

Form 3160-3
(June 2015)FORM APPROVED
OMB No. 1004-0137
Expires: January 31, 2018

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT
APPLICATION FOR PERMIT TO DRILL OR REENTER

1a. Type of work: <input checked="" type="checkbox"/> DRILL <input type="checkbox"/> REENTER 1b. Type of Well: <input checked="" type="checkbox"/> Oil Well <input type="checkbox"/> Gas Well <input type="checkbox"/> Other 1c. Type of Completion: <input type="checkbox"/> Hydraulic Fracturing <input checked="" type="checkbox"/> Single Zone <input type="checkbox"/> Multiple Zone			5. Lease Serial No. NMLC060549
2. Name of Operator EARTHSTONE OPERATING LLC			6. If Indian, Allottee or Tribe Name 7. If Unit or CA Agreement, Name and No. 8. Lease Name and Well No. DELOREAN 9 10 FED COM 1BS 2H
3a. Address 300 N MARIENFIELD STREET SUITE 1000, MIDLAND, TX		3b. Phone No. (include area code) (432) 695-4222	9. API Well No. 10. Field and Pool, or Exploratory TONTO/BONE SPRING
4. Location of Well (Report location clearly and in accordance with any State requirements. *) At surface SWNW / 1290 FNL / 485 FWL / LAT 32.678515 / LONG -103.675021 At proposed prod. zone SENE / 1980 FNL / 100 FEL / LAT 32.676547 / LONG -103.642598			11. Sec., T. R. M. or Blk. and Survey or Area SEC 9/T19S/R33E/NMP
14. Distance in miles and direction from nearest town or post office* 5 miles		12. County or Parish LEA	13. State NM
15. Distance from proposed* location to nearest property or lease line, ft. (Also to nearest drig. unit line, if any) 100 feet	16. No of acres in lease 	17. Spacing Unit dedicated to this well 320.0	
18. Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft. 30 feet	19. Proposed Depth 9023 feet / 19256 feet	20. BLM/BIA Bond No. in file FED: NMB002110	
21. Elevations (Show whether DF, KDB, RT, GL, etc.) 3691 feet	22. Approximate date work will start* 12/31/2023	23. Estimated duration 30 days	
24. Attachments			

The following, completed in accordance with the requirements of Onshore Oil and Gas Order No. 1, and the Hydraulic Fracturing rule per 43 CFR 3162.3-3 (as applicable)

- | | |
|---|---|
| 1. Well plat certified by a registered surveyor.
2. A Drilling Plan.
3. A Surface Use Plan (if the location is on National Forest System Lands, the SUPO must be filed with the appropriate Forest Service Office). | 4. Bond to cover the operations unless covered by an existing bond on file (see Item 20 above).
5. Operator certification.
6. Such other site specific information and/or plans as may be requested by the BLM. |
|---|---|

25. Signature (Electronic Submission)	Name (Printed/Typed) JENNIFER ELROD / Ph: (432) 695-4222	Date 02/17/2023
Title Senior Regulatory Analyst		
Approved by (Signature) (Electronic Submission)	Name (Printed/Typed) CODY LAYTON / Ph: (575) 234-5959	Date 05/07/2024
Title Assistant Field Manager Lands & Minerals		
Office Carlsbad Field Office		

Application approval does not warrant or certify that the applicant holds legal or equitable title to those rights in the subject lease which would entitle the applicant to conduct operations thereon.

Conditions of approval, if any, are attached.

Title 18 U.S.C. Section 1001 and Title 43 U.S.C. Section 1212, make it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction.

(Continued on page 2)

*(Instructions on page 2)



INSTRUCTIONS

GENERAL: This form is designed for submitting proposals to perform certain well operations, as indicated on Federal and Indian lands and leases for action by appropriate Federal agencies, pursuant to applicable Federal laws and regulations. Any necessary special instructions concerning the use of this form and the number of copies to be submitted, particularly with regard to local, area, or regional procedures and practices, either are shown below or will be issued by, or may be obtained from local Federal offices.

ITEM I: If the proposal is to redrill to the same reservoir at a different subsurface location or to a new reservoir, use this form with appropriate notations. Consult applicable Federal regulations concerning subsequent work proposals or reports on the well.

ITEM 4: Locations on Federal or Indian land should be described in accordance with Federal requirements. Consult local Federal offices for specific instructions.

ITEM 14: Needed only when location of well cannot readily be found by road from the land or lease description. A plat, or plats, separate or on the reverse side, showing the roads to, and the surveyed location of, the well, and any other required information, should be furnished when required by Federal agency offices.

ITEMS 15 AND 18: If well is to be, or has been directionally drilled, give distances for subsurface location of hole in any present or objective productive zone.

ITEM 22: Consult applicable Federal regulations, or appropriate officials, concerning approval of the proposal before operations are started.

ITEM 24: If the proposal will involve hydraulic fracturing operations, you must comply with 43 CFR 3162.3-3, including providing information about the protection of usable water. Operators should provide the best available information about all formations containing water and their depths. This information could include data and interpretation of resistivity logs run on nearby wells. Information may also be obtained from state or tribal regulatory agencies and from local BLM offices.

NOTICES

The Privacy Act of 1974 and regulation in 43 CFR 2.48(d) provide that you be furnished the following information in connection with information required by this application.

AUTHORITY: 30 U.S.C. 181 et seq., 25 U.S.C. 396; 43 CFR 3160

PRINCIPAL PURPOSES: The information will be used to: (1) process and evaluate your application for a permit to drill a new oil, gas, or service well or to reenter a plugged and abandoned well; and (2) document, for administrative use, information for the management, disposal and use of National Resource Lands and resources including (a) analyzing your proposal to discover and extract the Federal or Indian resources encountered; (b) reviewing procedures and equipment and the projected impact on the land involved; and (c) evaluating the effects of the proposed operation on the surface and subsurface water and other environmental impacts.

ROUTINE USE: Information from the record and/or the record will be transferred to appropriate Federal, State, and local or foreign agencies, when relevant to civil, criminal or regulatory investigations or prosecution, in connection with congressional inquiries and for regulatory responsibilities.

EFFECT OF NOT PROVIDING INFORMATION: Filing of this application and disclosure of the information is mandatory only if you elect to initiate a drilling or reentry operation on an oil and gas lease.

The Paperwork Reduction Act of 1995 requires us to inform you that:

The BLM connects this information to an evaluation of the technical, safety, and environmental factors involved with drilling for oil and/or gas on Federal and Indian oil and gas leases. This information will be used to analyze and approve applications. Response to this request is mandatory only if the operator elects to initiate drilling or reentry operations on an oil and gas lease. The BLM would like you to know that you do not have to respond to this or any other Federal agency-sponsored information collection unless it displays a currently valid OMB control number.

BURDEN HOURS STATEMENT: Public reporting burden for this form is estimated to average 8 hours per response, including the time for reviewing instructions, gathering and maintaining data, and completing and reviewing the form. Direct comments regarding the burden estimate or any other aspect of this form to U.S. Department of the Interior, Bureau of Land Management (1004-0137), Bureau Information Connection Clearance Officer (WO-630), 1849 C Street, N.W., Mail Stop 401 LS, Washington, D.C. 20240.

Additional Operator Remarks

Location of Well

0. SHL: SWNW / 1290 FNL / 485 FWL / TWSP: 19S / RANGE: 33E / SECTION: 9 / LAT: 32.678515 / LONG: -103.675021 (TVD: 0 feet, MD: 0 feet)

PPP: SWNW / 1980 FNL / 100 FWL / TWSP: 19S / RANGE: 33E / SECTION: 9 / LAT: 32.676621 / LONG: -103.676274 (TVD: 8999 feet, MD: 9385 feet)

PPP: SWNE / 1980 FNL / 2640 FWL / TWSP: 19S / RANGE: 33E / SECTION: 9 / LAT: 32.676604 / LONG: -103.66802 (TVD: 9006 feet, MD: 12010 feet)

BHL: SENE / 1980 FNL / 100 FEL / TWSP: 19S / RANGE: 33E / SECTION: 10 / LAT: 32.676547 / LONG: -103.642598 (TVD: 9023 feet, MD: 19256 feet)

BLM Point of Contact

Name: Candy Vigil

Title: LIE

Phone: (575) 234-5982

Email: cvigil@blm.gov

District I
1625 N. French Dr., Hobbs, NM 88240
District II
811 S. First St., Artesia, NM 88210
District III
1000 Rio Brazos Road, Artec, NM 87410
District IV
1220 S. St Francis Dr., NM 87505
Phone: (505) 476-3460 Fax (505) 476-3462

State of New Mexico
Energy, Minerals & Natural Resources Department
OIL CONSERVATION DIVISION
1220 South St. Francis Dr.
Santa Fe, NM 87505

Form C-102

Revised August 1, 2011

Submit one copy to appropriate
District Office

☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

¹ API Number 30-025-52950	² Pool Code 59475	³ Pool Name TONTO; BONE SPRING
⁴ Property Code 335867	⁵ Property Name DELOREAN 9-10 FED COM 1BS	⁶ Well Number 2H
⁷ OGRID No. 331165	⁸ Operator Name EARTHSTONE OPERATING, LLC	⁹ Elevation 3,691'

¹⁰ Surface Location

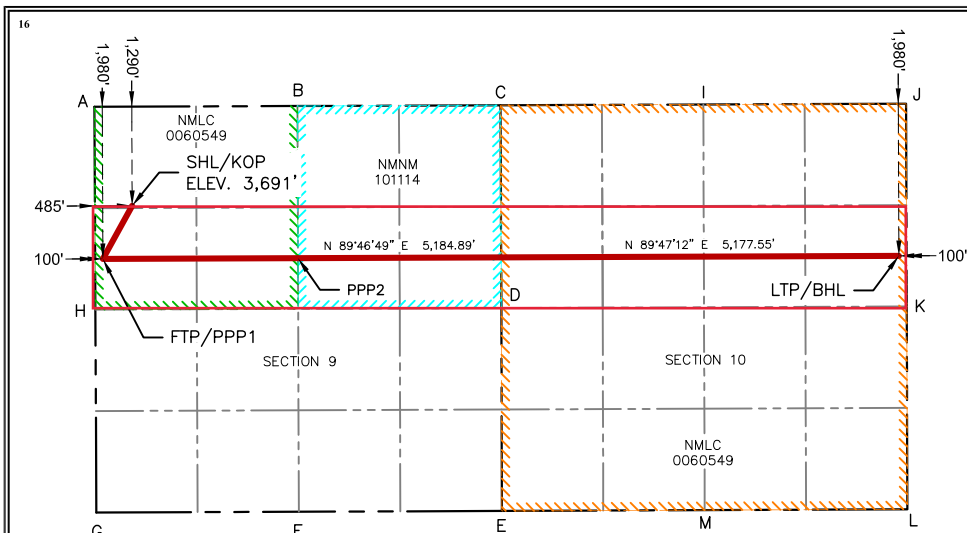
UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
E	9	19 S	33 E		1,290'	NORTH	485'	WEST	LEA

¹¹ Bottom Hole Location If Different From Surface

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
H	10	19 S	33 E		1,980'	NORTH	100'	EAST	LEA

¹² Dedicated Acres 320	¹³ Joint or Infill	¹⁴ Consolidation Code	¹⁵ Order No.
---	-------------------------------	----------------------------------	-------------------------

No allowable will be assigned to this completion until all interests have been consolidated or a non-standard unit has been approved by the division.



SURFACE HOLE LOCATION / KICK OFF POINT	LANDING POINT / FIRST TAKE POINT	PENETRATION POINT 2	LAST TAKE POINT / BOTTOM HOLE LOCATION
1,290' FNL & 485' FWL NEW MEXICO EAST-NAD 83 NORTH:611,203.06' EAST:743,891.26' LAT:32.678515 LONG:-103.675021	1,980' FNL & 100' FWL NEW MEXICO EAST-NAD 83 NORTH:610,511.59' EAST:743,509.89' LAT:32.676621 LONG:-103.676274	1,980' FNL & 2,640' FWL NEW MEXICO EAST-NAD 83 NORTH:610,521.33' EAST:746,049.73' LAT:32.676604 LONG:-103.668020	1,980' FNL & 100' FWL NEW MEXICO EAST-NAD 83 NORTH:610,550.75' EAST:753,872.27' LAT:32.676547 LONG:-103.642598
NEW MEXICO EAST-NAD 27 NORTH:611,139.67' EAST:702,711.75' LAT:32.678393 LONG:-103.674523	NEW MEXICO EAST-NAD 27 NORTH:610,448.22' EAST:702,330.37' LAT:32.676499 LONG:-103.675776	NEW MEXICO EAST-NAD 27 NORTH:610,457.93' EAST:704,870.18' LAT:32.676482 LONG:-103.667522	NEW MEXICO EAST-NAD 27 NORTH:610,487.27' EAST:712,692.63' LAT:32.676425 LONG:-103.642101

CORNER COORDINATES NEW MEXICO EAST - NAD 83	G-FOUND 2" IRON PIPE W/ CAP N:607,209.72' E:743,425.26'
A-FOUND 2" IRON PIPE W/ CAP N:612,491.19' E:743,400.68'	H-CALCULATED CORNER N:609,850.46' E:743,412.97'
B-CALCULATED CORNER N:612,501.32' E:746,042.97'	I-FOUND 1" IRON PIPE W/ CAP N:612,521.06' E:751,326.47'
C-FOUND 2" IRON PIPE W/ CAP N:612,511.46' E:748,685.26'	J-FOUND 2" IRON PIPE W/ CAP N:612,531.12' E:753,965.58'
D-FOUND 1" IRON ROD W/ CAP N:609,870.80' E:748,697.92'	K-CALCULATED CORNER N:609,890.99' E:753,974.49'
E-FOUND 5/8" IRON ROD W/ CAP N:607,228.58' E:748,703.69'	L-FOUND 2" IRON PIPE N:607,250.85' E:753,983.40'
F-FOUND 1" IRON ROD W/ CAP N:607,218.69' E:746,061.00'	M-FOUND 1" IRON PIPE W/ CAP N:607,240.14' E:751,344.38'

¹⁷ OPERATOR CERTIFICATION

I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief, and that this organization either owns a working interest or unleased mineral interest in the land including the proposed bottom hole location or has a right to drill this well at this location pursuant to a contract with an owner of such a mineral or working interest, or to a voluntary pooling agreement or a compulsory pooling order heretofore entered by the division.

Jennifer Elrod 10/08/2023
Signature Date

JENNIFER ELROD

Printed Name Date

jelrod@earthstoneenergy.com

Email Address Date

¹⁸ SURVEYOR CERTIFICATION

I hereby certify that the well location shown on this plat was plotted from field notes of actual surveys made by me or under my supervision, and that the same is true and correct to the best of my belief.

Date: 07/12/23



MARK J. MURRAY P.L.S. NO. 12177

State of New Mexico
Energy, Minerals and Natural Resources Department

Submit Electronically
Via E-permitting

Oil Conservation Division
1220 South St. Francis Dr.
Santa Fe, NM 87505

NATURAL GAS MANAGEMENT PLAN

This Natural Gas Management Plan must be submitted with each Application for Permit to Drill (APD) for a new or recompleted well.

Section 1 – Plan Description

Effective May 25, 2021

I. Operator: EARTHSTONE OPERATING, LLC __ OGRID: 331165 _____ **Date:** 02/17/2023

II. Type: ☒ Original ☐ Amendment due to ☐ 19.15.27.9.D(6)(a) NMAC ☐ 19.15.27.9.D(6)(b) NMAC ☐ Other.

If Other, please describe: _____

III. Well(s): Provide the following information for each new or recompleted well or set of wells proposed to be drilled or proposed to be recompleted from a single well pad or connected to a central delivery point.

Well Name	API	ULSTR	Footages	Anticipated Oil BBL/D	Anticipated Gas MCF/D	Anticipated Produced Water BBL/D
DeLorean 9 10 Fed Com 1BS 1H		D-9-19S-33E		1200	1300	3000
DeLorean 9 10 Fed Com 1BS 2H		E-9-19S-33E		1200	1300	3000
DeLorean 9 10 Fed Com 2BS 5H		D-9-19S-33E		1200	1300	3000
DeLorean 9 10 Fed Com 2BS 6H		E-9-19S-33E		1200	1300	3000

IV. Central Delivery Point Name: DeLOREAN 9 10 FED COM NORTH PAD _____ [See 19.15.27.9(D)(1) NMAC]

V. Anticipated Schedule: Provide the following information for each new or recompleted well or set of wells proposed to be drilled or proposed to be recompleted from a single well pad or connected to a central delivery point.

Well Name	API	Spud Date	TD Reached Date	Completion Commencement Date	Initial Flow Back Date	First Production Date
DeLorean 9 10 Fed Com 1BS 1H		09/08/2024	09/27/2024	01/24/2025	02/01/2025	02/01/2025
DeLorean 9 10 Fed Com 1BS 2H		09/29/2024	10/21/2024	01/24/2025	02/01/2025	02/01/2025
DeLorean 9 10 Fed Com 2BS 5H		10/23/2024	11/12/2024	01/24/2025	02/01/2025	02/01/2025
DeLorean 9 10 Fed Com 2BS 6H		11/14/2024	12/06/2024	01/24/2025	02/01/2025	02/01/2025

VI. Separation Equipment: ☒ Attach a complete description of how Operator will size separation equipment to optimize gas capture.

VII. Operational Practices: ☒ Attach a complete description of the actions Operator will take to comply with the requirements of Subsection A through F of 19.15.27.8 NMAC.

VIII. Best Management Practices: ☒ Attach a complete description of Operator's best management practices to minimize venting during active and planned maintenance.

Section 2 – Enhanced Plan
EFFECTIVE APRIL 1, 2022

Beginning April 1, 2022, an operator that is not in compliance with its statewide natural gas capture requirement for the applicable reporting area must complete this section.

☒ Operator certifies that it is not required to complete this section because Operator is in compliance with its statewide natural gas capture requirement for the applicable reporting area.

IX. Anticipated Natural Gas Production:

Well	API	Anticipated Average Natural Gas Rate MCF/D	Anticipated Volume of Natural Gas for the First Year MCF

X. Natural Gas Gathering System (NGGS):

Operator	System	ULSTR of Tie-in	Anticipated Gathering Start Date	Available Maximum Daily Capacity of System Segment Tie-in

XI. Map. ☐ Attach an accurate and legible map depicting the location of the well(s), the anticipated pipeline route(s) connecting the production operations to the existing or planned interconnect of the natural gas gathering system(s), and the maximum daily capacity of the segment or portion of the natural gas gathering system(s) to which the well(s) will be connected.

XII. Line Capacity. The natural gas gathering system ☐ will ☐ will not have capacity to gather 100% of the anticipated natural gas production volume from the well prior to the date of first production.

XIII. Line Pressure. Operator ☐ does ☐ does not anticipate that its existing well(s) connected to the same segment, or portion, of the natural gas gathering system(s) described above will continue to meet anticipated increases in line pressure caused by the new well(s).

☐ Attach Operator's plan to manage production in response to the increased line pressure.

XIV. Confidentiality: ☐ Operator asserts confidentiality pursuant to Section 71-2-8 NMSA 1978 for the information provided in Section 2 as provided in Paragraph (2) of Subsection D of 19.15.27.9 NMAC, and attaches a full description of the specific information for which confidentiality is asserted and the basis for such assertion.

Section 3 - Certifications

Effective May 25, 2021

Operator certifies that, after reasonable inquiry and based on the available information at the time of submittal:

☒ Operator will be able to connect the well(s) to a natural gas gathering system in the general area with sufficient capacity to transport one hundred percent of the anticipated volume of natural gas produced from the well(s) commencing on the date of first production, taking into account the current and anticipated volumes of produced natural gas from other wells connected to the pipeline gathering system; or

☐ Operator will not be able to connect to a natural gas gathering system in the general area with sufficient capacity to transport one hundred percent of the anticipated volume of natural gas produced from the well(s) commencing on the date of first production, taking into account the current and anticipated volumes of produced natural gas from other wells connected to the pipeline gathering system.

If Operator checks this box, Operator will select one of the following:

Well Shut-In. ☐ Operator will shut-in and not produce the well until it submits the certification required by Paragraph (4) of Subsection D of 19.15.27.9 NMAC; or

Venting and Flaring Plan. ☐ Operator has attached a venting and flaring plan that evaluates and selects one or more of the potential alternative beneficial uses for the natural gas until a natural gas gathering system is available, including:

- (a) power generation on lease;
- (b) power generation for grid;
- (c) compression on lease;
- (d) liquids removal on lease;
- (e) reinjection for underground storage;
- (f) reinjection for temporary storage;
- (g) reinjection for enhanced oil recovery;
- (h) fuel cell production; and
- (i) other alternative beneficial uses approved by the division.

Section 4 - Notices

1. If, at any time after Operator submits this Natural Gas Management Plan and before the well is spud:

(a) Operator becomes aware that the natural gas gathering system it planned to connect the well(s) to has become unavailable or will not have capacity to transport one hundred percent of the production from the well(s), no later than 20 days after becoming aware of such information, Operator shall submit for OCD's approval a new or revised venting and flaring plan containing the information specified in Paragraph (5) of Subsection D of 19.15.27.9 NMAC; or

(b) Operator becomes aware that it has, cumulatively for the year, become out of compliance with its baseline natural gas capture rate or natural gas capture requirement, no later than 20 days after becoming aware of such information, Operator shall submit for OCD's approval a new or revised Natural Gas Management Plan for each well it plans to spud during the next 90 days containing the information specified in Paragraph (2) of Subsection D of 19.15.27.9 NMAC, and shall file an update for each Natural Gas Management Plan until Operator is back in compliance with its baseline natural gas capture rate or natural gas capture requirement.

2. OCD may deny or conditionally approve an APD if Operator does not make a certification, fails to submit an adequate venting and flaring plan which includes alternative beneficial uses for the anticipated volume of natural gas produced, or if OCD determines that Operator will not have adequate natural gas takeaway capacity at the time a well will be spud.

Page 8

I certify that, after reasonable inquiry, the statements in and attached to this Natural Gas Management Plan are true and correct to the best of my knowledge and acknowledge that a false statement may be subject to civil and criminal penalties under the Oil and Gas Act.

Signature: <i>Jennifer Elrod</i>
Printed Name: JENNIFER ELROD
Title: SR. REGULATORY ANALYST
E-mail Address: JELROD@EARTHSTONEENERGY.COM
Date: 02/17/2023
Phone: (940)452-6214
OIL CONSERVATION DIVISION (Only applicable when submitted as a standalone form)
Approved By:
Title:
Approval Date:
Conditions of Approval:

ESTE Natural Gas Management Plan Items VI-VIII

VI. Separation Equipment: Attach a complete description of how Operator will size separation equipment to optimize gas capture.

- Separation equipment will be sized to provide adequate separation for anticipated rates.
- Adequate separation relates to retention time for Liquid – Liquid separation and velocity for Gas-Liquid separation.
- Collection systems are appropriately sized to handle facility production rates on all (3) phases.
- Ancillary equipment and metering are selected to be serviced without flow interruptions or the need to release gas from the well.

VII. Operational Practices: Attach a complete description of the actions Operator will take to comply with the requirements of Subsection A through F 19.15.27.8 NMAC.

Drilling Operations

- All flare stacks will be properly sized. The flare stacks will be located at a minimum 100' from the nearest surface hole location on the pad.
- All-natural gas produced during drilling operations will be flared, unless there is an equipment malfunction and/or to avoid risk of an immediate and substantial adverse impact on safety and the environment, at which point the gas will be vented.

Completions/Recompletions Operations

- New wells will not be flowed back until they are connected to a properly sized gathering system.
- The facility will be built/sized for maximum anticipated flowrates and pressures to minimize waste.
- For flowback operations, multiple stages of separation will be used as well as excess VRU and blowers to make sure waste is minimized off the storage tanks and facility.
- During initial flowback, the well stream will be routed to separation equipment.
- At an existing facility, when necessary, post separation natural gas will be flared until it meets pipeline specifications, at which point it will be turned into a collection system.
- At a new facility, post separation natural gas will be vented until storage tanks can safely function, at which point it will be flared until it meets pipeline spec.

Production Operations

- Weekly AVOs will be performed on all facilities.
- All flares will be equipped with auto-ignition systems and continuous pilot operations.
- After a well is stabilized from liquid unloading, the well will be turned back into the collection system.
- All tanks will have sight glasses installed, but no electronic gauging equipment.
- Leaking thief hatches found during AVOs will be cleaned and properly re-sealed.
- There will be no gas re-injection for underground storage, temporary storage, or for enhanced oil recovery; however, gas injection will be used for gas lift applications in which the gas would be circulated through a closed loop system.
- If H2S is encountered, gas will be treated to pipeline spec to avoid shut-in's and/or flaring.

Performance Standards

- Production equipment will be designed to handle maximum anticipated rates and pressure.

Page 5

- All flared gas will be combusted in a flare stack that is properly sized and designed to ensure proper combustion.
- Weekly AVOs will be performed on all wells and facilities that produce more than 50MCFPD.

Measurement & Estimation

- All volume that is flared or vented that is not measured will be estimated.
- All measurement equipment for flared volumes will conform to API 14.10.
- No meter bypasses will be installed.
- When metering is not practical due to low pressure/low rate, the vented or flared volume will be estimated.

VIII. Best Management Practices: Attach a complete description of Operator's best management practices to minimize venting during active and planned maintenance.

- During downhole well maintenance, ESTE will use best management practices to vent as minimally as possible.
- After downhole well maintenance, natural gas will be flared until it reaches pipeline specification.

Operator Name: EARTHSTONE OPERATING LLC

Well Name: DELOREAN 9 10 FED COM 1BS

Well Number: 2H

Choke Diagram Attachment:

5M_Choke_Manifold_Diagram_20230216085654.pdf

BOP Diagram Attachment:

5M__BOP_Diagram_2__20230216085702.pdf

Section 3 - Casing

Casing ID	String Type	Hole Size	Csg Size	Condition	Standard	Tapered String	Top Set MD	Bottom Set MD	Top Set TVD	Bottom Set TVD	Top Set MSL	Bottom Set MSL	Calculated casing length MD	Grade	Weight	Joint Type	Collapse SF	Burst SF	Joint SF Type	Joint SF	Body SF Type	Body SF
1	SURFACE	14.75	10.75	NEW	API	N	0	1550	0	1550	3691	2141	1550	J-55	45.5	BUTT	3.09	5.29	DRY	11.29	DRY	10.14
2	INTERMEDIATE	9.875	8.625	NEW	API	N	0	5039	0	5039	3728	-1348	5039	L-80	32	OTHER - EHC MO-FXL	3.29	2.37	DRY	3.23	DRY	4.68
3	PRODUCTION	7.875	5.5	NEW	API	N	0	19255	0	9023	3728	-5332	19255	OTHER	20	OTHER - RY VARNAC	2.98	2.84	DRY	3.55	DRY	3.55

Casing Attachments

Casing ID: 1

String

SURFACE

Inspection Document:

Spec Document:

Tapered String Spec:

Casing Design Assumptions and Worksheet(s):

DeLorean_9_10_Fed_Com_1BS_2H_APD_CASING_CALCULATOR_20230216085822.pdf

Operator Name: EARTHSTONE OPERATING LLC

Well Name: DELOREAN 9 10 FED COM 1BSWell Number: 2H

Casing Attachments

Casing ID: 2StringINTERMEDIATE

Inspection Document:

Spec Document:

Tapered String Spec:

Casing Design Assumptions and Worksheet(s):

DeLorean_9_10_Fed_Com_1BS_2H_APD_CASING_CALCULATOR_20230216090023.pdf

Casing ID: 3StringPRODUCTION

Inspection Document:

Spec Document:

Tapered String Spec:

Casing Design Assumptions and Worksheet(s):

DeLorean_9_10_Fed_Com_1BS_2H_APD_CASING_CALCULATOR_20230216085936.pdf

Section 4 - Cement

String Type	Lead/Tail	Stage Tool Depth	Top MD	Bottom MD	Quantity(sx)	Yield	Density	Cu Ft	Excess%	Cement type	Additives
SURFACE	Lead		0	1050	340	2.57	12	874	35	Class C	Sodium Metasilicate, Defoamer, KCL, Kol-Seal, Cellophane Flakes, ROF, Seal Check
SURFACE	Tail		1050	1550	300	1.34	14.8	402	35	Class C	Fluid loss, Dispercent, Retarder
INTERMEDIATE	Lead		0	4539	310	2.8	11.5	868	50	Class C	Sodium Metasilicate, Defoamer, KCL, Kol-Seal, Cellophane Flakes, ROF SealCheck

Operator Name: EARTHSTONE OPERATING LLC

Well Name: DELOREAN 9 10 FED COM 1BS

Well Number: 2H

String Type	Lead/Tail	Stage Tool Depth	Top MD	Bottom MD	Quantity(sx)	Yield	Density	Cu Ft	Excess%	Cement type	Additives
INTERMEDIATE	Tail		4539	5039	90	1.32	14.8	119	40	Class C	Fluid Loss, Dispercent, Retarder
PRODUCTION	Lead		4539	7986	250	3.05	11.3	763	25	Class H	Bentonite, Compressive Strength Enhancer, Silica Fume Alternative, Fluid Loss, Defoamer, Sodium Metasilicate, Retarder
PRODUCTION	Tail		7986	1925 5	1270	1.93	13.2	2451	25	Class H	Fluid Loss, Suspension Agent, Retarder, Defoamer, Dispersant

Section 5 - Circulating Medium

Mud System Type: Closed

Will an air or gas system be Used? NO

Description of the equipment for the circulating system in accordance with Onshore Order #2:

Diagram of the equipment for the circulating system in accordance with Onshore Order #2:

Describe what will be on location to control well or mitigate other conditions: Sufficient mud materials to maintain mud properties and meet minimum lost circulation and weight increase requirements will be kept on location at all times.

Describe the mud monitoring system utilized: Pason PVT system will be in place throughout the well as well as visual checks

Circulating Medium Table

Top Depth	Bottom Depth	Mud Type	Min Weight (lbs/gal)	Max Weight (lbs/gal)	Density (lbs/cu ft)	Gel Strength (lbs/100 sqft)	PH	Viscosity (CP)	Salinity (ppm)	Filtration (cc)	Additional Characteristics
0	1550	SPUD MUD	8.4	8.6							FV: 32-36 PV: 18-20
1550	5039	SALT SATURATED	10	10.1							FV: 29-32 PV: NC
5039	1925 5	OIL-BASED MUD	8.8	9.5							FV: 45-60 PV: 10-12 YP: 6-8

Operator Name: EARTHSTONE OPERATING LLC

Well Name: DELOREAN 9 10 FED COM 1BS

Well Number: 2H

Top Depth	Bottom Depth	Mud Type	Min Weight (lbs/gal)	Max Weight (lbs/gal)	Density (lbs/cu ft)	Gel Strength (lbs/100 sqft)	PH	Viscosity (CP)	Salinity (ppm)	Filtration (cc)	Additional Characteristics
											OWR: 80/20 WPS: 250000 ES: 500

Section 6 - Test, Logging, Coring

List of production tests including testing procedures, equipment and safety measures:

None

List of open and cased hole logs run in the well:

CEMENT BOND LOG,DIRECTIONAL SURVEY,GAMMA RAY LOG,MEASUREMENT WHILE DRILLING,

Coring operation description for the well:

None

Section 7 - Pressure

Anticipated Bottom Hole Pressure: 4457

Anticipated Surface Pressure: 2471

Anticipated Bottom Hole Temperature(F): 163

Anticipated abnormal pressures, temperatures, or potential geologic hazards? NO

Describe:

Contingency Plans geoharzards description:

Contingency Plans geohazards

Hydrogen Sulfide drilling operations plan required? YES

Hydrogen sulfide drilling operations

ESTE_Lea_County_H2S_plan_20221221073849.pdf

Operator Name: EARTHSTONE OPERATING LLC**Well Name:** DELOREAN 9 10 FED COM 1BS**Well Number:** 2H

Section 8 - Other Information

Proposed horizontal/directional/multi-lateral plan submission:

DeLorean_9_10_Fed_Com_1BS_2H__Plan_1_12_06_22_AC_Report_20230216091400.pdf

DeLorean_9_10_Fed_Com_1BS_2H__Plan_1_12_06_22_20230216091400.pdf

Other proposed operations facets description:**Other proposed operations facets attachment:**

10.75_casing_spec_sheet_20230215141129.pdf

5.50_20__VAHC_P110_RY_VARN_AC__6.300_Cplg__20221013140145.pdf

CDS_FXL_8_625_32_BMP_L80EHC_Feb04_2022_20221013140144.pdf

DeLorean_9_10_Fed_Com_1BS_2H_APD_WBD_20231009100253.pdf

Other Variance attachment:

Cactus_Speed_Head_Pressure_Testing_Statement_20210709100912.pdf

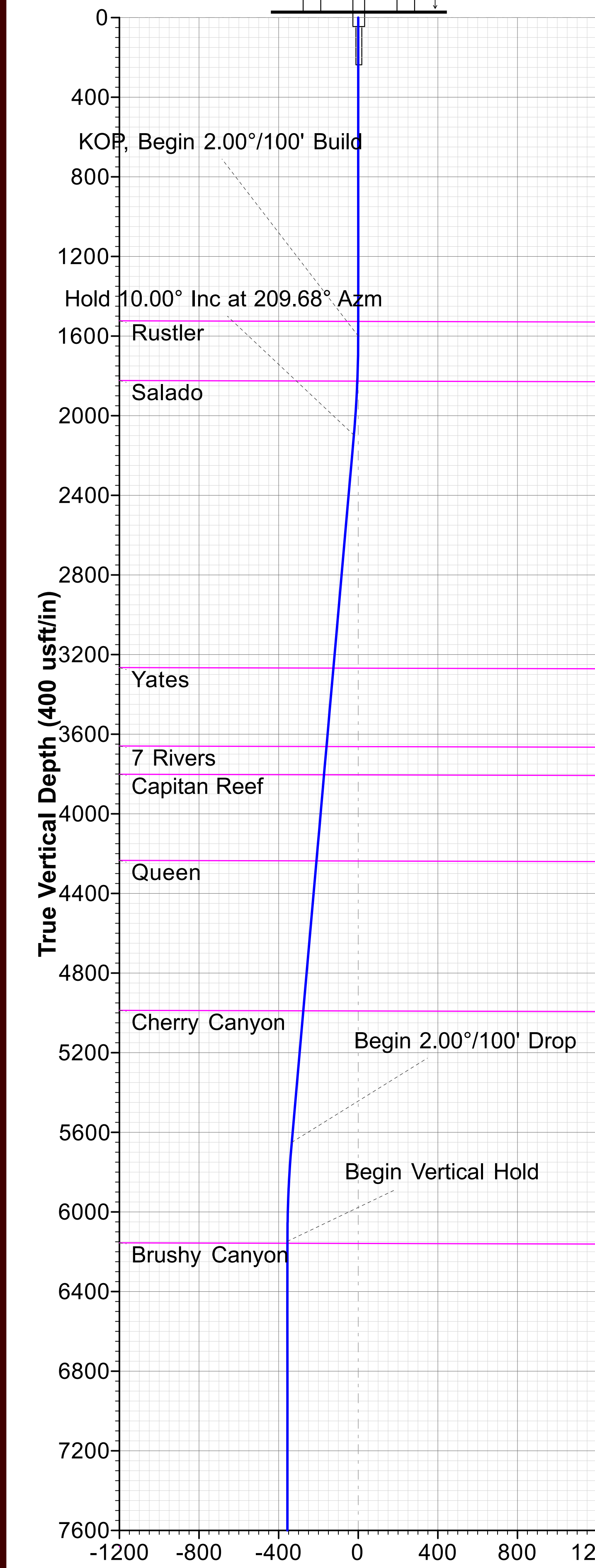
Choke_Hose_M55_1_07102017_145204_66_1225_04_14_2014__20210709100912.pdf

Choke_Hose_M55_2_07102017_145421_66_1042_05_03_2013__20210709100912.pdf

ESTE_CACTUS_WELLHEAD_3STRING_20221221074113.pdf



Magnetic Field
Strength: 47812.7nT
Dip Angle: 60.53°
Date: 1/23/2023
Model: MVHD

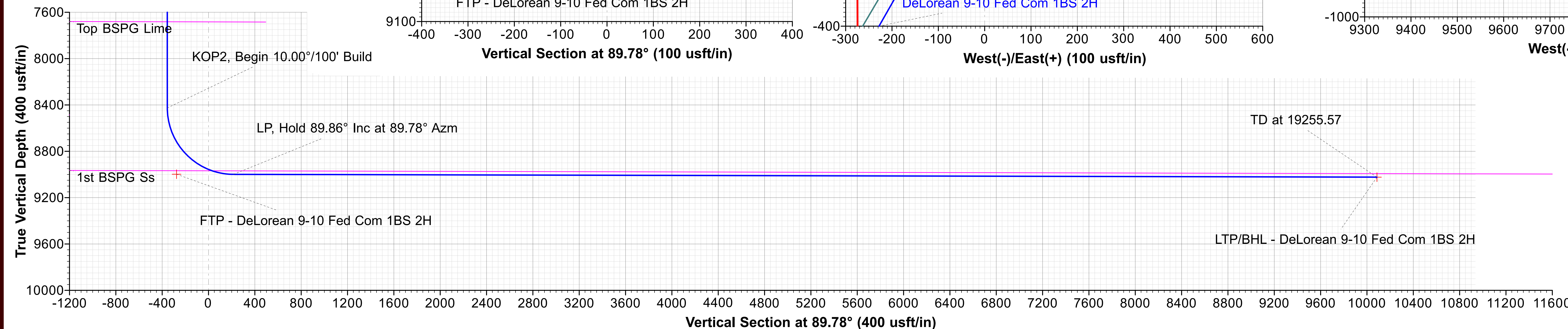
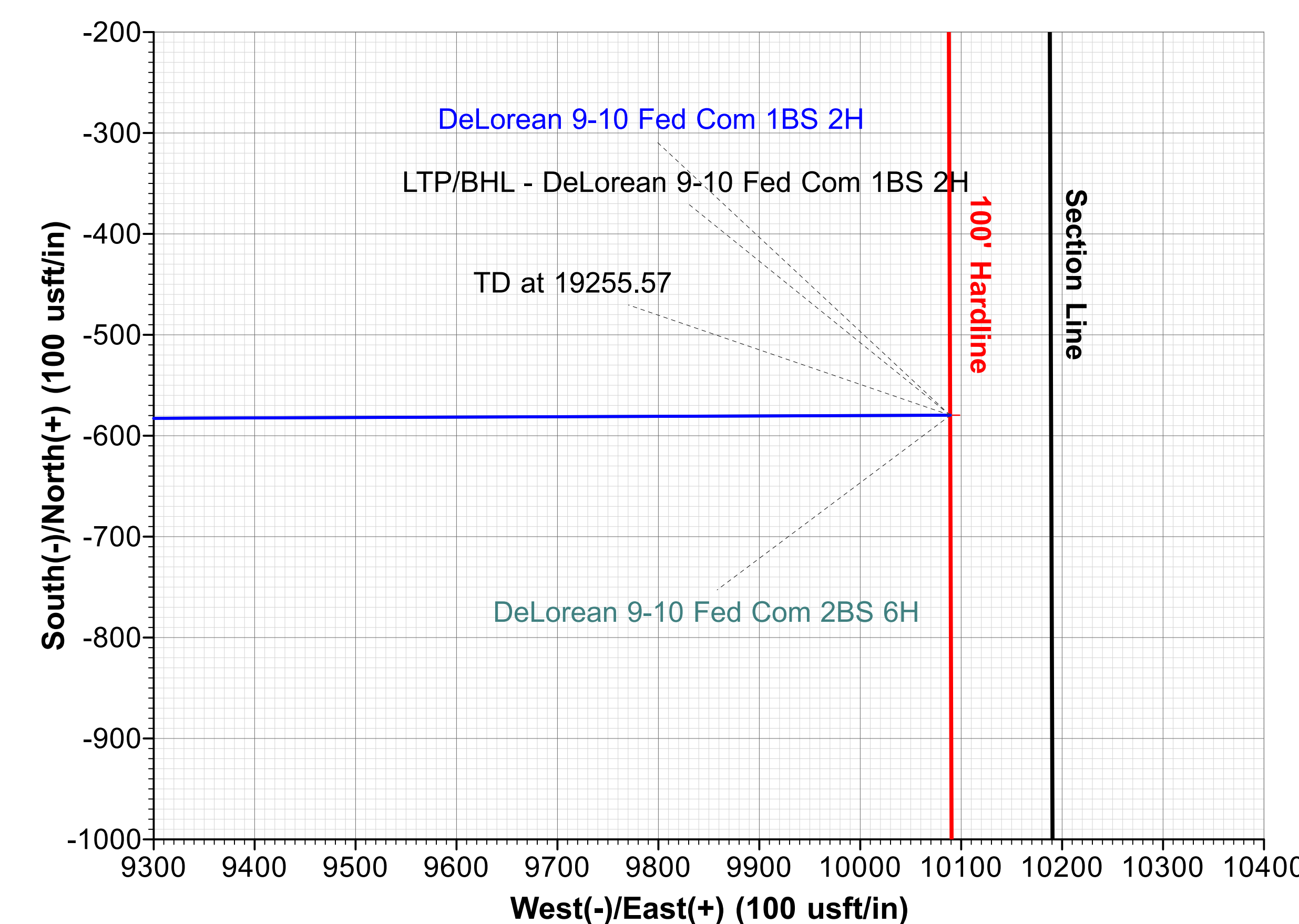
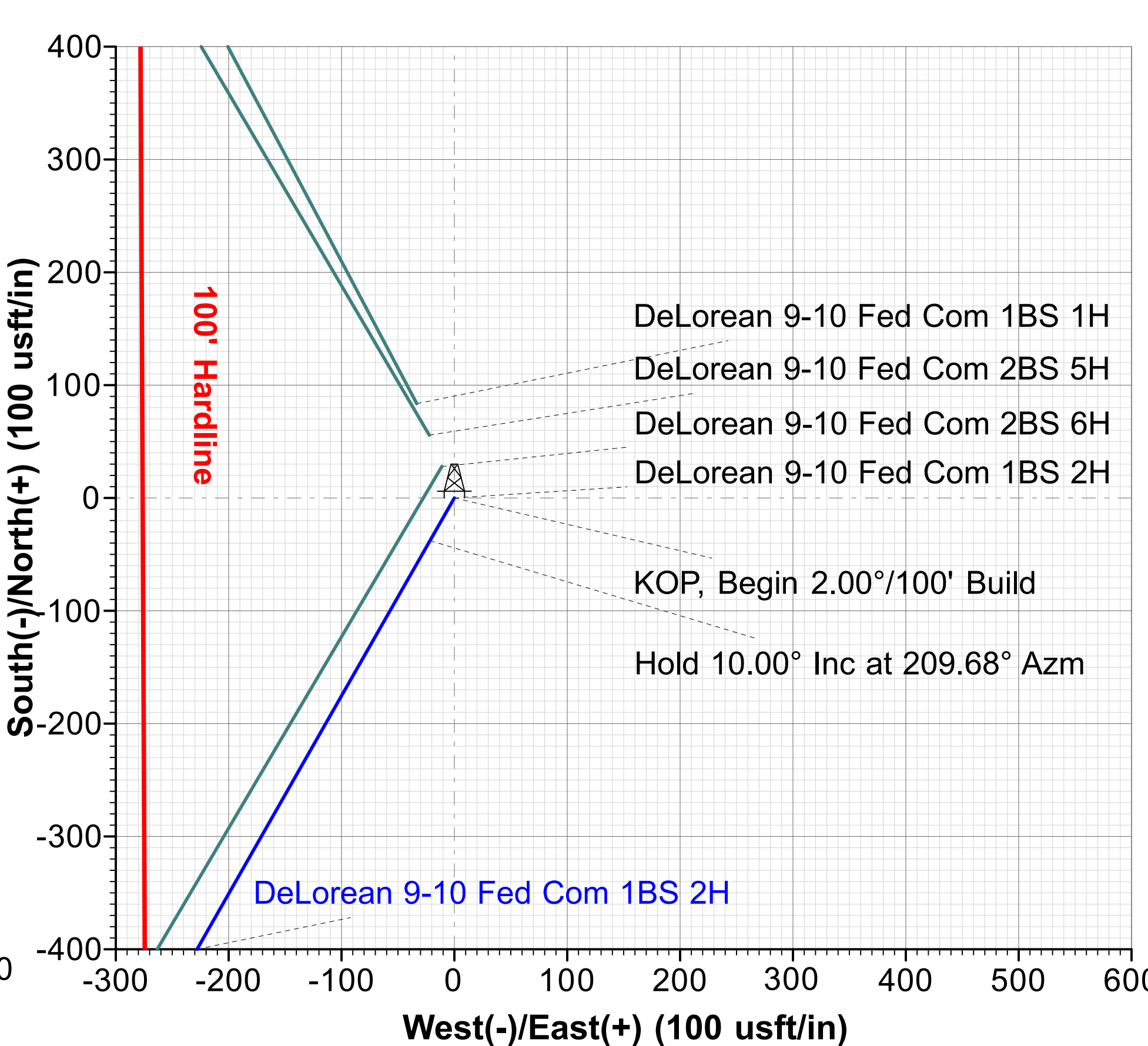


SECTION DETAILS											
Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	V/Sec	Target	Annotation
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.000	0.00		
2	1600.00	0.00	0.00	1600.00	0.00	0.00	0.00	0.000	0.00		KOP, Begin 2.00°/100' Build
3	2099.84	10.00	209.68	2097.31	-37.79	-21.54	2.00	209.683	-21.68		Hold 10.00° Inc at 209.68° Azm
4	5708.00	10.00	209.68	5650.69	-581.95	-331.71	0.00	0.000	-333.94		Begin 2.00°/100' Drop
5	6207.85	0.00	0.00	6148.00	-619.74	-353.25	2.00	180.000	-355.63		Begin Vertical Hold
6	8486.07	0.00	0.00	8426.22	-619.74	-353.25	0.00	0.000	-355.63		KOP2, Begin 10.00°/100' Build
7	9384.67	89.86	89.78	8999.18	-617.54	218.30	10.00	89.780	215.93		LP, Hold 89.86° Inc at 89.78° Azm
8	19255.57	89.86	89.78	9023.30	-579.64	10089.10	0.00	0.000	10086.80	LTP/BHL - DeLorean 9-10 Fed Com 1BS 2HD at 19255.57	

FORMATION TOP DETAILS		
TVDPath	MDPath	Formation
1526.30	1526.30	Rustler
1826.29	1826.53	Salado
3268.00	3288.58	Yates
3661.91	3688.56	7 Rivers
3803.88	3832.72	Capitan Reef
4236.79	4272.30	Queen
4989.63	5036.75	Cherry Canyon
6157.43	6217.28	Brushy Canyon
7682.43	7742.28	Top BSPG Lime
8968.38	9197.34	1st BSPG Ss

The figure is a geological cross-section plot titled "Section Line". It displays subsurface features and well paths across a horizontal distance from -2000 to 11000 USFT and a vertical depth from 2000 to -2000 feet.

- Axes:**
 - Top X-axis:** West(-)/East(+) (500 usft/in), ranging from -2000 to 11000.
 - Bottom X-axis:** West(-)/East(+) (500 usft/in), ranging from -2000 to 11000.
 - Left Y-axis:** Depth in feet, ranging from 2000 at the top to -2000 at the bottom.
 - Right Y-axis:** South(-)/North(+) (500 usft/in), ranging from 2000 at the top to -2000 at the bottom.
- Key Features and Labels:**
 - Well Paths:** Labeled as "KOP", "Begin 2.00°/100' Build", "Hold 10.00° Inc at 209.68° Azm", "Begin Vertical Hold", "Begin 2.00°/100' Drop", "KOP2, Begin 10.00°/100' Build", "LP, Hold 89.86° Inc at 89.78° Azm", and "FTP - DeLorean 9-10 Fed Com 1BS 2H".
 - Geological Formations:** Includes "Dunn Federal Com 2", "DeLorean 9-10 Fed Com 1BS 2H", "DeLorean 9-10 Fed Com 1BS 3H", "DeLorean 9-10 Fed Com 1BS 4H", "DeLorean 9-10 Fed Com 2BS 5H", "DeLorean 9-10 Fed Com 2BS 6H", "DeLorean 9-10 Fed Com 2BS 7H", "DeLorean 9-10 Fed Com 2BS 8H", "DeLorean 9-10 Fed Com 2BS 9H", "DeLorean 9-10 Fed Com 2BS 10H", "DeLorean 9-10 Fed Com 2BS 11H", "DeLorean 9-10 Fed Com 2BS 12H", "DeLorean 9-10 Fed Com 2BS 13H", "DeLorean 9-10 Fed Com 2BS 14H", "DeLorean 9-10 Fed Com 2BS 15H", "DeLorean 9-10 Fed Com 2BS 16H", "DeLorean 9-10 Fed Com 2BS 17H", "DeLorean 9-10 Fed Com 2BS 18H", "DeLorean 9-10 Fed Com 2BS 19H", "DeLorean 9-10 Fed Com 2BS 20H", "DeLorean 9-10 Fed Com 2BS 21H", "DeLorean 9-10 Fed Com 2BS 22H", "DeLorean 9-10 Fed Com 2BS 23H", "DeLorean 9-10 Fed Com 2BS 24H", "DeLorean 9-10 Fed Com 2BS 25H", "DeLorean 9-10 Fed Com 2BS 26H", "DeLorean 9-10 Fed Com 2BS 27H", "DeLorean 9-10 Fed Com 2BS 28H", "DeLorean 9-10 Fed Com 2BS 29H", "DeLorean 9-10 Fed Com 2BS 30H", "DeLorean 9-10 Fed Com 2BS 31H", "DeLorean 9-10 Fed Com 2BS 32H", "DeLorean 9-10 Fed Com 2BS 33H", "DeLorean 9-10 Fed Com 2BS 34H", "DeLorean 9-10 Fed Com 2BS 35H", "DeLorean 9-10 Fed Com 2BS 36H", "DeLorean 9-10 Fed Com 2BS 37H", "DeLorean 9-10 Fed Com 2BS 38H", "DeLorean 9-10 Fed Com 2BS 39H", "DeLorean 9-10 Fed Com 2BS 40H", "DeLorean 9-10 Fed Com 2BS 41H", "DeLorean 9-10 Fed Com 2BS 42H", "DeLorean 9-10 Fed Com 2BS 43H", "DeLorean 9-10 Fed Com 2BS 44H", "DeLorean 9-10 Fed Com 2BS 45H", "DeLorean 9-10 Fed Com 2BS 46H", "DeLorean 9-10 Fed Com 2BS 47H", "DeLorean 9-10 Fed Com 2BS 48H", "DeLorean 9-10 Fed Com 2BS 49H", "DeLorean 9-10 Fed Com 2BS 50H", "DeLorean 9-10 Fed Com 2BS 51H", "DeLorean 9-10 Fed Com 2BS 52H", "DeLorean 9-10 Fed Com 2BS 53H", "DeLorean 9-10 Fed Com 2BS 54H", "DeLorean 9-10 Fed Com 2BS 55H", "DeLorean 9-10 Fed Com 2BS 56H", "DeLorean 9-10 Fed Com 2BS 57H", "DeLorean 9-10 Fed Com 2BS 58H", "DeLorean 9-10 Fed Com 2BS 59H", "DeLorean 9-10 Fed Com 2BS 60H", "DeLorean 9-10 Fed Com 2BS 61H", "DeLorean 9-10 Fed Com 2BS 62H", "DeLorean 9-10 Fed Com 2BS 63H", "DeLorean 9-10 Fed Com 2BS 64H", "DeLorean 9-10 Fed Com 2BS 65H", "DeLorean 9-10 Fed Com 2BS 66H", "DeLorean 9-10 Fed Com 2BS 67H", "DeLorean 9-10 Fed Com 2BS 68H", "DeLorean 9-10 Fed Com 2BS 69H", "DeLorean 9-10 Fed Com 2BS 70H", "DeLorean 9-10 Fed Com 2BS 71H", "DeLorean 9-10 Fed Com 2BS 72H", "DeLorean 9-10 Fed Com 2BS 73H", "DeLorean 9-10 Fed Com 2BS 74H", "DeLorean 9-10 Fed Com 2BS 75H", "DeLorean 9-10 Fed Com 2BS 76H", "DeLorean 9-10 Fed Com 2BS 77H", "DeLorean 9-10 Fed Com 2BS 78H", "DeLorean 9-10 Fed Com 2BS 79H", "DeLorean 9-10 Fed Com 2BS 80H", "DeLorean 9-10 Fed Com 2BS 81H", "DeLorean 9-10 Fed Com 2BS 82H", "DeLorean 9-10 Fed Com 2BS 83H", "DeLorean 9-10 Fed Com 2BS 84H", "DeLorean 9-10 Fed Com 2BS 85H", "DeLorean 9-10 Fed Com 2BS 86H", "DeLorean 9-10 Fed Com 2BS 87H", "DeLorean 9-10 Fed Com 2BS 88H", "DeLorean 9-10 Fed Com 2BS 89H", "DeLorean 9-10 Fed Com 2BS 90H", "DeLorean 9-10 Fed Com 2BS 91H", "DeLorean 9-10 Fed Com 2BS 92H", "DeLorean 9-10 Fed Com 2BS 93H", "DeLorean 9-10 Fed Com 2BS 94H", "DeLorean 9-10 Fed Com 2BS 95H", "DeLorean 9-10 Fed Com 2BS 96H", "DeLorean 9-10 Fed Com 2BS 97H", "DeLorean 9-10 Fed Com 2BS 98H", "DeLorean 9-10 Fed Com 2BS 99H", "DeLorean 9-10 Fed Com 2BS 100H", "DeLorean 9-10 Fed Com 2BS 101H", "DeLorean 9-10 Fed Com 2BS 102H", "DeLorean 9-10 Fed Com 2BS 103H", "DeLorean 9-10 Fed Com 2BS 104H", "DeLorean 9-10 Fed Com 2BS 105H", "DeLorean 9-10 Fed Com 2BS 106H", "DeLorean 9-10 Fed Com 2BS 107H", "DeLorean 9-10 Fed Com 2BS 108H", "DeLorean 9-10 Fed Com 2BS 109H", "DeLorean 9-10 Fed Com 2BS 110H", "DeLorean 9-10 Fed Com 2BS 111H", "DeLorean 9-10 Fed Com 2BS 112H", "DeLorean 9-10 Fed Com 2BS 113H", "DeLorean 9-10 Fed Com 2BS 114H", "DeLorean 9-10 Fed Com 2BS 115H", "DeLorean 9-10 Fed Com 2BS 116H", "DeLorean 9-10 Fed Com 2BS 117H", "DeLorean 9-10 Fed Com 2BS 118H", "DeLorean 9-10 Fed Com 2BS 119H", "DeLorean 9-10 Fed Com 2BS 120H", "DeLorean 9-10 Fed Com 2BS 121H", "DeLorean 9-10 Fed Com 2BS 122H", "DeLorean 9-10 Fed Com 2BS 123H", "DeLorean 9-10 Fed Com 2BS 124H", "DeLorean 9-10 Fed Com 2BS 125H", "DeLorean 9-10 Fed Com 2BS 126H", "DeLorean 9-10 Fed Com 2BS 127H", "DeLorean 9-10 Fed Com 2BS 128H", "DeLorean 9-10 Fed Com 2BS 129H", "DeLorean 9-10 Fed Com 2BS 130H", "DeLorean 9-10 Fed Com 2BS 131H", "DeLorean 9-10 Fed Com 2BS 132H", "DeLorean 9-10 Fed Com 2BS 133H", "DeLorean 9-10 Fed Com 2BS 134H", "DeLorean 9-10 Fed Com 2BS 135H", "DeLorean 9-10 Fed Com 2BS 136H", "DeLorean 9-10 Fed Com 2BS 137H", "DeLorean 9-10 Fed Com 2BS 138H", "DeLorean 9-10 Fed Com 2BS 139H", "DeLorean 9-10 Fed Com 2BS 140H", "DeLorean 9-10 Fed Com 2BS 141H", "DeLorean 9-10 Fed Com 2BS 142H", "DeLorean 9-10 Fed Com 2BS 143H", "DeLorean 9-10 Fed Com 2BS 144H", "DeLorean 9-10 Fed Com 2BS 145H", "DeLorean 9-10 Fed Com 2BS 146H", "DeLorean 9-10 Fed Com 2BS 147H", "DeLorean 9-10 Fed Com 2BS 148H", "DeLorean 9-10 Fed Com 2BS 149H", "DeLorean 9-10 Fed Com 2BS 150H", "DeLorean 9-10 Fed Com 2BS 151H", "DeLorean 9-10 Fed Com 2BS 152H", "DeLorean 9-10 Fed Com 2BS 153H", "DeLorean 9-10 Fed Com 2BS 154H", "DeLorean 9-10 Fed Com 2BS 155H", "DeLorean 9-10 Fed Com 2BS 156H", "DeLorean 9-10 Fed Com 2BS 157H", "DeLorean 9-10 Fed Com 2BS 158H", "DeLorean 9-10 Fed Com 2BS 159H", "DeLorean 9-10 Fed Com 2BS 160H", "DeLorean 9-10 Fed Com 2BS 161H", "DeLorean 9-10 Fed Com 2BS 162H", "DeLorean 9-10 Fed Com 2BS 163H", "DeLorean 9-10 Fed Com 2BS 164H", "DeLorean 9-10 Fed Com 2BS 165H", "DeLorean 9-10 Fed Com 2BS 166H", "DeLorean 9-10 Fed Com 2BS 167H", "DeLorean 9-10 Fed Com 2BS 168H", "DeLorean 9-10 Fed Com 2BS 169H", "DeLorean 9-10 Fed Com 2BS 170H", "DeLorean 9-10 Fed Com 2BS 171H", "DeLorean 9-10 Fed Com 2BS 172H", "DeLorean 9-10 Fed Com 2BS 173H", "DeLorean 9-10 Fed Com 2BS 174H", "DeLorean 9-10 Fed Com 2BS 175H", "DeLorean 9-10 Fed Com 2BS 176H", "DeLorean 9-10 Fed Com 2BS 177H", "DeLorean 9-10 Fed Com 2BS 178H", "DeLorean 9-10 Fed Com 2BS 179H", "DeLorean 9-10 Fed Com 2BS 180H", "DeLorean 9-10 Fed Com 2BS 181H", "DeLorean 9-10 Fed Com 2BS 182H", "DeLorean 9-10 Fed Com 2BS 183H", "DeLorean 9-10 Fed Com 2BS 184H", "DeLorean 9-10 Fed Com 2BS 185H", "DeLorean 9-10 Fed Com 2BS 186H", "De





Earthstone Operating, LLC

Lea County, NM (Nad 83 NME)

DeLorean 9-10 Fed Com

DeLorean 9-10 Fed Com 1BS 2H

OH

Plan: Plan 1 12-06-22

Standard Planning Report

06 December, 2022





Planning Report



Database:	USA Compass	Local Co-ordinate Reference:	Well DeLorean 9-10 Fed Com 1BS 2H
Company:	Earthstone Operating, LLC	TVD Reference:	RKB @ 3718.30usft (Scandrill Star)
Project:	Lea County, NM (Nad 83 NME)	MD Reference:	RKB @ 3718.30usft (Scandrill Star)
Site:	DeLorean 9-10 Fed Com	North Reference:	Grid
Well:	DeLorean 9-10 Fed Com 1BS 2H	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan 1 12-06-22		

Project	Lea County, NM (Nad 83 NME)		
Map System:	US State Plane 1983	System Datum:	Mean Sea Level
Geo Datum:	North American Datum 1983		
Map Zone:	New Mexico Eastern Zone		

Site						DeLorean 9-10 Fed Com								
Site Position:			Northing:			611,214.02 usft			Latitude:			32° 40' 42.769888 N		
From:			Easting:			743,749.92 usft			Longitude:			103° 40' 31.728277 W		
Position Uncertainty:			Slot Radius:			13-3/16 "			Grid Convergence:			0.355		
Map														

Well	DeLorean 9-10 Fed Com 1BS 2H					
Well Position	+N/-S	-83.63 usft	Northing:	611,130.39 usft	Latitude:	32° 40' 41.940354 N
	+E/-W	33.25 usft	Easting:	743,783.17 usft	Longitude:	103° 40' 31.345334 W
Position Uncertainty		0.00 usft	Wellhead Elevation:		Ground Level:	3,690.80 usft

Wellbore	OH				
-----------------	----	--	--	--	--

Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	MVHD	1/23/2023	6.349	60.527	47,812.74648692

Design	Plan 1 12-06-22			
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	89.78

Plan Survey Tool Program	Date	12/6/2022			
Depth From (usft)	Depth To (usft)	Survey (Wellbore)	Tool Name	Remarks	
1	0.00	19,255.57	Plan 1 12-06-22 (OH)	MWD+HRGM	
				OWSG MWD + HRGM	

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	0.000	
1,600.00	0.00	0.00	1,600.00	0.00	0.00	0.00	0.00	0.00	0.000	
2,099.84	10.00	209.68	2,097.31	-37.79	-21.54	2.00	2.00	0.00	209.683	
5,708.00	10.00	209.68	5,650.69	-581.95	-331.71	0.00	0.00	0.00	0.000	
6,207.85	0.00	0.00	6,148.00	-619.74	-353.25	2.00	-2.00	0.00	180.000	
8,486.07	0.00	0.00	8,426.22	-619.74	-353.25	0.00	0.00	0.00	0.000	
9,384.67	89.86	89.78	8,999.18	-617.54	218.30	10.00	10.00	0.00	89.780	
19,255.57	89.86	89.78	9,023.30	-579.64	10,089.10	0.00	0.00	0.00	0.000	LTP/BHL - DeLorea



Planning Report



Database:	USA Compass	Local Co-ordinate Reference:	Well DeLorean 9-10 Fed Com 1BS 2H
Company:	Earthstone Operating, LLC	TVD Reference:	RKB @ 3718.30usft (Scandril Star)
Project:	Lea County, NM (Nad 83 NME)	MD Reference:	RKB @ 3718.30usft (Scandril Star)
Site:	DeLorean 9-10 Fed Com	North Reference:	Grid
Well:	DeLorean 9-10 Fed Com 1BS 2H	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan 1 12-06-22		

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
1,526.30	0.00	0.00	1,526.30	0.00	0.00	0.00	0.00	0.00	0.00
Rustler									
1,600.00	0.00	0.00	1,600.00	0.00	0.00	0.00	0.00	0.00	0.00
KOP, Begin 2.00°/100' Build									
1,700.00	2.00	209.68	1,699.98	-1.52	-0.86	-0.87	2.00	2.00	0.00
1,800.00	4.00	209.68	1,799.84	-6.06	-3.46	-3.48	2.00	2.00	0.00
1,826.53	4.53	209.68	1,826.29	-7.78	-4.43	-4.46	2.00	2.00	0.00
Salado									
1,900.00	6.00	209.68	1,899.45	-13.63	-7.77	-7.82	2.00	2.00	0.00
2,000.00	8.00	209.68	1,998.70	-24.22	-13.81	-13.90	2.00	2.00	0.00
2,099.84	10.00	209.68	2,097.31	-37.79	-21.54	-21.68	2.00	2.00	0.00
Hold 10.00° Inc at 209.68° Azm									
2,100.00	10.00	209.68	2,097.47	-37.81	-21.55	-21.70	0.00	0.00	0.00
2,200.00	10.00	209.68	2,195.95	-52.89	-30.15	-30.35	0.00	0.00	0.00
2,300.00	10.00	209.68	2,294.43	-67.97	-38.75	-39.01	0.00	0.00	0.00
2,400.00	10.00	209.68	2,392.91	-83.06	-47.34	-47.66	0.00	0.00	0.00
2,500.00	10.00	209.68	2,491.39	-98.14	-55.94	-56.31	0.00	0.00	0.00
2,600.00	10.00	209.68	2,589.87	-113.22	-64.53	-64.97	0.00	0.00	0.00
2,700.00	10.00	209.68	2,688.36	-128.30	-73.13	-73.62	0.00	0.00	0.00
2,800.00	10.00	209.68	2,786.84	-143.38	-81.73	-82.28	0.00	0.00	0.00
2,900.00	10.00	209.68	2,885.32	-158.46	-90.32	-90.93	0.00	0.00	0.00
3,000.00	10.00	209.68	2,983.80	-173.54	-98.92	-99.59	0.00	0.00	0.00
3,100.00	10.00	209.68	3,082.28	-188.63	-107.52	-108.24	0.00	0.00	0.00
3,200.00	10.00	209.68	3,180.76	-203.71	-116.11	-116.89	0.00	0.00	0.00
3,288.58	10.00	209.68	3,268.00	-217.07	-123.73	-124.56	0.00	0.00	0.00
Yates									
3,300.00	10.00	209.68	3,279.25	-218.79	-124.71	-125.55	0.00	0.00	0.00
3,400.00	10.00	209.68	3,377.73	-233.87	-133.31	-134.20	0.00	0.00	0.00
3,500.00	10.00	209.68	3,476.21	-248.95	-141.90	-142.86	0.00	0.00	0.00
3,600.00	10.00	209.68	3,574.69	-264.03	-150.50	-151.51	0.00	0.00	0.00
3,688.56	10.00	209.68	3,661.91	-277.39	-158.11	-159.18	0.00	0.00	0.00
7 Rivers									
3,700.00	10.00	209.68	3,673.17	-279.11	-159.10	-160.17	0.00	0.00	0.00
3,800.00	10.00	209.68	3,771.66	-294.19	-167.69	-168.82	0.00	0.00	0.00
3,832.72	10.00	209.68	3,803.88	-299.13	-170.50	-171.65	0.00	0.00	0.00
Capitan Reef									
3,900.00	10.00	209.68	3,870.14	-309.28	-176.29	-177.47	0.00	0.00	0.00
4,000.00	10.00	209.68	3,968.62	-324.36	-184.88	-186.13	0.00	0.00	0.00
4,100.00	10.00	209.68	4,067.10	-339.44	-193.48	-194.78	0.00	0.00	0.00
4,200.00	10.00	209.68	4,165.58	-354.52	-202.08	-203.44	0.00	0.00	0.00
4,272.30	10.00	209.68	4,236.79	-365.42	-208.29	-209.69	0.00	0.00	0.00
Queen									
4,300.00	10.00	209.68	4,264.06	-369.60	-210.67	-212.09	0.00	0.00	0.00
4,400.00	10.00	209.68	4,362.55	-384.68	-219.27	-220.75	0.00	0.00	0.00
4,500.00	10.00	209.68	4,461.03	-399.76	-227.87	-229.40	0.00	0.00	0.00
4,600.00	10.00	209.68	4,559.51	-414.85	-236.46	-238.05	0.00	0.00	0.00
4,700.00	10.00	209.68	4,657.99	-429.93	-245.06	-246.71	0.00	0.00	0.00
4,800.00	10.00	209.68	4,756.47	-445.01	-253.66	-255.36	0.00	0.00	0.00
4,900.00	10.00	209.68	4,854.95	-460.09	-262.25	-264.02	0.00	0.00	0.00
5,000.00	10.00	209.68	4,953.44	-475.17	-270.85	-272.67	0.00	0.00	0.00
5,036.75	10.00	209.68	4,989.63	-480.71	-274.01	-275.85	0.00	0.00	0.00
Cherry Canyon									



Planning Report



Database:	USA Compass	Local Co-ordinate Reference:	Well DeLorean 9-10 Fed Com 1BS 2H
Company:	Earthstone Operating, LLC	TVD Reference:	RKB @ 3718.30usft (Scandrill Star)
Project:	Lea County, NM (Nad 83 NME)	MD Reference:	RKB @ 3718.30usft (Scandrill Star)
Site:	DeLorean 9-10 Fed Com	North Reference:	Grid
Well:	DeLorean 9-10 Fed Com 1BS 2H	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan 1 12-06-22		

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)
5,100.00	10.00	209.68	5,051.92	-490.25	-279.45	-281.33	0.00	0.00	0.00
5,200.00	10.00	209.68	5,150.40	-505.33	-288.04	-289.98	0.00	0.00	0.00
5,300.00	10.00	209.68	5,248.88	-520.42	-296.64	-298.63	0.00	0.00	0.00
5,400.00	10.00	209.68	5,347.36	-535.50	-305.23	-307.29	0.00	0.00	0.00
5,500.00	10.00	209.68	5,445.84	-550.58	-313.83	-315.94	0.00	0.00	0.00
5,600.00	10.00	209.68	5,544.33	-565.66	-322.43	-324.60	0.00	0.00	0.00
5,700.00	10.00	209.68	5,642.81	-580.74	-331.02	-333.25	0.00	0.00	0.00
5,708.00	10.00	209.68	5,650.69	-581.95	-331.71	-333.94	0.00	0.00	0.00
Begin 2.00°/100' Drop									
5,800.00	8.16	209.68	5,741.53	-594.56	-338.90	-341.18	2.00	-2.00	0.00
5,900.00	6.16	209.68	5,840.75	-605.38	-345.07	-347.39	2.00	-2.00	0.00
6,000.00	4.16	209.68	5,940.34	-613.19	-349.52	-351.87	2.00	-2.00	0.00
6,100.00	2.16	209.68	6,040.18	-617.97	-352.25	-354.62	2.00	-2.00	0.00
6,200.00	0.16	209.68	6,140.15	-619.73	-353.25	-355.62	2.00	-2.00	0.00
6,207.85	0.00	0.00	6,148.00	-619.74	-353.25	-355.63	2.00	-2.00	0.00
Begin Vertical Hold									
6,217.28	0.00	0.00	6,157.43	-619.74	-353.25	-355.63	0.00	0.00	0.00
Brushy Canyon									
7,742.28	0.00	0.00	7,682.43	-619.74	-353.25	-355.63	0.00	0.00	0.00
Top BSPG Lime									
8,486.07	0.00	0.00	8,426.22	-619.74	-353.25	-355.63	0.00	0.00	0.00
KOP2, Begin 10.00°/100' Build									
8,500.00	1.39	89.78	8,440.15	-619.74	-353.08	-355.46	10.00	10.00	0.00
8,600.00	11.39	89.78	8,539.41	-619.69	-341.96	-344.34	10.00	10.00	0.00
8,700.00	21.39	89.78	8,635.22	-619.58	-313.78	-316.15	10.00	10.00	0.00
8,800.00	31.39	89.78	8,724.68	-619.41	-269.38	-271.76	10.00	10.00	0.00
8,900.00	41.39	89.78	8,805.08	-619.19	-210.12	-212.50	10.00	10.00	0.00
9,000.00	51.39	89.78	8,873.96	-618.91	-137.81	-140.18	10.00	10.00	0.00
9,100.00	61.39	89.78	8,929.24	-618.59	-54.63	-57.00	10.00	10.00	0.00
9,197.34	71.13	89.78	8,968.38	-618.25	34.37	31.99	10.00	10.00	0.00
1st BSPG Ss									
9,200.00	71.39	89.78	8,969.23	-618.24	36.89	34.51	10.00	10.00	0.00
9,300.00	81.39	89.78	8,992.73	-617.87	133.96	131.58	10.00	10.00	0.00
9,384.67	89.86	89.78	8,999.18	-617.54	218.30	215.93	10.00	10.00	0.00
LP, Hold 89.86° Inc at 89.78° Azm									
9,400.00	89.86	89.78	8,999.22	-617.48	233.63	231.26	0.00	0.00	0.00
9,500.00	89.86	89.78	8,999.46	-617.10	333.63	331.26	0.00	0.00	0.00
9,600.00	89.86	89.78	8,999.71	-616.71	433.63	431.26	0.00	0.00	0.00
9,700.00	89.86	89.78	8,999.95	-616.33	533.63	531.26	0.00	0.00	0.00
9,800.00	89.86	89.78	9,000.20	-615.95	633.63	631.26	0.00	0.00	0.00
9,900.00	89.86	89.78	9,000.44	-615.56	733.63	731.26	0.00	0.00	0.00
10,000.00	89.86	89.78	9,000.68	-615.18	833.63	831.26	0.00	0.00	0.00
10,100.00	89.86	89.78	9,000.93	-614.79	933.62	931.26	0.00	0.00	0.00
10,200.00	89.86	89.78	9,001.17	-614.41	1,033.62	1,031.26	0.00	0.00	0.00
10,300.00	89.86	89.78	9,001.42	-614.03	1,133.62	1,131.26	0.00	0.00	0.00
10,400.00	89.86	89.78	9,001.66	-613.64	1,233.62	1,231.26	0.00	0.00	0.00
10,500.00	89.86	89.78	9,001.91	-613.26	1,333.62	1,331.26	0.00	0.00	0.00
10,600.00	89.86	89.78	9,002.15	-612.87	1,433.62	1,431.26	0.00	0.00	0.00
10,700.00	89.86	89.78	9,002.40	-612.49	1,533.62	1,531.26	0.00	0.00	0.00
10,800.00	89.86	89.78	9,002.64	-612.11	1,633.62	1,631.25	0.00	0.00	0.00
10,900.00	89.86	89.78	9,002.88	-611.72	1,733.62	1,731.25	0.00	0.00	0.00
11,000.00	89.86	89.78	9,003.13	-611.34	1,833.62	1,831.25	0.00	0.00	0.00
11,100.00	89.86	89.78	9,003.37	-610.95	1,933.61	1,931.25	0.00	0.00	0.00



Planning Report



Database:	USA Compass	Local Co-ordinate Reference:	Well DeLorean 9-10 Fed Com 1BS 2H
Company:	Earthstone Operating, LLC	TVD Reference:	RKB @ 3718.30usft (Scandril Star)
Project:	Lea County, NM (Nad 83 NME)	MD Reference:	RKB @ 3718.30usft (Scandril Star)
Site:	DeLorean 9-10 Fed Com	North Reference:	Grid
Well:	DeLorean 9-10 Fed Com 1BS 2H	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan 1 12-06-22		

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)
11,200.00	89.86	89.78	9,003.62	-610.57	2,033.61	2,031.25	0.00	0.00	0.00
11,300.00	89.86	89.78	9,003.86	-610.19	2,133.61	2,131.25	0.00	0.00	0.00
11,400.00	89.86	89.78	9,004.11	-609.80	2,233.61	2,231.25	0.00	0.00	0.00
11,500.00	89.86	89.78	9,004.35	-609.42	2,333.61	2,331.25	0.00	0.00	0.00
11,600.00	89.86	89.78	9,004.59	-609.04	2,433.61	2,431.25	0.00	0.00	0.00
11,700.00	89.86	89.78	9,004.84	-608.65	2,533.61	2,531.25	0.00	0.00	0.00
11,800.00	89.86	89.78	9,005.08	-608.27	2,633.61	2,631.25	0.00	0.00	0.00
11,900.00	89.86	89.78	9,005.33	-607.88	2,733.61	2,731.25	0.00	0.00	0.00
12,000.00	89.86	89.78	9,005.57	-607.50	2,833.60	2,831.25	0.00	0.00	0.00
12,100.00	89.86	89.78	9,005.82	-607.12	2,933.60	2,931.25	0.00	0.00	0.00
12,200.00	89.86	89.78	9,006.06	-606.73	3,033.60	3,031.25	0.00	0.00	0.00
12,300.00	89.86	89.78	9,006.30	-606.35	3,133.60	3,131.25	0.00	0.00	0.00
12,400.00	89.86	89.78	9,006.55	-605.96	3,233.60	3,231.25	0.00	0.00	0.00
12,500.00	89.86	89.78	9,006.79	-605.58	3,333.60	3,331.25	0.00	0.00	0.00
12,600.00	89.86	89.78	9,007.04	-605.20	3,433.60	3,431.25	0.00	0.00	0.00
12,700.00	89.86	89.78	9,007.28	-604.81	3,533.60	3,531.25	0.00	0.00	0.00
12,800.00	89.86	89.78	9,007.53	-604.43	3,633.60	3,631.25	0.00	0.00	0.00
12,900.00	89.86	89.78	9,007.77	-604.04	3,733.60	3,731.25	0.00	0.00	0.00
13,000.00	89.86	89.78	9,008.01	-603.66	3,833.59	3,831.25	0.00	0.00	0.00
13,100.00	89.86	89.78	9,008.26	-603.28	3,933.59	3,931.25	0.00	0.00	0.00
13,200.00	89.86	89.78	9,008.50	-602.89	4,033.59	4,031.25	0.00	0.00	0.00
13,300.00	89.86	89.78	9,008.75	-602.51	4,133.59	4,131.25	0.00	0.00	0.00
13,400.00	89.86	89.78	9,008.99	-602.12	4,233.59	4,231.25	0.00	0.00	0.00
13,500.00	89.86	89.78	9,009.24	-601.74	4,333.59	4,331.25	0.00	0.00	0.00
13,600.00	89.86	89.78	9,009.48	-601.36	4,433.59	4,431.25	0.00	0.00	0.00
13,700.00	89.86	89.78	9,009.73	-600.97	4,533.59	4,531.25	0.00	0.00	0.00
13,800.00	89.86	89.78	9,009.97	-600.59	4,633.59	4,631.25	0.00	0.00	0.00
13,900.00	89.86	89.78	9,010.21	-600.20	4,733.59	4,731.25	0.00	0.00	0.00
14,000.00	89.86	89.78	9,010.46	-599.82	4,833.58	4,831.25	0.00	0.00	0.00
14,100.00	89.86	89.78	9,010.70	-599.44	4,933.58	4,931.24	0.00	0.00	0.00
14,200.00	89.86	89.78	9,010.95	-599.05	5,033.58	5,031.24	0.00	0.00	0.00
14,300.00	89.86	89.78	9,011.19	-598.67	5,133.58	5,131.24	0.00	0.00	0.00
14,400.00	89.86	89.78	9,011.44	-598.28	5,233.58	5,231.24	0.00	0.00	0.00
14,500.00	89.86	89.78	9,011.68	-597.90	5,333.58	5,331.24	0.00	0.00	0.00
14,600.00	89.86	89.78	9,011.92	-597.52	5,433.58	5,431.24	0.00	0.00	0.00
14,700.00	89.86	89.78	9,012.17	-597.13	5,533.58	5,531.24	0.00	0.00	0.00
14,800.00	89.86	89.78	9,012.41	-596.75	5,633.58	5,631.24	0.00	0.00	0.00
14,900.00	89.86	89.78	9,012.66	-596.36	5,733.57	5,731.24	0.00	0.00	0.00
15,000.00	89.86	89.78	9,012.90	-595.98	5,833.57	5,831.24	0.00	0.00	0.00
15,100.00	89.86	89.78	9,013.15	-595.60	5,933.57	5,931.24	0.00	0.00	0.00
15,200.00	89.86	89.78	9,013.39	-595.21	6,033.57	6,031.24	0.00	0.00	0.00
15,300.00	89.86	89.78	9,013.63	-594.83	6,133.57	6,131.24	0.00	0.00	0.00
15,400.00	89.86	89.78	9,013.88	-594.44	6,233.57	6,231.24	0.00	0.00	0.00
15,500.00	89.86	89.78	9,014.12	-594.06	6,333.57	6,331.24	0.00	0.00	0.00
15,600.00	89.86	89.78	9,014.37	-593.68	6,433.57	6,431.24	0.00	0.00	0.00
15,700.00	89.86	89.78	9,014.61	-593.29	6,533.57	6,531.24	0.00	0.00	0.00
15,800.00	89.86	89.78	9,014.86	-592.91	6,633.57	6,631.24	0.00	0.00	0.00
15,900.00	89.86	89.78	9,015.10	-592.52	6,733.56	6,731.24	0.00	0.00	0.00
16,000.00	89.86	89.78	9,015.35	-592.14	6,833.56	6,831.24	0.00	0.00	0.00
16,100.00	89.86	89.78	9,015.59	-591.76	6,933.56	6,931.24	0.00	0.00	0.00
16,200.00	89.86	89.78	9,015.83	-591.37	7,033.56	7,031.24	0.00	0.00	0.00
16,300.00	89.86	89.78	9,016.08	-590.99	7,133.56	7,131.24	0.00	0.00	0.00
16,400.00	89.86	89.78	9,016.32	-590.60	7,233.56	7,231.24	0.00	0.00	0.00
16,500.00	89.86	89.78	9,016.57	-590.22	7,333.56	7,331.24	0.00	0.00	0.00



Planning Report



Database:	USA Compass	Local Co-ordinate Reference:	Well DeLorean 9-10 Fed Com 1BS 2H
Company:	Earthstone Operating, LLC	TVD Reference:	RKB @ 3718.30usft (Scandriil Star)
Project:	Lea County, NM (Nad 83 NME)	MD Reference:	RKB @ 3718.30usft (Scandriil Star)
Site:	DeLorean 9-10 Fed Com	North Reference:	Grid
Well:	DeLorean 9-10 Fed Com 1BS 2H	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan 1 12-06-22		

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)
16,600.00	89.86	89.78	9,016.81	-589.84	7,433.56	7,431.24	0.00	0.00	0.00
16,700.00	89.86	89.78	9,017.06	-589.45	7,533.56	7,531.24	0.00	0.00	0.00
16,800.00	89.86	89.78	9,017.30	-589.07	7,633.56	7,631.24	0.00	0.00	0.00
16,900.00	89.86	89.78	9,017.54	-588.68	7,733.55	7,731.24	0.00	0.00	0.00
17,000.00	89.86	89.78	9,017.79	-588.30	7,833.55	7,831.24	0.00	0.00	0.00
17,100.00	89.86	89.78	9,018.03	-587.92	7,933.55	7,931.24	0.00	0.00	0.00
17,200.00	89.86	89.78	9,018.28	-587.53	8,033.55	8,031.24	0.00	0.00	0.00
17,300.00	89.86	89.78	9,018.52	-587.15	8,133.55	8,131.24	0.00	0.00	0.00
17,400.00	89.86	89.78	9,018.77	-586.76	8,233.55	8,231.24	0.00	0.00	0.00
17,500.00	89.86	89.78	9,019.01	-586.38	8,333.55	8,331.23	0.00	0.00	0.00
17,600.00	89.86	89.78	9,019.25	-586.00	8,433.55	8,431.23	0.00	0.00	0.00
17,700.00	89.86	89.78	9,019.50	-585.61	8,533.55	8,531.23	0.00	0.00	0.00
17,800.00	89.86	89.78	9,019.74	-585.23	8,633.54	8,631.23	0.00	0.00	0.00
17,900.00	89.86	89.78	9,019.99	-584.85	8,733.54	8,731.23	0.00	0.00	0.00
18,000.00	89.86	89.78	9,020.23	-584.46	8,833.54	8,831.23	0.00	0.00	0.00
18,100.00	89.86	89.78	9,020.48	-584.08	8,933.54	8,931.23	0.00	0.00	0.00
18,200.00	89.86	89.78	9,020.72	-583.69	9,033.54	9,031.23	0.00	0.00	0.00
18,300.00	89.86	89.78	9,020.97	-583.31	9,133.54	9,131.23	0.00	0.00	0.00
18,400.00	89.86	89.78	9,021.21	-582.93	9,233.54	9,231.23	0.00	0.00	0.00
18,500.00	89.86	89.78	9,021.45	-582.54	9,333.54	9,331.23	0.00	0.00	0.00
18,600.00	89.86	89.78	9,021.70	-582.16	9,433.54	9,431.23	0.00	0.00	0.00
18,700.00	89.86	89.78	9,021.94	-581.77	9,533.54	9,531.23	0.00	0.00	0.00
18,800.00	89.86	89.78	9,022.19	-581.39	9,633.53	9,631.23	0.00	0.00	0.00
18,900.00	89.86	89.78	9,022.43	-581.01	9,733.53	9,731.23	0.00	0.00	0.00
19,000.00	89.86	89.78	9,022.68	-580.62	9,833.53	9,831.23	0.00	0.00	0.00
19,100.00	89.86	89.78	9,022.92	-580.24	9,933.53	9,931.23	0.00	0.00	0.00
19,200.00	89.86	89.78	9,023.16	-579.85	10,033.53	10,031.23	0.00	0.00	0.00
19,255.57	89.86	89.78	9,023.30	-579.64	10,089.10	10,086.80	0.00	0.00	0.00
TD at 19255.57									

Design Targets									
Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude
FTP - DeLorean 9-10	0.00	0.00	8,998.30	-618.80	-273.28	610,511.59	743,509.89	2° 40' 35.834270 N	3° 40' 34.587410 W
- hit/miss target									
- Shape									
- plan misses target center by 182.53usft at 8987.65usft MD (8866.15 TVD, -618.95 N, -147.37 E)									
- Point									
LTP/BHL - DeLorean 9-10	0.00	0.00	9,023.30	-579.64	10,089.10	610,550.75	753,872.27	2° 40' 35.570623 N	3° 38' 33.352226 W
- hit/miss target									
- Shape									
- plan hits target center									
- Point									



Planning Report



Database:	USA Compass	Local Co-ordinate Reference:	Well DeLorean 9-10 Fed Com 1BS 2H
Company:	Earthstone Operating, LLC	TVD Reference:	RKB @ 3718.30usft (Scandriil Star)
Project:	Lea County, NM (Nad 83 NME)	MD Reference:	RKB @ 3718.30usft (Scandriil Star)
Site:	DeLorean 9-10 Fed Com	North Reference:	Grid
Well:	DeLorean 9-10 Fed Com 1BS 2H	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan 1 12-06-22		

Formations						
Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)	
1,526.30	1,526.30	Rustler		0.140	89.78	
1,826.53	1,826.29	Salado		0.140	89.78	
3,288.58	3,268.00	Yates		0.140	89.78	
3,688.56	3,661.91	7 Rivers		0.140	89.78	
3,832.72	3,803.88	Capitan Reef		0.140	89.78	
4,272.30	4,236.79	Queen		0.140	89.78	
5,036.75	4,989.63	Cherry Canyon		0.140	89.78	
6,217.28	6,157.43	Brushy Canyon		0.140	89.78	
7,742.28	7,682.43	Top BSPG Lime		0.140	89.78	
9,197.34	8,968.38	1st BSPG Ss		0.140	89.78	

Plan Annotations					
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates			
		+N/-S (usft)	+E/-W (usft)	Comment	
1,600.00	1,600.00	0.00	0.00	KOP, Begin 2.00°/100' Build	
2,099.84	2,097.31	-37.79	-21.54	Hold 10.00° Inc at 209.68° Azm	
5,708.00	5,650.69	-581.95	-331.71	Begin 2.00°/100' Drop	
6,207.85	6,148.00	-619.74	-353.25	Begin Vertical Hold	
8,486.07	8,426.22	-619.74	-353.25	KOP2, Begin 10.00°/100' Build	
9,384.67	8,999.18	-617.54	218.30	LP, Hold 89.86° Inc at 89.78° Azm	
19,255.57	9,023.30	-579.64	10,089.10	TD at 19255.57	

PECOS DISTRICT
SURFACE USE
CONDITIONS OF APPROVAL

OPERATOR'S NAME:	Earthstone Operating LLC
LEASE NO.:	NMNM101114 andNMLC060549
COUNTY:	Lea County

Wells:

TABLE OF CONTENTS

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

- ☐ General Provisions
- ☐ Permit Expiration
- ☐ Archaeology, Paleontology, and Historical Sites
- ☐ Noxious Weeds
- ☒ Special Requirements
 - Lesser Prairie Chicken
 - Dunes Sagebrush Lizard
 - VRM IV
- ☐ Construction
 - Notification
 - Topsoil
 - Closed Loop System
 - Federal Mineral Material Pits
 - Well Pads
 - Roads
- ☐ Road Section Diagram
- ☒ Production (Post Drilling)
 - Well Structures & Facilities
 - Pipelines
 - Electric Lines
- ☐ Interim Reclamation
- ☐ Final Abandonment & Reclamation

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 resource (historic or prehistoric site or object) discovered by the holder, or any person working on the holder's behalf, on public or Federal land shall be immediately reported to the Authorized Officer. The holder shall suspend all operations in the immediate area of such discovery until written authorization to proceed is issued by the Authorized Officer. The holder will be responsible for the cost of evaluation and any decision as to the proper mitigation measures will be made by the Authorized Officer after consulting with the holder.

OR

If the entire project is covered under the Permian Basin Programmatic Agreement (cultural resources only):

The proponent has contributed funds commensurate to the undertaking into an account for offsite mitigation. Participation in the PA serves as mitigation for the effects of this project on cultural resources. If any human skeletal remains, funerary objects, sacred objects, or objects of cultural patrimony are discovered at any time during construction, all construction activities shall halt and the BLM will be notified as soon as possible within 24 hours. Work shall not resume until a Notice to Proceed is issued by the BLM. See information below discussing NAGPRA.

If the proposed project is split between a Class III inventory and a Permian Basin Programmatic Agreement contribution, the portion of the project covered under Class III inventory should default to the first paragraph stipulations.

Any paleontological resource (historic or prehistoric site or object) discovered by the holder, or any person working on the holder's behalf, on public or Federal land shall be immediately reported to the Authorized Officer. The holder shall suspend all operations in the immediate area of such discovery until written authorization to proceed is issued by the Authorized Officer. The holder will be responsible for the cost of evaluation and any decision as to the proper mitigation measures will be made by the Authorized Officer after consulting with the holder.

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)

Lesser Prairie Chicken:

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. 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.

Timing Limitation Exceptions:

The Carlsbad Field Office will publish an annual map of where the LPC timing and noise stipulations and conditions of approval (Limitations) will apply for the identified year (between March 1 and June 15) based on the latest survey information. The LPC Timing Area map will identify areas which are Habitat Areas (HA), Isolated Population Area (IPA), and Primary Population Area (PPA). The LPC Timing Area map will also have an area in red crosshatch. The red crosshatch area is the only area where an operator is required to submit a request for exception to the LPC Limitations. If an operator is operating outside the red crosshatch area, the LPC Limitations do not apply for that year and an exception to LPC Limitations is not required.

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.

Dunes Sagebrush Lizard

The Delorean North well pad will have a construction fence along the dog-eared southwest corner of the pad during well pad and road initial construction.

VRM IV:

Above-ground structures including meter housing that are not subject to safety requirements are painted a flat non-reflective paint color, Carlsbad Canyon from the BLM Standard Environmental Color Chart (CC-001: June 2008).

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 (A horizon) from the entire well pad area and stockpile the topsoil along the edge of the well pad as depicted in the APD. **The topsoil depth to be stockpiled at the Delorean well pads is 4-5 inches.** 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 five 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

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

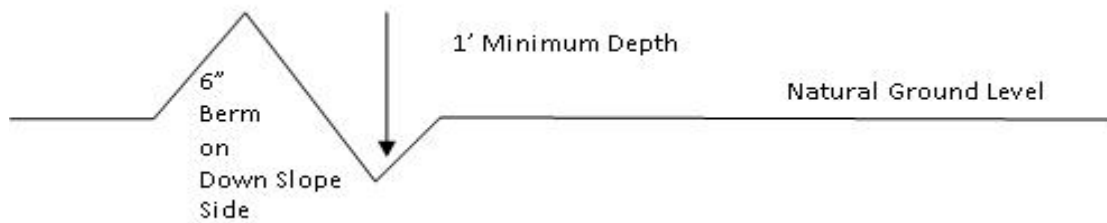
Ditching shall be required on both sides of the road.

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.

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 ;

Formula for Spacing Interval of Lead-off Ditches

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

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

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

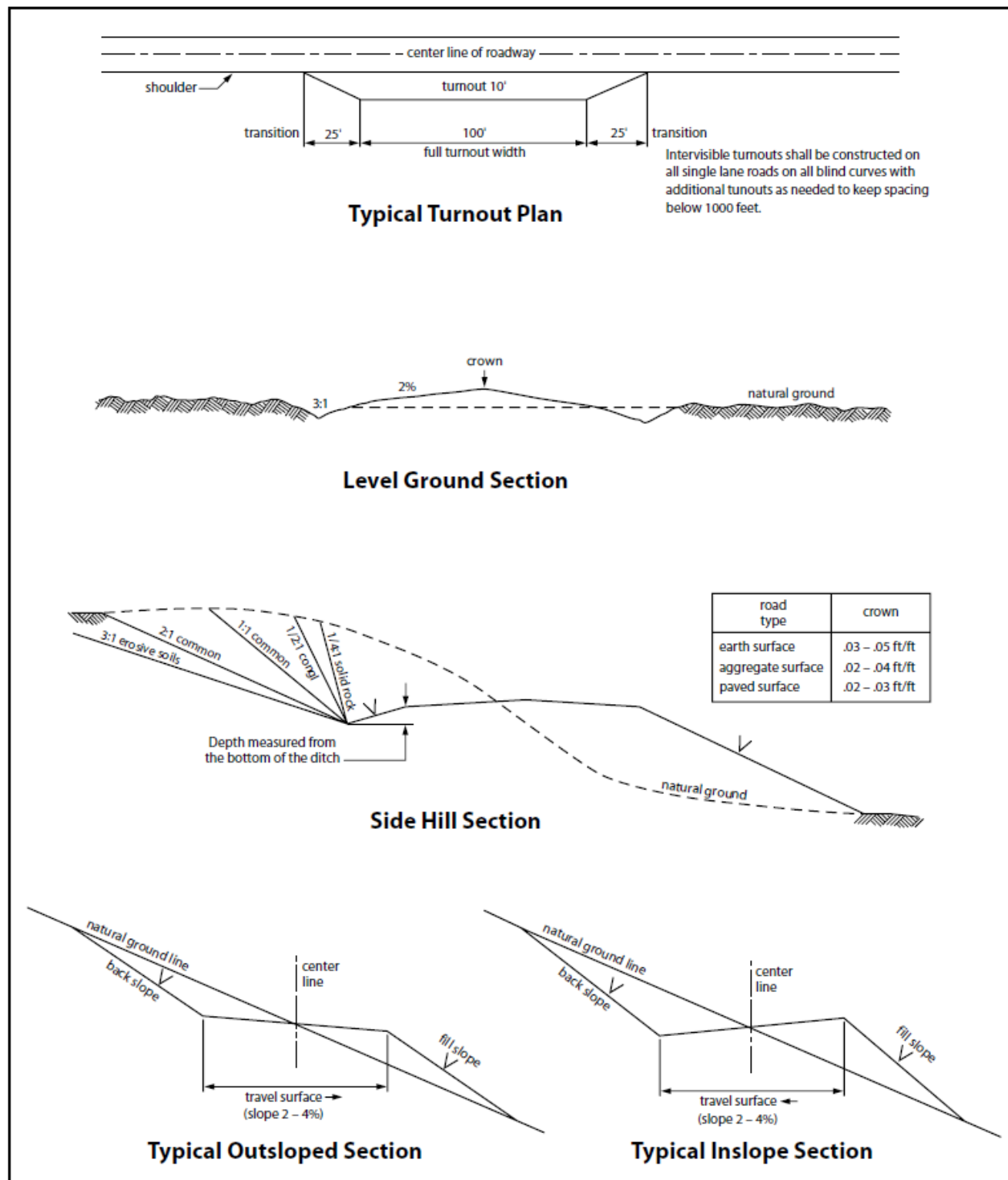


Figure 1. Cross-sections and plans for typical road sections representative of BLM resource or FS local and higher-class roads.

VII. PRODUCTION (POST DRILLING)

A. WELL STRUCTURES & FACILITIES

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.

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.

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 and any other surface material is required. 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).

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.

The operator is required to conduct soil "grab" testing near the plugged well head and at a randomly selected location on the pad to be reclaimed prior to conducting final reclamation. If it is determined that the surface soils do not be NMOCD's standards for contaminants, then the operator will submit a sundry notice to the BLM detailing the remediation plan to be conducted on the location prior to reclamation activities.

Hummocks or mogul-like features must be created across the location to prevent erosion, allow for ponding of water, and to protect seeds from wind.

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:

<u>Species</u>	<u>lb/acre</u>
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

PECOS DISTRICT DRILLING CONDITIONS OF APPROVAL

OPERATOR'S NAME:	Earthstone
LEASE NO.:	NMNM101114
LOCATION:	Section 9, T.19 S, R.33 E., NMPM
COUNTY:	Lea County, New Mexico
WELL NAME & NO.:	Delorean 9 10 Fed Com 1BS 2H
SURFACE HOLE FOOTAGE:	1290'/N & 485'/W
BOTTOM HOLE FOOTAGE:	1980'/n & 100'/E

COA

H₂S	<input checked="" type="radio"/> Yes	<input type="radio"/> No		
Potash / WIPP	<input checked="" type="radio"/> None	<input type="radio"/> Secretary	<input type="radio"/> R-111-P	<input type="checkbox"/> WIPP
Cave / Karst	<input checked="" type="radio"/> Low	<input type="radio"/> Medium	<input type="radio"/> High	<input type="radio"/> Critical
Wellhead	<input type="radio"/> Conventional	<input checked="" type="radio"/> Multibowl	<input type="radio"/> Both	<input type="radio"/> Diverter
Cementing	<input type="checkbox"/> Primary Squeeze	<input type="checkbox"/> Cont. Squeeze	<input type="checkbox"/> EchoMeter	<input type="checkbox"/> DV Tool
Special Req	<input type="checkbox"/> Break Testing	<input type="checkbox"/> Water Disposal	<input checked="" type="checkbox"/> COM	<input type="checkbox"/> Unit
Variance	<input checked="" type="checkbox"/> Flex Hose	<input type="checkbox"/> Casing Clearance	<input type="checkbox"/> Pilot Hole	<input type="checkbox"/> Capitan Reef
Variance	<input type="checkbox"/> Four-String	<input type="checkbox"/> Offline Cementing	<input type="checkbox"/> Fluid-Filled	<input type="checkbox"/> Open Annulus
<input type="checkbox"/> Batch APD / Sundry				

A. HYDROGEN SULFIDE

A Hydrogen Sulfide (H₂S) Drilling Plan shall be activated 500 feet prior to drilling into the **Delaware, Bone Spring, Morrow** formations. As a result, the Hydrogen Sulfide area must meet all requirements from **43 CFR 3176**, 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 **10-3/4** inch surface casing shall be set at approximately **1600** feet (a minimum of **25 feet (Lea County)** into the Rustler Anhydrite, above the salt, and below usable fresh water) 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 **8-5/8** inch intermediate casing is:
 - 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 tail cement slurry due to cave/karst.
3. The minimum required fill of cement behind the **5-1/2** inch production casing is:
 - Cement should tie-back at least **200 feet** into previous casing string. 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. Operator has proposed a multi-bowl wellhead assembly. This assembly will only be tested when installed on the surface casing. Minimum working pressure of the blowout preventer (BOP) and related equipment (BOPE) required for drilling below the casing shoe shall be **5000 (5M)** psi.
 - 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. 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.
 - e. Whenever any seal subject to test pressure is broken, all the tests in 43 CFR 3172 must be followed.

D. SPECIAL REQUIREMENT (S)**Communitization Agreement**

- The operator will submit a Communitization Agreement to the Santa Fe Office, 301 Dinosaur Trail Santa Fe, New Mexico 87508, at least 90 days before the anticipated date of first production from a well subject to a spacing order issued by the New Mexico Oil Conservation Division. The Communitization Agreement will include the signatures of all working interest owners in all Federal and Indian leases subject to the Communitization Agreement (i.e., operating rights owners and lessees of record), or certification that the operator has obtained the written signatures of all such owners and will make those signatures available to the BLM immediately upon request.
- The operator will submit an as-drilled survey well plat of the well completion, but are not limited to, those specified in 43 CFR 3171 and 3172.
- If the operator does not comply with this condition of approval, the BLM may take enforcement actions that include, but are not limited to, those specified in 43 CFR 3163.1.
- In addition, the well sign shall include the surface and bottom hole lease numbers. When the Communitization Agreement number is known, it shall also be on the sign.

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)

☒ Eddy County

Email or call the Carlsbad Field Office, 620 East Greene St., Carlsbad, NM 88220, BLM_NM_CFO_DrillingNotifications@BLM.GOV
(575) 361-2822

☒ Lea County

Call the Hobbs Field Station, 414 West Taylor, Hobbs NM 88240,
(575) 689-5981

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 **43 CFR part 3170 Subpart 3172** 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. The casing integrity test can be done (prior to the cement setting up) immediately after bumping the plug.
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. The casing integrity test can be done (prior to the cement setting up) immediately after bumping the plug.

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 **43 CFR part 3170 Subpart 3172** and **API STD 53 Sec. 5.3**.
2. If a variance is approved for a flexible hose to be installed from the BOP to the choke manifold, the following requirements apply: The flex line must meet the requirements of API 16C. 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 **43 CFR part 3170 Subpart 3172** 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 cement), 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 cement plug. The BOPE test can be initiated after bumping the cement plug with the casing valve open. (only applies to single stage cement jobs, prior to the cement setting up.)
 - c. The tests shall be done by an independent service company utilizing a test plug not a cup or J-packer and can be initiated immediately with the casing valve open. The operator also has the option of utilizing an independent tester to test without a plug (i.e. against the casing) pursuant to **43 CFR part 3170 Subpart 3172** 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 **43 CFR part 3170 Subpart 3172**.

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.

ZS 11/9/2023

Earthstone Operating, LLC

1400 Woodloch Forest Drive, Suite 300
The Woodlands, TX 77380
Phone: (281) 298-4246
Fax: (832) 823-0478

H2S Contingency Plan

Lea County, NM

Escape

Crews shall escape upwind of escaping gas in the event of an emergency release of gas. Escape can be facilitated from the location entrance road. Crew should then block entrance to the location from the lease road so as not to allow anyone traversing into a hazardous area. The blockade should be at a safe distance outside of the ROE. There are NO homes or buildings in or near the ROE.

Assumed 100 ppm ROE = 3000'
100 ppm H₂S concentration shall trigger activation of this plan

Emergency Procedures

In the event of a release of gas containing H₂S, the first responder(s) must:

- « Isolate the area and prevent entry by other persons into the 100 ppm ROE.
- « Evacuate any public places encompassed by the 100 ppm ROE.
- « Be equipped with H₂S monitors and air packs in order to control the release.
- « Use the "buddy system" to ensure no injuries occur during the response.
- « Take precautions to avoid personal injury during this operation.
- « Contact operator and/or local officials to aid in operation. See list of phone numbers attached.
- « Have received training
 - in the: Detection of
 - H₂S, and
 - Measures for protection against the gas,
 - Equipment used for protection and emergency response.

Ignition of Gas Source

Should control of the well be considered lost and ignition considered, take care to protect against exposure to Sulfur Dioxide (SO₂). 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 there is an ignition of the gas.

Characteristics of H₂S and SO₂,

Common Name	Chemical Formula	Specific Gravity	Threshold Limit	Hazardous Limit	Lethal Concentration
Hydrogen Sulfide	H ₂ S	1.189 Air=1	10 ppm	100 ppm/hr	600 ppm
Sulfur Dioxide	SO ₂	2.21 Air=1	2 ppm	N/A	1000 ppm

Contacting Authorities

Earthstone Operating, LLC personnel must liaise with local and state agencies to ensure a proper response to a major release. Additionally, the OCD must be notified of the release as soon as possible but no later than 4 hours. Agencies will ask for information such as type and volume of release, wind direction, location of release, etc. Be prepared with all information available including directions to site. The following call list of essential and potential responders has been prepared for use during a release. Earthstone Operating, LLC response must be in coordination with the State of New Mexico's "Hazardous Materials Emergency Response Plan" (HMERP).

Hydrogen Sulfide Drilling Operations Plan

1. All Company and Contract personnel admitted on location must be trained by a qualified H2S safety instructor to the following:
 - A. Characteristics of H2S
 - B. Physical effects and hazards
 - C. Principal and operation of H2S detectors, warning system and briefing areas.
 - D. Evacuation procedure, routes and first aid.
 - E. Proper use of safety equipment & life support systems
 - F. Essential personnel meeting Medical Evaluation criteria will receive additional training on the proper use of 30-minute pressure demand air packs.
2. H2S Detection and Alarm Systems:
 - a. H2S sensors/detectors to be located on the drilling rig floor, in the base of the sub structure/cellar area, on the mud pits in the shale shaker area. Additional H2S detectors may be placed as deemed necessary.
 - b. An audio alarm system will be installed on the derrick floor and in the top doghouse.
3. Windsock and/or wind streamers:
 - a. Windsock at mudpit area should be high enough to be visible.
 - b. Windsock on the rig floor and/ or top doghouse should be high enough to be visible.
4. Condition Flags and Signs
 - a. Warning sign on access road to location.
 - b. Flags to be displayed on sign at entrance to location. Green flag indicates normal safe condition. Yellow flag indicates potential

pressure and danger. Red flag indicates danger (H2S present in dangerous concentration). Only H2S trained and certified personnel admitted to location.

5. Well control equipment:

- a. See exhibit BOP and Choke Diagrams

6. Communication:

- a. While working under masks chalkboards will be used for communication.
- b. Hand signals will be used where chalk board is inappropriate.
- c. Two-way radio will be used to communicate off location in case of emergency help is required. In most cases, cellular telephones will be available at most drilling foreman's trailer or living quarters.

7. Drill stem Testing:

No DSTs are planned at this time.

- 8. Drilling contractor supervisor will be required to be familiar with the effects H2S has on tubular goods and other mechanical equipment.
- 9. If H2S is encountered, mud system will be altered if necessary to maintain control of formation. A mud gas separator will be brought into service along with H2S scavengers if necessary.

Emergency Assistance Telephone List

Earthstone Operating, LLC

The Woodlands Office (Headquarters): 281-298-4246

Midland Office: 432-686-1100

Vice President of Drilling-Nick Goree

Office: 281-771-3201

Cell: 405-488-7164

Sr. Drilling Engineer/Superintendent- Ben Taylor

Cell: 432-978-3029

Production Superintendent-Paul Martinez

Cell: 325-206-1722

Public Safety:		911 or
Lea County Sheriff's Department	Number:	(575)396-3611
Lea County Emergency Management-Lorenzo Velasquez	Number:	(575)391-2983
Lea County Fire Marshal		
Lorenzo Velasquez, Director	Number:	(575)391-2983
Jeff Broom, Deputy Fire Marshal	Number:	(575)391-2988
Fire Department:		
Knowles Fire Department	Number:	(505)392-2810
City of Hobbs Fire Department	Number:	(505)397-9308
Jal Volunteer Fire Department	Number:	(505)395-2221
Lovington Fire Department	Number:	(575)396-2359
Maljamar Fire Department	Number:	(505)676-4100
Tatum Volunteer Fire Department	Number:	(505)398-3473
Eunice Fire Department	Number:	(575)394-3258
Hospital: Lea Regional Medical Center	Number:	(575)492-5000
AirMed: Medevac	Number:	(888)303-9112
Dept. of Public Safety	Number:	(505)827-9000
New Mexico OCD-Dist. 1-Hobbs-	Office	Number: (575)393-6161
	Emergency	Number: (575)370-3186
Lea County Road Department	Number:	(575)391-2940
NMDOT	Number:	(505)827-5100
Bureau of Land Management		
Pecos District Office	Number:	(575)627-0272
Carlsbad Field Office	Number:	(575)234-5972
Hobbs Field Station	Number:	(575)393-3612

Earthstone Operating, LLC plans to operate a Closed Loop System.

Operator Name: EARTHSTONE OPERATING LLC

Well Name: DELOREAN 9 10 FED COM 1BS

Well Number: 2H

Is the proposed well in an area containing other mineral resources? NATURAL GAS,OIL

Is the proposed well in a Helium production area? N

Use Existing Well Pad? N

New surface disturbance?

Type of Well Pad: MULTIPLE WELL

Multiple Well Pad Name: DeLOREAN 9 10 NORTH PAD

Number: 1H,2H,5H,6H

Well Class: HORIZONTAL

Number of Legs: 1

Well Work Type: Drill

Well Type: OIL WELL

Describe Well Type:

Well sub-Type: INFILL

Describe sub-type:

Distance to town: 5 Miles

Distance to nearest well: 30 FT

Distance to lease line: 100 FT

Reservoir well spacing assigned acres Measurement: 320 Acres

Well plat: DeLorean_9_10_Fed_Com_1BS_2H_REV_APD_C102_20231009095908.pdf

Well work start Date: 12/31/2023

Duration: 30 DAYS

Section 3 - Well Location Table

Survey Type: RECTANGULAR

Describe Survey Type:

Datum: NAD83

Vertical Datum: NAVD88

Survey number: 12177

Reference Datum: GROUND LEVEL

Wellbore	NS-Foot	NS Indicator	EW-Foot	EW Indicator	Twsp	Range	Section	Aliquot/Lot/Tract	Latitude	Longitude	County	State	Meridian	Lease Type	Lease Number	Elevation	MD	TVD	Will this well produce from this
SHL Leg #1	1290	FNL	485	FWL	19S	33E	9	Aliquot SWN W	32.678515	- 103.675021	LEA	NEW MEXICO	NEW MEXICO	F	NMLC060549	3691	0	0	Y
KOP Leg #1	1290	FNL	485	FWL	19S	33E	9	Aliquot SWN W	32.678515	- 103.675021	LEA	NEW MEXICO	NEW MEXICO	F	NMLC060549	- 4735	8486	8426	Y
PPP Leg #1-1	1980	FNL	100	FWL	19S	33E	9	Aliquot SWN W	32.676621	- 103.676274	LEA	NEW MEXICO	NEW MEXICO	F	NMLC060549	- 5308	9385	8999	Y

Operator Name: EARTHSTONE OPERATING LLC**Well Name:** DELOREAN 9 10 FED COM 1BS**Well Number:** 2H

Wellbore	NS-Foot	NS Indicator	EW-Foot	EW Indicator	Twsp	Range	Section	Aliquot/Lot/Tract	Latitude	Longitude	County	State	Meridian	Lease Type	Lease Number	Elevation	MD	TVD	Will this well produce from this
PPP Leg #1-2	1980	FNL	2640	FWL	19S	33E	9	Aliquot SWNE	32.676604	- 103.66802	LEA	NEW MEXICO	NEW MEXICO	F	NMNM 101114	- 5315	12010	9006	Y
EXIT Leg #1	1980	FNL	100	FEL	19S	33E	10	Aliquot SENE	32.676547	- 103.642598	LEA	NEW MEXICO	NEW MEXICO	F	NMLC0 60549	- 5332	19256	9023	Y
BHL Leg #1	1980	FNL	100	FEL	19S	33E	10	Aliquot SENE	32.676547	- 103.642598	LEA	NEW MEXICO	NEW MEXICO	F	NMLC0 60549	- 5332	19256	9023	Y



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

Drilling Plan Data Report

05/07/2024

APD ID: 10400090756

Submission Date: 02/17/2023

Highlighted data
reflects the most
recent changes

Operator Name: EARTHSTONE OPERATING LLC

Well Name: DELOREAN 9 10 FED COM 1BS

Well Number: 2H

Well Type: OIL WELL

Well Work Type: Drill

[Show Final Text](#)

Section 1 - Geologic Formations

Formation ID	Formation Name	Elevation	True Vertical	Measured Depth	Lithologies	Mineral Resources	Producing Formatio
13387696	RUSTLER	3691	1526	1526	ANHYDRITE	USEABLE WATER	N
13387697	SALADO	1865	1826	1826	SALT	NONE	N
13387699	YATES	423	3268	3268	ANHYDRITE, DOLOMITE	NATURAL GAS, OIL	N
13387700	SEVEN RIVERS	29	3662	3662	ANHYDRITE, DOLOMITE	NATURAL GAS, OIL	N
13387701	CAPITAN REEF	-113	3804	3804	DOLOMITE	NONE	N
13387702	QUEEN	-546	4237	4237	DOLOMITE, LIMESTONE, SANDSTONE	NATURAL GAS, OIL	N
13387707	CHERRY CANYON	-1299	4990	4990	SANDSTONE, SHALE, SILTSTONE	NATURAL GAS, OIL	N
13387711	BRUSHY CANYON	-2467	6158	6158	SANDSTONE, SHALE, SILTSTONE	NATURAL GAS, OIL	N
13387714	BONE SPRING LIME	-3962	7653	7653	LIMESTONE, SANDSTONE	NATURAL GAS, OIL	N
13387715	BONE SPRING 1ST	-5277	8968	8968	SANDSTONE, SHALE, SILTSTONE	NATURAL GAS, OIL	Y

Section 2 - Blowout Prevention

Pressure Rating (PSI): 5M

Rating Depth: 12000

Equipment: Rotating Head, remote kill line, mud-gas separator

Requesting Variance? YES

Variance request: We propose utilizing a cactus speed head for this well. Please see attached diagram and pressure testing statement. Also we request to use a co flex hose. Please find attached information regarding co flex hose. Earthstone Operating LLC respectfully proposes that if cement is not returned to surface during the primary cement job on the 8-5/8" Intermediate casing, a planned Bradenhead job will be conducted immediately after the primary cement job.

Testing Procedure: BOP will be tested by an independent service company to 250 psi low and 5000 psi high, per onshore order 2. Pipe rams will be operationally checked each 24 hour period. Blind rams will be operationally checked each trip out of the hole.

BOP SHEET

Annular Preventer

13-3/8 2,500 PSI WP

Ram Preventers

13-3/8" 5,000 PSI WP Double Ram

13-3/8" 5,000 PSI WP Single Ram

Test the pipe rams, blind rams, floor valves (IBOP and/or upper Kelly valve), choke lines and manifold to 250 psi/5,000 psi with a test plug and a test pump.

Test the annular to 250 psi/2,500 psi with same as above.

District I
1625 N. French Dr., Hobbs, NM 88240
Phone:(575) 393-6161 Fax:(575) 393-0720

District II
811 S. First St., Artesia, NM 88210
Phone:(575) 748-1283 Fax:(575) 748-9720

District III
1000 Rio Brazos Rd., Aztec, NM 87410
Phone:(505) 334-6178 Fax:(505) 334-6170

District IV
1220 S. St Francis Dr., Santa Fe, NM 87505
Phone:(505) 476-3470 Fax:(505) 476-3462

State of New Mexico
Energy, Minerals and Natural Resources
Oil Conservation Division
1220 S. St Francis Dr.
Santa Fe, NM 87505

CONDITIONS

Action 342576

CONDITIONS

Operator: Earthstone Operating, LLC 300 N. Marienfeld St Ste 1000 Midland, TX 79701	OGRID: 331165
	Action Number: 342576
	Action Type: [C-101] BLM - Federal/Indian Land Lease (Form 3160-3)

CONDITIONS

Created By	Condition	Condition Date
pkautz	Will require a File As Drilled C-102 and a Directional Survey with the C-104	5/22/2024
pkautz	Once the well is spud, to prevent ground water contamination through whole or partial conduits from the surface, the operator shall drill without interruption through the fresh water zone or zones and shall immediately set in cement the water protection string	5/22/2024
pkautz	Oil base muds are not to be used until fresh water zones are cased and cemented providing isolation from the oil or diesel. This includes synthetic oils. Oil based mud, drilling fluids and solids must be contained in a steel closed loop system	5/22/2024
pkautz	Cement is required to circulate on both surface and intermediate1 strings of casing	5/22/2024
pkautz	If cement does not circulate on any string, a CBL is required for that string of casing	5/22/2024