9,750.00	9,680.35	9,646.49	9,645.53	21.88	16.77	15.44	1,725.19	384.11	1,547.70	1,509.30	38.40	40.308	
9,800.00	9,709.17	9,681.14	9,680.19	22.07	16.83	17.85	1,725.45	383.74	1,507.59	1,469.06	38.52	39.135	
9,850.00	9,734.31	9,706.95	9,705.99	22.29	16.88	21.04	1,725.62	383.44	1,465.14	1,426.51	38.63	37.932	
9,900.00	9,755.60	9,729.36	9,728.40	22.53	16.92	25.54	1,725.74	383.13	1,420.69	1,381.97	38.71	36.696	
9,950.00	9,772.86	9,741.04	9,740.08	22.80	16.94	31.72	1,725.83	383.00	1,374.67	1,335.89	38.78	35.447	
10,000.00	9,785.97	9,750.28	9,749.31	23.10	16.95	40.92	1,725.93	382.92	1,327.43	1,288.59	38.84	34.179	
10,050.00	9,794.83	9,760.76	9,759.79	23.42	16.97	55.34	1,726.05	382.83	1,279.30	1,240.41	38.89	32.896	
10,100.00	9,799.36	9,766.40	9,765.43	23.76	16.98	75.55	1,726.12	382.78	1,230.63	1,191.70	38.93	31.611	
10,127.04	9,800.00	9,767.42	9,766.46	23.96	16.98	87.89	1,726.13	382.77	1,204.23	1,165.28	38.95	30.918	
10,200.00	9,800.00	9,768.28	9,767.31	24.53	16.98	88.08	1,726.14	382.76	1,133.08	1,094.08	39.00	29.052	
10,300.00	9,800.00	9,769.44	9,768.48	25.40	16.99	88.33	1,726.15	382.75	1,035.97	995.87	39.10	26.496	
10,400.00	9,800.00	9,770.59	9,769.63	26.37	16.99	88.59	1,726.16	382.73	939.48	900.23	39.24	23.939	

CC - Min centre to center distance or covergent point, SF - min separation factor, ES - min ellipse separation

LEGACY RESERVES

TDS
Anticollision Report

Company:	Legacy Reserves	**Local Co-ordinate Reference:**	Well Lea Unit #41H
Project:	Lea County, NM (NAD-27 2015)	**TVD Reference:**	KB @ 3694.00usft (McVay 4)
Reference Site:	Lea Unit #41H	**MD Reference:**	KB @ 3694.00usft (McVay 4)
Site Error:	0.00 usft	**North Reference:**	Grid
Reference Well:	Lea Unit #41H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.00 usft	**Output errors are at**	2.00 sigma
Reference Wellbore	Lateral #1	**Database:**	EDM 5000.1 Single User Db
Reference Design:	Design #2	**Offset TVD Reference:**	Offset Datum

Offset Design Lea County Offset Wells - Lea Federal Unit #29 - OH - OH — **Offset Site Error:** 0.00 usft

Survey Program: 100-ISCWSA-GYRO-3 — **Offset Well Error:** 0.00 usft

Reference Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
10,500.00	9,800.00	9,771.74	9,770.77	27.42	16.99	88.84	1,726.18	382.72	843.79	804.33	39.46	21.383	
10,600.00	9,800.00	9,772.87	9,771.90	28.55	16.99	89.09	1,726.19	382.71	749.23	709.44	39.79	18.831	
10,700.00	9,800.00	9,773.99	9,773.02	29.75	16.99	89.34	1,726.20	382.69	656.29	615.99	40.29	16.287	
10,800.00	9,800.00	9,775.10	9,774.14	31.01	17.00	89.59	1,726.22	382.68	565.75	524.65	41.10	13.766	
10,900.00	9,800.00	9,776.21	9,775.24	32.32	17.00	89.83	1,726.23	382.67	478.99	436.60	42.39	11.298	
11,000.00	9,800.00	9,777.27	9,776.30	33.68	17.00	90.07	1,726.24	382.66	398.49	353.99	44.49	8.956	
11,100.00	9,800.00	9,778.30	9,777.33	35.08	17.00	90.30	1,726.25	382.64	328.86	281.13	47.73	6.891	
11,200.00	9,800.00	9,779.29	9,778.32	36.51	17.00	90.51	1,726.26	382.63	278.39	226.53	51.86	5.368	
11,300.00	9,800.00	9,780.24	9,779.27	37.98	17.00	90.73	1,726.27	382.62	258.56	203.59	54.97	4.703	
11,303.25	9,800.00	9,780.27	9,779.31	38.03	17.00	90.73	1,726.27	382.62	258.54	203.52	55.02	4.699	CC, ES, SF
11,400.00	9,800.00	9,781.16	9,780.20	39.48	17.01	90.93	1,726.28	382.61	276.05	221.26	54.77	5.040	
11,500.00	9,800.00	9,782.06	9,781.09	41.00	17.01	91.13	1,726.29	382.60	324.89	272.63	52.26	6.217	
11,600.00	9,800.00	9,782.92	9,781.95	42.55	17.01	91.32	1,726.30	382.59	393.57	344.04	49.53	7.945	
11,700.00	9,800.00	9,783.75	9,782.79	44.11	17.01	91.50	1,726.31	382.58	473.54	426.16	47.38	9.994	
11,800.00	9,800.00	9,784.56	9,783.59	45.70	17.01	91.68	1,726.31	382.57	559.99	514.17	45.82	12.222	
11,900.00	9,800.00	9,785.34	9,784.38	47.30	17.01	91.86	1,726.32	382.56	650.33	605.64	44.69	14.552	
12,000.00	9,800.00	9,786.10	9,785.13	46.92	17.01	92.02	1,726.33	382.55	743.15	699.28	43.87	16.941	
12,100.00	9,800.00	9,786.84	9,785.87	50.54	17.02	92.19	1,726.33	382.54	837.62	794.37	43.25	19.365	
12,200.00	9,800.00	9,787.55	9,786.58	52.19	17.02	92.35	1,726.34	382.53	933.25	890.46	42.79	21.811	
12,300.00	9,800.00	9,788.24	9,787.27	53.84	17.02	92.50	1,726.35	382.52	1,029.70	987.27	42.43	24.269	
12,400.00	9,800.00	9,788.91	9,787.95	55.50	17.02	92.65	1,726.35	382.51	1,126.77	1,084.63	42.15	26.736	
12,500.00	9,800.00	9,789.57	9,788.60	57.17	17.02	92.79	1,726.36	382.51	1,224.32	1,182.40	41.92	29.206	
12,600.00	9,800.00	9,790.20	9,789.23	58.85	17.02	92.93	1,726.36	382.50	1,322.23	1,280.49	41.74	31.678	
12,700.00	9,800.00	9,790.82	9,789.85	60.54	17.02	93.07	1,726.37	382.49	1,420.43	1,378.84	41.59	34.150	
12,800.00	9,800.00	9,791.42	9,790.45	62.24	17.02	93.20	1,726.37	382.48	1,518.87	1,477.39	41.48	36.621	
12,900.00	9,800.00	9,792.00	9,791.03	63.94	17.02	93.33	1,726.38	382.48	1,617.49	1,576.12	41.38	39.090	
13,000.00	9,800.00	9,792.57	9,791.60	65.65	17.03	93.46	1,726.38	382.47	1,716.28	1,674.98	41.30	41.556	
13,100.00	9,800.00	9,793.12	9,792.15	67.36	17.03	93.58	1,726.39	382.46	1,815.20	1,773.96	41.24	44.019	
13,200.00	9,800.00	9,793.66	9,792.69	69.08	17.03	93.70	1,726.39	382.46	1,914.23	1,873.05	41.18	46.479	
13,300.00	9,800.00	9,794.18	9,793.21	70.80	17.03	93.81	1,726.40	382.45	2,013.35	1,972.21	41.14	48.935	
13,400.00	9,800.00	9,794.69	9,793.73	72.53	17.03	93.93	1,726.40	382.44	2,112.57	2,071.45	41.11	51.386	
13,500.00	9,800.00	9,795.19	9,794.22	74.26	17.03	94.04	1,726.40	382.44	2,211.85	2,170.76	41.09	53.833	
13,600.00	9,800.00	9,795.68	9,794.71	76.00	17.03	94.14	1,726.41	382.43	2,311.19	2,270.12	41.07	56.275	
13,700.00	9,800.00	9,796.15	9,795.18	77.74	17.03	94.25	1,726.41	382.43	2,410.58	2,369.53	41.06	58.712	
13,800.00	9,800.00	9,800.00	9,799.03	79.48	17.04	95.10	1,726.44	382.38	2,510.03	2,468.97	41.06	61.133	
13,900.00	9,800.00	9,800.00	9,799.03	81.23	17.04	95.10	1,726.44	382.38	2,609.52	2,568.46	41.06	63.561	
14,000.00	9,800.00	9,800.00	9,799.03	82.98	17.04	95.10	1,726.44	382.38	2,709.04	2,667.98	41.06	65.983	
14,100.00	9,800.00	9,800.00	9,799.03	84.73	17.04	95.10	1,726.44	382.38	2,808.60	2,767.54	41.06	68.400	
14,200.00	9,800.00	9,800.00	9,799.03	86.48	17.04	95.10	1,726.44	382.38	2,908.18	2,867.11	41.07	70.811	
14,300.00	9,800.00	9,800.00	9,799.03	88.24	17.04	95.10	1,726.44	382.38	3,007.80	2,966.72	41.08	73.216	
14,400.00	9,800.00	9,800.00	9,799.03	90.00	17.04	95.10	1,726.44	382.38	3,107.44	3,066.34	41.10	75.615	
14,500.00	9,800.00	9,800.00	9,799.03	91.76	17.04	95.10	1,726.44	382.38	3,207.10	3,165.99	41.11	78.008	
14,600.00	9,800.00	9,800.00	9,799.03	93.53	17.04	95.10	1,726.44	382.38	3,306.78	3,265.65	41.13	80.394	
14,700.00	9,800.00	9,800.55	9,799.58	95.29	17.04	95.22	1,726.44	382.37	3,406.48	3,365.33	41.15	82.772	
14,800.00	9,800.00	9,801.19	9,800.22	97.06	17.04	95.36	1,726.45	382.36	3,506.20	3,465.02	41.18	85.143	
14,900.00	9,800.00	9,801.84	9,800.87	98.83	17.04	95.50	1,726.45	382.36	3,605.94	3,564.73	41.21	87.507	
15,000.00	9,800.00	9,802.49	9,801.52	100.60	17.04	95.65	1,726.46	382.35	3,705.68	3,664.45	41.24	89.864	
15,100.00	9,800.00	9,803.15	9,802.18	102.37	17.04	95.79	1,726.46	382.34	3,805.44	3,764.18	41.27	92.214	
15,200.00	9,800.00	9,803.81	9,802.84	104.14	17.05	95.94	1,726.47	382.33	3,905.22	3,863.92	41.30	94.557	
15,300.00	9,800.00	9,804.48	9,803.51	105.92	17.05	96.08	1,726.47	382.32	4,005.00	3,963.67	41.33	96.892	
15,400.00	9,800.00	9,805.15	9,804.19	107.69	17.05	96.23	1,726.48	382.32	4,104.80	4,063.43	41.37	99.221	
15,500.00	9,800.00	9,805.83	9,804.86	109.47	17.05	96.38	1,726.48	382.31	4,204.60	4,163.19	41.41	101.542	

CC - Min centre to center distance or covergent point, SF - min separation factor, ES - min ellipse separation

Company:	Legacy Reserves	**Local Co-ordinate Reference:**	Well Lea Unit #41H
Project:	Lea County, NM (NAD-27 2015)	**TVD Reference:**	KB @ 3694.00usft (McVay 4)
Reference Site:	Lea Unit #41H	**MD Reference:**	KB @ 3694.00usft (McVay 4)
Site Error:	0.00 usft	**North Reference:**	Grid
Reference Well:	Lea Unit #41H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.00 usft	**Output errors are at**	2.00 sigma
Reference Wellbore	Lateral #1	**Database:**	EDM 5000.1 Single User Db
Reference Design:	Design #2	**Offset TVD Reference:**	Offset Datum

Offset Design Lea County Offset Wells - Lea Federal Unit #29 - OH - OH — **Offset Site Error:** 0.00 usft

Survey Program: 100-ISCWSA-GYRO-3 — **Offset Well Error:** 0.00 usft

Reference Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
15,600.00	9,800.00	9,806.52	9,805.55	111.25	17.05	96.53	1,726.48	382.30	4,304.41	4,262.97	41.45	103.855	
15,700.00	9,800.00	9,807.21	9,806.24	113.03	17.05	96.68	1,726.49	382.29	4,404.24	4,362.75	41.49	106.161	
15,800.00	9,800.00	9,807.90	9,806.93	114.81	17.05	96.83	1,726.49	382.29	4,504.07	4,462.54	41.53	108.459	
15,900.00	9,800.00	9,808.60	9,807.63	116.59	17.05	96.99	1,726.50	382.28	4,603.90	4,562.33	41.57	110.750	
16,000.00	9,800.00	9,809.31	9,808.34	118.38	17.05	97.14	1,726.50	382.27	4,703.75	4,662.13	41.61	113.032	
16,100.00	9,800.00	9,810.02	9,809.05	120.16	17.06	97.30	1,726.51	382.26	4,803.60	4,761.94	41.66	115.307	
16,200.00	9,800.00	9,810.73	9,809.76	121.94	17.06	97.45	1,726.51	382.26	4,903.45	4,861.75	41.71	117.574	
16,300.00	9,800.00	9,811.46	9,810.49	123.73	17.06	97.61	1,726.52	382.25	5,003.31	4,961.56	41.75	119.832	
16,400.00	9,800.00	9,812.18	9,811.21	125.52	17.06	97.77	1,726.52	382.24	5,103.16	5,061.36	41.80	122.083	
16,500.00	9,800.00	9,812.92	9,811.95	127.30	17.06	97.93	1,726.53	382.24	5,203.05	5,161.20	41.85	124.325	
16,600.00	9,800.00	9,813.66	9,812.69	129.09	17.06	98.09	1,726.54	382.23	5,302.93	5,261.03	41.90	126.559	
16,700.00	9,800.00	9,814.40	9,813.44	130.88	17.06	98.25	1,726.54	382.22	5,402.81	5,360.86	41.95	128.785	
16,800.00	9,800.00	9,815.16	9,814.19	132.67	17.07	98.42	1,726.55	382.21	5,502.70	5,460.69	42.00	131.002	
16,900.00	9,800.00	9,815.92	9,814.95	134.46	17.07	98.58	1,726.55	382.21	5,602.59	5,560.53	42.06	133.211	
17,000.00	9,800.00	9,816.68	9,815.71	136.25	17.07	98.75	1,726.56	382.20	5,702.48	5,660.37	42.11	135.412	
17,100.00	9,800.00	9,817.45	9,816.48	138.04	17.07	98.92	1,726.56	382.19	5,802.38	5,760.21	42.17	137.604	
17,200.00	9,800.00	9,818.23	9,817.26	139.83	17.07	99.08	1,726.57	382.19	5,902.28	5,860.05	42.22	139.787	
17,300.00	9,800.00	9,819.01	9,818.04	141.63	17.07	99.25	1,726.57	382.18	6,002.18	5,959.90	42.28	141.962	
17,400.00	9,800.00	9,819.81	9,818.83	143.42	17.07	99.43	1,726.58	382.17	6,102.09	6,059.75	42.34	144.127	
17,500.00	9,800.00	9,820.60	9,819.63	145.21	17.07	99.60	1,726.59	382.17	6,202.00	6,159.60	42.40	146.285	
17,531.60	9,800.00	9,820.86	9,819.89	145.76	17.07	99.65	1,726.59	382.16	6,233.57	6,191.15	42.42	146.964	

Company:	Legacy Reserves	**Local Co-ordinate Reference:**	Well Lea Unit #41H
Project:	Lea County, NM (NAD-27 2015)	**TVD Reference:**	KB @ 3694.00usft (McVay 4)
Reference Site:	Lea Unit #41H	**MD Reference:**	KB @ 3694.00usft (McVay 4)
Site Error:	0.00 usft	**North Reference:**	Grid
Reference Well:	Lea Unit #41H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.00 usft	**Output errors are at**	2.00 sigma
Reference Wellbore	Lateral #1	**Database:**	EDM 5000.1 Single User Db
Reference Design:	Design #2	**Offset TVD Reference:**	Offset Datum

Offset Design Lea County Offset Wells - Lea Unit #10 - OH - OH

Offset Site Error: 0.00 usft

Survey Program: 100-Scientific Gyro

Offset Well Error: 0.00 usft

Reference Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
0.00	0.00	0.00	0.00	0.00	0.00	3.20	6,303.40	352.23	6,313.36				
100.00	100.00	78.52	78.52	0.09	0.07	3.20	6,303.28	352.32	6,313.15	6,312.99	0.16	N/A	
200.00	200.00	185.06	185.06	0.32	0.20	3.20	6,302.86	352.64	6,312.77	6,312.28	0.49	N/A	
300.00	300.00	268.42	268.42	0.54	0.30	3.20	6,302.61	352.87	6,312.48	6,311.70	0.79	8,013.471	
352.13	352.13	312.13	312.13	0.66	0.35	3.21	6,302.58	352.95	6,312.45	6,311.52	0.94	6,733.219	
400.00	400.00	357.68	357.67	0.77	0.40	3.21	6,302.58	353.07	6,312.46	6,311.39	1.07	5,902.451	
500.00	500.00	448.91	448.90	0.99	0.50	3.21	6,302.65	353.41	6,312.56	6,311.22	1.34	4,718.113	
600.00	600.00	547.62	547.61	1.22	0.60	3.21	6,302.86	353.74	6,312.79	6,311.18	1.61	3,917.928	
700.00	700.00	654.69	654.69	1.44	0.72	3.22	6,302.96	354.20	6,312.91	6,311.01	1.90	3,320.337	
800.00	800.00	779.15	779.14	1.67	0.84	3.22	6,302.89	354.42	6,312.88	6,310.66	2.21	2,851.000	
900.00	900.00	876.97	876.96	1.89	0.88	3.22	6,302.57	354.28	6,312.54	6,310.02	2.52	2,502.075	
1,000.00	1,000.00	971.28	971.27	2.12	0.90	3.22	6,302.37	354.12	6,312.33	6,309.49	2.84	2,226.405	
1,100.00	1,100.00	1,069.67	1,069.66	2.34	0.95	3.21	6,302.23	353.98	6,312.17	6,309.01	3.16	2,000.637	
1,200.00	1,200.00	1,161.08	1,161.07	2.56	0.98	3.21	6,302.14	353.81	6,312.06	6,308.60	3.46	1,825.752	
1,208.83	1,208.83	1,168.83	1,168.82	2.58	0.98	3.21	6,302.14	353.79	6,312.06	6,308.58	3.48	1,812.183	
1,300.00	1,300.00	1,258.66	1,258.65	2.79	1.01	3.21	6,302.20	353.40	6,312.10	6,308.35	3.75	1,684.043	
1,400.00	1,400.00	1,360.52	1,360.51	3.01	1.04	3.20	6,302.23	352.81	6,312.09	6,308.06	4.04	1,563.297	
1,438.63	1,438.63	1,399.00	1,398.99	3.10	1.06	3.20	6,302.24	352.52	6,312.09	6,307.94	4.15	1,521.164	
1,500.00	1,500.00	1,454.68	1,454.66	3.24	1.09	3.20	6,302.29	352.04	6,312.11	6,307.79	4.32	1,460.250	
1,600.00	1,600.00	1,548.69	1,548.67	3.46	1.14	3.19	6,302.48	351.11	6,312.26	6,307.66	4.60	1,370.942	
1,700.00	1,700.00	1,641.14	1,641.12	3.69	1.20	3.18	6,302.74	350.09	6,312.48	6,307.59	4.88	1,292.338	
1,800.00	1,800.00	1,729.43	1,729.41	3.91	1.26	3.17	6,303.14	349.15	6,312.86	6,307.72	5.16	1,223.573	
1,900.00	1,900.00	1,825.50	1,825.47	4.14	1.33	3.16	6,303.70	348.55	6,313.42	6,307.99	5.44	1,161.501	
2,000.00	2,000.00	1,927.34	1,927.31	4.36	1.40	3.16	6,304.21	348.20	6,313.90	6,308.18	5.72	1,104.345	
2,100.00	2,100.00	2,017.61	2,017.57	4.59	1.47	3.16	6,304.82	347.93	6,314.56	6,308.56	6.00	1,052.818	
2,200.00	2,200.00	2,146.02	2,145.98	4.81	1.59	3.15	6,305.28	347.27	6,314.85	6,308.54	6.31	1,000.646	
2,300.00	2,300.00	2,226.73	2,226.69	5.04	1.66	3.15	6,305.56	346.84	6,315.18	6,308.59	6.59	957.917	
2,400.00	2,400.00	2,300.00	2,299.96	5.26	1.72	3.15	6,306.16	346.94	6,315.98	6,309.11	6.87	919.299	
2,500.00	2,500.00	2,374.16	2,374.11	5.49	1.76	3.15	6,307.06	347.41	6,317.20	6,310.05	7.15	883.122	
2,600.00	2,600.00	2,530.04	2,529.98	5.71	1.84	3.17	6,308.42	348.95	6,318.14	6,310.64	7.50	842.402	
2,700.00	2,700.00	2,620.53	2,620.46	5.94	1.89	3.18	6,308.84	350.02	6,318.66	6,310.87	7.79	810.691	
2,800.00	2,800.00	2,700.00	2,699.92	6.16	1.94	3.18	6,309.41	351.04	6,319.46	6,311.38	8.08	781.971	
2,900.00	2,900.00	2,791.20	2,791.10	6.39	2.00	3.20	6,310.27	352.46	6,320.49	6,312.11	8.38	754.223	
3,000.00	3,000.00	2,880.92	2,880.81	6.61	2.07	3.21	6,311.23	354.08	6,321.65	6,312.98	8.68	728.443	
3,100.00	3,100.00	2,966.25	2,966.11	6.84	2.14	3.23	6,312.30	355.74	6,323.02	6,314.04	8.97	704.574	
3,200.00	3,200.00	3,057.68	3,057.51	7.06	2.22	3.24	6,313.64	357.69	6,324.59	6,315.32	9.28	681.824	
3,300.00	3,300.00	3,151.19	3,150.98	7.28	2.30	3.26	6,315.07	359.83	6,326.25	6,316.67	9.58	660.297	
3,400.00	3,400.00	3,247.85	3,247.61	7.51	2.39	3.28	6,316.66	362.05	6,328.03	6,318.14	9.89	639.863	
3,500.00	3,500.00	3,352.78	3,352.50	7.73	2.49	3.30	6,318.36	364.49	6,329.77	6,319.57	10.21	620.175	
3,600.00	3,600.00	3,459.22	3,458.89	7.96	2.59	3.32	6,319.96	366.99	6,331.42	6,320.89	10.52	601.601	
3,700.00	3,700.00	3,574.76	3,574.39	8.18	2.71	3.35	6,321.54	369.68	6,332.92	6,322.07	10.85	583.705	
3,800.00	3,800.00	3,696.15	3,695.75	8.41	2.84	3.37	6,322.84	372.02	6,334.10	6,322.92	11.18	566.574	
3,900.00	3,900.00	3,846.32	3,845.90	8.63	2.99	3.38	6,323.65	373.99	6,334.71	6,323.19	11.52	549.651	
4,000.00	4,000.00	3,970.96	3,970.53	8.86	3.10	3.40	6,323.53	375.54	6,334.68	6,322.85	11.83	535.395	
4,076.09	4,076.09	4,036.61	4,036.17	9.03	3.17	3.41	6,323.39	376.40	6,334.58	6,322.53	12.05	525.863	
4,100.00	4,100.00	4,053.97	4,053.54	9.08	3.18	3.41	6,323.38	376.60	6,334.59	6,322.48	12.11	523.008	
4,200.00	4,200.00	4,137.56	4,137.12	9.31	3.27	3.42	6,323.58	377.47	6,334.88	6,322.48	12.40	510.947	
4,300.00	4,300.00	4,239.21	4,238.77	9.53	3.38	3.42	6,323.87	378.41	6,335.22	6,322.52	12.70	498.687	
4,400.00	4,400.00	4,338.68	4,338.23	9.76	3.49	3.43	6,324.16	379.29	6,335.56	6,322.55	13.01	487.066	
4,500.00	4,500.00	4,425.99	4,425.53	9.98	3.59	3.44	6,324.44	380.16	6,335.95	6,322.64	13.30	476.264	
4,600.00	4,600.00	4,500.00	4,499.54	10.21	3.67	3.45	6,324.99	380.96	6,336.74	6,323.15	13.59	466.214	
4,700.00	4,700.00	4,573.91	4,573.44	10.43	3.75	3.45	6,325.86	381.40	6,337.94	6,324.05	13.89	456.292	

CC - Min centre to center distance or covergent point, SF - min separation factor, ES - min ellipse separation

Company:	Legacy Reserves	**Local Co-ordinate Reference:**	Well Lea Unit #41H
Project:	Lea County, NM (NAD-27 2015)	**TVD Reference:**	KB @ 3694.00usft (McVay 4)
Reference Site:	Lea Unit #41H	**MD Reference:**	KB @ 3694.00usft (McVay 4)
Site Error:	0.00 usft	**North Reference:**	Grid
Reference Well:	Lea Unit #41H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.00 usft	**Output errors are at**	2.00 sigma
Reference Wellbore	Lateral #1	**Database:**	EDM 5000.1 Single User Db
Reference Design:	Design #2	**Offset TVD Reference:**	Offset Datum

Offset Design Lea County Offset Wells - Lea Unit #10 - OH - OH — **Offset Site Error:** 0.00 usft

Survey Program: 100-Scientific Gyro — **Offset Well Error:** 0.00 usft

Reference Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
4,800.00	4,800.00	4,659.11	4,658.64	10.66	3.82	3.45	6,327.16	381.12	6,339.44	6,325.23	14.20	446.361	
4,900.00	4,900.00	4,739.20	4,738.71	10.88	3.89	3.44	6,328.57	380.52	6,341.16	6,326.65	14.51	437.012	
5,000.00	5,000.00	4,800.00	4,799.49	11.11	3.94	3.44	6,329.88	379.98	6,343.30	6,328.51	14.80	428.697	
5,100.00	5,100.00	4,858.83	4,858.30	11.33	3.99	3.43	6,331.51	379.51	6,346.08	6,331.00	15.08	420.768	
5,200.00	5,200.00	4,919.62	4,919.04	11.56	4.05	3.43	6,333.72	379.21	6,349.63	6,334.26	15.37	413.124	
5,300.00	5,300.00	5,032.96	5,032.30	11.78	4.16	3.42	6,337.96	378.76	6,353.35	6,337.63	15.72	404.142	
5,400.00	5,400.00	5,152.04	5,151.31	12.00	4.27	3.41	6,342.09	377.68	6,356.75	6,340.66	16.08	395.383	
5,500.00	5,500.00	5,254.56	5,253.77	12.23	4.37	3.40	6,345.49	376.46	6,359.99	6,343.57	16.41	387.459	
5,600.00	5,600.00	5,356.66	5,355.80	12.45	4.46	3.38	6,348.88	375.30	6,363.24	6,346.48	16.75	379.853	
5,700.00	5,700.00	5,508.72	5,507.78	12.68	4.60	3.36	6,353.37	373.32	6,366.15	6,349.01	17.15	371.306	
5,800.00	5,800.00	5,621.41	5,620.43	12.90	4.71	3.35	6,356.05	371.83	6,368.44	6,350.95	17.49	364.083	
5,900.00	5,900.00	5,731.03	5,730.02	13.13	4.81	3.34	6,358.42	370.54	6,370.53	6,352.70	17.84	357.177	
6,000.00	6,000.00	5,829.08	5,828.04	13.35	4.90	3.32	6,360.50	369.48	6,372.58	6,354.42	18.17	350.767	
6,100.00	6,100.00	5,925.01	5,923.94	13.58	5.00	3.31	6,362.58	368.36	6,374.69	6,356.19	18.50	344.627	
6,200.00	6,200.00	6,025.05	6,023.96	13.80	5.10	3.30	6,364.80	367.28	6,376.84	6,358.01	18.83	338.602	
6,300.00	6,300.00	6,134.05	6,132.93	14.03	5.21	3.29	6,367.11	366.29	6,378.90	6,359.72	19.18	332.571	
6,400.00	6,400.00	6,240.56	6,239.43	14.25	5.32	3.28	6,369.23	365.35	6,380.83	6,361.31	19.53	326.791	
6,500.00	6,500.00	6,349.92	6,348.74	14.48	5.44	3.27	6,371.29	364.39	6,382.67	6,362.80	19.87	321.162	
6,600.00	6,600.00	6,459.93	6,458.73	14.70	5.55	3.26	6,373.16	363.41	6,384.32	6,364.10	20.22	315.712	
6,700.00	6,700.00	6,557.28	6,556.07	14.93	5.66	3.26	6,374.75	362.64	6,385.90	6,365.34	20.56	310.654	
6,800.00	6,800.00	6,650.74	6,649.51	15.15	5.76	3.25	6,376.37	361.89	6,387.58	6,366.70	20.89	305.818	
6,900.00	6,900.00	6,746.79	6,745.54	15.38	5.86	3.24	6,378.11	361.06	6,389.35	6,368.13	21.22	301.094	
7,000.00	7,000.00	6,852.83	6,851.56	15.60	5.98	3.23	6,380.06	360.09	6,391.13	6,369.56	21.57	296.365	
7,100.00	7,100.00	6,963.80	6,962.50	15.83	6.10	3.22	6,381.89	359.01	6,392.72	6,370.81	21.91	291.728	
7,200.00	7,200.00	7,078.52	7,077.21	16.05	6.22	3.21	6,383.59	357.86	6,394.15	6,371.89	22.26	287.205	
7,300.00	7,300.00	7,189.37	7,188.04	16.28	6.33	3.20	6,384.99	356.76	6,395.35	6,372.75	22.61	282.911	
7,400.00	7,400.00	7,285.81	7,284.48	16.50	6.43	3.19	6,386.15	355.77	6,396.50	6,373.56	22.93	278.944	
7,500.00	7,500.00	7,390.00	7,388.65	16.72	6.54	3.18	6,387.41	354.74	6,397.65	6,374.39	23.27	274.988	
7,600.00	7,600.00	7,497.66	7,496.30	16.95	6.65	3.17	6,388.62	353.59	6,398.71	6,375.11	23.60	271.137	
7,700.00	7,700.00	7,594.59	7,593.21	17.17	6.75	3.16	6,389.66	352.62	6,399.73	6,375.81	23.92	267.506	
7,800.00	7,800.00	7,709.04	7,707.65	17.40	6.87	3.15	6,390.76	351.63	6,400.66	6,376.39	24.27	263.758	
7,900.00	7,900.00	7,813.85	7,812.46	17.62	6.98	3.14	6,391.66	350.69	6,401.45	6,376.85	24.60	260.267	
8,000.00	8,000.00	7,924.45	7,923.05	17.85	7.09	3.13	6,392.41	349.81	6,402.08	6,377.15	24.93	256.830	
8,100.00	8,100.00	8,022.47	8,021.07	18.07	7.19	3.13	6,393.06	349.04	6,402.70	6,377.45	25.25	253.615	
8,200.00	8,200.00	8,133.99	8,132.58	18.30	7.30	3.12	6,393.66	348.19	6,403.19	6,377.62	25.57	250.394	
8,300.00	8,300.00	8,236.24	8,236.83	18.52	7.40	3.11	6,394.12	347.35	6,403.59	6,377.71	25.89	247.380	
8,400.00	8,400.00	8,347.07	8,345.65	18.75	7.49	3.10	6,394.50	346.47	6,403.90	6,377.71	26.19	244.473	
8,500.00	8,500.00	8,461.04	8,459.62	18.97	7.58	3.09	6,394.69	345.56	6,404.02	6,377.52	26.49	241.735	
8,600.00	8,600.00	8,567.15	8,565.73	19.20	7.65	3.09	6,394.66	344.88	6,403.95	6,377.18	26.77	239.237	
8,700.00	8,700.00	8,669.20	8,667.78	19.42	7.70	3.08	6,394.57	344.43	6,403.85	6,376.82	27.03	236.897	
8,800.00	8,800.00	8,766.84	8,765.41	19.65	7.75	3.08	6,394.48	344.07	6,403.73	6,376.44	27.29	234.621	
8,852.68	8,852.68	8,814.10	8,812.68	19.77	7.78	3.08	6,394.47	343.85	6,403.70	6,376.27	27.43	233.424	
8,900.00	8,900.00	8,851.12	8,849.70	19.87	7.81	3.08	6,394.51	343.56	6,403.74	6,376.18	27.56	232.335	
9,000.00	9,000.00	8,933.33	8,931.89	20.10	7.88	3.07	6,394.83	342.53	6,404.06	6,376.22	27.84	230.007	
9,100.00	9,100.00	9,028.32	9,026.88	20.32	7.98	3.06	6,395.39	341.34	6,404.57	6,376.43	28.14	227.576	
9,200.00	9,200.00	9,143.98	9,142.53	20.55	8.09	3.04	6,395.93	340.01	6,404.98	6,376.52	28.46	225.082	
9,227.04	9,227.04	9,176.19	9,174.74	20.61	8.12	3.04	6,396.02	339.65	6,405.04	6,376.50	28.54	224.425	
9,250.00	9,249.99	9,202.89	9,201.43	20.66	8.14	-1.05	6,396.08	339.37	6,404.62	6,376.01	28.61	223.859	
9,300.00	9,299.80	9,251.23	9,249.77	20.77	8.18	-1.07	6,396.17	338.84	6,400.51	6,371.76	28.75	222.592	
9,350.00	9,349.06	9,300.00	9,298.54	20.88	8.23	-1.09	6,396.29	338.28	6,392.09	6,363.19	28.90	221.185	
9,400.00	9,397.39	9,339.48	9,338.02	20.99	8.26	-1.12	6,396.41	337.82	6,379.45	6,350.41	29.04	219.680	
9,450.00	9,444.42	9,378.75	9,377.28	21.10	8.30	-1.16	6,396.57	337.37	6,362.69	6,333.52	29.18	218.074	

CC - Min centre to center distance or covergent point, SF - min separation factor, ES - min ellipse separation

Company:	Legacy Reserves	**Local Co-ordinate Reference:**	Well Lea Unit #41H
Project:	Lea County, NM (NAD-27 2015)	**TVD Reference:**	KB @ 3694.00usft (McVay 4)
Reference Site:	Lea Unit #41H	**MD Reference:**	KB @ 3694.00usft (McVay 4)
Site Error:	0.00 usft	**North Reference:**	Grid
Reference Well:	Lea Unit #41H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.00 usft	**Output errors are at**	2.00 sigma
Reference Wellbore	Lateral #1	**Database:**	EDM 5000.1 Single User Db
Reference Design:	Design #2	**Offset TVD Reference:**	Offset Datum

Offset Design Lea County Offset Wells - Lea Unit #10 - OH - OH — **Offset Site Error:** 0.00 usft

Survey Program: 100-Scientific Gyro — **Offset Well Error:** 0.00 usft

Reference Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
9,500.00	9,489.79	9,422.29	9,420.82	21.21	8.35	-1.22	6,396.80	336.88	6,341.95	6,312.63	29.31	216.347	
9,550.00	9,533.17	9,470.75	9,469.27	21.31	8.39	-1.29	6,397.03	336.33	6,317.29	6,287.84	29.45	214.508	
9,600.00	9,574.21	9,514.50	9,513.02	21.43	8.44	-1.39	6,397.21	335.80	6,268.92	6,259.34	29.58	212.636	
9,650.00	9,612.62	9,552.01	9,550.53	21.56	8.47	-1.50	6,397.37	335.33	6,257.06	6,227.38	29.69	210.753	
9,700.00	9,648.09	9,586.68	9,585.20	21.71	8.51	-1.65	6,397.52	334.87	6,221.98	6,192.19	29.79	208.844	
9,750.00	9,680.35	9,615.35	9,613.87	21.88	8.54	-1.85	6,397.65	334.46	6,183.94	6,154.05	29.88	206.933	
9,800.00	9,709.17	9,639.13	9,637.64	22.07	8.56	-2.11	6,397.78	334.08	6,143.24	6,113.28	29.96	205.028	
9,850.00	9,734.31	9,659.95	9,658.46	22.29	8.58	-2.47	6,397.92	333.71	6,100.19	6,070.16	30.03	203.128	
9,900.00	9,755.60	9,677.66	9,676.16	22.53	8.60	-2.99	6,398.04	333.37	6,055.11	6,025.02	30.09	201.246	
9,950.00	9,772.86	9,700.00	9,698.50	22.80	8.62	-3.82	6,398.22	332.90	6,008.33	5,978.19	30.14	199.353	
10,000.00	9,785.97	9,700.00	9,698.50	23.10	8.62	-5.23	6,398.22	332.90	5,960.20	5,930.03	30.17	197.582	
10,050.00	9,794.83	9,709.91	9,708.40	23.42	8.63	-8.45	6,398.31	332.68	5,911.08	5,880.89	30.19	195.788	
10,100.00	9,799.36	9,713.63	9,712.13	23.76	8.64	-21.06	6,398.34	332.59	5,861.36	5,831.15	30.21	194.051	
10,127.04	9,800.00	9,714.28	9,712.77	23.96	8.64	-69.25	6,398.35	332.58	5,834.34	5,804.13	30.21	193.129	
10,200.00	9,800.00	9,714.70	9,713.19	24.53	8.64	-69.42	6,398.35	332.57	5,761.40	5,731.18	30.22	190.675	
10,300.00	9,800.00	9,715.28	9,713.77	25.40	8.64	-69.65	6,398.36	332.55	5,661.42	5,631.20	30.23	187.309	
10,400.00	9,800.00	9,715.86	9,714.36	26.37	8.64	-69.89	6,398.36	332.54	5,561.45	5,531.22	30.24	183.939	
10,500.00	9,800.00	9,716.45	9,714.95	27.42	8.64	-70.13	6,398.37	332.52	5,461.48	5,431.23	30.25	180.565	
10,600.00	9,800.00	9,717.05	9,715.54	28.55	8.64	-70.38	6,398.37	332.51	5,361.51	5,331.25	30.26	177.188	
10,700.00	9,800.00	9,717.65	9,716.14	29.75	8.64	-70.62	6,398.38	332.49	5,261.54	5,231.27	30.27	173.807	
10,800.00	9,800.00	9,718.25	9,716.74	31.01	8.64	-70.87	6,398.39	332.48	5,161.57	5,131.29	30.29	170.423	
10,900.00	9,800.00	9,718.86	9,717.35	32.32	8.64	-71.13	6,398.39	332.46	5,061.61	5,031.30	30.30	167.036	
11,000.00	9,800.00	9,719.47	9,717.96	33.68	8.64	-71.38	6,398.40	332.45	4,961.64	4,931.32	30.32	163.647	
11,100.00	9,800.00	9,720.09	9,718.58	35.08	8.64	-71.64	6,398.40	332.43	4,861.68	4,831.34	30.34	160.255	
11,200.00	9,800.00	9,720.71	9,719.20	36.51	8.64	-71.90	6,398.41	332.41	4,761.72	4,731.36	30.36	156.862	
11,300.00	9,800.00	9,721.34	9,719.83	37.98	8.64	-72.16	6,398.41	332.40	4,661.75	4,631.38	30.38	153.468	
11,400.00	9,800.00	9,721.97	9,720.46	39.48	8.64	-72.43	6,398.42	332.38	4,561.79	4,531.40	30.40	150.070	
11,500.00	9,800.00	9,722.61	9,721.10	41.00	8.64	-72.69	6,398.43	332.36	4,461.84	4,431.42	30.42	146.672	
11,600.00	9,800.00	9,723.25	9,721.74	42.55	8.65	-72.97	6,398.43	332.35	4,361.88	4,331.44	30.44	143.273	
11,700.00	9,800.00	9,723.90	9,722.39	44.11	8.65	-73.24	6,398.44	332.33	4,261.93	4,231.46	30.47	139.873	
11,800.00	9,800.00	9,724.55	9,723.04	45.70	8.65	-73.52	6,398.45	332.31	4,161.97	4,131.48	30.50	136.473	
11,900.00	9,800.00	9,725.21	9,723.70	47.30	8.65	-73.80	6,398.45	332.30	4,062.02	4,031.50	30.52	133.073	
12,000.00	9,800.00	9,725.87	9,724.36	48.92	8.65	-74.08	6,398.46	332.28	3,962.08	3,931.52	30.55	129.673	
12,100.00	9,800.00	9,726.54	9,725.03	50.54	8.65	-74.37	6,398.47	332.26	3,862.13	3,831.55	30.59	126.272	
12,200.00	9,800.00	9,727.21	9,725.70	52.16	8.65	-74.65	6,398.47	332.24	3,762.19	3,731.57	30.62	122.873	
12,300.00	9,800.00	9,727.89	9,726.38	53.84	8.65	-74.95	6,398.48	332.22	3,662.25	3,631.60	30.65	119.473	
12,400.00	9,800.00	9,728.58	9,727.07	55.50	8.65	-75.24	6,398.49	332.20	3,562.31	3,531.62	30.69	116.075	
12,500.00	9,800.00	9,729.27	9,727.76	57.17	8.65	-75.54	6,398.49	332.19	3,462.38	3,431.65	30.73	112.677	
12,600.00	9,800.00	9,729.97	9,728.45	58.85	8.65	-75.84	6,398.50	332.17	3,362.45	3,331.68	30.77	109.280	
12,700.00	9,800.00	9,730.67	9,729.16	60.54	8.65	-76.15	6,398.51	332.15	3,262.53	3,231.72	30.81	105.884	
12,800.00	9,800.00	9,731.38	9,729.86	62.24	8.65	-76.46	6,398.52	332.13	3,162.61	3,131.75	30.86	102.490	
12,900.00	9,800.00	9,732.09	9,730.58	63.94	8.65	-76.77	6,398.52	332.11	3,062.70	3,031.79	30.91	99.097	
13,000.00	9,800.00	9,732.81	9,731.30	65.65	8.66	-77.08	6,398.53	332.09	2,962.79	2,931.83	30.96	95.705	
13,100.00	9,800.00	9,733.54	9,732.02	67.36	8.66	-77.40	6,398.54	332.07	2,862.88	2,831.87	31.01	92.314	
13,200.00	9,800.00	9,734.27	9,732.75	69.08	8.66	-77.72	6,398.55	332.04	2,762.99	2,731.92	31.07	88.925	
13,300.00	9,800.00	9,735.01	9,733.49	70.80	8.66	-78.05	6,398.55	332.02	2,663.10	2,631.96	31.13	85.537	
13,400.00	9,800.00	9,735.75	9,734.24	72.53	8.66	-78.37	6,398.56	332.00	2,563.22	2,532.02	31.20	82.150	
13,500.00	9,800.00	9,736.50	9,734.99	74.26	8.66	-78.71	6,398.57	331.98	2,463.35	2,432.07	31.28	78.764	
13,600.00	9,800.00	9,737.26	9,735.74	76.00	8.66	-79.04	6,398.58	331.96	2,363.49	2,332.13	31.35	75.379	
13,700.00	9,800.00	9,738.02	9,736.51	77.74	8.66	-79.38	6,398.59	331.94	2,263.64	2,232.20	31.44	71.994	
13,800.00	9,800.00	9,738.79	9,737.28	79.48	8.66	-79.72	6,398.60	331.91	2,163.81	2,132.27	31.54	68.609	
13,900.00	9,800.00	9,739.57	9,738.05	81.23	8.66	-80.07	6,398.60	331.89	2,063.99	2,032.34	31.64	65.224	

CC - Min centre to center distance or covergent point, SF - min separation factor, ES - min ellipse separation

Company:	Legacy Reserves	**Local Co-ordinate Reference:**	Well Lea Unit #41H
Project:	Lea County, NM (NAD-27 2015)	**TVD Reference:**	KB @ 3694.00usft (McVay 4)
Reference Site:	Lea Unit #41H	**MD Reference:**	KB @ 3694.00usft (McVay 4)
Site Error:	0.00 usft	**North Reference:**	Grid
Reference Well:	Lea Unit #41H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.00 usft	**Output errors are at**	2.00 sigma
Reference Wellbore	Lateral #1	**Database:**	EDM 5000.1 Single User Db
Reference Design:	Design #2	**Offset TVD Reference:**	Offset Datum

Offset Design Lea County Offset Wells - Lea Unit #10 - OH - OH — **Offset Site Error:** 0.00 usft

Survey Program: 100-Scientific Gyro — **Offset Well Error:** 0.00 usft

Reference Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
14,000.00	9,800.00	9,742.00	9,740.48	82.98	8.66	-81.15	6,398.63	331.82	1,954.19	1,932.42	31.76	61.637	
14,100.00	9,800.00	9,742.00	9,740.48	84.73	8.66	-81.15	6,398.63	331.82	1,864.41	1,832.51	31.90	58.450	
14,200.00	9,800.00	9,742.00	9,740.48	86.48	8.66	-81.15	6,398.63	331.82	1,764.65	1,732.60	32.05	55.060	
14,300.00	9,800.00	9,742.00	9,740.48	88.24	8.66	-81.15	6,398.63	331.82	1,664.93	1,632.70	32.22	51.666	
14,400.00	9,800.00	9,742.00	9,740.48	90.00	8.66	-81.15	6,398.63	331.82	1,565.24	1,532.81	32.43	48.267	
14,500.00	9,800.00	9,742.00	9,740.48	91.76	8.66	-81.15	6,398.63	331.82	1,465.59	1,432.92	32.67	44.862	
14,600.00	9,800.00	9,742.00	9,740.48	93.53	8.66	-81.15	6,398.63	331.82	1,365.99	1,333.04	32.95	41.450	
14,700.00	9,800.00	9,742.00	9,740.48	95.29	8.66	-81.15	6,398.63	331.82	1,266.46	1,233.16	33.30	38.027	
14,800.00	9,800.00	9,742.00	9,740.48	97.06	8.66	-81.15	6,398.63	331.82	1,167.01	1,133.27	33.73	34.594	
14,900.00	9,800.00	9,742.00	9,740.48	98.83	8.66	-81.15	6,398.63	331.82	1,067.65	1,033.38	34.28	31.148	
15,000.00	9,800.00	9,742.00	9,740.48	100.60	8.66	-81.15	6,398.63	331.82	968.44	933.46	34.97	27.690	
15,100.00	9,800.00	9,742.00	9,740.48	102.37	8.66	-81.15	6,398.63	331.82	869.40	833.50	35.89	24.221	
15,200.00	9,800.00	9,742.00	9,740.48	104.14	8.66	-81.15	6,398.63	331.82	770.61	733.47	37.14	20.748	
15,300.00	9,800.00	9,742.00	9,740.48	105.92	8.66	-81.15	6,398.63	331.82	672.17	633.29	38.89	17.285	
15,400.00	9,800.00	9,742.00	9,740.48	107.65	8.66	-81.15	6,398.63	331.82	574.28	532.86	41.43	13.862	
15,500.00	9,800.00	9,742.00	9,740.48	109.47	8.66	-81.15	6,398.63	331.82	477.27	431.98	45.29	10.538	
15,600.00	9,800.00	9,742.00	9,740.48	111.25	8.66	-81.15	6,398.63	331.82	381.80	330.29	51.50	7.413	
15,700.00	9,800.00	9,742.00	9,740.48	113.03	8.66	-81.15	6,398.63	331.82	289.40	227.22	62.18	4.654	
15,800.00	9,800.00	9,742.00	9,740.48	114.81	8.66	-81.15	6,398.63	331.82	204.29	122.63	81.66	2.502	
15,900.00	9,800.00	9,742.00	9,740.48	116.59	8.66	-81.15	6,398.63	331.82	140.42	27.55	112.88	1.244	Level 2
15,960.06	9,800.00	9,742.00	9,740.48	117.66	8.66	-81.15	6,398.63	331.82	126.92	3.19	123.73	1.026	Level 2, CC, ES, SF
16,000.00	9,800.00	9,742.00	9,740.48	118.38	8.66	-81.15	6,398.63	331.82	133.05	14.17	118.88	1.119	Level 2
16,100.00	9,800.00	9,742.00	9,740.48	120.16	8.66	-81.15	6,398.63	331.82	188.91	100.04	88.87	2.126	
16,200.00	9,800.00	9,742.00	9,740.48	121.94	8.66	-81.15	6,398.63	331.82	271.42	203.75	67.67	4.011	
16,300.00	9,800.00	9,742.00	9,740.48	123.73	8.66	-81.15	6,398.63	331.82	362.84	306.85	55.99	6.480	
16,400.00	9,800.00	9,742.00	9,740.48	125.52	8.66	-81.15	6,398.63	331.82	457.86	408.64	49.22	9.303	
16,500.00	9,800.00	9,742.00	9,740.48	127.30	8.66	-81.15	6,398.63	331.82	554.63	509.63	45.00	12.324	
16,600.00	9,800.00	9,742.00	9,740.48	129.09	8.66	-81.15	6,398.63	331.82	652.38	610.15	42.23	15.448	
16,700.00	9,800.00	9,742.00	9,740.48	130.88	8.66	-81.15	6,398.63	331.82	750.72	710.40	40.32	18.617	
16,800.00	9,800.00	9,742.00	9,740.48	132.67	8.66	-81.15	6,398.63	331.82	849.45	810.49	38.96	21.801	
16,900.00	9,800.00	9,742.00	9,740.48	134.46	8.66	-81.15	6,398.63	331.82	948.45	910.48	37.97	24.980	
17,000.00	9,800.00	9,742.00	9,740.48	136.25	8.66	-81.15	6,398.63	331.82	1,047.63	1,010.41	37.22	28.146	
17,100.00	9,800.00	9,742.00	9,740.48	138.04	8.66	-81.15	6,398.63	331.82	1,146.96	1,110.31	36.65	31.294	
17,200.00	9,800.00	9,742.00	9,740.48	139.83	8.66	-81.15	6,398.63	331.82	1,246.40	1,210.19	36.21	34.420	
17,300.00	9,800.00	9,742.00	9,740.48	141.63	8.66	-81.15	6,398.63	331.82	1,345.91	1,310.05	35.87	37.526	
17,400.00	9,800.00	9,742.00	9,740.48	143.42	8.66	-81.15	6,398.63	331.82	1,445.50	1,409.90	35.60	40.609	
17,500.00	9,800.00	9,742.00	9,740.48	145.21	8.66	-81.15	6,398.63	331.82	1,545.14	1,509.76	35.38	43.671	
17,531.60	9,800.00	9,742.00	9,740.48	145.78	8.66	-81.15	6,398.63	331.82	1,576.63	1,541.31	35.32	44.634	

Company:	Legacy Reserves	**Local Co-ordinate Reference:**	Well Lea Unit #41H
Project:	Lea County, NM (NAD-27 2015)	**TVD Reference:**	KB @ 3694.00usft (McVay 4)
Reference Site:	Lea Unit #41H	**MD Reference:**	KB @ 3694.00usft (McVay 4)
Site Error:	0.00 usft	**North Reference:**	Grid
Reference Well:	Lea Unit #41H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.00 usft	**Output errors are at**	2.00 sigma
Reference Wellbore	Lateral #1	**Database:**	EDM 5000.1 Single User Db
Reference Design:	Design #2	**Offset TVD Reference:**	Offset Datum

Offset Design Lea County Offset Wells - Lea Unit #11 - OH - OH — **Offset Site Error:** 0.00 usft

Survey Program: 100-Scientific Gyro — **Offset Well Error:** 0.00 usft

Reference Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
0.00	0.00	0.00	0.00	0.00	0.00	5.78	3,670.86	371.53	3,689.65				
100.00	100.00	79.46	79.46	0.09	0.07	5.78	3,670.87	371.68	3,689.64	3,689.49	0.15	N/A	
200.00	200.00	167.50	167.50	0.32	0.16	5.79	3,671.02	372.01	3,689.84	3,689.40	0.45	8,253.353	
300.00	300.00	272.55	272.55	0.54	0.29	5.79	3,671.43	372.30	3,690.27	3,689.50	0.77	4,788.890	
400.00	400.00	387.69	387.69	0.77	0.41	5.80	3,671.43	372.81	3,690.31	3,689.24	1.07	3,443.120	
500.00	500.00	497.41	497.41	0.99	0.52	5.80	3,671.07	373.21	3,690.02	3,688.67	1.35	2,739.286	
600.00	600.00	663.96	663.94	1.22	0.64	5.81	3,669.21	373.32	3,689.06	3,687.37	1.69	2,178.269	
700.00	700.00	802.42	802.34	1.44	0.74	5.80	3,665.25	372.27	3,686.07	3,684.01	2.06	1,793.579	
800.00	800.00	900.00	899.86	1.67	0.81	5.78	3,662.07	370.71	3,682.67	3,680.28	2.38	1,544.572	
900.00	900.00	987.17	986.96	1.89	0.87	5.75	3,659.48	368.58	3,679.49	3,676.79	2.70	1,363.003	
1,000.00	1,000.00	1,076.82	1,076.54	2.12	0.93	5.72	3,657.32	366.03	3,676.81	3,673.79	3.02	1,219.366	
1,100.00	1,100.00	1,158.04	1,157.72	2.34	1.00	5.69	3,655.59	364.11	3,674.45	3,671.13	3.32	1,105.366	
1,200.00	1,200.00	1,241.99	1,241.65	2.56	1.08	5.67	3,654.21	362.78	3,672.66	3,669.02	3.64	1,009.308	
1,300.00	1,300.00	1,335.05	1,334.70	2.79	1.18	5.65	3,652.90	361.69	3,671.14	3,667.18	3.97	925.608	
1,400.00	1,400.00	1,431.49	1,431.12	3.01	1.28	5.64	3,651.66	360.70	3,669.76	3,665.46	4.30	853.720	
1,500.00	1,500.00	1,529.55	1,529.17	3.24	1.40	5.63	3,650.46	359.78	3,668.45	3,663.82	4.64	791.459	
1,600.00	1,600.00	1,626.97	1,626.59	3.46	1.51	5.62	3,649.30	358.98	3,667.19	3,662.21	4.97	737.435	
1,700.00	1,700.00	1,719.96	1,719.57	3.69	1.62	5.61	3,648.31	358.36	3,666.06	3,660.75	5.31	690.730	
1,800.00	1,800.00	1,800.00	1,799.60	3.91	1.72	5.60	3,647.62	357.96	3,665.18	3,659.56	5.63	651.249	
1,900.00	1,900.00	1,886.84	1,886.44	4.14	1.80	5.61	3,647.23	357.96	3,664.75	3,658.82	5.93	618.171	
1,926.70	1,926.70	1,909.10	1,908.70	4.20	1.81	5.61	3,647.20	358.07	3,664.74	3,658.74	6.00	610.440	
2,000.00	2,000.00	1,976.80	1,976.41	4.36	1.83	5.61	3,647.22	358.44	3,664.79	3,658.60	6.20	591.538	
2,100.00	2,100.00	2,070.74	2,070.34	4.59	1.85	5.62	3,647.40	358.92	3,665.04	3,658.59	6.44	569.004	
2,200.00	2,200.00	2,168.29	2,167.89	4.81	1.87	5.63	3,647.72	359.31	3,665.40	3,658.72	6.68	549.049	
2,300.00	2,300.00	2,265.79	2,265.39	5.04	1.88	5.63	3,648.10	359.59	3,665.81	3,658.91	6.91	530.836	
2,400.00	2,400.00	2,368.27	2,367.86	5.26	1.89	5.63	3,648.54	359.72	3,666.26	3,659.12	7.14	513.649	
2,500.00	2,500.00	2,473.19	2,472.79	5.49	1.91	5.63	3,648.86	359.86	3,666.56	3,659.19	7.38	496.757	
2,600.00	2,600.00	2,577.24	2,576.83	5.71	1.96	5.64	3,649.04	360.09	3,666.77	3,659.13	7.64	479.759	
2,700.00	2,700.00	2,684.95	2,684.55	5.94	2.04	5.64	3,649.06	360.41	3,666.82	3,658.89	7.93	462.311	
2,800.00	2,800.00	2,789.69	2,789.26	6.16	2.14	5.65	3,648.86	360.95	3,666.67	3,658.44	8.23	445.311	
2,900.00	2,900.00	2,884.21	2,883.79	6.39	2.23	5.67	3,648.61	362.12	3,666.54	3,658.01	8.53	430.063	
2,946.67	2,946.67	2,929.09	2,928.67	6.49	2.28	5.68	3,648.52	362.97	3,666.53	3,657.87	8.66	423.356	
3,000.00	3,000.00	2,981.20	2,980.77	6.61	2.33	5.70	3,648.42	364.09	3,666.54	3,657.72	8.81	415.960	
3,100.00	3,100.00	3,079.64	3,079.18	6.84	2.42	5.74	3,648.24	366.43	3,666.60	3,657.49	9.10	402.767	
3,200.00	3,200.00	3,174.26	3,173.77	7.06	2.52	5.77	3,648.13	368.78	3,666.74	3,657.35	9.39	390.540	
3,300.00	3,300.00	3,260.77	3,260.25	7.28	2.60	5.81	3,648.22	371.14	3,667.12	3,657.45	9.67	379.354	
3,400.00	3,400.00	3,344.07	3,343.50	7.51	2.68	5.85	3,648.65	373.70	3,667.94	3,658.00	9.94	369.010	
3,500.00	3,500.00	3,430.30	3,429.68	7.73	2.77	5.89	3,649.47	376.42	3,669.20	3,658.99	10.21	359.285	
3,600.00	3,600.00	3,526.78	3,526.12	7.96	2.85	5.93	3,650.65	379.17	3,670.71	3,660.22	10.49	349.930	
3,700.00	3,700.00	3,633.82	3,633.13	8.18	2.95	5.97	3,651.93	381.72	3,672.15	3,661.37	10.77	340.829	
3,800.00	3,800.00	3,748.28	3,747.55	8.41	3.07	6.00	3,653.02	384.17	3,673.32	3,662.26	11.07	331.937	
3,900.00	3,900.00	3,854.78	3,854.03	8.63	3.18	6.04	3,653.61	386.30	3,674.08	3,662.73	11.36	323.510	
4,000.00	4,000.00	3,959.74	3,958.97	8.86	3.29	6.07	3,654.19	388.31	3,674.84	3,663.19	11.65	315.480	
4,100.00	4,100.00	4,078.72	4,077.92	9.08	3.43	6.10	3,654.44	390.43	3,675.23	3,663.28	11.95	307.492	
4,200.00	4,200.00	4,181.49	4,180.69	9.31	3.55	6.12	3,654.29	392.09	3,675.26	3,663.02	12.25	300.078	
4,300.00	4,300.00	4,265.02	4,264.20	9.53	3.64	6.15	3,654.32	393.47	3,675.48	3,662.96	12.53	293.372	
4,400.00	4,400.00	4,350.30	4,349.47	9.76	3.74	6.17	3,654.78	394.95	3,676.20	3,663.39	12.81	287.012	
4,500.00	4,500.00	4,446.23	4,445.38	9.98	3.84	6.19	3,655.58	396.35	3,677.19	3,664.10	13.09	280.813	
4,600.00	4,600.00	4,551.42	4,550.57	10.21	3.94	6.20	3,656.46	397.34	3,678.12	3,664.73	13.39	274.731	
4,700.00	4,700.00	4,655.47	4,654.61	10.43	4.04	6.21	3,657.21	398.03	3,678.91	3,665.23	13.68	268.870	
4,800.00	4,800.00	4,757.57	4,756.70	10.66	4.14	6.22	3,657.86	398.80	3,679.62	3,665.65	13.98	263.231	
4,900.00	4,900.00	4,854.38	4,853.51	10.88	4.24	6.23	3,658.45	399.65	3,680.32	3,666.05	14.27	257.862	

CC - Min centre to center distance or covergent point, SF - min separation factor, ES - min ellipse separation

Company:	Legacy Reserves	**Local Co-ordinate Reference:**	Well Lea Unit #41H
Project:	Lea County, NM (NAD-27 2015)	**TVD Reference:**	KB @ 3694.00usft (McVay 4)
Reference Site:	Lea Unit #41H	**MD Reference:**	KB @ 3694.00usft (McVay 4)
Site Error:	0.00 usft	**North Reference:**	Grid
Reference Well:	Lea Unit #41H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.00 usft	**Output errors are at**	2.00 sigma
Reference Wellbore	Lateral #1	**Database:**	EDM 5000.1 Single User Db
Reference Design:	Design #2	**Offset TVD Reference:**	Offset Datum

Offset Design Lea County Offset Wells - Lea Unit #11 - OH - OH — **Offset Site Error:** 0.00 usft

Survey Program: 100-Scientific Gyro — **Offset Well Error:** 0.00 usft

Reference Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
5,000.00	5,000.00	4,938.44	4,937.57	11.11	4.33	6.25	3,659.13	400.56	3,681.26	3,666.70	14.56	252.865	
5,100.00	5,100.00	5,000.00	4,999.11	11.33	4.39	6.26	3,659.98	401.19	3,682.83	3,668.01	14.83	248.406	
5,200.00	5,200.00	5,070.19	5,069.29	11.56	4.44	6.26	3,661.63	401.61	3,685.31	3,670.21	15.10	244.028	
5,300.00	5,300.00	5,128.29	5,127.35	11.78	4.48	6.26	3,663.74	401.58	3,688.93	3,673.56	15.37	240.063	
5,400.00	5,400.00	5,200.00	5,198.96	12.00	4.52	6.24	3,667.33	401.27	3,693.75	3,678.11	15.64	236.107	
5,500.00	5,500.00	5,284.97	5,283.80	12.23	4.56	6.23	3,672.11	400.62	3,699.21	3,683.28	15.94	232.125	
5,600.00	5,600.00	5,433.48	5,432.11	12.45	4.63	6.19	3,679.42	398.79	3,704.01	3,687.71	16.30	227.294	
5,700.00	5,700.00	5,567.42	5,565.96	12.68	4.70	6.16	3,684.21	397.54	3,707.41	3,690.77	16.64	222.759	
5,800.00	5,800.00	5,681.83	5,680.31	12.90	4.77	6.14	3,687.70	396.60	3,710.36	3,693.39	16.97	218.610	
5,900.00	5,900.00	5,793.76	5,792.19	13.13	4.83	6.12	3,690.71	395.54	3,712.93	3,695.63	17.30	214.615	
6,000.00	6,000.00	5,896.75	5,895.14	13.35	4.88	6.10	3,693.29	394.39	3,715.30	3,697.68	17.62	210.859	
6,100.00	6,100.00	5,998.74	5,997.10	13.58	4.94	6.07	3,695.79	393.19	3,717.61	3,699.67	17.94	207.235	
6,200.00	6,200.00	6,097.41	6,095.74	13.80	4.99	6.05	3,698.19	392.05	3,719.91	3,701.66	18.26	203.762	
6,300.00	6,300.00	6,213.53	6,211.82	14.03	5.06	6.03	3,700.74	390.81	3,721.98	3,703.39	18.59	200.189	
6,400.00	6,400.00	6,310.45	6,308.72	14.25	5.13	6.01	3,702.72	389.99	3,723.93	3,705.02	18.91	196.922	
6,500.00	6,500.00	6,417.64	6,415.88	14.48	5.20	6.00	3,704.79	389.28	3,725.78	3,706.53	19.24	193.624	
6,600.00	6,600.00	6,517.25	6,515.47	14.70	5.28	5.99	3,706.64	388.78	3,727.57	3,708.00	19.57	190.495	
6,700.00	6,700.00	6,623.66	6,621.87	14.93	5.37	5.98	3,708.50	388.39	3,729.27	3,709.37	19.90	187.376	
6,800.00	6,800.00	6,727.44	6,725.63	15.15	5.45	5.97	3,710.14	388.00	3,730.80	3,710.57	20.24	184.369	
6,900.00	6,900.00	6,827.07	6,825.25	15.38	5.54	5.96	3,711.73	387.69	3,732.35	3,711.79	20.56	181.492	
7,000.00	7,000.00	6,935.72	6,933.89	15.60	5.63	5.95	3,713.31	387.16	3,733.74	3,712.84	20.90	178.620	
7,100.00	7,100.00	7,037.49	7,035.65	15.83	5.71	5.94	3,714.63	386.57	3,734.98	3,713.74	21.23	175.906	
7,200.00	7,200.00	7,138.56	7,136.71	16.05	5.79	5.93	3,716.00	385.79	3,736.25	3,714.69	21.56	173.302	
7,300.00	7,300.00	7,244.46	7,242.59	16.28	5.86	5.91	3,717.26	384.75	3,737.35	3,715.46	21.89	170.755	
7,400.00	7,400.00	7,342.69	7,340.81	16.50	5.93	5.89	3,718.43	383.79	3,738.41	3,716.21	22.21	168.351	
7,500.00	7,500.00	7,447.01	7,445.12	16.72	6.00	5.87	3,719.72	382.56	3,739.52	3,716.99	22.53	165.989	
7,600.00	7,600.00	7,555.80	7,553.90	16.95	6.07	5.85	3,720.75	381.33	3,740.35	3,717.49	22.85	163.676	
7,700.00	7,700.00	7,656.32	7,656.41	17.17	6.14	5.83	3,721.60	380.28	3,741.05	3,717.89	23.17	161.471	
7,800.00	7,800.00	7,763.87	7,761.95	17.40	6.21	5.82	3,722.37	379.24	3,741.69	3,718.20	23.49	159.322	
7,900.00	7,900.00	7,862.59	7,860.67	17.62	6.27	5.80	3,722.99	378.13	3,742.20	3,718.41	23.79	157.286	
8,000.00	8,000.00	7,961.82	7,959.88	17.85	6.34	5.78	3,723.71	376.99	3,742.81	3,718.71	24.10	155.302	
8,100.00	8,100.00	8,067.29	8,065.34	18.07	6.41	5.76	3,724.39	375.82	3,743.34	3,718.93	24.41	153.339	
8,200.00	8,200.00	8,168.75	8,166.80	18.30	6.47	5.75	3,724.91	374.78	3,743.74	3,719.03	24.72	151.455	
8,300.00	8,300.00	8,263.49	8,261.53	18.52	6.54	5.73	3,725.44	373.78	3,744.20	3,719.18	25.02	149.644	
8,400.00	8,400.00	8,364.12	8,362.15	18.75	6.61	5.71	3,726.14	372.71	3,744.78	3,719.45	25.33	147.838	
8,500.00	8,500.00	8,465.26	8,463.28	18.97	6.69	5.70	3,726.73	371.75	3,745.28	3,719.64	25.64	146.067	
8,600.00	8,600.00	8,561.38	8,559.40	19.20	6.77	5.68	3,727.34	370.85	3,745.81	3,719.87	25.95	144.353	
8,700.00	8,700.00	8,661.64	8,659.65	19.42	6.85	5.67	3,728.07	369.95	3,746.45	3,720.18	26.26	142.650	
8,800.00	8,800.00	8,757.96	8,755.96	19.65	6.93	5.65	3,728.73	369.16	3,747.05	3,720.48	26.58	140.992	
8,900.00	8,900.00	8,874.91	8,872.92	19.87	7.03	5.64	3,729.53	368.28	3,747.68	3,720.77	26.90	139.310	
9,000.00	9,000.00	8,991.36	8,989.36	20.10	7.10	5.63	3,729.58	367.47	3,747.65	3,720.45	27.20	137.790	
9,100.00	9,100.00	9,085.96	9,083.95	20.32	7.15	5.62	3,729.52	366.72	3,747.50	3,720.03	27.47	136.401	
9,200.00	9,200.00	9,188.14	9,186.13	20.55	7.21	5.60	3,729.54	365.87	3,747.44	3,719.68	27.76	135.010	
9,227.04	9,227.04	9,216.38	9,214.37	20.61	7.23	5.60	3,729.52	365.65	3,747.41	3,719.57	27.83	134.641	
9,250.00	9,249.99	9,240.47	9,238.46	20.66	7.24	1.51	3,729.50	365.46	3,746.91	3,719.01	27.90	134.315	
9,300.00	9,299.80	9,292.74	9,290.73	20.77	7.27	1.51	3,729.44	365.01	3,742.63	3,714.59	28.04	133.492	
9,350.00	9,349.06	9,353.68	9,351.66	20.88	7.30	1.53	3,729.26	364.46	3,733.94	3,705.77	28.17	132.529	
9,400.00	9,397.39	9,411.36	9,409.35	20.99	7.32	1.57	3,728.90	363.97	3,720.84	3,692.53	28.31	131.455	
9,450.00	9,444.42	9,456.90	9,454.88	21.10	7.34	1.62	3,728.58	363.56	3,703.55	3,675.12	28.43	130.284	
9,500.00	9,489.79	9,500.89	9,498.86	21.21	7.35	1.69	3,728.29	363.14	3,682.25	3,653.71	28.54	129.005	
9,550.00	9,533.17	9,546.46	9,544.43	21.31	7.37	1.79	3,727.98	362.70	3,657.09	3,628.43	28.66	127.621	
9,600.00	9,574.21	9,589.50	9,587.47	21.43	7.39	1.91	3,727.66	362.31	3,628.24	3,599.47	28.76	126.152	

CC - Min centre to center distance or covergent point, SF - min separation factor, ES - min ellipse separation

Company:	Legacy Reserves	**Local Co-ordinate Reference:**	Well Lea Unit #41H
Project:	Lea County, NM (NAD-27 2015)	**TVD Reference:**	KB @ 3694.00usft (McVay 4)
Reference Site:	Lea Unit #41H	**MD Reference:**	KB @ 3694.00usft (McVay 4)
Site Error:	0.00 usft	**North Reference:**	Grid
Reference Well:	Lea Unit #41H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.00 usft	**Output errors are at**	2.00 sigma
Reference Wellbore	Lateral #1	**Database:**	EDM 5000.1 Single User Db
Reference Design:	Design #2	**Offset TVD Reference:**	Offset Datum

Offset Design Lea County Offset Wells - Lea Unit #11 - OH - OH — Offset Site Error: 0.00 usft

Survey Program: 100-Scientific Gyro — Offset Well Error: 0.00 usft

Reference Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
9,650.00	9,612.62	9,629.57	9,627.54	21.56	7.40	2.07	3,727.33	361.96	3,595.91	3,567.06	28.86	124.609	
9,700.00	9,648.09	9,666.46	9,664.42	21.71	7.41	2.27	3,727.02	361.63	3,560.38	3,531.43	28.95	123.004	
9,750.00	9,680.35	9,699.91	9,697.87	21.88	7.43	2.55	3,726.71	361.32	3,521.90	3,492.87	29.02	121.346	
9,800.00	9,709.17	9,730.10	9,728.06	22.07	7.44	2.92	3,726.43	361.03	3,480.77	3,451.68	29.09	119.643	
9,850.00	9,734.31	9,756.33	9,754.28	22.29	7.45	3.44	3,726.17	360.77	3,437.32	3,408.17	29.15	117.910	
9,900.00	9,755.60	9,778.39	9,776.34	22.53	7.45	4.22	3,725.95	360.53	3,391.88	3,362.68	29.20	116.157	
9,950.00	9,772.86	9,796.14	9,794.09	22.80	7.46	5.46	3,725.76	360.33	3,344.79	3,315.55	29.24	114.394	
10,000.00	9,785.97	9,808.63	9,806.58	23.10	7.47	7.75	3,725.63	360.19	3,296.42	3,267.16	29.27	112.630	
10,050.00	9,794.83	9,816.66	9,814.61	23.42	7.47	13.23	3,725.54	360.09	3,247.15	3,217.86	29.29	110.873	
10,100.00	9,799.36	9,820.51	9,818.46	23.76	7.47	39.40	3,725.50	360.05	3,197.34	3,168.05	29.30	109.131	
10,127.04	9,800.00	9,820.83	9,818.78	23.96	7.47	111.49	3,725.50	360.05	3,170.32	3,141.02	29.30	108.196	
10,200.00	9,800.00	9,820.03	9,817.98	24.53	7.47	111.07	3,725.51	360.06	3,097.40	3,068.09	29.31	105.689	
10,300.00	9,800.00	9,818.94	9,816.88	25.40	7.47	110.48	3,725.52	360.07	2,997.45	2,968.14	29.31	102.252	
10,400.00	9,800.00	9,817.84	9,815.79	26.37	7.47	109.88	3,725.53	360.08	2,897.51	2,868.19	29.32	98.813	
10,500.00	9,800.00	9,816.74	9,814.68	27.42	7.47	109.28	3,725.54	360.09	2,797.57	2,768.24	29.33	95.372	
10,600.00	9,800.00	9,815.63	9,813.58	28.55	7.47	108.67	3,725.55	360.11	2,697.63	2,668.29	29.34	91.929	
10,700.00	9,800.00	9,814.53	9,812.47	29.75	7.47	108.06	3,725.56	360.12	2,597.70	2,568.35	29.36	88.485	
10,800.00	9,800.00	9,813.42	9,811.37	31.01	7.47	107.44	3,725.58	360.13	2,497.78	2,468.41	29.37	85.040	
10,900.00	9,800.00	9,812.31	9,810.26	32.32	7.47	106.82	3,725.59	360.14	2,397.86	2,368.47	29.39	81.595	
11,000.00	9,800.00	9,811.19	9,809.14	33.68	7.47	106.19	3,725.60	360.16	2,297.94	2,268.54	29.41	78.148	
11,100.00	9,800.00	9,810.08	9,808.03	35.08	7.47	105.55	3,725.61	360.17	2,198.04	2,168.61	29.42	74.701	
11,200.00	9,800.00	9,808.96	9,806.91	36.51	7.47	104.92	3,725.62	360.18	2,098.14	2,068.69	29.45	71.253	
11,300.00	9,800.00	9,807.84	9,805.79	37.98	7.47	104.27	3,725.63	360.19	1,998.25	1,968.78	29.47	67.805	
11,400.00	9,800.00	9,806.72	9,804.67	39.48	7.47	103.62	3,725.65	360.21	1,898.37	1,868.88	29.50	64.357	
11,500.00	9,800.00	9,805.60	9,803.55	41.00	7.46	102.97	3,725.66	360.22	1,798.51	1,768.98	29.53	60.908	
11,600.00	9,800.00	9,804.46	9,802.43	42.55	7.46	102.31	3,725.67	360.23	1,698.66	1,669.10	29.56	57.459	
11,700.00	9,800.00	9,803.35	9,801.30	44.11	7.46	101.65	3,725.68	360.25	1,598.83	1,569.23	29.60	54.009	
11,800.00	9,800.00	9,802.22	9,800.17	45.70	7.46	100.99	3,725.69	360.26	1,499.02	1,469.37	29.65	50.559	
11,900.00	9,800.00	9,801.09	9,799.04	47.30	7.46	100.31	3,725.71	360.27	1,399.24	1,369.53	29.70	47.107	
12,000.00	9,800.00	9,799.95	9,797.90	48.92	7.46	99.64	3,725.72	360.29	1,299.48	1,269.72	29.77	43.652	
12,100.00	9,800.00	9,798.78	9,796.73	50.54	7.46	98.94	3,725.73	360.30	1,199.77	1,169.92	29.85	40.195	
12,200.00	9,800.00	9,797.61	9,795.56	52.19	7.46	98.24	3,725.74	360.31	1,100.11	1,070.16	29.95	36.733	
12,300.00	9,800.00	9,796.44	9,794.39	53.84	7.46	97.54	3,725.76	360.33	1,000.52	970.44	30.08	33.264	
12,400.00	9,800.00	9,795.27	9,793.23	55.50	7.46	96.83	3,725.77	360.34	901.02	870.77	30.25	29.787	
12,500.00	9,800.00	9,794.12	9,792.07	57.17	7.46	96.13	3,725.78	360.35	801.63	771.15	30.48	26.297	
12,600.00	9,800.00	9,792.96	9,790.91	58.85	7.46	95.43	3,725.79	360.37	702.42	671.60	30.82	22.789	
12,700.00	9,800.00	9,791.81	9,789.76	60.54	7.46	94.73	3,725.81	360.38	603.47	572.14	31.34	19.259	
12,800.00	9,800.00	9,790.66	9,788.61	62.24	7.46	94.04	3,725.82	360.39	504.93	472.77	32.16	15.699	
12,900.00	9,800.00	9,789.52	9,787.47	63.94	7.46	93.34	3,725.83	360.40	407.11	373.49	33.61	12.112	
13,000.00	9,800.00	9,788.38	9,786.33	65.65	7.46	92.64	3,725.84	360.42	310.66	274.24	36.42	8.530	
13,100.00	9,800.00	9,787.24	9,785.19	67.36	7.46	91.95	3,725.85	360.43	217.44	174.83	42.61	5.103	
13,200.00	9,800.00	9,786.11	9,784.05	69.08	7.46	91.26	3,725.87	360.44	134.34	76.49	57.84	2.323	
13,296.18	9,800.00	9,785.02	9,782.97	70.74	7.46	90.60	3,725.88	360.45	93.79	16.20	77.59	1.209	Level 2, CC, ES, SF
13,300.00	9,800.00	9,784.98	9,782.93	70.80	7.46	90.57	3,725.88	360.45	93.87	16.25	77.62	1.209	Level 2
13,400.00	9,800.00	9,783.85	9,781.81	72.53	7.46	89.88	3,725.89	360.47	139.91	81.15	58.76	2.381	
13,500.00	9,800.00	9,782.73	9,780.68	74.26	7.46	89.20	3,725.90	360.48	224.35	179.68	44.67	5.022	
13,600.00	9,800.00	9,781.61	9,779.57	76.00	7.46	88.51	3,725.91	360.49	317.95	279.33	38.62	8.233	
13,700.00	9,800.00	9,780.50	9,778.45	77.74	7.46	87.83	3,725.92	360.50	414.55	378.85	35.70	11.613	
13,800.00	9,800.00	9,779.39	9,777.34	79.48	7.45	87.16	3,725.94	360.52	512.45	478.34	34.11	15.025	
13,900.00	9,800.00	9,778.28	9,776.23	81.23	7.45	86.49	3,725.95	360.53	611.02	577.87	33.16	18.427	
14,000.00	9,800.00	9,777.18	9,775.13	82.98	7.45	85.82	3,725.96	360.54	710.00	677.44	32.56	21.809	
14,100.00	9,800.00	9,776.08	9,774.03	84.73	7.45	85.15	3,725.97	360.55	809.22	777.07	32.15	25.168	

CC - Min centre to center distance or covergent point, SF - min separation factor, ES - min ellipse separation

Company:	Legacy Reserves	**Local Co-ordinate Reference:**	Well Lea Unit #41H
Project:	Lea County, NM (NAD-27 2015)	**TVD Reference:**	KB @ 3694.00usft (McVay 4)
Reference Site:	Lea Unit #41H	**MD Reference:**	KB @ 3694.00usft (McVay 4)
Site Error:	0.00 usft	**North Reference:**	Grid
Reference Well:	Lea Unit #41H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.00 usft	**Output errors are at**	2.00 sigma
Reference Wellbore	Lateral #1	**Database:**	EDM 5000.1 Single User Db
Reference Design:	Design #2	**Offset TVD Reference:**	Offset Datum

Offset Design Lea County Offset Wells - Lea Unit #11 - OH - OH

Offset Site Error: 0.00 usft

Survey Program: 100-Scientific Gyro

Offset Well Error: 0.00 usft

Reference Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
14,200.00	9,800.00	9,774.98	9,772.93	86.48	7.45	84.49	3,725.98	360.57	908.62	876.74	31.88	28.505	
14,300.00	9,800.00	9,773.89	9,771.84	88.24	7.45	83.83	3,725.99	360.58	1,008.13	976.45	31.68	31.823	
14,400.00	9,800.00	9,772.80	9,770.75	90.00	7.45	83.17	3,726.00	360.59	1,107.73	1,076.19	31.54	35.122	
14,500.00	9,800.00	9,771.71	9,769.67	91.76	7.45	82.52	3,726.01	360.60	1,207.39	1,175.96	31.44	38.404	
14,600.00	9,800.00	9,770.63	9,768.58	93.53	7.45	81.87	3,726.03	360.61	1,307.11	1,275.74	31.37	41.670	
14,700.00	9,800.00	9,769.55	9,767.51	95.29	7.45	81.23	3,726.04	360.62	1,406.86	1,375.55	31.32	44.921	
14,800.00	9,800.00	9,768.48	9,766.43	97.06	7.45	80.59	3,726.05	360.64	1,506.65	1,475.36	31.29	48.157	
14,900.00	9,800.00	9,767.40	9,765.36	98.83	7.45	79.96	3,726.06	360.65	1,606.46	1,575.20	31.27	51.379	
15,000.00	9,800.00	9,766.34	9,764.29	100.60	7.45	79.33	3,726.07	360.66	1,706.30	1,675.04	31.26	54.587	
15,100.00	9,800.00	9,765.27	9,763.23	102.37	7.45	78.70	3,726.08	360.67	1,806.15	1,774.89	31.26	57.782	
15,200.00	9,800.00	9,764.21	9,762.16	104.14	7.45	78.08	3,726.09	360.68	1,906.01	1,874.75	31.26	60.963	
15,300.00	9,800.00	9,763.15	9,761.11	105.92	7.45	77.47	3,726.10	360.69	2,005.89	1,974.61	31.28	64.131	
15,400.00	9,800.00	9,762.10	9,760.05	107.69	7.45	76.86	3,726.11	360.70	2,105.78	2,074.49	31.30	67.286	
15,500.00	9,800.00	9,761.04	9,759.00	109.47	7.45	76.26	3,726.12	360.72	2,205.68	2,174.36	31.32	70.428	
15,600.00	9,800.00	9,760.00	9,757.95	111.25	7.45	75.66	3,726.13	360.73	2,305.59	2,274.24	31.34	73.557	
15,700.00	9,800.00	9,758.95	9,756.91	113.03	7.45	75.06	3,726.14	360.74	2,405.50	2,374.13	31.37	76.673	
15,800.00	9,800.00	9,757.91	9,755.87	114.81	7.45	74.47	3,726.16	360.75	2,505.42	2,474.02	31.41	79.776	
15,900.00	9,800.00	9,756.87	9,754.83	116.59	7.45	73.89	3,726.17	360.76	2,605.35	2,573.91	31.44	82.865	
16,000.00	9,800.00	9,755.84	9,753.79	118.38	7.45	73.31	3,726.18	360.77	2,705.28	2,673.81	31.48	85.942	
16,100.00	9,800.00	9,754.80	9,752.76	120.16	7.45	72.74	3,726.19	360.78	2,805.22	2,773.70	31.52	89.005	
16,200.00	9,800.00	9,753.78	9,751.73	121.94	7.45	72.17	3,726.20	360.79	2,905.16	2,873.60	31.56	92.055	
16,300.00	9,800.00	9,752.75	9,750.71	123.73	7.44	71.61	3,726.21	360.80	3,005.10	2,973.50	31.60	95.092	
16,400.00	9,800.00	9,751.73	9,749.68	125.52	7.44	71.05	3,726.22	360.81	3,105.05	3,073.40	31.65	98.115	
16,500.00	9,800.00	9,750.71	9,748.67	127.30	7.44	70.50	3,726.23	360.82	3,205.00	3,173.31	31.69	101.125	
16,600.00	9,800.00	9,749.69	9,747.65	129.09	7.44	69.95	3,726.24	360.84	3,304.95	3,273.21	31.74	104.121	
16,700.00	9,800.00	9,748.68	9,746.64	130.88	7.44	69.41	3,726.25	360.85	3,404.91	3,373.12	31.79	107.104	
16,800.00	9,800.00	9,747.67	9,745.63	132.67	7.44	68.88	3,726.26	360.86	3,504.87	3,473.02	31.84	110.073	
16,900.00	9,800.00	9,746.66	9,744.62	134.46	7.44	68.35	3,726.27	360.87	3,604.83	3,572.93	31.89	113.028	
17,000.00	9,800.00	9,745.66	9,743.62	136.25	7.44	67.83	3,726.28	360.88	3,704.79	3,672.84	31.95	115.969	
17,100.00	9,800.00	9,744.66	9,742.62	138.04	7.44	67.31	3,726.29	360.89	3,804.75	3,772.75	32.00	118.897	
17,200.00	9,800.00	9,743.66	9,741.62	139.83	7.44	66.80	3,726.30	360.90	3,904.72	3,872.66	32.06	121.811	
17,300.00	9,800.00	9,742.67	9,740.63	141.63	7.44	66.29	3,726.31	360.91	4,004.68	3,972.57	32.11	124.711	
17,400.00	9,800.00	9,741.68	9,739.64	143.42	7.44	65.79	3,726.32	360.92	4,104.65	4,072.48	32.17	127.596	
17,500.00	9,800.00	9,740.69	9,738.65	145.21	7.44	65.29	3,726.33	360.93	4,204.62	4,172.39	32.23	130.468	
17,531.60	9,800.00	9,740.38	9,738.34	145.78	7.44	65.14	3,726.33	360.93	4,236.21	4,203.96	32.25	131.372	

Company:	Legacy Reserves	**Local Co-ordinate Reference:**	Well Lea Unit #41H
Project:	Lea County, NM (NAD-27 2015)	**TVD Reference:**	KB @ 3694.00usft (McVay 4)
Reference Site:	Lea Unit #41H	**MD Reference:**	KB @ 3694.00usft (McVay 4)
Site Error:	0.00 usft	**North Reference:**	Grid
Reference Well:	Lea Unit #41H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.00 usft	**Output errors are at**	2.00 sigma
Reference Wellbore	Lateral #1	**Database:**	EDM 5000.1 Single User Db
Reference Design:	Design #2	**Offset TVD Reference:**	Offset Datum

Offset Design Lea County Offset Wells - Lea Unit #31H - OH - OH — **Offset Site Error:** 0.00 usft

Survey Program: 108-MWD, 10462-MWD — **Offset Well Error:** 0.00 usft

Reference Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
0.00	0.00	0.00	0.00	0.00	0.00	1.88	8,330.50	274.10	8,335.03				
100.00	100.00	107.85	107.85	0.09	0.10	1.88	8,330.32	273.88	8,334.87	8,334.68	0.19	N/A	
200.00	200.00	364.75	364.71	0.32	0.68	1.87	8,326.57	272.45	8,333.10	8,332.10	1.00	8,344.006	
300.00	300.00	478.93	478.86	0.54	0.94	1.87	8,323.95	271.53	8,330.78	8,329.30	1.47	5,648.456	
400.00	400.00	590.07	589.96	0.77	1.19	1.86	8,321.24	270.50	8,328.31	8,326.37	1.94	4,283.182	
500.00	500.00	693.23	693.09	0.99	1.41	1.86	8,318.62	269.45	8,325.74	8,323.35	2.39	3,484.308	
600.00	600.00	790.00	789.82	1.22	1.61	1.85	8,316.20	268.37	8,323.20	8,320.39	2.81	2,963.714	
700.00	700.00	895.68	895.46	1.44	1.84	1.84	8,313.52	267.02	8,320.62	8,317.36	3.26	2,553.790	
800.00	800.00	994.77	994.50	1.67	2.06	1.83	8,310.99	265.60	8,318.02	8,314.33	3.70	2,249.401	
900.00	900.00	1,097.49	1,097.18	1.89	2.29	1.82	8,308.37	264.05	8,315.43	8,311.28	4.15	2,005.105	
1,000.00	1,000.00	1,202.65	1,202.29	2.12	2.53	1.81	8,305.63	262.35	8,312.77	8,308.16	4.61	1,804.745	
1,100.00	1,100.00	1,297.27	1,296.86	2.34	2.74	1.80	8,303.14	260.79	8,310.09	8,305.06	5.03	1,650.650	
1,200.00	1,200.00	1,379.27	1,378.82	2.56	2.91	1.79	8,301.11	259.39	8,307.56	8,302.14	5.43	1,531.126	
1,300.00	1,300.00	1,454.67	1,454.20	2.79	3.06	1.78	8,299.44	258.07	8,305.30	8,299.50	5.80	1,432.125	
1,400.00	1,400.00	1,525.10	1,524.60	3.01	3.20	1.77	8,298.10	256.86	8,303.35	8,297.19	6.16	1,347.363	
1,500.00	1,500.00	1,607.01	1,606.49	3.24	3.36	1.76	8,296.78	255.51	8,301.69	8,295.14	6.55	1,267.564	
1,600.00	1,600.00	1,704.77	1,704.23	3.46	3.56	1.75	8,295.36	253.90	8,300.19	8,293.21	6.98	1,189.423	
1,700.00	1,700.00	1,780.52	1,779.96	3.69	3.72	1.74	8,294.35	252.64	8,298.81	8,291.45	7.36	1,127.087	
1,800.00	1,800.00	1,841.45	1,840.88	3.91	3.85	1.74	8,293.75	251.75	8,297.80	8,290.09	7.71	1,075.901	
1,900.00	1,900.00	1,907.80	1,907.23	4.14	3.98	1.74	8,293.50	251.46	8,297.36	8,289.30	8.07	1,028.410	
1,940.35	1,940.35	1,919.92	1,919.35	4.23	4.00	1.74	8,293.50	251.49	8,297.31	8,289.13	8.18	1,014.057	
2,000.00	2,000.00	1,973.28	1,972.71	4.36	4.10	1.74	8,293.52	251.67	8,297.34	8,288.92	8.42	985.364	
2,100.00	2,100.00	2,066.75	2,066.17	4.59	4.29	1.74	8,293.62	252.25	8,297.46	8,288.63	8.83	939.772	
2,200.00	2,200.00	2,164.12	2,163.54	4.81	4.48	1.75	8,293.76	252.98	8,297.63	8,288.39	9.25	897.254	
2,300.00	2,300.00	2,264.07	2,263.49	5.04	4.68	1.75	8,293.93	253.76	8,297.82	8,288.15	9.68	857.443	
2,400.00	2,400.00	2,366.29	2,365.70	5.26	4.89	1.76	8,294.09	254.50	8,298.00	8,287.88	10.11	820.368	
2,500.00	2,500.00	2,467.52	2,466.93	5.49	5.10	1.76	8,294.22	255.25	8,298.15	8,287.60	10.55	786.616	
2,600.00	2,600.00	2,565.14	2,564.55	5.71	5.30	1.77	8,294.35	256.00	8,298.31	8,287.33	10.97	756.124	
2,700.00	2,700.00	2,665.46	2,664.87	5.94	5.50	1.77	8,294.50	256.81	8,298.48	8,287.08	11.41	727.520	
2,800.00	2,800.00	2,732.43	2,731.82	6.16	5.64	1.78	8,294.72	257.44	8,298.85	8,287.08	11.77	705.131	
2,900.00	2,900.00	2,800.45	2,799.85	6.39	5.78	1.78	8,295.21	258.31	8,299.61	8,287.48	12.13	684.045	
3,000.00	3,000.00	2,871.88	2,871.26	6.61	5.92	1.79	8,295.99	259.51	8,300.74	8,288.24	12.50	663.890	
3,100.00	3,100.00	2,955.80	2,955.16	6.84	6.09	1.80	8,297.14	261.26	8,302.18	8,289.28	12.90	643.591	
3,200.00	3,200.00	3,033.86	3,033.19	7.06	6.25	1.82	8,298.39	263.15	8,303.84	8,290.56	13.29	625.051	
3,300.00	3,300.00	3,112.19	3,111.48	7.28	6.41	1.83	8,299.80	265.18	8,305.72	8,292.05	13.67	607.519	
3,400.00	3,400.00	3,191.06	3,190.30	7.51	6.57	1.84	8,301.42	267.31	8,307.87	8,293.81	14.06	590.896	
3,500.00	3,500.00	15,739.00	10,980.51	7.73	89.84	5.39	3,357.84	317.01	8,224.86	8,185.29	39.57	207.862	
3,600.00	3,600.00	15,739.00	10,980.51	7.96	89.84	5.39	3,357.84	317.01	8,133.75	8,094.12	39.63	205.242	
3,700.00	3,700.00	15,739.00	10,980.51	8.18	89.84	5.39	3,357.84	317.01	8,042.86	8,003.17	39.69	202.618	
3,800.00	3,800.00	15,739.00	10,980.51	8.41	89.84	5.39	3,357.84	317.01	7,952.19	7,912.43	39.76	199.992	
3,900.00	3,900.00	15,739.00	10,980.51	8.63	89.84	5.39	3,357.84	317.01	7,861.75	7,821.91	39.83	197.365	
4,000.00	4,000.00	15,739.00	10,980.51	8.86	89.84	5.39	3,357.84	317.01	7,771.53	7,731.63	39.91	194.737	
4,100.00	4,100.00	15,739.00	10,980.51	9.08	89.84	5.39	3,357.84	317.01	7,681.56	7,641.58	39.99	192.110	
4,200.00	4,200.00	15,739.00	10,980.51	9.31	89.84	5.39	3,357.84	317.01	7,591.85	7,551.78	40.07	189.484	
4,300.00	4,300.00	15,739.00	10,980.51	9.53	89.84	5.39	3,357.84	317.01	7,502.39	7,462.24	40.15	186.860	
4,400.00	4,400.00	15,739.00	10,980.51	9.76	89.84	5.39	3,357.84	317.01	7,413.20	7,372.96	40.24	184.240	
4,500.00	4,500.00	15,739.00	10,980.51	9.98	89.84	5.39	3,357.84	317.01	7,324.29	7,283.96	40.33	181.624	
4,600.00	4,600.00	15,739.00	10,980.51	10.21	89.84	5.39	3,357.84	317.01	7,235.67	7,195.25	40.42	179.014	
4,700.00	4,700.00	15,739.00	10,980.51	10.43	89.84	5.39	3,357.84	317.01	7,147.35	7,106.84	40.52	176.410	
4,800.00	4,800.00	15,739.00	10,980.51	10.66	89.84	5.39	3,357.84	317.01	7,059.34	7,018.73	40.61	173.813	
4,900.00	4,900.00	15,739.00	10,980.51	10.88	89.84	5.39	3,357.84	317.01	6,971.66	6,930.94	40.72	171.224	
5,000.00	5,000.00	15,739.00	10,980.51	11.11	89.84	5.39	3,357.84	317.01	6,884.31	6,843.49	40.82	168.644	

CC - Min centre to center distance or covergent point, SF - min separation factor, ES - min ellipse separation

Company:	Legacy Reserves	**Local Co-ordinate Reference:**	Well Lea Unit #41H
Project:	Lea County, NM (NAD-27 2015)	**TVD Reference:**	KB @ 3694.00usft (McVay 4)
Reference Site:	Lea Unit #41H	**MD Reference:**	KB @ 3694.00usft (McVay 4)
Site Error:	0.00 usft	**North Reference:**	Grid
Reference Well:	Lea Unit #41H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.00 usft	**Output errors are at**	2.00 sigma
Reference Wellbore	Lateral #1	**Database:**	EDM 5000.1 Single User Db
Reference Design:	Design #2	**Offset TVD Reference:**	Offset Datum

Offset Design Lea County Offset Wells - Lea Unit #31H - OH - OH — Offset Site Error: 0.00 usft

Survey Program: 108-MWD, 10462-MWD — Offset Well Error: 0.00 usft

Reference Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
5,100.00	5,100.00	15,739.00	10,980.51	11.33	89.84	5.39	3,357.84	317.01	6,797.31	6,756.38	40.93	166.074	
5,200.00	5,200.00	15,739.00	10,980.51	11.56	89.84	5.39	3,357.84	317.01	6,710.67	6,669.63	41.04	163.516	
5,300.00	5,300.00	15,739.00	10,980.51	11.78	89.84	5.39	3,357.84	317.01	6,624.41	6,583.26	41.15	160.959	
5,400.00	5,400.00	15,739.00	10,980.51	12.00	89.84	5.39	3,357.84	317.01	6,538.54	6,497.27	41.27	158.436	
5,500.00	5,500.00	15,739.00	10,980.51	12.23	89.84	5.39	3,357.84	317.01	6,453.08	6,411.69	41.39	155.916	
5,600.00	5,600.00	15,739.00	10,980.51	12.45	89.84	5.39	3,357.84	317.01	6,368.04	6,326.53	41.51	153.411	
5,700.00	5,700.00	15,739.00	10,980.51	12.68	89.84	5.39	3,357.84	317.01	6,283.44	6,241.81	41.63	150.923	
5,800.00	5,800.00	15,739.00	10,980.51	12.90	89.84	5.39	3,357.84	317.01	6,199.30	6,157.54	41.76	148.451	
5,900.00	5,900.00	15,739.00	10,980.51	13.13	89.84	5.39	3,357.84	317.01	6,115.64	6,073.75	41.89	145.996	
6,000.00	6,000.00	15,739.00	10,980.51	13.35	89.84	5.39	3,357.84	317.01	6,032.47	5,990.45	42.02	143.561	
6,100.00	6,100.00	15,739.00	10,980.51	13.58	89.84	5.39	3,357.84	317.01	5,949.82	5,907.67	42.15	141.145	
6,200.00	6,200.00	15,739.00	10,980.51	13.80	89.84	5.39	3,357.84	317.01	5,867.72	5,825.43	42.29	138.750	
6,300.00	6,300.00	15,739.00	10,980.51	14.03	89.84	5.39	3,357.84	317.01	5,786.17	5,743.75	42.43	136.377	
6,400.00	6,400.00	15,739.00	10,980.51	14.25	89.84	5.39	3,357.84	317.01	5,705.22	5,662.65	42.57	134.026	
6,500.00	6,500.00	15,739.00	10,980.51	14.48	89.84	5.39	3,357.84	317.01	5,624.87	5,582.16	42.71	131.700	
6,600.00	6,600.00	15,739.00	10,980.51	14.70	89.84	5.39	3,357.84	317.01	5,545.17	5,502.31	42.85	129.398	
6,700.00	6,700.00	15,739.00	10,980.51	14.93	89.84	5.39	3,357.84	317.01	5,466.13	5,423.13	43.00	127.121	
6,800.00	6,800.00	15,739.00	10,980.51	15.15	89.84	5.39	3,357.84	317.01	5,387.79	5,344.64	43.15	124.872	
6,900.00	6,900.00	15,739.00	10,980.51	15.38	89.84	5.39	3,357.84	317.01	5,310.18	5,266.88	43.30	122.650	
7,000.00	7,000.00	15,739.00	10,980.51	15.60	89.84	5.39	3,357.84	317.01	5,233.32	5,189.88	43.45	120.458	
7,100.00	7,100.00	15,739.00	10,980.51	15.83	89.84	5.39	3,357.84	317.01	5,157.26	5,113.67	43.60	118.295	
7,200.00	7,200.00	15,739.00	10,980.51	16.05	89.84	5.39	3,357.84	317.01	5,082.03	5,038.29	43.75	116.164	
7,300.00	7,300.00	15,739.00	10,980.51	16.28	89.84	5.39	3,357.84	317.01	5,007.67	4,963.77	43.90	114.064	
7,400.00	7,400.00	15,739.00	10,980.51	16.50	89.84	5.39	3,357.84	317.01	4,934.21	4,890.16	44.06	111.998	
7,500.00	7,500.00	15,739.00	10,980.51	16.72	89.84	5.39	3,357.84	317.01	4,861.70	4,817.49	44.21	109.966	
7,600.00	7,600.00	15,739.00	10,980.51	16.95	89.84	5.39	3,357.84	317.01	4,790.19	4,745.82	44.37	107.970	
7,700.00	7,700.00	15,739.00	10,980.51	17.17	89.84	5.39	3,357.84	317.01	4,719.70	4,675.18	44.52	106.011	
7,800.00	7,800.00	15,739.00	10,980.51	17.40	89.84	5.39	3,357.84	317.01	4,650.30	4,605.62	44.68	104.089	
7,900.00	7,900.00	15,739.00	10,980.51	17.62	89.84	5.39	3,357.84	317.01	4,582.03	4,537.20	44.83	102.206	
8,000.00	8,000.00	15,739.00	10,980.51	17.85	89.84	5.39	3,357.84	317.01	4,514.94	4,469.95	44.99	100.363	
8,100.00	8,100.00	15,739.00	10,980.51	18.07	89.84	5.39	3,357.84	317.01	4,449.09	4,403.95	45.14	98.561	
8,200.00	8,200.00	15,739.00	10,980.51	18.30	89.84	5.39	3,357.84	317.01	4,384.53	4,339.23	45.29	96.801	
8,300.00	8,300.00	15,739.00	10,980.51	18.52	89.84	5.39	3,357.84	317.01	4,321.31	4,275.87	45.45	95.084	
8,400.00	8,400.00	15,739.00	10,980.51	18.75	89.84	5.39	3,357.84	317.01	4,259.51	4,213.91	45.60	93.413	
8,500.00	8,500.00	15,739.00	10,980.51	18.97	89.84	5.39	3,357.84	317.01	4,199.19	4,153.44	45.75	91.786	
8,600.00	8,600.00	15,739.00	10,980.51	19.20	89.84	5.39	3,357.84	317.01	4,140.39	4,094.49	45.90	90.206	
8,700.00	8,700.00	15,739.00	10,980.51	19.42	89.84	5.39	3,357.84	317.01	4,083.20	4,037.16	46.05	88.674	
8,800.00	8,800.00	15,739.00	10,980.51	19.65	89.84	5.39	3,357.84	317.01	4,027.69	3,981.49	46.19	87.190	
8,900.00	8,900.00	15,739.00	10,980.51	19.87	89.84	5.39	3,357.84	317.01	3,973.91	3,927.57	46.34	85.755	
9,000.00	9,000.00	15,739.00	10,980.51	20.10	89.84	5.39	3,357.84	317.01	3,921.94	3,875.46	46.48	84.371	
9,100.00	9,100.00	15,739.00	10,980.51	20.32	89.84	5.39	3,357.84	317.01	3,871.87	3,825.24	46.63	83.037	
9,200.00	9,200.00	15,739.00	10,980.51	20.55	89.84	5.39	3,357.84	317.01	3,823.75	3,776.98	46.77	81.755	
9,227.04	9,227.04	15,739.00	10,980.51	20.61	89.84	5.39	3,357.84	317.01	3,811.08	3,764.27	46.81	81.418	
9,250.00	9,249.99	15,739.00	10,980.51	20.66	89.84	1.33	3,357.84	317.01	3,800.04	3,753.20	46.84	81.121	
9,300.00	9,299.80	15,739.00	10,980.51	20.77	89.84	1.41	3,357.84	317.01	3,773.61	3,726.69	46.92	80.424	
9,350.00	9,349.06	15,739.00	10,980.51	20.88	89.84	1.50	3,357.84	317.01	3,744.03	3,697.03	47.00	79.659	
9,400.00	9,397.39	15,739.00	10,980.51	20.99	89.84	1.62	3,357.84	317.01	3,711.44	3,664.36	47.08	78.838	
9,450.00	9,444.42	15,739.00	10,980.51	21.10	89.84	1.76	3,357.84	317.01	3,676.02	3,628.87	47.15	77.965	
9,500.00	9,489.79	15,739.00	10,980.51	21.21	89.84	1.96	3,357.84	317.01	3,637.96	3,590.74	47.22	77.045	
9,550.00	9,533.17	15,739.00	10,980.51	21.31	89.84	2.21	3,357.84	317.01	3,597.46	3,550.18	47.28	76.083	
9,600.00	9,574.21	15,739.00	10,980.51	21.43	89.84	2.55	3,357.84	317.01	3,554.77	3,507.43	47.34	75.086	
9,650.00	9,612.62	15,739.00	10,980.51	21.56	89.84	3.03	3,357.84	317.01	3,510.13	3,462.73	47.40	74.058	

CC - Min centre to center distance or covergent point, SF - min separation factor, ES - min ellipse separation

Company:	Legacy Reserves	**Local Co-ordinate Reference:**	Well Lea Unit #41H
Project:	Lea County, NM (NAD-27 2015)	**TVD Reference:**	KB @ 3694.00usft (McVay 4)
Reference Site:	Lea Unit #41H	**MD Reference:**	KB @ 3694.00usft (McVay 4)
Site Error:	0.00 usft	**North Reference:**	Grid
Reference Well:	Lea Unit #41H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.00 usft	**Output errors are at**	2.00 sigma
Reference Wellbore	Lateral #1	**Database:**	EDM 5000.1 Single User Db
Reference Design:	Design #2	**Offset TVD Reference:**	Offset Datum

Offset Design Lea County Offset Wells - Lea Unit #31H - OH - OH — Offset Site Error: 0.00 usft

Survey Program: 108-MWD, 10462-MWD — Offset Well Error: 0.00 usft

Reference Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
9,700.00	9,648.09	15,739.00	10,980.51	21.71	89.84	3.76	3,357.84	317.01	3,463.81	3,416.36	47.45	73.005	
9,750.00	9,680.35	15,739.00	10,980.51	21.88	89.84	4.98	3,357.84	317.01	3,416.11	3,368.61	47.49	71.933	
9,800.00	9,709.17	15,739.00	10,980.51	22.07	89.84	7.38	3,357.84	317.01	3,367.33	3,319.80	47.53	70.848	
9,850.00	9,734.31	15,739.00	10,980.51	22.29	89.84	14.20	3,357.84	317.01	3,317.80	3,270.24	47.56	69.757	
9,900.00	9,755.60	15,739.00	10,980.51	22.53	89.84	78.00	3,357.84	317.01	3,267.89	3,220.30	47.59	68.665	
9,950.00	9,772.86	15,739.00	10,980.51	22.80	89.84	163.93	3,357.84	317.01	3,217.96	3,170.34	47.62	67.579	
10,000.00	9,785.97	15,739.00	10,980.51	23.10	89.84	171.95	3,357.84	317.01	3,168.39	3,120.75	47.64	66.505	
10,050.00	9,794.83	15,739.00	10,980.51	23.42	89.84	174.59	3,357.84	317.01	3,119.60	3,071.94	47.67	65.448	
10,100.00	9,799.36	15,739.00	10,980.51	23.76	89.84	175.89	3,357.84	317.01	3,072.00	3,024.31	47.69	64.415	
10,127.04	9,800.00	15,739.00	10,980.51	23.96	89.84	176.35	3,357.84	317.01	3,046.90	2,999.20	47.70	63.870	
10,200.00	9,800.00	15,739.00	10,980.51	24.53	89.84	176.35	3,357.84	317.01	2,980.02	2,932.26	47.76	62.396	
10,300.00	9,800.00	15,739.00	10,980.51	25.40	89.84	176.35	3,357.84	317.01	2,888.82	2,840.98	47.85	60.375	
10,400.00	9,800.00	15,739.00	10,980.51	26.37	89.84	176.35	3,357.84	317.01	2,798.23	2,750.28	47.95	58.359	
10,500.00	9,800.00	15,739.00	10,980.51	27.42	89.84	176.35	3,357.84	317.01	2,708.30	2,660.24	48.06	56.348	
10,600.00	9,800.00	15,739.00	10,980.51	28.55	89.84	176.35	3,357.84	317.01	2,619.11	2,570.91	48.20	54.343	
10,700.00	9,800.00	15,739.00	10,980.51	29.75	89.84	176.35	3,357.84	317.01	2,530.72	2,482.37	48.35	52.345	
10,800.00	9,800.00	15,739.00	10,980.51	31.01	89.84	176.35	3,357.84	317.01	2,443.22	2,394.70	48.52	50.355	
10,900.00	9,800.00	15,739.00	10,980.51	32.32	89.84	176.35	3,357.84	317.01	2,356.72	2,308.00	48.72	48.375	
11,000.00	9,800.00	15,739.00	10,980.51	33.68	89.84	176.35	3,357.84	317.01	2,271.33	2,222.38	48.94	46.407	
11,100.00	9,800.00	15,739.00	10,980.51	35.08	89.84	176.35	3,357.84	317.01	2,187.17	2,137.97	49.20	44.453	
11,200.00	9,800.00	15,739.00	10,980.51	36.51	89.84	176.35	3,357.84	317.01	2,104.41	2,054.91	49.50	42.515	
11,300.00	9,800.00	15,739.00	10,980.51	37.98	89.84	176.35	3,357.84	317.01	2,023.20	1,973.36	49.84	40.596	
11,400.00	9,800.00	15,739.00	10,980.51	39.48	89.84	176.35	3,357.84	317.01	1,943.74	1,893.52	50.23	38.700	
11,500.00	9,800.00	15,739.00	10,980.51	41.00	89.84	176.35	3,357.84	317.01	1,866.26	1,815.59	50.67	36.831	
11,600.00	9,800.00	15,739.00	10,980.51	42.55	89.84	176.35	3,357.84	317.01	1,791.02	1,739.84	51.18	34.995	
11,700.00	9,800.00	15,739.00	10,980.51	44.11	89.84	176.35	3,357.84	317.01	1,718.30	1,666.54	51.76	33.198	
11,800.00	9,800.00	15,739.00	10,980.51	45.70	89.84	176.35	3,357.84	317.01	1,648.44	1,596.02	52.42	31.449	
11,900.00	9,800.00	15,739.00	10,980.51	47.30	89.84	176.35	3,357.84	317.01	1,581.62	1,528.66	53.16	29.756	
12,000.00	9,800.00	15,739.00	10,980.51	48.92	89.84	176.35	3,357.84	317.01	1,518.87	1,464.87	53.99	28.131	
12,100.00	9,800.00	15,739.00	10,980.51	50.54	89.84	176.35	3,357.84	317.01	1,460.05	1,405.14	54.92	26.587	
12,200.00	9,800.00	15,739.00	10,980.51	52.19	89.84	176.35	3,357.84	317.01	1,405.90	1,349.97	55.93	25.137	
12,300.00	9,800.00	15,739.00	10,980.51	53.84	89.84	176.35	3,357.84	317.01	1,356.97	1,299.95	57.02	23.799	
12,400.00	9,800.00	15,739.00	10,980.51	55.50	89.84	176.35	3,357.84	317.01	1,313.84	1,255.67	58.17	22.588	
12,500.00	9,800.00	15,739.00	10,980.51	57.17	89.84	176.35	3,357.84	317.01	1,277.10	1,217.76	59.34	21.522	
12,600.00	9,800.00	15,739.00	10,980.51	58.85	89.84	176.35	3,357.84	317.01	1,247.31	1,186.80	60.50	20.616	
12,700.00	9,800.00	15,739.00	10,980.51	60.54	89.84	176.35	3,357.84	317.01	1,224.98	1,163.37	61.61	19.883	
12,800.00	9,800.00	15,739.00	10,980.51	62.24	89.84	176.35	3,357.84	317.01	1,210.53	1,147.92	62.61	19.334	
12,900.00	9,800.00	15,739.00	10,980.51	63.94	89.84	176.35	3,357.84	317.01	1,204.24	1,140.77	63.46	18.975	
12,926.17	9,800.00	15,739.00	10,980.51	64.39	89.84	176.35	3,357.84	317.01	1,203.96	1,140.30	63.66	18.913	
13,000.00	9,800.00	15,701.59	10,981.88	65.65	89.19	176.53	3,395.21	315.83	1,205.65	1,141.81	63.84	18.886	
13,100.00	9,800.00	15,595.27	10,985.54	67.36	87.34	177.05	3,501.42	312.62	1,208.54	1,144.90	63.64	18.991	
13,200.00	9,800.00	15,478.85	10,988.34	69.08	85.33	177.60	3,617.76	309.45	1,210.50	1,147.12	63.38	19.098	
13,300.00	9,800.00	15,363.85	10,989.45	70.80	83.36	178.15	3,732.71	306.21	1,211.09	1,147.92	63.16	19.174	
13,400.00	9,800.00	15,259.10	10,989.58	72.53	81.61	178.62	3,837.42	303.68	1,210.94	1,147.88	63.06	19.204	
13,485.40	9,800.00	15,176.78	10,989.51	74.01	80.26	178.96	3,919.74	302.26	1,210.71	1,147.65	63.05	19.203	
13,500.00	9,800.00	15,164.85	10,989.54	74.26	80.06	179.01	3,931.66	302.11	1,210.72	1,147.65	63.05	19.198	
13,600.00	9,800.00	15,076.56	10,990.49	76.00	78.56	179.34	4,019.95	301.51	1,211.67	1,148.53	63.14	19.191	
13,700.00	9,800.00	14,953.73	10,991.05	77.74	76.48	179.80	4,142.77	300.50	1,212.08	1,149.12	62.95	19.253	
13,800.00	9,800.00	14,824.78	10,988.67	79.48	74.28	-179.67	4,271.68	298.39	1,210.23	1,147.50	62.73	19.292	
13,900.00	9,800.00	14,714.00	10,984.69	81.23	72.44	-179.18	4,382.36	296.16	1,206.70	1,144.03	62.68	19.252	
14,000.00	9,800.00	14,644.66	10,982.79	82.98	71.31	-178.87	4,451.65	294.56	1,204.12	1,141.13	62.99	19.115	
14,100.00	9,800.00	14,548.70	10,981.94	84.73	69.74	-178.42	4,547.58	291.89	1,203.45	1,140.33	63.11	19.068	

CC - Min centre to center distance or covergent point, SF - min separation factor, ES - min ellipse separation

Company:	Legacy Reserves	**Local Co-ordinate Reference:**	Well Lea Unit #41H
Project:	Lea County, NM (NAD-27 2015)	**TVD Reference:**	KB @ 3694.00usft (McVay 4)
Reference Site:	Lea Unit #41H	**MD Reference:**	KB @ 3694.00usft (McVay 4)
Site Error:	0.00 usft	**North Reference:**	Grid
Reference Well:	Lea Unit #41H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.00 usft	**Output errors are at**	2.00 sigma
Reference Wellbore	Lateral #1	**Database:**	EDM 5000.1 Single User Db
Reference Design:	Design #2	**Offset TVD Reference:**	Offset Datum

Offset Design Lea County Offset Wells - Lea Unit #31H - OH - OH — Offset Site Error: 0.00 usft

Survey Program: 108-MWD, 10462-MWD — Offset Well Error: 0.00 usft

Reference Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
14,200.00	9,800.00	14,459.18	10,981.06	86.48	68.28	-178.01	4,637.07	289.76	1,202.79	1,139.49	63.30	19.002	
14,200.05	9,800.00	14,459.14	10,981.06	86.49	68.28	-178.01	4,637.11	289.76	1,202.79	1,139.49	63.30	19.002	
14,300.00	9,800.00	14,359.26	10,980.98	88.24	66.62	-177.58	4,736.96	287.74	1,203.06	1,139.64	63.43	18.968	
14,400.00	9,800.00	14,247.66	10,980.08	90.00	64.75	-177.11	4,848.54	285.92	1,202.66	1,139.17	63.49	18.944	
14,500.00	9,800.00	14,144.00	10,978.14	91.76	63.06	-176.67	4,952.17	284.22	1,201.25	1,137.62	63.63	18.880	
14,554.71	9,800.00	14,103.13	10,977.54	92.73	62.40	-176.50	4,993.03	283.62	1,200.78	1,136.95	63.82	18.814	
14,600.00	9,800.00	14,074.11	10,977.60	93.53	61.93	-176.40	5,022.05	283.42	1,201.09	1,137.07	64.01	18.763	
14,700.00	9,800.00	13,979.32	10,979.17	95.29	60.41	-176.08	5,116.82	283.43	1,203.18	1,138.96	64.22	18.735	
14,800.00	9,800.00	13,880.92	10,980.38	97.06	58.87	-175.75	5,215.22	283.37	1,204.93	1,140.51	64.42	18.704	
14,900.00	9,800.00	13,794.53	10,982.03	98.83	57.50	-175.46	5,301.59	283.32	1,207.40	1,142.69	64.71	18.659	
15,000.00	9,800.00	13,694.54	10,984.75	100.60	55.87	-175.10	5,401.55	282.62	1,210.77	1,145.83	64.94	18.644	
15,100.00	9,800.00	13,576.19	10,986.82	102.37	53.93	-174.66	5,519.87	281.59	1,213.25	1,148.16	65.09	18.641	
15,200.00	9,800.00	13,426.40	10,984.74	104.14	51.52	-174.09	5,669.63	280.21	1,212.54	1,147.48	65.06	18.638	
15,300.00	9,800.00	13,284.74	10,977.89	105.92	49.26	-173.56	5,811.12	279.82	1,208.56	1,143.50	65.07	18.574	
15,400.00	9,800.00	13,182.03	10,970.79	107.69	47.68	-173.16	5,913.57	279.63	1,202.52	1,137.14	65.36	18.393	
15,500.00	9,800.00	13,098.00	10,965.68	109.47	46.40	-172.87	5,997.45	280.07	1,197.25	1,131.43	65.82	18.189	
15,600.00	9,800.00	12,997.30	10,960.23	111.25	44.85	-172.55	6,098.00	281.12	1,192.64	1,126.49	66.15	18.030	
15,700.00	9,800.00	12,897.77	10,954.58	113.03	43.36	-172.21	6,197.36	281.98	1,187.83	1,121.32	66.51	17.860	
15,800.00	9,800.00	12,812.00	10,950.46	114.81	42.09	-171.92	6,283.03	282.56	1,183.93	1,116.94	66.98	17.675	
15,900.00	9,800.00	12,708.94	10,945.94	116.59	40.55	-171.56	6,385.99	283.01	1,180.54	1,113.16	67.38	17.521	
16,000.00	9,800.00	12,606.37	10,940.69	118.38	39.07	-171.17	6,488.43	283.03	1,176.54	1,108.72	67.82	17.348	
16,100.00	9,800.00	12,526.00	10,937.24	120.16	37.95	-170.84	6,568.72	282.46	1,173.49	1,105.05	68.43	17.148	
16,200.00	9,800.00	12,446.94	10,935.14	121.94	36.90	-170.48	6,645.73	280.92	1,172.28	1,103.17	69.11	16.963	
16,207.01	9,800.00	12,443.49	10,935.04	122.07	36.83	-170.46	6,651.17	280.75	1,172.26	1,103.11	69.16	16.951	
16,300.00	9,800.00	12,370.78	10,934.26	123.73	35.86	-170.07	6,723.83	278.11	1,172.98	1,103.14	69.84	16.796	
16,400.00	9,800.00	12,284.12	10,934.65	125.52	34.72	-169.61	6,810.42	274.55	1,175.39	1,104.81	70.57	16.654	
16,500.00	9,800.00	12,182.71	10,935.45	127.30	33.37	-169.05	6,911.72	269.99	1,178.33	1,106.99	71.34	16.518	
16,600.00	9,800.00	12,083.00	10,935.33	129.09	32.08	-168.38	7,011.18	262.95	1,181.02	1,108.74	72.28	16.340	
16,700.00	9,800.00	11,993.60	10,935.12	130.88	30.98	-167.67	7,100.16	254.36	1,184.29	1,110.92	73.38	16.140	
16,800.00	9,800.00	9,722.29	9,718.88	132.67	20.24	-80.57	8,333.25	232.94	1,143.23	1,075.01	68.21	16.760	
16,900.00	9,800.00	9,726.42	9,723.00	134.46	20.25	-81.21	8,333.42	232.71	1,049.00	976.94	72.06	14.557	
17,000.00	9,800.00	9,730.47	9,727.04	136.25	20.26	-81.84	8,333.58	232.49	955.94	879.23	76.71	12.462	
17,100.00	9,800.00	9,734.45	9,731.01	138.04	20.27	-82.46	8,333.73	232.28	864.41	782.04	82.36	10.495	
17,200.00	9,800.00	9,738.36	9,734.91	139.83	20.28	-83.07	8,333.88	232.07	774.96	685.64	89.32	8.676	
17,300.00	9,800.00	9,742.19	9,738.74	141.63	20.29	-83.67	8,334.03	231.87	688.39	590.47	97.92	7.030	
17,400.00	9,800.00	9,745.96	9,742.49	143.42	20.29	-84.26	8,334.18	231.67	605.96	497.38	108.58	5.581	
17,500.00	9,800.00	9,749.66	9,746.19	145.21	20.30	-84.84	8,334.32	231.46	529.59	407.94	121.64	4.354	
17,531.60	9,800.00	9,750.81	9,747.34	145.78	20.30	-85.02	8,334.36	231.42	507.16	380.88	126.28	4.016	CC, ES, SF

CC - Min centre to center distance or covergent point, SF - min separation factor, ES - min ellipse separation

Company:	Legacy Reserves	**Local Co-ordinate Reference:**	Well Lea Unit #41H
Project:	Lea County, NM (NAD-27 2015)	**TVD Reference:**	KB @ 3694.00usft (McVay 4)
Reference Site:	Lea Unit #41H	**MD Reference:**	KB @ 3694.00usft (McVay 4)
Site Error:	0.00 usft	**North Reference:**	Grid
Reference Well:	Lea Unit #41H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.00 usft	**Output errors are at**	2.00 sigma
Reference Wellbore	Lateral #1	**Database:**	EDM 5000.1 Single User Db
Reference Design:	Design #2	**Offset TVD Reference:**	Offset Datum

Offset Design Lea Unit #36H - Lea Unit #36H - Lateral #1 - Plan #1

Offset Site Error: 0.00 usft

Survey Program: 0-MWD

Offset Well Error: 0.00 usft

Reference Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
0.00	0.00	1.00	1.00	0.00	0.00	-90.57	-0.50	-50.00	50.00				
100.00	100.00	101.00	101.00	0.09	0.09	-90.57	-0.50	-50.00	50.00	49.82	0.19	268.029	
200.00	200.00	201.00	201.00	0.32	0.32	-90.57	-0.50	-50.00	50.00	49.37	0.64	78.609	
300.00	300.00	301.00	301.00	0.54	0.54	-90.57	-0.50	-50.00	50.00	48.92	1.09	46.059	
400.00	400.00	401.00	401.00	0.77	0.77	-90.57	-0.50	-50.00	50.00	48.47	1.54	32.572	
500.00	500.00	501.00	501.00	0.99	0.99	-90.57	-0.50	-50.00	50.00	48.02	1.98	25.194	
600.00	600.00	601.00	601.00	1.22	1.22	-90.57	-0.50	-50.00	50.00	47.57	2.43	20.542	
700.00	700.00	701.00	701.00	1.44	1.44	-90.57	-0.50	-50.00	50.00	47.12	2.88	17.339	
800.00	800.00	801.00	801.00	1.67	1.67	-90.57	-0.50	-50.00	50.00	46.67	3.33	15.001	
900.00	900.00	901.00	901.00	1.89	1.89	-90.57	-0.50	-50.00	50.00	46.22	3.78	13.218	
1,000.00	1,000.00	1,001.00	1,001.00	2.12	2.12	-90.57	-0.50	-50.00	50.00	45.77	4.23	11.814	
1,100.00	1,100.00	1,101.00	1,101.00	2.34	2.34	-90.57	-0.50	-50.00	50.00	45.32	4.68	10.680	
1,200.00	1,200.00	1,201.00	1,201.00	2.56	2.57	-90.57	-0.50	-50.00	50.00	44.87	5.13	9.744	
1,300.00	1,300.00	1,301.00	1,301.00	2.79	2.79	-90.57	-0.50	-50.00	50.00	44.42	5.58	8.960	
1,400.00	1,400.00	1,401.00	1,401.00	3.01	3.02	-90.57	-0.50	-50.00	50.00	43.97	6.03	8.292	
1,500.00	1,500.00	1,501.00	1,501.00	3.24	3.24	-90.57	-0.50	-50.00	50.00	43.52	6.48	7.716	
1,600.00	1,600.00	1,601.00	1,601.00	3.46	3.47	-90.57	-0.50	-50.00	50.00	43.07	6.93	7.216	
1,700.00	1,700.00	1,701.00	1,701.00	3.69	3.69	-90.57	-0.50	-50.00	50.00	42.62	7.38	6.776	
1,800.00	1,800.00	1,801.00	1,801.00	3.91	3.92	-90.57	-0.50	-50.00	50.00	42.17	7.83	6.387	
1,900.00	1,900.00	1,901.00	1,901.00	4.14	4.14	-90.57	-0.50	-50.00	50.00	41.72	8.28	6.040	
2,000.00	2,000.00	2,001.00	2,001.00	4.36	4.36	-90.57	-0.50	-50.00	50.00	41.27	8.73	5.729	
2,100.00	2,100.00	2,101.00	2,101.00	4.59	4.59	-90.57	-0.50	-50.00	50.00	40.83	9.18	5.449	
2,200.00	2,200.00	2,201.00	2,201.00	4.81	4.81	-90.57	-0.50	-50.00	50.00	40.38	9.63	5.194	
2,300.00	2,300.00	2,301.00	2,301.00	5.04	5.04	-90.57	-0.50	-50.00	50.00	39.93	10.08	4.962	
2,400.00	2,400.00	2,401.00	2,401.00	5.26	5.26	-90.57	-0.50	-50.00	50.00	39.48	10.53	4.750	
2,500.00	2,500.00	2,501.00	2,501.00	5.49	5.49	-90.57	-0.50	-50.00	50.00	39.03	10.98	4.556	
2,600.00	2,600.00	2,601.00	2,601.00	5.71	5.71	-90.57	-0.50	-50.00	50.00	38.58	11.42	4.377	
2,700.00	2,700.00	2,701.00	2,701.00	5.94	5.94	-90.57	-0.50	-50.00	50.00	38.13	11.87	4.211	
2,800.00	2,800.00	2,801.00	2,801.00	6.16	6.16	-90.57	-0.50	-50.00	50.00	37.68	12.32	4.057	
2,900.00	2,900.00	2,901.00	2,901.00	6.39	6.39	-90.57	-0.50	-50.00	50.00	37.23	12.77	3.915	
3,000.00	3,000.00	3,001.00	3,001.00	6.61	6.61	-90.57	-0.50	-50.00	50.00	36.78	13.22	3.781	
3,100.00	3,100.00	3,101.00	3,101.00	6.84	6.84	-90.57	-0.50	-50.00	50.00	36.33	13.67	3.657	
3,200.00	3,200.00	3,201.00	3,201.00	7.06	7.06	-90.57	-0.50	-50.00	50.00	35.88	14.12	3.541	
3,300.00	3,300.00	3,301.00	3,301.00	7.28	7.29	-90.57	-0.50	-50.00	50.00	35.43	14.57	3.432	
3,400.00	3,400.00	3,401.00	3,401.00	7.51	7.51	-90.57	-0.50	-50.00	50.00	34.98	15.02	3.329	
3,500.00	3,500.00	3,501.00	3,501.00	7.73	7.74	-90.57	-0.50	-50.00	50.00	34.53	15.47	3.232	
3,600.00	3,600.00	3,601.00	3,601.00	7.96	7.96	-90.57	-0.50	-50.00	50.00	34.08	15.92	3.141	
3,700.00	3,700.00	3,701.00	3,701.00	8.18	8.19	-90.57	-0.50	-50.00	50.00	33.63	16.37	3.055	
3,800.00	3,800.00	3,801.00	3,801.00	8.41	8.41	-90.57	-0.50	-50.00	50.00	33.18	16.82	2.973	
3,900.00	3,900.00	3,901.00	3,901.00	8.63	8.64	-90.57	-0.50	-50.00	50.00	32.73	17.27	2.895	
4,000.00	4,000.00	4,001.00	4,001.00	8.86	8.86	-90.57	-0.50	-50.00	50.00	32.28	17.72	2.822	
4,100.00	4,100.00	4,101.00	4,101.00	9.08	9.09	-90.57	-0.50	-50.00	50.00	31.83	18.17	2.752	
4,200.00	4,200.00	4,201.00	4,201.00	9.31	9.31	-90.57	-0.50	-50.00	50.00	31.39	18.62	2.686	
4,300.00	4,300.00	4,301.00	4,301.00	9.53	9.53	-90.57	-0.50	-50.00	50.00	30.94	19.07	2.622	
4,400.00	4,400.00	4,401.00	4,401.00	9.76	9.76	-90.57	-0.50	-50.00	50.00	30.49	19.52	2.562	
4,500.00	4,500.00	4,501.00	4,501.00	9.98	9.98	-90.57	-0.50	-50.00	50.00	30.04	19.97	2.504	
4,600.00	4,600.00	4,601.00	4,601.00	10.21	10.21	-90.57	-0.50	-50.00	50.00	29.59	20.42	2.449	
4,700.00	4,700.00	4,701.00	4,701.00	10.43	10.43	-90.57	-0.50	-50.00	50.00	29.14	20.87	2.396	
4,800.00	4,800.00	4,801.00	4,801.00	10.66	10.66	-90.57	-0.50	-50.00	50.00	28.69	21.31	2.346	
4,900.00	4,900.00	4,901.00	4,901.00	10.88	10.88	-90.57	-0.50	-50.00	50.00	28.24	21.76	2.297	
5,000.00	5,000.00	5,001.00	5,001.00	11.11	11.11	-90.57	-0.50	-50.00	50.00	27.79	22.21	2.251	
5,100.00	5,100.00	5,101.00	5,101.00	11.33	11.33	-90.57	-0.50	-50.00	50.00	27.34	22.66	2.206	

CC - Min centre to center distance or covergent point, SF - min separation factor, ES - min ellipse separation

Company:	Legacy Reserves	**Local Co-ordinate Reference:**	Well Lea Unit #41H
Project:	Lea County, NM (NAD-27 2015)	**TVD Reference:**	KB @ 3694.00usft (McVay 4)
Reference Site:	Lea Unit #41H	**MD Reference:**	KB @ 3694.00usft (McVay 4)
Site Error:	0.00 usft	**North Reference:**	Grid
Reference Well:	Lea Unit #41H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.00 usft	**Output errors are at**	2.00 sigma
Reference Wellbore	Lateral #1	**Database:**	EDM 5000.1 Single User Db
Reference Design:	Design #2	**Offset TVD Reference:**	Offset Datum

Offset Design Lea Unit #36H - Lea Unit #36H - Lateral #1 - Plan #1 — Offset Site Error: 0.00 usft

Survey Program: 0-MWD — Offset Well Error: 0.00 usft

Reference Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
5,200.00	5,200.00	5,201.00	5,201.00	11.56	11.56	-90.57	-0.50	-50.00	50.00	26.89	23.11	2.163	
5,300.00	5,300.00	5,301.00	5,301.00	11.78	11.78	-90.57	-0.50	-50.00	50.00	26.44	23.56	2.122	
5,400.00	5,400.00	5,401.00	5,401.00	12.00	12.01	-90.57	-0.50	-50.00	50.00	25.99	24.01	2.082	
5,500.00	5,500.00	5,501.00	5,501.00	12.23	12.23	-90.57	-0.50	-50.00	50.00	25.54	24.46	2.044	
5,600.00	5,600.00	5,601.00	5,601.00	12.45	12.46	-90.57	-0.50	-50.00	50.00	25.09	24.91	2.007	
5,700.00	5,700.00	5,701.00	5,701.00	12.68	12.68	-90.57	-0.50	-50.00	50.00	24.64	25.36	1.972	
5,800.00	5,800.00	5,801.00	5,801.00	12.90	12.91	-90.57	-0.50	-50.00	50.00	24.19	25.81	1.937	
5,900.00	5,900.00	5,901.00	5,901.00	13.13	13.13	-90.57	-0.50	-50.00	50.00	23.74	26.26	1.904	
6,000.00	6,000.00	6,001.00	6,001.00	13.35	13.36	-90.57	-0.50	-50.00	50.00	23.29	26.71	1.872	
6,100.00	6,100.00	6,101.00	6,101.00	13.58	13.58	-90.57	-0.50	-50.00	50.00	22.84	27.16	1.841	
6,200.00	6,200.00	6,201.00	6,201.00	13.80	13.81	-90.57	-0.50	-50.00	50.00	22.39	27.61	1.811	
6,300.00	6,300.00	6,301.00	6,301.00	14.03	14.03	-90.57	-0.50	-50.00	50.00	21.94	28.06	1.782	
6,400.00	6,400.00	6,401.00	6,401.00	14.25	14.25	-90.57	-0.50	-50.00	50.00	21.50	28.51	1.754	
6,500.00	6,500.00	6,501.00	6,501.00	14.48	14.48	-90.57	-0.50	-50.00	50.00	21.05	28.96	1.727	
6,600.00	6,600.00	6,601.00	6,601.00	14.70	14.70	-90.57	-0.50	-50.00	50.00	20.60	29.41	1.700	
6,700.00	6,700.00	6,701.00	6,701.00	14.93	14.93	-90.57	-0.50	-50.00	50.00	20.15	29.86	1.675	
6,800.00	6,800.00	6,801.00	6,801.00	15.15	15.15	-90.57	-0.50	-50.00	50.00	19.70	30.31	1.650	
6,900.00	6,900.00	6,901.00	6,901.00	15.38	15.38	-90.57	-0.50	-50.00	50.00	19.25	30.75	1.626	
7,000.00	7,000.00	7,001.00	7,001.00	15.60	15.60	-90.57	-0.50	-50.00	50.00	18.80	31.20	1.602	
7,100.00	7,100.00	7,101.00	7,101.00	15.83	15.83	-90.57	-0.50	-50.00	50.00	18.35	31.65	1.580	
7,200.00	7,200.00	7,201.00	7,201.00	16.05	16.05	-90.57	-0.50	-50.00	50.00	17.90	32.10	1.558	
7,300.00	7,300.00	7,301.00	7,301.00	16.28	16.28	-90.57	-0.50	-50.00	50.00	17.45	32.55	1.536	
7,400.00	7,400.00	7,401.00	7,401.00	16.50	16.50	-90.57	-0.50	-50.00	50.00	17.00	33.00	1.515	
7,500.00	7,500.00	7,501.00	7,501.00	16.72	16.73	-90.57	-0.50	-50.00	50.00	16.55	33.45	1.495	Level 3
7,600.00	7,600.00	7,601.00	7,601.00	16.95	16.95	-90.57	-0.50	-50.00	50.00	16.10	33.90	1.475	Level 3
7,700.00	7,700.00	7,701.00	7,701.00	17.17	17.18	-90.57	-0.50	-50.00	50.00	15.65	34.35	1.456	Level 3
7,800.00	7,800.00	7,801.00	7,801.00	17.40	17.40	-90.57	-0.50	-50.00	50.00	15.20	34.80	1.437	Level 3
7,900.00	7,900.00	7,901.00	7,901.00	17.62	17.63	-90.57	-0.50	-50.00	50.00	14.75	35.25	1.419	Level 3
8,000.00	8,000.00	8,001.00	8,001.00	17.85	17.85	-90.57	-0.50	-50.00	50.00	14.30	35.70	1.401	Level 3
8,100.00	8,100.00	8,101.00	8,101.00	18.07	18.08	-90.57	-0.50	-50.00	50.00	13.85	36.15	1.383	Level 3
8,200.00	8,200.00	8,201.00	8,201.00	18.30	18.30	-90.57	-0.50	-50.00	50.00	13.40	36.60	1.366	Level 3
8,300.00	8,300.00	8,301.00	8,301.00	18.52	18.53	-90.57	-0.50	-50.00	50.00	12.95	37.05	1.350	Level 3
8,400.00	8,400.00	8,401.00	8,401.00	18.75	18.75	-90.57	-0.50	-50.00	50.00	12.50	37.50	1.333	Level 3
8,500.00	8,500.00	8,501.00	8,501.00	18.97	18.97	-90.57	-0.50	-50.00	50.00	12.06	37.95	1.318	Level 3
8,600.00	8,600.00	8,601.00	8,601.00	19.20	19.20	-90.57	-0.50	-50.00	50.00	11.61	38.40	1.302	Level 3
8,700.00	8,700.00	8,701.00	8,701.00	19.42	19.42	-90.57	-0.50	-50.00	50.00	11.16	38.85	1.287	Level 3
8,800.00	8,800.00	8,801.00	8,801.00	19.65	19.65	-90.57	-0.50	-50.00	50.00	10.71	39.30	1.272	Level 3
8,900.00	8,900.00	8,901.00	8,901.00	19.87	19.87	-90.57	-0.50	-50.00	50.00	10.26	39.75	1.258	Level 3
9,000.00	9,000.00	9,001.00	9,001.00	20.10	20.10	-90.57	-0.50	-50.00	50.00	9.81	40.19	1.244	Level 2
9,100.00	9,100.00	9,101.00	9,101.00	20.32	20.32	-90.57	-0.50	-50.00	50.00	9.36	40.64	1.230	Level 2
9,200.00	9,200.00	9,201.00	9,201.00	20.55	20.55	-90.57	-0.50	-50.00	50.00	8.91	41.09	1.217	Level 2
9,227.04	9,227.04	9,228.04	9,228.04	20.61	20.61	-90.57	-0.50	-50.00	50.00	8.79	41.22	1.213	Level 2, CC
9,250.00	9,249.99	9,250.99	9,250.99	20.66	20.66	-95.18	-0.50	-50.00	50.04	8.72	41.32	1.211	Level 2, ES, SF
9,300.00	9,299.80	9,300.80	9,300.80	20.77	20.77	-99.83	-0.50	-50.00	50.59	9.05	41.54	1.218	Level 2
9,350.00	9,349.06	9,350.06	9,350.06	20.88	20.88	-108.64	-0.50	-50.00	52.72	10.97	41.76	1.263	Level 3
9,400.00	9,397.39	9,398.39	9,398.39	20.99	20.99	-119.87	-0.50	-50.00	58.16	16.18	41.98	1.385	Level 3
9,450.00	9,444.42	9,445.42	9,445.42	21.10	21.10	-131.05	-0.50	-50.00	68.44	26.24	42.19	1.622	
9,500.00	9,489.79	9,490.79	9,490.79	21.21	21.20	-140.43	-0.50	-50.00	84.20	41.80	42.40	1.986	
9,550.00	9,533.17	9,534.17	9,534.17	21.31	21.30	-147.54	-0.50	-50.00	105.25	62.65	42.60	2.471	
9,600.00	9,574.21	9,575.21	9,575.21	21.43	21.39	-152.67	-0.50	-50.00	131.07	88.28	42.79	3.063	
9,650.00	9,612.62	9,613.62	9,613.62	21.56	21.48	-156.26	-0.50	-50.00	161.12	118.16	42.96	3.750	
9,700.00	9,648.09	9,649.09	9,649.09	21.71	21.56	-158.70	-0.50	-50.00	194.92	151.79	43.12	4.520	

CC - Min centre to center distance or covergent point, SF - min separation factor, ES - min ellipse separation

Company:	Legacy Reserves	**Local Co-ordinate Reference:**	Well Lea Unit #41H
Project:	Lea County, NM (NAD-27 2015)	**TVD Reference:**	KB @ 3694.00usft (McVay 4)
Reference Site:	Lea Unit #41H	**MD Reference:**	KB @ 3694.00usft (McVay 4)
Site Error:	0.00 usft	**North Reference:**	Grid
Reference Well:	Lea Unit #41H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.00 usft	**Output errors are at**	2.00 sigma
Reference Wellbore	Lateral #1	**Database:**	EDM 5000.1 Single User Db
Reference Design:	Design #2	**Offset TVD Reference:**	Offset Datum

Offset Design Lea Unit #36H - Lea Unit #36H - Lateral #1 - Plan #1

Survey Program: 0-MWD

Offset Site Error: 0.00 usft
Offset Well Error: 0.00 usft

Reference Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
9,750.00	9,680.35	9,681.35	9,681.35	21.88	21.63	-160.22	-0.50	-50.00	232.03	188.76	43.27	5.363	
9,800.00	9,709.17	9,710.17	9,710.17	22.07	21.69	-160.97	-0.50	-50.00	272.06	228.66	43.39	6.269	
9,850.00	9,734.31	9,735.31	9,735.31	22.29	21.75	-160.96	-0.50	-50.00	314.62	271.12	43.50	7.232	
9,900.00	9,755.60	9,756.60	9,756.60	22.53	21.80	-160.06	-0.50	-50.00	359.35	315.76	43.59	8.243	
9,950.00	9,772.86	9,773.86	9,773.86	22.80	21.84	-157.86	-0.50	-50.00	405.86	362.19	43.67	9.294	
10,000.00	9,785.97	9,786.97	9,786.97	23.10	21.87	-153.32	-0.50	-50.00	453.77	410.04	43.72	10.378	
10,050.00	9,794.83	9,795.83	9,795.83	23.42	21.89	-143.38	-0.50	-50.00	502.69	458.93	43.76	11.488	
10,100.00	9,799.36	9,800.36	9,800.36	23.76	21.90	-117.50	-0.50	-50.00	552.25	508.47	43.78	12.614	
10,127.04	9,800.00	9,801.00	9,801.00	23.96	21.90	-90.00	-0.50	-50.00	579.17	535.39	43.78	13.228	
10,200.00	9,800.00	9,801.00	9,801.00	24.53	21.90	-90.00	-0.50	-50.00	651.89	608.10	43.79	14.887	
10,300.00	9,800.00	9,801.00	9,801.00	25.40	21.90	-90.00	-0.50	-50.00	751.64	707.84	43.80	17.161	
10,400.00	9,800.00	11,208.64	10,599.96	26.37	27.86	174.25	832.32	140.16	803.02	780.84	22.18	36.208	
10,500.00	9,800.00	11,311.49	10,599.96	27.42	28.85	173.86	934.37	152.93	803.57	780.53	23.04	34.871	
10,600.00	9,800.00	11,414.61	10,599.96	28.55	29.91	173.74	1,037.08	162.04	803.75	779.82	23.93	33.584	
10,700.00	9,800.00	11,517.71	10,599.96	29.75	31.04	173.88	1,140.04	167.44	803.55	778.72	24.83	32.366	
10,800.00	9,800.00	11,620.55	10,599.96	31.01	32.22	174.28	1,242.85	169.14	802.98	777.27	25.72	31.225	
10,900.00	9,800.00	11,720.83	10,599.96	32.32	33.42	174.84	1,343.13	168.33	802.23	775.61	26.62	30.141	
11,000.00	9,800.00	11,820.51	10,599.96	33.68	34.64	175.41	1,442.81	167.43	801.55	773.99	27.56	29.085	
11,100.00	9,800.00	11,920.19	10,599.96	35.08	35.91	175.98	1,542.48	166.54	800.94	772.40	28.54	28.059	
11,200.00	9,800.00	12,019.86	10,599.96	36.51	37.23	176.55	1,642.15	165.65	800.42	770.85	29.57	27.067	
11,300.00	9,800.00	12,119.54	10,599.96	37.98	38.59	177.13	1,741.83	164.76	799.98	769.34	30.64	26.112	
11,400.00	9,800.00	12,219.22	10,599.96	39.48	39.99	177.70	1,841.50	163.86	799.61	767.87	31.74	25.193	
11,500.00	9,800.00	12,318.90	10,599.96	41.00	41.42	178.27	1,941.17	162.97	799.33	766.45	32.88	24.313	
11,600.00	9,800.00	12,418.57	10,599.96	42.55	42.88	178.85	2,040.85	162.08	799.13	765.08	34.05	23.469	
11,700.00	9,800.00	12,518.25	10,599.97	44.11	44.36	179.42	2,140.52	161.18	799.01	763.75	35.26	22.661	
11,800.00	9,800.00	12,617.93	10,599.97	45.70	45.87	179.99	2,240.19	160.29	798.97	762.47	36.50	21.889	
11,800.53	9,800.00	12,618.45	10,599.97	45.71	45.86	180.00	2,240.72	160.29	798.97	762.46	36.51	21.885	
11,900.00	9,800.00	12,717.61	10,599.97	47.30	47.41	-179.43	2,339.87	159.40	799.01	761.23	37.78	21.149	
12,000.00	9,800.00	12,817.28	10,599.97	48.92	48.96	-178.86	2,439.54	158.50	799.13	760.04	39.09	20.442	
12,100.00	9,800.00	12,916.95	10,599.97	50.54	50.53	-178.29	2,539.21	157.61	799.33	758.89	40.44	19.765	
12,200.00	9,800.00	13,016.64	10,599.97	52.19	52.12	-177.71	2,638.89	156.72	799.61	757.78	41.83	19.117	
12,300.00	9,800.00	13,116.32	10,599.97	53.84	53.72	-177.14	2,738.56	155.82	799.97	756.72	43.25	18.496	
12,400.00	9,800.00	13,215.99	10,599.97	55.50	55.34	-176.57	2,838.23	154.93	800.41	755.70	44.71	17.901	
12,500.00	9,800.00	13,315.67	10,599.97	57.17	56.97	-176.00	2,937.91	154.04	800.94	754.72	46.22	17.331	
12,600.00	9,800.00	13,415.35	10,599.97	58.85	58.61	-175.43	3,037.58	153.15	801.54	753.78	47.76	16.784	
12,700.00	9,800.00	13,515.02	10,599.97	60.54	60.26	-174.86	3,137.25	152.25	802.22	752.88	49.34	16.259	
12,800.00	9,800.00	13,614.70	10,599.97	62.24	61.93	-174.29	3,236.93	151.36	802.98	752.02	50.96	15.756	
12,900.00	9,800.00	13,714.38	10,599.97	63.94	63.60	-173.72	3,336.60	150.47	803.83	751.20	52.63	15.273	
13,000.00	9,800.00	13,814.06	10,599.97	65.65	65.28	-173.16	3,436.27	149.57	804.75	750.41	54.34	14.810	
13,100.00	9,800.00	13,913.73	10,599.97	67.36	66.96	-172.59	3,535.95	148.68	805.75	749.65	56.09	14.364	
13,200.00	9,800.00	14,013.41	10,599.97	69.08	68.66	-172.03	3,635.62	147.79	806.82	748.93	57.89	13.937	
13,300.00	9,800.00	14,113.09	10,599.97	70.80	70.36	-171.47	3,735.29	146.89	807.98	748.25	59.74	13.526	
13,400.00	9,800.00	14,212.77	10,599.98	72.53	72.05	-170.91	3,834.97	146.00	809.21	747.59	61.62	13.131	
13,500.00	9,800.00	14,312.44	10,599.98	74.26	73.78	-170.35	3,934.64	145.11	810.53	746.97	63.56	12.752	
13,600.00	9,800.00	14,412.12	10,599.98	76.00	75.49	-169.79	4,034.32	144.21	811.92	746.37	65.54	12.388	
13,700.00	9,800.00	14,511.80	10,599.98	77.74	77.22	-169.24	4,133.99	143.32	813.38	745.81	67.57	12.038	
13,800.00	9,800.00	14,611.48	10,599.98	79.48	78.94	-168.68	4,233.66	142.43	814.92	745.28	69.65	11.701	
13,900.00	9,800.00	14,711.15	10,599.98	81.23	80.67	-168.13	4,333.34	141.53	816.54	744.78	71.77	11.378	
14,000.00	9,800.00	14,810.83	10,599.98	82.98	82.41	-167.58	4,433.01	140.64	818.24	744.30	73.94	11.067	
14,100.00	9,800.00	14,910.51	10,599.98	84.73	84.15	-167.04	4,532.68	139.75	820.01	743.85	76.15	10.768	
14,200.00	9,800.00	15,010.19	10,599.98	86.48	85.89	-166.49	4,632.36	138.86	821.85	743.43	78.42	10.481	
14,300.00	9,800.00	15,109.86	10,599.98	88.24	87.64	-165.95	4,732.03	137.96	823.77	743.04	80.72	10.205	

CC - Min centre to center distance or covergent point, SF - min separation factor, ES - min ellipse separation

DRILLING PLAN
LEA UNIT 41H
LEGACY RESERVES OPERATING LP
SHL: Unit K, Section 24
BHL: Unit C, Section 13
T20S-R34E, Lea County, New Mexico

To satisfy requirements of Onshore Oil and Gas Order No. 1, Legacy Reserves Operating LP submits the following for your consideration:

1. Location: SHL: 2270' FSL & 1580' FWL, Sec.24, T20S-R34E (First Take: 2310 FNL & 2210 FWL)
   BHL: 330' FNL & 2210' FWL, Sec. 13, T20S-R34E (Last Take)

2. Elevations: 3,676' GL

3. Geological Name of Surface Formation: Quaternary alluvium deposits

4. Drilling Tools and Associated Equipment: Rotary drilling rig using fluid as a means for removal of solid cuttings from the well.

5. Proposed Drilling Depth: 17,532' MD, 9,800' TVD

6. Estimated Tops of Geological Markers:

	TVD	MD
Rustler	1,680'	same
Top Salt	1,720'	same
Bottom Salt	3,150'	same
Top of Capitan Reef	3,150'	same
Capitan Reef Bottom	4,710'	same
San Andres	4,710'	same
Delaware	5,666'	same
Bone Spring Lime	8,205'	same
Avalon	8,760'	same
KOP	9,250'	9,250'
1st Bone Spring	9,501'	9,511'
TD	9,800'	17,532'

7. Possible mineral bearing formations:
   Primary: Bone Spring (oil); Secondary: Delaware (oil), Avalon (oil), fresh water (~125')

8. Proposed Mud System: Sufficient mud materials will be kept on location at all times in order to combat lost circulation or unexpected kicks. A Pason PVT system will be rigged up prior to spudding this well. A volume monitoring system that measures, calculates and displays readings from the mud system on the rig to alert the rig crew of impending gas kicks and lost circulation. In order to effectively run open hole logs and casing, the mud viscosity and fluid loss properties may be adjusted.

SURFACE USE PLAN
Legacy Reserves Operating, L.P.
Lea Unit 41H
SHL: 2270' FSL & 1580' FWL, Section 24, T. 20 S., R. 34 E.
BHL: 330' FNL & 2210' FWL, Section 13, T. 20 S., R. 34 E.
Lea County, New Mexico

This plan is submitted with form 3160-3, Application for Permit to Drill, covering the above described well. The purpose of this plan is to describe the location of the proposed well, the proposed construction activities and operations plan, the magnitude of the surface disturbance involved and the procedures to be followed in rehabilitating the surface after completion of the operations, so that a complete appraisal can be made of the environmental effect associated with the operations.

1. EXISTING ROADS

   A. DIRECTIONS: Go northeast of Carlsbad, NM on Highway 285, for 50 miles. Turn south onto Marathon Road (County Road 27-A) for 5.6 miles. Turn east on lease road for 0.3 miles. Then go north for 195'. All existing roads are either paved or a caliche lease road.

   B. See attached plats and maps for more information.

   C. Existing roads on the access route will be improved and maintained to the standard set forth in Section 2 of this Surface Use Plan of Operations.

2. NO NEW OR RECONSTRUCTED ACCESS ROADS

3. LOCATION OF EXISTING WELLS:

   See well map showing all wells within a one-mile radius.

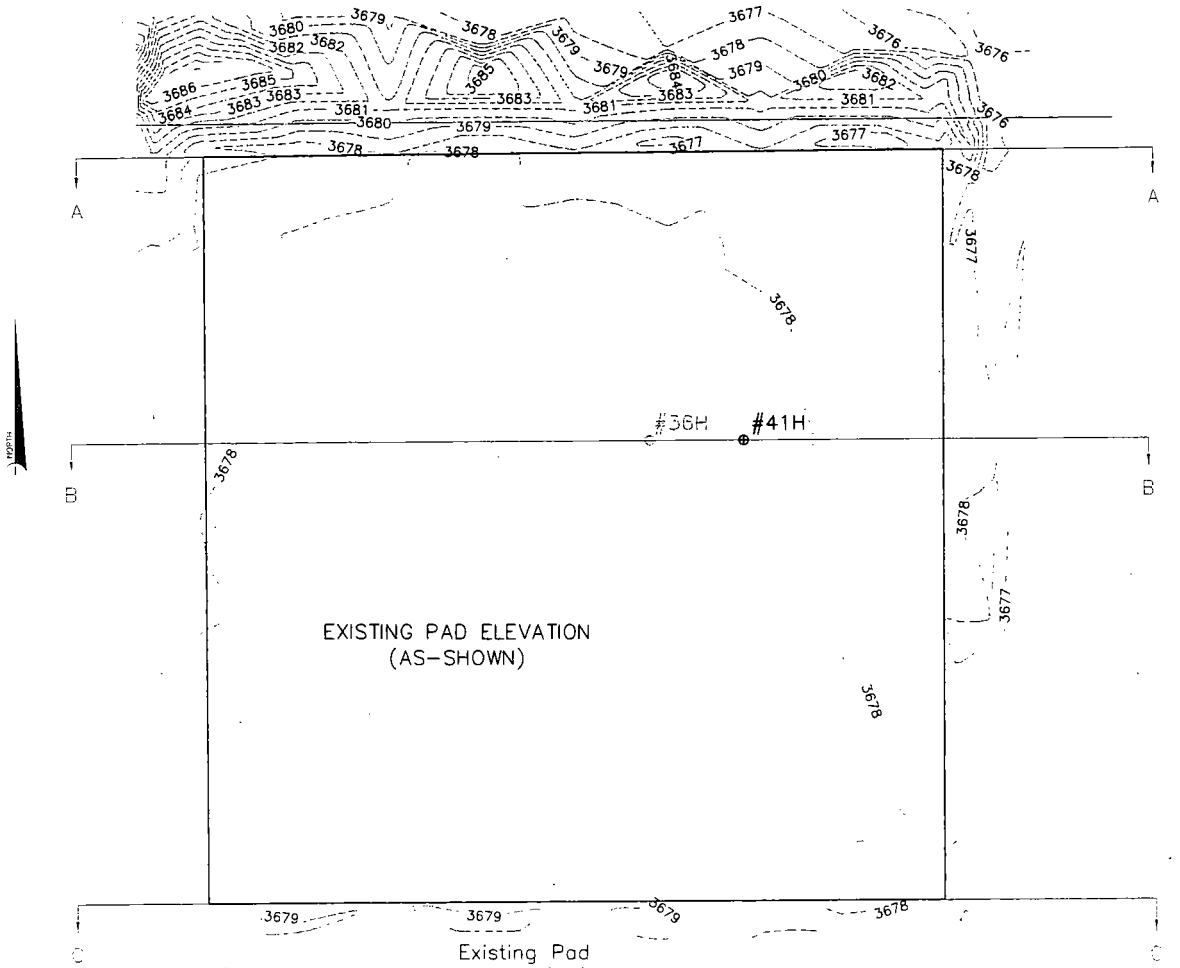
4. LOCATION OF EXISTING AND/OR PROPOSED FACILITIES:
   A. In the event the well is found productive, a 4" surface poly flowline (125 psi) (oil/gas/water) will be laid along the proposed and existing roadway, for 3680.9', to the satellite battery located in the SW/4NE/4 of section 24, T. 20 S., R. 34 E.

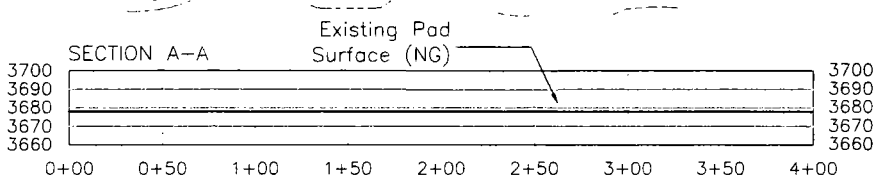
   B. All permanent (on site six months or longer) aboveground structures constructed or installed on location and not subject to safety requirements will be painted to BLM specifications.

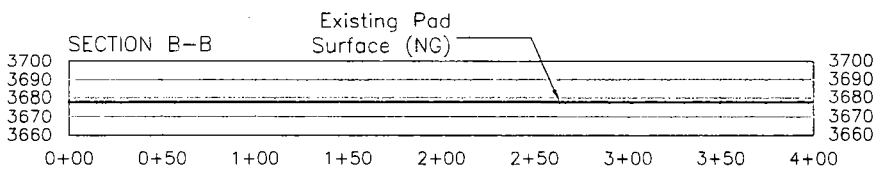
   C. Containment berms will be constructed completely around production facilities designed to hold fluids. The containment berms will be constructed or compacted subsoil, be sufficiently impervious, hold 1/ times the capacity of the largest tank and away from cut or fill areas.

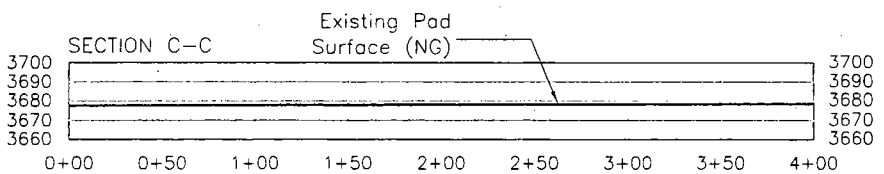
5. LOCATION AND TYPE OF WATER SUPPLY: **12,000 bbls of fresh water and 8,000 bbls of brine water will be used for this well**

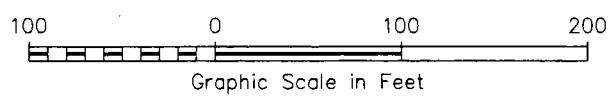
   The well will be drilled using a combination of water mud systems as outlined in the Drilling Program. The water will be obtained from commercial water stations in the area and hauled to the location by transport truck using the existing and proposed roads shown in the attached survey plats. If a commercial water well is nearby, a temporary, surface poly line, will be laid along existing roads or other ROW easements and the water pumped to the well. No water well will be drilled on the location.











LEGACY RESERVES, LP

LEA UNIT #41H PAD

Located 2270' FSL & 1580' FWL, Section 24, Township 20 South, Range 34 East, N.M.P.M. Lea County, New Mexico

Scale: 1" = 100'	Date: April 25, 2017

6. SOURCE OF CONSTRUCTION MATERIALS:

Any construction material that may be required for surfacing of the drill pad and access road will be from a contractor having a permitted source of materials within the general area. No construction materials will be removed from Federal lands without prior approval from the appropriate surface management agency. All roads will be reconstructed of 6" rolled and compacted caliche.

7. METHODS OF HANDLING WASTE DISPOSAL:

A. The well will be drilled utilizing a closed loop mud system. Drill cuttings will be held in roll-off style mud boxes and taken to an NMOCD approved disposal site at Halfway, NM.
B. Drilling fluids will be contained in steel mud pits.
C. Water produced from the well during completion will be held temporarily in steel tanks and then taken to an NMOCD approved commercial disposal facility.
D. Oil produced during operations will be stored in tanks until sold.
E. Portable, self-contained chemical toilets will be provided for human waste disposal. Upon completion of operations, or as required, the toilet holding tanks will be pumped and the contents thereof disposed of in an approved sewage disposal facility. All state and local laws and regulations pertaining to disposal of human and solid waste will be complied with. This equipment will be properly maintained during the drilling and completion operations and will be removed when all operations are complete.
F. All trash, junk, and other waste materials will be contained in trash cages or bins to prevent scattering and will be removed and deposited in an approved sanitary landfill. Immediately after drilling all debris and other waste materials on and around the well location, not contained in the trash cage will be cleaned up and removed from the locations. No potentially adverse materials or substances will be left on the location.

8. ANCILLARY FACILITIES:

No campsite, airstrip, or other facilities will be built as a result of the operation of this well. No staging areas are needed.

9. WELL SITE LAYOUT:

A. The dimensions of the proposed well are 50' east and on the same pad, as the previously approved Lea Unit 36H well.
B. The well pad size is 405' x 400'. There will be no reserve pit due to the well being drilled utilizing a closed loop mud system. The closed loop system will meet the NMOCD requirements 19.15.17.

10. PLANS FOR SURFACE RECLAMATION:

A. After concluding the drilling and/or completion operations, if the well is found non-commercial, all the equipment will be removed, the surface material, caliche, will be removed from the well pad and road and transported to the original caliche pit or used for other roads. The original stock piled top soil will be returned to the pad and contoured, as close as possible, to the original topography. The access road will have the caliche removed and the road ripped, barricaded and seeded as directed by the BLM.
B. If the well is a producer, the portions of the location not essential to production facilities or space required for workover operations, will be reclaimed and seeded as per BLM

requirements.

C. Reclamation Performance Standards

The following reclamation performance standards will be met:

Interim Reclamation - Includes disturbed areas that may be redisturbed during operations and will be redisturbed at final reclamation to achieve restoration of the original landform and a natural vegetative community.

- Disturbed areas not needed for active, long-term production operations or vehicle travel will be recontoured, protected from erosion, and revegetated with a self-sustaining, vigorous, diverse, native (or as otherwise approved) plant community sufficient to minimize visual impacts, provide forage, stabilize soils, and impede the invasion of noxious, invasive, and non-native weeds.

Final Reclamation - Includes disturbed areas where the original landform and a natural vegetative community will be restored and it is anticipated the site will not be redisturbed for future development.

- The original landform will be restored for all disturbed areas including well pads, production facilities, roads, pipelines, and utility corridors.
- A self-sustaining, vigorous, diverse, native (or otherwise approved) plant community will be established on the site, with a density sufficient to control erosion and invasion by non-native plants and to re-establish wildlife habitat or forage production. At a minimum, the established plant community will consist of species included in the seed mix and/or desirable species occurring in the surrounding natural vegetation.
- Erosion features are equal to or less than surrounding area and erosion control is sufficient so that water naturally infiltrates into the soil and gullying, headcutting, slumping, and deep or excessive rills (greater than 3 inches) are not observed.
- The site will be free of State- or county-listed noxious weeds, oil field debris and equipment, and contaminated soil. Invasive and non-native weeds are controlled.

D. Reclamation Actions

Earthwork for interim and final reclamation will be completed within 6 months of well completion or plugging unless a delay is approved in writing by the BLM authorized officer. The following minimum reclamation actions will be taken to ensure that the reclamation objectives and standards are met. It may be necessary to take additional reclamation actions beyond the minimum in order to achieve the Reclamation Standards.

Reclamation - General

Notification:

- The BLM will be notified at least 3 days prior to commencement of any reclamation operations.

Housekeeping:

- Within 30 days of well completion, the well location and surrounding areas(s)

will be cleared of, and maintained free of, all debris, materials, trash, and equipment not required for production.
- No hazardous substances, trash, or litter will be buried or placed in pits.

Topsoil Management:
- Operations will disturb the minimum amount of surface area necessary to conduct safe and efficient operations.
- Topsoil depth is defined as the top layer of soil that contains 80% of the roots. In areas to be heavily disturbed, the topsoil will be stripped and stockpiled around 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 will include vegetative material. Topsoil will be clearly segregated and stored separately from subsoils.
- Salvaging and spreading topsoil will not be performed when the ground or topsoil is frozen or too wet to adequately support construction equipment or so dry that dust clouds greater than 30 feet tall are created. If such equipment creates ruts in excess of four (4) inches deep, the soil will be deemed too wet.
- No major depressions will be left that would trap water and cause ponding unless the intended purpose is to trap runoff and sediment.

Seeding:
- Seedbed Preparation. Initial seedbed preparation will consist of recontouring to the appropriate interim or final reclamation standard. All compacted areas to be seeded will be ripped to a minimum depth of 18 inches with a minimum furrow spacing of 2 feet, followed by recontouring the surface and then evenly spreading the stockpiled topsoil. Prior to seeding, the seedbed will be scarified to a depth of no less than 4 - 6 inches. If the site is to be broadcast seeded, the surface will be left rough enough to trap seed and snow, control erosion, and increase water infiltration.
- If broadcast seeding is to be used and is delayed, 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.
- Seed Application. Seeding will be conducted no more than two weeks following completion of final seedbed preparation. A certified weed-free seed mix designed by the BLM to meet reclamation standards will be used.
- If the site is harrowed or dragged, seed will be covered by no more than 0.25 inch of soil.

11. SURFACE OWNERSHIP:

A. The surface is owned by Smith & Sons, Inc. (Patrick Sims) and Pearl Valley, L.P.P.O. Box 1046, Eunice, NM 88231. Phone: 575-390-2642. The surface use agreement was obtained from the private surface owner regarding this proposed project.

12. OTHER INFORMATION:

A. The area surrounding the well site is in a very flat, sandy loam, rolling hills type area. The vegetation consists of Shinnery Oak, Yucca, Mesquite with three-awns and some dropseed species.
B. There is no permanent or live water in the immediate area.
C. There are no dwellings within 2 miles of this location.

D. A class III archaeological survey has been conducted and filed with the Carlsbad Field Office of the Bureau of Land Management.

13. BOND COVERAGE:

Bond Coverage is Nationwide; Bond Number NMB-001014.

OPERATORS REPRESENTATIVE:

The Legacy Reserves Operating L.P. representatives responsible for ensuring compliance of the surface use plan are listed below:

Drilling:

Matt Dickson - Drilling Engineer, Legacy Reserves Operating, L.P.
P.O. Box 10848
Midland, Texas 79702
(432) 689-5204 (Office)
(432) 212-5698 (Cell)

ON-SITE PERFORMED ON 6/16/15 RESULTED IN PROPOSED LOCATION BEING OK WHERE STAKED. IT WAS AGREED TO TURN THE LOCATION TO A V-DOOR EAST. IT WAS ALSO AGREED TO MOVE AND PLACE THE TOP SOIL TO THE NORTH, AND THE INTERIM RECLAMATION WILL BE THE NORTH, EAST, SOUTH AND WEST PORTION OF THIS PAD.

PRESENT AT ON-SITE:
CRAIG SPARKMAN - LEGACY RESERVES OPERATING, L.P.
TRISH BADBEAR - BLM CASSANDRA BROOKS - BLM MATT MATHIS - CEHMM
CHRISTOPHER FREEMAN - CEHMM
DOUG BURGER - LEGACY LAND & ENVIRONMENTAL SOLUTIONS KELLY POINDEXTER - WEST COMPANY OF MIDLAND - SURVEYORS

CERTIFICATION

I hereby certify that I, or persons under my direct supervision, have inspected the proposed drill site and access road proposed herein; that I am familiar with the conditions that presently exist; that I have full knowledge of State and Federal laws applicable to this operation; that the statements made in this 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 in conformity with the APD package and the terms and conditions under which it is approved. I also certify that I, or Legacy Reserves Operating, L.P., am responsible for the operations conducted under this application. These statements are subject to the provisions of 18 U. S. C. 1001 for the filing of false statements. Executed this 19th day of January 2017.