Form 3160-5
(June 2019)

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

FORM APPROVED
OMB No. 1004-0137
Expires: October 31, 2021

SUNDRY NOTICES AND REPORTS ON WELLS

Do not use this form for proposals to drill or to re-enter an abandoned well. Use Form 3160-3 (APD) for such proposals.

SUBMIT IN TRIPLICATE *- Other instructions on page 2*

5. Lease Serial No. NMNM097896

6. If Indian, Allottee or Tribe Name

7. If Unit of CA/Agreement, Name and/or No.

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

8. Well Name and No. JADE 34-3 FED 2BS COM/9H

2. Name of Operator EARTHSTONE OPERATING LLC

9. API Well No. 3002550518

3a. Address 1400 WOODLOCH FOREST DRIVE SUITE 300,

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

10. Field and Pool or Exploratory Area TEAS/BONE SPRING

4. Location of Well *(Footage, Sec., T.,R.,M., or Survey Description)* SEC 34/T19S/R33E/NMP

11. Country or Parish, State LEA/NM

12. CHECK THE APPROPRIATE BOX(ES) TO INDICATE NATURE OF NOTICE, REPORT OR OTHER DATA

TYPE OF SUBMISSION	TYPE OF ACTION			
☑ Notice of Intent	☐ Acidize	☐ Deepen	☐ Production (Start/Resume)	☐ Water Shut-Off
	☐ Alter Casing	☐ Hydraulic Fracturing	☐ Reclamation	☐ Well Integrity
☐ Subsequent Report	☐ Casing Repair	☐ New Construction	☐ Recomplete	☑ Other
	☐ Change Plans	☐ Plug and Abandon	☐ Temporarily Abandon	
☐ Final Abandonment Notice	☐ Convert to Injection	☐ Plug Back	☐ Water Disposal	

13. Describe Proposed or Completed Operation: Clearly state all pertinent details, including estimated starting date of any proposed work and approximate duration thereof. If the proposal is to deepen directionally or recomplete horizontally, give subsurface locations and measured and true vertical depths of all pertinent markers and zones. Attach the Bond under which the work will be perfonned or provide the Bond No. on file with BLM/BIA. Required subsequent reports must be filed within 30 days following completion of the involved operations. If the operation results in a multiple completion or recompletion in a new interval, a Form 3160-4 must be filed once testing has been completed. Final Abandonment Notices must be filed only after all requirements, including reclamation, have been completed and the operator has detennined that the site is ready for final inspection.)

SUNDRY SUBMITTED TO REVISE WELL NAME, SURFACE HOLE LOCATION, FIRST TAKE POINT, LAST TAKE POINT, BOTTOM HOLE LOCATION & CASING DESIGN
NAME CHANGE
FROM: JADE 34-3 2BS FED COM 9H
TO: JADE 34 3 FED COM 9H

SURFACE HOLE LOCATION/KOP
FROM: 240' FNL, 740' FEL
TO: 220' FNL, 750' FEL

FIRST TAKE POINT
FROM: 100' FNL, 400' FEL

Continued on page 3 additional information

14. I hereby certify that the foregoing is true and correct. Name *(Printed/Typed)* JENNIFER ELROD / Ph: (817) 953-3728

Title Senior Regulatory Technician

Signature

Date 03/10/2023

THE SPACE FOR FEDERAL OR STATE OFICE USE

Approved by CHRISTOPHER WALLS / Ph: (575) 234-2234 / Approved

Title Petroleum Engineer

Date 03/13/2023

Conditions of approval, if any, are attached. Approval of this notice 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.

Office CARLSBAD

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.

(Instructions on page 2)

GENERAL INSTRUCTIONS

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

SPECIFIC INSTRUCTIONS

Item 4 - Locations on Federal or Indian land should be described in accordance with Federal requirements. Consult the local Federal office for specific instructions.

Item 13: Proposals to abandon a well and subsequent reports of abandonment should include such special information as is required by the local Federal office. In addition, such proposals and reports should include reasons for the abandonment; data on any former or present productive zones or other zones with present significant fluid contents not sealed off by cement or otherwise; depths (top and bottom) and method of placement of cement plugs; mud or other material placed below, between and above plugs; amount, size, method of parting of any casing, liner or tubing pulled and the depth to the top of any tubing left in the hole; method of closing top of well and date well site conditioned for final inspection looking for approval of the abandonment. If the proposal will involve **hydraulic fracturing operations**, you must comply with 43 CFR 3162.3-3, including providing information about the protection of usable water. Operators should provide the best available information about all formations containing water and their depths. This information could include data and interpretation of resistivity logs run on nearby wells. Information may also be obtained from state or tribal regulatory agencies and from local BLM offices.

NOTICES

The privacy Act of 1974 and the regulation in 43 CFR 2.48(d) provide that you be furnished the following information in connection with information required by this application.
AUTHORITY: 30 U.S.C. 181 et seq., 351 et seq., 25 U.S.C. 396; 43 CFR 3160.
PRINCIPAL PURPOSE: The information is used to: (1) Evaluate, when appropriate, approve applications, and report completion of subsequent well operations, on a Federal or Indian lease; and (2) document for administrative use, information for the management, disposal and use of National Resource lands and resources, such as: (a) evaluating the equipment and procedures to be used during a proposed subsequent well operation and reviewing the completed well operations for compliance with the approved plan; (b) requesting and granting approval to perform those actions covered by 43 CFR 3162.3-2, 3162.3-3, and 3162.3-4; (c) reporting the beginning or resumption of production, as required by 43 CFR 3162.4-1(c)and (d) analyzing future applications to drill or modify operations in light of data obtained and methods used.
ROUTINE USES: Information from the record and/or the record will be transferred to appropriate Federal, State, local or foreign agencies, when relevant to civil, criminal or regulatory investigations or prosecutions in connection with congressional inquiries or to consumer reporting agencies to facilitate collection of debts owed the Government.
EFFECT OF NOT PROVIDING THE INFORMATION: Filing of this notice and report and disclosure of the information is mandatory for those subsequent well operations specified in 43 CFR 3162.3-2, 3162.3-3, 3162.3-4.

The Paperwork Reduction Act of 1995 requires us to inform you that:
The BLM collects this information to evaluate proposed and/or completed subsequent well operations on Federal or Indian oil and gas leases.
Response to this request is mandatory.
The BLM would like you to know that you do not have to respond to this or any other Federal agency-sponsored information collection unless it displays a currently valid OMB control number.

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

Additional Information

Additional Remarks

TO: 100'FNL, 431' FEL

LAST TAKE POINT

FROM: 100' FSL, 400' FEL

TO: 100' FSL, 431' FEL

BOTTOM HOLE LOCATION

FROM: 100' FSL, 400' FEL

TO: 50' FSL, 431' FEL

SURFACE CASING

FROM: 26" HOLE, 20", 94#, J-55 BTC CSG SET @ 1350' MD

TO: 17.5" HOLE, 13.375", 54.5#, J-55 BTC CSG SET @ 1335' MD

INTERMEDIATE #1 CASING

FROM: 17.5" HOLE, 13.375", 54.5#, HCL-80 BTC CSG SET @ 3450' MD

TO: 12.25" HOLE, 10.75", 45.5# HCL-80 BTC *SPL CC* CSG SET @ 3290'MD

INTERMEDIATE #2 CASING

FROM: 12.25" HOLE, 9.625", 40#, J-55 LT&C CSG SET @ 5450' MD

TO: 9.875" HOLE, 8.625", 32#, L80 EHC MO-FXL SET @ 5225' MD

PRODUCTION CASING

FROM: 8.75" HOLE, 5.5", 20#, P-110 BTC CSG SET @ 20,211'MD

TO: 7.875" HOLE, 5.5", 20#, HC-P-110-RY VARN AC SET @ 20,433'MD

Location of Well

0. SHL: NENE / 240 FNL / 740 FEL / TWSP: 19S / RANGE: 33E / SECTION: 34 / LAT: 32.623294 / LONG: -103.644845 (TVD: 0 feet, MD: 0 feet)

PPP: NENE / 100 FNL / 400 FEL / TWSP: 19S / RANGE: 33E / SECTION: 34 / LAT: 32.623678 / LONG: -103.64374 (TVD: 10145 feet, MD: 10502 feet)

BHL: SESE / 100 FSL / 400 FEL / TWSP: 20S / RANGE: 33E / SECTION: 3 / LAT: 32.595178 / LONG: -103.643865 (TVD: 10180 feet, MD: 20211 feet)

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
SHL, FTP, LTP/BHL/NAME

WELL LOCATION AND ACREAGE DEDICATION PLAT

[1] API Number	[2] Pool Code	[3] Pool Name
30-025-50518	58960	TEAS; BONE SPRING

[4] Property Code	[5] Property Name	[6] Well Number
333714	JADE 34 3 FED COM	9H

[7] OGRID No.	[8] Operator Name	[9] Elevation
331165	EARTHSTONE OPERATING, LLC	3580.7

[10] Surface Location

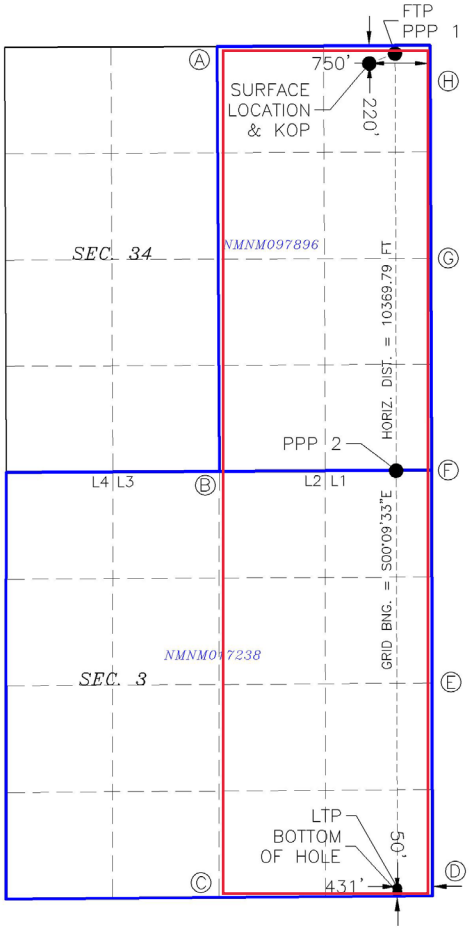
UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
A	34	19 S	33 E		220	NORTH	750	EAST	LEA

[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
P	3	20 S	33 E		50	SOUTH	431	EAST	LEA

[12] Dedicated Acres	[13] Joint or Infill	[14] Consolidation Code	[15] Order No.
639.81			

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.



JADE 34 3 FED COM 9H
EL. = 3580.7

GEODETIC COORDINATES NAD 27 NMSP EAST	GEODETIC COORDINATES NAD 83 NMSP EAST
SURFACE LOCATION	SURFACE LOCATION
N.= 591129.49	N.= 591192.41
E.= 712111.97	E.= 753292.14
LAT. = 32.6232286°N	LAT. = 32.6233509°N
LONG. = 103.6443958°W	LONG. = 103.6448910°W
FIRST TAKE POINT	FIRST TAKE POINT
100' FNL, 431' FEL	100' FNL, 431' FEL
NAD 27 NMSP EAST	NAD 83 NMSP EAST
N.= 591251.09	N.= 591314.01
E.= 712430.38	E.= 753610.55
LAT. = 32.6235571°N	LAT. = 32.6236795°N
LONG. = 103.6433592°W	LONG. = 103.6438543°W
PPP 2	PPP 2
0' FSL, 436' FEL	0' FSL, 436' FEL
NAD 27 NMSP EAST	NAD 83 NMSP EAST
N.= 586071.25	N.= 586134.03
E.= 712444.63	E.= 753624.94
LAT. = 32.6093195°N	LAT. = 32.6094419°N
LONG. = 103.6434221°W	LONG. = 103.6439166°W
LAST TAKE POINT	LAST TAKE POINT
100' FSL, 431' FEL	100' FSL, 431' FEL
NAD 27 NMSP EAST	NAD 83 NMSP EAST
N.= 580883.83	N.= 580946.46
E.= 712458.91	E.= 753639.36
LAT. = 32.5950609°N	LAT. = 32.5951834°N
LONG. = 103.6434850°W	LONG. = 103.6439790°W
BOTTOM OF HOLE	BOTTOM OF HOLE
NAD 27 NMSP EAST	NAD 83 NMSP EAST
N.= 580833.84	N.= 580896.47
E.= 712458.98	E.= 753639.44
LAT. = 32.5949235°N	LAT. = 32.5950460°N
LONG. = 103.6434858°W	LONG. = 103.6439798°W

CORNER COORDINATES TABLE
NAD 27 NMSP EAST

A	N.= 591339.73	E.= 710220.91
B	N.= 586059.94	E.= 710246.22
C	N.= 580767.81	E.= 710242.17
D	N.= 580786.96	E.= 712889.97
E	N.= 583430.63	E.= 712885.66
F	N.= 586073.50	E.= 712880.40
G	N.= 588710.32	E.= 712871.92
H	N.= 591353.28	E.= 712860.86

CORNER COORDINATES TABLE
NAD 83 NMSP EAST

A	N.= 591402.65	E.= 751401.05
B	N.= 586122.70	E.= 751426.51
C	N.= 580830.42	E.= 751422.60
D	N.= 580849.59	E.= 754070.43
E	N.= 583493.34	E.= 754066.05
F	N.= 586136.28	E.= 754060.72
G	N.= 588773.18	E.= 754052.16
H	N.= 591416.21	E.= 754041.03

[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.

Signature 02/08/2023
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.

FEBRUARY 7, 2023
Date of Survey

Signature and Seal of Professional Surveyor:

Certificate Number: FILIMON F. JARAMILLO, PLS 12797
SURVEY NO. 9662A

Intent [X] As Drilled [ ]

API #
30-025-50518

Operator Name:	Property Name:	Well Number
EARTHSTONE OPERATING, LLC	JADE 34 3 FED COM	9H

Kick Off Point (KOP)

UL	Section	Township	Range	Lot	Feet	From N/S	Feet	From E/W	County
A	34	19S	33E		220	NORTH	750	EAST	LEA

Latitude	Longitude	NAD
32.6233509	103.6448910	83

First Take Point (FTP)

UL	Section	Township	Range	Lot	Feet	From N/S	Feet	From E/W	County
A	34	19S	33E		100	NORTH	431	EAST	LEA

Latitude	Longitude	NAD
32.6236795	103.6438543	83

Last Take Point (LTP)

UL	Section	Township	Range	Lot	Feet	From N/S	Feet	From E/W	County
P	3	20S	33E		100	SOUTH	431	EAST	LEA

Latitude	Longitude	NAD
32.5951834	103.6439790	83

Is this well the defining well for the Horizontal Spacing Unit? NO

Is this well an infill well? YES

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

API #
30-025-50024

Operator Name:	Property Name:	Well Number
EARTHSTONE OPERATING, LLC	JADE 34 3 FED COM	19H

KZ 06/29/2018

Earthstone Operating, LLC - Jade 34-3 Fed Com 9H

1. Geologic Formations

TVD of target	10,210' EOL	Kick Off Point	9,606'
MD at TD:	20,433'	Deepest expected fresh water:	360'

Formation	Depth (TVD) from KB	Water/Mineral Bearing/ Target Zone?	Hazards*
Quaternary Fill	Surface	Water	
Rustler	1306	Water	
Salado	1641	Salt	
Yates	3181	Salt	
Capitan Reef	3486	Salt Water	
Cherry Canyon	5123	Water	
Brushy Canyon	6506	Oil/Gas	
Top BSPG Lime	8051	Oil/Gas	
1st BSPG Ss	9176	Oil/Gas	
2nd BSPG Carb	9476	Oil/Gas	
2nd BSPG Ss	9711	Target Oil/Gas	
0	0	Not Penetrated	
0	0	Not Penetrated	
0	0	Not Penetrated	
0	0	Not Penetrated	

2. Casing Program

Hole Size	Casing Interval		Csg. Size	Weight	Grade	Conn.	SF	SF Burst	SF
	From	To		(lbs)			Collapse		Tension
17.5"	0	1335	13.375"	54.5	J55	BTC	2.71	5.74	11.72
12.25"	0	3290	10.75"	45.5	HCL80	BTC ***Spl CC***	2.32	4.56	4.62
9.875"	0	5225	8.625"	32	L80 EHC	MO-FXL	2.60	1.88	3.12
7.875"	0	20,433	5.5"	20	HC P110-RY	VAroughneckAC	2.51	2.95	2.67
						BLM Minimum Safety Factor	1.125	1	1.6 Dry 1.8 Wet

Intermediate casing will be kept at least 1/3 full while running casing.to mitigate collapse. Intermediate burst based on 0.7 frac gradient at the shoe with Gas Gradient 0.1 psi/ft to surface.
All casing strings will be tested in accordance with Onshore Oil and Gas Order #2 III.B.1.h

Earthstone Operating, LLC - Jade 34-3 Fed Com 9H

	Y or N
Is casing new? If used, attach certification as required in Onshore Order #1	Y
Does casing meet API specifications? If no, attach casing specification sheet.	Y
Is premium or uncommon casing planned? If yes attach casing specification sheet.	N
Does the above casing design meet or exceed BLM's minimum standards? If not provide justification (loading assumptions, casing design criteria).	Y
Will the intermediate pipe be kept at a minimum 1/3 fluid filled to avoid approaching the collapse pressure rating of the casing?	Y
Is well located within Capitan Reef?	Y
If yes, does production casing cement tie back a minimum of 50' above the Reef?	Y
Is well within the designated 4 string boundary?	Y
Is well located in SOPA but not in R-111-P?	N
If yes, are the first 2 strings cemented to surface and 3rd string cement tied back 500' into previous casing?	
Is well located in R-111-P and SOPA?	Y
If yes, are the first three strings cemented to surface?	Y
Is 2nd string set 100' to 600' below the base of salt?	Y
Is well located in high Cave/Karst?	N
If yes, are there two strings cemented to surface?	
(For 2 string wells) If yes, is there a contingency casing if lost circulation occurs?	
Is well located in critical Cave/Karst?	N
If yes, are there three strings cemented to surface?	

Earthstone Operating, LLC - Jade 34-3 Fed Com 9H

3. Cementing Program

Casing	# Sks	Wt. lb/ gal	Yld ft3/ sack	H_20 gal/sk	500# Comp. Strength (hours)	Slurry Description
Surf.	500	12.5	1.75	9	12	Lead: Class C + 4% Gel + 1% CaCl2
	390	14.8	1.34	6.34	8	Tail: Class C + 2% CaCl2
Inter. 1	380	12.7	2.0	9.6	16	Lead: 35:65:6 C Blend
	110	14.8	1.34	6.34	8	Tail: Class C + 2% CaCl
Inter. 2, Stage 1	120	11.5	2.25	10.6	16	Lead: 35:65:6 C Blend
	80	14.8	1.34	6.34	8	Tail: Class C + 2% CaCl
DV/ECP @ 3390						
Inter. 2, Stage 2	180	11.5	2.3	10.6	16	Lead: Class C + 4% Gel + 1% CaCl2
	60	14.8	1.35	6.34	8	Tail: Class C + 2% CaCl
5.5 Prod	580	11.3	3.05	19	72	Lead: 50:50:10 H Blend
	1910	13.5	1.27	5.7	19	Tail: 50:50:2 Class H Blend

Volumes Subject to Observed Hole Conditions and/or Fluid Caliper Results
Lab reports with the 500 psi compressive strength time for the cement will be onsite for review.

Casing String	TOC	% Excess
Surface	0’	50%
1st Intermediate	0’	50%
2nd Intermediate	0’	50%
Production	3,386'	35% OH in Lateral (KOP to EOL) – 40% OH in Vertical

Earthstone Operating, LLC - Jade 34-3 Fed Com 9H

4. Pressure Control Equipment

N	A variance is requested for the use of a diverter on the surface casing. See attached for schematic.

BOP installed and tested before drilling which hole?	Size?	Min. Required WP	Type	x	Tested to:
12.25	20"	2M	Annular	x	2000 psi
			Blind Ram		2M
			Pipe Ram		
			Double Ram		
			Other*		
9.875	13-5/8"	3M	Annular	x	1500 psi
			Blind Ram	x	3M
			Pipe Ram	x	
			Double Ram		
			Other*		
8-3/4"	13-5/8"	5M	Annular	x	2500 psi
			Blind Ram	x	5M
			Pipe Ram	x	
			Double Ram		
			Other*		

BOP/BOPE will be tested by an independent service company to 250 psi low and the high pressure indicated above per Onshore Order 2 requirements. The System may be upgraded to a higher pressure but still tested to the working pressure listed in the table above. If the system is upgraded all the components installed will be functional and tested.

Pipe rams will be operationally checked each 24 hour period. Blind rams will be operationally checked on each trip out of the hole. These checks will be noted on the daily tour sheets. Other accessories to the BOP equipment will include a Kelly cock and floor safety valve (inside BOP) and choke lines and choke manifold. See attached schematics.

X	Formation integrity test will be performed per Onshore Order #2. On Exploratory wells or 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. Will be tested in accordance with Onshore Oil and Gas Order #2 III.B.1.i.
Y	A variance is requested for the use of a flexible choke line from the BOP to Choke Manifold. See attached for specs and hydrostatic test chart.
	N Are anchors required by manufacturer?
Y	A multibowl wellhead is being used. The BOP will be tested per Onshore Order #2 after installation on the surface casing which will cover testing requirements for a maximum of 30 days. If any seal subject to test pressure is broken the system must be tested.

Earthstone Operating, LLC - Jade 34-3 Fed Com 9H

5. Mud Program

Depth		Type	Weight (ppg)	Viscosity	Water Loss
From	To				
Surface	Surf. Shoe	FW Gel	8.6 - 8.8	28-34	N/C
Surf. Shoe	10-3/4" Shoe	Saturated Brine	9.8 - 10.2	28-34	N/C
10-3/4" Shoe	8-5/8" Int shoe	Saturated Brine	8.3 - 8.6	28-34	N/C
8-5/8" Int shoe	Lateral TD	Cut Brine	8.6 - 10	28-34	N/C

Sufficient mud materials to maintain mud properties and meet minimum lost circulation and weight increase requirements will be kept on location at all times.

What will be used to monitor the loss or gain of fluid?	PVT/Pason/Visual Monitoring

6. Logging and Testing Procedures

Logging, Coring and Testing.	
Y	Will run GR/CNL from TD to surface (horizontal well – vertical portion of hole). Stated logs run will be in the Completion Report and submitted to the BLM.
Y	No Logs are planned based on well control or offset log information.
N	Drill stem test? If yes, explain.
N	Coring? If yes, explain.

Additional logs planned		Interval
N	Resistivity	Pilot Hole TD to ICP
N	Density	Pilot Hole TD to ICP
Y	CBL	Production casing (If cement not circulated to surface)
Y	Mud log	Intermediate shoe to TD
N	PEX	

7. Drilling Conditions

Condition	Specify what type and where?
BH Pressure at deepest TVD	5310 psi at 10210' TVD
Abnormal Temperature	NO 160 Deg. F.

No abnormal pressure or temperature conditions are anticipated. Sufficient mud materials to maintain mud properties and weight increase requirements will be kept on location at all times.

Sufficient supplies of Paper/LCM for periodic sweeps to control seepage and losses will be maintained on location.

Hydrogen Sulfide (H2S) monitors will be installed prior to drilling out the surface shoe. If H2S is detected in concentrations greater than 100 ppm, the operator will comply with the provisions of Onshore Oil and Gas Order #6. If Hydrogen Sulfide is encountered, measured values and formations will be provided to the BLM.	
N	H2S is present
Y	H2S Plan attached

8. Other Facets of Operation

Y	Is it a walking operation?
N	Is casing pre-set?

x	H2S Plan.
x	BOP & Choke Schematics.
x	Directional Plan

EARTHSTONE Energy, Inc.

Project: Lea County, NM (Nad 83 NME)
Site: Jade 34-3 Fed
Well: Jade 34-3 Fed Com 2BS 9H
Wellbore: OH
Design: Plan 1 02-02-23
Rig: Scandrill Star

PHOENIX TECHNOLOGY SERVICES

Azimuths to Grid North
True North: -0.37°
Magnetic North: 5.94°

Magnetic Field
Strength: 47783.6nT
Dip Angle: 60.46°
Date: 4/1/2023
Model: MVHD

WELL DETAILS

Ground Level 3580.70

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
0.00	0.00	591192.40	753292.14	32° 37' 24.063255 N	103° 38' 41.607504 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	0.00	0.00		
2	1700.00	0.00	0.00	1700.00	0.00	0.00	0.00	0.00	0.00		KOP, Begin 2.00°/100' Build
3	1999.77	6.00	52.02	1999.22	9.64	12.35	2.00	52.02	-9.61		Hold 6.00° Inc at 52.02° Azm
4	4686.79	6.00	52.02	4671.55	182.36	233.57	0.00	0.00	-181.71		Begin 1.00°/100' Drop
5	5286.34	0.00	0.00	5270.00	201.65	258.27	1.00	180.00	-200.93		Begin Vertical Hold
6	9606.34	0.00	0.00	9590.00	201.65	258.27	0.00	0.00	-200.93		KOP2, Begin 10.00°/100' Build
7	10503.64	89.73	174.90	10162.95	-366.35	308.96	10.00	174.90	367.21		LP, Hold 89.73° Inc, Begin 2.00°/100' Turn
8	10750.64	89.73	179.84	10164.12	-613.02	320.29	2.00	90.03	613.91		Hold 179.84° Azm
9	20433.70	89.73	179.84	10210.00	-10295.93	347.30	0.00	0.00	10296.86	BHL - Jade 34-3 FC 2BS 9H	TD at 20433.70

DESIGN TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
FTP - Jade 34-3 FC 2BS 9H	10161.00	121.61	318.41	591314.01	753610.55	32° 37' 25.246170 N	103° 38' 37.875334 W
BHL - Jade 34-3 FC 2BS 9H	10210.00	-10295.93	347.30	580896.47	753639.44	32° 35' 42.165463 N	103° 38' 38.327351 W
LTP - Jade 34-3 FC 2BS 9H	10210.00	-10245.94	347.22	580946.46	753639.36	32° 35' 42.660107 N	103° 38' 38.324499 W

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

Local Origin: Well Jade 34-3 Fed Com 2BS 9H, Grid North

Latitude: 32° 37' 24.063255 N
Longitude: 103° 38' 41.607504 W

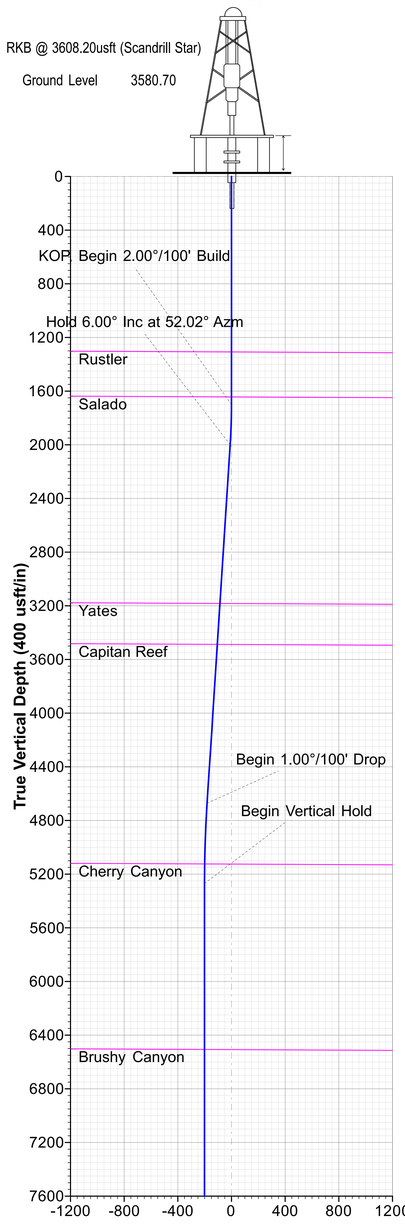
Grid East: 753292.14
Grid North: 591192.40
Scale Factor: 1.000

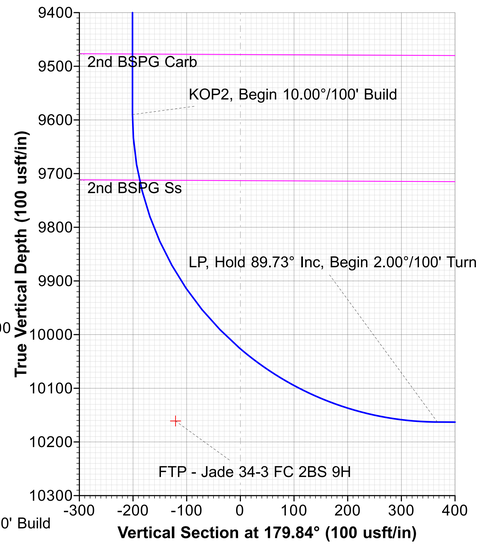
Geomagnetic Model: MVHD
Sample Date: 01-Apr-23
Magnetic Declination: 6.31°
Dip Angle from Horizontal: 60.46°
Magnetic Field Strength: 47783.56653826nT

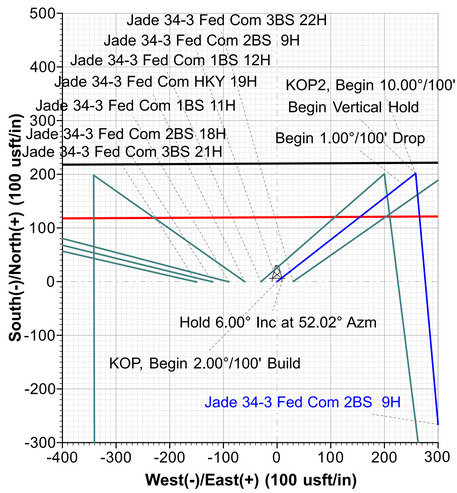
To convert a Magnetic Direction to a Grid Direction, Add 5.94°
To convert a Magnetic Direction to a True Direction, Add 6.31° East
To convert a True Direction to a Grid Direction, Subtract 0.37°

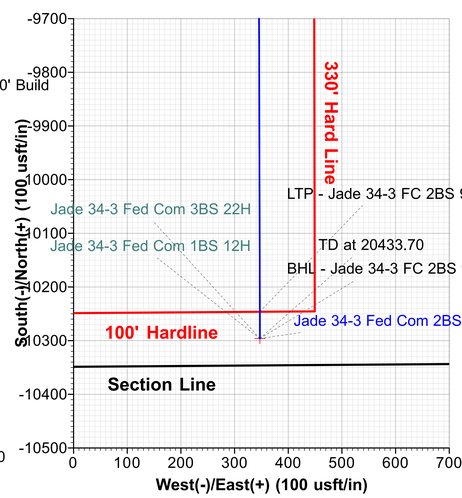
FORMATION TOP DETAILS

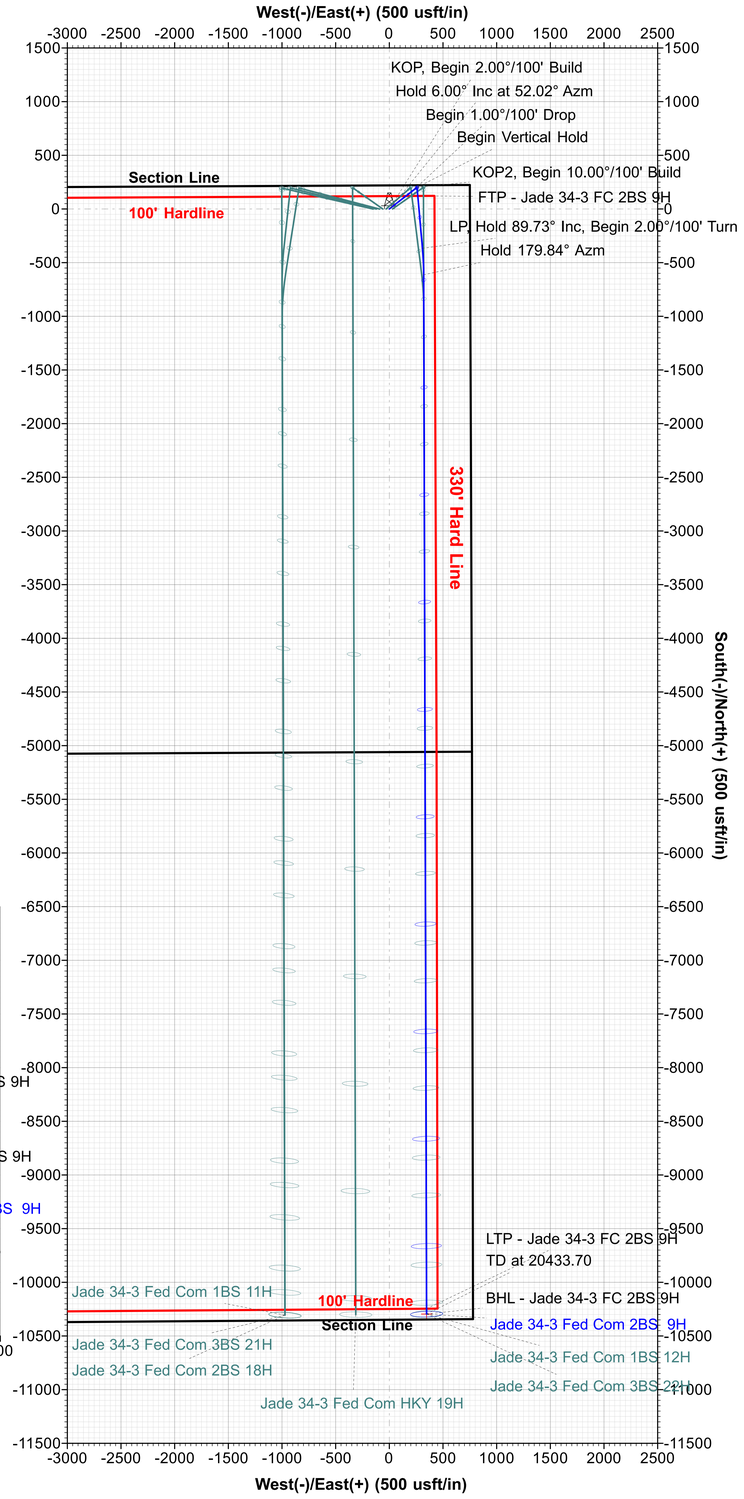
TVDPath	MDPath	Formation
1308.20	1308.20	Rustler
1643.20	1643.20	Salado
3182.80	3189.85	Yates
3487.70	3496.44	Capitan Reef
5124.26	5140.58	Cherry Canyon
6507.25	6523.59	Brushy Canyon
8052.25	8068.59	Top BSPG Lime
9177.25	9193.59	1st BSPG Ss
9477.25	9493.59	2nd BSPG Carb
9712.32	9729.60	2nd BSPG Ss

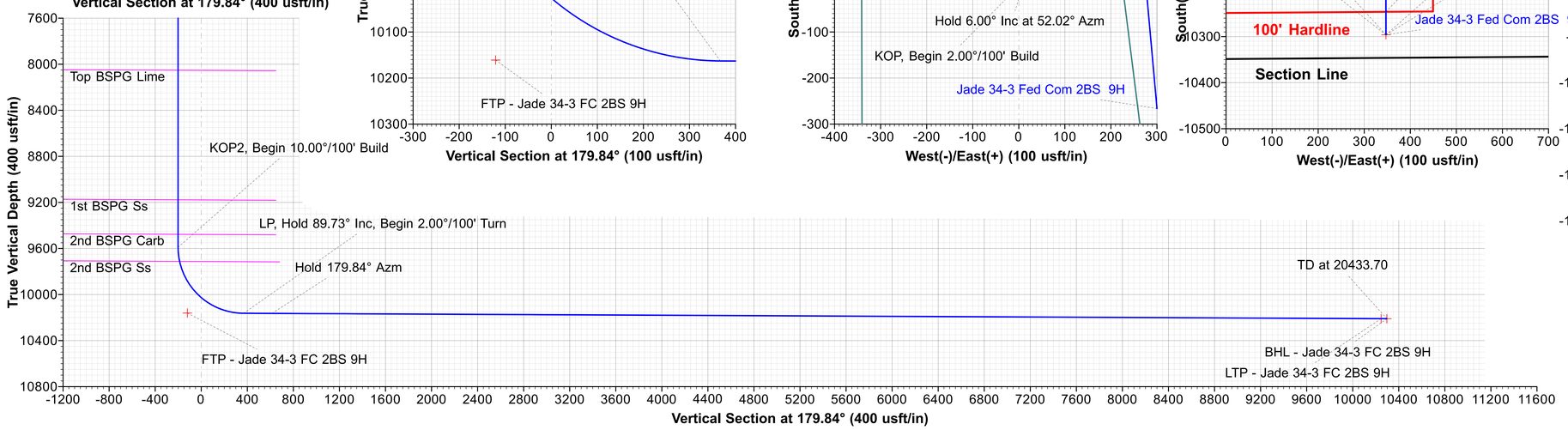












Date: 9:50, February 02 2023

PHOENIX
TECHNOLOGY SERVICES

Earthstone Operating, LLC

Lea County, NM (Nad 83 NME)
Jade 34-3 Fed
Jade 34-3 Fed Com 2BS 9H

OH

Plan: Plan 1 02-02-23

Standard Planning Report

02 February, 2023

EARTHSTONE
Energy, Inc.

PHOENIX TECHNOLOGY SERVICES

Phoenix

Planning Report

EARTHSTONE Energy, Inc.

Database:	USA Compass	**Local Co-ordinate Reference:**	Well Jade 34-3 Fed Com 2BS 9H
Company:	Earthstone Operating, LLC	**TVD Reference:**	RKB @ 3608.20usft (Scandrill Star)
Project:	Lea County, NM (Nad 83 NME)	**MD Reference:**	RKB @ 3608.20usft (Scandrill Star)
Site:	Jade 34-3 Fed	**North Reference:**	Grid
Well:	Jade 34-3 Fed Com 2BS 9H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	OH		
Design:	Plan 1 02-02-23		

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 Jade 34-3 Fed

Site Position:		**Northing:**	591,125.00 usft	**Latitude:**	32° 37' 23.604476 N
From:	Map	**Easting:**	750,020.60 usft	**Longitude:**	103° 39' 19.864427 W
Position Uncertainty:	0.00 usft	**Slot Radius:**	13-3/16 "	**Grid Convergence:**	0.37 °

Well Jade 34-3 Fed Com 2BS 9H

Well Position	**+N/-S**	67.40 usft	**Northing:**	591,192.40 usft	**Latitude:**	32° 37' 24.063255 N
	+E/-W	3,271.54 usft	**Easting:**	753,292.14 usft	**Longitude:**	103° 38' 41.607504 W
Position Uncertainty		0.00 usft	**Wellhead Elevation:**		**Ground Level:**	3,580.70 usft

Wellbore OH

Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	MVHD	4/1/2023	6.31	60.46	47,783.56653826

Design Plan 1 02-02-23

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	179.84

Plan Survey Tool Program **Date** 2/2/2023

	Depth From (usft)	Depth To (usft)	Survey (Wellbore)	Tool Name	Remarks
1	0.00	20,433.70	Plan 1 02-02-23 (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	0.00	
1,700.00	0.00	0.00	1,700.00	0.00	0.00	0.00	0.00	0.00	0.00	
1,999.77	6.00	52.02	1,999.22	9.64	12.35	2.00	2.00	0.00	52.02	
4,686.79	6.00	52.02	4,671.55	182.36	233.57	0.00	0.00	0.00	0.00	
5,286.34	0.00	0.00	5,270.00	201.65	258.27	1.00	-1.00	0.00	180.00	
9,606.34	0.00	0.00	9,590.00	201.65	258.27	0.00	0.00	0.00	0.00	
10,503.64	89.73	174.90	10,162.95	-366.35	308.96	10.00	10.00	0.00	174.90	
10,750.64	89.73	179.84	10,164.12	-613.02	320.29	2.00	0.00	2.00	90.03	
20,433.70	89.73	179.84	10,210.00	-10,295.93	347.30	0.00	0.00	0.00	0.00	BHL - Jade 34-3 FC

PHOENIX TECHNOLOGY SERVICES

Phoenix

Planning Report

EARTHSTONE Energy, Inc.

Database:	USA Compass	**Local Co-ordinate Reference:**	Well Jade 34-3 Fed Com 2BS 9H
Company:	Earthstone Operating, LLC	**TVD Reference:**	RKB @ 3608.20usft (Scandrill Star)
Project:	Lea County, NM (Nad 83 NME)	**MD Reference:**	RKB @ 3608.20usft (Scandrill Star)
Site:	Jade 34-3 Fed	**North Reference:**	Grid
Well:	Jade 34-3 Fed Com 2BS 9H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	OH		
Design:	Plan 1 02-02-23		

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
1,308.20	0.00	0.00	1,308.20	0.00	0.00	0.00	0.00	0.00	0.00
Rustler									
1,643.20	0.00	0.00	1,643.20	0.00	0.00	0.00	0.00	0.00	0.00
Salado									
1,700.00	0.00	0.00	1,700.00	0.00	0.00	0.00	0.00	0.00	0.00
KOP, Begin 2.00°/100' Build									
1,800.00	2.00	52.02	1,799.98	1.07	1.38	-1.07	2.00	2.00	0.00
1,900.00	4.00	52.02	1,899.84	4.29	5.50	-4.28	2.00	2.00	0.00
1,999.77	6.00	52.02	1,999.22	9.64	12.35	-9.61	2.00	2.00	0.00
Hold 6.00° Inc at 52.02° Azm									
2,000.00	6.00	52.02	1,999.45	9.66	12.37	-9.62	0.00	0.00	0.00
2,100.00	6.00	52.02	2,098.91	16.09	20.60	-16.03	0.00	0.00	0.00
2,200.00	6.00	52.02	2,198.36	22.51	28.84	-22.43	0.00	0.00	0.00
2,300.00	6.00	52.02	2,297.81	28.94	37.07	-28.84	0.00	0.00	0.00
2,400.00	6.00	52.02	2,397.26	35.37	45.30	-35.24	0.00	0.00	0.00
2,500.00	6.00	52.02	2,496.72	41.80	53.53	-41.65	0.00	0.00	0.00
2,600.00	6.00	52.02	2,596.17	48.23	61.77	-48.05	0.00	0.00	0.00
2,700.00	6.00	52.02	2,695.62	54.65	70.00	-54.46	0.00	0.00	0.00
2,800.00	6.00	52.02	2,795.08	61.08	78.23	-60.86	0.00	0.00	0.00
2,900.00	6.00	52.02	2,894.53	67.51	86.46	-67.27	0.00	0.00	0.00
3,000.00	6.00	52.02	2,993.98	73.94	94.70	-73.67	0.00	0.00	0.00
3,100.00	6.00	52.02	3,093.44	80.36	102.93	-80.08	0.00	0.00	0.00
3,189.85	6.00	52.02	3,182.80	86.14	110.33	-85.83	0.00	0.00	0.00
Yates									
3,200.00	6.00	52.02	3,192.89	86.79	111.16	-86.48	0.00	0.00	0.00
3,300.00	6.00	52.02	3,292.34	93.22	119.40	-92.89	0.00	0.00	0.00
3,400.00	6.00	52.02	3,391.79	99.65	127.63	-99.29	0.00	0.00	0.00
3,496.44	6.00	52.02	3,487.70	105.85	135.57	-105.47	0.00	0.00	0.00
Capitan Reef									
3,500.00	6.00	52.02	3,491.25	106.08	135.86	-105.70	0.00	0.00	0.00
3,600.00	6.00	52.02	3,590.70	112.50	144.09	-112.10	0.00	0.00	0.00
3,700.00	6.00	52.02	3,690.15	118.93	152.33	-118.51	0.00	0.00	0.00
3,800.00	6.00	52.02	3,789.61	125.36	160.56	-124.91	0.00	0.00	0.00
3,900.00	6.00	52.02	3,889.06	131.79	168.79	-131.32	0.00	0.00	0.00
4,000.00	6.00	52.02	3,988.51	138.22	177.03	-137.72	0.00	0.00	0.00
4,100.00	6.00	52.02	4,087.97	144.64	185.26	-144.13	0.00	0.00	0.00
4,200.00	6.00	52.02	4,187.42	151.07	193.49	-150.53	0.00	0.00	0.00
4,300.00	6.00	52.02	4,286.87	157.50	201.72	-156.93	0.00	0.00	0.00
4,400.00	6.00	52.02	4,386.32	163.93	209.96	-163.34	0.00	0.00	0.00
4,500.00	6.00	52.02	4,485.78	170.35	218.19	-169.74	0.00	0.00	0.00
4,600.00	6.00	52.02	4,585.23	176.78	226.42	-176.15	0.00	0.00	0.00
4,686.79	6.00	52.02	4,671.55	182.36	233.57	-181.71	0.00	0.00	0.00
Begin 1.00°/100' Drop									
4,700.00	5.86	52.02	4,684.69	183.20	234.64	-182.55	1.00	-1.00	0.00
4,800.00	4.86	52.02	4,784.25	188.95	242.01	-188.28	1.00	-1.00	0.00
4,900.00	3.86	52.02	4,883.96	193.64	248.01	-192.94	1.00	-1.00	0.00
5,000.00	2.86	52.02	4,983.78	197.25	252.63	-196.54	1.00	-1.00	0.00
5,100.00	1.86	52.02	5,083.70	199.78	255.88	-199.07	1.00	-1.00	0.00
5,140.58	1.46	52.02	5,124.26	200.51	256.81	-199.79	1.00	-1.00	0.00
Cherry Canyon									
5,200.00	0.86	52.02	5,183.67	201.25	257.76	-200.53	1.00	-1.00	0.00
5,286.34	0.00	0.00	5,270.00	201.65	258.27	-200.93	1.00	-1.00	0.00

PHOENIX TECHNOLOGY SERVICES

Phoenix

Planning Report

EARTHSTONE Energy, Inc.

Database:	USA Compass	**Local Co-ordinate Reference:**	Well Jade 34-3 Fed Com 2BS 9H
Company:	Earthstone Operating, LLC	**TVD Reference:**	RKB @ 3608.20usft (Scandrill Star)
Project:	Lea County, NM (Nad 83 NME)	**MD Reference:**	RKB @ 3608.20usft (Scandrill Star)
Site:	Jade 34-3 Fed	**North Reference:**	Grid
Well:	Jade 34-3 Fed Com 2BS 9H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	OH		
Design:	Plan 1 02-02-23		

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)
Begin Vertical Hold									
6,523.59	0.00	0.00	6,507.25	201.65	258.27	-200.93	0.00	0.00	0.00
Brushy Canyon									
8,068.59	0.00	0.00	8,052.25	201.65	258.27	-200.93	0.00	0.00	0.00
Top BSPG Lime									
9,193.59	0.00	0.00	9,177.25	201.65	258.27	-200.93	0.00	0.00	0.00
1st BSPG Ss									
9,493.59	0.00	0.00	9,477.25	201.65	258.27	-200.93	0.00	0.00	0.00
2nd BSPG Carb									
9,606.34	0.00	0.00	9,590.00	201.65	258.27	-200.93	0.00	0.00	0.00
KOP2, Begin 10.00°/100' Build									
9,700.00	9.37	174.90	9,683.25	194.04	258.95	-193.32	10.00	10.00	0.00
9,729.60	12.33	174.90	9,712.32	188.49	259.44	-187.77	10.00	10.00	0.00
2nd BSPG Ss									
9,800.00	19.37	174.90	9,780.00	169.36	261.15	-168.63	10.00	10.00	0.00
9,900.00	29.37	174.90	9,870.97	128.32	264.81	-127.58	10.00	10.00	0.00
10,000.00	39.37	174.90	9,953.41	72.16	269.83	-71.41	10.00	10.00	0.00
10,100.00	49.37	174.90	10,024.81	2.60	276.03	-1.83	10.00	10.00	0.00
10,200.00	59.37	174.90	10,083.00	-78.25	283.25	79.04	10.00	10.00	0.00
10,300.00	69.37	174.90	10,126.20	-167.93	291.25	168.75	10.00	10.00	0.00
10,400.00	79.37	174.90	10,153.12	-263.73	299.80	264.57	10.00	10.00	0.00
10,500.00	89.37	174.90	10,162.92	-362.73	308.64	363.59	10.00	10.00	0.00
10,503.64	89.73	174.90	10,162.95	-366.35	308.96	367.21	10.00	10.00	0.00
LP, Hold 89.73° Inc, Begin 2.00°/100' Turn									
10,600.00	89.73	176.83	10,163.41	-462.46	315.91	463.34	2.00	0.00	2.00
10,700.00	89.73	178.83	10,163.88	-562.38	319.70	563.27	2.00	0.00	2.00
10,750.64	89.73	179.84	10,164.12	-613.02	320.29	613.91	2.00	0.00	2.00
Hold 179.84° Azm									
10,800.00	89.73	179.84	10,164.35	-662.37	320.43	663.27	0.00	0.00	0.00
10,900.00	89.73	179.84	10,164.83	-762.37	320.71	763.27	0.00	0.00	0.00
11,000.00	89.73	179.84	10,165.30	-862.37	320.99	863.26	0.00	0.00	0.00
11,100.00	89.73	179.84	10,165.77	-962.37	321.27	963.26	0.00	0.00	0.00
11,200.00	89.73	179.84	10,166.25	-1,062.37	321.55	1,063.26	0.00	0.00	0.00
11,300.00	89.73	179.84	10,166.72	-1,162.37	321.83	1,163.26	0.00	0.00	0.00
11,400.00	89.73	179.84	10,167.20	-1,262.37	322.10	1,263.26	0.00	0.00	0.00
11,500.00	89.73	179.84	10,167.67	-1,362.36	322.38	1,363.26	0.00	0.00	0.00
11,600.00	89.73	179.84	10,168.14	-1,462.36	322.66	1,463.26	0.00	0.00	0.00
11,700.00	89.73	179.84	10,168.62	-1,562.36	322.94	1,563.26	0.00	0.00	0.00
11,800.00	89.73	179.84	10,169.09	-1,662.36	323.22	1,663.26	0.00	0.00	0.00
11,900.00	89.73	179.84	10,169.57	-1,762.36	323.50	1,763.25	0.00	0.00	0.00
12,000.00	89.73	179.84	10,170.04	-1,862.36	323.78	1,863.25	0.00	0.00	0.00
12,100.00	89.73	179.84	10,170.51	-1,962.35	324.06	1,963.25	0.00	0.00	0.00
12,200.00	89.73	179.84	10,170.99	-2,062.35	324.34	2,063.25	0.00	0.00	0.00
12,300.00	89.73	179.84	10,171.46	-2,162.35	324.61	2,163.25	0.00	0.00	0.00
12,400.00	89.73	179.84	10,171.93	-2,262.35	324.89	2,263.25	0.00	0.00	0.00
12,500.00	89.73	179.84	10,172.41	-2,362.35	325.17	2,363.25	0.00	0.00	0.00
12,600.00	89.73	179.84	10,172.88	-2,462.35	325.45	2,463.25	0.00	0.00	0.00
12,700.00	89.73	179.84	10,173.36	-2,562.35	325.73	2,563.25	0.00	0.00	0.00
12,800.00	89.73	179.84	10,173.83	-2,662.34	326.01	2,663.24	0.00	0.00	0.00
12,900.00	89.73	179.84	10,174.30	-2,762.34	326.29	2,763.24	0.00	0.00	0.00
13,000.00	89.73	179.84	10,174.78	-2,862.34	326.57	2,863.24	0.00	0.00	0.00
13,100.00	89.73	179.84	10,175.25	-2,962.34	326.85	2,963.24	0.00	0.00	0.00
13,200.00	89.73	179.84	10,175.73	-3,062.34	327.12	3,063.24	0.00	0.00	0.00

PHOENIX TECHNOLOGY SERVICES

Phoenix

Planning Report

EARTHSTONE Energy, Inc.

Database:	USA Compass	**Local Co-ordinate Reference:**	Well Jade 34-3 Fed Com 2BS 9H
Company:	Earthstone Operating, LLC	**TVD Reference:**	RKB @ 3608.20usft (Scandrill Star)
Project:	Lea County, NM (Nad 83 NME)	**MD Reference:**	RKB @ 3608.20usft (Scandrill Star)
Site:	Jade 34-3 Fed	**North Reference:**	Grid
Well:	Jade 34-3 Fed Com 2BS 9H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	OH		
Design:	Plan 1 02-02-23		

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)
13,300.00	89.73	179.84	10,176.20	-3,162.34	327.40	3,163.24	0.00	0.00	0.00
13,400.00	89.73	179.84	10,176.67	-3,262.34	327.68	3,263.24	0.00	0.00	0.00
13,500.00	89.73	179.84	10,177.15	-3,362.33	327.96	3,363.24	0.00	0.00	0.00
13,600.00	89.73	179.84	10,177.62	-3,462.33	328.24	3,463.24	0.00	0.00	0.00
13,700.00	89.73	179.84	10,178.09	-3,562.33	328.52	3,563.23	0.00	0.00	0.00
13,800.00	89.73	179.84	10,178.57	-3,662.33	328.80	3,663.23	0.00	0.00	0.00
13,900.00	89.73	179.84	10,179.04	-3,762.33	329.08	3,763.23	0.00	0.00	0.00
14,000.00	89.73	179.84	10,179.52	-3,862.33	329.36	3,863.23	0.00	0.00	0.00
14,100.00	89.73	179.84	10,179.99	-3,962.32	329.63	3,963.23	0.00	0.00	0.00
14,200.00	89.73	179.84	10,180.46	-4,062.32	329.91	4,063.23	0.00	0.00	0.00
14,300.00	89.73	179.84	10,180.94	-4,162.32	330.19	4,163.23	0.00	0.00	0.00
14,400.00	89.73	179.84	10,181.41	-4,262.32	330.47	4,263.23	0.00	0.00	0.00
14,500.00	89.73	179.84	10,181.88	-4,362.32	330.75	4,363.23	0.00	0.00	0.00
14,600.00	89.73	179.84	10,182.36	-4,462.32	331.03	4,463.22	0.00	0.00	0.00
14,700.00	89.73	179.84	10,182.83	-4,562.32	331.31	4,563.22	0.00	0.00	0.00
14,800.00	89.73	179.84	10,183.31	-4,662.31	331.59	4,663.22	0.00	0.00	0.00
14,900.00	89.73	179.84	10,183.78	-4,762.31	331.87	4,763.22	0.00	0.00	0.00
15,000.00	89.73	179.84	10,184.25	-4,862.31	332.14	4,863.22	0.00	0.00	0.00
15,100.00	89.73	179.84	10,184.73	-4,962.31	332.42	4,963.22	0.00	0.00	0.00
15,200.00	89.73	179.84	10,185.20	-5,062.31	332.70	5,063.22	0.00	0.00	0.00
15,300.00	89.73	179.84	10,185.68	-5,162.31	332.98	5,163.22	0.00	0.00	0.00
15,400.00	89.73	179.84	10,186.15	-5,262.30	333.26	5,263.21	0.00	0.00	0.00
15,500.00	89.73	179.84	10,186.62	-5,362.30	333.54	5,363.21	0.00	0.00	0.00
15,600.00	89.73	179.84	10,187.10	-5,462.30	333.82	5,463.21	0.00	0.00	0.00
15,700.00	89.73	179.84	10,187.57	-5,562.30	334.10	5,563.21	0.00	0.00	0.00
15,800.00	89.73	179.84	10,188.04	-5,662.30	334.38	5,663.21	0.00	0.00	0.00
15,900.00	89.73	179.84	10,188.52	-5,762.30	334.65	5,763.21	0.00	0.00	0.00
16,000.00	89.73	179.84	10,188.99	-5,862.30	334.93	5,863.21	0.00	0.00	0.00
16,100.00	89.73	179.84	10,189.47	-5,962.29	335.21	5,963.21	0.00	0.00	0.00
16,200.00	89.73	179.84	10,189.94	-6,062.29	335.49	6,063.21	0.00	0.00	0.00
16,300.00	89.73	179.84	10,190.41	-6,162.29	335.77	6,163.20	0.00	0.00	0.00
16,400.00	89.73	179.84	10,190.89	-6,262.29	336.05	6,263.20	0.00	0.00	0.00
16,500.00	89.73	179.84	10,191.36	-6,362.29	336.33	6,363.20	0.00	0.00	0.00
16,600.00	89.73	179.84	10,191.84	-6,462.29	336.61	6,463.20	0.00	0.00	0.00
16,700.00	89.73	179.84	10,192.31	-6,562.29	336.89	6,563.20	0.00	0.00	0.00
16,800.00	89.73	179.84	10,192.78	-6,662.28	337.17	6,663.20	0.00	0.00	0.00
16,900.00	89.73	179.84	10,193.26	-6,762.28	337.44	6,763.20	0.00	0.00	0.00
17,000.00	89.73	179.84	10,193.73	-6,862.28	337.72	6,863.20	0.00	0.00	0.00
17,100.00	89.73	179.84	10,194.20	-6,962.28	338.00	6,963.20	0.00	0.00	0.00
17,200.00	89.73	179.84	10,194.68	-7,062.28	338.28	7,063.19	0.00	0.00	0.00
17,300.00	89.73	179.84	10,195.15	-7,162.28	338.56	7,163.19	0.00	0.00	0.00
17,400.00	89.73	179.84	10,195.63	-7,262.27	338.84	7,263.19	0.00	0.00	0.00
17,500.00	89.73	179.84	10,196.10	-7,362.27	339.12	7,363.19	0.00	0.00	0.00
17,600.00	89.73	179.84	10,196.57	-7,462.27	339.40	7,463.19	0.00	0.00	0.00
17,700.00	89.73	179.84	10,197.05	-7,562.27	339.68	7,563.19	0.00	0.00	0.00
17,800.00	89.73	179.84	10,197.52	-7,662.27	339.95	7,663.19	0.00	0.00	0.00
17,900.00	89.73	179.84	10,197.99	-7,762.27	340.23	7,763.19	0.00	0.00	0.00
18,000.00	89.73	179.84	10,198.47	-7,862.27	340.51	7,863.19	0.00	0.00	0.00
18,100.00	89.73	179.84	10,198.94	-7,962.26	340.79	7,963.18	0.00	0.00	0.00
18,200.00	89.73	179.84	10,199.42	-8,062.26	341.07	8,063.18	0.00	0.00	0.00
18,300.00	89.73	179.84	10,199.89	-8,162.26	341.35	8,163.18	0.00	0.00	0.00
18,400.00	89.73	179.84	10,200.36	-8,262.26	341.63	8,263.18	0.00	0.00	0.00
18,500.00	89.73	179.84	10,200.84	-8,362.26	341.91	8,363.18	0.00	0.00	0.00
18,600.00	89.73	179.84	10,201.31	-8,462.26	342.19	8,463.18	0.00	0.00	0.00

PHOENIX TECHNOLOGY SERVICES

Phoenix

Planning Report

EARTHSTONE Energy, Inc.

Database:	USA Compass	**Local Co-ordinate Reference:**	Well Jade 34-3 Fed Com 2BS 9H
Company:	Earthstone Operating, LLC	**TVD Reference:**	RKB @ 3608.20usft (Scandrill Star)
Project:	Lea County, NM (Nad 83 NME)	**MD Reference:**	RKB @ 3608.20usft (Scandrill Star)
Site:	Jade 34-3 Fed	**North Reference:**	Grid
Well:	Jade 34-3 Fed Com 2BS 9H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	OH		
Design:	Plan 1 02-02-23		

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)
18,700.00	89.73	179.84	10,201.79	-8,562.26	342.46	8,563.18	0.00	0.00	0.00
18,800.00	89.73	179.84	10,202.26	-8,662.25	342.74	8,663.18	0.00	0.00	0.00
18,900.00	89.73	179.84	10,202.73	-8,762.25	343.02	8,763.18	0.00	0.00	0.00
19,000.00	89.73	179.84	10,203.21	-8,862.25	343.30	8,863.17	0.00	0.00	0.00
19,100.00	89.73	179.84	10,203.68	-8,962.25	343.58	8,963.17	0.00	0.00	0.00
19,200.00	89.73	179.84	10,204.15	-9,062.25	343.86	9,063.17	0.00	0.00	0.00
19,300.00	89.73	179.84	10,204.63	-9,162.25	344.14	9,163.17	0.00	0.00	0.00
19,400.00	89.73	179.84	10,205.10	-9,262.24	344.42	9,263.17	0.00	0.00	0.00
19,500.00	89.73	179.84	10,205.58	-9,362.24	344.70	9,363.17	0.00	0.00	0.00
19,600.00	89.73	179.84	10,206.05	-9,462.24	344.97	9,463.17	0.00	0.00	0.00
19,700.00	89.73	179.84	10,206.52	-9,562.24	345.25	9,563.17	0.00	0.00	0.00
19,800.00	89.73	179.84	10,207.00	-9,662.24	345.53	9,663.17	0.00	0.00	0.00
19,900.00	89.73	179.84	10,207.47	-9,762.24	345.81	9,763.16	0.00	0.00	0.00
20,000.00	89.73	179.84	10,207.95	-9,862.24	346.09	9,863.16	0.00	0.00	0.00
20,100.00	89.73	179.84	10,208.42	-9,962.23	346.37	9,963.16	0.00	0.00	0.00
20,200.00	89.73	179.84	10,208.89	-10,062.23	346.65	10,063.16	0.00	0.00	0.00
20,300.00	89.73	179.84	10,209.37	-10,162.23	346.93	10,163.16	0.00	0.00	0.00
20,400.00	89.73	179.84	10,209.84	-10,262.23	347.21	10,263.16	0.00	0.00	0.00
20,433.70	89.73	179.84	10,210.00	-10,295.93	347.30	10,296.86	0.00	0.00	0.00
TD at 20433.70									

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 - Jade 34-3 FC 2 - plan misses target center by 185.76usft at 10100.00usft MD (10024.81 TVD, 2.60 N, 276.03 E) - Point	0.00	0.00	10,161.00	121.61	318.41	591,314.01	753,610.55	32° 37' 25.246170 N	3° 38' 37.875334 W
BHL - Jade 34-3 FC 2 - plan hits target center - Point	0.00	0.00	10,210.00	-10,295.93	347.30	580,896.47	753,639.44	32° 35' 42.165463 N	3° 38' 38.327351 W
LTP - Jade 34-3 FC 2I - plan misses target center by 0.24usft at 20383.71usft MD (10209.76 TVD, -10245.94 N, 347.16 E) - Point	0.00	0.00	10,210.00	-10,245.94	347.22	580,946.46	753,639.36	32° 35' 42.660107 N	3° 38' 38.324499 W

PHOENIX TECHNOLOGY SERVICES

Phoenix
Planning Report

EARTHSTONE Energy, Inc.

Database:	USA Compass	**Local Co-ordinate Reference:**	Well Jade 34-3 Fed Com 2BS 9H
Company:	Earthstone Operating, LLC	**TVD Reference:**	RKB @ 3608.20usft (Scandrill Star)
Project:	Lea County, NM (Nad 83 NME)	**MD Reference:**	RKB @ 3608.20usft (Scandrill Star)
Site:	Jade 34-3 Fed	**North Reference:**	Grid
Well:	Jade 34-3 Fed Com 2BS 9H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	OH		
Design:	Plan 1 02-02-23		

Formations

Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)
1,308.20	1,308.20	Rustler		0.27	179.84
1,643.20	1,643.20	Salado		0.27	179.84
3,189.85	3,182.80	Yates		0.27	179.84
3,496.44	3,487.70	Capitan Reef		0.27	179.84
5,140.58	5,124.26	Cherry Canyon		0.27	179.84
6,523.59	6,507.25	Brushy Canyon		0.27	179.84
8,068.59	8,052.25	Top BSPG Lime		0.27	179.84
9,193.59	9,177.25	1st BSPG Ss		0.27	179.84
9,493.59	9,477.25	2nd BSPG Carb		0.27	179.84
9,729.60	9,712.32	2nd BSPG Ss		0.27	179.84

Plan Annotations

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates +N/-S (usft)	Local Coordinates +E/-W (usft)	Comment
1,700.00	1,700.00	0.00	0.00	KOP, Begin 2.00°/100' Build
1,999.77	1,999.22	9.64	12.35	Hold 6.00° Inc at 52.02° Azm
4,686.79	4,671.55	182.36	233.57	Begin 1.00°/100' Drop
5,286.34	5,270.00	201.65	258.27	Begin Vertical Hold
9,606.34	9,590.00	201.65	258.27	KOP2, Begin 10.00°/100' Build
10,503.64	10,162.95	-366.35	308.96	LP, Hold 89.73° Inc, Begin 2.00°/100' Turn
10,750.64	10,164.12	-613.02	320.29	Hold 179.84° Azm
20,433.70	10,210.00	-10,295.93	347.30	TD at 20433.70

PECOS DISTRICT
DRILLING CONDITIONS OF APPROVAL

OPERATOR'S NAME:	**EarthStone**
LEASE NO.:	**NMNM097896**
LOCATION:	Section 34, T.19 S., R.33 E., NMPM
COUNTY:	Lea County, New Mexico

WELL NAME & NO.:	Jade 34-3 Fed Com 9H
SURFACE HOLE FOOTAGE:	220'/N & 750'/E
BOTTOM HOLE FOOTAGE	50'/S& 431'/E

COA

H2S	◉ Yes	○ No	
Potash	○ None	○ Secretary	◉ R-111-P
Cave/Karst Potential	◉ Low	○ Medium	○ High
Cave/Karst Potential	○ Critical		
Variance	○ None	◉ Flex Hose	○ Other
Wellhead	○ Conventional	◉ Multibowl	○ Both
Other	☑ 4 String Area	☑ Capitan Reef	☐ WIPP
Other	☑ Fluid Filled	☐ Cement Squeeze	☐ Pilot Hole
Special Requirements	☐ Water Disposal	☑ COM	☐ Unit

A. HYDROGEN SULFIDE

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

B. CASING

1. The **13-3/8** inch surface casing shall be set at approximately **1360** feet (a minimum of 25 feet (Lea County) into the Rustler Anhydrite and above the salt) and cemented to the surface.

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

24 hours in the Potash Area or 500 pounds compressive strength, whichever is greater. (This is to include the lead cement)

c. Wait on cement (WOC) time for a remedial job will be a minimum of 4 hours after bringing cement to surface or 500 pounds compressive strength, whichever is greater.
d. If cement falls back, remedial cementing will be done prior to drilling out that string.

2. The minimum required fill of cement behind the **10-3/4** inch 1st intermediate casing is:
   - Cement to surface. If cement does not circulate see B.1.a, c-d above.

Wait on cement (WOC) time for a primary cement job is to include the lead cement slurry due to cave/karst or 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 string must come to surface.

❖ In Capitan Reef Areas if cement does not circulate to surface on the first two casing strings, the cement on the 3rd casing 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 **8-5/8** 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. Operator shall provide method of verification. **Excess calculates to 9% . Additional cement maybe required.**

4. The minimum required fill of cement behind the **5-1/2** inch production casing is:
   - Cement should tie-back at least **50 feet (3832 ft)** 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, potash or capitan reef.

C. PRESSURE CONTROL

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

2. Operator has proposed a multi-bowl wellhead assembly. This assembly will only be tested when installed on the surface casing. Minimum working pressure of the blowout preventer (BOP) and related equipment (BOPE) required for drilling below the surface casing shoe shall be **5000 (5M)** psi.

   a. Wellhead shall be installed by manufacturer's representatives, submit documentation with subsequent sundry.
   b. If the welding is performed by a third party, the manufacturer's representative shall monitor the temperature to verify that it does not exceed the maximum temperature of the seal.
   c. Manufacturer representative shall install the test plug for the initial BOP test.
   d. If the cement does not circulate and one inch operations would have been possible with a standard wellhead, the well head shall be cut off, cementing operations performed and another wellhead installed.
   e. Whenever any seal subject to test pressure is broken, all the tests in OOGO2.III.A.2.i 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.
- 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
Call the Carlsbad Field Office, 620 East Greene St., Carlsbad, NM 88220, (575) 361-2822

☒ Lea County
Call the Hobbs Field Station, 414 West Taylor, Hobbs NM 88240, (575) 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 Onshore Oil and Gas Order No. 2 as soon as 2nd Rig is rigged up on well.

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

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

A. CASING

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

2. Wait on cement (WOC) for Potash Areas: After cementing but before commencing any tests, the casing string shall stand cemented under pressure until both of the following conditions have been met: 1) cement reaches a minimum compressive strength of 500 psi for all cement blends, 2) until cement has been in place at least 24 hours. WOC time will be recorded in the driller's log. 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 intergrity 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 Onshore Oil and Gas Order No. 2 and API RP 53 Sec. 17.

2. If a variance is approved for a flexible hose to be installed from the BOP to the choke manifold, the following requirements apply: 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 OOGO2.III.A.2.i must be followed.
e. If the cement does not circulate and one inch operations would have been possible with a standard wellhead, the well head shall be cut off, cementing operations performed and another wellhead installed.

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

a. In a water basin, for all casing strings utilizing slips, these are to be set as soon as the crew and rig are ready and any fallback cement remediation has been done. The casing cut-off and BOP installation can be initiated four hours after installing the slips, which will be approximately six hours after bumping the plug. For those casing strings not using slips, the minimum wait time before cut-off is eight hours after bumping the plug. BOP/BOPE testing can begin after cut-off or once cement reaches 500 psi compressive strength (including lead when specified), whichever is greater. However, if the float does not hold, cut-off cannot be initiated until cement reaches 500 psi compressive strength (including lead when specified).

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

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

d. The test shall be run on a 5000 psi chart for a 2-3M BOP/BOP, on a 10000 psi chart for a 5M BOP/BOPE and on a 15000 psi chart for a 10M BOP/BOPE. If a linear chart is used, it shall be a one hour chart. A circular chart shall

have a maximum 2 hour clock. If a twelve hour or twenty-four hour chart is used, tester shall make a notation that it is run with a two hour clock.

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

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

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

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

C. DRILLING MUD

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

D. WASTE MATERIAL AND FLUIDS

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

Porto-johns and trash containers will be on-location during fracturing operations or any other crew-intensive operations.
ZS 072622

PECOS DISTRICT
DRILLING CONDITIONS OF APPROVAL

OPERATOR'S NAME:	**EarthStone**
LEASE NO.:	**NMNM097896**
LOCATION:	Section 34, T.19 S., R.33 E., NMPM
COUNTY:	Lea County, New Mexico

WELL NAME & NO.:	Jade 34-3 Fed Com 9H
SURFACE HOLE FOOTAGE:	220'/N & 750'/E
BOTTOM HOLE FOOTAGE	50'/S& 431'/E

COA

H2S	◉ Yes	○ No	
Potash	○ None	○ Secretary	◉ R-111-P
Cave/Karst Potential	◉ Low	○ Medium	○ High
Cave/Karst Potential	○ Critical		
Variance	○ None	◉ Flex Hose	○ Other
Wellhead	○ Conventional	◉ Multibowl	○ Both
Other	☑ 4 String Area	☑ Capitan Reef	☐ WIPP
Other	☑ Fluid Filled	☐ Cement Squeeze	☐ Pilot Hole
Special Requirements	☐ Water Disposal	☑ COM	☐ Unit

A. HYDROGEN SULFIDE

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

B. CASING

1. The **13-3/8** inch surface casing shall be set at approximately **1360** feet (a minimum of 25 feet (Lea County) into the Rustler Anhydrite and above the salt) and cemented to the surface.

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

24 hours in the Potash Area or 500 pounds compressive strength, whichever is greater. (This is to include the lead cement)

c. Wait on cement (WOC) time for a remedial job will be a minimum of 4 hours after bringing cement to surface or 500 pounds compressive strength, whichever is greater.
d. If cement falls back, remedial cementing will be done prior to drilling out that string.

2. The minimum required fill of cement behind the **10-3/4** inch 1st intermediate casing is:
   - Cement to surface. If cement does not circulate see B.1.a, c-d above.

Wait on cement (WOC) time for a primary cement job is to include the lead cement slurry due to cave/karst or 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 string must come to surface.

❖ In Capitan Reef Areas if cement does not circulate to surface on the first two casing strings, the cement on the 3rd casing 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 **8-5/8** 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. Operator shall provide method of verification. **Excess calculates to 9% . Additional cement maybe required.**

4. The minimum required fill of cement behind the **5-1/2** inch production casing is:
   - Cement should tie-back at least **50 feet (3832 ft)** 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, potash or capitan reef.

C. PRESSURE CONTROL

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

2. Operator has proposed a multi-bowl wellhead assembly. This assembly will only be tested when installed on the surface casing. Minimum working pressure of the blowout preventer (BOP) and related equipment (BOPE) required for drilling below the surface casing shoe shall be **5000 (5M)** psi.

   a. Wellhead shall be installed by manufacturer's representatives, submit documentation with subsequent sundry.
   b. If the welding is performed by a third party, the manufacturer's representative shall monitor the temperature to verify that it does not exceed the maximum temperature of the seal.
   c. Manufacturer representative shall install the test plug for the initial BOP test.
   d. If the cement does not circulate and one inch operations would have been possible with a standard wellhead, the well head shall be cut off, cementing operations performed and another wellhead installed.
   e. Whenever any seal subject to test pressure is broken, all the tests in OOGO2.III.A.2.i 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.
- 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
Call the Carlsbad Field Office, 620 East Greene St., Carlsbad, NM 88220, (575) 361-2822

☒ Lea County
Call the Hobbs Field Station, 414 West Taylor, Hobbs NM 88240, (575) 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 Onshore Oil and Gas Order No. 2 as soon as 2nd Rig is rigged up on well.

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

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

A. CASING

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

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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.

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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.

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ZS 072622

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 196339

CONDITIONS

Operator: Earthstone Operating, LLC 1400 Woodloch Forest; Ste 300 The Woodlands, TX 77380	OGRID: 331165
	Action Number: 196339
	Action Type: [C-103] NOI Change of Plans (C-103A)

CONDITIONS

Created By	Condition	Condition Date
pkautz	None	3/16/2023