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

5. Lease Serial No.: NMNM16640B

6. If Indian, Allotee or Tribe Name:

1a. Type of work: ☑ DRILL ☐ REENTER

1b. Type of Well: ☑ Oil Well ☐ Gas Well ☐ Other

1c. Type of Completion: ☐ Hydraulic Fracturing ☑ Single Zone ☐ Multiple Zone

7. If Unit or CA Agreement, Name and No.:

8. Lease Name and Well No.: PAKSE 5 SOUTH FED COM 434H **[335025]**

2. Name of Operator: EARTHSTONE OPERATING LLC **[331165]**

9. API Well No.: **30-025-52274**

3a. Address: 1400 WOODLOCH FOREST DRIVE SUITE 300, THE WO

3b. Phone No. *(include area code)*: (281) 298-4240

10. Field and Pool, or Exploratory: HAT MESA/WOLFCAMP **[96438]**

4. Location of Well *(Report location clearly and in accordance with any State requirements.*)*

At surface: NENE / 231 FNL / 1279 FEL / LAT 32.5652894 / LONG -103.7152842

At proposed prod. zone: SENE / 2632 FNL / 330 FEL / LAT 32.5441596 / LONG -103.7122077

11. Sec., T. R. M. or Blk. and Survey or Area: SEC 24/T20S/R32E/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: 240.0

18. Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft.: 30 feet

19. Proposed Depth: 11136 feet / 18883 feet

20. BLM/BIA Bond No. in file: FED: NMB002110

21. Elevations (Show whether DF, KDB, RT, GL, etc.): 3544 feet

22. Approximate date work will start*: 01/31/2024

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	Name *(Printed/Typed)*	Date
(Electronic Submission)	JENNIFER ELROD / Ph: (281) 298-4240	04/25/2023

Title: Senior Regulatory Analyst

Approved by *(Signature)*	Name *(Printed/Typed)*	Date
(Electronic Submission)	CODY LAYTON / Ph: (575) 234-5959	11/17/2023

Title	Office
Assistant Field Manager Lands & Minerals	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.

NGMP Rec 11/29/2023

SL

APPROVED WITH CONDITIONS

KZ

12/04/2023

(Continued on page 2)

*(Instructions on page 2)

Approval Date: 11/17/2023

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 Road, Aztec, NM 87410
Phone: (505) 334-6178 Fax: (505) 334-6170
District IV
1220 S. St. Francis Dr., Santa Fe, NM 87505
Phone: (505) 476-3460 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	2 Pool Code	3 Pool Name
30-025-52274	96438	HAT MESA; WOLFCAMP

4 Property Code	5 Property Name	6 Well Number
335025	PAKSE 5 SOUTH FED COM	434H

7 OGRID No.	8 Operator Name	9 Elevation
331165	EARTHSTONE OPERATING LLC	3544.32'

10 Surface Location

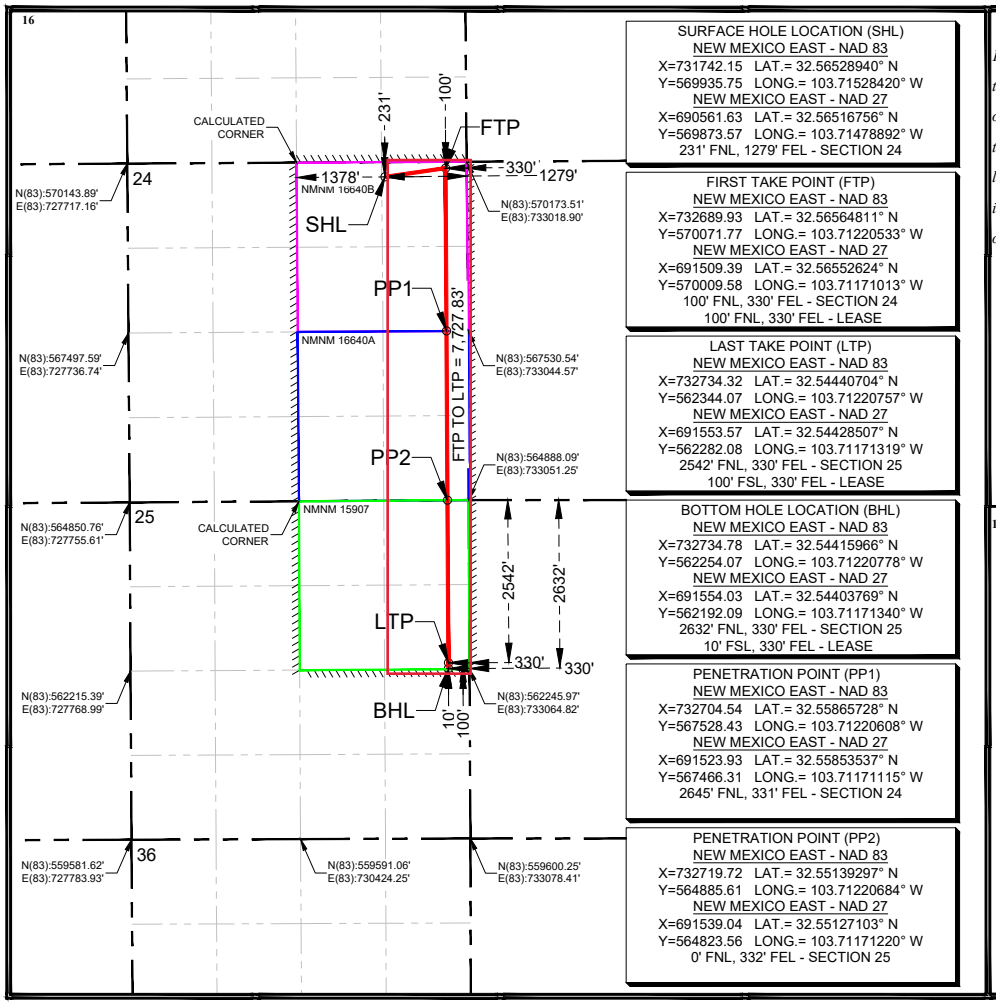
UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
A	24	20-S	32-E		231'	NORTH	1279'	EAST	LEA

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	25	20-S	32-E		2632'	NORTH	330'	EAST	LEA

12 Dedicated Acres	13 Joint or Infill	14 Consolidation Code	15 Order No.
240			

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 (SHL)
NEW MEXICO EAST - NAD 83
X=731742.15 LAT.= 32.56528940° N
Y=569935.75 LONG.= 103.71528420° W
NEW MEXICO EAST - NAD 27
X=690561.63 LAT.= 32.56516756° N
Y=569873.57 LONG.= 103.71478892° W
231' FNL, 1279' FEL - SECTION 24

FIRST TAKE POINT (FTP)
NEW MEXICO EAST - NAD 83
X=732689.93 LAT.= 32.56564811° N
Y=570071.77 LONG.= 103.71220533° W
NEW MEXICO EAST - NAD 27
X=691509.39 LAT.= 32.56552624° N
Y=570009.58 LONG.= 103.71171013° W
100' FNL, 330' FEL - SECTION 24
100' FNL, 330' FEL - LEASE

LAST TAKE POINT (LTP)
NEW MEXICO EAST - NAD 83
X=732734.32 LAT.= 32.54440704° N
Y=562344.07 LONG.= 103.71220757° W
NEW MEXICO EAST - NAD 27
X=691553.57 LAT.= 32.54428507° N
Y=562282.08 LONG.= 103.71171319° W
2542' FNL, 330' FEL - SECTION 25
100' FSL, 330' FEL - LEASE

BOTTOM HOLE LOCATION (BHL)
NEW MEXICO EAST - NAD 83
X=732734.78 LAT.= 32.54415966° N
Y=562254.07 LONG.= 103.71220778° W
NEW MEXICO EAST - NAD 27
X=691554.03 LAT.= 32.54403769° N
Y=562192.09 LONG.= 103.71171340° W
2632' FNL, 330' FEL - SECTION 25
10' FSL, 330' FEL - LEASE

PENETRATION POINT (PP1)
NEW MEXICO EAST - NAD 83
X=732704.54 LAT.= 32.55865728° N
Y=567528.43 LONG.= 103.71220608° W
NEW MEXICO EAST - NAD 27
X=691523.93 LAT.= 32.55853537° N
Y=567466.31 LONG.= 103.71171115° W
2645' FNL, 331' FEL - SECTION 24

PENETRATION POINT (PP2)
NEW MEXICO EAST - NAD 83
X=732719.72 LAT.= 32.55139297° N
Y=564885.61 LONG.= 103.71220684° W
NEW MEXICO EAST - NAD 27
X=691539.04 LAT.= 32.55127103° N
Y=564823.56 LONG.= 103.71171220° W
0' FNL, 332' FEL - SECTION 25

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 03/23/2023
Signature Date

JENNIFER ELROD
Printed Name

jelrod@earthstoneenergy.com
E-mail Address

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.

01/26/2023
Date of Survey

Signature and Seal of Professional Surveyor:

CHARLES L. JURICA
NEW MEXICO
25490
PROFESSIONAL SURVEYOR

Certificate Number

Intent [X] As Drilled [ ]

API #

Operator Name:	Property Name:	Well Number
EARTHSTONE OPERATING, LLC	PAKSE 5 SOUTH FED COM	#434

Kick Off Point (KOP)

UL	Section	Township	Range	Lot	Feet	From N/S	Feet	From E/W	County
A	24	20S	32E		231	NORTH	1279	EAST	LEA

Latitude	Longitude	NAD
32.565528940	-103.71528420	83

First Take Point (FTP)

UL	Section	Township	Range	Lot	Feet	From N/S	Feet	From E/W	County
A	24	20-S	32-E		100	N	330	E	LEA

Latitude	Longitude	NAD
32.56564811° N	103.71220533° W	83

Last Take Point (LTP)

UL	Section	Township	Range	Lot	Feet	From N/S	Feet	From E/W	County
H	25	20-S	32-E		2542	N	330	E	LEA

Latitude	Longitude	NAD
32.54440704° N	103.71220757° W	83

Is this well the defining well for the Horizontal Spacing Unit? [YES]

Is this well an infill well? [ ]

If infill is yes please provide API if available, Operator Name and well number for Defining well for Horizontal Spacing Unit.

API #

Operator Name:	Property Name:	Well Number

KZ 06/29/2018

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:** _03/28/2022

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.

SEE ATTACHED LIST	API		Footages	Anticipated Oil BBL/D	Anticipated Gas MCF/D	Anticipated Produced Water BBL/D

IV. Central Delivery Point Name: PAKSE SOUTH CTB_____ [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 *SEE ATTACHED LIST*	API	Spud Date	TD Reached Date	Completion Commencement Date	Initial Flow Back Date	First Production

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.

WELL NAME	API	UL/SECT/T/R	FOOTAGES	ANTICIPATED OIL BBL/D	ANTICIPATED GAS MCF/D	ANTICIPATED WATER BBL/D
PAKSE SOUTH 3 FED COM 112H		C-24-20S-32E	264 FNL, 1918 FWL	1400 BBL/D	3000 MCF/D	4000 BBL/D
PAKSE SOUTH 3 FED COM 322H		C-24-20S-32E	264 FNL, 1948 FWL	1400 BBL/D	2000 MCF/D	4000 BBL/D
PAKSE SOUTH 3 FED COM 212H		C-24-20S-32E	264 FNL, 2008 FWL	1400 BBL/D	2000 MCF/D	4000 BBL/D
PAKSE SOUTH 3 FED COM 302H		C-24-20S-32E	264 FNL, 1978 FWL	1400 BBL/D	2000 MCF/D	4000 BBL/D
PAKSE SOUTH 3 FED COM 432H		C-24-20S-32E	264 FNL, 2038 FWL	1400 BBL/D	2000 MCF/D	4000 BBL/D
PAKSE SOUTH 3 FED COM 113H		B-24-20S-32E	263 FNL, 1999 FEL	1400 BBL/D	3000 MCF/D	4000 BBL/D
PAKSE SOUTH 3 FED COM 323H		B-24-20S-32E	263 FNL, 1969 FWL	1400 BBL/D	2000 MCF/D	4000 BBL/D
PAKSE SOUTH 3 FED COM 223H		B-24-20S-32E	263 FNL, 1909 FEL	1400 BBL/D	2000 MCF/D	4000 BBL/D
PAKSE SOUTH 3 FED COM 303H		B-24-20S-32E	263 FNL, 1939 FWL	1400 BBL/D	2000 MCF/D	4000 BBL/D
PAKSE SOUTH 3 FED COM 433H		B-24-20S-32E	263 FNL, 1879 FEL	1400 BBL/D	2000 MCF/D	4000 BBL/D
PAKSE SOUTH 3 FED COM 114H		A-24-20S-32E	351 FNL, 1279' FEL	1400 BBL/D	3000 MCF/D	4000 BBL/D
PAKSE SOUTH 3 FED COM 324H		A-24-20S-32E	321 FNL, 1279 FEL	1400 BBL/D	2000 MCF/D	4000 BBL/D
PAKSE SOUTH 3 FED COM 224H		A-24-20S-32E	261 FNL, 1279 FEL	1400 BBL/D	2000 MCF/D	4000 BBL/D
PAKSE SOUTH 3 FED COM 304H		A-24-20S-32E	291 FNL, 1279 FEL	1400 BBL/D	2000 MCF/D	4000 BBL/D
PAKSE SOUTH 3 FED COM 434H		A-24-20S-32E	231 FNL, 1279 FEL	1400 BBL/D	2000 MCF/D	4000 BBL/D

WELL NAME	API	SPUD	TD	COMPLETION DATE	FLOW BACK DATE	FIRST PRODUCTION
PAKSE SOUTH 3 FED COM 112H		2-Mar-24	30-Mar-24	20-Jul-24	22-Nov-24	23-Nov-24
PAKSE SOUTH 3 FED COM 322H		31-Mar-24	28-Apr-24	20-Jul-24	22-Nov-24	23-Nov-24
PAKSE SOUTH 3 FED COM 212H		29-Apr-24	27-May-24	20-Jul-24	22-Nov-24	23-Nov-24
PAKSE SOUTH 3 FED COM 302H		28-May-24	25-Jun-24	20-Jul-24	22-Nov-24	23-Nov-24
PAKSE SOUTH 3 FED COM 432H		27-Jun-24	24-Jul-24	20-Jul-24	22-Nov-24	23-Nov-24
PAKSE SOUTH 3 FED COM 113H		7-Apr-24	30-Apr-24	20-Jul-24	22-Nov-24	23-Nov-24
PAKSE SOUTH 3 FED COM 323H		1-May-24	24-May-24	20-Jul-24	22-Nov-24	23-Nov-24
PAKSE SOUTH 3 FED COM 223H		25-May-24	17-Jun-24	20-Jul-24	22-Nov-24	23-Nov-24
PAKSE SOUTH 3 FED COM 303H		18-Jun-24	11-Jul-24	20-Jul-24	22-Nov-24	23-Nov-24
PAKSE SOUTH 3 FED COM 433H		10-Jul-24	1-Aug-24	20-Jul-24	22-Nov-24	23-Nov-24
PAKSE SOUTH 3 FED COM 114H		10-Mar-24	2-Apr-24	20-Jul-24	22-Nov-24	23-Nov-24
PAKSE SOUTH 3 FED COM 324H		3-Apr-24	26-Apr-24	20-Jul-24	22-Nov-24	23-Nov-24
PAKSE SOUTH 3 FED COM 224H		27-Apr-24	20-May-24	20-Jul-24	22-Nov-24	23-Nov-24
PAKSE SOUTH 3 FED COM 304H		21-May-24	13-Jun-24	20-Jul-24	22-Nov-24	23-Nov-24
PAKSE SOUTH 3 FED COM 434H		16-Jun-24	7-Jul-24	20-Jul-24	22-Nov-24	23-Nov-24

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.

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:	Jennifer Elrod
Printed Name:	JENNIFER ELROD
Title:	SR. REGULATORY ANALYST
E-mail Address:	JELROD@EARTHSTONEENERGY.COM
Date:	02/28/2023
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.

- 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 50 MCFPD.

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 with 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: PAKSE 5 SOUTH FED COM **Well Number:** 434H

Pressure Rating (PSI): 5M **Rating Depth:** 12000

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

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.

Choke Diagram Attachment:

5M_Choke_Manifold_Diagram_20230404073311.pdf

BOP Diagram Attachment:

5M__BOP_Diagram_2__20230404073414.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	26	20.0	NEW	API	N	0	1130	0	1130	3544	2414	1130	J-55	94	BUTT	1.47	5.22	DRY	13.2	DRY	12.3
2	INTERMEDIATE	17.5	13.375	NEW	API	N	0	3205	0	3205	3540	339	3205	J-55	61	BUTT	1.25	2.78	DRY	5.24	DRY	4.9
3	INTERMEDIATE	12.25	10.75	NEW	API	N	0	5290	0	5290	3540	-1746	5290	HCL-80	29.7	BUTT	1.84	1.64	DRY	4.42	DRY	4.32
4	PRODUCTION	6.875	5.5	NEW	API	Y	0	10066	0	10680	3728	-7136	10066	OTHER	23	OTHER - USS CDC-HTQ	2.51	3.02	DRY	3.58	DRY	3.58
5	INTERMEDIATE	9.875	7.625	NEW	API	N	0	10566	0	10566	3540	-7022	10566	OTHER	29.7	BUTT	1.16	1.26	DRY	2.18	DRY	2.1
6	PRODUCTION	6.75	5.0	NEW	API	N	10066	18883	10680	11136	-7140	-7592	8817	P-110	18	OTHER - EH DWC/C-IS PLUS	2.26	2.9	DRY	3.34	DRY	3.34

Casing Attachments

Operator Name: EARTHSTONE OPERATING LLC

Well Name: PAKSE 5 SOUTH FED COM **Well Number:** 434H

String Type	Lead/Tail	Stage Tool Depth	Top MD	Bottom MD	Quantity(sx)	Yield	Density	Cu Ft	Excess%	Cement type	Additives
SURFACE	Lead		0	630	810	1.83	12.5	1093	50	Class C	Sodium Metasilicate, Defoamer, KCL, Kol-Seal, Cellophane Flakes, ROF, Seal Check
SURFACE	Tail		630	1130	630	1.35	14.8	850	50	Class C	Fluid loss, Dispercent, Retarder
INTERMEDIATE	Lead		0	2705	1490	2	12.7	2980	50	Class C	Sodium Metasilicate, Defoamer, KCL, Kol-Seal, Cellophane Flakes, ROF SealCheck
INTERMEDIATE	Tail		2705	3205	390	1.34	14.8	522	50	CLASS C	DISPERCENT, FLUID LOSS, RETARDER
INTERMEDIATE	Lead	3580	0	3080	180	2	12.7	360	50	CLASS C	Sodium Metasilicate, Defoamer, KCL, Kol-Seal, Cellophane Flakes, ROF SealCheck
INTERMEDIATE	Tail		3080	3580	110	1.35	14.8	148	50	CLASS C	FLUID LOSS, DISPERCENT, RETARDER
INTERMEDIATE	Lead	3580	3580	4790	370	2	10.5	740	50	CLASS C	Sodium Metasilicate, Defoamer, KCL, Kol-Seal, Cellophane Flakes, ROF SealCheck
INTERMEDIATE	Tail		4790	5290	150	1.15	16.4	172	50	CLASS C	FLUID LOSS, DISPERCENT, RETARDER
INTERMEDIATE	Lead		0	10066	980	2.8	10.5	2744	50	CLASS C	Sodium Metasilicate, Defoamer, KCL, Kol-Seal, Cellophane Flakes, ROF SealCheck
INTERMEDIATE	Tail		10066	10566	150	1.15	16.4	172	50	CLASS C	FLUID LOSS, DISPERCENT, RETARDER
PRODUCTION	Lead		3191	10566	430	2.5	11.9	1075	40	Class H	Bentonite, Compressive Strength Enhancer, Silica Fume Alternative, Fluid Loss, Defoamer, Sodium Metasilicate, Retarder
PRODUCTION	Lead		10566	18883	990	1.24	14.4	1228	35	Class H	Sodium Metasilicate, Defoamer, KCL, Kol-

Operator Name: EARTHSTONE OPERATING LLC

Well Name: PAKSE 5 SOUTH FED COM **Well Number:** 434H

String Type	Lead/Tail	Stage Tool Depth	Top MD	Bottom MD	Quantity(sx)	Yield	Density	Cu Ft	Excess%	Cement type	Additives
											Seal, Cellophane Flakes, ROF SealCheck

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
10566	18883	OIL-BASED MUD	11	11.5							VIS: 45-65
1130	3205	SALT SATURATED	9.8	10.2							VIS: 28-34
3205	5290	OTHER : FRESHWATER	8.4	8.6							VIS: 28-34
5290	10566	OTHER : CUT BRINE	8.8	9.4							VIS: 28-35
0	1130	OTHER : FRESHWATER/ GEL	8.6	8.8							VIS: 28-34

Operator Name: EARTHSTONE OPERATING LLC

Well Name: PAKSE 5 SOUTH FED COM **Well Number:** 434H

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: 6560 **Anticipated Surface Pressure:** 4110

Anticipated Bottom Hole Temperature(F): 165

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

Section 8 - Other Information

Proposed horizontal/directional/multi-lateral plan submission:

Pakse_5_South_Fed_Com_434H___Plan_1_03_07_23_AC_Report_20230425122156.pdf
Pakse_5_South_Fed_Com_434H___Plan_1_03_07_23_20230425122156.pdf

Other proposed operations facets description:

Other proposed operations facets attachment:

5.5_x_23_P110HP_CDC_HTQ_20230425123248.pdf
cid2907AACC_F198_48B7_9704_F3D6BE2363B6_20230425123248.pdf
5.0_18__P110EC_DWC_C_IS_PLUS_20230425123248.pdf
Pakse_5_South_Fed_Com_434H_APD_20230914124540.pdf
7.625_29.70lb_L80EHC_Borusan_20230914124540.pdf

Other Variance attachment:

Choke_Hose_M55_1_07102017_145204_66_1225_04_14_2014__20230914124715.pdf
Cactus_Speedhead_Diagram_20230914124715.pdf
Cactus_Speed_Head_Installation_Procedure_20230914124716.pdf

EARTHSTONE Energy, Inc.

Project: Lea County, NM (Nad 83 NME)
Site: Pakse 5 South Fed Com
Well: Pakse 5 South Fed Com 434H
Wellbore: OH
Design: Plan 1 03-07-23
Rig:

PHOENIX TECHNOLOGY SERVICES

T G M

Azimuths to Grid North
True North: -0.33°
Magnetic North: 6.12°

Magnetic Field
Strength: 47767.6nT
Dip Angle: 60.33°
Date: 6/6/2023
Model: MVHD

WELL DETAILS

Ground Level 3544.62

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
0.00	0.00	569935.75	731742.15	32° 33' 55.041898 N	103° 42' 55.023163 W

SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSect	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	2300.09	14.00	76.09	2293.14	20.46	82.62	2.00	76.091	-19.98		Hold 14.00° Inc at 76.09° Azm
4	4950.40	14.00	76.09	4864.71	174.60	705.07	0.00	0.000	-170.54		Begin 1.00°/100' Drop
5	6350.59	0.00	0.00	6251.00	215.52	870.32	1.00	180.000	-210.50		Begin Vertical Hold
6	10654.50	0.00	0.00	10554.91	215.52	870.32	0.00	0.000	-210.50		KOP2, Begin 10.00°/100' Build
7	11553.80	89.93	173.55	11127.87	-353.12	934.61	10.00	173.550	358.49		LP, Hold 89.93° Inc, Begin 2.00°/100' Turn
8	11860.01	89.93	179.67	11128.24	-658.64	952.69	2.00	90.004	664.12		Hold 179.67° Azm
9	18883.16	89.93	179.67	11136.82	-7681.68	992.63	0.00	0.000	7687.27	BHL - Pakse 5 South Fed Com 434H	TD at 18883.16

DESIGN TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
FTP - Pakse 5 South Fed Com 434H	11127.12	136.02	947.78	570071.77	732689.93	32° 33' 56.333219 N	103° 42' 43.939149 W
BHL - Pakse 5 South Fed Com 434H	11136.82	-7681.68	992.63	562254.07	732734.78	32° 32' 38.974789 N	103° 42' 43.947983 W
LTP - Pakse 5 South Fed Com 434H	11136.82	-7591.68	992.17	562344.07	732734.32	32° 32' 39.865364 N	103° 42' 43.947225 W

Map System: US State Plane 1983
Datum: North American Datum 1983
Ellipsoid: GRS 1980
Zone Name: New Mexico Eastern Zone

Local Origin: Well Pakse 5 South Fed Com 434H, Grid North

Latitude: 32° 33' 55.041898 N
Longitude: 103° 42' 55.023163 W

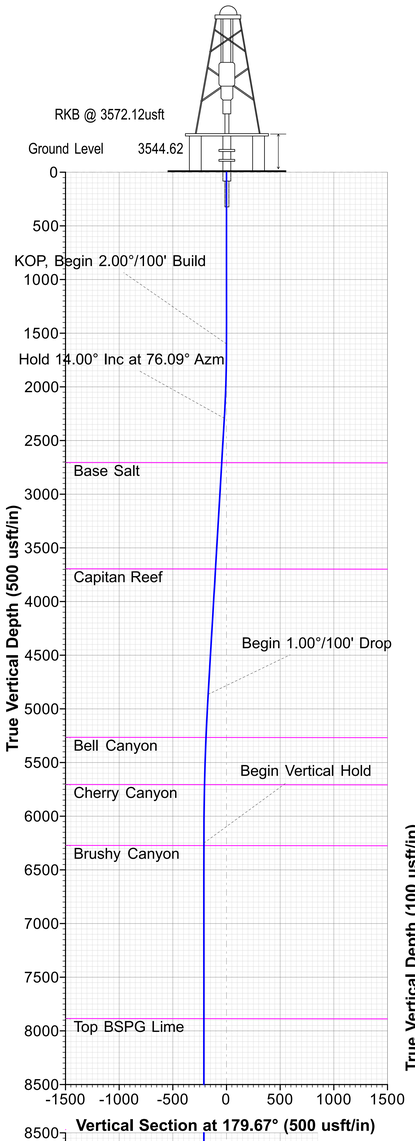
Grid East: 731742.15
Grid North: 569935.75
Scale Factor: 1.000

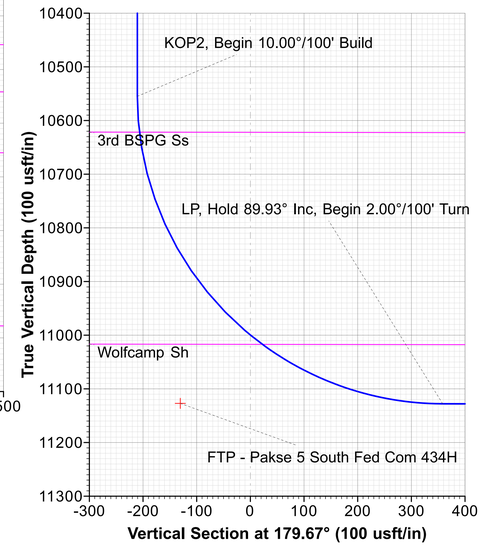
Geomagnetic Model: MVHD
Sample Date: 06-Jun-23
Magnetic Declination: 6.456°
Dip Angle from Horizontal: 60.328°
Magnetic Field Strength: 47767.59395665nT

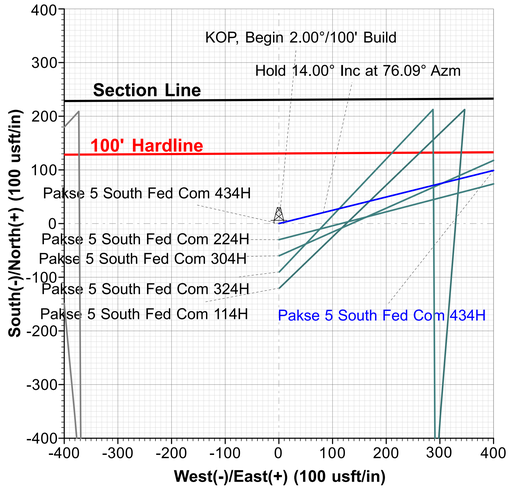
To convert a Magnetic Direction to a Grid Direction, Add 6.123°
To convert a Magnetic Direction to a True Direction, Add 6.456° East
To convert a True Direction to a Grid Direction, Subtract 0.333°

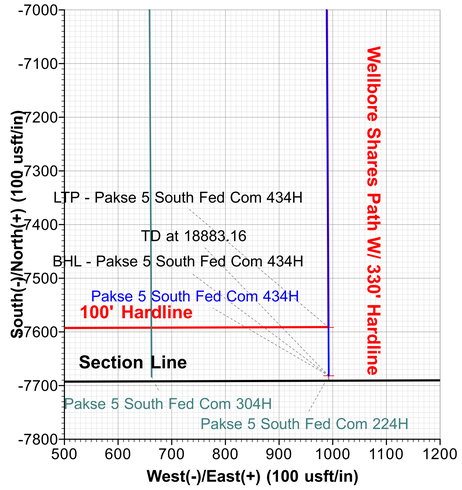
FORMATION TOP DETAILS

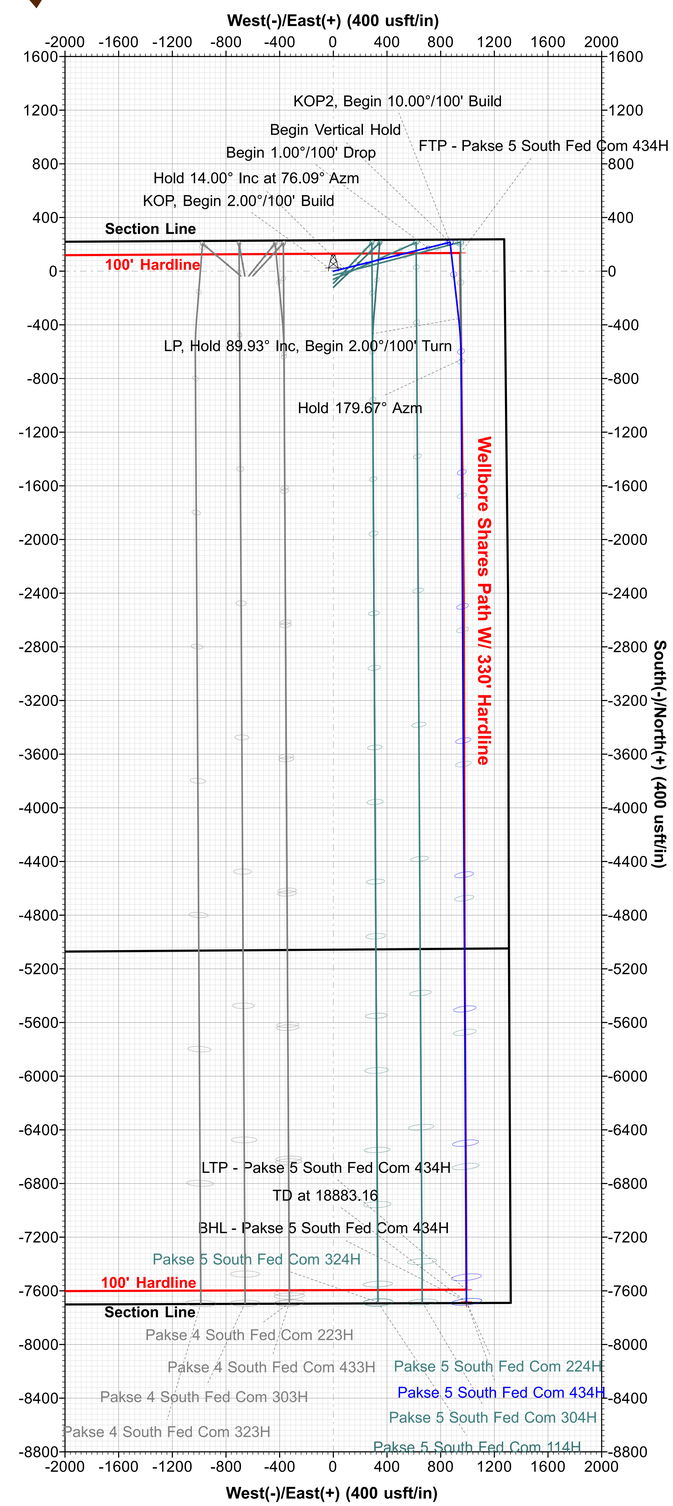
TVDPath	MDPath	Formation
2707.07	2726.69	Base Salt
3697.00	3746.93	Capitan Reef
5266.89	5361.57	Bell Canyon
5706.87	5805.64	Cherry Canyon
6273.86	6373.45	Brushy Canyon
7886.86	7986.45	Top BSPG Lime
8921.86	9021.45	1st BSPG Ss
9231.86	9331.45	2nd BSPG Carb
9591.86	9691.45	2nd BSPG Ss
10041.86	10141.45	3rd BSPG Carb
10621.87	10721.61	3rd BSPG Ss
11017.15	11192.30	Wolfcamp Sh

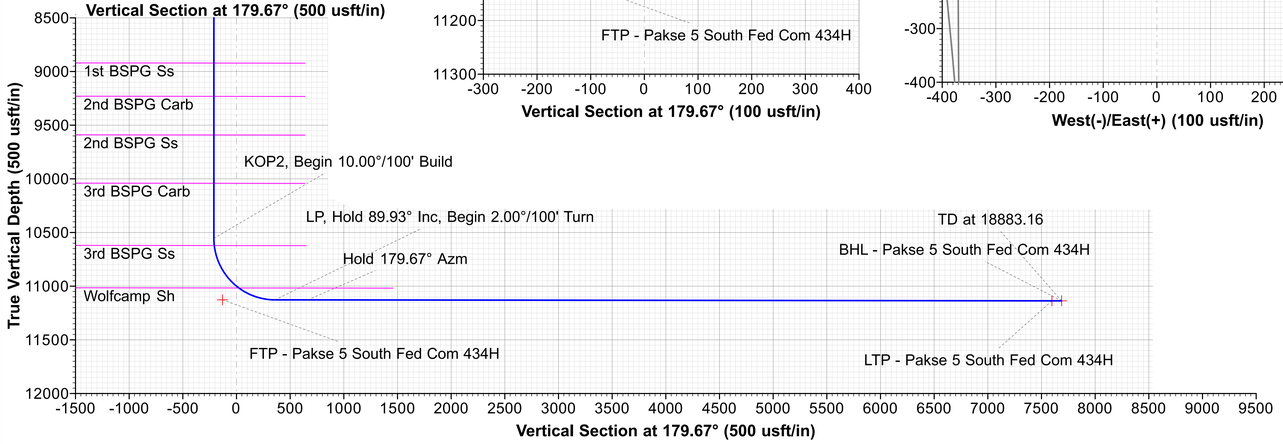












Date: 13:46, March 07 2023

PHOENIX
TECHNOLOGY SERVICES

Earthstone Operating, LLC

Lea County, NM (Nad 83 NME)
Pakse 5 South Fed Com
Pakse 5 South Fed Com 434H

OH

Plan: Plan 1 03-07-23

Standard Planning Report

07 March, 2023

EARTHSTONE
Energy, Inc.

PHOENIX TECHNOLOGY SERVICES

Phoenix
Planning Report

EARTHSTONE Energy, Inc.

Database:	USA Compass	**Local Co-ordinate Reference:**	Well Pakse 5 South Fed Com 434H
Company:	Earthstone Operating, LLC	**TVD Reference:**	RKB @ 3572.12usft
Project:	Lea County, NM (Nad 83 NME)	**MD Reference:**	RKB @ 3572.12usft
Site:	Pakse 5 South Fed Com	**North Reference:**	Grid
Well:	Pakse 5 South Fed Com 434H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	OH		
Design:	Plan 1 03-07-23		

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 Pakse 5 South Fed Com

Site Position:		**Northing:**	569,815.75 usft	**Latitude:**	32° 33' 53.854437 N
From:	Map	**Easting:**	731,743.32 usft	**Longitude:**	103° 42' 55.017634 W
Position Uncertainty:	0.00 usft	**Slot Radius:**	13-3/16 "	**Grid Convergence:**	0.333 °

Well Pakse 5 South Fed Com 434H

Well Position	**+N/-S**	120.00 usft	**Northing:**	569,935.75 usft	**Latitude:**	32° 33' 55.041898 N
	+E/-W	-1.17 usft	**Easting:**	731,742.15 usft	**Longitude:**	103° 42' 55.023163 W
Position Uncertainty		0.00 usft	**Wellhead Elevation:**		**Ground Level:**	3,544.62 usft

Wellbore OH

Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	MVHD	6/6/2023	6.456	60.328	47,767.59395664

Design Plan 1 03-07-23

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	179.67

Plan Survey Tool Program **Date** 3/7/2023

	Depth From (usft)	Depth To (usft)	Survey (Wellbore)	Tool Name	Remarks
1	0.00	18,883.16	Plan 1 03-07-23 (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	
2,300.09	14.00	76.09	2,293.14	20.46	82.62	2.00	2.00	0.00	76.091	
4,950.40	14.00	76.09	4,864.71	174.60	705.07	0.00	0.00	0.00	0.000	
6,350.59	0.00	0.00	6,251.00	215.52	870.32	1.00	-1.00	0.00	180.000	
10,654.50	0.00	0.00	10,554.91	215.52	870.32	0.00	0.00	0.00	0.000	
11,553.80	89.93	173.55	11,127.87	-353.12	934.61	10.00	10.00	0.00	173.550	
11,860.01	89.93	179.67	11,128.24	-658.64	952.69	2.00	0.00	2.00	90.004	
18,883.16	89.93	179.67	11,136.82	-7,681.68	992.63	0.00	0.00	0.00	0.000	BHL - Pakse 5 Soul

PHOENIX TECHNOLOGY SERVICES

Phoenix

Planning Report

EARTHSTONE Energy, Inc.

Database:	USA Compass	**Local Co-ordinate Reference:**	Well Pakse 5 South Fed Com 434H
Company:	Earthstone Operating, LLC	**TVD Reference:**	RKB @ 3572.12usft
Project:	Lea County, NM (Nad 83 NME)	**MD Reference:**	RKB @ 3572.12usft
Site:	Pakse 5 South Fed Com	**North Reference:**	Grid
Well:	Pakse 5 South Fed Com 434H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	OH		
Design:	Plan 1 03-07-23		

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
1,600.00	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	76.09	1,699.98	0.42	1.69	-0.41	2.00	2.00	0.00
1,800.00	4.00	76.09	1,799.84	1.68	6.77	-1.64	2.00	2.00	0.00
1,900.00	6.00	76.09	1,899.45	3.77	15.23	-3.68	2.00	2.00	0.00
2,000.00	8.00	76.09	1,998.70	6.70	27.06	-6.55	2.00	2.00	0.00
2,100.00	10.00	76.09	2,097.47	10.46	42.25	-10.22	2.00	2.00	0.00
2,200.00	12.00	76.09	2,195.62	15.05	60.77	-14.70	2.00	2.00	0.00
2,300.00	14.00	76.09	2,293.06	20.45	82.60	-19.98	2.00	2.00	0.00
2,300.09	14.00	76.09	2,293.14	20.46	82.62	-19.98	2.00	2.00	0.00
Hold 14.00° Inc at 76.09° Azm									
2,400.00	14.00	76.09	2,390.08	26.27	106.09	-25.66	0.00	0.00	0.00
2,500.00	14.00	76.09	2,487.11	32.09	129.57	-31.34	0.00	0.00	0.00
2,600.00	14.00	76.09	2,584.14	37.90	153.06	-37.02	0.00	0.00	0.00
2,700.00	14.00	76.09	2,681.17	43.72	176.55	-42.70	0.00	0.00	0.00
2,726.69	14.00	76.09	2,707.07	45.27	182.81	-44.22	0.00	0.00	0.00
Base Salt									
2,800.00	14.00	76.09	2,778.20	49.53	200.03	-48.38	0.00	0.00	0.00
2,900.00	14.00	76.09	2,875.23	55.35	223.52	-54.06	0.00	0.00	0.00
3,000.00	14.00	76.09	2,972.26	61.17	247.00	-59.74	0.00	0.00	0.00
3,100.00	14.00	76.09	3,069.29	66.98	270.49	-65.42	0.00	0.00	0.00
3,200.00	14.00	76.09	3,166.31	72.80	293.97	-71.10	0.00	0.00	0.00
3,300.00	14.00	76.09	3,263.34	78.61	317.46	-76.78	0.00	0.00	0.00
3,400.00	14.00	76.09	3,360.37	84.43	340.95	-82.46	0.00	0.00	0.00
3,500.00	14.00	76.09	3,457.40	90.25	364.43	-88.15	0.00	0.00	0.00
3,600.00	14.00	76.09	3,554.43	96.06	387.92	-93.83	0.00	0.00	0.00
3,700.00	14.00	76.09	3,651.46	101.88	411.40	-99.51	0.00	0.00	0.00
3,746.93	14.00	76.09	3,697.00	104.61	422.43	-102.17	0.00	0.00	0.00
Capitan Reef									
3,800.00	14.00	76.09	3,748.49	107.69	434.89	-105.19	0.00	0.00	0.00
3,900.00	14.00	76.09	3,845.52	113.51	458.38	-110.87	0.00	0.00	0.00
4,000.00	14.00	76.09	3,942.54	119.33	481.86	-116.55	0.00	0.00	0.00
4,100.00	14.00	76.09	4,039.57	125.14	505.35	-122.23	0.00	0.00	0.00
4,200.00	14.00	76.09	4,136.60	130.96	528.83	-127.91	0.00	0.00	0.00
4,300.00	14.00	76.09	4,233.63	136.77	552.32	-133.59	0.00	0.00	0.00
4,400.00	14.00	76.09	4,330.66	142.59	575.81	-139.27	0.00	0.00	0.00
4,500.00	14.00	76.09	4,427.69	148.40	599.29	-144.95	0.00	0.00	0.00
4,600.00	14.00	76.09	4,524.72	154.22	622.78	-150.63	0.00	0.00	0.00
4,700.00	14.00	76.09	4,621.75	160.04	646.26	-156.31	0.00	0.00	0.00
4,800.00	14.00	76.09	4,718.78	165.85	669.75	-161.99	0.00	0.00	0.00
4,900.00	14.00	76.09	4,815.80	171.67	693.24	-167.67	0.00	0.00	0.00
4,950.40	14.00	76.09	4,864.71	174.60	705.07	-170.54	0.00	0.00	0.00
Begin 1.00°/100' Drop									
5,000.00	13.51	76.09	4,912.88	177.43	716.52	-173.30	1.00	-1.00	0.00
5,100.00	12.51	76.09	5,010.32	182.84	738.36	-178.59	1.00	-1.00	0.00
5,200.00	11.51	76.09	5,108.13	187.84	758.56	-183.47	1.00	-1.00	0.00
5,300.00	10.51	76.09	5,206.29	192.43	777.09	-187.95	1.00	-1.00	0.00
5,361.57	9.89	76.09	5,266.89	195.05	787.67	-190.51	1.00	-1.00	0.00
Bell Canyon									
5,400.00	9.51	76.09	5,304.77	196.61	793.95	-192.03	1.00	-1.00	0.00
5,500.00	8.51	76.09	5,403.53	200.37	809.15	-195.71	1.00	-1.00	0.00
5,600.00	7.51	76.09	5,502.56	203.72	822.67	-198.98	1.00	-1.00	0.00

PHOENIX TECHNOLOGY SERVICES

Phoenix
Planning Report

EARTHSTONE Energy, Inc.

Database:	USA Compass	**Local Co-ordinate Reference:**	Well Pakse 5 South Fed Com 434H
Company:	Earthstone Operating, LLC	**TVD Reference:**	RKB @ 3572.12usft
Project:	Lea County, NM (Nad 83 NME)	**MD Reference:**	RKB @ 3572.12usft
Site:	Pakse 5 South Fed Com	**North Reference:**	Grid
Well:	Pakse 5 South Fed Com 434H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	OH		
Design:	Plan 1 03-07-23		

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)
5,700.00	6.51	76.09	5,601.81	206.65	834.50	-201.84	1.00	-1.00	0.00
5,800.00	5.51	76.09	5,701.26	209.17	844.66	-204.30	1.00	-1.00	0.00
5,805.64	5.45	76.09	5,706.87	209.30	845.18	-204.42	1.00	-1.00	0.00
Cherry Canyon									
5,900.00	4.51	76.09	5,800.88	211.26	853.13	-206.35	1.00	-1.00	0.00
6,000.00	3.51	76.09	5,900.63	212.94	859.91	-207.99	1.00	-1.00	0.00
6,100.00	2.51	76.09	6,000.49	214.20	865.00	-209.22	1.00	-1.00	0.00
6,200.00	1.51	76.09	6,100.43	215.04	868.40	-210.04	1.00	-1.00	0.00
6,300.00	0.51	76.09	6,200.41	215.47	870.10	-210.45	1.00	-1.00	0.00
6,350.59	0.00	0.00	6,251.00	215.52	870.32	-210.50	1.00	-1.00	0.00
Begin Vertical Hold									
6,373.45	0.00	0.00	6,273.86	215.52	870.32	-210.50	0.00	0.00	0.00
Brushy Canyon									
7,986.45	0.00	0.00	7,886.86	215.52	870.32	-210.50	0.00	0.00	0.00
Top BSPG Lime									
9,021.45	0.00	0.00	8,921.86	215.52	870.32	-210.50	0.00	0.00	0.00
1st BSPG Ss									
9,331.45	0.00	0.00	9,231.86	215.52	870.32	-210.50	0.00	0.00	0.00
2nd BSPG Carb									
9,691.45	0.00	0.00	9,591.86	215.52	870.32	-210.50	0.00	0.00	0.00
2nd BSPG Ss									
10,141.45	0.00	0.00	10,041.86	215.52	870.32	-210.50	0.00	0.00	0.00
3rd BSPG Carb									
10,654.50	0.00	0.00	10,554.91	215.52	870.32	-210.50	0.00	0.00	0.00
KOP2, Begin 10.00°/100' Build									
10,700.00	4.55	173.55	10,600.36	213.73	870.52	-208.71	10.00	10.00	0.00
10,721.61	6.71	173.55	10,621.87	211.62	870.76	-206.60	10.00	10.00	0.00
3rd BSPG Ss									
10,800.00	14.55	173.55	10,698.85	197.26	872.38	-192.23	10.00	10.00	0.00
10,900.00	24.55	173.55	10,792.97	164.05	876.14	-159.00	10.00	10.00	0.00
11,000.00	34.55	173.55	10,879.85	115.11	881.67	-110.03	10.00	10.00	0.00
11,100.00	44.55	173.55	10,956.86	51.92	888.82	-46.80	10.00	10.00	0.00
11,192.30	53.78	173.55	11,017.15	-17.40	896.65	22.57	10.00	10.00	0.00
Wolfcamp Sh									
11,200.00	54.55	173.55	11,021.65	-23.60	897.35	28.77	10.00	10.00	0.00
11,300.00	64.55	173.55	11,072.27	-109.16	907.03	114.38	10.00	10.00	0.00
11,400.00	74.55	173.55	11,107.16	-202.14	917.54	207.43	10.00	10.00	0.00
11,500.00	84.55	173.55	11,125.28	-299.74	928.57	305.08	10.00	10.00	0.00
11,553.80	89.93	173.55	11,127.87	-353.12	934.61	358.49	10.00	10.00	0.00
LP, Hold 89.93° Inc, Begin 2.00°/100' Turn									
11,600.00	89.93	174.47	11,127.92	-399.06	939.42	404.47	2.00	0.00	2.00
11,700.00	89.93	176.47	11,128.05	-498.75	947.32	504.19	2.00	0.00	2.00
11,800.00	89.93	178.47	11,128.17	-598.64	951.72	604.12	2.00	0.00	2.00
11,860.01	89.93	179.67	11,128.24	-658.64	952.69	664.12	2.00	0.00	2.00
Hold 179.67° Azm									
11,900.00	89.93	179.67	11,128.29	-698.64	952.92	704.11	0.00	0.00	0.00
12,000.00	89.93	179.67	11,128.41	-798.63	953.49	804.11	0.00	0.00	0.00
12,100.00	89.93	179.67	11,128.54	-898.63	954.06	904.11	0.00	0.00	0.00
12,200.00	89.93	179.67	11,128.66	-998.63	954.63	1,004.11	0.00	0.00	0.00
12,300.00	89.93	179.67	11,128.78	-1,098.63	955.19	1,104.11	0.00	0.00	0.00
12,400.00	89.93	179.67	11,128.90	-1,198.63	955.76	1,204.11	0.00	0.00	0.00
12,500.00	89.93	179.67	11,129.02	-1,298.62	956.33	1,304.11	0.00	0.00	0.00

PHOENIX TECHNOLOGY SERVICES

Phoenix

Planning Report

EARTHSTONE Energy, Inc.

Database:	USA Compass	**Local Co-ordinate Reference:**	Well Pakse 5 South Fed Com 434H
Company:	Earthstone Operating, LLC	**TVD Reference:**	RKB @ 3572.12usft
Project:	Lea County, NM (Nad 83 NME)	**MD Reference:**	RKB @ 3572.12usft
Site:	Pakse 5 South Fed Com	**North Reference:**	Grid
Well:	Pakse 5 South Fed Com 434H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	OH		
Design:	Plan 1 03-07-23		

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)
12,600.00	89.93	179.67	11,129.15	-1,398.62	956.90	1,404.11	0.00	0.00	0.00
12,700.00	89.93	179.67	11,129.27	-1,498.62	957.47	1,504.11	0.00	0.00	0.00
12,800.00	89.93	179.67	11,129.39	-1,598.62	958.04	1,604.11	0.00	0.00	0.00
12,900.00	89.93	179.67	11,129.51	-1,698.62	958.61	1,704.11	0.00	0.00	0.00
13,000.00	89.93	179.67	11,129.63	-1,798.62	959.17	1,804.11	0.00	0.00	0.00
13,100.00	89.93	179.67	11,129.76	-1,898.61	959.74	1,904.11	0.00	0.00	0.00
13,200.00	89.93	179.67	11,129.88	-1,998.61	960.31	2,004.11	0.00	0.00	0.00
13,300.00	89.93	179.67	11,130.00	-2,098.61	960.88	2,104.11	0.00	0.00	0.00
13,400.00	89.93	179.67	11,130.12	-2,198.61	961.45	2,204.11	0.00	0.00	0.00
13,500.00	89.93	179.67	11,130.25	-2,298.61	962.02	2,304.11	0.00	0.00	0.00
13,600.00	89.93	179.67	11,130.37	-2,398.61	962.59	2,404.11	0.00	0.00	0.00
13,700.00	89.93	179.67	11,130.49	-2,498.60	963.16	2,504.11	0.00	0.00	0.00
13,800.00	89.93	179.67	11,130.61	-2,598.60	963.72	2,604.11	0.00	0.00	0.00
13,900.00	89.93	179.67	11,130.73	-2,698.60	964.29	2,704.11	0.00	0.00	0.00
14,000.00	89.93	179.67	11,130.86	-2,798.60	964.86	2,804.11	0.00	0.00	0.00
14,100.00	89.93	179.67	11,130.98	-2,898.60	965.43	2,904.11	0.00	0.00	0.00
14,200.00	89.93	179.67	11,131.10	-2,998.60	966.00	3,004.11	0.00	0.00	0.00
14,300.00	89.93	179.67	11,131.22	-3,098.59	966.57	3,104.11	0.00	0.00	0.00
14,400.00	89.93	179.67	11,131.34	-3,198.59	967.14	3,204.11	0.00	0.00	0.00
14,500.00	89.93	179.67	11,131.47	-3,298.59	967.70	3,304.11	0.00	0.00	0.00
14,600.00	89.93	179.67	11,131.59	-3,398.59	968.27	3,404.11	0.00	0.00	0.00
14,700.00	89.93	179.67	11,131.71	-3,498.59	968.84	3,504.11	0.00	0.00	0.00
14,800.00	89.93	179.67	11,131.83	-3,598.59	969.41	3,604.11	0.00	0.00	0.00
14,900.00	89.93	179.67	11,131.96	-3,698.58	969.98	3,704.11	0.00	0.00	0.00
15,000.00	89.93	179.67	11,132.08	-3,798.58	970.55	3,804.11	0.00	0.00	0.00
15,100.00	89.93	179.67	11,132.20	-3,898.58	971.12	3,904.11	0.00	0.00	0.00
15,200.00	89.93	179.67	11,132.32	-3,998.58	971.69	4,004.11	0.00	0.00	0.00
15,300.00	89.93	179.67	11,132.44	-4,098.58	972.25	4,104.11	0.00	0.00	0.00
15,400.00	89.93	179.67	11,132.57	-4,198.58	972.82	4,204.11	0.00	0.00	0.00
15,500.00	89.93	179.67	11,132.69	-4,298.57	973.39	4,304.11	0.00	0.00	0.00
15,600.00	89.93	179.67	11,132.81	-4,398.57	973.96	4,404.11	0.00	0.00	0.00
15,700.00	89.93	179.67	11,132.93	-4,498.57	974.53	4,504.11	0.00	0.00	0.00
15,800.00	89.93	179.67	11,133.05	-4,598.57	975.10	4,604.11	0.00	0.00	0.00
15,900.00	89.93	179.67	11,133.18	-4,698.57	975.67	4,704.11	0.00	0.00	0.00
16,000.00	89.93	179.67	11,133.30	-4,798.57	976.23	4,804.11	0.00	0.00	0.00
16,100.00	89.93	179.67	11,133.42	-4,898.56	976.80	4,904.11	0.00	0.00	0.00
16,200.00	89.93	179.67	11,133.54	-4,998.56	977.37	5,004.11	0.00	0.00	0.00
16,300.00	89.93	179.67	11,133.67	-5,098.56	977.94	5,104.11	0.00	0.00	0.00
16,400.00	89.93	179.67	11,133.79	-5,198.56	978.51	5,204.11	0.00	0.00	0.00
16,500.00	89.93	179.67	11,133.91	-5,298.56	979.08	5,304.11	0.00	0.00	0.00
16,600.00	89.93	179.67	11,134.03	-5,398.56	979.65	5,404.11	0.00	0.00	0.00
16,700.00	89.93	179.67	11,134.15	-5,498.55	980.22	5,504.11	0.00	0.00	0.00
16,800.00	89.93	179.67	11,134.28	-5,598.55	980.78	5,604.11	0.00	0.00	0.00
16,900.00	89.93	179.67	11,134.40	-5,698.55	981.35	5,704.11	0.00	0.00	0.00
17,000.00	89.93	179.67	11,134.52	-5,798.55	981.92	5,804.11	0.00	0.00	0.00
17,100.00	89.93	179.67	11,134.64	-5,898.55	982.49	5,904.11	0.00	0.00	0.00
17,200.00	89.93	179.67	11,134.76	-5,998.55	983.06	6,004.11	0.00	0.00	0.00
17,300.00	89.93	179.67	11,134.89	-6,098.54	983.63	6,104.11	0.00	0.00	0.00
17,400.00	89.93	179.67	11,135.01	-6,198.54	984.20	6,204.11	0.00	0.00	0.00
17,500.00	89.93	179.67	11,135.13	-6,298.54	984.76	6,304.11	0.00	0.00	0.00
17,600.00	89.93	179.67	11,135.25	-6,398.54	985.33	6,404.11	0.00	0.00	0.00
17,700.00	89.93	179.67	11,135.38	-6,498.54	985.90	6,504.11	0.00	0.00	0.00
17,800.00	89.93	179.67	11,135.50	-6,598.54	986.47	6,604.11	0.00	0.00	0.00
17,900.00	89.93	179.67	11,135.62	-6,698.53	987.04	6,704.11	0.00	0.00	0.00

PHOENIX TECHNOLOGY SERVICES

Phoenix
Planning Report

EARTHSTONE Energy, Inc.

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Company:	Earthstone Operating, LLC	**TVD Reference:**	RKB @ 3572.12usft
Project:	Lea County, NM (Nad 83 NME)	**MD Reference:**	RKB @ 3572.12usft
Site:	Pakse 5 South Fed Com	**North Reference:**	Grid
Well:	Pakse 5 South Fed Com 434H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	OH		
Design:	Plan 1 03-07-23		

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)
18,000.00	89.93	179.67	11,135.74	-6,798.53	987.61	6,804.11	0.00	0.00	0.00
18,100.00	89.93	179.67	11,135.86	-6,898.53	988.18	6,904.11	0.00	0.00	0.00
18,200.00	89.93	179.67	11,135.99	-6,998.53	988.75	7,004.11	0.00	0.00	0.00
18,300.00	89.93	179.67	11,136.11	-7,098.53	989.31	7,104.11	0.00	0.00	0.00
18,400.00	89.93	179.67	11,136.23	-7,198.53	989.88	7,204.11	0.00	0.00	0.00
18,500.00	89.93	179.67	11,136.35	-7,298.52	990.45	7,304.11	0.00	0.00	0.00
18,600.00	89.93	179.67	11,136.47	-7,398.52	991.02	7,404.11	0.00	0.00	0.00
18,700.00	89.93	179.67	11,136.60	-7,498.52	991.59	7,504.11	0.00	0.00	0.00
18,800.00	89.93	179.67	11,136.72	-7,598.52	992.16	7,604.11	0.00	0.00	0.00
18,883.16	89.93	179.67	11,136.82	-7,681.68	992.63	7,687.27	0.00	0.00	0.00
TD at 18883.16									

Design Targets

Target Name - hit/miss target - Shape	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude
FTP - Pakse 5 South I - plan misses target center by 189.93usft at 11153.17usft MD (10992.97 TVD, 13.16 N, 893.20 E) - Point	0.00	0.00	11,127.12	136.02	947.78	570,071.77	732,689.93	32° 33' 56.333219 N	3° 42' 43.939149 W
BHL - Pakse 5 South - plan hits target center - Point	0.00	0.00	11,136.82	-7,681.68	992.63	562,254.07	732,734.78	32° 32' 38.974789 N	3° 42' 43.947983 W
LTP - Pakse 5 South I - plan misses target center by 0.12usft at 18793.16usft MD (11136.71 TVD, -7591.68 N, 992.12 E) - Point	0.00	0.00	11,136.82	-7,591.68	992.17	562,344.07	732,734.32	32° 32' 39.865364 N	3° 42' 43.947225 W

Formations

Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)
2,726.69	2,707.07	Base Salt		0.070	179.67
3,746.93	3,697.00	Capitan Reef		0.070	179.67
5,361.57	5,266.89	Bell Canyon		0.070	179.67
5,805.64	5,706.87	Cherry Canyon		0.070	179.67
6,373.45	6,273.86	Brushy Canyon		0.070	179.67
7,986.45	7,886.86	Top BSPG Lime		0.070	179.67
9,021.45	8,921.86	1st BSPG Ss		0.070	179.67
9,331.45	9,231.86	2nd BSPG Carb		0.070	179.67
9,691.45	9,591.86	2nd BSPG Ss		0.070	179.67
10,141.45	10,041.86	3rd BSPG Carb		0.070	179.67
10,721.61	10,621.87	3rd BSPG Ss		0.070	179.67
11,192.30	11,017.15	Wolfcamp Sh		0.070	179.67

PHOENIX TECHNOLOGY SERVICES

Phoenix
Planning Report

EARTHSTONE Energy, Inc.

Database:	USA Compass	**Local Co-ordinate Reference:**	Well Pakse 5 South Fed Com 434H
Company:	Earthstone Operating, LLC	**TVD Reference:**	RKB @ 3572.12usft
Project:	Lea County, NM (Nad 83 NME)	**MD Reference:**	RKB @ 3572.12usft
Site:	Pakse 5 South Fed Com	**North Reference:**	Grid
Well:	Pakse 5 South Fed Com 434H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	OH		
Design:	Plan 1 03-07-23		

Plan Annotations

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates +N/-S (usft)	Local Coordinates +E/-W (usft)	Comment
1,600.00	1,600.00	0.00	0.00	KOP, Begin 2.00°/100' Build
2,300.09	2,293.14	20.46	82.62	Hold 14.00° Inc at 76.09° Azm
4,950.40	4,864.71	174.60	705.07	Begin 1.00°/100' Drop
6,350.59	6,251.00	215.52	870.32	Begin Vertical Hold
10,654.50	10,554.91	215.52	870.32	KOP2, Begin 10.00°/100' Build
11,553.80	11,127.87	-353.12	934.61	LP, Hold 89.93° Inc, Begin 2.00°/100' Turn
11,860.01	11,128.24	-658.64	952.69	Hold 179.67° Azm
18,883.16	11,136.82	-7,681.68	992.63	TD at 18883.16

PECOS DISTRICT
DRILLING CONDITIONS OF APPROVAL

OPERATOR'S NAME:	Earthstone
LEASE NO.:	**NMNM16640B**
LOCATION:	Section 24, T.20 S, R.32 E., NMPM
COUNTY:	Lea County, New Mexico
WELL NAME & NO.:	Pakse 5 South Fed Com 434H
SURFACE HOLE FOOTAGE:	231'/N & 1279'/E
BOTTOM HOLE FOOTAGE:	2632'/N & 330'/E

COA

H_2S	◉ Yes	○ No		
Potash / WIPP	○ None	○ Secretary	◉ R-111-P	☐ WIPP
Cave / Karst	◉ Low	○ Medium	○ High	○ Critical
Wellhead	○ Conventional	○ Multibowl	○ Both	◉ Diverter
Cementing	☐ Primary Squeeze	☐ Cont. Squeeze	☐ EchoMeter	☑ DV Tool
Special Req	☐ Break Testing	☐ Water Disposal	☑ COM	☐ Unit
Variance	☑ Flex Hose	☐ Casing Clearance	☐ Pilot Hole	☑ Capitan Reef
Variance	☑ Four-String	☐ Offline Cementing	☑ Fluid-Filled	☐ Open Annulus
☐ **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 and Atoka** 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 **20** inch surface casing shall be set at approximately **1230** 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 **24 hours in the Potash Area** or 500 pounds compressive strength, whichever is greater. (This is to include the lead cement)

Approval Date: 11/17/2023

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.

Intermediate casing must be kept fluid filled to meet BLM minimum collapse requirement.

2. The minimum required fill of cement behind the **13-3/8** inch 1st intermediate casing shall be set at **3500ft**:
   - Cement to surface. If cement does not circulate see B.1.a, c-d above. **Excess calculates to 17%. Additional cement maybe required.**

Wait on cement (WOC) time for a primary cement job is to include the lead cement slurry due to cave/karst, Capitan Reef, and potash.

❖ In R111 Potash Areas if cement does not circulate to surface on the first two salt protection casing strings, the cement on the 3rd casing salt string must come to surface.

❖ **Special Capitan Reef requirements.** If lost circulation (50% or greater) occurs below the Base of the Salt, the operator shall do the following:
(Use this for 3 string wells in the Capitan Reef, if 4 string well ensure FW based mud used across the Capitan interval)

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

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

3. The minimum required fill of cement behind the **10-3/4** inch 2nd intermediate casing is:

Operator has proposed a DV tool, the depth may be adjusted as long as the cement is changed proportionally. The DV tool may be cancelled if cement circulates to surface on the first stage.

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

b. Second stage above DV tool:

- Cement to surface. If cement does not circulate see B.1.a, c-d above. **Excess calculates to 11%. Additional cement maybe required.**

Wait on cement (WOC) time for a primary cement job is to include the lead cement slurry due to cave/karst, Capitan Reef, and potash.

4. The minimum required fill of cement behind the **7-5/8** inch 3rd Intermediate casing is:
   - Cement should tie-back at least **50 feet (3569ft)** on top of Capitan Reef top. If cement does not circulate see B.1.a, c-d above.

Wait on cement (WOC) time for a primary cement job is to include the lead cement slurry due to cave/karst, Capitan Reef, and potash.

5. The minimum required fill of cement behind the **5-1/2 x 5-inch** production casing is:
   - Cement should tie-back **100 feet** into the previous casing. 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. Minimum working pressure of the blowout preventer (BOP) and related equipment (BOPE) required for drilling below the surface casing shoe shall be **5000 (5M)** psi. A Diverter system is approved as a variance to drill the surface and 1st intermediate casing section**.**

   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 intergrity 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 11/8/2023

Approval Date: 11/17/2023

PECOS DISTRICT
SURFACE USE
CONDITIONS OF APPROVAL

OPERATOR'S NAME:	Earthstone Operating LLC
LEASE NO.:	NMNM 077055 and 016640B
COUNTY:	Lea

Wells:

Pakse South Fed Com Well Pad 3

Pakse 3 South Fed Com 112H
Surface Hole Location: 264' FNL & 1918' FWL, Section 24, T. 20 S., R. 32 E.
Bottom Hole Location: 2631' FNL & 1650' FWL, Section 36, T. 20 S, R 32 E.

Pakse 3 South Fed Com 212H
Surface Hole Location: 264' FNL & 2008' FWL, Section 24, T. 20 S., R. 32 E.
Bottom Hole Location: 2630' FNL & 2310' FWL, Section 36, T. 20 S, R 32 E.

Pakse 3 South Fed Com 302H
Surface Hole Location: 264' FNL & 1978' FWL, Section 24, T. 20 S., R. 32 E.
Bottom Hole Location: 2630' FNL & 1980' FWL, Section 36, T. 20 S, R 32 E.

Pakse 3 South Fed Com 322H
Surface Hole Location: 264' FNL & 1948' FWL, Section 24, T. 20 S., R. 32 E.
Bottom Hole Location: 2631' FNL & 1560' FWL, Section 36, T. 20 S, R 32 E.

Pakse 3 South Fed Com 432H
Surface Hole Location: 264' FNL & 2038' FWL, Section 24, T. 20 S., R. 32 E.
Bottom Hole Location: 2630' FNL & 2310' FWL, Section 36, T. 20 S, R 32 E.

Pakse South Fed Com Well Pad 4

Pakse 4 South Fed Com 113H
Surface Hole Location: 263' FNL & 1999' FEL, Section 24, T. 20 S., R. 32 E.
Bottom Hole Location: 2628' FNL & 2510' FEL, Section 25, T. 20 S, R 32 E.

Pakse 4 South Fed Com 303H
Surface Hole Location: 263' FNL & 1939' FEL, Section 24, T. 20 S., R. 32 E.
Bottom Hole Location: 2629' FNL & 1980' FEL, Section 25, T. 20 S, R 32 E.

Pakse 4 South Fed Com 323H
Surface Hole Location: 263' FNL & 1969' FEL, Section 24, T. 20 S., R. 32 E.
Bottom Hole Location: 2628' FNL & 2310' FEL, Section 25, T. 20 S, R 32 E.

Pakse 4 South Fed Com 433H
Surface Hole Location: 263' FNL & 1879' FEL, Section 24, T. 20 S., R. 32 E.
Bottom Hole Location: 2629' FNL & 1650' FEL, Section 25, T. 20 S, R 32 E.

Pakse South Fed Com Well Pad 5

Pakse 5 South Fed Com 114H
Surface Hole Location: 351' FNL & 1279' FEL, Section 24, T. 20 S., R. 32 E.
Bottom Hole Location: 2630' FNL & 990' FEL, Section 25, T. 20 S, R 32 E.

Pakse 5 South Fed Com 304H
Surface Hole Location: 291' FNL & 1279' FEL, Section 24, T. 20 S., R. 32 E.

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Bottom Hole Location: 2631' FNL & 660' FEL, Section 25, T. 20 S, R 32 E.

Pakse 5 South Fed Com 324H
Surface Hole Location: 321' FNL & 1279' FEL, Section 24, T. 20 S., R. 32 E.
Bottom Hole Location: 2630' FNL & 990' FEL, Section 25, T. 20 S, R 32 E.

Pakse 5 South Fed Com 434H
Surface Hole Location: 231' FNL & 1279' FEL, Section 24, T. 20 S., R. 32 E.
Bottom Hole Location: 2632' FNL & 330' FEL, Section 25, T. 20 S, R 32 E.

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

Approval Date: 11/17/2023

I. GENERAL PROVISIONS

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

II. PERMIT EXPIRATION

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

III. ARCHAEOLOGICAL, PALEONTOLOGY & HISTORICAL SITES

Any cultural 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. An evaluation of the discovery will be made by the Authorized Officer to determine appropriate actions to prevent the loss of significant cultural or scientific values. The holder will be responsible for the cost of evaluation and any decision as to 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.

The holder is hereby obligated to comply with procedures established in the Native American Graves Protection and Repatriation Act (NAGPRA) to protect such cultural items as human remains, associated funerary objects, sacred objects, and objects of cultural patrimony discovered inadvertently during the course of project implementation. In the event that any of the cultural items listed above are discovered during the course of project work, the proponent shall immediately halt the disturbance and contact the BLM within 24 hours for instructions. The proponent or initiator of any project shall be held responsible for protecting, evaluating, reporting, excavating, treating, and disposing of these cultural items according to the procedures established by the BLM in consultation with Indian Tribes."

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. An evaluation of the discovery will be made by the Authorized Officer to determine appropriate actions to prevent the loss of significant cultural or scientific values. The holder will be responsible for the cost of evaluation and any decision as to 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)

Watershed:

The entire well pad(s) will be bermed to prevent oil, salt, and other chemical contaminants from leaving the well pad. The compacted berm shall be constructed at a minimum of 12 inches with impermeable mineral material (e.g. caliche). Topsoil shall not be used to construct the berm. No water flow from the uphill side(s) of the pad shall be allowed to enter the well pad. The integrity of the berm shall be maintained around the surfaced pad throughout the life of the well and around the downsized pad after interim reclamation has been completed. Any water erosion that may occur due to the construction of the well pad during the life of the well will be quickly corrected and proper measures will be taken to prevent future erosion. Stockpiling of topsoil is required. The topsoil shall be stockpiled in an appropriate location to prevent loss of soil due to water or wind erosion and not used for berming or erosion control. If fluid collects within the bermed area, the fluid must be vacuumed into a safe container and disposed of properly at a state approved facility.

Range:

Cattleguards

Where a permanent cattlegaurd is approved, an appropriately sized cattleguard(s) sufficient to carry out the project shall be installed and maintained at fence crossing(s). Any existing cattleguard(s) on the access road shall be repaired or replaced if they are damaged or have deteriorated beyond practical use. The operator shall be responsible for the condition of the existing cattleguard(s) that are in place and are utilized during lease operations. A gate shall be constructed on one side of the cattleguard and fastened securely to H-braces.

Fence Requirement

Where entry granted across a fence line, the fence must be braced and tied off on both sides of the passageway prior to cutting. Once the work is completed, the fence will be restored to its prior condition, or better. The operator shall notify the private surface landowner or the grazing allotment holder prior to crossing any fence(s).

Livestock Watering Requirement

Any damage to structures that provide water to livestock throughout the life of the well, caused by operations from the well site, must be immediately corrected by the operator. The operator must notify the BLM office (575-234-5972) and the private surface landowner or the grazing allotment holder if any damage occurs to structures that provide water to livestock.

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. Additionally, no new drilling will be allowed within up to 200 meters of leks known at the time of permitting. Normal vehicle use on existing roads will not be restricted. Exhaust noise from pump jack engines must be muffled or otherwise controlled so as not to exceed 75 db measured at 30 ft. from the source of the noise.

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.

VRM IV:

Short-term mitigation measures include painting all above-ground structures that are not subject to safety requirements (including meter housing) Shale Green, which is a flat non-reflective paint color listed in the BLM Standard Environmental Color Chart (CC-001: June 2013). Long-term mitigation measures include the removal of wells and associated infrastructure following abandonment (end of cost-effective production). Previously impacted areas will be reclaimed by removing structures and caliche pads, returning disturbed areas to natural grade, and revegetating with an approved BLM seed mixture; thereby eliminating visual impacts.

Potash Resources:

Lessees must comply with the 2012Secretarial Potash Order. The Order is designed to manage the efficient development of oil, gas, and potash resources. Section 6 of the Order provides general provisions which must be followed to minimize conflict between the industries and ensure the safety of operations.

To minimize impacts to potash resources, the proposed well is confined within the boundaries of the established Belcos Tetris Drill Island.

VI. CONSTRUCTION

A. NOTIFICATION

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

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

B. TOPSOIL

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

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

C. CLOSED LOOP SYSTEM

Tanks are required for drilling operations: No Pits.

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

D. FEDERAL MINERAL MATERIALS PIT

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

E. WELL PAD SURFACING

Surfacing of the well pad is not required.

If the operator elects to surface the well pad, the surfacing material may be required to be removed at the time of reclamation. The well pad shall be constructed in a manner which creates the smallest possible surface disturbance, consistent with safety and operational needs.

F. EXCLOSURE FENCING (CELLARS & PITS)

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

VII. PRODUCTION (POST DRILLING)

A. WELL STRUCTURES & FACILITIES

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

VIII. INTERIM RECLAMATION

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

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

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

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

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

IX. FINAL ABANDONMENT & RECLAMATION

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

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

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

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

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.

Approval Date: 11/17/2023

Seed Mixture 2, for Sandy Sites

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

Seed will be planted using a drill equipped with a depth regulator to ensure proper depth of planting where drilling is possible. The seed mixture will be evenly and uniformly planted over the disturbed area (smaller/heavier seeds have a tendency to drop the bottom of the drill and are planted first). The holder shall take appropriate measures to ensure this does not occur. Where drilling is not possible, seed will be broadcast and the area shall be raked or chained to cover the seed. When broadcasting the seed, the pounds per acre are to be doubled. The seeding will be repeated until a satisfactory stand is established as determined by the authorized officer. Evaluation of growth will not be made before completion of at least one full growing season after seeding.

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

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

*Pounds of pure live seed:

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

Approval Date: 11/17/2023

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 (S02). 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 SO,

Common Name	Chemical Formula	Specific Gravity	Threshold Limit	Hazardous Limit	Lethal Concentration
Hydrogen Sulfide	H2S	1.189 Air=1	10 ppm	100 ppm/hr	600 ppm
Sulfur Dioxide	SO2	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 sit e. 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 play 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 H25 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: PAKSE 5 SOUTH FED COM **Well Number:** 434H

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:** PAKSE 5 PAD **Number:** 114H,224H,304H,324H,434H

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: 240 Acres

Well plat: Pakse_5_South_Fed_Com_434H_C102_20230329120059.pdf

Well work start Date: 01/31/2024 **Duration:** 30 DAYS

Section 3 - Well Location Table

Survey Type: RECTANGULAR

Describe Survey Type:

Datum: NAD83 **Vertical Datum:** NAVD88

Survey number: 25490 **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	231	FNL	1279	FEL	20S	32E	24	Aliquot NENE	32.5652894	-103.7152842	LEA	NEW MEXICO	NEW MEXICO	F	NMNM 16640B	3544	0	0	Y
KOP Leg #1	231	FNL	1279	FEL	20S	32E	24	Aliquot NENE	32.5652894	-103.7152842	LEA	NEW MEXICO	NEW MEXICO	F	NMNM 16640B	-7010	10654	10554	Y
PPP Leg #1-1	100	FNL	330	FEL	20S	32E	24	Aliquot NENE	32.5656481	-103.7122053	LEA	NEW MEXICO	NEW MEXICO	F	NMNM 16640B	-7583	11553	11127	Y

Operator Name: EARTHSTONE OPERATING LLC

Well Name: PAKSE 5 SOUTH FED COM **Well Number:** 434H

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	2645	FNL	331	FEL	20S	32E	24	Aliquot NESE	32.5586572	-103.712206	LEA	NEW MEXICO	NEW MEXICO	F	NMNM 16640A	-7586	14098	11130	Y
EXIT Leg #1	2542	FNL	330	FEL	20S	32E	25	Aliquot SENE	32.544407	-103.7122075	LEA	NEW MEXICO	NEW MEXICO	F	NMNM 15907	-7592	18793	11136	Y
BHL Leg #1	2632	FNL	330	FEL	20S	32E	25	Aliquot SENE	32.5441596	-103.7122077	LEA	NEW MEXICO	NEW MEXICO	F	NMNM 15907	-7592	18883	11136	Y

AFMSS

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

Drilling Plan Data Report

11/21/2023

APD ID: 10400091389 **Submission Date:** 04/25/2023

Operator Name: EARTHSTONE OPERATING LLC

Well Name: PAKSE 5 SOUTH FED COM **Well Number:** 434H

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

Highlighted data reflects the most recent changes

Show Final Text

Section 1 - Geologic Formations

Formation ID	Formation Name	Elevation	True Vertical	Measured Depth	Lithologies	Mineral Resources	Producing Formatio
12487305	RUSTLER	3540	1101	1101	ANHYDRITE	USEABLE WATER	N
12487306	SALADO	2189	1351	1351	SALT	NONE	N
12487308	BASE OF SALT	839	2701	2701	ANHYDRITE, DOLOMITE	NATURAL GAS, OIL	N
12487309	CAPITAN REEF	-151	3691	3691	DOLOMITE	NONE	N
12487310	BELL CANYON	-1721	5261	5261	DOLOMITE, LIMESTONE, SANDSTONE	NATURAL GAS, OIL	N
12487311	CHERRY CANYON	-2161	5701	5701	SANDSTONE, SHALE, SILTSTONE	NATURAL GAS, OIL	N
12487320	BRUSHY CANYON	-2728	6268	6268	SANDSTONE, SHALE, SILTSTONE	NATURAL GAS, OIL	N
12487323	BONE SPRING LIME	-4341	7881	7881	LIMESTONE, SHALE	NATURAL GAS, OIL	N
12487324	BONE SPRING 1ST	-5376	8916	8916	SANDSTONE, SHALE, SILTSTONE	NATURAL GAS, OIL	N
12487325	BONE SPRING 2ND	-5686	9226	9226	LIMESTONE, SHALE	NATURAL GAS, OIL	N
12487326	BONE SPRING 2ND	-6046	9586	9586	SANDSTONE, SHALE, SILTSTONE	NATURAL GAS, OIL	N
12487327	BONE SPRING 3RD	-6496	10036	10036	LIMESTONE, SHALE	NATURAL GAS, OIL	N
12487328	BONE SPRING 3RD	-7076	10616	10616	SANDSTONE, SHALE, SILTSTONE	NATURAL GAS, OIL	N
12487329	WOLFCAMP	-7471	11011	11011	SHALE, SILTSTONE	NATURAL GAS, OIL	Y

Section 2 - Blowout Prevention

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 289525

CONDITIONS

Operator: Earthstone Operating, LLC 300 N. Marienfeld St Ste 1000 Midland, TX 79701	OGRID: 331165
	Action Number: 289525
	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	12/4/2023
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	12/4/2023
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	12/4/2023
pkautz	Cement is required to circulate on both surface and intermediate1 strings of casing	12/4/2023
pkautz	If cement does not circulate on any string, a CBL is required for that string of casing	12/4/2023