PECOS DISTRICT
DRILLING CONDITIONS OF APPROVAL

OPERATOR'S NAME:	LEGACY RESERVES OPERATING
LEASE NO.:	NMNM128633
WELL NAME & NO.:	LEA UNIT 50H
SURFACE HOLE FOOTAGE:	630'/S & 2560'/E
BOTTOM HOLE FOOTAGE	330'/S & 1750'/E
LOCATION:	SECTION 01, T20S, R34E, NMPM
COUNTY:	LEA

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 **1800** 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 **8 hours** 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.**

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.**

Option 3:

Operator has proposed DV tool at depth of 3950' and 1850', 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.**

❖ **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.

MHH 01182018

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. Whenever any seal subject to test pressure is broken, all the tests in OOGO2.III.A.2.i must be followed.
    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

OPERATOR'S NAME:	LEGACY RESERVES OPERATING
LEASE NO.:	NMNM128633
WELL NAME & NO.:	LEA UNIT 50H
SURFACE HOLE FOOTAGE:	630'/S & 2560'/E
BOTTOM HOLE FOOTAGE	330'/S & 1750'/E
LOCATION:	SECTION 20, T20S, R34E, NMPM
COUNTY:	LEA

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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.

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)

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.

Below 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.

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.

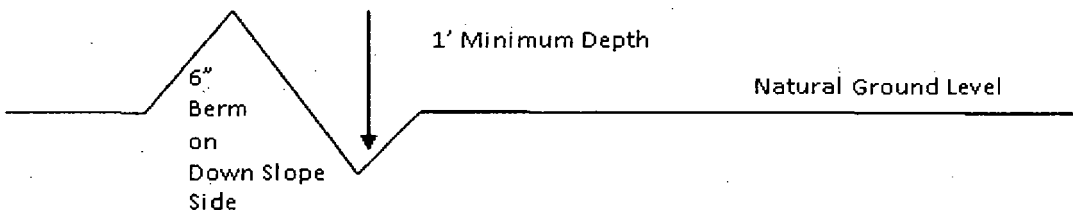
Turnouts
Vehicle turnouts shall be constructed on the road. Turnouts shall be intervisible with interval spacing distance less than 1000 feet. Turnouts shall conform to Figure 1; cross section and plans for typical road construction.

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:

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

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

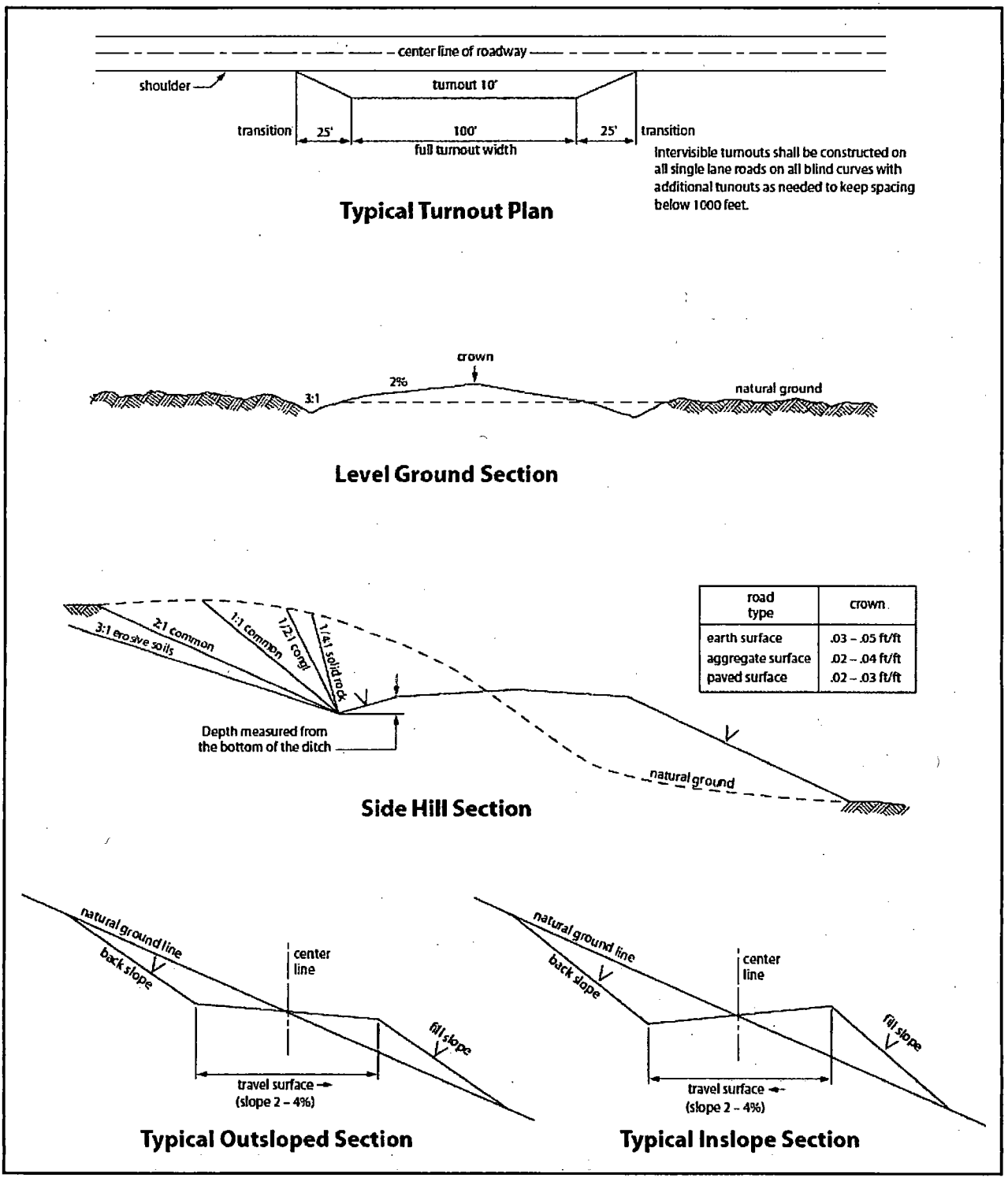


Figure 1. Cross-sections and plans for typical road sections representative of BLM resource or FS local and higher-class roads.

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).

B. PIPELINES
STANDARD STIPULATIONS FOR SURFACE INSTALLED PIPELINES

A copy of the Grant and attachments, including stipulations, survey plat(s) and/or map(s), shall be on location during construction. BLM personnel may request to review 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. 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. Holder shall comply with all applicable Federal laws and regulations existing or hereafter enacted or promulgated. In any event, Holder shall comply with the Toxic Substances Control Act of 1976 as amended, 15 USC § 2601 *et seq.* (1982) with regard to any toxic substances that are used, generated by or stored on the right-of-way or on facilities authorized under this right-of-way grant (*see* 40 CFR, Part 702-799 and in particular, 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. 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 provision applies without regard to whether a release is caused by Holder, its agent, or unrelated third parties.

4. Holder shall be liable for damage or injury to the United States to the extent provided by 43 CFR Sec. 2883.1-4. 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 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 Holder, regardless of fault. Upon failure of 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/she 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 Holder. Such action by the Authorized Officer shall not relieve Holder of any responsibility as provided herein.

6. All construction and maintenance activity shall 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 shall 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 shall be installed immediately adjacent to the outer surface pipeline. All construction and maintenance activity shall be confined to existing roads or right-of-ways.

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

8. 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 shall be "snaked" around hummocks and dunes rather than 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 shall be less than or equal to 4 inches and a working pressure below 125 psi.

18. Special Stipulations:

a. **Lesser Prairie-Chicken:** Oil and gas activities 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 and 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. Normal vehicle use on existing roads will not be restricted.

C. ELECTRIC LINES

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.

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, geophysical exploration other than 3-D operations, and 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 ft. from the source of the noise.

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).

IX. 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).

Below 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 for LPC Sand/Shinnery Sites

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 shall be done in accordance with State law(s) and within nine (9) months prior to purchase. Commercial seed shall be either certified or registered seed. The seed container shall 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). 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. Seeding shall be repeated until a satisfactory stand is established as determined by the Authorized Officer. Evaluation of growth may 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
Plains Bristlegrass	5lbs/A
Sand Bluestem	5lbs/A
Little Bluestem	3lbs/A
Big Bluestem	6lbs/A
Plains Coreopsis	2lbs/A
Sand Dropseed	1lbs/A

*Pounds of pure live seed:

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

LEGACY RESERVES OPERATING, L. P.

HYDROGEN SULFIDE (H2S) CONTINGENCY PLAN
LEA UNIT 50H
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

Production Casing

Size	Grade	#/ft	Collapse	Burst (Internal Yield)	Tensile	Coupling	Length	Dry Weight	Mud Weight
5.5"	*P-110*	*20*	*11080 psi*	*12360 psi*	*641 kips*	*BTC*	*15,200'*	*304,000 lb*	*9.1 ppg*

Collapse: $DF_C = 1.25$

Base Assumptions

- Cementing operations in which utilizes a collapse force equivalent to the gradient of the planned cement slurry (0.77 psi/ft) and an internal back-up force equivalent to the fresh water displacement fluid (0.433 psi/ft).
- Production operations in which the pipe is completely evacuated with an external force equivalent to the pore pressure gradient (0.52 psi/ft).

Collapse Calculations: Collapse Rating / Collapse Force

Cementing Operations:
11,080psi / [(0.66psi/ft-0.433 psi/ft)(9,800'TVD)] = **4.98**

Production Operations:
11080psi / (9,800' TVD)(0.52psi/ft) = **2.17**

Burst: $DF_B = 1.25$

Base Assumption

- Frac pressure utilizing an internal force of 9500 psi along with a frac fluid gradient equivalent to 0.468 psi/ft and an external force equal to the minimum fluid gradient (0.433 psi/ft) in which the casing will be ran.
- Production operations in which the casing is completely filled with a gas equivalent gradient of 0.2 psi/ft and an external force equivalent to pore pressure of 0.5 psi/ft.

Burst Calculations: Internal Yield Rating / Burst Force

Frac Pressure:
12,360psi / [(9500 psi)+ (0.468 – 0.433psi/ft)(9,800'TVD)] = **1.26**

Production Operations:
12,360psi / [(0.5 psi/ft – 0.2 psi/ft)(9,800'TVD)] = **4.2**

Tensile: $DF_T = 1.6$

Base Assumption

- A downward force of 100,000 lb. overpull is applied at the base of the casing along with the weight of the string and considering the effects of buoyancy (factor =0.86).

Tensile Calculations: Joint Strength / Axial Load

Overpull:
641,000 lbs /[(100,000 lbs.) + (304,000 lbs.)(0.86)] = **1.77**

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

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**

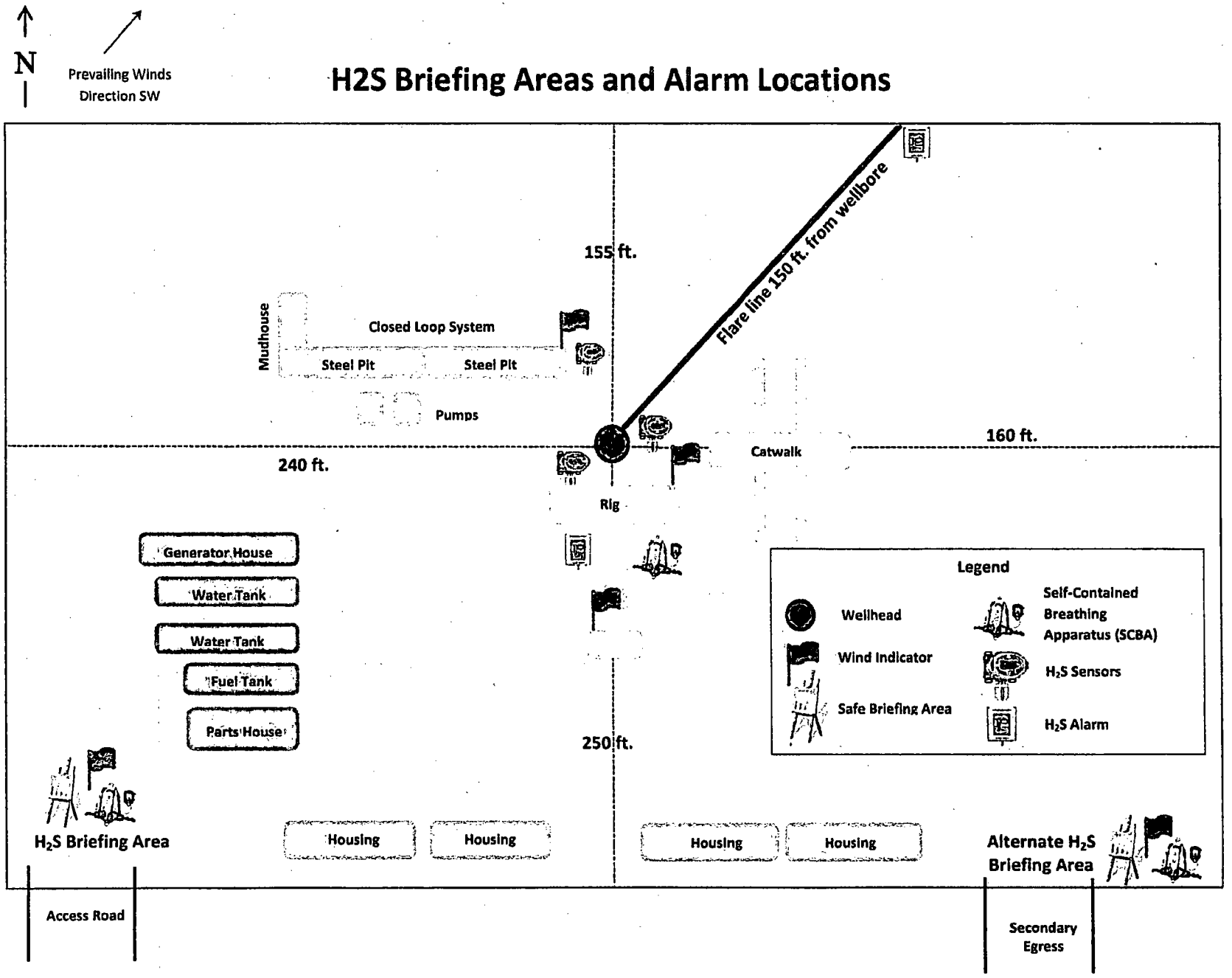
LEGACY RESERVES OPERATING LP	
Legacy Reserves Operating LP	**Office (432) 689-5200**
Drilling Manager:	**Office (432) 689-5200**
Daniel Breeding	**Cell (432) 853-1680**
Drilling Engineer:	**Office (432) 689-5200**
Matthew Dickson	**Cell (432) 212-5698**
Operations Manager:	**Office (432) 689-5200**
Ernie Hanson	**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:	**Office: (575) 397-3311**
Michael McVay	**Cell: (575) 602-1839**

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

Evacuee Description:

H2S Briefing Areas and Alarm Locations



LEGACY RESERVES

Legacy Reserves
Project: Lea County, NM (NAD-27 2016)
Site: Lea Unit #50H
Well: Lea Unit #50H
Wellbore: Lateral #1
Plan: Design #2 (Lea Unit #50H/Lateral #1)

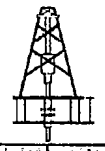
Section Details

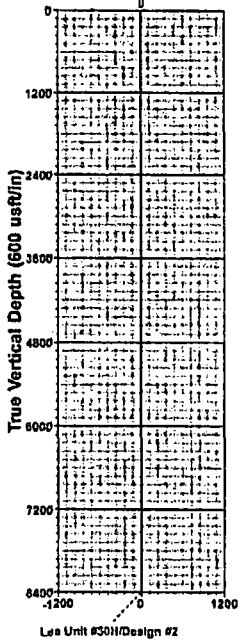
Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSect	Target
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
2	9083.80	0.00	0.00	9083.80	0.00	0.00	0.00	0.00	0.00	
3	10208.80	90.00	166.84	9800.00	-668.48	281.68	8.00	166.84	693.52	
4	11118.22	90.00	175.03	9800.00	-1536.93	501.78	2.00	90.00	1595.16	
5	16167.52	90.00	175.03	9800.00	-5571.00	862.70	0.00	0.00	6636.88	BHL-D2 (LU #50H/L1)

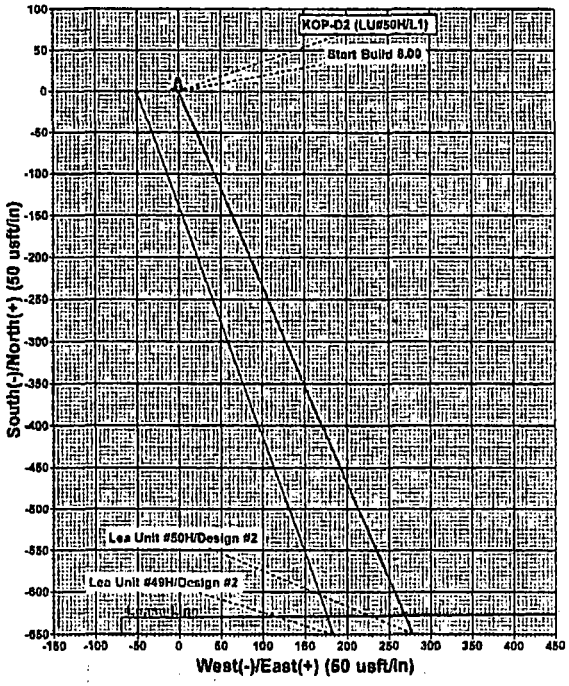
WELL DETAILS: Lea Unit #50H

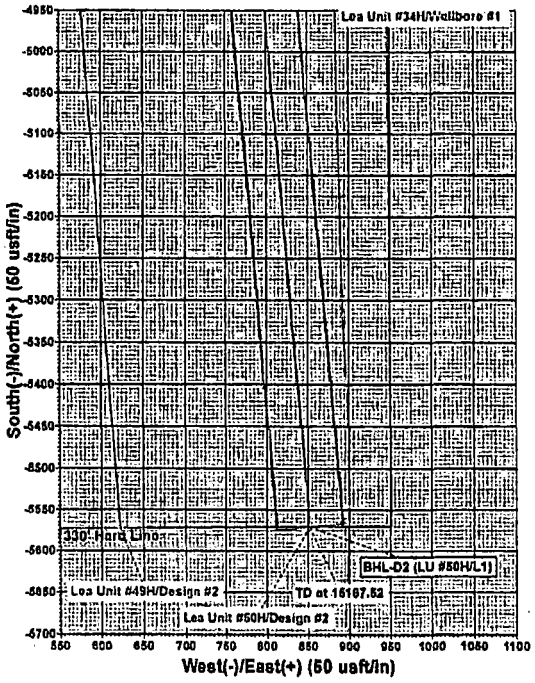
Ground Elevation:: 3677.00
RKB Elevation: KB @ 3695.00usft (McVay 4)
Rig Name: McVay 4

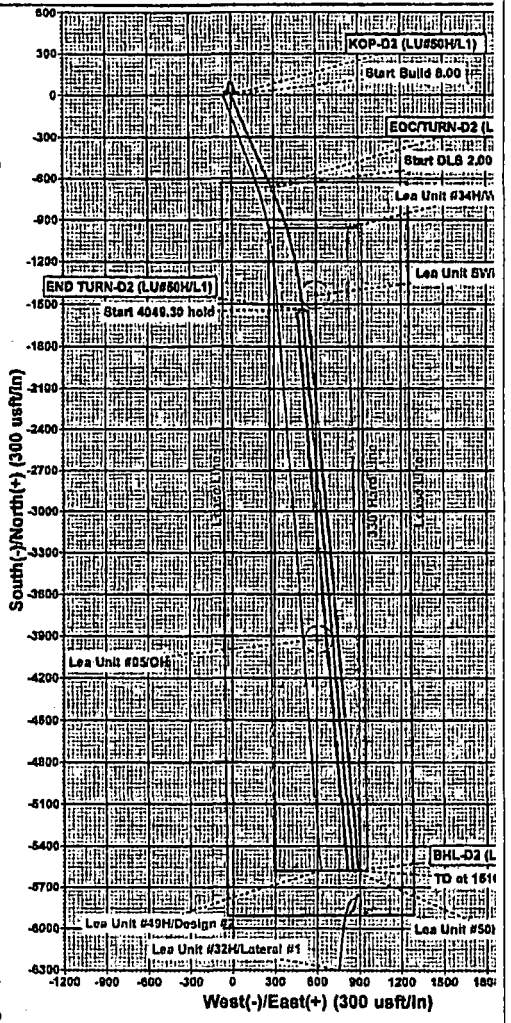
Northing	Easting	Latitude	Longitude
681684.90	752647.60	32° 35' 47.322 N	103° 30' 46.742 W

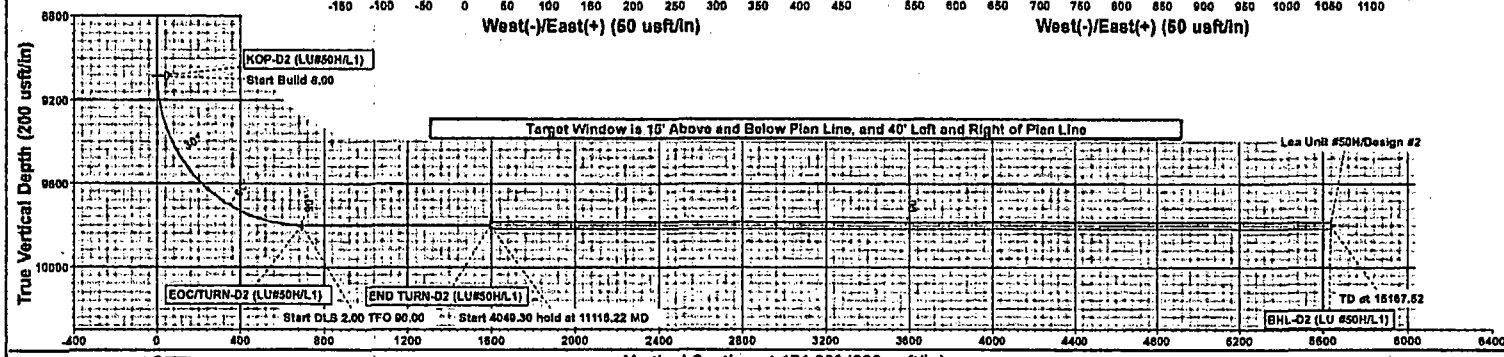












Azimuths to Grid North
True North: -0.44°
Magnetic North: 6.72°

Magnetic Field
Strength: 48382.1snT
Dip Angle: 60.44°
Date: 7/18/2016
Model: IGRF2015

PROJECT DETAILS: Lea County, NM (NAI
Geodetic System: US State Plane 1927 (Exa
Datum: NAD 1927 (NADCON CO
Ellipsoid: Clarke 1866
Zone: New Mexico East 3001
System Datum: Mean Sea Level
Local North: Grid

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

Plan: Design #2 (Lea Unit #50H/Lateral #1)
Created By: Well Planner Date: 12:57, December 09 2016

Legacy Reserves

Lea County, NM (NAD-27 2015)
Lea Unit #50H
Lea Unit #50H

Lateral #1

Plan: Design #2

Standard Planning Report

09 December, 2016

TERRA DIRECTIONAL SERVICES, L.L.C.

LEGACY RESERVES

TDS
Planning Report

Database:	EDM 5000.1 Single User Db	**Local Co-ordinate Reference:**	Well Lea Unit #50H
Company:	Legacy Reserves	**TVD Reference:**	KB @ 3695.00usft (McVay 4)
Project:	Lea County, NM (NAD-27 2015)	**MD Reference:**	KB @ 3695.00usft (McVay 4)
Site:	Lea Unit #50H	**North Reference:**	Grid
Well:	Lea Unit #50H	**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 #50H				
Site Position:		**Northing:**	581,684.90 usft	**Latitude:**	32° 35' 47.322 N
From:	Map	**Easting:**	752,647.60 usft	**Longitude:**	103° 30' 46.742 W
Position Uncertainty:	0.00 usft	**Slot Radius:**	13.20 in	**Grid Convergence:**	0.44 °

Well	Lea Unit #50H					
Well Position	**+N/-S**	0.00 usft	**Northing:**	581,684.90 usft	**Latitude:**	32° 35' 47.322 N
	+E/-W	0.00 usft	**Easting:**	752,647.60 usft	**Longitude:**	103° 30' 46.742 W
Position Uncertainty		0.00 usft	**Wellhead Elevation:**	0.00 usft	**Ground Level:**	3,677.00 usft

Wellbore	Lateral #1				
Magnetics	**Model Name**	**Sample Date**	**Declination (°)**	**Dip Angle (°)**	**Field Strength (nT)**
	IGRF2015	7/18/2015	7.16	60.44	48,362

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	171.30

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	
9,083.80	0.00	0.00	9,083.80	0.00	0.00	0.00	0.00	0.00	0.00	
10,208.80	90.00	156.84	9,800.00	-658.48	281.68	8.00	8.00	0.00	156.84	
11,118.22	90.00	175.03	9,800.00	-1,536.93	501.78	2.00	0.00	2.00	90.00	
15,167.52	90.00	175.03	9,800.00	-5,571.00	852.70	0.00	0.00	0.00	0.00	BHL-D2 (LU #50H/L1

LEGACY RESERVES

TDS
Planning Report

TDS

Database:	EDM 5000.1 Single User Db	**Local Co-ordinate Reference:**	Well Lea Unit #50H
Company:	Legacy Reserves	**TVD Reference:**	KB @ 3695.00usft (McVay 4)
Project:	Lea County, NM (NAD-27 2015)	**MD Reference:**	KB @ 3695.00usft (McVay 4)
Site:	Lea Unit #50H	**North Reference:**	Grid
Well:	Lea Unit #50H	**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

LEGACY RESERVES

TDS
Planning Report

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Wellbore:	Lateral #1		
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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
9,083.80	0.00	0.00	9,083.80	0.00	0.00	0.00	0.00	0.00	0.00
Start Build 8.00									
9,100.00	1.30	156.84	9,100.00	-0.17	0.07	0.18	8.00	8.00	0.00
9,150.00	5.30	156.84	9,149.91	-2.81	1.20	2.96	8.00	8.00	0.00
9,200.00	9.30	156.84	9,199.49	-8.65	3.70	9.11	8.00	8.00	0.00
9,250.00	13.30	156.84	9,248.51	-17.65	7.55	18.59	8.00	8.00	0.00
9,300.00	17.30	156.84	9,296.73	-29.78	12.74	31.36	8.00	8.00	0.00
9,350.00	21.30	156.84	9,343.91	-44.96	19.23	47.36	8.00	8.00	0.00
9,400.00	25.30	156.84	9,389.83	-63.14	27.01	66.50	8.00	8.00	0.00
9,450.00	29.30	156.84	9,434.25	-84.22	36.03	88.70	8.00	8.00	0.00
9,500.00	33.30	156.84	9,476.97	-108.09	46.24	113.84	8.00	8.00	0.00
9,550.00	37.30	156.84	9,517.77	-134.65	57.60	141.81	8.00	8.00	0.00
9,600.00	41.30	156.84	9,556.45	-163.76	70.05	172.47	8.00	8.00	0.00
9,650.00	45.30	156.84	9,592.84	-195.28	83.53	205.67	8.00	8.00	0.00
9,700.00	49.30	156.84	9,626.74	-229.05	97.98	241.24	8.00	8.00	0.00
9,750.00	53.30	156.84	9,658.00	-264.92	113.33	279.01	8.00	8.00	0.00

LEGACY RESERVES

TDS
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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)
9,800.00	57.30	156.84	9,686.46	-302.70	129.49	318.81	8.00	8.00	0.00
9,850.00	61.30	156.84	9,711.99	-342.22	146.39	360.43	8.00	8.00	0.00
9,900.00	65.30	156.84	9,734.45	-383.28	163.96	403.67	8.00	8.00	0.00
9,950.00	69.30	156.84	9,753.74	-425.68	182.10	448.33	8.00	8.00	0.00
10,000.00	73.30	156.84	9,769.78	-469.21	200.72	494.18	8.00	8.00	0.00
10,050.00	77.30	156.84	9,782.46	-513.67	219.73	541.00	8.00	8.00	0.00
10,100.00	81.30	156.84	9,791.75	-558.83	239.05	588.57	8.00	8.00	0.00
10,150.00	85.30	156.84	9,797.59	-604.48	258.58	636.64	8.00	8.00	0.00
10,200.00	89.30	156.84	9,799.94	-650.39	278.22	685.00	8.00	8.00	0.00
10,208.80	90.00	156.84	9,800.00	-658.48	281.68	693.52	8.00	8.00	0.00
Start DLS 2.00 TFO 90.00									
10,300.00	90.00	158.66	9,800.00	-742.89	316.21	782.18	2.00	0.00	2.00
10,400.00	90.00	160.66	9,800.00	-836.65	350.96	880.12	2.00	0.00	2.00
10,500.00	90.00	162.66	9,800.00	-931.57	382.42	978.70	2.00	0.00	2.00
10,600.00	90.00	164.66	9,800.00	-1,027.52	410.54	1,077.81	2.00	0.00	2.00
10,700.00	90.00	166.66	9,800.00	-1,124.41	435.30	1,177.32	2.00	0.00	2.00
10,800.00	90.00	168.66	9,800.00	-1,222.09	456.67	1,277.12	2.00	0.00	2.00
10,900.00	90.00	170.66	9,800.00	-1,320.46	474.61	1,377.07	2.00	0.00	2.00
11,000.00	90.00	172.66	9,800.00	-1,419.40	489.10	1,477.06	2.00	0.00	2.00
11,100.00	90.00	174.66	9,800.00	-1,518.79	500.14	1,576.97	2.00	0.00	2.00
11,118.22	90.00	175.03	9,800.00	-1,536.93	501.78	1,595.15	2.00	0.00	2.00
Start 4049.30 hold at 11118.22 MD									
11,200.00	90.00	175.03	9,800.00	-1,618.41	508.86	1,676.76	0.00	0.00	0.00
11,300.00	90.00	175.03	9,800.00	-1,718.03	517.53	1,776.55	0.00	0.00	0.00
11,400.00	90.00	175.03	9,800.00	-1,817.65	526.20	1,876.34	0.00	0.00	0.00
11,500.00	90.00	175.03	9,800.00	-1,917.28	534.86	1,976.13	0.00	0.00	0.00
11,600.00	90.00	175.03	9,800.00	-2,016.90	543.53	2,075.92	0.00	0.00	0.00
11,700.00	90.00	175.03	9,800.00	-2,116.52	552.19	2,175.70	0.00	0.00	0.00
11,800.00	90.00	175.03	9,800.00	-2,216.15	560.86	2,275.49	0.00	0.00	0.00
11,900.00	90.00	175.03	9,800.00	-2,315.77	569.53	2,375.28	0.00	0.00	0.00
12,000.00	90.00	175.03	9,800.00	-2,415.40	578.19	2,475.07	0.00	0.00	0.00
12,100.00	90.00	175.03	9,800.00	-2,515.02	586.86	2,574.86	0.00	0.00	0.00
12,200.00	90.00	175.03	9,800.00	-2,614.64	595.53	2,674.65	0.00	0.00	0.00
12,300.00	90.00	175.03	9,800.00	-2,714.27	604.19	2,774.43	0.00	0.00	0.00
12,400.00	90.00	175.03	9,800.00	-2,813.89	612.86	2,874.22	0.00	0.00	0.00
12,500.00	90.00	175.03	9,800.00	-2,913.51	621.52	2,974.01	0.00	0.00	0.00
12,600.00	90.00	175.03	9,800.00	-3,013.14	630.19	3,073.80	0.00	0.00	0.00
12,700.00	90.00	175.03	9,800.00	-3,112.76	638.86	3,173.59	0.00	0.00	0.00
12,800.00	90.00	175.03	9,800.00	-3,212.39	647.52	3,273.37	0.00	0.00	0.00
12,900.00	90.00	175.03	9,800.00	-3,312.01	656.19	3,373.16	0.00	0.00	0.00
13,000.00	90.00	175.03	9,800.00	-3,411.63	664.86	3,472.95	0.00	0.00	0.00
13,100.00	90.00	175.03	9,800.00	-3,511.26	673.52	3,572.74	0.00	0.00	0.00
13,200.00	90.00	175.03	9,800.00	-3,610.88	682.19	3,672.53	0.00	0.00	0.00
13,300.00	90.00	175.03	9,800.00	-3,710.50	690.86	3,772.31	0.00	0.00	0.00
13,400.00	90.00	175.03	9,800.00	-3,810.13	699.52	3,872.10	0.00	0.00	0.00
13,500.00	90.00	175.03	9,800.00	-3,909.75	708.19	3,971.89	0.00	0.00	0.00
13,600.00	90.00	175.03	9,800.00	-4,009.38	716.85	4,071.68	0.00	0.00	0.00
13,700.00	90.00	175.03	9,800.00	-4,109.00	725.52	4,171.47	0.00	0.00	0.00
13,800.00	90.00	175.03	9,800.00	-4,208.62	734.19	4,271.26	0.00	0.00	0.00
13,900.00	90.00	175.03	9,800.00	-4,308.25	742.85	4,371.04	0.00	0.00	0.00
14,000.00	90.00	175.03	9,800.00	-4,407.87	751.52	4,470.83	0.00	0.00	0.00
14,100.00	90.00	175.03	9,800.00	-4,507.49	760.19	4,570.62	0.00	0.00	0.00
14,200.00	90.00	175.03	9,800.00	-4,607.12	768.85	4,670.41	0.00	0.00	0.00
14,300.00	90.00	175.03	9,800.00	-4,706.74	777.52	4,770.20	0.00	0.00	0.00

TDS
Planning Report

Database:	EDM 5000.1 Single User Db	**Local Co-ordinate Reference:**	Well Lea Unit #50H
Company:	Legacy Reserves	**TVD Reference:**	KB @ 3695.00usft (McVay 4)
Project:	Lea County, NM (NAD-27 2015)	**MD Reference:**	KB @ 3695.00usft (McVay 4)
Site:	Lea Unit #50H	**North Reference:**	Grid
Well:	Lea Unit #50H	**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)
14,400.00	90.00	175.03	9,800.00	-4,806.37	786.18	4,869.98	0.00	0.00	0.00
14,500.00	90.00	175.03	9,800.00	-4,905.99	794.85	4,969.77	0.00	0.00	0.00
14,600.00	90.00	175.03	9,800.00	-5,005.61	803.52	5,069.56	0.00	0.00	0.00
14,700.00	90.00	175.03	9,800.00	-5,105.24	812.18	5,169.35	0.00	0.00	0.00
14,800.00	90.00	175.03	9,800.00	-5,204.86	820.85	5,269.14	0.00	0.00	0.00
14,900.00	90.00	175.03	9,800.00	-5,304.48	829.52	5,368.92	0.00	0.00	0.00
15,000.00	90.00	175.03	9,800.00	-5,404.11	838.18	5,468.71	0.00	0.00	0.00
15,100.00	90.00	175.03	9,800.00	-5,503.73	846.85	5,568.50	0.00	0.00	0.00
15,167.52	90.00	175.03	9,800.00	-5,571.00	852.70	5,635.88	0.00	0.00	0.00
TD at 15167.52									

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
LU SWD #8 (LU#50/L1)	0.00	0.00	0.00	-1,435.10	590.83	580,249.80	753,238.43	32° 35' 33.077 N	103° 30' 39.966 W
- plan misses target center by 1551.96usft at 0.00usft MD (0.00 TVD, 0.00 N, 0.00 E)									
- Circle (radius 100.00)									
LU #5 (LU#50H/L1)	0.00	0.00	0.00	-3,923.47	609.82	577,761.43	753,257.42	32° 35' 8.454 N	103° 30' 39.969 W
- plan misses target center by 3970.58usft at 0.00usft MD (0.00 TVD, 0.00 N, 0.00 E)									
- Circle (radius 100.00)									
KOP-D2 (LU#50H/L1)	0.00	0.00	9,083.80	0.00	0.00	581,684.90	752,647.60	32° 35' 47.322 N	103° 30' 46.742 W
- plan hits target center									
- Point									
END TURN-D2 (LU#50H	0.00	0.00	9,800.00	-1,536.93	501.78	580,147.97	753,149.37	32° 35' 32.077 N	103° 30' 41.016 W
- plan hits target center									
- Point									
BHL-D2 (LU #50H/L1)	0.00	175.03	9,800.00	-5,571.00	852.70	576,113.90	753,500.30	32° 34' 52.133 N	103° 30' 37.279 W
- plan hits target center									
- Rectangle (sides W80.00 H4,040.73 D30.00)									
EOC/TURN-D2 (LU#50H	0.00	0.00	9,800.00	-658.48	281.68	581,026.42	752,929.28	32° 35' 40.785 N	103° 30' 43.509 W
- plan hits target center									
- Point									

Plan Annotations

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates +N/-S (usft)	Local Coordinates +E/-W (usft)	Comment
9,083.80	9,083.80	0.00	0.00	Start Build 8.00
10,208.80	9,800.00	-658.48	281.68	Start DLS 2.00 TFO 90.00
11,118.22	9,800.00	-1,536.93	501.78	Start 4049.30 hold at 11118.22 MD
15,167.52	9,800.00	-5,571.00	852.70	TD at 15167.52

Legacy Reserves

Lea County, NM (NAD-27 2015)
Lea Unit #50H
Lea Unit #50H

Lateral #1
Design #2

Anticollision Report

09 December, 2016

TERRA DIRECTIONAL SERVICES, L.L.C.

TDS
Anticollision Report

Company:	Legacy Reserves	**Local Co-ordinate Reference:**	Well Lea Unit #50H
Project:	Lea County, NM (NAD-27 2015)	**TVD Reference:**	KB @ 3695.00usft (McVay 4)
Reference Site:	Lea Unit #50H	**MD Reference:**	KB @ 3695.00usft (McVay 4)
Site Error:	0.00 usft	**North Reference:**	Grid
Reference Well:	Lea Unit #50H	**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** 12/9/2016

From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description
0.00	15,167.52	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 Unit #05 - OH - OH	13,500.00	9,769.00	99.32	11.60	1.132	Level 2, ES, SF
Lea Unit #05 - OH - OH	13,505.14	9,769.00	99.19	11.62	1.133	Level 2, CC
Lea Unit SWD #08 - OH - OH	11,027.60	9,775.40	99.03	-66.90	0.597	Level 1, CC, ES, SF
Lea Unit #32H						
Lea Unit #32H - Lateral #1 - Lateral #1	15,167.52	9,776.56	208.35	170.42	5.493	CC, ES, SF
Lea Unit #34H						
Lea Unit #34H - Wellbore #1 - Wellbore #1	15,167.52	9,786.92	317.82	275.97	7.594	CC, ES, SF
Lea Unit #49H						
Lea Unit #49H - Lateral #1 - Design #2	9,083.80	9,084.80	49.90	9.33	1.230	Level 2, CC, ES
Lea Unit #49H - Lateral #1 - Design #2	9,100.00	9,101.00	49.97	9.34	1.230	Level 2, SF

Offset Design Lea County Offset Wells - Lea Unit #05 - OH - OH — Offset Site Error: 0.00 usft

Survey Program: 10000-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	171.17	-3,923.47	609.82	3,970.70				
100.00	100.00	69.00	69.00	0.09	0.08	171.17	-3,923.47	609.82	3,970.58	3,970.41	0.17	N/A	
200.00	200.00	169.00	169.00	0.32	0.19	171.17	-3,923.47	609.82	3,970.58	3,970.07	0.51	7,830.835	
300.00	300.00	269.00	269.00	0.54	0.30	171.17	-3,923.47	609.82	3,970.58	3,969.73	0.84	4,703.412	
400.00	400.00	369.00	369.00	0.77	0.41	171.17	-3,923.47	609.82	3,970.58	3,969.40	1.18	3,361.086	
500.00	500.00	469.00	469.00	0.99	0.53	171.17	-3,923.47	609.82	3,970.58	3,969.06	1.52	2,614.829	
600.00	600.00	569.00	569.00	1.22	0.64	171.17	-3,923.47	609.82	3,970.58	3,968.72	1.86	2,139.744	
700.00	700.00	669.00	669.00	1.44	0.75	171.17	-3,923.47	609.82	3,970.58	3,968.39	2.19	1,810.752	
800.00	800.00	769.00	769.00	1.67	0.88	171.17	-3,923.47	609.82	3,970.58	3,968.05	2.53	1,569.444	
900.00	900.00	869.00	869.00	1.89	0.98	171.17	-3,923.47	609.82	3,970.58	3,967.71	2.87	1,384.889	
1,000.00	1,000.00	968.00	968.00	2.12	1.09	171.17	-3,923.47	609.82	3,970.58	3,967.37	3.20	1,239.172	
1,100.00	1,100.00	1,069.00	1,069.00	2.34	1.20	171.17	-3,923.47	609.82	3,970.58	3,967.04	3.54	1,121.199	
1,200.00	1,200.00	1,169.00	1,169.00	2.56	1.31	171.17	-3,923.47	609.82	3,970.58	3,966.70	3.88	1,023.737	
1,300.00	1,300.00	1,269.00	1,269.00	2.79	1.43	171.17	-3,923.47	609.82	3,970.58	3,966.36	4.22	941.864	
1,400.00	1,400.00	1,369.00	1,369.00	3.01	1.54	171.17	-3,923.47	609.82	3,970.58	3,966.03	4.55	872.116	
1,500.00	1,500.00	1,469.00	1,469.00	3.24	1.65	171.17	-3,923.47	609.82	3,970.58	3,965.69	4.89	811.987	

LEGACY RESERVES

TDS
Anticollision Report

Company:	Legacy Reserves	**Local Co-ordinate Reference:**	Well Lea Unit #50H
Project:	Lea County, NM (NAD-27 2015)	**TVD Reference:**	KB @ 3695.00usft (McVay 4)
Reference Site:	Lea Unit #50H	**MD Reference:**	KB @ 3695.00usft (McVay 4)
Site Error:	0.00 usft	**North Reference:**	Grid
Reference Well:	Lea Unit #50H	**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 #05 - OH - OH — Offset Site Error: 0.00 usft

Survey Program: 10000-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
1,600.00	1,600.00	1,569.00	1,569.00	3.46	1.76	171.17	-3,923.47	609.82	3,970.58	3,965.35	5.23	759.614	
1,700.00	1,700.00	1,669.00	1,669.00	3.69	1.88	171.17	-3,923.47	609.82	3,970.58	3,965.01	5.56	713.587	
1,800.00	1,800.00	1,769.00	1,769.00	3.91	1.99	171.17	-3,923.47	609.82	3,970.58	3,964.68	5.90	672.820	
1,900.00	1,900.00	1,869.00	1,869.00	4.14	2.10	171.17	-3,923.47	609.82	3,970.58	3,964.34	6.24	636.459	
2,000.00	2,000.00	1,969.00	1,969.00	4.36	2.21	171.17	-3,923.47	609.82	3,970.58	3,964.00	6.58	603.827	
2,100.00	2,100.00	2,069.00	2,069.00	4.59	2.33	171.17	-3,923.47	609.82	3,970.58	3,963.67	6.91	574.378	
2,200.00	2,200.00	2,169.00	2,169.00	4.81	2.44	171.17	-3,923.47	609.82	3,970.58	3,963.33	7.25	547.667	
2,300.00	2,300.00	2,269.00	2,269.00	5.04	2.55	171.17	-3,923.47	609.82	3,970.58	3,962.99	7.59	523.331	
2,400.00	2,400.00	2,369.00	2,369.00	5.26	2.66	171.17	-3,923.47	609.82	3,970.58	3,962.65	7.92	501.065	
2,500.00	2,500.00	2,469.00	2,469.00	5.49	2.77	171.17	-3,923.47	609.82	3,970.58	3,962.32	8.26	480.617	
2,600.00	2,600.00	2,569.00	2,569.00	5.71	2.89	171.17	-3,923.47	609.82	3,970.58	3,961.98	8.60	461.772	
2,700.00	2,700.00	2,669.00	2,669.00	5.94	3.00	171.17	-3,923.47	609.82	3,970.58	3,961.64	8.94	444.349	
2,800.00	2,800.00	2,769.00	2,769.00	6.16	3.11	171.17	-3,923.47	609.82	3,970.58	3,961.31	9.27	428.193	
2,900.00	2,900.00	2,869.00	2,869.00	6.39	3.22	171.17	-3,923.47	609.82	3,970.58	3,960.97	9.61	413.171	
3,000.00	3,000.00	2,969.00	2,969.00	6.61	3.34	171.17	-3,923.47	609.82	3,970.58	3,960.63	9.95	399.167	
3,100.00	3,100.00	3,069.00	3,069.00	6.84	3.45	171.17	-3,923.47	609.82	3,970.58	3,960.29	10.28	386.081	
3,200.00	3,200.00	3,169.00	3,169.00	7.06	3.56	171.17	-3,923.47	609.82	3,970.58	3,959.96	10.62	373.826	
3,300.00	3,300.00	3,269.00	3,269.00	7.28	3.67	171.17	-3,923.47	609.82	3,970.58	3,959.62	10.96	362.325	
3,400.00	3,400.00	3,369.00	3,369.00	7.51	3.79	171.17	-3,923.47	609.82	3,970.58	3,959.28	11.30	351.511	
3,500.00	3,500.00	3,469.00	3,469.00	7.73	3.90	171.17	-3,923.47	609.82	3,970.58	3,958.95	11.63	341.323	
3,600.00	3,600.00	3,569.00	3,569.00	7.96	4.01	171.17	-3,923.47	609.82	3,970.58	3,958.61	11.97	331.710	
3,700.00	3,700.00	3,669.00	3,669.00	8.18	4.12	171.17	-3,923.47	609.82	3,970.58	3,958.27	12.31	322.623	
3,800.00	3,800.00	3,769.00	3,769.00	8.41	4.24	171.17	-3,923.47	609.82	3,970.58	3,957.93	12.64	314.020	
3,900.00	3,900.00	3,869.00	3,869.00	8.63	4.35	171.17	-3,923.47	609.82	3,970.58	3,957.60	12.98	305.865	
4,000.00	4,000.00	3,969.00	3,969.00	8.86	4.46	171.17	-3,923.47	609.82	3,970.58	3,957.26	13.32	298.122	
4,100.00	4,100.00	4,069.00	4,069.00	9.08	4.57	171.17	-3,923.47	609.82	3,970.58	3,956.92	13.66	290.762	
4,200.00	4,200.00	4,169.00	4,169.00	9.31	4.69	171.17	-3,923.47	609.82	3,970.58	3,956.59	13.99	283.756	
4,300.00	4,300.00	4,269.00	4,269.00	9.53	4.80	171.17	-3,923.47	609.82	3,970.58	3,956.25	14.33	277.080	
4,400.00	4,400.00	4,369.00	4,369.00	9.76	4.91	171.17	-3,923.47	609.82	3,970.58	3,955.91	14.67	270.711	
4,500.00	4,500.00	4,469.00	4,469.00	9.98	5.02	171.17	-3,923.47	609.82	3,970.58	3,955.57	15.00	264.628	
4,600.00	4,600.00	4,569.00	4,569.00	10.21	5.13	171.17	-3,923.47	609.82	3,970.58	3,955.24	15.34	258.813	
4,700.00	4,700.00	4,669.00	4,669.00	10.43	5.25	171.17	-3,923.47	609.82	3,970.58	3,954.90	15.68	253.247	
4,800.00	4,800.00	4,769.00	4,769.00	10.66	5.36	171.17	-3,923.47	609.82	3,970.58	3,954.56	16.02	247.916	
4,900.00	4,900.00	4,869.00	4,869.00	10.88	5.47	171.17	-3,923.47	609.82	3,970.58	3,954.23	16.35	242.805	
5,000.00	5,000.00	4,969.00	4,969.00	11.11	5.58	171.17	-3,923.47	609.82	3,970.58	3,953.89	16.69	237.900	
5,100.00	5,100.00	5,069.00	5,069.00	11.33	5.70	171.17	-3,923.47	609.82	3,970.58	3,953.55	17.03	233.190	
5,200.00	5,200.00	5,169.00	5,169.00	11.56	5.81	171.17	-3,923.47	609.82	3,970.58	3,953.21	17.36	228.662	
5,300.00	5,300.00	5,269.00	5,269.00	11.78	5.92	171.17	-3,923.47	609.82	3,970.58	3,952.88	17.70	224.307	
5,400.00	5,400.00	5,369.00	5,369.00	12.00	6.03	171.17	-3,923.47	609.82	3,970.58	3,952.54	18.04	220.115	
5,500.00	5,500.00	5,469.00	5,469.00	12.23	6.15	171.17	-3,923.47	609.82	3,970.58	3,952.20	18.38	216.076	
5,600.00	5,600.00	5,569.00	5,569.00	12.45	6.26	171.17	-3,923.47	609.82	3,970.58	3,951.87	18.71	212.183	
5,700.00	5,700.00	5,669.00	5,669.00	12.68	6.37	171.17	-3,923.47	609.82	3,970.58	3,951.53	19.05	208.428	
5,800.00	5,800.00	5,769.00	5,769.00	12.90	6.48	171.17	-3,923.47	609.82	3,970.58	3,951.19	19.39	204.803	
5,900.00	5,900.00	5,869.00	5,869.00	13.13	6.60	171.17	-3,923.47	609.82	3,970.58	3,950.85	19.72	201.303	
6,000.00	6,000.00	5,969.00	5,969.00	13.35	6.71	171.17	-3,923.47	609.82	3,970.58	3,950.52	20.06	197.920	
6,100.00	6,100.00	6,069.00	6,069.00	13.58	6.82	171.17	-3,923.47	609.82	3,970.58	3,950.18	20.40	194.648	
6,200.00	6,200.00	6,169.00	6,169.00	13.80	6.93	171.17	-3,923.47	609.82	3,970.58	3,949.84	20.74	191.484	
6,300.00	6,300.00	6,269.00	6,269.00	14.03	7.05	171.17	-3,923.47	609.82	3,970.58	3,949.51	21.07	188.420	
6,400.00	6,400.00	6,369.00	6,369.00	14.25	7.16	171.17	-3,923.47	609.82	3,970.58	3,949.17	21.41	185.453	
6,500.00	6,500.00	6,469.00	6,469.00	14.48	7.27	171.17	-3,923.47	609.82	3,970.58	3,948.83	21.75	182.578	
6,600.00	6,600.00	6,569.00	6,569.00	14.70	7.38	171.17	-3,923.47	609.82	3,970.58	3,948.49	22.08	179.791	
6,700.00	6,700.00	6,669.00	6,669.00	14.93	7.49	171.17	-3,923.47	609.82	3,970.58	3,948.16	22.42	177.087	

LEGACY RESERVES

TDS
Anticollision Report

Company:	Legacy Reserves	**Local Co-ordinate Reference:**	Well Lea Unit #50H
Project:	Lea County, NM (NAD-27 2015)	**TVD Reference:**	KB @ 3695.00usft (McVay 4)
Reference Site:	Lea Unit #50H	**MD Reference:**	KB @ 3695.00usft (McVay 4)
Site Error:	0.00 usft	**North Reference:**	Grid
Reference Well:	Lea Unit #50H	**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 #05 - OH - OH — Offset Site Error: 0.00 usft

Survey Program: 10000-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
6,800.00	6,800.00	6,769.00	6,769.00	15.15	7.61	171.17	-3,923.47	609.82	3,970.58	3,947.82	22.76	174.464	
6,900.00	6,900.00	6,869.00	6,869.00	15.38	7.72	171.17	-3,923.47	609.82	3,970.58	3,947.48	23.10	171.917	
7,000.00	7,000.00	6,969.00	6,969.00	15.60	7.83	171.17	-3,923.47	609.82	3,970.58	3,947.15	23.43	169.444	
7,100.00	7,100.00	7,069.00	7,069.00	15.83	7.94	171.17	-3,923.47	609.82	3,970.58	3,946.81	23.77	167.040	
7,200.00	7,200.00	7,169.00	7,169.00	16.05	8.06	171.17	-3,923.47	609.82	3,970.58	3,946.47	24.11	164.704	
7,300.00	7,300.00	7,269.00	7,269.00	16.28	8.17	171.17	-3,923.47	609.82	3,970.58	3,946.13	24.44	162.433	
7,400.00	7,400.00	7,369.00	7,369.00	16.50	8.28	171.17	-3,923.47	609.82	3,970.58	3,945.80	24.78	160.223	
7,500.00	7,500.00	7,469.00	7,469.00	16.72	8.39	171.17	-3,923.47	609.82	3,970.58	3,945.46	25.12	158.072	
7,600.00	7,600.00	7,569.00	7,569.00	16.95	8.51	171.17	-3,923.47	609.82	3,970.58	3,945.12	25.46	155.979	
7,700.00	7,700.00	7,669.00	7,669.00	17.17	8.62	171.17	-3,923.47	609.82	3,970.58	3,944.79	25.79	153.940	
7,800.00	7,800.00	7,769.00	7,769.00	17.40	8.73	171.17	-3,923.47	609.82	3,970.58	3,944.45	26.13	151.954	
7,900.00	7,900.00	7,869.00	7,869.00	17.62	8.84	171.17	-3,923.47	609.82	3,970.58	3,944.11	26.47	150.018	
8,000.00	8,000.00	7,969.00	7,969.00	17.85	8.96	171.17	-3,923.47	609.82	3,970.58	3,943.77	26.80	148.131	
8,100.00	8,100.00	8,069.00	8,069.00	18.07	9.07	171.17	-3,923.47	609.82	3,970.58	3,943.44	27.14	146.291	
8,200.00	8,200.00	8,169.00	8,169.00	18.30	9.18	171.17	-3,923.47	609.82	3,970.58	3,943.10	27.48	144.496	
8,300.00	8,300.00	8,269.00	8,269.00	18.52	9.29	171.17	-3,923.47	609.82	3,970.58	3,942.76	27.82	142.745	
8,400.00	8,400.00	8,369.00	8,369.00	18.75	9.41	171.17	-3,923.47	609.82	3,970.58	3,942.43	28.15	141.035	
8,500.00	8,500.00	8,469.00	8,469.00	18.97	9.52	171.17	-3,923.47	609.82	3,970.58	3,942.09	28.49	139.366	
8,600.00	8,600.00	8,569.00	8,569.00	19.20	9.63	171.17	-3,923.47	609.82	3,970.58	3,941.75	28.83	137.736	
8,700.00	8,700.00	8,669.00	8,669.00	19.42	9.74	171.17	-3,923.47	609.82	3,970.58	3,941.41	29.16	136.144	
8,800.00	8,800.00	8,769.00	8,769.00	19.65	9.85	171.17	-3,923.47	609.82	3,970.58	3,941.08	29.50	134.588	
8,900.00	8,900.00	8,869.00	8,869.00	19.87	9.97	171.17	-3,923.47	609.82	3,970.58	3,940.74	29.84	133.067	
9,000.00	9,000.00	8,969.00	8,969.00	20.10	10.08	171.17	-3,923.47	609.82	3,970.58	3,940.40	30.18	131.581	
9,083.80	9,083.80	9,052.80	9,052.80	20.28	10.17	171.17	-3,923.47	609.82	3,970.58	3,940.12	30.46	130.360	
9,100.00	9,100.00	9,069.00	9,069.00	20.32	10.19	14.33	-3,923.47	609.82	3,970.40	3,939.89	30.51	130.141	
9,150.00	9,149.91	9,118.91	9,118.91	20.40	10.25	14.40	-3,923.47	609.82	3,967.62	3,936.97	30.65	129.452	
9,200.00	9,199.49	9,168.49	9,168.49	20.49	10.30	14.54	-3,923.47	609.82	3,961.47	3,930.68	30.79	128.657	
9,250.00	9,248.51	9,217.51	9,217.51	20.57	10.36	14.77	-3,923.47	609.82	3,951.98	3,921.05	30.93	127.764	
9,300.00	9,296.73	9,265.73	9,265.73	20.66	10.41	15.10	-3,923.47	609.82	3,939.21	3,908.14	31.07	126.778	
9,350.00	9,343.91	9,312.91	9,312.91	20.75	10.47	15.52	-3,923.47	609.82	3,923.21	3,892.00	31.21	125.705	
9,400.00	9,389.83	9,358.83	9,358.83	20.84	10.52	16.04	-3,923.47	609.82	3,904.08	3,872.73	31.35	124.551	
9,450.00	9,434.25	9,403.25	9,403.25	20.94	10.57	16.70	-3,923.47	609.82	3,881.89	3,850.42	31.48	123.322	
9,500.00	9,476.97	9,445.97	9,445.97	21.05	10.62	17.49	-3,923.47	609.82	3,856.78	3,825.17	31.61	122.022	
9,550.00	9,517.77	9,486.77	9,486.77	21.17	10.66	18.45	-3,923.47	609.82	3,828.85	3,797.12	31.73	120.659	
9,600.00	9,556.45	9,525.45	9,525.45	21.32	10.71	19.62	-3,923.47	609.82	3,798.26	3,766.41	31.85	119.238	
9,650.00	9,592.84	9,561.84	9,561.84	21.48	10.75	21.02	-3,923.47	609.82	3,765.16	3,733.19	31.97	117.763	
9,700.00	9,626.74	9,595.74	9,595.74	21.68	10.78	22.72	-3,923.47	609.82	3,729.71	3,697.62	32.09	116.242	
9,750.00	9,658.00	9,627.00	9,627.00	21.90	10.82	24.79	-3,923.47	609.82	3,692.09	3,659.89	32.19	114.681	
9,800.00	9,686.46	9,655.46	9,655.46	22.16	10.85	27.33	-3,923.47	609.82	3,652.49	3,620.19	32.30	113.084	
9,850.00	9,711.99	9,680.99	9,680.99	22.45	10.88	30.48	-3,923.47	609.82	3,611.11	3,578.71	32.40	111.458	
9,900.00	9,734.45	9,703.45	9,703.45	22.78	10.91	34.42	-3,923.47	609.82	3,568.16	3,535.66	32.49	109.808	
9,950.00	9,753.74	9,722.74	9,722.74	23.15	10.93	39.39	-3,923.47	609.82	3,523.84	3,491.26	32.59	108.140	
10,000.00	9,769.78	9,738.78	9,738.78	23.56	10.94	45.69	-3,923.47	609.82	3,478.40	3,445.72	32.67	106.459	
10,050.00	9,782.46	9,751.46	9,751.46	24.01	10.96	53.64	-3,923.47	609.82	3,432.04	3,399.28	32.76	104.770	
10,100.00	9,791.75	9,760.75	9,760.75	24.49	10.97	63.48	-3,923.47	609.82	3,385.01	3,352.17	32.84	103.078	
10,150.00	9,797.59	9,766.59	9,766.59	25.00	10.98	75.09	-3,923.47	609.82	3,337.53	3,304.61	32.92	101.387	
10,200.00	9,799.94	9,768.94	9,768.94	25.55	10.98	87.75	-3,923.47	609.82	3,289.84	3,256.84	33.00	99.703	
10,208.80	9,800.00	9,769.00	9,769.00	25.65	10.98	90.00	-3,923.47	609.82	3,281.44	3,248.43	33.01	99.407	
10,300.00	9,800.00	9,769.00	9,769.00	26.67	10.98	90.00	-3,923.47	609.82	3,194.11	3,160.96	33.15	96.365	
10,400.00	9,800.00	9,769.00	9,769.00	27.83	10.98	90.00	-3,923.47	609.82	3,097.66	3,064.36	33.29	93.039	
10,500.00	9,800.00	9,769.00	9,769.00	29.07	10.98	90.00	-3,923.47	609.82	3,000.53	2,967.09	33.45	89.706	
10,600.00	9,800.00	9,769.00	9,769.00	30.37	10.98	90.00	-3,923.47	609.82	2,902.79	2,869.19	33.60	86.385	

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 #50H
Project:	Lea County, NM (NAD-27 2015)	**TVD Reference:**	KB @ 3695.00usft (McVay 4)
Reference Site:	Lea Unit #50H	**MD Reference:**	KB @ 3695.00usft (McVay 4)
Site Error:	0.00 usft	**North Reference:**	Grid
Reference Well:	Lea Unit #50H	**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 #05 - OH - OH — **Offset Site Error:** 0.00 usft

Survey Program: 10000-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
10,700.00	9,800.00	9,769.00	9,769.00	31.71	10.98	90.00	-3,923.47	609.82	2,804.50	2,770.75	33.75	83.091	
10,800.00	9,800.00	9,769.00	9,769.00	33.09	10.98	90.00	-3,923.47	609.82	2,705.72	2,671.83	33.89	79.835	
10,900.00	9,800.00	9,769.00	9,769.00	34.49	10.98	90.00	-3,923.47	609.82	2,606.52	2,572.50	34.02	76.628	
11,000.00	9,800.00	9,769.00	9,769.00	35.90	10.98	90.00	-3,923.47	609.82	2,506.98	2,472.86	34.12	73.479	
11,100.00	9,800.00	9,769.00	9,769.00	37.32	10.98	90.00	-3,923.47	609.82	2,407.18	2,372.99	34.20	70.394	
11,118.22	9,800.00	9,769.00	9,769.00	37.58	10.98	90.00	-3,923.47	609.82	2,388.98	2,354.78	34.21	69.839	
11,200.00	9,800.00	9,769.00	9,769.00	38.75	10.98	90.00	-3,923.47	609.82	2,307.27	2,273.02	34.26	67.353	
11,300.00	9,800.00	9,769.00	9,769.00	40.21	10.98	90.00	-3,923.47	609.82	2,207.37	2,173.05	34.32	64.311	
11,400.00	9,800.00	9,769.00	9,769.00	41.70	10.98	90.00	-3,923.47	609.82	2,107.48	2,073.08	34.40	61.270	
11,500.00	9,800.00	9,769.00	9,769.00	43.21	10.98	90.00	-3,923.47	609.82	2,007.59	1,973.12	34.48	58.229	
11,600.00	9,800.00	9,769.00	9,769.00	44.76	10.98	90.00	-3,923.47	609.82	1,907.72	1,873.15	34.57	55.189	
11,700.00	9,800.00	9,769.00	9,769.00	46.32	10.98	90.00	-3,923.47	609.82	1,807.86	1,773.20	34.67	52.150	
11,800.00	9,800.00	9,769.00	9,769.00	47.91	10.98	90.00	-3,923.47	609.82	1,708.02	1,673.25	34.78	49.112	
11,900.00	9,800.00	9,769.00	9,769.00	49.52	10.98	90.00	-3,923.47	609.82	1,608.20	1,573.30	34.90	46.075	
12,000.00	9,800.00	9,769.00	9,769.00	51.14	10.98	90.00	-3,923.47	609.82	1,508.41	1,473.36	35.05	43.039	
12,100.00	9,800.00	9,769.00	9,769.00	52.78	10.98	90.00	-3,923.47	609.82	1,408.64	1,373.43	35.21	40.005	
12,200.00	9,800.00	9,769.00	9,769.00	54.44	10.98	90.00	-3,923.47	609.82	1,308.91	1,273.50	35.40	36.971	
12,300.00	9,800.00	9,769.00	9,769.00	56.10	10.98	90.00	-3,923.47	609.82	1,209.22	1,173.59	35.63	33.939	
12,400.00	9,800.00	9,769.00	9,769.00	57.78	10.98	90.00	-3,923.47	609.82	1,109.58	1,073.68	35.90	30.907	
12,500.00	9,800.00	9,769.00	9,769.00	59.47	10.98	90.00	-3,923.47	609.82	1,010.02	973.79	36.23	27.876	
12,600.00	9,800.00	9,769.00	9,769.00	61.17	10.98	90.00	-3,923.47	609.82	910.56	873.91	36.65	24.846	
12,700.00	9,800.00	9,769.00	9,769.00	62.88	10.98	90.00	-3,923.47	609.82	811.23	774.05	37.18	21.818	
12,800.00	9,800.00	9,769.00	9,769.00	64.60	10.98	90.00	-3,923.47	609.82	712.08	674.19	37.89	18.793	
12,900.00	9,800.00	9,769.00	9,769.00	66.32	10.98	90.00	-3,923.47	609.82	613.22	574.34	38.88	15.773	
13,000.00	9,800.00	9,769.00	9,769.00	68.06	10.98	90.00	-3,923.47	609.82	514.79	474.47	40.32	12.769	
13,100.00	9,800.00	9,769.00	9,769.00	69.80	10.98	90.00	-3,923.47	609.82	417.11	374.54	42.56	9.799	
13,200.00	9,800.00	9,769.00	9,769.00	71.54	10.98	90.00	-3,923.47	609.82	320.86	274.45	46.41	6.913	
13,300.00	9,800.00	9,769.00	9,769.00	73.29	10.98	90.00	-3,923.47	609.82	227.86	174.07	53.79	4.236	
13,400.00	9,800.00	9,769.00	9,769.00	75.05	10.98	90.00	-3,923.47	609.82	144.54	75.10	69.45	2.081	
13,500.00	9,800.00	9,769.00	9,769.00	76.81	10.98	90.00	-3,923.47	609.82	99.32	11.60	87.72	1.132	Level 2, ES, SF
13,505.14	9,800.00	9,769.00	9,769.00	76.90	10.98	90.00	-3,923.47	609.82	99.19	11.62	87.56	1.133	Level 2, CC
13,600.00	9,800.00	9,769.00	9,769.00	78.58	10.98	90.00	-3,923.47	609.82	137.24	72.08	65.16	2.106	
13,700.00	9,800.00	9,769.00	9,769.00	80.35	10.98	90.00	-3,923.47	609.82	218.65	171.34	47.31	4.621	
13,800.00	9,800.00	9,769.00	9,769.00	82.13	10.98	90.00	-3,923.47	609.82	311.09	271.07	40.02	7.773	
13,900.00	9,800.00	9,769.00	9,769.00	83.91	10.98	90.00	-3,923.47	609.82	407.13	370.27	36.86	11.046	
14,000.00	9,800.00	9,769.00	9,769.00	85.69	10.98	90.00	-3,923.47	609.82	504.70	469.35	35.35	14.277	
14,100.00	9,800.00	9,769.00	9,769.00	87.47	10.98	90.00	-3,923.47	609.82	603.07	568.49	34.59	17.437	
14,200.00	9,800.00	9,769.00	9,769.00	89.26	10.98	90.00	-3,923.47	609.82	701.90	667.72	34.18	20.535	
14,300.00	9,800.00	9,769.00	9,769.00	91.06	10.98	90.00	-3,923.47	609.82	801.02	767.06	33.97	23.583	
14,400.00	9,800.00	9,769.00	9,769.00	92.85	10.98	90.00	-3,923.47	609.82	900.34	866.48	33.86	26.591	
14,500.00	9,800.00	9,769.00	9,769.00	94.65	10.98	90.00	-3,923.47	609.82	999.79	965.98	33.81	29.567	
14,600.00	9,800.00	9,769.00	9,769.00	96.45	10.98	90.00	-3,923.47	609.82	1,099.34	1,065.53	33.81	32.518	
14,700.00	9,800.00	9,769.00	9,769.00	98.25	10.98	90.00	-3,923.47	609.82	1,198.97	1,165.14	33.82	35.447	
14,800.00	9,800.00	9,769.00	9,769.00	100.06	10.98	90.00	-3,923.47	609.82	1,298.65	1,264.79	33.86	38.357	
14,900.00	9,800.00	9,769.00	9,769.00	101.86	10.98	90.00	-3,923.47	609.82	1,398.38	1,364.48	33.90	41.250	
15,000.00	9,800.00	9,769.00	9,769.00	103.67	10.98	90.00	-3,923.47	609.82	1,498.15	1,464.20	33.95	44.128	
15,100.00	9,800.00	9,769.00	9,769.00	105.48	10.98	90.00	-3,923.47	609.82	1,597.94	1,563.93	34.00	46.992	
15,167.52	9,800.00	9,769.00	9,769.00	106.71	10.98	90.00	-3,923.47	609.82	1,665.34	1,631.29	34.04	48.918	

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

TDS
Anticollision Report

Company:	Legacy Reserves	**Local Co-ordinate Reference:**	Well Lea Unit #50H
Project:	Lea County, NM (NAD-27 2015)	**TVD Reference:**	KB @ 3695.00usft (McVay 4)
Reference Site:	Lea Unit #50H	**MD Reference:**	KB @ 3695.00usft (McVay 4)
Site Error:	0.00 usft	**North Reference:**	Grid
Reference Well:	Lea Unit #50H	**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 SWD #08 - OH - OH — Offset Site Error: 0.00 usft

Survey Program: 13039-INC — 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	157.62	-1,435.10	590.83	1,552.16				
100.00	100.00	75.40	75.40	0.09	1.00	157.62	-1,435.10	590.83	1,551.96	1,550.87	1.10	1,415.773	
200.00	200.00	175.40	175.40	0.32	2.34	157.62	-1,435.10	590.83	1,551.96	1,549.31	2.65	585.135	
300.00	300.00	275.40	275.40	0.54	3.67	157.62	-1,435.10	590.83	1,551.96	1,547.76	4.21	368.774	
400.00	400.00	375.40	375.40	0.77	5.00	157.62	-1,435.10	590.83	1,551.96	1,546.20	5.76	269.225	
500.00	500.00	475.40	475.40	0.99	6.33	157.62	-1,435.10	590.83	1,551.96	1,544.64	7.32	211.997	
600.00	600.00	575.40	575.40	1.22	7.66	157.62	-1,435.10	590.83	1,551.96	1,543.09	8.88	174.834	
700.00	700.00	675.40	675.40	1.44	8.99	157.62	-1,435.10	590.83	1,551.96	1,541.53	10.43	148.756	
800.00	800.00	775.40	775.40	1.67	10.32	157.62	-1,435.10	590.83	1,551.96	1,539.97	11.99	129.449	
900.00	900.00	875.40	875.40	1.89	11.65	157.62	-1,435.10	590.83	1,551.96	1,538.42	13.55	114.577	
1,000.00	1,000.00	975.40	975.40	2.12	12.99	157.62	-1,435.10	590.83	1,551.96	1,536.88	15.10	102.770	
1,100.00	1,100.00	1,075.40	1,075.40	2.34	14.32	157.62	-1,435.10	590.83	1,551.96	1,535.31	16.66	93.170	
1,200.00	1,200.00	1,175.40	1,175.40	2.56	15.65	157.62	-1,435.10	590.83	1,551.96	1,533.75	18.21	85.209	
1,300.00	1,300.00	1,275.40	1,275.40	2.79	16.98	157.62	-1,435.10	590.83	1,551.96	1,532.19	19.77	78.502	
1,400.00	1,400.00	1,375.40	1,375.40	3.01	18.31	157.62	-1,435.10	590.83	1,551.96	1,530.64	21.33	72.774	
1,500.00	1,500.00	1,475.40	1,475.40	3.24	19.64	157.62	-1,435.10	590.83	1,551.96	1,529.08	22.88	67.825	
1,600.00	1,600.00	1,575.40	1,575.40	3.46	20.97	157.62	-1,435.10	590.83	1,551.96	1,527.53	24.44	63.506	
1,700.00	1,700.00	1,675.40	1,675.40	3.69	22.31	157.62	-1,435.10	590.83	1,551.96	1,525.97	25.99	59.704	
1,800.00	1,800.00	1,775.40	1,775.40	3.91	23.64	157.62	-1,435.10	590.83	1,551.96	1,524.41	27.55	56.332	
1,900.00	1,900.00	1,875.40	1,875.40	4.14	24.97	157.62	-1,435.10	590.83	1,551.96	1,522.86	29.11	53.320	
2,000.00	2,000.00	1,975.40	1,975.40	4.36	26.30	157.62	-1,435.10	590.83	1,551.96	1,521.30	30.66	50.614	
2,100.00	2,100.00	2,075.40	2,075.40	4.59	27.63	157.62	-1,435.10	590.83	1,551.96	1,519.75	32.22	48.170	
2,200.00	2,200.00	2,175.40	2,175.40	4.81	28.96	157.62	-1,435.10	590.83	1,551.96	1,518.19	33.77	45.950	
2,300.00	2,300.00	2,275.40	2,275.40	5.04	30.29	157.62	-1,435.10	590.83	1,551.96	1,516.63	35.33	43.927	
2,400.00	2,400.00	2,375.40	2,375.40	5.26	31.63	157.62	-1,435.10	590.83	1,551.96	1,515.08	36.89	42.073	
2,500.00	2,500.00	2,475.40	2,475.40	5.49	32.96	157.62	-1,435.10	590.83	1,551.96	1,513.52	38.44	40.370	
2,600.00	2,600.00	2,575.40	2,575.40	5.71	34.29	157.62	-1,435.10	590.83	1,551.96	1,511.96	40.00	38.800	
2,700.00	2,700.00	2,675.40	2,675.40	5.94	35.62	157.62	-1,435.10	590.83	1,551.96	1,510.41	41.56	37.347	
2,800.00	2,800.00	2,775.40	2,775.40	6.16	36.95	157.62	-1,435.10	590.83	1,551.96	1,508.85	43.11	35.999	
2,900.00	2,900.00	2,875.40	2,875.40	6.39	38.28	157.62	-1,435.10	590.83	1,551.96	1,507.30	44.67	34.745	
3,000.00	3,000.00	2,975.40	2,975.40	6.61	39.61	157.62	-1,435.10	590.83	1,551.96	1,505.74	46.22	33.575	
3,100.00	3,100.00	3,075.40	3,075.40	6.84	40.94	157.62	-1,435.10	590.83	1,551.96	1,504.18	47.78	32.482	
3,200.00	3,200.00	3,175.40	3,175.40	7.06	42.28	157.62	-1,435.10	590.83	1,551.96	1,502.63	49.34	31.457	
3,300.00	3,300.00	3,275.40	3,275.40	7.28	43.61	157.62	-1,435.10	590.83	1,551.96	1,501.07	50.89	30.495	
3,400.00	3,400.00	3,375.40	3,375.40	7.51	44.94	157.62	-1,435.10	590.83	1,551.96	1,499.52	52.45	29.590	
3,500.00	3,500.00	3,475.40	3,475.40	7.73	46.27	157.62	-1,435.10	590.83	1,551.96	1,497.96	54.00	28.738	
3,600.00	3,600.00	3,575.40	3,575.40	7.96	47.60	157.62	-1,435.10	590.83	1,551.96	1,496.40	55.56	27.933	
3,700.00	3,700.00	3,675.40	3,675.40	8.18	48.93	157.62	-1,435.10	590.83	1,551.96	1,494.85	57.12	27.172	
3,800.00	3,800.00	3,775.40	3,775.40	8.41	50.26	157.62	-1,435.10	590.83	1,551.96	1,493.29	58.67	26.451	
3,900.00	3,900.00	3,875.40	3,875.40	8.63	51.60	157.62	-1,435.10	590.83	1,551.96	1,491.74	60.23	25.768	
4,000.00	4,000.00	3,975.40	3,975.40	8.86	52.93	157.62	-1,435.10	590.83	1,551.96	1,490.18	61.78	25.119	
4,100.00	4,100.00	4,075.40	4,075.40	9.08	54.26	157.62	-1,435.10	590.83	1,551.96	1,488.62	63.34	24.502	
4,200.00	4,200.00	4,175.40	4,175.40	9.31	55.59	157.62	-1,435.10	590.83	1,551.96	1,487.07	64.90	23.914	
4,300.00	4,300.00	4,275.40	4,275.40	9.53	56.92	157.62	-1,435.10	590.83	1,551.96	1,485.51	66.45	23.354	
4,400.00	4,400.00	4,375.40	4,375.40	9.76	58.25	157.62	-1,435.10	590.83	1,551.96	1,483.95	68.01	22.820	
4,500.00	4,500.00	4,475.40	4,475.40	9.98	59.58	157.62	-1,435.10	590.83	1,551.96	1,482.40	69.57	22.309	
4,600.00	4,600.00	4,575.40	4,575.40	10.21	60.92	157.62	-1,435.10	590.83	1,551.96	1,480.84	71.12	21.821	
4,700.00	4,700.00	4,675.40	4,675.40	10.43	62.25	157.62	-1,435.10	590.83	1,551.96	1,479.29	72.68	21.354	
4,800.00	4,800.00	4,775.40	4,775.40	10.66	63.58	157.62	-1,435.10	590.83	1,551.96	1,477.73	74.23	20.906	
4,900.00	4,900.00	4,875.40	4,875.40	10.88	64.91	157.62	-1,435.10	590.83	1,551.96	1,476.17	75.79	20.477	
5,000.00	5,000.00	4,975.40	4,975.40	11.11	66.24	157.62	-1,435.10	590.83	1,551.96	1,474.62	77.35	20.065	
5,100.00	5,100.00	5,075.40	5,075.40	11.33	67.57	157.62	-1,435.10	590.83	1,551.98	1,473.06	78.90	19.669	

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

LEGACY RESERVES

TDS
Anticollision Report

TDS

Company:	Legacy Reserves	**Local Co-ordinate Reference:**	Well Lea Unit #50H
Project:	Lea County, NM (NAD-27 2015)	**TVD Reference:**	KB @ 3695.00usft (McVay 4)
Reference Site:	Lea Unit #50H	**MD Reference:**	KB @ 3695.00usft (McVay 4)
Site Error:	0.00 usft	**North Reference:**	Grid
Reference Well:	Lea Unit #50H	**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 SWD #08 - OH - OH — Offset Site Error: 0.00 usft

Survey Program: 13039-INC — 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	5,175.40	5,175.40	11.56	68.90	157.62	-1,435.10	590.83	1,551.96	1,471.51	80.46	19.289	
5,300.00	5,300.00	5,275.40	5,275.40	11.78	70.23	157.62	-1,435.10	590.83	1,551.96	1,469.95	82.01	18.923	
5,400.00	5,400.00	5,375.40	5,375.40	12.00	71.57	157.62	-1,435.10	590.83	1,551.96	1,468.39	83.57	18.571	
5,500.00	5,500.00	5,475.40	5,475.40	12.23	72.90	157.62	-1,435.10	590.83	1,551.96	1,466.84	85.13	18.231	
5,600.00	5,600.00	5,575.40	5,575.40	12.45	74.23	157.62	-1,435.10	590.83	1,551.96	1,465.28	86.68	17.904	
5,700.00	5,700.00	5,675.40	5,675.40	12.68	75.56	157.62	-1,435.10	590.83	1,551.96	1,463.73	88.24	17.588	
5,800.00	5,800.00	5,775.40	5,775.40	12.90	76.89	157.62	-1,435.10	590.83	1,551.96	1,462.17	89.80	17.283	
5,900.00	5,900.00	5,875.40	5,875.40	13.13	78.22	157.62	-1,435.10	590.83	1,551.96	1,460.61	91.35	16.989	
6,000.00	6,000.00	5,975.40	5,975.40	13.35	79.55	157.62	-1,435.10	590.83	1,551.96	1,459.06	92.91	16.704	
6,100.00	6,100.00	6,075.40	6,075.40	13.58	80.89	157.62	-1,435.10	590.83	1,551.96	1,457.50	94.46	16.429	
6,200.00	6,200.00	6,175.40	6,175.40	13.80	82.22	157.62	-1,435.10	590.83	1,551.96	1,455.94	96.02	16.163	
6,300.00	6,300.00	6,275.40	6,275.40	14.03	83.55	157.62	-1,435.10	590.83	1,551.96	1,454.39	97.58	15.905	
6,400.00	6,400.00	6,375.40	6,375.40	14.25	84.88	157.62	-1,435.10	590.83	1,551.96	1,452.83	99.13	15.656	
6,500.00	6,500.00	6,475.40	6,475.40	14.48	86.21	157.62	-1,435.10	590.83	1,551.96	1,451.28	100.69	15.414	
6,600.00	6,600.00	6,575.40	6,575.40	14.70	87.54	157.62	-1,435.10	590.83	1,551.96	1,449.72	102.24	15.179	
6,700.00	6,700.00	6,675.40	6,675.40	14.93	88.87	157.62	-1,435.10	590.83	1,551.96	1,448.16	103.80	14.951	
6,800.00	6,800.00	6,775.40	6,775.40	15.15	90.20	157.62	-1,435.10	590.83	1,551.96	1,446.61	105.36	14.731	
6,900.00	6,900.00	6,875.40	6,875.40	15.38	91.54	157.62	-1,435.10	590.83	1,551.96	1,445.05	106.91	14.516	
7,000.00	7,000.00	6,975.40	6,975.40	15.60	92.87	157.62	-1,435.10	590.83	1,551.96	1,443.50	108.47	14.308	
7,100.00	7,100.00	7,075.40	7,075.40	15.83	94.20	157.62	-1,435.10	590.83	1,551.96	1,441.94	110.02	14.106	
7,200.00	7,200.00	7,175.40	7,175.40	16.05	95.53	157.62	-1,435.10	590.83	1,551.96	1,440.38	111.58	13.909	
7,300.00	7,300.00	7,275.40	7,275.40	16.28	96.86	157.62	-1,435.10	590.83	1,551.96	1,438.83	113.14	13.718	
7,400.00	7,400.00	7,375.40	7,375.40	16.50	98.19	157.62	-1,435.10	590.83	1,551.96	1,437.27	114.69	13.531	
7,500.00	7,500.00	7,475.40	7,475.40	16.72	99.52	157.62	-1,435.10	590.83	1,551.96	1,435.71	116.25	13.350	
7,600.00	7,600.00	7,575.40	7,575.40	16.95	100.86	157.62	-1,435.10	590.83	1,551.96	1,434.16	117.81	13.174	
7,700.00	7,700.00	7,675.40	7,675.40	17.17	102.19	157.62	-1,435.10	590.83	1,551.96	1,432.60	119.36	13.002	
7,800.00	7,800.00	7,775.40	7,775.40	17.40	103.52	157.62	-1,435.10	590.83	1,551.96	1,431.05	120.92	12.835	
7,900.00	7,900.00	7,875.40	7,875.40	17.62	104.85	157.62	-1,435.10	590.83	1,551.96	1,429.49	122.47	12.672	
8,000.00	8,000.00	7,975.40	7,975.40	17.85	106.18	157.62	-1,435.10	590.83	1,551.96	1,427.93	124.03	12.513	
8,100.00	8,100.00	8,075.40	8,075.40	18.07	107.51	157.62	-1,435.10	590.83	1,551.96	1,426.38	125.59	12.358	
8,200.00	8,200.00	8,175.40	8,175.40	18.30	108.84	157.62	-1,435.10	590.83	1,551.96	1,424.82	127.14	12.207	
8,300.00	8,300.00	8,275.40	8,275.40	18.52	110.18	157.62	-1,435.10	590.83	1,551.96	1,423.27	128.70	12.059	
8,400.00	8,400.00	8,375.40	8,375.40	18.75	111.51	157.62	-1,435.10	590.83	1,551.96	1,421.71	130.25	11.915	
8,500.00	8,500.00	8,475.40	8,475.40	18.97	112.84	157.62	-1,435.10	590.83	1,551.96	1,420.15	131.81	11.774	
8,600.00	8,600.00	8,575.40	8,575.40	19.20	114.17	157.62	-1,435.10	590.83	1,551.96	1,418.60	133.37	11.637	
8,700.00	8,700.00	8,675.40	8,675.40	19.42	115.50	157.62	-1,435.10	590.83	1,551.96	1,417.04	134.92	11.503	
8,800.00	8,800.00	8,775.40	8,775.40	19.65	116.83	157.62	-1,435.10	590.83	1,551.96	1,415.49	136.48	11.371	
8,900.00	8,900.00	8,875.40	8,875.40	19.87	118.16	157.62	-1,435.10	590.83	1,551.96	1,413.93	138.03	11.243	
9,000.00	9,000.00	8,975.40	8,975.40	20.10	119.49	157.62	-1,435.10	590.83	1,551.96	1,412.37	139.59	11.118	
9,083.80	9,083.80	9,059.20	9,059.20	20.28	120.61	157.62	-1,435.10	590.83	1,551.96	1,411.07	140.89	11.015	
9,100.00	9,100.00	9,075.40	9,075.40	20.32	120.83	0.78	-1,435.10	590.83	1,551.78	1,410.64	141.14	10.994	
9,150.00	9,149.91	9,125.31	9,125.31	20.40	121.49	0.79	-1,435.10	590.83	1,548.91	1,407.02	141.89	10.916	
9,200.00	9,199.49	9,174.89	9,174.89	20.49	122.15	0.80	-1,435.10	590.83	1,542.56	1,399.92	142.64	10.815	
9,250.00	9,248.51	9,223.91	9,223.91	20.57	122.80	0.81	-1,435.10	590.83	1,532.77	1,389.39	143.37	10.691	
9,300.00	9,298.73	9,272.13	9,272.13	20.66	123.45	0.84	-1,435.10	590.83	1,519.58	1,375.48	144.10	10.545	
9,350.00	9,348.91	9,319.31	9,319.31	20.75	124.07	0.87	-1,435.10	590.83	1,503.08	1,358.25	144.81	10.379	
9,400.00	9,399.83	9,365.23	9,365.23	20.84	124.68	0.91	-1,435.10	590.83	1,483.30	1,337.79	145.51	10.194	
9,450.00	9,434.25	9,409.65	9,409.65	20.94	125.28	0.95	-1,435.10	590.83	1,460.37	1,314.20	146.18	9.991	
9,500.00	9,476.97	9,452.37	9,452.37	21.05	125.84	1.01	-1,435.10	590.83	1,434.41	1,287.59	146.82	9.770	
9,550.00	9,517.77	9,493.17	9,493.17	21.17	126.39	1.09	-1,435.10	590.83	1,405.53	1,258.09	147.44	9.533	
9,600.00	9,556.45	9,531.85	9,531.85	21.32	126.90	1.18	-1,435.10	590.83	1,373.87	1,225.85	148.02	9.281	
9,650.00	9,592.84	9,568.24	9,568.24	21.48	127.39	1.29	-1,435.10	590.83	1,339.59	1,191.02	148.58	9.016	

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 #50H
Project:	Lea County, NM (NAD-27 2015)	**TVD Reference:**	KB @ 3695.00usft (McVay 4)
Reference Site:	Lea Unit #50H	**MD Reference:**	KB @ 3695.00usft (McVay 4)
Site Error:	0.00 usft	**North Reference:**	Grid
Reference Well:	Lea Unit #50H	**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 SWD #08 - OH - OH — Offset Site Error: 0.00 usft

Survey Program: 13039-INC — 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	9,626.74	9,602.14	9,602.14	21.68	127.84	1.43	-1,435.10	590.83	1,302.86	1,153.77	149.09	8.739	
9,750.00	9,658.00	9,633.40	9,633.40	21.90	128.25	1.61	-1,435.10	590.83	1,263.86	1,114.29	149.56	8.450	
9,800.00	9,686.46	9,661.86	9,661.86	22.16	128.63	1.84	-1,435.10	590.83	1,222.77	1,072.77	150.00	8.152	
9,850.00	9,711.99	9,687.39	9,687.39	22.45	128.97	2.14	-1,435.10	590.83	1,179.79	1,029.41	150.38	7.845	
9,900.00	9,734.45	9,709.85	9,709.85	22.78	129.27	2.56	-1,435.10	590.83	1,135.14	984.42	150.73	7.531	
9,950.00	9,753.74	9,729.14	9,729.14	23.15	129.53	3.15	-1,435.10	590.83	1,089.03	938.01	151.02	7.211	
10,000.00	9,769.78	9,745.18	9,745.18	23.56	129.74	4.05	-1,435.10	590.83	1,041.69	890.43	151.26	6.887	
10,050.00	9,782.46	9,757.86	9,757.86	24.01	129.91	5.55	-1,435.10	590.83	993.35	841.89	151.46	6.559	
10,100.00	9,791.75	9,767.15	9,767.15	24.49	130.04	8.45	-1,435.10	590.83	944.24	792.64	151.60	6.229	
10,150.00	9,797.59	9,772.99	9,772.99	25.00	130.11	16.13	-1,435.10	590.83	894.61	742.92	151.69	5.898	
10,200.00	9,799.94	9,775.34	9,775.34	25.55	130.14	63.93	-1,435.10	590.83	844.69	692.96	151.73	5.567	
10,208.80	9,800.00	9,775.40	9,775.40	25.65	130.15	90.00	-1,435.10	590.83	835.89	684.16	151.73	5.509	
10,300.00	9,800.00	9,775.40	9,775.40	26.67	130.15	-90.00	-1,435.10	590.83	744.70	592.96	151.74	4.908	
10,400.00	9,800.00	9,775.40	9,775.40	27.83	130.15	-90.00	-1,435.10	590.83	644.73	492.98	151.75	4.249	
10,500.00	9,800.00	9,775.40	9,775.40	29.07	130.15	-90.00	-1,435.10	590.83	544.96	393.20	151.76	3.591	
10,600.00	9,800.00	9,775.40	9,775.40	30.37	130.15	-90.00	-1,435.10	590.83	445.67	293.88	151.79	2.936	
10,700.00	9,800.00	9,775.40	9,775.40	31.71	130.15	-90.00	-1,435.10	590.83	347.45	195.55	151.90	2.287	
10,800.00	9,800.00	9,775.40	9,775.40	33.09	130.15	-90.00	-1,435.10	590.83	251.74	99.35	152.39	1.652	
10,900.00	9,800.00	9,775.40	9,775.40	34.49	130.15	-90.00	-1,435.10	590.83	163.25	8.52	154.73	1.055	Level 2
11,000.00	9,800.00	9,775.40	9,775.40	35.90	130.15	-90.00	-1,435.10	590.83	102.93	-60.55	163.48	0.630	Level 1
11,027.60	9,800.00	9,775.40	9,775.40	36.29	130.15	-90.00	-1,435.10	590.83	99.03	-86.90	185.93	0.597	Level 1, CC, ES, SF
11,100.00	9,800.00	9,775.40	9,775.40	37.32	130.15	-90.00	-1,435.10	590.83	123.40	-41.88	165.28	0.747	Level 1
11,118.22	9,800.00	9,775.40	9,775.40	37.58	130.15	-90.00	-1,435.10	590.83	135.28	-29.02	164.30	0.823	Level 1
11,200.00	9,800.00	9,775.40	9,775.40	38.75	130.15	-90.00	-1,435.10	590.83	200.80	40.22	160.58	1.250	Level 3
11,300.00	9,800.00	9,775.40	9,775.40	40.21	130.15	-90.00	-1,435.10	590.83	292.27	134.13	158.14	1.848	
11,400.00	9,800.00	9,775.40	9,775.40	41.70	130.15	-90.00	-1,435.10	590.83	387.97	231.09	156.89	2.473	
11,500.00	9,800.00	9,775.40	9,775.40	43.21	130.15	-90.00	-1,435.10	590.83	485.41	329.25	156.16	3.108	
11,600.00	9,800.00	9,775.40	9,775.40	44.76	130.15	-90.00	-1,435.10	590.83	583.72	428.02	155.70	3.749	
11,700.00	9,800.00	9,775.40	9,775.40	46.32	130.15	-90.00	-1,435.10	590.83	682.52	527.13	155.39	4.392	
11,800.00	9,800.00	9,775.40	9,775.40	47.91	130.15	-90.00	-1,435.10	590.83	781.62	626.45	155.17	5.037	
11,900.00	9,800.00	9,775.40	9,775.40	49.52	130.15	-90.00	-1,435.10	590.83	880.93	725.92	155.01	5.683	
12,000.00	9,800.00	9,775.40	9,775.40	51.14	130.15	-90.00	-1,435.10	590.83	980.38	825.49	154.89	6.330	
12,100.00	9,800.00	9,775.40	9,775.40	52.78	130.15	-90.00	-1,435.10	590.83	1,079.93	925.13	154.79	6.977	
12,200.00	9,800.00	9,775.40	9,775.40	54.44	130.15	-90.00	-1,435.10	590.83	1,179.55	1,024.83	154.72	7.624	
12,300.00	9,800.00	9,775.40	9,775.40	56.10	130.15	-90.00	-1,435.10	590.83	1,279.24	1,124.57	154.67	8.271	
12,400.00	9,800.00	9,775.40	9,775.40	57.78	130.15	-90.00	-1,435.10	590.83	1,378.97	1,224.34	154.62	8.918	
12,500.00	9,800.00	9,775.40	9,775.40	59.47	130.15	-90.00	-1,435.10	590.83	1,478.73	1,324.14	154.59	9.565	
12,600.00	9,800.00	9,775.40	9,775.40	61.17	130.15	-90.00	-1,435.10	590.83	1,578.53	1,423.96	154.57	10.213	
12,700.00	9,800.00	9,775.40	9,775.40	62.88	130.15	-90.00	-1,435.10	590.83	1,678.35	1,523.80	154.55	10.860	
12,800.00	9,800.00	9,775.40	9,775.40	64.60	130.15	-90.00	-1,435.10	590.83	1,778.19	1,623.65	154.54	11.506	
12,900.00	9,800.00	9,775.40	9,775.40	66.32	130.15	-90.00	-1,435.10	590.83	1,878.05	1,723.51	154.53	12.153	
13,000.00	9,800.00	9,775.40	9,775.40	68.06	130.15	-90.00	-1,435.10	590.83	1,977.92	1,823.39	154.53	12.799	
13,100.00	9,800.00	9,775.40	9,775.40	69.80	130.15	-90.00	-1,435.10	590.83	2,077.80	1,923.27	154.54	13.445	
13,200.00	9,800.00	9,775.40	9,775.40	71.54	130.15	-90.00	-1,435.10	590.83	2,177.70	2,023.16	154.54	14.091	
13,300.00	9,800.00	9,775.40	9,775.40	73.29	130.15	-90.00	-1,435.10	590.83	2,277.60	2,123.05	154.55	14.737	
13,400.00	9,800.00	9,775.40	9,775.40	75.05	130.15	-90.00	-1,435.10	590.83	2,377.51	2,222.95	154.56	15.382	
13,500.00	9,800.00	9,775.40	9,775.40	76.81	130.15	-90.00	-1,435.10	590.83	2,477.43	2,322.86	154.58	16.027	
13,600.00	9,800.00	9,775.40	9,775.40	78.58	130.15	-90.00	-1,435.10	590.83	2,577.36	2,422.77	154.59	16.672	
13,700.00	9,800.00	9,775.40	9,775.40	80.35	130.15	-90.00	-1,435.10	590.83	2,677.29	2,522.68	154.61	17.316	
13,800.00	9,800.00	9,775.40	9,775.40	82.13	130.15	-90.00	-1,435.10	590.83	2,777.23	2,622.59	154.63	17.960	
13,900.00	9,800.00	9,775.40	9,775.40	83.91	130.15	-90.00	-1,435.10	590.83	2,877.17	2,722.51	154.65	18.604	
14,000.00	9,800.00	9,775.40	9,775.40	85.69	130.15	-90.00	-1,435.10	590.83	2,977.11	2,822.43	154.68	19.247	

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 #50H
Project:	Lea County, NM (NAD-27 2015)	**TVD Reference:**	KB @ 3695.00usft (McVay 4)
Reference Site:	Lea Unit #50H	**MD Reference:**	KB @ 3695.00usft (McVay 4)
Site Error:	0.00 usft	**North Reference:**	Grid
Reference Well:	Lea Unit #50H	**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 SWD #08 - OH - OH — **Offset Site Error:** 0.00 usft

Survey Program: 13039-INC — **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
14,100.00	9,800.00	9,775.40	9,775.40	87.47	130.15	-90.00	-1,435.10	590.83	3,077.06	2,922.35	154.70	19.890	
14,200.00	9,800.00	9,775.40	9,775.40	89.26	130.15	-90.00	-1,435.10	590.83	3,177.01	3,022.28	154.73	20.532	
14,300.00	9,800.00	9,775.40	9,775.40	91.06	130.15	-90.00	-1,435.10	590.83	3,276.96	3,122.20	154.76	21.175	
14,400.00	9,800.00	9,775.40	9,775.40	92.85	130.15	-90.00	-1,435.10	590.83	3,376.92	3,222.13	154.79	21.816	
14,500.00	9,800.00	9,775.40	9,775.40	94.65	130.15	-90.00	-1,435.10	590.83	3,476.88	3,322.06	154.82	22.457	
14,600.00	9,800.00	9,775.40	9,775.40	96.45	130.15	-90.00	-1,435.10	590.83	3,576.84	3,421.99	154.85	23.098	
14,700.00	9,800.00	9,775.40	9,775.40	98.25	130.15	-90.00	-1,435.10	590.83	3,676.81	3,521.92	154.89	23.739	
14,800.00	9,800.00	9,775.40	9,775.40	100.06	130.15	-90.00	-1,435.10	590.83	3,776.77	3,621.85	154.92	24.378	
14,900.00	9,800.00	9,775.40	9,775.40	101.86	130.15	-90.00	-1,435.10	590.83	3,876.74	3,721.78	154.96	25.018	
15,000.00	9,800.00	9,775.40	9,775.40	103.67	130.15	-90.00	-1,435.10	590.83	3,976.71	3,821.71	155.00	25.657	
15,100.00	9,800.00	9,775.40	9,775.40	105.48	130.15	-90.00	-1,435.10	590.83	4,076.68	3,921.64	155.03	26.295	
15,167.52	9,800.00	9,775.40	9,775.40	106.71	130.15	-90.00	-1,435.10	590.83	4,144.18	3,989.12	155.06	26.726	

LEGACY RESERVES

TDS
Anticollision Report

TDS

Company:	Legacy Reserves	**Local Co-ordinate Reference:**	Well Lea Unit #50H
Project:	Lea County, NM (NAD-27 2015)	**TVD Reference:**	KB @ 3695.00usft (McVay 4)
Reference Site:	Lea Unit #50H	**MD Reference:**	KB @ 3695.00usft (McVay 4)
Site Error:	0.00 usft	**North Reference:**	Grid
Reference Well:	Lea Unit #50H	**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 #32H - Lea Unit #32H - Lateral #1 - Lateral #1 — Offset Site Error: 0.00 usft

Survey Program: 100-VES-ISCWSA-GYRO-3, 5535-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	172.13	-5,899.30	815.40	5,955.42				
100.00	100.00	55.20	55.20	0.09	0.05	172.13	-5,899.40	815.47	5,955.54	5,955.41	0.14	N/A	
200.00	200.00	138.90	138.90	0.32	0.17	172.13	-5,899.88	815.83	5,956.15	5,955.69	0.47	N/A	
300.00	300.00	243.69	243.68	0.54	0.35	172.12	-5,900.45	816.39	5,956.77	5,955.89	0.88	6,753.089	
400.00	400.00	357.38	357.37	0.77	0.56	172.12	-5,900.97	817.07	5,957.31	5,956.00	1.31	4,541.237	
500.00	500.00	466.93	466.92	0.99	0.76	172.11	-5,901.14	817.70	5,957.54	5,955.81	1.73	3,445.147	
600.00	600.00	569.28	569.27	1.22	0.95	172.10	-5,901.25	818.35	5,957.73	5,955.59	2.13	2,793.036	
700.00	700.00	668.36	668.34	1.44	1.14	172.10	-5,901.35	818.75	5,957.89	5,955.35	2.53	2,353.181	
800.00	800.00	771.84	771.82	1.67	1.33	172.10	-5,901.45	819.28	5,958.05	5,955.12	2.94	2,027.855	
900.00	900.00	884.57	884.56	1.89	1.54	172.09	-5,901.43	819.64	5,958.08	5,954.72	3.36	1,774.792	
1,000.00	1,000.00	991.12	991.10	2.12	1.73	172.09	-5,901.20	820.06	5,957.92	5,954.16	3.76	1,583.911	
1,100.00	1,100.00	1,105.56	1,105.54	2.34	1.94	172.08	-5,900.74	820.68	5,957.60	5,953.42	4.18	1,425.338	
1,200.00	1,200.00	1,201.45	1,201.43	2.56	2.11	172.08	-5,900.29	821.07	5,957.19	5,952.62	4.57	1,304.546	
1,300.00	1,300.00	1,314.54	1,314.52	2.79	2.31	172.07	-5,899.67	821.44	5,956.69	5,951.70	4.98	1,194.997	
1,400.00	1,400.00	1,413.77	1,413.74	3.01	2.48	172.07	-5,899.01	821.78	5,956.08	5,950.69	5.38	1,106.954	
1,500.00	1,500.00	1,500.00	1,499.97	3.24	2.64	172.06	-5,898.52	822.55	5,955.64	5,949.88	5.75	1,034.886	
1,600.00	1,600.00	1,617.35	1,617.32	3.46	2.85	172.05	-5,897.81	823.51	5,955.15	5,948.96	6.19	962.836	
1,700.00	1,700.00	1,717.27	1,717.23	3.69	3.03	172.05	-5,897.12	823.92	5,954.52	5,947.93	6.59	904.244	
1,800.00	1,800.00	1,821.53	1,821.49	3.91	3.22	172.04	-5,896.32	824.21	5,953.80	5,946.80	6.99	851.268	
1,900.00	1,900.00	1,907.99	1,907.94	4.14	3.36	172.04	-5,895.82	824.13	5,953.21	5,945.84	7.37	807.526	
2,000.00	2,000.00	2,026.42	2,026.37	4.36	3.56	172.04	-5,895.14	823.89	5,952.63	5,944.82	7.81	762.299	
2,100.00	2,100.00	2,150.18	2,150.12	4.59	3.79	172.04	-5,893.70	824.43	5,951.50	5,943.25	8.26	720.900	
2,200.00	2,200.00	2,252.86	2,252.80	4.81	3.97	172.03	-5,892.41	824.82	5,950.32	5,941.65	8.66	686.708	
2,300.00	2,300.00	2,358.60	2,358.52	5.04	4.17	172.02	-5,890.90	825.65	5,949.01	5,939.93	9.08	655.180	
2,400.00	2,400.00	2,451.97	2,451.88	5.26	4.34	172.01	-5,889.58	826.22	5,947.70	5,938.23	9.47	627.840	
2,500.00	2,500.00	2,547.52	2,547.42	5.49	4.51	172.01	-5,888.43	826.57	5,946.55	5,936.68	9.87	602.442	
2,600.00	2,600.00	2,655.54	2,655.43	5.71	4.71	172.00	-5,886.95	827.69	5,945.34	5,935.05	10.29	577.787	
2,700.00	2,700.00	2,752.74	2,752.60	5.94	4.90	171.98	-5,885.49	828.95	5,944.04	5,933.35	10.69	556.107	
2,800.00	2,800.00	2,867.32	2,867.15	6.16	5.11	171.96	-5,883.73	831.09	5,942.79	5,931.68	11.12	534.552	
2,900.00	2,900.00	2,997.12	2,996.85	6.39	5.35	171.92	-5,880.86	835.15	5,941.03	5,929.46	11.57	513.407	
3,000.00	3,000.00	3,110.07	3,109.72	6.61	5.57	171.88	-5,878.00	838.51	5,938.95	5,926.95	12.00	495.021	
3,100.00	3,100.00	3,230.32	3,229.86	6.84	5.79	171.84	-5,874.55	842.20	5,936.53	5,924.09	12.44	477.361	
3,200.00	3,200.00	3,331.76	3,331.20	7.06	5.98	171.81	-5,871.46	845.47	5,933.97	5,921.13	12.84	462.067	
3,300.00	3,300.00	3,445.25	3,444.62	7.28	6.19	171.78	-5,868.12	847.84	5,931.37	5,918.10	13.27	446.949	
3,400.00	3,400.00	3,552.16	3,551.45	7.51	6.39	171.75	-5,864.63	849.93	5,928.41	5,914.72	13.69	433.082	
3,500.00	3,500.00	3,645.29	3,644.53	7.73	6.56	171.74	-5,861.82	851.09	5,925.59	5,911.51	14.08	420.756	
3,600.00	3,600.00	3,754.91	3,754.08	7.96	6.77	171.72	-5,858.40	852.87	5,922.75	5,908.24	14.51	408.279	
3,700.00	3,700.00	3,843.03	3,842.14	8.18	6.93	171.70	-5,855.54	854.42	5,919.80	5,904.91	14.89	397.510	
3,800.00	3,800.00	3,922.86	3,921.94	8.41	7.08	171.69	-5,853.40	855.24	5,917.28	5,902.02	15.26	387.678	
3,900.00	3,900.00	4,032.91	4,031.93	8.63	7.28	171.67	-5,850.33	856.76	5,914.71	5,899.02	15.69	377.013	
4,000.00	4,000.00	4,132.86	4,131.85	8.86	7.47	171.66	-5,847.70	857.35	5,912.20	5,896.10	16.10	367.302	
4,100.00	4,100.00	4,238.23	4,237.17	9.08	7.66	171.65	-5,844.74	857.65	5,909.45	5,892.93	16.51	357.827	
4,200.00	4,200.00	4,326.76	4,325.68	9.31	7.82	171.65	-5,842.47	857.90	5,906.94	5,890.04	16.90	349.453	
4,300.00	4,300.00	4,449.69	4,448.56	9.53	8.05	171.64	-5,839.09	857.99	5,904.22	5,886.87	17.35	340.227	
4,400.00	4,400.00	4,555.31	4,554.13	9.76	8.24	171.63	-5,835.90	858.32	5,901.28	5,883.51	17.77	332.036	
4,500.00	4,500.00	4,649.11	4,647.88	9.98	8.42	171.62	-5,832.98	859.22	5,898.34	5,880.17	18.17	324.608	
4,600.00	4,600.00	4,751.69	4,750.41	10.21	8.61	171.61	-5,829.89	860.34	5,895.52	5,876.94	18.58	317.243	
4,700.00	4,700.00	4,890.15	4,888.79	10.43	8.87	171.59	-5,825.23	861.60	5,892.34	5,873.28	19.06	309.146	
4,800.00	4,800.00	4,979.12	4,977.89	10.66	9.03	171.57	-5,821.94	862.54	5,889.84	5,869.39	19.45	302.773	
4,900.00	4,900.00	5,068.28	5,066.79	10.88	9.20	171.56	-5,818.86	863.42	5,885.57	5,865.73	19.84	296.661	
5,000.00	5,000.00	5,162.99	5,161.44	11.11	9.37	171.54	-5,815.67	864.74	5,882.44	5,862.20	20.24	290.654	
5,100.00	5,100.00	5,259.95	5,258.34	11.33	9.55	171.53	-5,812.49	865.85	5,879.36	5,858.73	20.63	284.952	

LEGACY RESERVES

TDS
Anticollision Report

Company:	Legacy Reserves	**Local Co-ordinate Reference:**	Well Lea Unit #50H
Project:	Lea County, NM (NAD-27 2015)	**TVD Reference:**	KB @ 3695.00usft (McVay 4)
Reference Site:	Lea Unit #50H	**MD Reference:**	KB @ 3695.00usft (McVay 4)
Site Error:	0.00 usft	**North Reference:**	Grid
Reference Well:	Lea Unit #50H	**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 #32H - Lea Unit #32H - Lateral #1 - Lateral #1 — Offset Site Error: 0.00 usft

Survey Program: 100-VES-ISCWSA-GYRO-3, 5535-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	5,357.15	5,355.49	11.56	9.64	171.51	-5,809.36	866.87	5,878.33	5,855.38	20.95	280.508	
5,300.00	5,300.00	5,454.36	5,452.64	11.78	9.73	171.50	-5,806.27	867.93	5,873.35	5,852.09	21.27	276.196	
5,400.00	5,400.00	5,552.69	5,550.92	12.00	9.81	171.48	-5,803.19	869.02	5,870.42	5,848.85	21.57	272.166	
5,500.00	5,500.00	5,655.92	5,654.09	12.23	9.82	171.47	-5,799.94	870.08	5,867.45	5,845.65	21.80	269.101	
5,600.00	5,600.00	5,756.87	5,754.98	12.45	9.83	171.45	-5,796.74	871.11	5,864.47	5,842.43	22.04	266.041	
5,700.00	5,700.00	5,849.37	5,847.42	12.68	9.85	171.44	-5,793.76	872.20	5,861.47	5,839.18	22.29	262.999	
5,800.00	5,800.00	5,926.60	5,924.61	12.90	9.87	171.42	-5,791.53	873.31	5,858.82	5,836.29	22.53	260.027	
5,900.00	5,900.00	6,033.76	6,031.73	13.13	9.90	171.41	-5,788.59	874.67	5,856.29	5,833.51	22.78	257.025	
6,000.00	6,000.00	6,144.54	6,142.45	13.35	9.93	171.39	-5,785.35	875.86	5,853.56	5,830.51	23.04	254.021	
6,100.00	6,100.00	6,239.61	6,237.47	13.58	9.97	171.37	-5,782.49	877.12	5,850.78	5,827.48	23.30	251.060	
6,200.00	6,200.00	6,321.39	6,319.21	13.80	10.00	171.36	-5,780.15	878.41	5,848.19	5,824.63	23.56	248.174	
6,300.00	6,300.00	6,397.29	6,395.08	14.03	10.03	171.34	-5,778.30	879.65	5,846.02	5,822.20	23.83	245.369	
6,400.00	6,400.00	6,491.35	6,489.11	14.25	10.08	171.33	-5,776.24	881.11	5,844.10	5,820.00	24.10	242.533	
6,500.00	6,500.00	6,592.85	6,590.57	14.48	10.13	171.31	-5,774.07	882.63	5,842.21	5,817.84	24.37	239.695	
6,600.00	6,600.00	6,692.95	6,690.64	14.70	10.18	171.30	-5,771.94	883.61	5,840.25	5,815.60	24.65	236.888	
6,700.00	6,700.00	6,786.36	6,784.03	14.93	10.24	171.28	-5,770.10	884.65	5,838.46	5,813.53	24.94	234.143	
6,800.00	6,800.00	6,892.72	6,890.35	15.15	10.30	171.27	-5,767.83	885.71	5,836.50	5,811.27	25.23	231.350	
6,900.00	6,900.00	6,972.88	6,970.50	15.38	10.36	171.26	-5,766.33	886.29	5,834.76	5,809.25	25.51	228.745	
7,000.00	7,000.00	7,057.34	7,054.94	15.60	10.41	171.25	-5,765.04	886.88	5,833.36	5,807.56	25.79	226.154	
7,100.00	7,100.00	7,165.63	7,163.22	15.83	10.49	171.24	-5,763.41	887.73	5,831.98	5,805.89	26.10	223.453	
7,200.00	7,200.00	7,264.83	7,262.41	16.05	10.57	171.23	-5,761.78	888.59	5,830.50	5,804.09	26.40	220.838	
7,300.00	7,300.00	7,350.52	7,348.08	16.28	10.64	171.22	-5,760.55	889.27	5,829.19	5,802.50	26.70	218.343	
7,400.00	7,400.00	7,440.52	7,438.07	16.50	10.71	171.22	-5,759.45	889.94	5,828.11	5,801.11	27.00	215.857	
7,500.00	7,500.00	7,541.87	7,539.41	16.72	10.80	171.21	-5,758.38	890.35	5,827.12	5,799.81	27.31	213.339	
7,600.00	7,600.00	7,640.85	7,638.39	16.95	10.89	171.21	-5,757.26	890.32	5,826.00	5,798.37	27.63	210.872	
7,700.00	7,700.00	7,722.95	7,720.49	17.17	10.96	171.21	-5,756.62	890.12	5,825.18	5,797.25	27.93	208.562	
7,800.00	7,800.00	7,821.47	7,819.00	17.40	11.06	171.21	-5,755.91	889.76	5,824.41	5,796.16	28.25	206.173	
7,900.00	7,900.00	7,904.74	7,902.27	17.62	11.14	171.22	-5,755.60	889.15	5,823.93	5,795.37	28.56	203.938	
8,000.00	8,000.00	8,022.38	8,019.90	17.85	11.26	171.23	-5,755.02	887.83	5,823.24	5,794.34	28.90	201.479	
8,100.00	8,100.00	8,115.39	8,112.91	18.07	11.36	171.24	-5,754.63	886.75	5,822.65	5,793.42	29.23	199.233	
8,200.00	8,200.00	8,218.80	8,216.31	18.30	11.47	171.25	-5,754.13	885.70	5,822.01	5,792.45	29.56	196.944	
8,300.00	8,300.00	8,316.52	8,314.02	18.52	11.57	171.26	-5,753.72	884.34	5,821.39	5,791.49	29.89	194.730	
8,400.00	8,400.00	8,406.95	8,404.45	18.75	11.68	171.27	-5,753.38	883.27	5,820.84	5,790.62	30.22	192.599	
8,500.00	8,500.00	8,494.62	8,492.11	18.97	11.78	171.28	-5,753.24	882.35	5,820.53	5,789.98	30.55	190.523	
8,600.00	8,600.00	8,584.14	8,581.62	19.20	11.88	171.29	-5,753.25	881.44	5,820.38	5,789.50	30.88	188.465	
8,620.48	8,620.48	8,601.97	8,599.46	19.24	11.91	171.29	-5,753.27	881.28	5,820.36	5,789.43	30.95	188.053	
8,700.00	8,700.00	8,675.77	8,673.25	19.42	12.00	171.30	-5,753.41	880.77	5,820.43	5,789.21	31.22	186.435	
8,800.00	8,800.00	8,768.48	8,765.96	19.65	12.11	171.30	-5,753.59	880.27	5,820.55	5,789.00	31.56	184.433	
8,900.00	8,900.00	8,831.00	8,828.48	19.87	12.19	171.31	-5,753.87	879.90	5,820.98	5,789.12	31.86	182.700	
9,000.00	9,000.00	8,891.35	8,888.82	20.10	12.26	171.31	-5,754.50	879.84	5,822.07	5,789.91	32.16	181.030	
9,083.80	9,083.80	8,925.00	8,922.47	20.28	12.31	171.31	-5,755.09	880.09	5,823.69	5,791.30	32.39	179.814	
9,100.00	9,100.00	8,946.04	8,943.50	20.32	12.33	14.46	-5,755.53	880.30	5,823.87	5,791.42	32.45	179.486	
9,150.00	9,149.91	8,979.13	8,976.58	20.40	12.38	14.49	-5,756.32	880.59	5,822.32	5,789.74	32.57	178.745	
9,200.00	9,199.49	9,019.00	9,016.43	20.49	12.43	14.60	-5,757.40	880.85	5,817.55	5,784.84	32.71	177.852	
9,250.00	9,248.51	9,051.14	9,048.56	20.57	12.47	14.78	-5,758.36	881.04	5,809.54	5,776.70	32.84	176.924	
9,300.00	9,296.73	9,091.35	9,088.75	20.66	12.52	15.05	-5,759.60	881.31	5,798.30	5,765.32	32.97	175.841	
9,350.00	9,343.91	9,136.88	9,134.26	20.75	12.58	15.41	-5,761.05	881.65	5,783.86	5,750.74	33.12	174.632	
9,400.00	9,389.83	9,188.47	9,185.81	20.84	12.65	15.87	-5,762.69	881.96	5,766.22	5,732.94	33.27	173.293	
9,450.00	9,434.25	9,236.04	9,233.36	20.94	12.71	16.45	-5,764.18	882.10	5,745.45	5,712.02	33.42	171.910	
9,500.00	9,476.97	9,280.31	9,277.62	21.05	12.77	17.15	-5,765.60	881.92	5,721.68	5,688.12	33.56	170.479	
9,550.00	9,517.77	9,354.23	9,351.49	21.17	12.87	18.09	-5,767.91	881.00	5,694.98	5,661.23	33.75	168.757	
9,600.00	9,556.45	9,419.54	9,416.77	21.32	12.95	19.22	-5,769.58	879.75	5,665.24	5,631.32	33.92	167.032	

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 #50H
Project:	Lea County, NM (NAD-27 2015)	**TVD Reference:**	KB @ 3695.00usft (McVay 4)
Reference Site:	Lea Unit #50H	**MD Reference:**	KB @ 3695.00usft (McVay 4)
Site Error:	0.00 usft	**North Reference:**	Grid
Reference Well:	Lea Unit #50H	**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 #32H - Lea Unit #32H - Lateral #1 - Lateral #1 — **Offset Site Error:** 0.00 usft

Survey Program: 100-VES-ISCWSA-GYRO-3, 5535-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
9,650.00	9,592.84	9,457.31	9,454.51	21.48	13.00	20.50	-5,770.50	876.84	5,632.89	5,598.84	34.05	165.449	
9,700.00	9,626.74	9,490.00	9,487.18	21.68	13.05	22.04	-5,771.32	877.94	5,598.13	5,563.97	34.17	163.848	
9,750.00	9,658.00	9,522.17	9,519.33	21.90	13.09	23.92	-5,772.13	876.97	5,561.15	5,526.87	34.29	162.196	
9,800.00	9,686.46	9,549.43	9,546.56	22.16	13.13	26.21	-5,772.84	876.11	5,522.13	5,487.74	34.40	160.536	
9,850.00	9,711.99	9,573.93	9,571.04	22.45	13.17	29.03	-5,773.49	875.30	5,481.27	5,446.76	34.50	158.858	
9,900.00	9,734.45	9,599.55	9,596.64	22.78	13.20	32.60	-5,774.17	874.41	5,438.75	5,404.14	34.61	157.140	
9,950.00	9,753.74	9,624.57	9,621.63	23.15	13.24	37.13	-5,774.81	873.54	5,394.78	5,360.06	34.72	155.398	
10,000.00	9,769.78	9,645.35	9,642.40	23.56	13.27	42.91	-5,775.33	872.79	5,349.57	5,314.75	34.81	153.663	
10,050.00	9,782.46	9,661.84	9,658.86	24.01	13.29	50.29	-5,775.73	872.20	5,303.35	5,268.44	34.90	151.939	
10,100.00	9,791.75	9,673.97	9,670.98	24.49	13.31	59.61	-5,776.02	871.75	5,256.36	5,221.37	34.99	150.230	
10,150.00	9,797.59	9,679.00	9,676.01	25.00	13.31	70.87	-5,776.14	871.57	5,208.83	5,173.77	35.06	148.556	
10,200.00	9,799.94	9,679.00	9,676.01	25.55	13.31	83.65	-5,776.14	871.57	5,161.00	5,125.87	35.13	146.908	
10,208.80	9,800.00	9,679.00	9,676.01	25.65	13.31	85.99	-5,776.14	871.57	5,152.57	5,117.43	35.14	146.616	
10,300.00	9,800.00	9,679.00	9,676.01	26.67	13.31	85.52	-5,776.14	871.57	5,064.84	5,029.58	35.26	143.641	
10,400.00	9,800.00	9,679.00	9,676.01	27.83	13.31	84.86	-5,776.14	871.57	4,967.92	4,932.53	35.38	140.404	
10,500.00	9,800.00	9,679.00	9,676.01	29.07	13.31	83.98	-5,776.14	871.57	4,870.29	4,834.79	35.51	137.172	
10,600.00	9,800.00	9,679.00	9,676.01	30.37	13.31	82.77	-5,776.14	871.57	4,772.05	4,736.43	35.62	133.965	
10,700.00	9,800.00	9,679.00	9,676.01	31.71	13.31	80.98	-5,776.14	871.57	4,673.28	4,637.55	35.73	130.801	
10,800.00	9,800.00	9,679.00	9,676.01	33.09	13.31	78.09	-5,776.14	871.57	4,574.07	4,538.25	35.82	127.693	
10,900.00	9,800.00	9,689.46	9,686.46	34.49	13.33	74.41	-5,776.39	871.18	4,474.49	4,438.58	35.91	124.598	
11,000.00	9,800.00	9,690.91	9,687.91	35.90	13.33	62.83	-5,776.42	871.13	4,374.68	4,338.71	35.97	121.626	
11,100.00	9,800.00	9,692.48	9,689.48	37.32	13.33	16.56	-5,776.46	871.07	4,274.74	4,238.73	36.00	118.733	
11,118.22	9,800.00	9,692.78	9,689.77	37.58	13.33	-0.31	-5,776.47	871.06	4,256.52	4,220.52	36.01	118.215	
11,200.00	9,800.00	9,694.14	9,691.13	38.75	13.33	-0.28	-5,776.50	871.01	4,174.76	4,138.74	36.02	115.895	
11,300.00	9,800.00	9,695.82	9,692.81	40.21	13.34	-0.24	-5,776.54	870.94	4,074.78	4,038.74	36.04	113.059	
11,400.00	9,800.00	9,697.51	9,694.50	41.70	13.34	-0.20	-5,776.58	870.88	3,974.80	3,938.74	36.06	110.223	
11,500.00	9,800.00	9,699.22	9,696.21	43.21	13.34	-0.16	-5,776.62	870.81	3,874.83	3,838.74	36.08	107.388	
11,600.00	9,800.00	9,700.95	9,697.94	44.76	13.34	-0.11	-5,776.67	870.75	3,774.85	3,738.74	36.10	104.553	
11,700.00	9,800.00	9,702.70	9,699.69	46.32	13.35	-0.06	-5,776.71	870.68	3,674.87	3,638.74	36.13	101.720	
11,800.00	9,800.00	9,704.46	9,701.45	47.91	13.35	-0.01	-5,776.75	870.62	3,574.90	3,538.74	36.15	98.887	
11,900.00	9,800.00	9,706.25	9,703.23	49.52	13.35	0.04	-5,776.80	870.55	3,474.92	3,438.74	36.18	96.056	
12,000.00	9,800.00	9,708.05	9,705.03	51.14	13.35	0.10	-5,776.84	870.48	3,374.94	3,338.74	36.20	93.226	
12,100.00	9,800.00	9,709.87	9,706.85	52.78	13.36	0.16	-5,776.89	870.41	3,274.97	3,238.74	36.23	90.398	
12,200.00	9,800.00	9,711.70	9,708.68	54.44	13.36	0.22	-5,776.94	870.34	3,174.99	3,138.74	36.26	87.572	
12,300.00	9,800.00	9,713.56	9,710.54	56.10	13.36	0.29	-5,776.98	870.27	3,075.02	3,038.73	36.28	84.747	
12,400.00	9,800.00	9,715.44	9,712.41	57.78	13.36	0.37	-5,777.03	870.20	2,975.04	2,938.73	36.31	81.926	
12,500.00	9,800.00	9,717.34	9,714.31	59.47	13.37	0.44	-5,777.08	870.12	2,875.07	2,838.72	36.34	79.107	
12,600.00	9,800.00	9,719.25	9,716.22	61.17	13.37	0.53	-5,777.13	870.05	2,775.09	2,738.72	36.38	76.290	
12,700.00	9,800.00	9,721.19	9,718.16	62.88	13.37	0.62	-5,777.18	869.97	2,675.12	2,638.71	36.41	73.477	
12,800.00	9,800.00	9,723.15	9,720.11	64.60	13.38	0.72	-5,777.23	869.90	2,575.14	2,538.70	36.44	70.666	
12,900.00	9,800.00	9,725.13	9,722.09	66.32	13.38	0.83	-5,777.29	869.82	2,475.17	2,438.69	36.48	67.859	
13,000.00	9,800.00	9,727.13	9,724.09	68.06	13.38	0.94	-5,777.34	869.74	2,375.20	2,338.69	36.51	65.055	
13,100.00	9,800.00	9,729.15	9,726.11	69.80	13.38	1.07	-5,777.39	869.67	2,275.22	2,238.68	36.55	62.255	
13,200.00	9,800.00	9,731.19	9,728.15	71.54	13.39	1.21	-5,777.45	869.59	2,175.25	2,138.67	36.58	59.459	
13,300.00	9,800.00	9,733.26	9,730.21	73.29	13.39	1.36	-5,777.50	869.50	2,075.28	2,038.66	36.62	56.668	
13,400.00	9,800.00	9,735.35	9,732.30	75.05	13.39	1.52	-5,777.56	869.42	1,975.31	1,938.64	36.66	53.880	
13,500.00	9,800.00	9,737.46	9,734.41	76.81	13.40	1.71	-5,777.62	869.34	1,875.33	1,838.63	36.70	51.097	
13,600.00	9,800.00	9,739.60	9,736.55	78.58	13.40	1.91	-5,777.68	869.25	1,775.36	1,738.62	36.74	48.318	
13,700.00	9,800.00	9,741.76	9,738.70	80.35	13.40	2.15	-5,777.73	869.17	1,675.39	1,638.60	36.79	45.544	
13,800.00	9,800.00	9,743.94	9,740.89	82.13	13.40	2.41	-5,777.79	869.08	1,575.42	1,538.59	36.83	42.775	
13,900.00	9,800.00	9,746.15	9,743.09	83.91	13.41	2.70	-5,777.86	868.99	1,475.45	1,438.57	36.88	40.012	
14,000.00	9,800.00	9,748.39	9,745.33	85.69	13.41	3.04	-5,777.92	868.91	1,375.48	1,338.56	36.92	37.253	

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 #50H
Project:	Lea County, NM (NAD-27 2015)	**TVD Reference:**	KB @ 3695.00usft (McVay 4)
Reference Site:	Lea Unit #50H	**MD Reference:**	KB @ 3695.00usft (McVay 4)
Site Error:	0.00 usft	**North Reference:**	Grid
Reference Well:	Lea Unit #50H	**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 #32H - Lea Unit #32H - Lateral #1 - Lateral #1 — Offset Site Error: 0.00 usft

Survey Program: 100-VES-ISCWSA-GYRO-3, 5535-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
14,100.00	9,800.00	9,750.65	9,747.58	87.47	13.41	3.43	-5,777.98	868.81	1,275.51	1,238.54	36.97	34.500	
14,200.00	9,800.00	9,752.94	9,749.87	89.26	13.42	3.89	-5,778.05	868.72	1,175.54	1,138.52	37.02	31.753	
14,300.00	9,800.00	9,755.25	9,752.18	91.06	13.42	4.43	-5,778.11	868.63	1,075.57	1,038.50	37.07	29.012	
14,400.00	9,800.00	9,757.59	9,754.52	92.85	13.42	5.09	-5,778.18	868.54	975.60	938.47	37.13	26.276	
14,500.00	9,800.00	9,759.96	9,756.88	94.65	13.43	5.89	-5,778.25	868.44	875.63	838.45	37.19	23.547	
14,600.00	9,800.00	9,762.35	9,759.27	96.45	13.43	6.89	-5,778.32	868.34	775.67	738.42	37.25	20.824	
14,700.00	9,800.00	9,764.78	9,761.70	98.25	13.43	8.18	-5,778.39	868.24	675.70	638.38	37.32	18.107	
14,800.00	9,800.00	9,767.23	9,764.15	100.06	13.44	9.90	-5,778.46	868.14	575.73	538.34	37.39	15.397	
14,900.00	9,800.00	9,769.72	9,766.63	101.86	13.44	12.31	-5,778.53	868.04	475.77	438.29	37.48	12.693	
15,000.00	9,800.00	9,773.00	9,769.91	103.67	13.45	17.37	-5,778.63	867.91	375.81	338.21	37.59	9.997	
15,100.00	9,800.00	9,774.81	9,771.71	105.48	13.45	21.85	-5,778.68	867.83	275.84	238.09	37.75	7.306	
15,167.52	9,800.00	9,776.56	9,773.46	106.71	13.45	28.45	-5,778.73	867.76	208.35	170.42	37.93	5.493	CC, ES, SF

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 #50H
Project:	Lea County, NM (NAD-27 2015)	**TVD Reference:**	KB @ 3695.00usft (McVay 4)
Reference Site:	Lea Unit #50H	**MD Reference:**	KB @ 3695.00usft (McVay 4)
Site Error:	0.00 usft	**North Reference:**	Grid
Reference Well:	Lea Unit #50H	**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 #34H - Lea Unit #34H - Wellbore #1 - Wellbore #1 — Offset Site Error: 0.00 usft

Survey Program: 44-VES-ISCWSA-GYRO-3, 10260-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	171.19	-5,902.30	915.20	5,972.86				
100.00	100.00	63.02	63.01	0.09	0.09	171.18	-5,902.34	915.52	5,972.95	5,972.80	0.15	N/A	
200.00	200.00	139.27	139.26	0.32	0.21	171.18	-5,902.63	916.21	5,973.46	5,972.94	0.51	N/A	
300.00	300.00	258.89	258.89	0.54	0.43	171.17	-5,903.05	916.76	5,973.86	5,972.91	0.95	6,279.914	
400.00	400.00	365.22	365.21	0.77	0.61	171.18	-5,903.66	916.51	5,974.40	5,973.03	1.37	4,372.345	
500.00	500.00	533.57	533.55	0.99	0.88	171.19	-5,903.18	914.90	5,973.89	5,972.01	1.88	3,180.931	
600.00	600.00	650.21	650.16	1.22	1.09	171.21	-5,902.32	912.21	5,972.79	5,970.49	2.30	2,593.092	
700.00	700.00	739.64	739.53	1.44	1.25	171.24	-5,901.78	909.24	5,971.69	5,969.01	2.68	2,226.921	
800.00	800.00	823.94	823.78	1.67	1.40	171.27	-5,901.54	906.15	5,970.86	5,967.80	3.05	1,956.400	
900.00	900.00	916.75	916.53	1.89	1.57	171.30	-5,901.46	902.81	5,970.22	5,966.79	3.44	1,736.449	
1,000.00	1,000.00	1,025.12	1,024.83	2.12	1.77	171.34	-5,901.32	899.18	5,969.59	5,965.74	3.85	1,549.626	
1,100.00	1,100.00	1,119.04	1,118.71	2.34	1.94	171.36	-5,901.00	896.44	5,969.83	5,964.59	4.24	1,407.487	
1,200.00	1,200.00	1,206.37	1,206.02	2.56	2.11	171.38	-5,900.90	894.37	5,968.35	5,963.73	4.62	1,292.483	
1,300.00	1,300.00	1,316.30	1,315.93	2.79	2.31	171.40	-5,900.71	892.16	5,967.88	5,962.85	5.03	1,185.327	
1,400.00	1,400.00	1,416.85	1,416.47	3.01	2.49	171.42	-5,900.30	890.64	5,967.24	5,961.81	5.44	1,097.796	
1,500.00	1,500.00	1,506.44	1,506.05	3.24	2.66	171.42	-5,899.96	889.77	5,966.73	5,960.91	5.82	1,025.678	
1,600.00	1,600.00	1,589.57	1,589.18	3.46	2.81	171.43	-5,899.84	888.93	5,966.43	5,960.25	6.19	964.274	
1,640.71	1,640.71	1,622.11	1,621.71	3.56	2.88	171.44	-5,899.88	888.48	5,966.41	5,960.07	6.34	941.697	
1,700.00	1,700.00	1,634.26	1,633.86	3.69	2.90	171.44	-5,899.91	888.29	5,966.60	5,960.11	6.49	919.347	
1,800.00	1,800.00	1,697.43	1,697.02	3.91	3.01	171.45	-5,900.50	887.51	5,967.46	5,960.64	6.82	874.426	
1,900.00	1,900.00	1,787.94	1,787.52	4.14	3.16	171.45	-5,902.13	887.52	5,969.22	5,962.01	7.21	828.420	
2,000.00	2,000.00	1,918.35	1,917.89	4.36	3.37	171.42	-5,903.32	890.44	5,970.43	5,962.78	7.66	779.725	
2,100.00	2,100.00	2,022.14	2,021.63	4.59	3.53	171.40	-5,903.93	893.31	5,971.43	5,963.37	8.06	740.613	
2,200.00	2,200.00	2,104.46	2,103.92	4.81	3.67	171.37	-5,904.54	895.65	5,972.58	5,964.15	8.43	708.399	
2,300.00	2,300.00	2,222.46	2,221.87	5.04	3.86	171.34	-5,905.30	898.90	5,973.61	5,964.75	8.86	674.055	
2,400.00	2,400.00	2,308.57	2,307.95	5.26	4.00	171.32	-5,905.96	901.16	5,974.76	5,965.52	9.24	646.798	
2,500.00	2,500.00	2,433.70	2,433.04	5.49	4.21	171.29	-5,906.79	904.47	5,975.83	5,966.15	9.68	617.242	
2,600.00	2,600.00	2,549.33	2,548.61	5.71	4.41	171.26	-5,907.00	907.76	5,976.43	5,966.32	10.11	591.226	
2,700.00	2,700.00	2,672.42	2,671.66	5.94	4.62	171.23	-5,906.91	911.41	5,976.82	5,966.27	10.55	568.610	
2,800.00	2,800.00	2,800.36	2,799.52	6.16	4.84	171.19	-5,906.12	915.64	5,976.70	5,965.71	11.00	543.530	
2,900.00	2,900.00	2,950.25	2,949.31	6.39	5.10	171.14	-5,904.31	920.84	5,976.07	5,964.59	11.48	520.512	
3,000.00	3,000.00	3,054.08	3,053.06	6.61	5.28	171.10	-5,902.58	924.31	5,974.94	5,963.06	11.89	502.672	
3,100.00	3,100.00	3,185.53	3,184.42	6.84	5.51	171.06	-5,899.87	928.48	5,973.38	5,961.04	12.34	484.105	
3,200.00	3,200.00	3,287.38	3,286.20	7.06	5.68	171.02	-5,897.57	931.50	5,971.61	5,958.87	12.74	468.691	
3,300.00	3,300.00	3,409.43	3,408.20	7.28	5.90	171.00	-5,894.87	933.83	5,969.73	5,956.55	13.18	453.013	
3,400.00	3,400.00	3,518.55	3,517.28	7.51	6.09	170.98	-5,892.22	935.24	5,967.54	5,953.95	13.59	439.015	
3,500.00	3,500.00	3,639.53	3,638.21	7.73	6.31	170.97	-5,888.99	936.23	5,965.02	5,950.99	14.03	425.186	
3,600.00	3,600.00	3,738.71	3,737.35	7.96	6.48	170.96	-5,886.23	936.88	5,962.37	5,947.94	14.43	413.229	
3,700.00	3,700.00	3,829.93	3,828.54	8.18	6.65	170.95	-5,883.78	937.37	5,959.81	5,944.99	14.82	402.277	
3,800.00	3,800.00	3,925.07	3,923.65	8.41	6.82	170.94	-5,881.39	937.89	5,957.41	5,942.20	15.21	391.707	
3,900.00	3,900.00	4,019.99	4,018.54	8.63	6.98	170.94	-5,879.10	937.81	5,955.02	5,939.41	15.60	381.667	
4,000.00	4,000.00	4,097.00	4,095.53	8.86	7.12	170.94	-5,877.42	937.72	5,952.86	5,936.89	15.97	372.850	
4,100.00	4,100.00	4,165.84	4,164.36	9.08	7.25	170.93	-5,876.28	937.72	5,951.22	5,934.90	16.31	364.777	
4,200.00	4,200.00	4,269.11	4,267.61	9.31	7.43	170.93	-5,874.71	937.93	5,949.74	5,933.01	16.72	355.759	
4,300.00	4,300.00	4,346.92	4,345.42	9.53	7.57	170.92	-5,873.67	938.33	5,948.49	5,931.41	17.09	348.101	
4,400.00	4,400.00	4,422.58	4,421.07	9.76	7.71	170.92	-5,872.91	938.99	5,947.54	5,930.19	17.45	340.881	
4,500.00	4,500.00	4,519.51	4,517.99	9.98	7.88	170.90	-5,872.13	940.14	5,947.03	5,929.18	17.84	333.283	
4,600.00	4,600.00	4,622.99	4,621.46	10.21	8.07	170.89	-5,871.23	941.49	5,946.38	5,928.13	18.25	325.811	
4,700.00	4,700.00	4,722.38	4,720.84	10.43	8.25	170.88	-5,870.33	942.90	5,945.70	5,927.05	18.65	318.787	
4,800.00	4,800.00	4,835.78	4,834.22	10.66	8.46	170.85	-5,869.13	944.89	5,944.94	5,925.87	19.08	311.655	
4,900.00	4,900.00	4,980.24	4,978.62	10.88	8.72	170.82	-5,866.85	947.98	5,943.75	5,924.19	19.55	303.965	
5,000.00	5,000.00	5,084.02	5,082.35	11.11	8.91	170.80	-5,864.64	950.37	5,942.01	5,922.04	19.96	297.658	

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 #50H
Project:	Lea County, NM (NAD-27 2015)	**TVD Reference:**	KB @ 3695.00usft (McVay 4)
Reference Site:	Lea Unit #50H	**MD Reference:**	KB @ 3695.00usft (McVay 4)
Site Error:	0.00 usft	**North Reference:**	Grid
Reference Well:	Lea Unit #50H	**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 #34H - Lea Unit #34H - Wellbore #1 - Wellbore #1 — Offset Site Error: 0.00 usft

Survey Program: 44-VES-ISC(WSA-GYRO-3, 10260-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	5,194.62	5,192.89	11.33	9.11	170.77	-5,862.24	952.76	5,940.22	5,919.83	20.38	291.424	
5,200.00	5,200.00	15,605.00	10,960.88	11.56	88.42	139.20	-956.35	825.41	5,916.33	5,874.52	41.80	141.523	
5,300.00	5,300.00	15,605.00	10,960.88	11.78	88.42	139.20	-956.35	825.41	5,818.67	5,776.73	41.94	138.727	
5,400.00	5,400.00	15,605.00	10,960.88	12.00	88.42	139.20	-956.35	825.41	5,721.10	5,679.01	42.09	135.929	
5,500.00	5,500.00	15,605.00	10,960.88	12.23	88.42	139.20	-956.35	825.41	5,623.61	5,581.37	42.24	133.129	
5,600.00	5,600.00	15,605.00	10,960.88	12.45	88.42	139.20	-956.35	825.41	5,526.21	5,483.81	42.40	130.327	
5,700.00	5,700.00	15,605.00	10,960.88	12.68	88.42	139.20	-956.35	825.41	5,428.91	5,386.34	42.57	127.525	
5,800.00	5,800.00	15,605.00	10,960.88	12.90	88.42	139.20	-956.35	825.41	5,331.71	5,288.96	42.75	124.724	
5,900.00	5,900.00	15,605.00	10,960.88	13.13	88.42	139.20	-956.35	825.41	5,234.61	5,191.67	42.93	121.925	
6,000.00	6,000.00	15,605.00	10,960.88	13.35	88.42	139.20	-956.35	825.41	5,137.62	5,094.49	43.13	119.129	
6,100.00	6,100.00	15,605.00	10,960.88	13.58	88.42	139.20	-956.35	825.41	5,040.75	4,997.42	43.33	116.336	
6,200.00	6,200.00	15,605.00	10,960.88	13.80	88.42	139.20	-956.35	825.41	4,944.00	4,900.46	43.54	113.547	
6,300.00	6,300.00	15,605.00	10,960.88	14.03	88.42	139.20	-956.35	825.41	4,847.39	4,803.63	43.76	110.764	
6,400.00	6,400.00	15,605.00	10,960.88	14.25	88.42	139.20	-956.35	825.41	4,750.92	4,706.92	44.00	107.987	
6,500.00	6,500.00	15,605.00	10,960.88	14.48	88.42	139.20	-956.35	825.41	4,654.59	4,610.36	44.24	105.217	
6,600.00	6,600.00	15,605.00	10,960.88	14.70	88.42	139.20	-956.35	825.41	4,558.43	4,513.94	44.49	102.456	
6,700.00	6,700.00	15,605.00	10,960.88	14.93	88.42	139.20	-956.35	825.41	4,462.43	4,417.67	44.76	99.703	
6,800.00	6,800.00	15,605.00	10,960.88	15.15	88.42	139.20	-956.35	825.41	4,366.61	4,321.58	45.03	96.961	
6,900.00	6,900.00	15,605.00	10,960.88	15.38	88.42	139.20	-956.35	825.41	4,270.99	4,225.66	45.33	94.229	
7,000.00	7,000.00	15,605.00	10,960.88	15.60	88.42	139.20	-956.35	825.41	4,175.57	4,129.94	45.63	91.509	
7,100.00	7,100.00	15,605.00	10,960.88	15.83	88.42	139.20	-956.35	825.41	4,080.37	4,034.42	45.95	88.802	
7,200.00	7,200.00	15,605.00	10,960.88	16.05	88.42	139.20	-956.35	825.41	3,985.40	3,939.12	46.28	86.109	
7,300.00	7,300.00	15,605.00	10,960.88	16.28	88.42	139.20	-956.35	825.41	3,890.69	3,844.05	46.63	83.430	
7,400.00	7,400.00	15,605.00	10,960.88	16.50	88.42	139.20	-956.35	825.41	3,796.24	3,749.24	47.00	80.768	
7,500.00	7,500.00	15,605.00	10,960.88	16.72	88.42	139.20	-956.35	825.41	3,702.09	3,654.70	47.39	78.122	
7,600.00	7,600.00	15,605.00	10,960.88	16.95	88.42	139.20	-956.35	825.41	3,608.26	3,560.46	47.80	75.494	
7,700.00	7,700.00	15,605.00	10,960.88	17.17	88.42	139.20	-956.35	825.41	3,514.76	3,466.54	48.22	72.885	
7,800.00	7,800.00	15,605.00	10,960.88	17.40	88.42	139.20	-956.35	825.41	3,421.63	3,372.96	48.67	70.296	
7,900.00	7,900.00	15,605.00	10,960.88	17.62	88.42	139.20	-956.35	825.41	3,328.90	3,279.75	49.15	67.728	
8,000.00	8,000.00	15,605.00	10,960.88	17.85	88.42	139.20	-956.35	825.41	3,236.60	3,186.95	49.65	65.184	
8,100.00	8,100.00	15,605.00	10,960.88	18.07	88.42	139.20	-956.35	825.41	3,144.78	3,094.59	50.18	62.664	
8,200.00	8,200.00	15,605.00	10,960.88	18.30	88.42	139.20	-956.35	825.41	3,053.47	3,002.72	50.75	60.170	
8,300.00	8,300.00	15,605.00	10,960.88	18.52	88.42	139.20	-956.35	825.41	2,962.71	2,911.37	51.34	57.703	
8,400.00	8,400.00	15,605.00	10,960.88	18.75	88.42	139.20	-956.35	825.41	2,872.58	2,820.60	51.98	55.266	
8,500.00	8,500.00	15,605.00	10,960.88	18.97	88.42	139.20	-956.35	825.41	2,783.11	2,730.46	52.65	52.861	
8,600.00	8,600.00	15,605.00	10,960.88	19.20	88.42	139.20	-956.35	825.41	2,694.39	2,641.03	53.37	50.489	
8,700.00	8,700.00	15,605.00	10,960.88	19.42	88.42	139.20	-956.35	825.41	2,606.49	2,552.36	54.13	48.154	
8,800.00	8,800.00	15,605.00	10,960.88	19.65	88.42	139.20	-956.35	825.41	2,519.48	2,464.54	54.94	45.858	
8,900.00	8,900.00	15,605.00	10,960.88	19.87	88.42	139.20	-956.35	825.41	2,433.48	2,377.67	55.81	43.604	
9,000.00	9,000.00	15,605.00	10,960.88	20.10	88.42	139.20	-956.35	825.41	2,348.58	2,291.85	56.74	41.395	
9,083.80	9,083.80	15,605.00	10,960.88	20.28	88.42	139.20	-956.35	825.41	2,278.39	2,220.82	57.56	39.581	
9,100.00	9,100.00	15,605.00	10,960.88	20.32	88.42	-18.25	-956.35	825.41	2,264.83	2,207.10	57.73	39.234	
9,150.00	9,149.91	15,605.00	10,960.88	20.40	88.42	-20.44	-956.35	825.41	2,222.02	2,163.80	58.22	38.166	
9,200.00	9,199.49	15,605.00	10,960.88	20.49	88.42	-23.24	-956.35	825.41	2,177.88	2,119.17	58.71	37.096	
9,250.00	9,248.51	15,605.00	10,960.88	20.57	88.42	-26.89	-956.35	825.41	2,132.53	2,073.35	59.19	36.031	
9,300.00	9,296.73	15,605.00	10,960.88	20.66	88.42	-31.77	-956.35	825.41	2,086.14	2,026.49	59.65	34.973	
9,350.00	9,343.91	15,605.00	10,960.88	20.75	88.42	-38.45	-956.35	825.41	2,038.86	1,978.76	60.10	33.925	
9,400.00	9,389.83	15,605.00	10,960.88	20.84	88.42	-47.81	-956.35	825.41	1,990.87	1,930.34	60.53	32.891	
9,450.00	9,434.25	15,605.00	10,960.88	20.94	88.42	-60.82	-956.35	825.41	1,942.35	1,881.41	60.94	31.874	
9,500.00	9,476.97	15,605.00	10,960.88	21.05	88.42	-77.77	-956.35	825.41	1,893.52	1,832.19	61.33	30.876	
9,550.00	9,517.77	15,605.00	10,960.88	21.17	88.42	-96.66	-956.35	825.41	1,844.59	1,782.90	61.69	29.903	
9,600.00	9,556.45	15,605.00	10,960.88	21.32	88.42	-113.78	-956.35	825.41	1,795.81	1,733.79	62.02	28.956	

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

LEGACY RESERVES

TDS
Anticollision Report

TDS

Company:	Legacy Reserves	**Local Co-ordinate Reference:**	Well Lea Unit #50H
Project:	Lea County, NM (NAD-27 2015)	**TVD Reference:**	KB @ 3695.00usft (McVay 4)
Reference Site:	Lea Unit #50H	**MD Reference:**	KB @ 3695.00usft (McVay 4)
Site Error:	0.00 usft	**North Reference:**	Grid
Reference Well:	Lea Unit #50H	**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 #34H - Lea Unit #34H - Wellbore #1 - Wellbore #1 — Offset Site Error: 0.00 usft

Survey Program: 44-VES-ISCWSA-GYRO-3, 10260-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
9,650.00	9,592.84	15,605.00	10,960.88	21.48	88.42	-126.99	-956.35	825.41	1,747.43	1,685.12	62.31	28.042	
9,700.00	9,626.74	15,605.00	10,960.88	21.68	88.42	-136.49	-956.35	825.41	1,699.74	1,637.17	62.57	27.164	
9,750.00	9,658.00	15,605.00	10,960.88	21.90	88.42	-143.24	-956.35	825.41	1,653.03	1,590.25	62.79	26.327	
9,800.00	9,686.46	15,605.00	10,960.88	22.16	88.42	-148.14	-956.35	825.41	1,607.64	1,544.68	62.95	25.536	
9,850.00	9,711.99	15,605.00	10,960.88	22.45	88.42	-151.76	-956.35	825.41	1,563.90	1,500.83	63.07	24.797	
9,900.00	9,734.45	15,605.00	10,960.88	22.78	88.42	-154.50	-956.35	825.41	1,522.18	1,459.06	63.12	24.115	
9,950.00	9,753.74	15,605.00	10,960.88	23.15	88.42	-156.61	-956.35	825.41	1,482.86	1,419.75	63.11	23.496	
10,000.00	9,769.78	15,605.00	10,960.88	23.56	88.42	-158.26	-956.35	825.41	1,446.34	1,383.31	63.03	22.947	
10,050.00	9,782.46	15,605.00	10,960.88	24.01	88.42	-159.55	-956.35	825.41	1,413.02	1,350.14	62.88	22.472	
10,100.00	9,791.75	15,605.00	10,960.88	24.49	88.42	-160.56	-956.35	825.41	1,383.29	1,320.64	62.65	22.078	
10,150.00	9,797.59	15,605.00	10,960.88	25.00	88.42	-161.34	-956.35	825.41	1,357.55	1,295.19	62.35	21.772	
10,200.00	9,799.94	15,605.00	10,960.88	25.55	88.42	-161.94	-956.35	825.41	1,336.15	1,274.16	61.98	21.556	
10,208.80	9,800.00	15,605.00	10,960.88	25.65	88.42	-162.03	-956.35	825.41	1,332.85	1,270.95	61.91	21.530	
10,300.00	9,800.00	15,605.00	10,960.88	26.67	88.42	-161.42	-956.35	825.41	1,302.68	1,241.46	61.22	21.279	
10,400.00	9,800.00	15,605.00	10,960.88	27.83	88.42	-160.92	-956.35	825.41	1,277.33	1,216.71	60.61	21.074	
10,500.00	9,800.00	15,605.00	10,960.88	29.07	88.42	-160.60	-956.35	825.41	1,260.55	1,200.38	60.17	20.949	
10,600.00	9,800.00	15,541.31	10,961.21	30.37	87.30	-161.17	-1,020.04	825.74	1,251.14	1,192.07	59.07	21.179	
10,700.00	9,800.00	15,417.09	10,960.36	31.71	85.16	-162.33	-1,144.25	826.16	1,242.60	1,185.19	57.41	21.643	
10,800.00	9,800.00	15,327.58	10,958.51	33.09	83.66	-162.98	-1,233.75	826.73	1,234.35	1,177.91	56.45	21.867	
10,900.00	9,800.00	15,240.26	10,958.24	34.49	82.15	-163.53	-1,321.06	827.40	1,228.97	1,173.29	55.68	22.072	
11,000.00	9,800.00	15,124.11	10,956.89	35.90	80.10	-164.10	-1,437.18	829.09	1,224.19	1,169.43	54.76	22.357	
11,100.00	9,800.00	15,009.46	10,953.60	37.32	78.14	-164.41	-1,551.76	831.77	1,219.04	1,164.94	54.10	22.533	
11,118.22	9,800.00	14,998.00	10,953.18	37.58	77.95	-164.42	-1,563.21	832.07	1,218.12	1,164.00	54.12	22.509	
11,200.00	9,800.00	14,935.41	10,951.65	38.75	76.89	-164.58	-1,625.76	833.56	1,214.87	1,160.82	54.06	22.473	
11,300.00	9,800.00	14,842.75	10,951.26	40.21	75.34	-164.85	-1,718.39	835.51	1,212.69	1,158.91	53.78	22.551	
11,400.00	9,800.00	14,758.36	10,950.84	41.70	73.93	-165.08	-1,802.75	837.71	1,210.70	1,157.06	53.63	22.574	
11,500.00	9,800.00	14,665.45	10,952.10	43.21	72.35	-165.34	-1,895.62	840.40	1,210.49	1,157.10	53.39	22.672	
11,600.00	9,800.00	14,547.54	10,952.24	44.76	70.31	-165.63	-2,013.46	844.42	1,209.28	1,156.38	52.90	22.860	
11,700.00	9,800.00	14,432.76	10,950.88	46.32	68.29	-165.90	-2,128.17	848.17	1,206.80	1,154.34	52.46	23.005	
11,800.00	9,800.00	14,325.30	10,948.30	47.91	66.49	-166.11	-2,235.52	852.40	1,203.31	1,151.14	52.17	23.065	
11,900.00	9,800.00	14,234.11	10,946.46	49.52	65.03	-166.34	-2,326.65	854.63	1,199.92	1,147.88	52.04	23.056	
12,000.00	9,800.00	14,150.00	10,946.12	51.14	63.64	-166.63	-2,410.75	855.80	1,197.75	1,145.80	51.95	23.057	
12,100.00	9,800.00	14,037.15	10,945.56	52.78	61.69	-167.00	-2,523.58	857.51	1,195.63	1,144.12	51.51	23.213	
12,200.00	9,800.00	13,936.83	10,944.33	54.44	59.97	-167.29	-2,623.87	859.61	1,192.97	1,141.70	51.27	23.270	
12,300.00	9,800.00	13,842.78	10,943.16	56.10	58.43	-167.58	-2,717.90	861.48	1,190.31	1,139.19	51.12	23.285	
12,400.00	9,800.00	13,762.07	10,943.68	57.78	57.10	-167.91	-2,798.61	861.53	1,189.07	1,138.00	51.07	23.281	
12,500.00	9,800.00	13,654.12	10,944.84	59.47	55.26	-168.38	-2,906.54	861.09	1,188.26	1,137.59	50.67	23.451	
12,600.00	9,800.00	13,542.31	10,944.94	61.17	53.38	-168.84	-3,018.35	861.05	1,186.63	1,136.36	50.26	23.610	
12,700.00	9,800.00	13,433.36	10,943.72	62.88	51.63	-169.23	-3,127.30	862.22	1,184.07	1,134.11	49.96	23.702	
12,800.00	9,800.00	13,350.50	10,942.80	64.60	50.32	-169.52	-3,210.14	862.95	1,181.61	1,131.63	49.98	23.643	
12,863.61	9,800.00	13,303.00	10,943.17	65.70	49.56	-169.69	-3,257.64	863.59	1,181.23	1,131.17	50.06	23.598	
12,900.00	9,800.00	13,266.08	10,943.68	66.32	48.97	-169.82	-3,294.54	864.24	1,181.27	1,131.28	49.99	23.630	
12,990.81	9,800.00	13,175.72	10,944.41	67.90	47.52	-170.10	-3,384.88	866.36	1,181.00	1,131.12	49.88	23.676	
13,000.00	9,800.00	13,168.06	10,944.49	68.06	47.40	-170.12	-3,392.54	866.59	1,181.01	1,131.12	49.89	23.673	
13,100.00	9,800.00	13,076.41	10,946.00	69.80	45.91	-170.36	-3,484.12	869.76	1,181.72	1,131.83	49.89	23.685	
13,200.00	9,800.00	12,970.55	10,947.50	71.54	44.16	-170.62	-3,589.89	873.75	1,182.31	1,132.54	49.77	23.756	
13,300.00	9,800.00	12,868.54	10,948.44	73.29	42.48	-170.84	-3,691.79	878.29	1,182.54	1,132.82	49.72	23.783	
13,400.00	9,800.00	12,740.27	10,948.55	75.05	40.44	-171.12	-3,819.96	883.48	1,181.99	1,132.57	49.42	23.918	
13,500.00	9,800.00	12,620.04	10,946.00	76.81	38.55	-171.51	-3,940.14	885.29	1,178.78	1,129.63	49.14	23.986	
13,600.00	9,800.00	12,500.93	10,942.38	78.58	36.69	-171.98	-4,059.19	885.51	1,174.62	1,125.75	48.87	24.035	
13,700.00	9,800.00	12,383.52	10,936.09	80.35	34.90	-172.48	-4,176.43	884.40	1,167.92	1,119.30	48.62	24.021	
13,800.00	9,800.00	12,281.77	10,930.12	82.13	33.42	-172.89	-4,278.00	884.02	1,160.93	1,112.34	48.59	23.893	

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

LEGACY RESERVES

TDS
Anticollision Report

TDS

Company:	Legacy Reserves	**Local Co-ordinate Reference:**	Well Lea Unit #50H
Project:	Lea County, NM (NAD-27 2015)	**TVD Reference:**	KB @ 3695.00usft (McVay 4)
Reference Site:	Lea Unit #50H	**MD Reference:**	KB @ 3695.00usft (McVay 4)
Site Error:	0.00 usft	**North Reference:**	Grid
Reference Well:	Lea Unit #50H	**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 #34H - Lea Unit #34H - Wellbore #1 - Wellbore #1 — **Offset Site Error:** 0.00 usft

Survey Program: 44-VES-ISCWSA-GYRO-3, 10260-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
13,900.00	9,800.00	12,206.87	10,926.23	83.91	32.35	-173.18	-4,352.79	884.14	1,154.77	1,105.90	48.86	23.632	
14,000.00	9,800.00	12,118.15	10,923.61	85.69	31.10	-173.56	-4,441.48	883.93	1,150.74	1,101.74	49.01	23.481	
14,100.00	9,800.00	12,025.82	10,920.98	87.47	29.83	-173.95	-4,533.77	883.79	1,146.97	1,097.83	49.14	23.341	
14,200.00	9,800.00	11,933.77	10,919.39	89.26	28.55	-174.37	-4,625.60	883.22	1,144.27	1,094.98	49.29	23.214	
14,300.00	9,800.00	11,829.47	10,917.62	91.06	27.16	-174.84	-4,730.09	882.59	1,141.70	1,092.33	49.37	23.124	
14,400.00	9,800.00	9,787.77	9,784.53	92.85	17.04	-94.07	-5,879.45	929.21	1,082.58	1,042.69	39.90	27.134	
14,500.00	9,800.00	9,787.66	9,784.42	94.65	17.04	-93.95	-5,879.45	929.21	982.70	942.82	39.88	24.641	
14,600.00	9,800.00	9,787.56	9,784.31	96.45	17.04	-93.82	-5,879.45	929.22	882.84	842.97	39.87	22.144	
14,700.00	9,800.00	9,787.45	9,784.20	98.25	17.04	-93.70	-5,879.45	929.22	783.02	743.15	39.86	19.642	
14,800.00	9,800.00	9,787.33	9,784.09	100.06	17.04	-93.57	-5,879.45	929.23	683.25	643.36	39.89	17.129	
14,900.00	9,800.00	9,787.22	9,783.98	101.86	17.04	-93.44	-5,879.45	929.23	583.56	543.58	39.98	14.597	
15,000.00	9,800.00	9,787.11	9,783.86	103.67	17.03	-93.31	-5,879.45	929.24	484.00	443.77	40.22	12.033	
15,100.00	9,800.00	9,786.99	9,783.75	105.48	17.03	-93.18	-5,879.45	929.24	384.66	343.79	40.87	9.413	
15,167.52	9,800.00	9,786.92	9,783.67	106.71	17.03	-93.09	-5,879.45	929.25	317.82	275.97	41.85	7.594	CC, ES, SF

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 #50H
Project:	Lea County, NM (NAD-27 2015)	**TVD Reference:**	KB @ 3695.00usft (McVay 4)
Reference Site:	Lea Unit #50H	**MD Reference:**	KB @ 3695.00usft (McVay 4)
Site Error:	0.00 usft	**North Reference:**	Grid
Reference Well:	Lea Unit #50H	**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 #49H - Lea Unit #49H - Lateral #1 - Design #2 — 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	-90.80	-0.70	-49.90	49.90				
100.00	100.00	101.00	101.00	0.09	0.09	-90.80	-0.70	-49.90	49.90	49.72	0.19	267.506	
200.00	200.00	201.00	201.00	0.32	0.32	-90.80	-0.70	-49.90	49.90	49.27	0.64	78.456	
300.00	300.00	301.00	301.00	0.54	0.54	-90.80	-0.70	-49.90	49.90	48.82	1.09	45.969	
400.00	400.00	401.00	401.00	0.77	0.77	-90.80	-0.70	-49.90	49.90	48.37	1.54	32.508	
500.00	500.00	501.00	501.00	0.99	0.99	-90.80	-0.70	-49.90	49.90	47.92	1.98	25.145	
600.00	600.00	601.00	601.00	1.22	1.22	-90.80	-0.70	-49.90	49.90	47.47	2.43	20.501	
700.00	700.00	701.00	701.00	1.44	1.44	-90.80	-0.70	-49.90	49.90	47.02	2.88	17.306	
800.00	800.00	801.00	801.00	1.67	1.67	-90.80	-0.70	-49.90	49.90	46.57	3.33	14.972	
900.00	900.00	901.00	901.00	1.89	1.89	-90.80	-0.70	-49.90	49.90	46.12	3.78	13.193	
1,000.00	1,000.00	1,001.00	1,001.00	2.12	2.12	-90.80	-0.70	-49.90	49.90	45.67	4.23	11.791	
1,100.00	1,100.00	1,101.00	1,101.00	2.34	2.34	-90.80	-0.70	-49.90	49.90	45.22	4.68	10.659	
1,200.00	1,200.00	1,201.00	1,201.00	2.56	2.57	-90.80	-0.70	-49.90	49.90	44.77	5.13	9.725	
1,300.00	1,300.00	1,301.00	1,301.00	2.79	2.79	-90.80	-0.70	-49.90	49.90	44.32	5.58	8.942	
1,400.00	1,400.00	1,401.00	1,401.00	3.01	3.02	-90.80	-0.70	-49.90	49.90	43.87	6.03	8.275	
1,500.00	1,500.00	1,501.00	1,501.00	3.24	3.24	-90.80	-0.70	-49.90	49.90	43.42	6.48	7.701	
1,600.00	1,600.00	1,601.00	1,601.00	3.46	3.47	-90.80	-0.70	-49.90	49.90	42.98	6.93	7.202	
1,700.00	1,700.00	1,701.00	1,701.00	3.69	3.69	-90.80	-0.70	-49.90	49.90	42.53	7.38	6.763	
1,800.00	1,800.00	1,801.00	1,801.00	3.91	3.92	-90.80	-0.70	-49.90	49.90	42.08	7.83	6.375	
1,900.00	1,900.00	1,901.00	1,901.00	4.14	4.14	-90.80	-0.70	-49.90	49.90	41.63	8.28	6.029	
2,000.00	2,000.00	2,001.00	2,001.00	4.36	4.36	-90.80	-0.70	-49.90	49.90	41.18	8.73	5.718	
2,100.00	2,100.00	2,101.00	2,101.00	4.59	4.59	-90.80	-0.70	-49.90	49.90	40.73	9.18	5.438	
2,200.00	2,200.00	2,201.00	2,201.00	4.81	4.81	-90.80	-0.70	-49.90	49.90	40.28	9.63	5.184	
2,300.00	2,300.00	2,301.00	2,301.00	5.04	5.04	-90.80	-0.70	-49.90	49.90	39.83	10.08	4.953	
2,400.00	2,400.00	2,401.00	2,401.00	5.26	5.26	-90.80	-0.70	-49.90	49.90	39.38	10.53	4.741	
2,500.00	2,500.00	2,501.00	2,501.00	5.49	5.49	-90.80	-0.70	-49.90	49.90	38.93	10.98	4.547	
2,600.00	2,600.00	2,601.00	2,601.00	5.71	5.71	-90.80	-0.70	-49.90	49.90	38.48	11.42	4.368	
2,700.00	2,700.00	2,701.00	2,701.00	5.94	5.94	-90.80	-0.70	-49.90	49.90	38.03	11.87	4.203	
2,800.00	2,800.00	2,801.00	2,801.00	6.16	6.16	-90.80	-0.70	-49.90	49.90	37.58	12.32	4.049	
2,900.00	2,900.00	2,901.00	2,901.00	6.39	6.39	-90.80	-0.70	-49.90	49.90	37.13	12.77	3.907	
3,000.00	3,000.00	3,001.00	3,001.00	6.61	6.61	-90.80	-0.70	-49.90	49.90	36.68	13.22	3.774	
3,100.00	3,100.00	3,101.00	3,101.00	6.84	6.84	-90.80	-0.70	-49.90	49.90	36.23	13.67	3.650	
3,200.00	3,200.00	3,201.00	3,201.00	7.06	7.06	-90.80	-0.70	-49.90	49.90	35.78	14.12	3.534	
3,300.00	3,300.00	3,301.00	3,301.00	7.28	7.29	-90.80	-0.70	-49.90	49.90	35.33	14.57	3.425	
3,400.00	3,400.00	3,401.00	3,401.00	7.51	7.51	-90.80	-0.70	-49.90	49.90	34.88	15.02	3.322	
3,500.00	3,500.00	3,501.00	3,501.00	7.73	7.74	-90.80	-0.70	-49.90	49.90	34.43	15.47	3.226	
3,600.00	3,600.00	3,601.00	3,601.00	7.96	7.96	-90.80	-0.70	-49.90	49.90	33.98	15.92	3.135	
3,700.00	3,700.00	3,701.00	3,701.00	8.18	8.19	-90.80	-0.70	-49.90	49.90	33.54	16.37	3.049	
3,800.00	3,800.00	3,801.00	3,801.00	8.41	8.41	-90.80	-0.70	-49.90	49.90	33.09	16.82	2.967	
3,900.00	3,900.00	3,901.00	3,901.00	8.63	8.64	-90.80	-0.70	-49.90	49.90	32.64	17.27	2.890	
4,000.00	4,000.00	4,001.00	4,001.00	8.86	8.86	-90.80	-0.70	-49.90	49.90	32.19	17.72	2.817	
4,100.00	4,100.00	4,101.00	4,101.00	9.08	9.09	-90.80	-0.70	-49.90	49.90	31.74	18.17	2.747	
4,200.00	4,200.00	4,201.00	4,201.00	9.31	9.31	-90.80	-0.70	-49.90	49.90	31.29	18.62	2.681	
4,300.00	4,300.00	4,301.00	4,301.00	9.53	9.53	-90.80	-0.70	-49.90	49.90	30.84	19.07	2.617	
4,400.00	4,400.00	4,401.00	4,401.00	9.76	9.76	-90.80	-0.70	-49.90	49.90	30.39	19.52	2.557	
4,500.00	4,500.00	4,501.00	4,501.00	9.98	9.98	-90.80	-0.70	-49.90	49.90	29.94	19.97	2.499	
4,600.00	4,600.00	4,601.00	4,601.00	10.21	10.21	-90.80	-0.70	-49.90	49.90	29.49	20.42	2.444	
4,700.00	4,700.00	4,701.00	4,701.00	10.43	10.43	-90.80	-0.70	-49.90	49.90	29.04	20.87	2.392	
4,800.00	4,800.00	4,801.00	4,801.00	10.66	10.66	-90.80	-0.70	-49.90	49.90	28.59	21.31	2.341	
4,900.00	4,900.00	4,901.00	4,901.00	10.88	10.88	-90.80	-0.70	-49.90	49.90	28.14	21.76	2.293	
5,000.00	5,000.00	5,001.00	5,001.00	11.11	11.11	-90.80	-0.70	-49.90	49.90	27.69	22.21	2.247	
5,100.00	5,100.00	5,101.00	5,101.00	11.33	11.33	-90.80	-0.70	-49.90	49.90	27.24	22.66	2.202	

TDS
Anticollision Report

Company:	Legacy Reserves	**Local Co-ordinate Reference:**	Well Lea Unit #50H
Project:	Lea County, NM (NAD-27 2015)	**TVD Reference:**	KB @ 3695.00usft (McVay 4)
Reference Site:	Lea Unit #50H	**MD Reference:**	KB @ 3695.00usft (McVay 4)
Site Error:	0.00 usft	**North Reference:**	Grid
Reference Well:	Lea Unit #50H	**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 #49H - Lea Unit #49H - Lateral #1 - Design #2 — **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	-90.80	-0.70	-49.90	49.90	26.79	23.11	2.159	
5,300.00	5,300.00	5,301.00	5,301.00	11.78	11.78	-90.80	-0.70	-49.90	49.90	26.34	23.56	2.118	
5,400.00	5,400.00	5,401.00	5,401.00	12.00	12.01	-90.80	-0.70	-49.90	49.90	25.89	24.01	2.078	
5,500.00	5,500.00	5,501.00	5,501.00	12.23	12.23	-90.80	-0.70	-49.90	49.90	25.44	24.46	2.040	
5,600.00	5,600.00	5,601.00	5,601.00	12.45	12.46	-90.80	-0.70	-49.90	49.90	24.99	24.91	2.003	
5,700.00	5,700.00	5,701.00	5,701.00	12.68	12.68	-90.80	-0.70	-49.90	49.90	24.54	25.36	1.968	
5,800.00	5,800.00	5,801.00	5,801.00	12.90	12.91	-90.80	-0.70	-49.90	49.90	24.10	25.81	1.934	
5,900.00	5,900.00	5,901.00	5,901.00	13.13	13.13	-90.80	-0.70	-49.90	49.90	23.65	26.26	1.900	
6,000.00	6,000.00	6,001.00	6,001.00	13.35	13.36	-90.80	-0.70	-49.90	49.90	23.20	26.71	1.868	
6,100.00	6,100.00	6,101.00	6,101.00	13.58	13.58	-90.80	-0.70	-49.90	49.90	22.75	27.16	1.838	
6,200.00	6,200.00	6,201.00	6,201.00	13.80	13.81	-90.80	-0.70	-49.90	49.90	22.30	27.61	1.808	
6,300.00	6,300.00	6,301.00	6,301.00	14.03	14.03	-90.80	-0.70	-49.90	49.90	21.85	28.06	1.779	
6,400.00	6,400.00	6,401.00	6,401.00	14.25	14.25	-90.80	-0.70	-49.90	49.90	21.40	28.51	1.751	
6,500.00	6,500.00	6,501.00	6,501.00	14.48	14.48	-90.80	-0.70	-49.90	49.90	20.95	28.96	1.723	
6,600.00	6,600.00	6,601.00	6,601.00	14.70	14.70	-90.80	-0.70	-49.90	49.90	20.50	29.41	1.697	
6,700.00	6,700.00	6,701.00	6,701.00	14.93	14.93	-90.80	-0.70	-49.90	49.90	20.05	29.86	1.672	
6,800.00	6,800.00	6,801.00	6,801.00	15.15	15.15	-90.80	-0.70	-49.90	49.90	19.60	30.31	1.647	
6,900.00	6,900.00	6,901.00	6,901.00	15.38	15.38	-90.80	-0.70	-49.90	49.90	19.15	30.75	1.623	
7,000.00	7,000.00	7,001.00	7,001.00	15.60	15.60	-90.80	-0.70	-49.90	49.90	18.70	31.20	1.599	
7,100.00	7,100.00	7,101.00	7,101.00	15.83	15.83	-90.80	-0.70	-49.90	49.90	18.25	31.65	1.577	
7,200.00	7,200.00	7,201.00	7,201.00	16.05	16.05	-90.80	-0.70	-49.90	49.90	17.80	32.10	1.555	
7,300.00	7,300.00	7,301.00	7,301.00	16.28	16.28	-90.80	-0.70	-49.90	49.90	17.35	32.55	1.533	
7,400.00	7,400.00	7,401.00	7,401.00	16.50	16.50	-90.80	-0.70	-49.90	49.90	16.90	33.00	1.512	
7,500.00	7,500.00	7,501.00	7,501.00	16.72	16.73	-90.80	-0.70	-49.90	49.90	16.45	33.45	1.492	Level 3
7,600.00	7,600.00	7,601.00	7,601.00	16.95	16.95	-90.80	-0.70	-49.90	49.90	16.00	33.90	1.472	Level 3
7,700.00	7,700.00	7,701.00	7,701.00	17.17	17.18	-90.80	-0.70	-49.90	49.90	15.55	34.35	1.453	Level 3
7,800.00	7,800.00	7,801.00	7,801.00	17.40	17.40	-90.80	-0.70	-49.90	49.90	15.10	34.80	1.434	Level 3
7,900.00	7,900.00	7,901.00	7,901.00	17.62	17.63	-90.80	-0.70	-49.90	49.90	14.65	35.25	1.416	Level 3
8,000.00	8,000.00	8,001.00	8,001.00	17.85	17.85	-90.80	-0.70	-49.90	49.90	14.21	35.70	1.398	Level 3
8,100.00	8,100.00	8,101.00	8,101.00	18.07	18.08	-90.80	-0.70	-49.90	49.90	13.76	36.15	1.381	Level 3
8,200.00	8,200.00	8,201.00	8,201.00	18.30	18.30	-90.80	-0.70	-49.90	49.90	13.31	36.60	1.364	Level 3
8,300.00	8,300.00	8,301.00	8,301.00	18.52	18.53	-90.80	-0.70	-49.90	49.90	12.86	37.05	1.347	Level 3
8,400.00	8,400.00	8,401.00	8,401.00	18.75	18.75	-90.80	-0.70	-49.90	49.90	12.41	37.50	1.331	Level 3
8,500.00	8,500.00	8,501.00	8,501.00	18.97	18.97	-90.80	-0.70	-49.90	49.90	11.96	37.95	1.315	Level 3
8,600.00	8,600.00	8,601.00	8,601.00	19.20	19.20	-90.80	-0.70	-49.90	49.90	11.51	38.40	1.300	Level 3
8,700.00	8,700.00	8,701.00	8,701.00	19.42	19.42	-90.80	-0.70	-49.90	49.90	11.06	38.85	1.285	Level 3
8,800.00	8,800.00	8,801.00	8,801.00	19.65	19.65	-90.80	-0.70	-49.90	49.90	10.61	39.30	1.270	Level 3
8,900.00	8,900.00	8,901.00	8,901.00	19.87	19.87	-90.80	-0.70	-49.90	49.90	10.16	39.75	1.256	Level 3
9,000.00	9,000.00	9,001.00	9,001.00	20.10	20.10	-90.80	-0.70	-49.90	49.90	9.71	40.19	1.242	Level 2
9,083.80	9,083.80	9,084.80	9,084.80	20.28	20.29	-90.80	-0.70	-49.90	49.90	9.33	40.57	1.230	Level 2, CC, ES
9,100.00	9,100.00	9,101.00	9,101.00	20.32	20.32	112.55	-0.70	-49.90	49.97	9.34	40.64	1.230	Level 2, SF
9,150.00	9,149.91	9,150.91	9,150.91	20.40	20.44	115.43	-0.70	-49.90	51.15	10.31	40.83	1.253	Level 3
9,200.00	9,199.49	9,200.49	9,200.49	20.49	20.55	121.26	-0.70	-49.90	54.19	13.16	41.03	1.321	Level 3
9,250.00	9,248.51	9,249.51	9,249.51	20.57	20.66	128.84	-0.70	-49.90	59.90	18.68	41.22	1.453	Level 3
9,300.00	9,296.73	9,297.73	9,297.73	20.66	20.77	136.74	-0.70	-49.90	69.06	27.65	41.41	1.668	
9,350.00	9,343.91	9,344.91	9,344.91	20.75	20.87	143.88	-0.70	-49.90	82.09	40.49	41.60	1.973	
9,400.00	9,389.83	9,390.83	9,390.83	20.84	20.97	149.78	-0.70	-49.90	99.06	57.28	41.79	2.371	
9,450.00	9,434.25	9,435.25	9,435.25	20.94	21.07	154.42	-0.70	-49.90	119.83	77.86	41.97	2.855	
9,500.00	9,476.97	9,477.97	9,477.97	21.05	21.17	157.98	-0.70	-49.90	144.14	102.00	42.14	3.421	
9,550.00	9,517.77	9,518.77	9,518.77	21.17	21.26	160.67	-0.70	-49.90	171.75	129.44	42.31	4.060	
9,600.00	9,556.45	9,557.45	9,557.45	21.32	21.35	162.69	-0.70	-49.90	202.42	159.96	42.46	4.767	
9,650.00	9,592.84	9,593.84	9,593.84	21.48	21.43	164.17	-0.70	-49.90	235.93	193.32	42.61	5.537	

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

TDS
Anticollision Report

Company:	Legacy Reserves	**Local Co-ordinate Reference:**	Well Lea Unit #50H
Project:	Lea County, NM (NAD-27 2015)	**TVD Reference:**	KB @ 3695.00usft (McVay 4)
Reference Site:	Lea Unit #50H	**MD Reference:**	KB @ 3695.00usft (McVay 4)
Site Error:	0.00 usft	**North Reference:**	Grid
Reference Well:	Lea Unit #50H	**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 #49H - Lea Unit #49H - Lateral #1 - Design #2

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
9,700.00	9,626.74	9,627.74	9,627.74	21.68	21.51	165.21	-0.70	-49.90	272.05	229.30	42.75	6.363	
9,750.00	9,658.00	9,659.00	9,659.00	21.90	21.58	165.89	-0.70	-49.90	310.57	267.69	42.88	7.242	
9,800.00	9,686.46	9,687.46	9,687.46	22.16	21.64	166.22	-0.70	-49.90	351.26	308.26	43.00	8.169	
9,850.00	9,711.99	9,712.99	9,712.99	22.45	21.70	166.20	-0.70	-49.90	393.91	350.81	43.11	9.138	
9,900.00	9,734.45	9,735.45	9,735.45	22.78	21.75	165.78	-0.70	-49.90	438.30	395.10	43.20	10.146	
9,950.00	9,753.74	9,754.74	9,754.74	23.15	21.79	164.84	-0.70	-49.90	484.18	440.90	43.28	11.187	
10,000.00	9,769.78	9,770.78	9,770.78	23.56	21.83	163.12	-0.70	-49.90	531.33	487.99	43.35	12.258	
10,050.00	9,782.46	9,783.46	9,783.46	24.01	21.86	160.03	-0.70	-49.90	579.52	536.12	43.40	13.353	
10,100.00	9,791.75	9,792.75	9,792.75	24.49	21.88	154.05	-0.70	-49.90	628.49	585.05	43.44	14.468	
10,150.00	9,797.59	9,798.59	9,798.59	25.00	21.89	140.24	-0.70	-49.90	678.02	634.55	43.47	15.599	
10,200.00	9,799.94	10,972.21	10,500.00	25.55	26.86	172.66	-676.93	191.65	704.89	683.57	21.33	33.050	
10,208.80	9,800.00	10,980.69	10,500.00	25.65	26.94	172.59	-685.04	194.12	704.96	683.56	21.40	32.935	
10,300.00	9,800.00	11,068.40	10,500.00	26.67	27.81	171.79	-769.35	218.30	706.32	684.06	22.26	31.727	
10,400.00	9,800.00	11,164.24	10,500.00	27.83	28.84	170.93	-862.28	241.75	707.94	684.63	23.31	30.365	
10,500.00	9,800.00	11,259.76	10,500.00	29.07	29.93	170.09	-955.61	262.02	709.70	685.23	24.48	28.996	
10,600.00	9,800.00	11,354.96	10,500.00	30.37	31.06	169.27	-1,049.26	279.11	711.58	685.84	25.74	27.648	
10,700.00	9,800.00	11,449.85	10,500.00	31.71	32.23	168.46	-1,143.12	293.04	713.58	686.49	27.09	26.342	
10,800.00	9,800.00	11,544.44	10,500.00	33.09	33.43	167.67	-1,237.08	303.82	715.67	687.15	28.52	25.093	
10,900.00	9,800.00	11,640.10	10,500.00	34.49	34.67	166.90	-1,332.42	311.68	717.84	687.81	30.03	23.905	
11,000.00	9,800.00	11,739.83	10,500.00	35.90	35.99	166.31	-1,431.88	318.98	719.51	687.96	31.55	22.806	
11,100.00	9,800.00	11,839.76	10,500.00	37.32	37.34	166.00	-1,531.54	326.29	720.41	687.43	32.98	21.846	
11,118.22	9,800.00	11,857.97	10,500.00	37.58	37.59	165.98	-1,549.71	327.63	720.48	687.26	33.23	21.685	
11,200.00	9,800.00	11,939.75	10,500.00	38.75	38.73	165.89	-1,631.26	333.61	720.75	686.41	34.34	20.986	
11,300.00	9,800.00	12,039.74	10,500.00	40.21	40.17	165.79	-1,730.99	340.93	721.08	685.34	35.74	20.174	
11,400.00	9,800.00	12,139.73	10,500.00	41.70	41.63	165.68	-1,830.71	348.24	721.41	684.24	37.18	19.405	
11,500.00	9,800.00	12,239.72	10,500.00	43.21	43.13	165.58	-1,930.43	355.56	721.75	683.11	38.64	18.678	
11,600.00	9,800.00	12,339.71	10,500.00	44.76	44.65	165.47	-2,030.15	362.88	722.09	681.95	40.13	17.992	
11,700.00	9,800.00	12,439.70	10,500.00	46.32	46.20	165.37	-2,129.88	370.19	722.43	680.78	41.65	17.344	
11,800.00	9,800.00	12,539.69	10,500.00	47.91	47.77	165.27	-2,229.60	377.51	722.77	679.58	43.20	16.732	
11,900.00	9,800.00	12,639.68	10,500.00	49.52	49.36	165.16	-2,329.32	384.82	723.12	678.35	44.76	16.154	
12,000.00	9,800.00	12,739.67	10,500.00	51.14	50.96	165.06	-2,429.05	392.14	723.47	677.11	46.35	15.608	
12,100.00	9,800.00	12,839.66	10,500.00	52.78	52.59	164.95	-2,528.77	399.46	723.82	675.86	47.96	15.092	
12,200.00	9,800.00	12,939.65	10,500.00	54.44	54.23	164.85	-2,628.49	406.77	724.17	674.58	49.58	14.605	
12,300.00	9,800.00	13,039.65	10,500.00	56.10	55.88	164.75	-2,728.21	414.09	724.52	673.30	51.23	14.143	
12,400.00	9,800.00	13,139.64	10,500.00	57.78	57.54	164.64	-2,827.94	421.41	724.88	671.99	52.89	13.706	
12,500.00	9,800.00	13,239.63	10,500.00	59.47	59.22	164.54	-2,927.66	428.72	725.24	670.68	54.56	13.292	
12,600.00	9,800.00	13,339.62	10,500.00	61.17	60.91	164.44	-3,027.38	436.04	725.60	669.35	56.25	12.899	
12,700.00	9,800.00	13,439.61	10,500.00	62.88	62.60	164.34	-3,127.10	443.36	725.97	668.01	57.96	12.526	
12,800.00	9,800.00	13,539.60	10,500.00	64.60	64.31	164.23	-3,226.83	450.67	726.33	666.66	59.68	12.171	
12,900.00	9,800.00	13,639.59	10,500.00	66.32	66.02	164.13	-3,326.55	457.99	726.70	665.29	61.41	11.834	
13,000.00	9,800.00	13,739.58	10,500.00	68.06	67.74	164.03	-3,426.27	465.31	727.07	663.92	63.15	11.513	
13,100.00	9,800.00	13,839.57	10,500.00	69.80	69.47	163.93	-3,526.00	472.62	727.45	662.54	64.91	11.207	
13,200.00	9,800.00	13,939.56	10,500.00	71.54	71.20	163.82	-3,625.72	479.94	727.82	661.15	66.68	10.916	
13,300.00	9,800.00	14,039.55	10,500.00	73.29	72.94	163.72	-3,725.44	487.26	728.20	659.74	68.46	10.637	
13,400.00	9,800.00	14,139.54	10,500.00	75.05	74.69	163.62	-3,825.16	494.57	728.58	658.33	70.25	10.372	
13,500.00	9,800.00	14,239.54	10,500.00	76.81	76.44	163.52	-3,924.89	501.89	728.96	656.91	72.05	10.117	
13,600.00	9,800.00	14,339.53	10,500.00	78.58	78.20	163.41	-4,024.61	509.20	729.35	655.49	73.86	9.874	
13,700.00	9,800.00	14,439.52	10,500.00	80.35	79.96	163.31	-4,124.33	516.52	729.74	654.05	75.69	9.642	
13,800.00	9,800.00	14,539.51	10,500.00	82.13	81.72	163.21	-4,224.06	523.84	730.13	652.61	77.52	9.419	
13,900.00	9,800.00	14,639.50	10,500.00	83.91	83.49	163.11	-4,323.78	531.15	730.52	651.16	79.36	9.205	
14,000.00	9,800.00	14,739.49	10,500.00	85.69	85.26	163.01	-4,423.50	538.47	730.91	649.70	81.21	9.000	
14,100.00	9,800.00	14,839.48	10,500.00	87.47	87.04	162.91	-4,523.22	545.79	731.31	648.23	83.08	8.803	

LEGACY RESERVES

TDS
Anticollision Report

Company:	Legacy Reserves	**Local Co-ordinate Reference:**	Well Lea Unit #50H
Project:	Lea County, NM (NAD-27 2015)	**TVD Reference:**	KB @ 3695.00usft (McVay 4)
Reference Site:	Lea Unit #50H	**MD Reference:**	KB @ 3695.00usft (McVay 4)
Site Error:	0.00 usft	**North Reference:**	Grid
Reference Well:	Lea Unit #50H	**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 #49H - Lea Unit #49H - Lateral #1 - Design #2 — 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
14,200.00	9,800.00	14,939.47	10,500.00	89.26	88.82	162.61	-4,622.95	553.10	731.71	646.76	84.95	8.614	
14,300.00	9,800.00	15,039.46	10,500.00	91.06	90.60	162.70	-4,722.67	560.42	732.11	645.28	86.83	8.432	
14,400.00	9,800.00	15,139.45	10,500.00	92.85	92.39	162.60	-4,822.39	567.74	732.51	643.79	88.72	8.256	
14,500.00	9,800.00	15,239.44	10,500.00	94.65	94.17	162.50	-4,922.12	575.05	732.92	642.30	90.62	8.088	
14,600.00	9,800.00	15,339.43	10,500.00	96.45	95.97	162.40	-5,021.84	582.37	733.33	640.80	92.53	7.925	
14,700.00	9,800.00	15,439.43	10,500.00	98.25	97.76	162.30	-5,121.56	589.69	733.74	639.29	94.45	7.769	
14,800.00	9,800.00	15,539.42	10,500.00	100.06	99.55	162.20	-5,221.28	597.00	734.15	637.78	96.37	7.618	
14,900.00	9,800.00	15,639.41	10,500.00	101.86	101.35	162.10	-5,321.01	604.32	734.57	636.26	98.31	7.472	
15,000.00	9,800.00	15,739.40	10,500.00	103.67	103.15	162.00	-5,420.73	611.64	734.98	634.73	100.25	7.332	
15,100.00	9,800.00	15,839.39	10,500.00	105.48	104.95	161.90	-5,520.45	618.95	735.40	633.20	102.20	7.196	
15,167.52	9,800.00	15,891.98	10,500.00	106.71	105.90	161.85	-5,572.90	622.80	735.84	632.61	103.23	7.128	

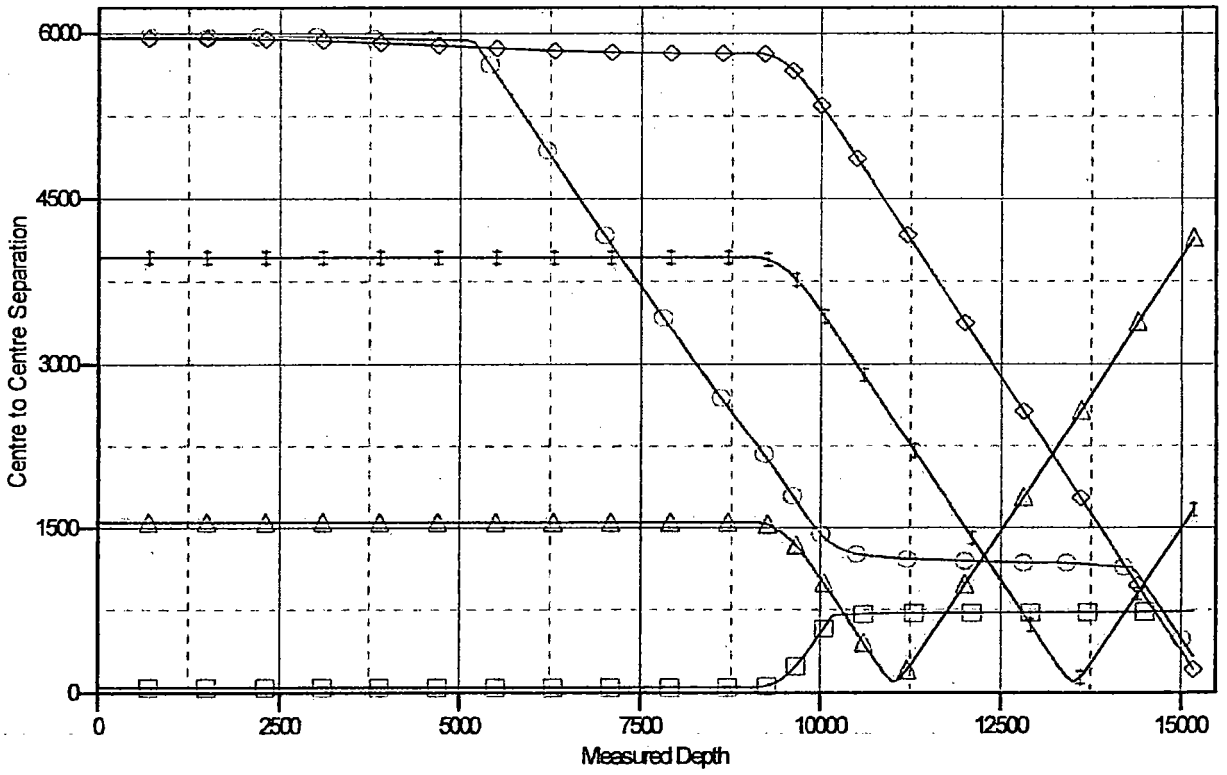
TDS

Anticollision Report

Company:	Legacy Reserves	**Local Co-ordinate Reference:**	Well Lea Unit #50H
Project:	Lea County, NM (NAD-27 2015)	**TVD Reference:**	KB @ 3695.00usft (McVay 4)
Reference Site:	Lea Unit #50H	**MD Reference:**	KB @ 3695.00usft (McVay 4)
Site Error:	0.00 usft	**North Reference:**	Grid
Reference Well:	Lea Unit #50H	**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 Depths are relative to KB @ 3695.00usft (McVay 4)	Coordinates are relative to: Lea Unit #50H
Offset Depths are relative to Offset Datum	Coordinate System is US State Plane 1927 (Exact solution), New Mexico East 30
Central Meridian is 104° 20' 0.000 W	Grid Convergence at Surface is: 0.44°

Ladder Plot



LEGEND

- Lea Unit#49H,Lateral#1,Design#2 V0
- Lea Unit#05,OH,OH V0
- Lea Unit#34H,Wellbore#1,Wellbore#1 V0
- Lea Unit SWD#08,OH,OH V0
- Lea Unit#32H,Lateral#1,Lateral#1 V0

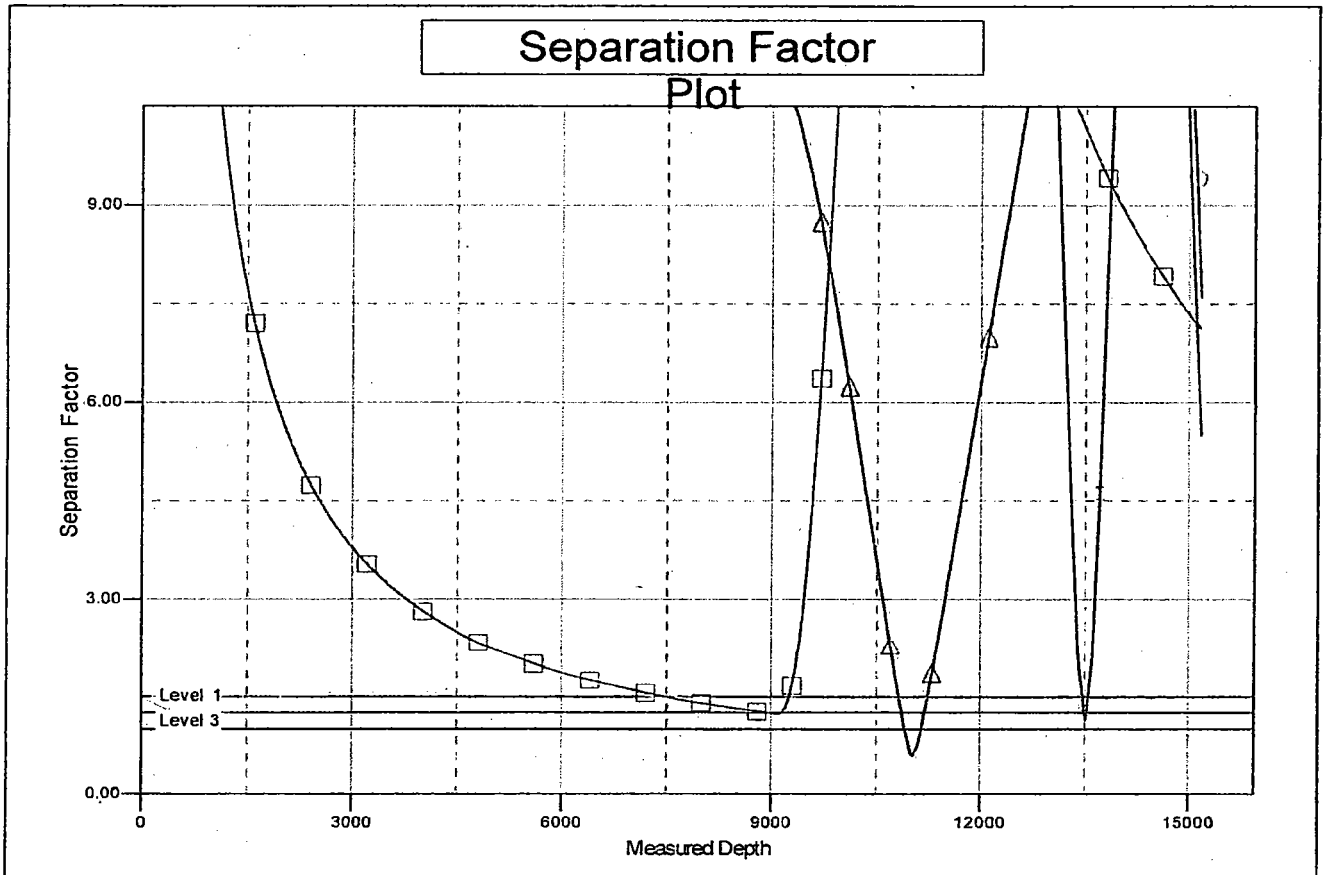
CC - Min centre to center distance or covergent point, SF - min separation factor, ES - min ellipse separation

TDS

Anticollision Report

Company:	Legacy Reserves	**Local Co-ordinate Reference:**	Well Lea Unit #50H
Project:	Lea County, NM (NAD-27 2015)	**TVD Reference:**	KB @ 3695.00usft (McVay 4)
Reference Site:	Lea Unit #50H	**MD Reference:**	KB @ 3695.00usft (McVay 4)
Site Error:	0.00 usft	**North Reference:**	Grid
Reference Well:	Lea Unit #50H	**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 Depths are relative to KB @ 3695.00usft (McVay 4)	Coordinates are relative to: Lea Unit #50H
Offset Depths are relative to Offset Datum	Coordinate System is US State Plane 1927 (Exact solution), New Mexico East 30
Central Meridian is 104° 20' 0.000 W	Grid Convergence at Surface is: 0.44°



LEGEND

- Lea Unit#49H,Lateral#1,Design#2 V0
- Lea Unit#05,OH,OH V0
- Lea Unit#34H,Wellbore#1,Wellbore#1 V0
- Lea Unit SWD#08,OH,OH V0
- Lea Unit#32H,Lateral#1,Lateral#1 V0

DRILLING PLAN
LEA UNIT 50H
LEGACY RESERVES OPERATING LP
SHL: Unit O, Section 01
BHL: Unit O, Section 12
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: 630' FSL & 2560' FEL, Sec.01, T20S-R34E (First Take: 330 FNL & 1750 FEL Sec. 12)
   BHL: 330' FSL & 1750' FEL, Sec. 12, T20S-R34E (Last Take)

2. ***Elevations:*** 3,677' 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:*** 15,168' MD 9,800' TVD

6. ***Estimated Tops of Geological Markers:***

Pool	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	9,100'	Same
1st Bone Spring	9,477'	9,501'

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

8. ***Proposed Mud System:***

Depth	Mud Wt.	Visc	Fluid Loss	Type Mud
0' to 1800'	8.4-8.9	30-32	NC	Fresh water gel spud mud
1800' to 5600'	9.8-10	28-29	NC	Brine water

				Weeps to clean hole
9,800' to 15,168'	8.9-9.1	28-29	18-20	Fresh water/brine

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.

9. ***Proposed Drilling Plan:***

Set surface and intermediate casing and cement to surface. Drill 8-3/4" to ~9,800', Kick off and drill 8-3/4" hole to TD of ~15,168'. Set 5-1/2" casing from surface to TD (~ 15,168'). Cement 5-1/2" production casing back to surface.

10. ***Casing Information:***

String	Hole size	Depth	Casing OD	Collar	Weight	Grade
Surface	17-1/2"	1800' MD	New 13-3/8"	STC	54.5#	J-55
Intermediate	12-1/4"	4000' MD	New 9-5/8"	LTC	40#	J-55
Intermediate	12-1/4"	5600' MD	New 9-5/8"	LTC	40#	HCK-55
Production	8-3/4"	15,168' MD	New 5-1/2"	BTC	20#	P-110

11. ***Cementing Information:***

Surface Casing (75% excess on lead & 75% excess on tail to design for cement top at surface):

Lead: 1100 sxs class C cement + 4% bwoc bentonite II + 2% bwoc Calcium Chloride + 0.25 lbs/sack Cello Flake + 0.005% bwoc Static Free + 0.005 gps FP-6L (13.50 ppg, 1.93 cfps, 9.71 gps wtr). 2123 cf

Tail: 200 sxs class C cement + 1.5% bwoc Calcium Chloride + 0.005 lbs/sack Static Free + 0.005 gps FP-6L (14.80 ppg, 1.34 cfps, 6.35 gps wtr). 268 cf

Intermediate Casing

In the event that circulation is lost (> 50%) while drilling the 12-1/4" intermediate hole in the Capitan Reef at +/- 4000', we will plan to install a DV tool and external casing packer within 200' of the top depth where lost circulation occurred and will pump a two-stage cement job with the potential to add an additional DV tool for a three-stage cement job. If there is no lost circulation a single stage cementing procedure will be followed. Legacy plans to cement to surface regardless of whether a single stage, 2-stage or 3-stage procedure is implemented.

No DV tool ***(80% excess on lead & 80% excess on tail to design for cement top at surface)***

Lead: 1400 sx (35:65) poz (fly ash) class C cement+ 4% bwoc bentonite II + 5% bwoc MPA-5 + 0.25% bwoc FL- 52 + 5 lbs/sack LCM-1 + 0.125 lbs/sk cello flake+ 0.005 lbs/sk defoamer + 0.005 gps FP-6L + 1.2% bwoc Sodium Metasilicate + 5% bwow Sodium Chloride (12.5 ppg, 2.13 cfps, 8.81 gps wtr) 2982 cf

Tail: 200 sx class C cement (14.80 *ppg*, 1.33 cfps, 6.35 *gps* wtr) 266 cf

With (1) DV Tool ***(100% excess on lead & 100% excess on tail to design for cement top at surface)***

Assuming DV tool set at 3950' but if the setting depth changes, cement volumes will be adjusted proportionately.

Stage 1

Lead: 400 sx (35:65) paz (fly ash) class C cement+ 4% bwoc Bentonite II+ 5% bwoc MPA-5 + 0,25% bwoc FL-52 + 5 lbs/sack LCM-1 + 0.125 lbs/sk cello flake+ 0.005 lbs/sk defoamer + 0.005 gps FP-6L + 1.2% bwoc Sodium Metasilicate + 5% bwow Sodium Chloride (12.5 ppg, 2.13 cfps, 8.81 gps wtr) 852 cf
Tail: 200 sx class C cement (14.80 ppg, 1.33 cfps, 6.35 gps wtr) 266 cf

Stage 2
Lead: 1100 sx (35:65) paz (fly ash) class C cement+ 4% bwoc bentonite II + 5% bwoc MPA-5 + 0,25% bwoc FL-52 + 5 lbs/sack LCM-1 + 0.125 lbs/sk Cello Flake+ 0.005 lbs/sk Static Free+ 0.005 gps FP-6L + 1.2% bwoc Sodium Metasilicate + 5% bwow Sodium Chloride (12.5 ppg, 2.13 cfps, 8.81 gps wtr) 2343 cf

Tail: 200 sx class C cement (14.80 ppg, 1.33 cfps, 6.35 gps wtr) 266 cf

With (2) DV Tools ***(100% excess on lead & 100% excess on tail to design for cement top at surface)***

Assuming one DV tool set at 3950' and one DV tool set at 1800' but if the setting depths change, cement volumes will be adjusted proportionately.

Stage 1

Lead: 400 sx (35:65) paz (fly ash) class C cement+ 4% bwoc Bentonite II+ 5% bwoc MPA-5 + 0,25% bwoc FL-52 + 5 lbs/sack LCM-1 + 0.125 lbs/sk cello flake+ 0.005 lbs/sk defoamer + 0.005 gps FP-6L + 1.2% bwoc Sodium Metasilicate + 5% bwow Sodium Chloride (12.5 ppg, 2.13 cfps, 8.81 gps wtr) 852 cf

Tail: 200 sx class C cement (14.80 ppg, 1.33 cfps, 6.35 gps wtr) 266 cf

Stage 2

Lead: 600 sx (35:65) paz (fly ash) class C cement+ 4% bwoc bentonite II + 5% bwoc MPA-5 + 0,25% bwoc FL-52 + 5 lbs/sack LCM-1 + 0.125 lbs/sk Cello Flake+ 0.005 lbs/sk Static Free+ 0.005 gps FP-6L + 1.2% bwoc Sodium Metasilicate + 5% bwow Sodium Chloride (12.5 ppg, 2.13 cfps, 8.81 gps wtr) 1278 cf

Tail: 200 sx class C cement (14.80 ppg, 1.33 cfps, 6.35 gps wtr) 266 cf

Stage 3

Lead: 600 sx (35:65) paz (fly ash) class C cement+ 4% bwoc bentonite II + 5% bwoc MPA-5 + 0,25% bwoc FL-52 + 5 lbs/sack LCM-1 + 0.125 lbs/sk Cello Flake+ 0.005 lbs/sk Static Free+ 0.005 gps FP-6L + 1.2% bwoc Sodium Metasilicate + 5% bwow Sodium Chloride (12.5 ppg, 2.13 cfps, 8.81 gps wtr) 1278 cf

Tail: 200 sx class C cement (14.80 ppg, 1.33 cfps, 6.35 gps wtr) 266 cf

Production Casing (80% excess on lead & 20% excess on tail to design for cement top at surface):

Lead: 1600 sxs (50:50) poz (fly ash) class H cement + 10% bwoc bentonite II + 5% bwow sodium chloride + 5 pps LCM-1 + 0.005 lbs/sk Static Free + 0.005 gps FP-6L (11.90 ppg, 2.38 cf/sx, 13.22 gps wtr). 3808 cf

Tail: 1200 sxs Class H (15:61:11) poz (fly ash): class H cement: CSE-2 + 4% bwow sodium chloride + 3 pps LCM-1 + 0.6% bwoc FL-25 + 0.005 gps FP-6L + 0.005% bwoc Static Free (13.20 ppg, 1.62 cf/sx, 9.45 gps wtr). 1944 cf

12. ***Pressure Control Eqpt/BOP:***

Legacy Reserves plans to use a 13-5/8" 5000-psi working pressure BOP system consisting of a double ram BOP with one ram being pipe and one ram being blind, a 5000-psi annular type preventer, a 5000-psi choke manifold and 80 gallon accumulator with floor, five remote operating stations and an auxiliary power system. A rotating head will be utilized as needed. A drill string safety valve in the open position will be available on the rig floor. A mud gas separator will be available for use if needed.

A 3M BOP will be used to drill from the surface casing shoe (~1800') to the intermediate casing shoe (~5600'). The BOP will be a 5M system, however the "A" section wellhead will be a 3M wellhead (see attached BOP Diagram).

The BOP unit will be hydraulically operated. The BOP will be operated at least once per day while drilling and the blind rams will be operated when out of hole during trips. No abnormal pressure or temperature is expected while drilling.

The BOPs will be tested by an independent service company to 250 psi low and 5000 psi high.

13. ***Testing, Logging, and Coring Program:***

A. Mud logging program: 2 man unit from approximately after setting intermediate casing.

B. No open hole logs, DST's or cores are planned.

14. ***Potential Hazards***

No abnormal pressures or temperatures are expected during the drilling of this well. If H2S is encountered the operator will comply with provisions of Onshore Order 6. Since there will be an H2S Safety package on location, attached is an "H2S Drilling Operations Plan". Adequate flare lines will be installed on the mud/gas separator so gas may be flared safely. All personnel will be familiar with all aspects of safe operations of equipment being used. Lost circulation may occur and a cement contingency plan is included in this plan along with mud materials to be kept on location at all times in order to combat lost circulation or unexpected kicks. Estimated BHP: 4312 psi, estimated BHT: 162°F.

15. ***Road and Location***

Road and location construction will begin after BLM approval of the APD. Drilling is expected to take 30-35 days and an additional 10 days for the completion.

16. ***Additional Requirements of Project:***

Completion: The targeted Bone Spring pay zone will be perforated and stimulated in multiple stages using acid and hydraulic fracturing treatments. Fresh water used in the drilling and completion of this well will be transferred from off-site via temporary flowlines and stored in frac tanks on the location.

AFMSS

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

SUPO Data Report

01/19/2018

APD ID: 10400023368 **Submission Date:** 10/13/2017

Operator Name: LEGACY RESERVES OPERATING LP

Well Name: LEA UNIT **Well Number:** 50H

Well Type: OIL WELL **Well Work Type:** Drill

Highlighted data reflects the most recent changes

Show Final Text

Section 1 - Existing Roads

Will existing roads be used? YES

Existing Road Map:

lea_50H_road_map_20171013153336.pdf

Existing Road Purpose: ACCESS,FLUID TRANSPORT **Row(s) Exist?** NO

ROW ID(s)

ID:

Do the existing roads need to be improved? NO

Existing Road Improvement Description:

Existing Road Improvement Attachment:

Section 2 - New or Reconstructed Access Roads

Will new roads be needed? YES

New Road Map:

lea_50H_road_map_20171013153630.pdf

New road type: COLLECTOR

Length: 299 Feet **Width (ft.):** 30

Max slope (%): 2 **Max grade (%):** 3

Army Corp of Engineers (ACOE) permit required? NO

ACOE Permit Number(s):

New road travel width: 14

New road access erosion control: Constructed and maintained to prevent soil erosion; topsoil spread and seeded.

New road access plan or profile prepared? NO

New road access plan attachment:

Access road engineering design? NO

Access road engineering design attachment:

SURFACE USE PLAN
Legacy Reserves Operating, L.P.
Lea Unit 50H
SHL: 630' FSL & 2560' FEL, Section 1, T. 20 S., R. 34 E.
BHL: 330' FSL & 1750' FEL, Section 12, T. 20 S., R. 34 E.
Lea County, New Mexico

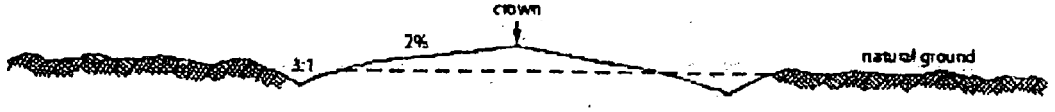
This plan is submitted with form 3160-3, Application for Permit to Drill, covering the above described well. The purpose of this plan is to describe the location of the proposed well, the proposed construction activities and operations plan, the magnitude of the surface disturbance involved and the procedures 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 2.7 miles. Turn east for 547 feet. All existing roads are either paved or a caliche lease road.
   B. See attached plats and maps provided by West Company of Midland Surveys.
   C. The access route from Marathon Road to the well location is depicted on attached maps. The route highlighted in red is all within private surface and no ROW required.
   D. 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. NEW OR RECONSTRUCTED ACCESS ROADS:

   A. There will be 299 ft. x 30 ft. of new road required.
   B. The maximum width of the driving surface will be 14 feet. The road will be crowned and ditched with a 2% slope from the tip of the crown to the edge of the driving surface. The ditches will be 1 foot deep with 3:1 slopes. The driving surface will be made of 6" rolled and compacted caliche.



Level Ground Section

   C. Surface material will be native caliche. The average grade of the entire road will be approximately 3%.
   D. Fence cuts: No
   E. Cattle guards: No
   F. Turnouts: No
   G. Culverts: No
   H. Cuts and Fills: Not significant
   I. Approximately 6 inches of topsoil (root zone) will be stripped from the proposed access road prior to any further construction activity. The topsoil that was stripped will be spread along the edge of the road and with the ditch. The topsoil will be seeded with the proper seed mix designated by the BLM.
   J. The access road will be constructed and maintained as necessary to prevent soil erosion and accommodate all-weather traffic. The road will be crowned and ditched with water turnouts installed as necessary to provide for proper drainage along the access road route.

K. The access road and associated drainage structures will be constructed and maintained in accordance with road guidelines contained in the joint BLM/USFS publication: Surface Operating Standards for Oil and Gas Exploration and Development, The Gold Book, Fourth Edition and/or BLM Manual Section 9113 concerning road construction standards on projects subject to federal jurisdiction.

3. LOCATION OF EXISTING WELLS:

See 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 roads, for 5363.9', to the satellite battery located in the NW/4SW/4 of section 12, T. 20 S., R. 34 E (see maps for flowline). The company also proposes to construct 928.4' of a 23 kv overhead electric line, south and west, alongside of the proposed access road to the existing line which is just west of the Marathon Road (see maps for e-line).
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 1½ times the capacity of the largest tank and away from cut or fill areas.

5. LOCATION AND TYPE OF WATER SUPPLY: 9,500 bbls of fresh water and 6,500 bbls of brine water will be used for this well. Exhibits for location and ownership attached.
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.

6. SOURCE OF CONSTRUCTION MATERIALS: 4,000 YARDS OF CALICHE WILL BE USED TO CONSTRUCT THIS WELL PAD AND ACCESS ROAD Exhibits for location and ownership attached.
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 constructed 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.
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

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. Exhibits attached show the dimensions of the proposed well. This well will be 50' east and on the same pad with Lea Unit 49H.
B. The proposed well pad size will be 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.
C. The West Company of Midland Surveyor's plat, Form C-102, and attached maps, show how the wells will be turned to a V-Door East.
D. A 600' x 800' area has been staked and flagged.
E. All equipment and vehicles will be confined to the approved disturbed areas of this APD (i.e., access road, well pad, and topsoil storage areas).

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. (See exhibits for interim reclamation plat for this well.)
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 Klein Properties, LLC. (George L. Klein), P.O. Box 541382, Grand Prairie, Texas 75054-1382. Phone: 214-738-2046. The minerals is owned by the Bureau of Land Management. 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 fairly 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.

OPERATOR'S 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 23rd day of January 2017.

LEGACY
RESERVES

December 14, 2016

RE: LEGACY RESERVES – LEA UNIT #50H
GEORGE KLEIN SUA
SECTION 1,TOWNSHIP 20 SOUTH, RANGE 34 EAST

To whom it may concern:

This letter is to inform you that on September 2nd, 2015 Legacy Reserves Operating LP entered into a surface use agreement with George L. Klein, on behalf of Klein Properties LLC, for the purposes of building well pad locations and other necessary oil and gas operations on land owned by Klein Properties LLC.

The agreement will cover all of Section 1-20S-34E. If there are any questions for George Klein, he can be reached by phone or mail by using the following information:

- Phone – (214) 738-2046
- Address – PO Box 541382
  Grand Prairie, Texas 75054-1382

If you have any questions in regards to the Surface Use Agreement with Klein Properties LLC please call Clay Roberts, Landman, at Legacy Reserves. He can be reached at 432-689-5206

Sincerely,

Clay Roberts

303 W. Wall, Suite 1400 ◘ Midland, Texas 79701 ◘ P.O. Box 10848 ◘ Midland, Texas 79702
OFFICE 432-689-5200 ◘ FAX 432-684-3774