

Form 3160-5
(June 2019)UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENTFORM 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.

5. Lease Serial No. NMNM0629320

6. If Indian, Allottee or Tribe Name

SUBMIT IN TRIPLICATE - Other instructions on page 2

1. Type of Well

☒ Oil Well ☐ Gas Well ☐ Other

2. Name of Operator EARTHSTONE OPERATING LLC

3a. Address 1400 WOODLOCH FOREST DRIVE SUITE 300, 3b. Phone No. (include area code)
(281) 298-42404. Location of Well (Footage, Sec., T., R., M., or Survey Description)
SEC 30/T26S/R35E/NMP

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

8. Well Name and No. LOS VAQUEROS FED/322H

9. API Well No. 3002549919

10. Field and Pool or Exploratory Area
WC-025 G-08 S263412K;/BONE SPRING11. 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	
☐ Subsequent Report	☐ Alter Casing	☐ Hydraulic Fracturing	☐ Reclamation	☐ Well Integrity	
☐ Final Abandonment Notice	☐ Casing Repair	☐ New Construction	☐ Recomplete	☐ Other	
	☒ Change Plans	☐ Plug and Abandon	☐ Temporarily Abandon		
	☐ 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 recompleat 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 performed 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 recompleat 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.)

API: 30-025-49919

Well Name Change

From: Los Vaqueros Fed 322H

To: Los Vaqueros Fed 442H

Pool Change

From: (96672) WC-025 G08 S263412K; Bone Spring

To:(96776) Jabalina; Wolfcamp, Southwest

Surface Hole Location

From: C-30-26S-35E; 211' FNL, 1991' FWL

To: C-30-26S-35E; 211' FNL, 1986' FWL

First Take Point

From: C-30-26S-35E; 100 FNL, 1870 FWL

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 04/18/2023

THE SPACE FOR FEDERAL OR STATE OFFICE USE

Approved by

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

Title Petroleum Engineer

Date 08/30/2023

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 of this form to U.S. Department of the Interior, Bureau of Land 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: C-30-26S-35E; 100 FNL, 1650 FWL

BHL Change

From: Lot 3-31-26S-35E; 10' FSL & 1870' FWL, Lea County, NM To: 1350'FSL, 50' FWL; Sect. 25, Loving County, TX

Depth Changes

From: 20,665'MD/12,494'TVD

To: 23,041'MD/12,701' TVD

Drilling Plan revised to support Depth Changes

Location of Well

0. SHL: NENW / 211 FNL / 1991 FWL / TWSP: 26S / RANGE: 35E / SECTION: 30 / LAT: 32.0209798 / LONG: -103.4086954 (TVD: 0 feet, MD: 0 feet)

PPP: NENW / 100 FNL / 1870 FWL / TWSP: 26S / RANGE: 35E / SECTION: 30 / LAT: 32.0212868 / LONG: -103.4090856 (TVD: 12239 feet, MD: 12250 feet)

BHL: LOT 3 / 10 FSL / 1870 FWL / TWSP: 26S / RANGE: 35E / SECTION: 31 / LAT: 32.0003168 / LONG: -103.4090852 (TVD: 12495 feet, MD: 19986 feet)

CONFIDENTIAL

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: (505) 748-1283 Fax: (505) 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 NUMBER, POOL, SHL,
FTP, SLC

WELL LOCATION AND ACREAGE DEDICATION PLAT

1 API Number 30-025-49919	2 Pool Code 96776	3 Pool Name JABALINA; WOLFCAMP, SOUTHWEST
4 Property Code 331213	5 Property Name LOS VAQUEROS FED	6 Well Number 442H
7 OGRID No. 331165	8 Operator Name EARTHSTONE OPERATING LLC	9 Elevation 3183.53'

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
C	30	26-S	35-E		211'	NORTH	1986'	WEST	LEA

¹¹ State Line Crossing 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
3	31	26-S	35-E		0	SOUTH	1650'	WEST	LEA

12 Dedicated Acres 240	13 Joint or Infill Y	14 Consolidation Code 234.28	15 Order No.
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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.

***BHL & LTP WILL BE IN TEXAS**

	SURFACE HOLE LOCATION (SHL) KICK OFF POINT (KOP) NEW MEXICO EAST - NAD 83 X=827899.37 LAT.= 32.02098050° N Y=372597.66 LONG.= 103.40871172° W NEW MEXICO EAST - NAD 27 X=786711.05 LAT.= 32.02085418° N Y=372540.54 LONG.= 103.40825139° W 211' FNL, 1986' FWL - SECTION 30 211' FNL, 629' FWL - LEASE	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 Date JENNIFER ELROD Printed Name JELROD@EARTHSTONEENERGY.COM E-mail Address
	FIRST TAKE POINT (FTP) NEW MEXICO EAST - NAD 83 X=827562.53 LAT.= 32.02128795° N Y=372706.63 LONG.= 103.40979542° W NEW MEXICO EAST - NAD 27 X=786374.23 LAT.= 32.02116164° N Y=372649.52 LONG.= 103.40933504° W 100' FNL, 1650' FWL - SECTION 30 100' FNL, 293' FWL - LEASE	
	STATE LINE CROSSING (SLC) NEW MEXICO EAST - NAD 83 X=827627.99 LAT.= 32.00028924° N Y=365067.52 LONG.= 103.40979484° W NEW MEXICO EAST - NAD 27 X=786439.33 LAT.= 32.00016282° N Y=365010.61 LONG.= 103.40933568° W 0' FSL, 1650' FWL - SECTION 31 0' FSL, 316' FWL - LEASE	
	LAST TAKE POINT (LTP) TEXAS CENTRAL - NAD 83 X=1342847.87 LAT.= 31.99284241° N Y=10701761.70 LONG.= 103.40979515° W TEXAS CENTRAL - NAD 27 X=1046385.18 LAT.= 31.99271593° N Y=859182.80 LONG.= 103.40933618° W 1505' FSL, 100' FWL - SECTION 25 1505' FSL, 100' FWL - LEASE	
	BOTTOM HOLE LOCATION (BHL) TEXAS CENTRAL - NAD 83 X=1342843.34 LAT.= 31.99239312° N Y=10701598.31 LONG.= 103.40979517° W TEXAS CENTRAL - NAD 27 X=1046380.65 LAT.= 31.99226663° N Y=859019.41 LONG.= 103.40933622° W 1350' FSL, 50' FWL - SECTION 25 1350' FSL, 50' FWL - LEASE	18 SURVEYOR CERTIFICATION I hereby certify that the well location shown on this plat was plotted from field notes of actual surveys made by me or under my supervision, and that the same is true and correct to the best of my belief. Date of Survey CHARLES L. JURICA Signature and Seal of Professional Surveyor 25490 Certificate Number

Intent ☒ As Drilled ☐

API # 30-025-49919		
Operator Name: EARTHSTONE OPERATING, LLC	Property Name: LOS VAQUEROS FED	Well Number 442H

Kick Off Point (KOP)

UL C	Section 30	Township 26-S	Range 35-E	Lot	Feet 211	From N/S NORTH	Feet 1986	From E/W WEST	County LEA
Latitude 32.02098050°N					Longitude 103.40871172°W			NAD 83	

First Take Point (FTP)

UL C	Section 30	Township 26-S	Range 35-E	Lot	Feet 100	From N/S NORTH	Feet 1650	From E/W WEST	County LEA
Latitude 32.02128795°N					Longitude 103.40979542°W			NAD 83	

Last Take Point (LTP)

UL	Section	Township	Range	Lot	Feet	From N/S	Feet	From E/W	County
Latitude					Longitude			NAD	

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

API: 30-025-49919

Well Name Change

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To: Los Vaqueros Fed 442H

Pool Change

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Depth Changes

From: 20,665'MD/12,494'TVD

To: 23,041'MD/12,701' TVD

Drilling Plan revised to support Depth Changes

Anticollision Report

Company:	Earthstone Operating, LLC	Local Co-ordinate Reference:	Well Los Vaqueros Fed 442H
Project:	Lea County, NM (NAD 27)	TVD Reference:	GE 3183.53' + KB 27.5' @ 3211.03usft
Reference Site:	Los Vaqueros Fed Pad	MD Reference:	GE 3183.53' + KB 27.5' @ 3211.03usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Los Vaqueros Fed 442H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	LEAM Multi_User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Reference	Plan #1		
Filter type:	NO GLOBAL FILTER: Using user defined selection & filtering criteria		
Interpolation Method:	Stations	Error Model:	ISCWSA
Depth Range:	Unlimited	Scan Method:	Closest Approach 3D
Results Limited by:	Maximum centre distance of 99,999.00usft	Error Surface:	Pedal Curve
Warning Levels Evaluated at:	2.00 Sigma	Casing Method:	Not applied

Survey Tool Program	Date	4/13/2023		
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description
0.00	23,040.54	Plan #1 (OH)	OWSG_Rev2_MWD+HRGM	OWSG MWD + HRGM

Summary						
Site Name	Reference Measured Depth (usft)	Offset Measured Depth (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Separation Factor	Warning
Offset Well - Wellbore - Design						
Los Vaqueros Fed Pad						
Los Vaqueros Fed 301H - OH - Plan #1	3,174.97	3,171.92	23.55	1.37	1.062	Level 3, CC
Los Vaqueros Fed 301H - OH - Plan #1	3,200.00	3,196.92	23.58	1.23	1.055	Level 3, ES, SF
Los Vaqueros Fed 302H - OH - Plan #1	2,600.00	2,599.65	50.00	31.82	2.750	CC, ES, SF
Los Vaqueros Fed 462H - OH - Plan #1	2,600.00	2,599.76	75.00	56.82	4.125	CC, ES
Los Vaqueros Fed 462H - OH - Plan #1	23,041.54	23,133.46	667.43	357.60	2.154	SF
Los Vaqueros Fed 522H - OH - Plan #1	2,600.00	2,599.78	25.00	6.82	1.375	Level 3, CC
Los Vaqueros Fed 522H - OH - Plan #1	2,800.00	2,801.20	25.62	6.05	1.309	Level 3, ES
Los Vaqueros Fed 522H - OH - Plan #1	2,900.00	2,901.89	26.45	6.21	1.307	Level 3, SF

Offset Design: Los Vaqueros Fed Pad - Los Vaqueros Fed 301H - OH - Plan #1													Offset Site Error:	0.00 usft
Survey Program:		0-OWSG_Rev2_MWD+HRGM					Rule Assigned:				Offset Well Error:	0.00 usft		
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	+N/-S (usft)	+E/-W (usft)	Distance Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning	
0.00	0.00	0.00	0.00	0.00	0.00	-90.41	-0.18	-25.00	25.00					
100.00	100.00	99.65	99.65	0.13	0.13	-90.41	-0.18	-25.00	25.00	24.74	0.26	96.365		
200.00	200.00	199.65	199.65	0.49	0.49	-90.41	-0.18	-25.00	25.00	24.03	0.98	25.626		
300.00	300.00	299.65	299.65	0.85	0.85	-90.41	-0.18	-25.00	25.00	23.31	1.69	14.771		
400.00	400.00	399.65	399.65	1.21	1.20	-90.41	-0.18	-25.00	25.00	22.59	2.41	10.376		
500.00	500.00	499.65	499.65	1.56	1.56	-90.41	-0.18	-25.00	25.00	21.87	3.13	7.997		
600.00	600.00	599.65	599.65	1.92	1.92	-90.41	-0.18	-25.00	25.00	21.16	3.84	6.505		
700.00	700.00	699.65	699.65	2.28	2.28	-90.41	-0.18	-25.00	25.00	20.44	4.56	5.482		
800.00	800.00	799.65	799.65	2.64	2.64	-90.41	-0.18	-25.00	25.00	19.72	5.28	4.737		
900.00	900.00	899.65	899.65	3.00	3.00	-90.41	-0.18	-25.00	25.00	19.01	5.99	4.171		
1,000.00	1,000.00	999.65	999.65	3.36	3.35	-90.41	-0.18	-25.00	25.00	18.29	6.71	3.725		
1,100.00	1,100.00	1,099.65	1,099.65	3.71	3.71	-90.41	-0.18	-25.00	25.00	17.57	7.43	3.366		
1,200.00	1,200.00	1,199.65	1,199.65	4.07	4.07	-90.41	-0.18	-25.00	25.00	16.86	8.15	3.069		
1,300.00	1,300.00	1,299.65	1,299.65	4.43	4.43	-90.41	-0.18	-25.00	25.00	16.14	8.86	2.821		
1,400.00	1,400.00	1,399.65	1,399.65	4.79	4.79	-90.41	-0.18	-25.00	25.00	15.42	9.58	2.610		
1,500.00	1,500.00	1,499.65	1,499.65	5.15	5.15	-90.41	-0.18	-25.00	25.00	14.70	10.30	2.428		
1,600.00	1,600.00	1,599.65	1,599.65	5.51	5.51	-90.41	-0.18	-25.00	25.00	13.99	11.01	2.270		
1,700.00	1,700.00	1,699.65	1,699.65	5.87	5.86	-90.41	-0.18	-25.00	25.00	13.27	11.73	2.131		
1,800.00	1,800.00	1,799.65	1,799.65	6.22	6.22	-90.41	-0.18	-25.00	25.00	12.55	12.45	2.009		

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

Anticollision Report

Company:	Earthstone Operating, LLC	Local Co-ordinate Reference:	Well Los Vaqueros Fed 442H
Project:	Lea County, NM (NAD 27)	TVD Reference:	GE 3183.53' + KB 27.5' @ 3211.03usft
Reference Site:	Los Vaqueros Fed Pad	MD Reference:	GE 3183.53' + KB 27.5' @ 3211.03usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Los Vaqueros Fed 442H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	LEAM Multi_User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design: Los Vaqueros Fed Pad - Los Vaqueros Fed 301H - OH - Plan #1													Offset Site Error: 0.00 usft
Survey Program: 0-OWSG_Rev2_MWD+HRGM													Offset Well Error: 0.00 usft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Distance		Minimum Separation (usft)	Separation Factor	Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)			
1,900.00	1,900.00	1,899.65	1,899.65	6.58	6.58	-90.41	-0.18	-25.00	25.00	11.84	13.16	1.899	
2,000.00	2,000.00	1,999.65	1,999.65	6.94	6.94	-90.41	-0.18	-25.00	25.00	11.12	13.88	1.801	
2,100.00	2,100.00	2,099.65	2,099.65	7.30	7.30	-90.41	-0.18	-25.00	25.00	10.40	14.60	1.713	
2,200.00	2,200.00	2,199.65	2,199.65	7.66	7.66	-90.41	-0.18	-25.00	25.00	9.69	15.31	1.632	
2,300.00	2,300.00	2,299.65	2,299.65	8.02	8.02	-90.41	-0.18	-25.00	25.00	8.97	16.03	1.559	
2,400.00	2,400.00	2,399.65	2,399.65	8.37	8.37	-90.41	-0.18	-25.00	25.00	8.25	16.75	1.493 Level 3	
2,500.00	2,500.00	2,499.65	2,499.65	8.73	8.73	-90.41	-0.18	-25.00	25.00	7.54	17.47	1.431 Level 3	
2,600.00	2,600.00	2,599.65	2,599.65	9.09	9.09	-90.41	-0.18	-25.00	25.00	6.82	18.18	1.375 Level 3	
2,700.00	2,699.98	2,698.80	2,698.78	9.45	9.44	-26.60	0.14	-26.67	25.12	6.24	18.87	1.331 Level 3	
2,800.00	2,799.84	2,797.94	2,797.79	9.80	9.78	-29.38	1.11	-31.71	25.53	5.99	19.54	1.307 Level 3	
2,900.00	2,899.45	2,897.28	2,896.76	10.15	10.13	-33.87	2.70	-40.03	26.24	6.04	20.20	1.299 Level 3	
2,999.75	2,998.46	2,996.95	2,995.98	10.50	10.48	-42.12	4.48	-49.30	25.32	4.41	20.90	1.211 Level 3	
3,100.00	3,097.73	3,097.06	3,095.64	10.86	10.83	-54.06	6.26	-58.62	23.88	2.26	21.62	1.104 Level 3	
3,174.97	3,171.97	3,171.92	3,170.16	11.13	11.10	-63.64	7.60	-65.59	23.55	1.37	22.17	1.062 Level 3, CC	
3,200.00	3,196.76	3,196.92	3,195.05	11.22	11.19	-66.86	8.04	-67.92	23.58	1.23	22.36	1.055 Level 3, ES, SF	
3,300.00	3,295.79	3,296.78	3,294.46	11.59	11.54	-79.35	9.83	-77.21	24.46	1.36	23.10	1.059 Level 3	
3,400.00	3,394.81	3,396.64	3,393.87	11.95	11.90	-90.50	11.61	-86.51	26.40	2.56	23.84	1.107 Level 3	
3,500.00	3,493.84	3,496.50	3,493.28	12.32	12.26	-99.82	13.39	-95.81	29.19	4.61	24.58	1.188 Level 3	
3,600.00	3,592.87	3,596.36	3,592.69	12.69	12.62	-107.37	15.17	-105.10	32.61	7.30	25.31	1.288 Level 3	
3,700.00	3,691.90	3,696.22	3,692.10	13.07	12.98	-113.40	16.95	-114.40	36.48	10.44	26.04	1.401 Level 3	
3,800.00	3,790.93	3,796.07	3,791.51	13.44	13.34	-118.23	18.73	-123.69	40.68	13.91	26.76	1.520	
3,900.00	3,889.95	3,895.93	3,890.92	13.82	13.70	-122.14	20.51	-132.99	45.11	17.62	27.49	1.641	
4,000.00	3,988.98	3,995.79	3,990.33	14.20	14.07	-125.33	22.29	-142.28	49.71	21.50	28.21	1.762	
4,100.00	4,088.01	4,095.65	4,089.73	14.58	14.43	-127.98	24.08	-151.58	54.44	25.50	28.94	1.881	
4,200.00	4,187.04	4,195.51	4,189.14	14.96	14.80	-130.20	25.86	-160.88	59.27	29.60	29.67	1.998	
4,300.00	4,286.07	4,295.37	4,288.55	15.34	15.17	-132.09	27.64	-170.17	64.17	33.78	30.39	2.111	
4,400.00	4,385.09	4,395.23	4,387.96	15.73	15.53	-133.70	29.42	-179.47	69.14	38.01	31.12	2.221	
4,500.00	4,484.12	4,495.09	4,487.37	16.11	15.90	-135.10	31.20	-188.76	74.15	42.30	31.85	2.328	
4,600.00	4,583.15	4,594.95	4,586.78	16.50	16.27	-136.32	32.98	-198.06	79.20	46.61	32.59	2.431	
4,700.00	4,682.18	4,694.81	4,686.19	16.89	16.64	-137.39	34.76	-207.35	84.28	50.96	33.32	2.530	
4,800.00	4,781.21	4,794.67	4,785.60	17.27	17.01	-138.35	36.54	-216.65	89.39	55.34	34.05	2.625	
4,900.00	4,880.23	4,894.53	4,885.01	17.66	17.38	-139.19	38.32	-225.95	94.52	59.73	34.78	2.717	
5,000.00	4,979.26	4,994.38	4,984.42	18.05	17.75	-139.96	40.11	-235.24	99.67	64.15	35.52	2.806	
5,100.00	5,078.29	5,094.24	5,083.83	18.44	18.12	-140.64	41.89	-244.54	104.83	68.57	36.26	2.891	
5,200.00	5,177.32	5,194.10	5,183.24	18.83	18.49	-141.26	43.67	-253.83	110.01	73.02	36.99	2.974	
5,280.00	5,256.54	5,273.99	5,262.77	19.14	18.79	-141.72	45.09	-261.27	114.16	76.58	37.58	3.038	
5,300.00	5,276.36	5,293.96	5,282.65	19.22	18.86	-141.82	45.45	-263.13	115.14	77.41	37.73	3.052	
5,400.00	5,375.69	5,393.91	5,382.14	19.61	19.23	-141.66	47.23	-272.43	118.42	79.94	38.47	3.078	
5,500.00	5,475.36	5,493.87	5,481.65	19.98	19.61	-140.42	49.02	-281.74	118.98	79.76	39.22	3.033	
5,600.00	5,575.25	5,593.72	5,581.06	20.34	19.98	-138.05	50.80	-291.03	116.99	77.00	39.99	2.926	
5,679.76	5,655.00	5,673.21	5,660.19	20.61	20.28	-160.02	52.21	-298.43	113.75	73.15	40.60	2.802	
5,700.00	5,675.24	5,693.37	5,680.25	20.68	20.35	-160.86	52.57	-300.31	112.77	72.02	40.76	2.767	
5,800.00	5,775.24	5,792.91	5,779.36	21.03	20.72	-165.19	54.35	-309.58	108.33	66.80	41.53	2.608	
5,900.00	5,875.24	5,892.46	5,878.46	21.37	21.10	-169.86	56.13	-318.84	104.56	62.25	42.31	2.471	
6,000.00	5,975.24	5,992.01	5,977.56	21.72	21.47	-174.84	57.90	-328.11	101.54	58.46	43.08	2.357	
6,100.00	6,075.24	6,091.56	6,076.66	22.07	21.84	-179.92	59.68	-337.38	99.33	55.49	43.84	2.266	
6,200.00	6,175.24	6,191.11	6,175.76	22.41	22.21	-174.50	61.45	-346.64	98.00	53.40	44.60	2.197	
6,296.72	6,271.97	6,287.40	6,271.62	22.75	22.58	-169.15	63.17	-355.61	97.57	52.26	45.31	2.153	
6,300.00	6,275.24	6,290.66	6,274.86	22.76	22.59	-168.97	63.23	-355.91	97.57	52.24	45.33	2.152	
6,400.00	6,375.24	6,390.21	6,373.97	23.11	22.96	-163.45	65.00	-365.18	98.06	52.01	46.05	2.129	
6,500.00	6,475.24	6,489.76	6,473.07	23.46	23.33	-158.03	66.78	-374.44	99.45	52.70	46.75	2.127	
6,600.00	6,575.24	6,589.31	6,572.17	23.80	23.71	-152.81	68.56	-383.71	101.71	54.28	47.43	2.144	

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

Anticollision Report

Company:	Earthstone Operating, LLC	Local Co-ordinate Reference:	Well Los Vaqueros Fed 442H
Project:	Lea County, NM (NAD 27)	TVD Reference:	GE 3183.53' + KB 27.5' @ 3211.03usft
Reference Site:	Los Vaqueros Fed Pad	MD Reference:	GE 3183.53' + KB 27.5' @ 3211.03usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Los Vaqueros Fed 442H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	LEAM Multi_User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design: Los Vaqueros Fed Pad - Los Vaqueros Fed 301H - OH - Plan #1													Offset Site Error: 0.00 usft
Survey Program: 0-OWSG_Rev2_MWD+HRGM													Offset Well Error: 0.00 usft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Distance				Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	
6,700.00	6,675.24	6,688.86	6,671.27	24.15	24.08	-147.85	70.33	-392.98	104.79	56.68	48.11	2.178	
6,800.00	6,775.24	6,788.41	6,770.37	24.50	24.46	-143.20	72.11	-402.25	108.60	59.83	48.77	2.227	
6,900.00	6,875.24	6,887.96	6,869.47	24.85	24.83	-138.89	73.88	-411.51	113.09	63.66	49.43	2.288	
7,000.00	6,975.24	6,987.51	6,968.58	25.20	25.21	-134.93	75.66	-420.78	118.16	68.08	50.09	2.359	
7,100.00	7,075.24	7,087.06	7,067.68	25.55	25.58	-131.31	77.43	-430.05	123.76	73.01	50.74	2.439	
7,200.00	7,175.24	7,186.61	7,166.78	25.90	25.95	-128.01	79.21	-439.31	129.80	78.40	51.40	2.525	
7,300.00	7,275.24	7,286.16	7,265.88	26.25	26.33	-125.02	80.99	-448.58	136.24	84.17	52.07	2.617	
7,400.00	7,375.24	7,385.71	7,364.98	26.60	26.70	-122.30	82.76	-457.85	143.02	90.28	52.74	2.712	
7,500.00	7,475.24	7,485.26	7,464.08	26.95	27.08	-119.83	84.54	-467.11	150.09	96.68	53.41	2.810	
7,600.00	7,575.24	7,584.81	7,563.19	27.30	27.45	-117.58	86.31	-476.38	157.41	103.33	54.08	2.911	
7,700.00	7,675.24	7,684.36	7,662.29	27.65	27.83	-115.54	88.09	-485.65	164.95	110.19	54.76	3.012	
7,800.00	7,775.24	7,783.91	7,761.39	28.00	28.21	-113.67	89.86	-494.92	172.69	117.24	55.44	3.115	
7,900.00	7,875.24	7,883.46	7,860.49	28.35	28.58	-111.97	91.64	-504.18	180.59	124.46	56.13	3.217	
8,000.00	7,975.24	7,983.01	7,959.59	28.70	28.96	-110.41	93.42	-513.45	188.63	131.82	56.82	3.320	
8,100.00	8,075.24	8,082.56	8,058.69	29.05	29.33	-108.98	95.19	-522.72	196.81	139.30	57.51	3.422	
8,200.00	8,175.24	8,182.11	8,157.80	29.40	29.71	-107.67	96.97	-531.98	205.09	146.89	58.20	3.524	
8,300.00	8,275.24	8,281.66	8,256.90	29.76	30.08	-106.45	98.74	-541.25	213.47	154.58	58.90	3.624	
8,400.00	8,375.24	8,381.21	8,356.00	30.11	30.46	-105.33	100.52	-550.52	221.95	162.35	59.60	3.724	
8,500.00	8,475.24	8,480.76	8,455.10	30.46	30.84	-104.29	102.29	-559.78	230.50	170.20	60.29	3.823	
8,600.00	8,575.24	8,580.31	8,554.20	30.81	31.21	-103.33	104.07	-569.05	239.12	178.12	61.00	3.920	
8,700.00	8,675.24	8,679.86	8,653.30	31.17	31.59	-102.43	105.85	-578.32	247.80	186.10	61.70	4.016	
8,800.00	8,775.24	8,779.41	8,752.41	31.52	31.97	-101.60	107.62	-587.58	256.54	194.14	62.40	4.111	
8,900.00	8,875.24	8,878.96	8,851.51	31.87	32.34	-100.82	109.40	-596.85	265.33	202.23	63.11	4.205	
9,000.00	8,975.24	8,978.51	8,950.61	32.22	32.72	-100.08	111.17	-606.12	274.17	210.36	63.81	4.296	
9,100.00	9,075.24	9,078.06	9,049.71	32.58	33.09	-99.40	112.95	-615.39	283.05	218.53	64.52	4.387	
9,200.00	9,175.24	9,177.61	9,148.81	32.93	33.47	-98.76	114.72	-624.65	291.96	226.74	65.23	4.476	
9,300.00	9,275.24	9,277.16	9,247.91	33.28	33.85	-98.15	116.50	-633.92	300.91	234.98	65.94	4.564	
9,400.00	9,375.24	9,376.71	9,347.02	33.64	34.22	-97.58	118.28	-643.19	309.89	243.25	66.64	4.650	
9,500.00	9,475.24	9,476.26	9,446.12	33.99	34.60	-97.04	120.05	-652.45	318.90	251.55	67.35	4.735	
9,600.00	9,575.24	9,575.81	9,545.22	34.34	34.98	-96.53	121.83	-661.72	327.94	259.88	68.06	4.818	
9,700.00	9,675.24	9,675.36	9,644.32	34.70	35.36	-96.05	123.60	-670.99	337.00	268.23	68.78	4.900	
9,800.00	9,775.24	9,774.91	9,743.42	35.05	35.73	-95.60	125.38	-680.25	346.09	276.60	69.49	4.981	
9,900.00	9,875.24	9,874.46	9,842.52	35.40	36.11	-95.16	127.15	-689.52	355.19	284.99	70.20	5.060	
10,000.00	9,975.24	9,974.01	9,941.63	35.76	36.49	-94.75	128.93	-698.79	364.31	293.40	70.91	5.138	
10,100.00	10,075.24	10,073.56	10,040.73	36.11	36.86	-94.36	130.71	-708.06	373.45	301.83	71.62	5.214	
10,200.00	10,175.24	10,173.11	10,139.83	36.47	37.24	-93.99	132.48	-717.32	382.61	310.27	72.34	5.289	
10,300.00	10,275.24	10,272.66	10,238.93	36.82	37.62	-93.64	134.26	-726.59	391.78	318.73	73.05	5.363	
10,400.00	10,375.24	10,372.21	10,338.03	37.17	38.00	-93.30	136.03	-735.86	400.97	327.21	73.76	5.436	
10,500.00	10,475.24	10,471.76	10,437.13	37.53	38.37	-92.97	137.81	-745.12	410.17	335.69	74.48	5.507	
10,600.00	10,575.24	10,571.31	10,536.24	37.88	38.75	-92.66	139.58	-754.39	419.38	344.19	75.19	5.578	
10,700.00	10,675.24	10,670.86	10,635.34	38.24	39.13	-92.37	141.36	-763.66	428.60	352.70	75.91	5.647	
10,800.00	10,775.24	10,770.41	10,734.44	38.59	39.50	-92.08	143.14	-772.92	437.84	361.22	76.62	5.714	
10,900.00	10,875.24	10,869.96	10,833.54	38.95	39.88	-91.81	144.91	-782.19	447.08	369.75	77.33	5.781	
11,000.00	10,975.24	10,969.50	10,932.64	39.30	40.26	-91.55	146.69	-791.46	456.34	378.29	78.05	5.847	
11,100.00	11,075.24	11,069.05	11,031.74	39.66	40.64	-91.30	148.46	-800.72	465.60	386.84	78.77	5.911	
11,200.00	11,175.24	11,168.60	11,130.84	40.01	41.01	-91.06	150.24	-809.99	474.87	395.39	79.48	5.975	
11,300.00	11,275.24	11,268.15	11,229.95	40.36	41.39	-90.83	152.01	-819.26	484.15	403.96	80.20	6.037	
11,400.00	11,375.24	11,367.70	11,329.05	40.72	41.77	-90.61	153.79	-828.53	493.44	412.53	80.91	6.098	
11,500.00	11,475.24	11,467.21	11,428.09	41.07	42.14	-90.63	155.52	-837.77	502.74	421.11	81.63	6.159	
11,600.00	11,575.24	11,564.30	11,523.54	41.43	42.48	-92.26	157.29	-846.56	512.29	429.98	82.30	6.224	
11,700.00	11,675.24	11,654.14	11,608.55	41.79	42.76	-95.29	159.02	-854.25	523.44	440.57	83.00	6.287	
11,800.00	11,775.24	11,733.74	11,679.45	42.14	42.99	-99.05	160.71	-860.57	534.45	455.25	83.20	6.472	

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

Anticollision Report

Company:	Earthstone Operating, LLC	Local Co-ordinate Reference:	Well Los Vaqueros Fed 442H
Project:	Lea County, NM (NAD 27)	TVD Reference:	GE 3183.53' + KB 27.5' @ 3211.03usft
Reference Site:	Los Vaqueros Fed Pad	MD Reference:	GE 3183.53' + KB 27.5' @ 3211.03usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Los Vaqueros Fed 442H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	LEAM Multi_User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design: Los Vaqueros Fed Pad - Los Vaqueros Fed 301H - OH - Plan #1												Offset Site Error:	0.00 usft
Survey Program: 0-OWSG_Rev2_MWD+HRGM												Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Distance		Separation Factor	Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)		
11,900.00	11,875.24	11,800.00	11,734.28	42.50	43.15	-102.82	38.82	-865.37	559.58	476.51	83.07	6.736	
12,000.00	11,975.24	11,860.20	11,780.13	42.85	43.28	-106.63	0.05	-869.32	588.47	505.98	82.49	7.134	
12,100.00	12,075.24	11,908.98	11,814.15	43.21	43.38	-109.91	-34.76	-872.20	625.86	544.52	81.34	7.695	
12,152.80	12,128.04	11,931.52	11,828.85	43.39	43.42	-111.46	-51.80	-873.43	649.02	568.47	80.55	8.057	
12,200.00	12,175.19	11,950.00	11,840.40	43.55	43.45	65.52	-66.20	-874.38	670.99	591.24	79.75	8.414	
12,250.00	12,224.78	11,971.85	11,853.45	43.71	43.49	61.84	-83.69	-875.45	694.51	615.59	78.91	8.801	
12,300.00	12,273.63	12,000.00	11,869.26	43.86	43.54	58.10	-106.94	-876.73	718.00	639.77	78.22	9.179	
12,350.00	12,321.37	12,014.52	11,876.97	44.00	43.56	55.29	-119.23	-877.34	740.97	663.81	77.16	9.603	
12,400.00	12,367.65	12,036.19	11,887.89	44.14	43.59	52.41	-137.93	-878.20	763.34	687.05	76.29	10.006	
12,450.00	12,412.09	12,050.00	11,894.48	44.27	43.62	50.07	-150.05	-878.71	784.89	709.64	75.25	10.431	
12,500.00	12,454.38	12,080.08	11,907.81	44.38	43.66	47.50	-176.99	-879.73	805.19	730.55	74.63	10.789	
12,550.00	12,494.18	12,100.00	11,915.86	44.48	43.69	45.51	-195.20	-880.32	824.30	750.48	73.82	11.167	
12,600.00	12,531.20	12,124.53	11,924.90	44.57	43.73	43.66	-218.00	-880.97	841.98	768.83	73.15	11.510	
12,650.00	12,565.15	12,150.00	11,933.25	44.65	43.77	42.05	-242.05	-881.55	858.14	785.58	72.56	11.826	
12,700.00	12,595.77	12,169.40	11,938.89	44.71	43.79	40.77	-260.61	-881.91	872.63	800.70	71.93	12.131	
12,750.00	12,622.83	12,200.00	11,946.50	44.77	43.84	39.55	-290.24	-882.37	885.46	813.91	71.55	12.375	
12,800.00	12,646.13	12,214.57	11,949.57	44.81	43.87	38.71	-304.48	-882.54	896.31	825.28	71.03	12.618	
12,850.00	12,665.48	12,250.00	11,955.52	44.88	43.93	37.87	-339.40	-882.79	905.56	834.71	70.85	12.781	
12,900.00	12,680.74	12,250.00	11,955.52	44.99	43.93	37.43	-339.40	-882.79	912.60	842.15	70.45	12.954	
12,950.00	12,691.80	12,282.68	11,959.10	45.09	43.99	36.98	-371.88	-882.85	917.62	847.19	70.43	13.029	
13,000.00	12,698.57	12,300.00	11,960.25	45.20	44.02	36.74	-389.16	-882.81	920.80	850.37	70.43	13.075	
13,052.80	12,701.00	12,329.50	11,961.00	45.30	44.08	36.65	-418.65	-882.63	921.89	851.31	70.58	13.062	
13,100.00	12,701.00	12,376.71	11,961.00	45.40	44.18	36.65	-465.85	-882.22	921.89	851.12	70.77	13.026	
13,200.00	12,701.00	12,476.71	11,961.00	45.65	44.43	36.65	-565.85	-881.37	921.89	850.66	71.23	12.943	
13,300.00	12,701.00	12,576.71	11,961.00	45.93	44.72	36.65	-665.84	-880.51	921.88	850.15	71.74	12.850	
13,400.00	12,701.00	12,676.71	11,961.00	46.26	45.06	36.65	-765.84	-879.66	921.88	849.57	72.31	12.749	
13,500.00	12,701.00	12,776.71	11,961.00	46.63	45.45	36.65	-865.84	-878.80	921.88	848.94	72.94	12.639	
13,600.00	12,701.00	12,876.71	11,961.00	47.03	45.87	36.65	-965.83	-877.95	921.88	848.25	73.62	12.521	
13,700.00	12,701.00	12,976.71	11,961.00	47.48	46.34	36.65	-1,065.83	-877.09	921.87	847.51	74.36	12.397	
13,800.00	12,701.00	13,076.71	11,961.00	47.96	46.84	36.65	-1,165.83	-876.24	921.87	846.72	75.16	12.266	
13,900.00	12,701.00	13,176.71	11,961.00	48.49	47.39	36.65	-1,265.82	-875.38	921.87	845.87	76.00	12.130	
14,000.00	12,701.00	13,276.71	11,961.00	49.04	47.97	36.65	-1,365.82	-874.53	921.87	844.98	76.89	11.989	
14,100.00	12,701.00	13,376.71	11,961.00	49.64	48.58	36.65	-1,465.82	-873.67	921.86	844.03	77.83	11.844	
14,200.00	12,701.00	13,476.71	11,961.00	50.26	49.23	36.65	-1,565.81	-872.82	921.86	843.04	78.82	11.696	
14,300.00	12,701.00	13,576.71	11,961.00	50.92	49.91	36.65	-1,665.81	-871.96	921.86	842.01	79.85	11.545	
14,400.00	12,701.00	13,676.71	11,961.00	51.61	50.63	36.65	-1,765.80	-871.11	921.86	840.93	80.92	11.392	
14,500.00	12,701.00	13,776.71	11,961.00	52.33	51.37	36.65	-1,865.80	-870.25	921.85	839.82	82.04	11.237	
14,600.00	12,701.00	13,876.71	11,961.00	53.08	52.14	36.64	-1,965.80	-869.39	921.85	838.66	83.19	11.081	
14,700.00	12,701.00	13,976.71	11,961.00	53.86	52.94	36.64	-2,065.79	-868.54	921.85	837.47	84.38	10.924	
14,800.00	12,701.00	14,076.71	11,961.00	54.67	53.77	36.64	-2,165.79	-867.68	921.85	836.23	85.61	10.768	
14,900.00	12,701.00	14,176.71	11,961.00	55.50	54.62	36.64	-2,265.79	-866.83	921.84	834.97	86.87	10.611	
15,000.00	12,701.00	14,276.71	11,961.00	56.35	55.49	36.64	-2,365.78	-865.97	921.84	833.67	88.17	10.455	
15,100.00	12,701.00	14,376.71	11,961.00	57.23	56.39	36.64	-2,465.78	-865.12	921.84	832.34	89.50	10.300	
15,200.00	12,701.00	14,476.71	11,961.00	58.13	57.31	36.64	-2,565.78	-864.26	921.84	830.98	90.86	10.146	
15,300.00	12,701.00	14,576.71	11,961.00	59.05	58.25	36.64	-2,665.77	-863.41	921.83	829.59	92.24	9.994	
15,400.00	12,701.00	14,676.71	11,961.00	59.99	59.21	36.64	-2,765.77	-862.55	921.83	828.17	93.66	9.843	
15,500.00	12,701.00	14,776.71	11,961.00	60.95	60.19	36.64	-2,865.76	-861.70	921.83	826.73	95.10	9.694	
15,600.00	12,701.00	14,876.71	11,961.00	61.93	61.19	36.64	-2,965.76	-860.84	921.83	825.26	96.56	9.546	
15,700.00	12,701.00	14,976.71	11,961.00	62.92	62.21	36.64	-3,065.76	-859.99	921.82	823.77	98.05	9.401	
15,800.00	12,701.00	15,076.71	11,961.00	63.94	63.24	36.64	-3,165.75	-859.13	921.82	822.25	99.57	9.258	
15,900.00	12,701.00	15,176.71	11,961.00	64.96	64.28	36.64	-3,265.75	-858.28	921.82	820.72	101.10	9.118	
16,000.00	12,701.00	15,276.71	11,961.00	66.01	65.35	36.64	-3,365.75	-857.42	921.82	819.16	102.66	8.979	

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

Anticollision Report

Company:	Earthstone Operating, LLC	Local Co-ordinate Reference:	Well Los Vaqueros Fed 442H
Project:	Lea County, NM (NAD 27)	TVD Reference:	GE 3183.53' + KB 27.5' @ 3211.03usft
Reference Site:	Los Vaqueros Fed Pad	MD Reference:	GE 3183.53' + KB 27.5' @ 3211.03usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Los Vaqueros Fed 442H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	LEAM Multi_User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design: Los Vaqueros Fed Pad - Los Vaqueros Fed 301H - OH - Plan #1													Offset Site Error:	0.00 usft	
Survey Program:		0-OWSG_Rev2_MWD+HRGM				Rule Assigned:								Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis		Offset Wellbore Centre			Distance				Warning		
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor			
16,100.00	12,701.00	15,376.71	11,961.00	67.07	66.42	36.64	-3,465.74	-856.57	921.81	817.58	104.24	8.844			
16,200.00	12,701.00	15,476.71	11,961.00	68.14	67.51	36.64	-3,565.74	-855.71	921.81	815.98	105.83	8.710			
16,300.00	12,701.00	15,576.71	11,961.00	69.22	68.61	36.64	-3,665.74	-854.86	921.81	814.36	107.45	8.579			
16,400.00	12,701.00	15,676.71	11,961.00	70.32	69.73	36.64	-3,765.73	-854.00	921.81	812.73	109.08	8.451			
16,500.00	12,701.00	15,776.71	11,961.00	71.43	70.85	36.64	-3,865.73	-853.15	921.80	811.08	110.73	8.325			
16,600.00	12,701.00	15,876.71	11,961.00	72.55	71.99	36.64	-3,965.72	-852.29	921.80	809.41	112.39	8.202			
16,700.00	12,701.00	15,976.71	11,961.00	73.69	73.13	36.64	-4,065.72	-851.44	921.80	807.73	114.07	8.081			
16,800.00	12,701.00	16,076.71	11,961.00	74.83	74.29	36.64	-4,165.72	-850.58	921.80	806.03	115.76	7.963			
16,900.00	12,701.00	16,176.71	11,961.00	75.98	75.46	36.64	-4,265.71	-849.73	921.79	804.32	117.47	7.847			
17,000.00	12,701.00	16,276.71	11,961.00	77.14	76.63	36.64	-4,365.71	-848.87	921.79	802.60	119.19	7.733			
17,100.00	12,701.00	16,376.71	11,961.00	78.32	77.82	36.64	-4,465.71	-848.01	921.79	800.86	120.93	7.623			
17,200.00	12,701.00	16,476.71	11,961.00	79.50	79.01	36.64	-4,565.70	-847.16	921.79	799.11	122.68	7.514			
17,300.00	12,701.00	16,576.71	11,961.00	80.68	80.21	36.64	-4,665.70	-846.30	921.78	797.35	124.44	7.408			
17,400.00	12,701.00	16,676.71	11,961.00	81.88	81.42	36.64	-4,765.70	-845.45	921.78	795.58	126.21	7.304			
17,500.00	12,701.00	16,776.71	11,961.00	83.08	82.64	36.64	-4,865.69	-844.59	921.78	793.79	127.99	7.202			
17,600.00	12,701.00	16,876.71	11,961.00	84.29	83.86	36.64	-4,965.69	-843.74	921.78	792.00	129.78	7.103			
17,700.00	12,701.00	16,976.71	11,961.00	85.51	85.09	36.64	-5,065.68	-842.88	921.77	790.20	131.58	7.006			
17,800.00	12,701.00	17,076.71	11,961.00	86.74	86.32	36.64	-5,165.68	-842.03	921.77	788.38	133.39	6.910			
17,900.00	12,701.00	17,176.71	11,961.00	87.97	87.56	36.64	-5,265.68	-841.17	921.77	786.56	135.21	6.817			
18,000.00	12,701.00	17,276.71	11,961.00	89.21	88.81	36.64	-5,365.67	-840.32	921.77	784.73	137.04	6.726			
18,100.00	12,701.00	17,376.71	11,961.00	90.45	90.07	36.64	-5,465.67	-839.46	921.76	782.89	138.87	6.637			
18,200.00	12,701.00	17,476.71	11,961.00	91.70	91.32	36.64	-5,565.67	-838.61	921.76	781.04	140.72	6.550			
18,300.00	12,701.00	17,576.71	11,961.00	92.95	92.59	36.64	-5,665.66	-837.75	921.76	779.19	142.57	6.465			
18,400.00	12,701.00	17,676.71	11,961.00	94.21	93.86	36.64	-5,765.66	-836.90	921.76	777.32	144.43	6.382			
18,500.00	12,701.00	17,776.71	11,961.00	95.48	95.13	36.64	-5,865.65	-836.04	921.75	775.45	146.30	6.300			
18,600.00	12,701.00	17,876.71	11,961.00	96.74	96.41	36.64	-5,965.65	-835.19	921.75	773.57	148.18	6.221			
18,700.00	12,701.00	17,976.71	11,961.00	98.02	97.69	36.64	-6,065.65	-834.33	921.75	771.69	150.06	6.143			
18,800.00	12,701.00	18,076.71	11,961.00	99.30	98.98	36.64	-6,165.64	-833.48	921.75	769.80	151.95	6.066			
18,900.00	12,701.00	18,176.71	11,961.00	100.58	100.27	36.64	-6,265.64	-832.62	921.74	767.90	153.84	5.992			
19,000.00	12,701.00	18,276.71	11,961.00	101.87	101.56	36.64	-6,365.64	-831.77	921.74	766.00	155.74	5.918			
19,100.00	12,701.00	18,376.71	11,961.00	103.16	102.86	36.64	-6,465.63	-830.91	921.74	764.09	157.64	5.847			
19,200.00	12,701.00	18,476.71	11,961.00	104.45	104.16	36.64	-6,565.63	-830.06	921.74	762.18	159.56	5.777			
19,300.00	12,701.00	18,576.71	11,961.00	105.75	105.47	36.63	-6,665.63	-829.20	921.73	760.26	161.47	5.708			
19,400.00	12,701.00	18,676.71	11,961.00	107.05	106.78	36.63	-6,765.62	-828.35	921.73	758.34	163.39	5.641			
19,500.00	12,701.00	18,776.71	11,961.00	108.35	108.09	36.63	-6,865.62	-827.49	921.73	756.41	165.32	5.575			
19,600.00	12,701.00	18,876.71	11,961.00	109.66	109.41	36.63	-6,965.61	-826.63	921.73	754.47	167.25	5.511			
19,700.00	12,701.00	18,976.71	11,961.00	110.97	110.72	36.63	-7,065.61	-825.78	921.72	752.53	169.19	5.448			
19,800.00	12,701.00	19,076.71	11,961.00	112.29	112.04	36.63	-7,165.61	-824.92	921.72	750.59	171.13	5.386			
19,900.00	12,701.00	19,176.71	11,961.00	113.61	113.37	36.63	-7,265.60	-824.07	921.72	748.64	173.07	5.326			
20,000.00	12,701.00	19,276.71	11,961.00	114.93	114.70	36.63	-7,365.60	-823.21	921.72	746.69	175.02	5.266			
20,100.00	12,701.00	19,376.71	11,961.00	116.25	116.02	36.63	-7,465.60	-822.36	921.71	744.74	176.98	5.208			
20,200.00	12,701.00	19,476.71	11,961.00	117.57	117.36	36.63	-7,565.59	-821.50	921.71	742.78	178.93	5.151			
20,300.00	12,701.00	19,576.71	11,961.00	118.90	118.69	36.63	-7,665.59	-820.65	921.71	740.81	180.90	5.095			
20,400.00	12,701.00	19,676.71	11,961.00	120.23	120.03	36.63	-7,765.59	-819.79	921.71	738.85	182.86	5.040			
20,500.00	12,701.00	19,776.71	11,961.00	121.57	121.37	36.63	-7,865.58	-818.94	921.70	736.87	184.83	4.987			
20,600.00	12,701.00	19,876.71	11,961.00	122.90	122.71	36.63	-7,965.58	-818.08	921.70	734.90	186.80	4.934			
20,700.00	12,701.00	19,976.71	11,961.00	124.24	124.05	36.63	-8,065.57	-817.23	921.70	732.92	188.77	4.883			
20,800.00	12,701.00	20,076.71	11,961.00	125.58	125.39	36.63	-8,165.57	-816.37	921.70	730.94	190.75	4.832			
20,900.00	12,701.00	20,176.71	11,961.00	126.92	126.74	36.63	-8,265.57	-815.52	921.69	728.96	192.73	4.782			
21,000.00	12,701.00	20,276.71	11,961.00	128.26	128.09	36.63	-8,365.56	-814.66	921.69	726.97	194.72	4.733			
21,100.00	12,701.00	20,376.71	11,961.00	129.61	129.44	36.63	-8,465.56	-813.81	921.69	724.98	196.71	4.686			
21,200.00	12,701.00	20,476.71	11,961.00	130.96	130.79	36.63	-8,565.56	-812.95	921.69	722.99	198.70	4.639			

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

Anticollision Report

Company:	Earthstone Operating, LLC	Local Co-ordinate Reference:	Well Los Vaqueros Fed 442H
Project:	Lea County, NM (NAD 27)	TVD Reference:	GE 3183.53' + KB 27.5' @ 3211.03usft
Reference Site:	Los Vaqueros Fed Pad	MD Reference:	GE 3183.53' + KB 27.5' @ 3211.03usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Los Vaqueros Fed 442H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	LEAM Multi_User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design: Los Vaqueros Fed Pad - Los Vaqueros Fed 301H - OH - Plan #1													Offset Site Error:	0.00 usft
Survey Program: 0-OWSG_Rev2_MWD+HRGM													Offset Well Error:	0.00 usft
Reference	Offset	Semi Major Axis		Offset Wellbore Centre		Rule Assigned:				Warning				
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
21,300.00	12,701.00	20,576.71	11,961.00	132.31	132.15	36.63	-8,665.55	-812.10	921.68	720.99	200.69	4.593		
21,329.80	12,701.00	20,606.46	11,961.00	132.71	132.55	36.63	-8,695.30	-811.84	921.68	720.40	201.28	4.579		
21,400.00	12,701.00	20,606.46	11,961.00	133.66	132.55	36.63	-8,695.30	-811.84	924.35	721.58	202.77	4.559		
21,500.00	12,701.00	20,606.46	11,961.00	135.01	132.55	36.63	-8,695.30	-811.84	937.27	733.95	203.32	4.610		
21,600.00	12,701.00	20,606.46	11,961.00	136.37	132.55	36.63	-8,695.30	-811.84	960.48	758.34	202.14	4.751		
21,700.00	12,701.00	20,606.46	11,961.00	137.72	132.55	36.63	-8,695.30	-811.84	993.26	793.74	199.53	4.978		
21,800.00	12,701.00	20,606.46	11,961.00	139.08	132.55	36.63	-8,695.30	-811.84	1,034.70	838.88	195.83	5.284		
21,900.00	12,701.00	20,606.46	11,961.00	140.44	132.55	36.63	-8,695.30	-811.84	1,083.82	892.41	191.41	5.662		
22,000.00	12,701.00	20,606.46	11,961.00	141.80	132.55	36.63	-8,695.30	-811.84	1,139.61	953.01	186.60	6.107		
22,100.00	12,701.00	20,606.46	11,961.00	143.17	132.55	36.63	-8,695.30	-811.84	1,201.15	1,019.50	181.65	6.613		
22,200.00	12,701.00	20,606.46	11,961.00	144.53	132.55	36.63	-8,695.30	-811.84	1,267.60	1,090.85	176.75	7.172		
22,300.00	12,701.00	20,606.46	11,961.00	145.90	132.55	36.63	-8,695.30	-811.84	1,338.22	1,166.21	172.02	7.780		
22,400.00	12,701.00	20,606.46	11,961.00	147.26	132.55	36.63	-8,695.30	-811.84	1,412.41	1,244.87	167.54	8.430		
22,500.00	12,701.00	20,606.46	11,961.00	148.63	132.55	36.63	-8,695.30	-811.84	1,489.61	1,326.26	163.34	9.119		
22,600.00	12,701.00	20,606.46	11,961.00	150.00	132.55	36.63	-8,695.30	-811.84	1,569.39	1,409.93	159.46	9.842		
22,700.00	12,701.00	20,606.46	11,961.00	151.37	132.55	36.63	-8,695.30	-811.84	1,651.37	1,495.50	155.87	10.594		
22,800.00	12,701.00	20,606.46	11,961.00	152.74	132.55	36.63	-8,695.30	-811.84	1,735.24	1,582.67	152.58	11.373		
22,900.00	12,701.00	20,606.46	11,961.00	154.12	132.55	36.63	-8,695.30	-811.84	1,820.75	1,671.18	149.56	12.174		
23,000.00	12,701.00	20,606.46	11,961.00	155.49	132.55	36.63	-8,695.30	-811.84	1,907.66	1,760.86	146.80	12.995		
23,041.54	12,701.00	20,606.46	11,961.00	155.98	132.55	36.63	-8,695.30	-811.84	1,944.13	1,796.33	147.81	13.153		

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

Anticollision Report

Company:	Earthstone Operating, LLC	Local Co-ordinate Reference:	Well Los Vaqueros Fed 442H
Project:	Lea County, NM (NAD 27)	TVD Reference:	GE 3183.53' + KB 27.5' @ 3211.03usft
Reference Site:	Los Vaqueros Fed Pad	MD Reference:	GE 3183.53' + KB 27.5' @ 3211.03usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Los Vaqueros Fed 442H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	LEAM Multi_User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design: Los Vaqueros Fed Pad - Los Vaqueros Fed 302H - OH - Plan #1													Offset Site Error:	0.00 usft
Survey Program: 0-OWSG_Rev2_MWD+HRGM													Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Rule Assigned: Distance				Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
0.00	0.00	0.00	0.00	0.00	0.00	89.56	0.38	50.00	50.00					
100.00	100.00	99.65	99.65	0.13	0.13	89.56	0.38	50.00	50.00	49.74	0.26	192.730		
200.00	200.00	199.65	199.65	0.49	0.49	89.56	0.38	50.00	50.00	49.03	0.98	51.253		
300.00	300.00	299.65	299.65	0.85	0.85	89.56	0.38	50.00	50.00	48.31	1.69	29.543		
400.00	400.00	399.65	399.65	1.21	1.20	89.56	0.38	50.00	50.00	47.59	2.41	20.752		
500.00	500.00	499.65	499.65	1.56	1.56	89.56	0.38	50.00	50.00	46.88	3.13	15.993		
600.00	600.00	599.65	599.65	1.92	1.92	89.56	0.38	50.00	50.00	46.16	3.84	13.010		
700.00	700.00	699.65	699.65	2.28	2.28	89.56	0.38	50.00	50.00	45.44	4.56	10.965		
800.00	800.00	799.65	799.65	2.64	2.64	89.56	0.38	50.00	50.00	44.72	5.28	9.475		
900.00	900.00	899.65	899.65	3.00	3.00	89.56	0.38	50.00	50.00	44.01	5.99	8.342		
1,000.00	1,000.00	999.65	999.65	3.36	3.35	89.56	0.38	50.00	50.00	43.29	6.71	7.451		
1,100.00	1,100.00	1,099.65	1,099.65	3.71	3.71	89.56	0.38	50.00	50.00	42.57	7.43	6.731		
1,200.00	1,200.00	1,199.65	1,199.65	4.07	4.07	89.56	0.38	50.00	50.00	41.86	8.15	6.139		
1,300.00	1,300.00	1,299.65	1,299.65	4.43	4.43	89.56	0.38	50.00	50.00	41.14	8.86	5.642		
1,400.00	1,400.00	1,399.65	1,399.65	4.79	4.79	89.56	0.38	50.00	50.00	40.42	9.58	5.220		
1,500.00	1,500.00	1,499.65	1,499.65	5.15	5.15	89.56	0.38	50.00	50.00	39.71	10.30	4.856		
1,600.00	1,600.00	1,599.65	1,599.65	5.51	5.51	89.56	0.38	50.00	50.00	38.99	11.01	4.540		
1,700.00	1,700.00	1,699.65	1,699.65	5.87	5.86	89.56	0.38	50.00	50.00	38.27	11.73	4.263		
1,800.00	1,800.00	1,799.65	1,799.65	6.22	6.22	89.56	0.38	50.00	50.00	37.55	12.45	4.017		
1,900.00	1,900.00	1,899.65	1,899.65	6.58	6.58	89.56	0.38	50.00	50.00	36.84	13.16	3.798		
2,000.00	2,000.00	1,999.65	1,999.65	6.94	6.94	89.56	0.38	50.00	50.00	36.12	13.88	3.602		
2,100.00	2,100.00	2,099.65	2,099.65	7.30	7.30	89.56	0.38	50.00	50.00	35.40	14.60	3.425		
2,200.00	2,200.00	2,199.65	2,199.65	7.66	7.66	89.56	0.38	50.00	50.00	34.69	15.31	3.265		
2,300.00	2,300.00	2,299.65	2,299.65	8.02	8.02	89.56	0.38	50.00	50.00	33.97	16.03	3.119		
2,400.00	2,400.00	2,399.65	2,399.65	8.37	8.37	89.56	0.38	50.00	50.00	33.25	16.75	2.985		
2,500.00	2,500.00	2,499.65	2,499.65	8.73	8.73	89.56	0.38	50.00	50.00	32.54	17.47	2.863		
2,600.00	2,600.00	2,599.65	2,599.65	9.09	9.09	89.56	0.38	50.00	50.00	31.82	18.18	2.750 CC, ES, SF		
2,700.00	2,699.98	2,698.23	2,698.21	9.45	9.43	156.29	-0.70	51.29	52.91	34.04	18.87	2.804		
2,800.00	2,799.84	2,796.94	2,796.80	9.80	9.76	160.90	-3.72	54.89	61.63	42.09	19.53	3.155		
2,900.00	2,899.45	2,895.97	2,895.71	10.15	10.09	165.27	-7.05	58.86	74.41	54.21	20.21	3.683		
2,999.75	2,998.46	2,994.23	2,993.83	10.50	10.42	168.76	-10.36	62.80	90.85	69.97	20.88	4.351		
3,100.00	3,097.73	3,092.13	3,091.59	10.86	10.75	171.21	-13.40	66.91	109.41	87.86	21.55	5.077		
3,200.00	3,196.76	3,188.88	3,188.17	11.22	11.08	171.75	-14.18	72.58	128.94	106.73	22.21	5.804		
3,300.00	3,295.79	3,285.18	3,284.15	11.59	11.42	170.94	-12.34	80.13	149.56	126.68	22.88	6.537		
3,400.00	3,394.81	3,380.79	3,379.20	11.95	11.76	169.30	-7.91	89.49	171.35	147.81	23.54	7.280		
3,500.00	3,493.84	3,476.71	3,474.24	12.32	12.11	167.22	-1.17	100.53	194.38	170.18	24.20	8.032		
3,600.00	3,592.87	3,573.73	3,570.31	12.69	12.46	165.45	6.02	111.96	217.80	192.92	24.89	8.752		
3,700.00	3,691.90	3,670.75	3,666.39	13.07	12.81	164.02	13.21	123.39	241.38	215.81	25.57	9.438		
3,800.00	3,790.93	3,767.78	3,762.47	13.44	13.17	162.85	20.39	134.83	265.08	238.81	26.27	10.092		
3,900.00	3,889.95	3,864.80	3,858.54	13.82	13.52	161.87	27.58	146.26	288.86	261.90	26.96	10.714		
4,000.00	3,988.98	3,961.82	3,954.62	14.20	13.88	161.03	34.77	157.69	312.72	285.06	27.66	11.307		
4,100.00	4,088.01	4,058.84	4,050.70	14.58	14.24	160.32	41.96	169.13	336.62	308.27	28.36	11.871		
4,200.00	4,187.04	4,155.86	4,146.77	14.96	14.60	159.70	49.14	180.56	360.57	331.51	29.06	12.409		
4,300.00	4,286.07	4,252.88	4,242.85	15.34	14.97	159.16	56.33	191.99	384.56	354.79	29.76	12.921		
4,400.00	4,385.09	4,349.90	4,338.93	15.73	15.33	158.68	63.52	203.43	408.57	378.10	30.47	13.411		
4,500.00	4,484.12	4,446.92	4,435.00	16.11	15.70	158.25	70.70	214.86	432.61	401.43	31.17	13.878		
4,600.00	4,583.15	4,543.94	4,531.08	16.50	16.07	157.87	77.89	226.29	456.66	424.78	31.88	14.324		
4,700.00	4,682.18	4,640.96	4,627.15	16.89	16.44	157.53	85.08	237.73	480.74	448.15	32.59	14.751		
4,800.00	4,781.21	4,737.98	4,723.23	17.27	16.81	157.22	92.27	249.16	504.82	471.52	33.30	15.160		
4,900.00	4,880.23	4,835.01	4,819.31	17.66	17.18	156.94	99.45	260.59	528.93	494.91	34.01	15.551		
5,000.00	4,979.26	4,932.03	4,915.38	18.05	17.55	156.68	106.64	272.02	553.04	518.31	34.72	15.926		
5,100.00	5,078.29	5,029.05	5,011.46	18.44	17.92	156.45	113.83	283.46	577.16	541.72	35.44	16.286		

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

Anticollision Report

Company:	Earthstone Operating, LLC	Local Co-ordinate Reference:	Well Los Vaqueros Fed 442H
Project:	Lea County, NM (NAD 27)	TVD Reference:	GE 3183.53' + KB 27.5' @ 3211.03usft
Reference Site:	Los Vaqueros Fed Pad	MD Reference:	GE 3183.53' + KB 27.5' @ 3211.03usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Los Vaqueros Fed 442H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	LEAM Multi_User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design: Los Vaqueros Fed Pad - Los Vaqueros Fed 302H - OH - Plan #1													Offset Site Error:	0.00 usft
Survey Program: 0-OWSG_Rev2_MWD+HRGM													Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Distance		Rule Assigned:		Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
5,200.00	5,177.32	5,126.07	5,107.54	18.83	18.29	156.23	121.02	294.89	601.29	565.14	36.15	16.631		
5,280.00	5,256.54	5,203.69	5,184.40	19.14	18.59	156.07	126.77	304.04	620.60	583.87	36.73	16.898		
5,300.00	5,276.36	5,223.10	5,203.63	19.22	18.67	156.07	128.20	306.33	625.36	588.50	36.87	16.962		
5,400.00	5,375.69	5,320.61	5,300.18	19.61	19.05	155.97	135.43	317.82	647.34	609.75	37.59	17.223		
5,500.00	5,475.36	5,418.71	5,397.33	19.98	19.43	155.75	142.69	329.38	666.21	627.91	38.30	17.394		
5,600.00	5,575.25	5,521.27	5,498.90	20.34	19.82	155.37	150.26	341.40	681.95	642.89	39.05	17.462		
5,679.76	5,655.00	5,620.48	5,597.44	20.61	20.20	90.22	156.34	351.08	690.70	650.91	39.79	17.357		
5,700.00	5,675.24	5,645.81	5,622.66	20.68	20.29	90.12	157.60	353.08	692.30	652.32	39.98	17.318		
5,800.00	5,775.24	5,771.43	5,747.99	21.03	20.76	89.75	162.09	360.24	698.01	657.15	40.86	17.085		
5,900.00	5,875.24	5,897.56	5,874.08	21.37	21.20	89.62	163.66	362.73	699.99	658.31	41.68	16.793		
6,000.00	5,975.24	5,998.38	5,974.89	21.72	21.55	89.62	163.66	362.73	700.00	657.61	42.39	16.514		
6,100.00	6,075.24	6,098.38	6,074.89	22.07	21.90	89.62	163.66	362.73	700.00	656.91	43.09	16.245		
6,200.00	6,175.24	6,198.38	6,174.89	22.41	22.25	89.62	163.66	362.73	700.00	656.20	43.79	15.985		
6,300.00	6,275.24	6,298.38	6,274.89	22.76	22.59	89.62	163.66	362.73	700.00	655.50	44.49	15.732		
6,400.00	6,375.24	6,398.38	6,374.89	23.11	22.94	89.62	163.66	362.73	700.00	654.80	45.20	15.487		
6,500.00	6,475.24	6,498.38	6,474.89	23.46	23.29	89.62	163.66	362.73	700.00	654.09	45.90	15.250		
6,600.00	6,575.24	6,598.38	6,574.89	23.80	23.64	89.62	163.66	362.73	700.00	653.39	46.61	15.019		
6,700.00	6,675.24	6,698.38	6,674.89	24.15	23.99	89.62	163.66	362.73	700.00	652.68	47.31	14.796		
6,800.00	6,775.24	6,798.38	6,774.89	24.50	24.34	89.62	163.66	362.73	700.00	651.98	48.02	14.578		
6,900.00	6,875.24	6,898.38	6,874.89	24.85	24.69	89.62	163.66	362.73	700.00	651.27	48.72	14.367		
7,000.00	6,975.24	6,998.38	6,974.89	25.20	25.04	89.62	163.66	362.73	700.00	650.57	49.43	14.162		
7,100.00	7,075.24	7,098.38	7,074.89	25.55	25.39	89.62	163.66	362.73	700.00	649.86	50.13	13.963		
7,200.00	7,175.24	7,198.38	7,174.89	25.90	25.74	89.62	163.66	362.73	700.00	649.16	50.84	13.769		
7,300.00	7,275.24	7,298.38	7,274.89	26.25	26.09	89.62	163.66	362.73	700.00	648.45	51.55	13.580		
7,400.00	7,375.24	7,398.38	7,374.89	26.60	26.44	89.62	163.66	362.73	700.00	647.74	52.25	13.396		
7,500.00	7,475.24	7,498.38	7,474.89	26.95	26.79	89.62	163.66	362.73	700.00	647.04	52.96	13.217		
7,600.00	7,575.24	7,598.38	7,574.89	27.30	27.14	89.62	163.66	362.73	700.00	646.33	53.67	13.043		
7,700.00	7,675.24	7,698.38	7,674.89	27.65	27.49	89.62	163.66	362.73	700.00	645.62	54.38	12.873		
7,800.00	7,775.24	7,798.38	7,774.89	28.00	27.84	89.62	163.66	362.73	700.00	644.91	55.08	12.708		
7,900.00	7,875.24	7,898.38	7,874.89	28.35	28.19	89.62	163.66	362.73	700.00	644.20	55.79	12.547		
8,000.00	7,975.24	7,998.38	7,974.89	28.70	28.55	89.62	163.66	362.73	700.00	643.50	56.50	12.389		
8,100.00	8,075.24	8,098.38	8,074.89	29.05	28.90	89.62	163.66	362.73	700.00	642.79	57.21	12.236		
8,200.00	8,175.24	8,198.38	8,174.89	29.40	29.25	89.62	163.66	362.73	700.00	642.08	57.92	12.086		
8,300.00	8,275.24	8,298.38	8,274.89	29.76	29.60	89.62	163.66	362.73	700.00	641.37	58.63	11.940		
8,400.00	8,375.24	8,398.38	8,374.89	30.11	29.96	89.62	163.66	362.73	700.00	640.66	59.34	11.797		
8,500.00	8,475.24	8,498.38	8,474.89	30.46	30.31	89.62	163.66	362.73	700.00	639.95	60.04	11.658		
8,600.00	8,575.24	8,598.38	8,574.89	30.81	30.66	89.62	163.66	362.73	700.00	639.24	60.75	11.522		
8,700.00	8,675.24	8,698.38	8,674.89	31.17	31.01	89.62	163.66	362.73	700.00	638.53	61.46	11.389		
8,800.00	8,775.24	8,798.38	8,774.89	31.52	31.37	89.62	163.66	362.73	700.00	637.82	62.17	11.259		
8,900.00	8,875.24	8,898.38	8,874.89	31.87	31.72	89.62	163.66	362.73	700.00	637.11	62.88	11.132		
9,000.00	8,975.24	8,998.38	8,974.89	32.22	32.07	89.62	163.66	362.73	700.00	636.40	63.59	11.007		
9,100.00	9,075.24	9,098.38	9,074.89	32.58	32.43	89.62	163.66	362.73	700.00	635.69	64.30	10.886		
9,200.00	9,175.24	9,198.38	9,174.89	32.93	32.78	89.62	163.66	362.73	700.00	634.98	65.01	10.767		
9,300.00	9,275.24	9,298.38	9,274.89	33.28	33.13	89.62	163.66	362.73	700.00	634.27	65.73	10.650		
9,400.00	9,375.24	9,398.38	9,374.89	33.64	33.49	89.62	163.66	362.73	700.00	633.56	66.44	10.536		
9,500.00	9,475.24	9,498.38	9,474.89	33.99	33.84	89.62	163.66	362.73	700.00	632.85	67.15	10.425		
9,600.00	9,575.24	9,598.38	9,574.89	34.34	34.19	89.62	163.66	362.73	700.00	632.14	67.86	10.316		
9,700.00	9,675.24	9,698.38	9,674.89	34.70	34.55	89.62	163.66	362.73	700.00	631.43	68.57	10.209		
9,800.00	9,775.24	9,798.38	9,774.89	35.05	34.90	89.62	163.66	362.73	700.00	630.71	69.28	10.104		
9,900.00	9,875.24	9,898.38	9,874.89	35.40	35.26	89.62	163.66	362.73	700.00	630.00	69.99	10.001		
10,000.00	9,975.24	9,998.38	9,974.89	35.76	35.61	89.62	163.66	362.73	700.00	629.29	70.70	9.900		
10,100.00	10,075.24	10,098.38	10,074.89	36.11	35.96	89.62	163.66	362.73	700.00	628.58	71.42	9.802		

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

Anticollision Report

Company:	Earthstone Operating, LLC	Local Co-ordinate Reference:	Well Los Vaqueros Fed 442H
Project:	Lea County, NM (NAD 27)	TVD Reference:	GE 3183.53' + KB 27.5' @ 3211.03usft
Reference Site:	Los Vaqueros Fed Pad	MD Reference:	GE 3183.53' + KB 27.5' @ 3211.03usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Los Vaqueros Fed 442H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	LEAM Multi_User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design: Los Vaqueros Fed Pad - Los Vaqueros Fed 302H - OH - Plan #1												Offset Site Error:	0.00 usft
Survey Program: 0-OWSG_Rev2_MWD+HRGM												Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Distance		Separation Factor	Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)		
10,200.00	10,175.24	10,198.38	10,174.89	36.47	36.32	89.62	163.66	362.73	700.00	627.87	72.13	9.705	
10,300.00	10,275.24	10,298.38	10,274.89	36.82	36.67	89.62	163.66	362.73	700.00	627.16	72.84	9.610	
10,400.00	10,375.24	10,398.38	10,374.89	37.17	37.03	89.62	163.66	362.73	700.00	626.45	73.55	9.517	
10,500.00	10,475.24	10,498.38	10,474.89	37.53	37.38	89.62	163.66	362.73	700.00	625.73	74.26	9.426	
10,600.00	10,575.24	10,598.38	10,574.89	37.88	37.74	89.62	163.66	362.73	700.00	625.02	74.97	9.336	
10,700.00	10,675.24	10,698.38	10,674.89	38.24	38.09	89.62	163.66	362.73	700.00	624.31	75.69	9.249	
10,800.00	10,775.24	10,798.38	10,774.89	38.59	38.45	89.62	163.66	362.73	700.00	623.60	76.40	9.162	
10,900.00	10,875.24	10,898.38	10,874.89	38.95	38.80	89.62	163.66	362.73	700.00	622.88	77.11	9.078	
11,000.00	10,975.24	10,998.38	10,974.89	39.30	39.16	89.62	163.66	362.73	700.00	622.17	77.82	8.995	
11,100.00	11,075.24	11,098.38	11,074.89	39.66	39.51	89.62	163.66	362.73	700.00	621.46	78.54	8.913	
11,200.00	11,175.24	11,198.38	11,174.89	40.01	39.87	89.62	163.66	362.73	700.00	620.75	79.25	8.833	
11,300.00	11,275.24	11,298.38	11,274.89	40.36	40.22	89.62	163.66	362.73	700.00	620.03	79.96	8.754	
11,400.00	11,375.24	11,398.38	11,374.89	40.72	40.58	89.62	163.66	362.73	700.00	619.32	80.67	8.677	
11,407.89	11,383.14	11,406.27	11,382.79	40.75	40.61	89.62	163.66	362.73	700.00	619.26	80.73	8.671	
11,500.00	11,475.24	11,497.75	11,474.04	41.07	40.91	90.03	158.60	362.78	700.02	618.66	81.36	8.604	
11,600.00	11,575.24	11,592.70	11,566.68	41.43	41.19	91.69	138.28	362.95	700.55	618.55	82.00	8.543	
11,700.00	11,675.24	11,678.92	11,646.87	41.79	41.43	94.26	106.82	363.22	702.96	620.40	82.56	8.515	
11,800.00	11,775.24	11,754.28	11,712.40	42.14	41.61	97.26	69.73	363.53	709.20	626.26	82.94	8.551	
11,900.00	11,875.24	11,818.59	11,764.08	42.50	41.75	100.31	31.50	363.86	721.17	638.15	83.02	8.687	
12,000.00	11,975.24	11,872.83	11,804.10	42.85	41.84	103.16	-5.07	364.17	740.32	657.63	82.68	8.954	
12,100.00	12,075.24	11,918.41	11,834.95	43.21	41.91	105.73	-38.62	364.45	767.47	685.57	81.90	9.371	
12,152.80	12,128.04	11,939.49	11,848.28	43.39	41.94	106.95	-54.94	364.59	785.12	703.80	81.32	9.655	
12,200.00	12,175.19	11,950.00	11,854.71	43.55	41.96	-70.21	-63.25	364.66	802.29	721.72	80.57	9.957	
12,250.00	12,224.78	11,977.44	11,870.75	43.71	41.99	-66.91	-85.51	364.85	820.83	740.80	80.03	10.257	
12,300.00	12,273.63	12,000.00	11,883.13	43.86	42.02	-64.00	-104.37	365.01	839.63	760.27	79.35	10.581	
12,350.00	12,321.37	12,017.93	11,892.43	44.00	42.04	-61.44	-119.70	365.14	858.32	779.75	78.57	10.925	
12,400.00	12,367.65	12,050.00	11,907.86	44.14	42.09	-58.52	-147.81	365.38	876.82	798.79	78.03	11.238	
12,450.00	12,412.09	12,050.00	11,907.86	44.27	42.09	-56.92	-147.81	365.38	894.57	817.67	76.90	11.633	
12,500.00	12,454.38	12,080.59	11,921.08	44.38	42.15	-54.49	-175.39	365.62	911.50	835.15	76.35	11.938	
12,550.00	12,494.18	12,100.00	11,928.70	44.48	42.20	-52.61	-193.23	365.77	927.58	851.96	75.63	12.265	
12,600.00	12,531.20	12,123.27	11,937.04	44.57	42.25	-50.85	-214.96	365.95	942.57	867.56	75.00	12.567	
12,650.00	12,565.15	12,150.00	11,945.51	44.65	42.31	-49.23	-240.31	366.17	956.35	881.88	74.47	12.842	
12,700.00	12,595.77	12,166.46	11,950.14	44.71	42.34	-48.00	-256.10	366.30	968.72	894.87	73.85	13.117	
12,750.00	12,622.83	12,200.00	11,958.16	44.77	42.42	-46.72	-288.66	366.58	979.83	906.32	73.51	13.329	
12,800.00	12,646.13	12,200.00	11,958.16	44.81	42.42	-46.03	-288.66	366.58	989.20	916.32	72.88	13.573	
12,850.00	12,665.48	12,231.88	11,964.00	44.88	42.49	-45.16	-320.00	366.85	996.90	924.23	72.66	13.719	
12,900.00	12,680.74	12,250.00	11,966.54	44.99	42.53	-44.60	-337.94	367.00	1,003.06	930.64	72.42	13.851	
12,950.00	12,691.80	12,275.76	11,969.17	45.09	42.59	-44.15	-363.56	367.22	1,007.48	935.17	72.31	13.933	
13,000.00	12,698.57	12,300.00	11,970.59	45.20	42.64	-43.90	-387.75	367.42	1,010.19	937.90	72.29	13.975	
13,052.80	12,701.00	12,321.52	11,971.00	45.30	42.69	-43.81	-409.27	367.61	1,011.13	938.77	72.36	13.974	
13,069.03	12,701.00	12,336.47	11,971.00	45.34	42.73	-43.81	-424.22	367.73	1,011.13	938.71	72.41	13.963	
13,100.00	12,701.00	12,367.45	11,971.00	45.40	42.80	-43.81	-455.19	368.00	1,011.13	938.61	72.52	13.943	
13,200.00	12,701.00	12,467.45	11,971.00	45.65	43.06	-43.81	-555.19	368.85	1,011.13	938.22	72.91	13.869	
13,300.00	12,701.00	12,567.45	11,971.00	45.93	43.37	-43.81	-655.19	369.70	1,011.13	937.77	73.36	13.783	
13,400.00	12,701.00	12,667.45	11,971.00	46.26	43.72	-43.81	-755.18	370.55	1,011.13	937.24	73.88	13.685	
13,500.00	12,701.00	12,767.45	11,971.00	46.63	44.11	-43.81	-855.18	371.40	1,011.13	936.65	74.48	13.577	
13,600.00	12,701.00	12,867.45	11,971.00	47.03	44.54	-43.81	-955.17	372.25	1,011.13	935.99	75.13	13.458	
13,700.00	12,701.00	12,967.45	11,971.00	47.48	45.01	-43.81	-1,055.17	373.10	1,011.13	935.27	75.85	13.331	
13,800.00	12,701.00	13,067.45	11,971.00	47.96	45.53	-43.81	-1,155.17	373.95	1,011.12	934.49	76.63	13.195	
13,900.00	12,701.00	13,167.45	11,971.00	48.49	46.08	-43.81	-1,255.16	374.80	1,011.12	933.65	77.47	13.052	
14,000.00	12,701.00	13,267.45	11,971.00	49.04	46.67	-43.81	-1,355.16	375.65	1,011.12	932.75	78.37	12.902	
14,100.00	12,701.00	13,367.45	11,971.00	49.64	47.30	-43.81	-1,455.16	376.50	1,011.12	931.80	79.32	12.747	

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

Anticollision Report

Company:	Earthstone Operating, LLC	Local Co-ordinate Reference:	Well Los Vaqueros Fed 442H
Project:	Lea County, NM (NAD 27)	TVD Reference:	GE 3183.53' + KB 27.5' @ 3211.03usft
Reference Site:	Los Vaqueros Fed Pad	MD Reference:	GE 3183.53' + KB 27.5' @ 3211.03usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Los Vaqueros Fed 442H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	LEAM Multi_User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design: Los Vaqueros Fed Pad - Los Vaqueros Fed 302H - OH - Plan #1													Offset Site Error: 0.00 usft
Survey Program: 0-OWSG_Rev2_MWD+HRGM													Offset Well Error: 0.00 usft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Distance				Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	
14,200.00	12,701.00	13,467.45	11,971.00	50.26	47.96	-43.81	-1,555.15	377.35	1,011.12	930.79	80.33	12.587	
14,300.00	12,701.00	13,567.45	11,971.00	50.92	48.65	-43.81	-1,655.15	378.20	1,011.12	929.73	81.39	12.423	
14,400.00	12,701.00	13,667.45	11,971.00	51.61	49.38	-43.81	-1,755.15	379.05	1,011.12	928.62	82.50	12.256	
14,500.00	12,701.00	13,767.45	11,971.00	52.33	50.14	-43.81	-1,855.14	379.90	1,011.12	927.46	83.66	12.086	
14,600.00	12,701.00	13,867.45	11,971.00	53.08	50.92	-43.81	-1,955.14	380.76	1,011.12	926.26	84.86	11.915	
14,700.00	12,701.00	13,967.45	11,971.00	53.86	51.73	-43.81	-2,055.13	381.61	1,011.12	925.01	86.11	11.742	
14,800.00	12,701.00	14,067.45	11,971.00	54.67	52.57	-43.81	-2,155.13	382.46	1,011.12	923.72	87.40	11.569	
14,900.00	12,701.00	14,167.45	11,971.00	55.50	53.44	-43.81	-2,255.13	383.31	1,011.12	922.39	88.73	11.395	
15,000.00	12,701.00	14,267.45	11,971.00	56.35	54.33	-43.81	-2,355.12	384.16	1,011.12	921.02	90.10	11.222	
15,100.00	12,701.00	14,367.45	11,971.00	57.23	55.24	-43.81	-2,455.12	385.01	1,011.12	919.62	91.50	11.050	
15,200.00	12,701.00	14,467.45	11,971.00	58.13	56.18	-43.81	-2,555.12	385.86	1,011.12	918.18	92.94	10.879	
15,300.00	12,701.00	14,567.45	11,971.00	59.05	57.13	-43.81	-2,655.11	386.71	1,011.12	916.70	94.42	10.709	
15,400.00	12,701.00	14,667.45	11,971.00	59.99	58.11	-43.81	-2,755.11	387.56	1,011.12	915.20	95.92	10.541	
15,500.00	12,701.00	14,767.45	11,971.00	60.95	59.10	-43.81	-2,855.11	388.41	1,011.12	913.66	97.46	10.375	
15,600.00	12,701.00	14,867.45	11,971.00	61.93	60.11	-43.81	-2,955.10	389.26	1,011.12	912.09	99.03	10.211	
15,700.00	12,701.00	14,967.45	11,971.00	62.92	61.14	-43.81	-3,055.10	390.11	1,011.12	910.50	100.62	10.049	
15,800.00	12,701.00	15,067.45	11,971.00	63.94	62.19	-43.81	-3,155.10	390.96	1,011.12	908.88	102.24	9.890	
15,900.00	12,701.00	15,167.45	11,971.00	64.96	63.25	-43.81	-3,255.09	391.81	1,011.12	907.23	103.88	9.733	
16,000.00	12,701.00	15,267.45	11,971.00	66.01	64.32	-43.81	-3,355.09	392.66	1,011.12	905.56	105.55	9.579	
16,100.00	12,701.00	15,367.45	11,971.00	67.07	65.41	-43.81	-3,455.08	393.51	1,011.12	903.87	107.25	9.428	
16,200.00	12,701.00	15,467.45	11,971.00	68.14	66.51	-43.81	-3,555.08	394.36	1,011.12	902.16	108.96	9.280	
16,300.00	12,701.00	15,567.45	11,971.00	69.22	67.62	-43.81	-3,655.08	395.21	1,011.12	900.42	110.69	9.134	
16,400.00	12,701.00	15,667.45	11,971.00	70.32	68.75	-43.81	-3,755.07	396.06	1,011.12	898.67	112.45	8.992	
16,500.00	12,701.00	15,767.45	11,971.00	71.43	69.89	-43.81	-3,855.07	396.92	1,011.12	896.90	114.22	8.852	
16,600.00	12,701.00	15,867.45	11,971.00	72.55	71.04	-43.81	-3,955.07	397.77	1,011.12	895.10	116.01	8.716	
16,700.00	12,701.00	15,967.45	11,971.00	73.69	72.19	-43.81	-4,055.06	398.62	1,011.12	893.30	117.82	8.582	
16,800.00	12,701.00	16,067.45	11,971.00	74.83	73.36	-43.81	-4,155.06	399.47	1,011.12	891.47	119.65	8.451	
16,900.00	12,701.00	16,167.45	11,971.00	75.98	74.54	-43.81	-4,255.06	400.32	1,011.12	889.63	121.49	8.323	
17,000.00	12,701.00	16,267.45	11,971.00	77.14	75.73	-43.81	-4,355.05	401.17	1,011.12	887.77	123.34	8.198	
17,100.00	12,701.00	16,367.45	11,971.00	78.32	76.92	-43.81	-4,455.05	402.02	1,011.12	885.90	125.21	8.075	
17,200.00	12,701.00	16,467.45	11,971.00	79.50	78.13	-43.81	-4,555.04	402.87	1,011.12	884.02	127.10	7.955	
17,300.00	12,701.00	16,567.45	11,971.00	80.68	79.34	-43.81	-4,655.04	403.72	1,011.11	882.12	128.99	7.838	
17,400.00	12,701.00	16,667.45	11,971.00	81.88	80.56	-43.81	-4,755.04	404.57	1,011.11	880.21	130.90	7.724	
17,500.00	12,701.00	16,767.45	11,971.00	83.08	81.78	-43.81	-4,855.03	405.42	1,011.11	878.29	132.82	7.612	
17,600.00	12,701.00	16,867.45	11,971.00	84.29	83.01	-43.81	-4,955.03	406.27	1,011.11	876.36	134.76	7.503	
17,700.00	12,701.00	16,967.45	11,971.00	85.51	84.25	-43.81	-5,055.03	407.12	1,011.11	874.41	136.70	7.396	
17,800.00	12,701.00	17,067.45	11,971.00	86.74	85.50	-43.81	-5,155.02	407.97	1,011.11	872.46	138.66	7.292	
17,900.00	12,701.00	17,167.45	11,971.00	87.97	86.75	-43.81	-5,255.02	408.82	1,011.11	870.49	140.62	7.190	
18,000.00	12,701.00	17,267.45	11,971.00	89.21	88.00	-43.81	-5,355.02	409.67	1,011.11	868.52	142.60	7.091	
18,100.00	12,701.00	17,367.45	11,971.00	90.45	89.27	-43.81	-5,455.01	410.52	1,011.11	866.53	144.58	6.993	
18,200.00	12,701.00	17,467.45	11,971.00	91.70	90.53	-43.81	-5,555.01	411.37	1,011.11	864.54	146.57	6.898	
18,300.00	12,701.00	17,567.45	11,971.00	92.95	91.81	-43.81	-5,655.00	412.22	1,011.11	862.54	148.57	6.805	
18,400.00	12,701.00	17,667.45	11,971.00	94.21	93.08	-43.81	-5,755.00	413.08	1,011.11	860.53	150.58	6.715	
18,500.00	12,701.00	17,767.45	11,971.00	95.48	94.36	-43.81	-5,855.00	413.93	1,011.11	858.51	152.60	6.626	
18,600.00	12,701.00	17,867.45	11,971.00	96.74	95.65	-43.81	-5,954.99	414.78	1,011.11	856.49	154.62	6.539	
18,700.00	12,701.00	17,967.45	11,971.00	98.02	96.94	-43.81	-6,054.99	415.63	1,011.11	854.45	156.66	6.454	
18,800.00	12,701.00	18,067.45	11,971.00	99.30	98.23	-43.81	-6,154.99	416.48	1,011.11	852.41	158.70	6.371	
18,900.00	12,701.00	18,167.45	11,971.00	100.58	99.53	-43.81	-6,254.98	417.33	1,011.11	850.37	160.74	6.290	
19,000.00	12,701.00	18,267.45	11,971.00	101.87	100.83	-43.81	-6,354.98	418.18	1,011.11	848.32	162.79	6.211	
19,100.00	12,701.00	18,367.45	11,971.00	103.16	102.14	-43.81	-6,454.98	419.03	1,011.11	846.26	164.85	6.133	
19,200.00	12,701.00	18,467.45	11,971.00	104.45	103.45	-43.81	-6,554.97	419.88	1,011.11	844.19	166.92	6.058	
19,300.00	12,701.00	18,567.45	11,971.00	105.75	104.76	-43.81	-6,654.97	420.73	1,011.11	842.12	168.99	5.983	

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

Anticollision Report

Company:	Earthstone Operating, LLC	Local Co-ordinate Reference:	Well Los Vaqueros Fed 442H
Project:	Lea County, NM (NAD 27)	TVD Reference:	GE 3183.53' + KB 27.5' @ 3211.03usft
Reference Site:	Los Vaqueros Fed Pad	MD Reference:	GE 3183.53' + KB 27.5' @ 3211.03usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Los Vaqueros Fed 442H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	LEAM Multi_User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design: Los Vaqueros Fed Pad - Los Vaqueros Fed 302H - OH - Plan #1													Offset Site Error:	0.00 usft
Survey Program: 0-OWSG_Rev2_MWD+HRGM													Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Rule Assigned:				Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
19,400.00	12,701.00	18,867.45	11,971.00	107.05	106.08	-43.81	-6,754.97	421.58	1,011.11	840.04	171.06	5.911		
19,500.00	12,701.00	18,767.45	11,971.00	108.35	107.39	-43.81	-6,854.96	422.43	1,011.11	837.96	173.15	5.840		
19,600.00	12,701.00	18,867.45	11,971.00	109.66	108.71	-43.81	-6,954.96	423.28	1,011.11	835.88	175.23	5.770		
19,700.00	12,701.00	18,967.45	11,971.00	110.97	110.04	-43.81	-7,054.95	424.13	1,011.11	833.78	177.32	5.702		
19,800.00	12,701.00	19,067.45	11,971.00	112.29	111.37	-43.81	-7,154.95	424.98	1,011.11	831.69	179.42	5.635		
19,900.00	12,701.00	19,167.45	11,971.00	113.61	112.70	-43.81	-7,254.95	425.83	1,011.11	829.59	181.52	5.570		
20,000.00	12,701.00	19,267.45	11,971.00	114.93	114.03	-43.81	-7,354.94	426.68	1,011.11	827.48	183.63	5.506		
20,100.00	12,701.00	19,367.45	11,971.00	116.25	115.36	-43.81	-7,454.94	427.53	1,011.11	825.37	185.74	5.444		
20,200.00	12,701.00	19,467.45	11,971.00	117.57	116.70	-43.81	-7,554.94	428.38	1,011.11	823.26	187.85	5.383		
20,300.00	12,701.00	19,567.45	11,971.00	118.90	118.04	-43.81	-7,654.93	429.24	1,011.11	821.14	189.97	5.322		
20,400.00	12,701.00	19,667.45	11,971.00	120.23	119.38	-43.81	-7,754.93	430.09	1,011.11	819.01	192.09	5.264		
20,500.00	12,701.00	19,767.45	11,971.00	121.57	120.73	-43.81	-7,854.93	430.94	1,011.11	816.89	194.22	5.206		
20,600.00	12,701.00	19,867.45	11,971.00	122.90	122.07	-43.81	-7,954.92	431.79	1,011.11	814.76	196.35	5.150		
20,700.00	12,701.00	19,967.45	11,971.00	124.24	123.42	-43.81	-8,054.92	432.64	1,011.11	812.63	198.48	5.094		
20,800.00	12,701.00	20,067.45	11,971.00	125.58	124.77	-43.81	-8,154.91	433.49	1,011.10	810.49	200.62	5.040		
20,900.00	12,701.00	20,167.45	11,971.00	126.92	126.12	-43.81	-8,254.91	434.34	1,011.10	808.35	202.76	4.987		
21,000.00	12,701.00	20,267.45	11,971.00	128.26	127.48	-43.81	-8,354.91	435.19	1,011.10	806.20	204.90	4.935		
21,100.00	12,701.00	20,367.45	11,971.00	129.61	128.83	-43.81	-8,454.90	436.04	1,011.10	804.06	207.05	4.883		
21,200.00	12,701.00	20,467.45	11,971.00	130.96	130.19	-43.81	-8,554.90	436.89	1,011.10	801.91	209.20	4.833		
21,300.00	12,701.00	20,567.45	11,971.00	132.31	131.55	-43.81	-8,654.90	437.74	1,011.10	799.76	211.35	4.784		
21,400.00	12,701.00	20,667.45	11,971.00	133.66	132.91	-43.81	-8,754.89	438.59	1,011.10	797.60	213.50	4.736		
21,500.00	12,701.00	20,767.45	11,971.00	135.01	134.27	-43.81	-8,854.89	439.44	1,011.10	795.44	215.66	4.688		
21,600.00	12,701.00	20,867.45	11,971.00	136.37	135.63	-43.81	-8,954.89	440.29	1,011.10	793.28	217.82	4.642		
21,700.00	12,701.00	20,967.45	11,971.00	137.72	137.00	-43.81	-9,054.88	441.14	1,011.10	791.12	219.98	4.596		
21,800.00	12,701.00	21,067.45	11,971.00	139.08	138.37	-43.81	-9,154.88	441.99	1,011.10	788.95	222.15	4.551		
21,900.00	12,701.00	21,167.45	11,971.00	140.44	139.73	-43.81	-9,254.87	442.84	1,011.10	786.78	224.32	4.507		
22,000.00	12,701.00	21,267.45	11,971.00	141.80	141.10	-43.81	-9,354.87	443.69	1,011.10	784.61	226.49	4.464		
22,100.00	12,701.00	21,367.45	11,971.00	143.17	142.47	-43.81	-9,454.87	444.54	1,011.10	782.44	228.66	4.422		
22,200.00	12,701.00	21,467.45	11,971.00	144.53	143.85	-43.81	-9,554.86	445.40	1,011.10	780.26	230.84	4.380		
22,300.00	12,701.00	21,567.45	11,971.00	145.90	145.22	-43.81	-9,654.86	446.25	1,011.10	778.09	233.01	4.339		
22,400.00	12,701.00	21,667.45	11,971.00	147.26	146.59	-43.81	-9,754.86	447.10	1,011.10	775.91	235.19	4.299		
22,500.00	12,701.00	21,767.45	11,971.00	148.63	147.97	-43.81	-9,854.85	447.95	1,011.10	773.73	237.37	4.260		
22,600.00	12,701.00	21,867.45	11,971.00	150.00	149.35	-43.81	-9,954.85	448.80	1,011.10	771.54	239.56	4.221		
22,700.00	12,701.00	21,967.45	11,971.00	151.37	150.72	-43.81	-10,054.85	449.65	1,011.10	769.36	241.74	4.183		
22,800.00	12,701.00	22,067.45	11,971.00	152.74	152.10	-43.81	-10,154.84	450.50	1,011.10	767.17	243.93	4.145		
22,900.00	12,701.00	22,167.45	11,971.00	154.12	153.48	-43.81	-10,254.84	451.35	1,011.10	764.98	246.12	4.108		
23,000.00	12,701.00	22,267.45	11,971.00	155.49	154.86	-43.81	-10,354.83	452.20	1,011.10	762.79	248.31	4.072		
23,041.54	12,701.00	22,308.99	11,971.00	155.98	155.44	-43.81	-10,396.38	452.55	1,011.10	761.98	249.12	4.059		

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

Anticollision Report

Company:	Earthstone Operating, LLC	Local Co-ordinate Reference:	Well Los Vaqueros Fed 442H
Project:	Lea County, NM (NAD 27)	TVD Reference:	GE 3183.53' + KB 27.5' @ 3211.03usft
Reference Site:	Los Vaqueros Fed Pad	MD Reference:	GE 3183.53' + KB 27.5' @ 3211.03usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Los Vaqueros Fed 442H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	LEAM Multi_User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design: Los Vaqueros Fed Pad - Los Vaqueros Fed 462H - OH - Plan #1													Offset Site Error:	0.00 usft
Survey Program: 0-OWSG_Rev2_MWD+HRGM													Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Rule Assigned:				Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
0.00	0.00	0.00	0.00	0.00	0.00	89.57	0.56	75.00	75.00					
100.00	100.00	99.76	99.76	0.13	0.13	89.57	0.56	75.00	75.00	74.74	0.26	288.936		
200.00	200.00	199.76	199.76	0.49	0.49	89.57	0.56	75.00	75.00	74.03	0.98	76.848		
300.00	300.00	299.76	299.76	0.85	0.85	89.57	0.56	75.00	75.00	73.31	1.69	44.303		
400.00	400.00	399.76	399.76	1.21	1.20	89.57	0.56	75.00	75.00	72.59	2.41	31.123		
500.00	500.00	499.76	499.76	1.56	1.56	89.57	0.56	75.00	75.00	71.88	3.13	23.987		
600.00	600.00	599.76	599.76	1.92	1.92	89.57	0.56	75.00	75.00	71.16	3.84	19.513		
700.00	700.00	699.76	699.76	2.28	2.28	89.57	0.56	75.00	75.00	70.44	4.56	16.445		
800.00	800.00	799.76	799.76	2.64	2.64	89.57	0.56	75.00	75.00	69.72	5.28	14.211		
900.00	900.00	899.76	899.76	3.00	3.00	89.57	0.56	75.00	75.00	69.01	5.99	12.512		
1,000.00	1,000.00	999.76	999.76	3.36	3.36	89.57	0.56	75.00	75.00	68.29	6.71	11.175		
1,100.00	1,100.00	1,099.76	1,099.76	3.71	3.71	89.57	0.56	75.00	75.00	67.57	7.43	10.097		
1,200.00	1,200.00	1,199.76	1,199.76	4.07	4.07	89.57	0.56	75.00	75.00	66.86	8.15	9.208		
1,300.00	1,300.00	1,299.76	1,299.76	4.43	4.43	89.57	0.56	75.00	75.00	66.14	8.86	8.463		
1,400.00	1,400.00	1,399.76	1,399.76	4.79	4.79	89.57	0.56	75.00	75.00	65.42	9.58	7.830		
1,500.00	1,500.00	1,499.76	1,499.76	5.15	5.15	89.57	0.56	75.00	75.00	64.71	10.30	7.284		
1,600.00	1,600.00	1,599.76	1,599.76	5.51	5.51	89.57	0.56	75.00	75.00	63.99	11.01	6.810		
1,700.00	1,700.00	1,699.76	1,699.76	5.87	5.86	89.57	0.56	75.00	75.00	63.27	11.73	6.394		
1,800.00	1,800.00	1,799.76	1,799.76	6.22	6.22	89.57	0.56	75.00	75.00	62.56	12.45	6.026		
1,900.00	1,900.00	1,899.76	1,899.76	6.58	6.58	89.57	0.56	75.00	75.00	61.84	13.16	5.698		
2,000.00	2,000.00	1,999.76	1,999.76	6.94	6.94	89.57	0.56	75.00	75.00	61.12	13.88	5.403		
2,100.00	2,100.00	2,099.76	2,099.76	7.30	7.30	89.57	0.56	75.00	75.00	60.40	14.60	5.138		
2,200.00	2,200.00	2,199.76	2,199.76	7.66	7.66	89.57	0.56	75.00	75.00	59.69	15.31	4.897		
2,300.00	2,300.00	2,299.76	2,299.76	8.02	8.02	89.57	0.56	75.00	75.00	58.97	16.03	4.678		
2,400.00	2,400.00	2,399.76	2,399.76	8.37	8.37	89.57	0.56	75.00	75.00	58.25	16.75	4.478		
2,500.00	2,500.00	2,499.76	2,499.76	8.73	8.73	89.57	0.56	75.00	75.00	57.54	17.47	4.294		
2,600.00	2,600.00	2,599.76	2,599.76	9.09	9.09	89.57	0.56	75.00	75.00	56.82	18.18	4.125 CC, ES		
2,700.00	2,699.98	2,697.83	2,697.81	9.45	9.44	154.00	1.73	76.20	77.80	56.82	18.88	4.121		
2,800.00	2,799.84	2,795.43	2,795.28	9.80	9.79	153.12	5.21	79.77	86.22	66.66	19.56	4.409		
2,900.00	2,899.45	2,892.10	2,891.60	10.15	10.13	151.97	10.95	85.65	100.22	80.01	20.22	4.957		
2,999.75	2,998.46	2,987.17	2,985.99	10.50	10.47	150.78	18.80	93.70	119.71	98.86	20.86	5.740		
3,100.00	3,097.73	3,084.39	3,082.27	10.86	10.82	149.87	28.23	103.36	142.36	120.82	21.54	6.610		
3,200.00	3,196.76	3,181.78	3,178.71	11.22	11.17	149.19	37.70	113.06	165.00	142.78	22.22	7.425		
3,300.00	3,295.79	3,279.16	3,275.15	11.59	11.52	148.68	47.16	122.76	187.65	164.74	22.91	8.189		
3,400.00	3,394.81	3,376.55	3,371.59	11.95	11.88	148.28	56.63	132.46	210.32	186.71	23.61	8.908		
3,500.00	3,493.84	3,473.94	3,468.03	12.32	12.24	147.95	66.09	142.16	233.00	208.69	24.31	9.585		
3,600.00	3,592.87	3,571.33	3,564.47	12.69	12.60	147.69	75.56	151.86	255.68	230.67	25.01	10.223		
3,700.00	3,691.90	3,668.71	3,660.91	13.07	12.96	147.47	85.03	161.56	278.36	252.65	25.71	10.826		
3,800.00	3,790.93	3,766.10	3,757.35	13.44	13.33	147.28	94.49	171.27	301.05	274.63	26.42	11.396		
3,900.00	3,889.95	3,863.49	3,853.79	13.82	13.69	147.11	103.96	180.97	323.74	296.62	27.13	11.935		
4,000.00	3,988.98	3,960.88	3,950.23	14.20	14.06	146.97	113.42	190.67	346.44	318.60	27.84	12.446		
4,100.00	4,088.01	4,058.26	4,046.67	14.58	14.43	146.85	122.89	200.37	369.13	340.59	28.55	12.930		
4,200.00	4,187.04	4,155.65	4,143.11	14.96	14.80	146.74	132.35	210.07	391.83	362.57	29.26	13.391		
4,300.00	4,286.07	4,253.04	4,239.55	15.34	15.17	146.64	141.82	219.77	414.53	384.55	29.98	13.829		
4,400.00	4,385.09	4,363.59	4,349.28	15.73	15.59	146.70	151.16	229.34	435.80	404.98	30.82	14.142		
4,500.00	4,484.12	4,475.83	4,461.13	16.11	16.00	147.10	157.61	235.95	454.02	422.38	31.64	14.350		
4,600.00	4,583.15	4,589.07	4,574.26	16.50	16.41	147.79	161.02	239.44	469.18	436.74	32.44	14.464		
4,700.00	4,682.18	4,696.76	4,681.94	16.89	16.79	148.69	161.56	240.00	481.57	448.38	33.19	14.510		
4,800.00	4,781.21	4,795.78	4,780.97	17.27	17.14	149.53	161.56	240.00	493.54	459.64	33.90	14.557		
4,900.00	4,880.23	4,894.81	4,879.99	17.66	17.48	150.32	161.56	240.00	505.61	470.99	34.62	14.605		
5,000.00	4,979.26	4,993.84	4,979.02	18.05	17.83	151.08	161.56	240.00	517.76	482.43	35.33	14.653		
5,100.00	5,078.29	5,092.87	5,078.05	18.44	18.18	151.81	161.56	240.00	530.01	493.96	36.05	14.703		

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

Anticollision Report

Company:	Earthstone Operating, LLC	Local Co-ordinate Reference:	Well Los Vaqueros Fed 442H
Project:	Lea County, NM (NAD 27)	TVD Reference:	GE 3183.53' + KB 27.5' @ 3211.03usft
Reference Site:	Los Vaqueros Fed Pad	MD Reference:	GE 3183.53' + KB 27.5' @ 3211.03usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Los Vaqueros Fed 442H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	LEAM Multi_User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design: Los Vaqueros Fed Pad - Los Vaqueros Fed 462H - OH - Plan #1													Offset Site Error:	0.00 usft
Survey Program: 0-OWSG_Rev2_MWD+HRGM													Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Rule Assigned:				Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
5,200.00	5,177.32	5,191.90	5,177.08	18.83	18.53	152.50	161.56	240.00	542.33	505.57	36.76	14.752		
5,280.00	5,256.54	5,271.12	5,256.30	19.14	18.81	153.03	161.56	240.00	552.25	514.91	37.34	14.791		
5,300.00	5,276.36	5,290.93	5,276.12	19.22	18.88	153.18	161.56	240.00	554.67	517.19	37.48	14.800		
5,400.00	5,375.69	5,390.27	5,375.45	19.61	19.23	153.80	161.56	240.00	564.96	526.77	38.19	14.792		
5,500.00	5,475.36	5,489.94	5,475.12	19.98	19.58	154.22	161.56	240.00	572.17	533.26	38.91	14.707		
5,600.00	5,575.25	5,589.83	5,575.01	20.34	19.93	154.45	161.56	240.00	576.25	536.64	39.61	14.546		
5,679.76	5,655.00	5,669.58	5,654.76	20.61	20.22	89.75	161.56	240.00	577.25	537.07	40.18	14.367		
5,700.00	5,675.24	5,689.82	5,675.00	20.68	20.29	89.75	161.56	240.00	577.25	536.93	40.32	14.316		
5,800.00	5,775.24	5,789.82	5,775.00	21.03	20.64	89.75	161.56	240.00	577.25	536.23	41.03	14.070		
5,900.00	5,875.24	5,889.82	5,875.00	21.37	21.00	89.75	161.56	240.00	577.25	535.52	41.73	13.832		
6,000.00	5,975.24	5,989.82	5,975.00	21.72	21.35	89.75	161.56	240.00	577.25	534.81	42.44	13.602		
6,100.00	6,075.24	6,089.82	6,075.00	22.07	21.70	89.75	161.56	240.00	577.25	534.11	43.14	13.379		
6,200.00	6,175.24	6,189.82	6,175.00	22.41	22.06	89.75	161.56	240.00	577.25	533.40	43.85	13.164		
6,300.00	6,275.24	6,289.82	6,275.00	22.76	22.41	89.75	161.56	240.00	577.25	532.69	44.56	12.955		
6,400.00	6,375.24	6,389.82	6,375.00	23.11	22.77	89.75	161.56	240.00	577.25	531.99	45.27	12.752		
6,500.00	6,475.24	6,489.82	6,475.00	23.46	23.12	89.75	161.56	240.00	577.25	531.28	45.97	12.556		
6,600.00	6,575.24	6,589.82	6,575.00	23.80	23.48	89.75	161.56	240.00	577.25	530.57	46.68	12.366		
6,700.00	6,675.24	6,689.82	6,675.00	24.15	23.83	89.75	161.56	240.00	577.25	529.86	47.39	12.181		
6,800.00	6,775.24	6,789.82	6,775.00	24.50	24.19	89.75	161.56	240.00	577.25	529.15	48.10	12.001		
6,900.00	6,875.24	6,889.82	6,875.00	24.85	24.54	89.75	161.56	240.00	577.25	528.44	48.81	11.827		
7,000.00	6,975.24	6,989.82	6,975.00	25.20	24.90	89.75	161.56	240.00	577.25	527.74	49.52	11.658		
7,100.00	7,075.24	7,089.82	7,075.00	25.55	25.25	89.75	161.56	240.00	577.25	527.03	50.23	11.493		
7,200.00	7,175.24	7,189.82	7,175.00	25.90	25.61	89.75	161.56	240.00	577.25	526.32	50.93	11.333		
7,300.00	7,275.24	7,289.82	7,275.00	26.25	25.96	89.75	161.56	240.00	577.25	525.61	51.64	11.177		
7,400.00	7,375.24	7,389.82	7,375.00	26.60	26.32	89.75	161.56	240.00	577.25	524.90	52.35	11.026		
7,500.00	7,475.24	7,489.82	7,475.00	26.95	26.67	89.75	161.56	240.00	577.25	524.19	53.06	10.878		
7,600.00	7,575.24	7,589.82	7,575.00	27.30	27.03	89.75	161.56	240.00	577.25	523.48	53.77	10.735		
7,700.00	7,675.24	7,689.82	7,675.00	27.65	27.38	89.75	161.56	240.00	577.25	522.77	54.48	10.595		
7,800.00	7,775.24	7,789.82	7,775.00	28.00	27.74	89.75	161.56	240.00	577.25	522.06	55.20	10.458		
7,900.00	7,875.24	7,889.82	7,875.00	28.35	28.10	89.75	161.56	240.00	577.25	521.35	55.91	10.325		
8,000.00	7,975.24	7,989.82	7,975.00	28.70	28.45	89.75	161.56	240.00	577.25	520.63	56.62	10.196		
8,100.00	8,075.24	8,089.82	8,075.00	29.05	28.81	89.75	161.56	240.00	577.25	519.92	57.33	10.069		
8,200.00	8,175.24	8,189.82	8,175.00	29.40	29.16	89.75	161.56	240.00	577.25	519.21	58.04	9.946		
8,300.00	8,275.24	8,289.82	8,275.00	29.76	29.52	89.75	161.56	240.00	577.25	518.50	58.75	9.825		
8,400.00	8,375.24	8,389.82	8,375.00	30.11	29.88	89.75	161.56	240.00	577.25	517.79	59.46	9.708		
8,500.00	8,475.24	8,489.82	8,475.00	30.46	30.23	89.75	161.56	240.00	577.25	517.08	60.17	9.593		
8,600.00	8,575.24	8,589.82	8,575.00	30.81	30.59	89.75	161.56	240.00	577.25	516.37	60.89	9.481		
8,700.00	8,675.24	8,689.82	8,675.00	31.17	30.95	89.75	161.56	240.00	577.25	515.65	61.60	9.371		
8,800.00	8,775.24	8,789.82	8,775.00	31.52	31.30	89.75	161.56	240.00	577.25	514.94	62.31	9.264		
8,900.00	8,875.24	8,889.82	8,875.00	31.87	31.66	89.75	161.56	240.00	577.25	514.23	63.02	9.160		
9,000.00	8,975.24	8,989.82	8,975.00	32.22	32.02	89.75	161.56	240.00	577.25	513.52	63.73	9.057		
9,100.00	9,075.24	9,089.82	9,075.00	32.58	32.37	89.75	161.56	240.00	577.25	512.81	64.45	8.957		
9,200.00	9,175.24	9,189.82	9,175.00	32.93	32.73	89.75	161.56	240.00	577.25	512.09	65.16	8.859		
9,300.00	9,275.24	9,289.82	9,275.00	33.28	33.08	89.75	161.56	240.00	577.25	511.38	65.87	8.763		
9,400.00	9,375.24	9,389.82	9,375.00	33.64	33.44	89.75	161.56	240.00	577.25	510.67	66.58	8.670		
9,500.00	9,475.24	9,489.82	9,475.00	33.99	33.80	89.75	161.56	240.00	577.25	509.96	67.30	8.578		
9,600.00	9,575.24	9,589.82	9,575.00	34.34	34.15	89.75	161.56	240.00	577.25	509.24	68.01	8.488		
9,700.00	9,675.24	9,689.82	9,675.00	34.70	34.51	89.75	161.56	240.00	577.25	508.53	68.72	8.400		
9,800.00	9,775.24	9,789.82	9,775.00	35.05	34.87	89.75	161.56	240.00	577.25	507.82	69.43	8.314		
9,900.00	9,875.24	9,889.82	9,875.00	35.40	35.23	89.75	161.56	240.00	577.25	507.10	70.15	8.229		
10,000.00	9,975.24	9,989.82	9,975.00	35.76	35.58	89.75	161.56	240.00	577.25	506.39	70.86	8.146		
10,100.00	10,075.24	10,089.82	10,075.00	36.11	35.94	89.75	161.56	240.00	577.25	505.68	71.57	8.065		

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

Anticollision Report

Company:	Earthstone Operating, LLC	Local Co-ordinate Reference:	Well Los Vaqueros Fed 442H
Project:	Lea County, NM (NAD 27)	TVD Reference:	GE 3183.53' + KB 27.5' @ 3211.03usft
Reference Site:	Los Vaqueros Fed Pad	MD Reference:	GE 3183.53' + KB 27.5' @ 3211.03usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Los Vaqueros Fed 442H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	LEAM Multi_User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design: Los Vaqueros Fed Pad - Los Vaqueros Fed 462H - OH - Plan #1													Offset Site Error:	0.00 usft
Survey Program: 0-OWSG_Rev2_MWD+HRGM													Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Rule Assigned:				Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
10,200.00	10,175.24	10,189.82	10,175.00	36.47	36.30	89.75	161.56	240.00	577.25	504.97	72.29	7.986		
10,300.00	10,275.24	10,289.82	10,275.00	36.82	36.65	89.75	161.56	240.00	577.25	504.25	73.00	7.908		
10,400.00	10,375.24	10,389.82	10,375.00	37.17	37.01	89.75	161.56	240.00	577.25	503.54	73.71	7.831		
10,500.00	10,475.24	10,489.82	10,475.00	37.53	37.37	89.75	161.56	240.00	577.25	502.83	74.43	7.756		
10,600.00	10,575.24	10,589.82	10,575.00	37.88	37.72	89.75	161.56	240.00	577.25	502.11	75.14	7.682		
10,700.00	10,675.24	10,689.82	10,675.00	38.24	38.08	89.75	161.56	240.00	577.25	501.40	75.85	7.610		
10,800.00	10,775.24	10,789.82	10,775.00	38.59	38.44	89.75	161.56	240.00	577.25	500.68	76.57	7.539		
10,900.00	10,875.24	10,889.82	10,875.00	38.95	38.80	89.75	161.56	240.00	577.25	499.97	77.28	7.469		
11,000.00	10,975.24	10,989.82	10,975.00	39.30	39.15	89.75	161.56	240.00	577.25	499.26	78.00	7.401		
11,100.00	11,075.24	11,089.82	11,075.00	39.66	39.51	89.75	161.56	240.00	577.25	498.54	78.71	7.334		
11,200.00	11,175.24	11,189.82	11,175.00	40.01	39.87	89.75	161.56	240.00	577.25	497.83	79.42	7.268		
11,300.00	11,275.24	11,289.82	11,275.00	40.36	40.22	89.75	161.56	240.00	577.25	497.12	80.14	7.203		
11,400.00	11,375.24	11,389.82	11,375.00	40.72	40.58	89.75	161.56	240.00	577.25	496.40	80.85	7.140		
11,500.00	11,475.24	11,489.82	11,475.00	41.07	40.94	89.75	161.56	240.00	577.25	495.69	81.56	7.077		
11,600.00	11,575.24	11,589.82	11,575.00	41.43	41.30	89.75	161.56	240.00	577.25	494.97	82.28	7.016		
11,700.00	11,675.24	11,689.82	11,675.00	41.79	41.65	89.75	161.56	240.00	577.25	494.26	82.99	6.955		
11,800.00	11,775.24	11,789.82	11,775.00	42.14	42.01	89.75	161.56	240.00	577.25	493.54	83.71	6.896		
11,900.00	11,875.24	11,889.82	11,875.00	42.50	42.37	89.75	161.56	240.00	577.25	492.83	84.42	6.838		
12,000.00	11,975.24	11,989.82	11,975.00	42.85	42.73	89.75	161.56	240.00	577.25	492.12	85.14	6.780		
12,100.00	12,075.24	12,089.82	12,075.00	43.21	43.08	89.75	161.56	240.00	577.25	491.40	85.85	6.724		
12,152.80	12,128.04	12,142.62	12,127.80	43.39	43.27	89.75	161.56	240.00	577.25	491.02	86.23	6.695		
12,200.00	12,175.19	12,189.77	12,174.95	43.55	43.44	-89.96	161.56	240.00	577.25	490.69	86.56	6.669		
12,204.64	12,179.81	12,194.39	12,179.57	43.57	43.46	-90.00	161.56	240.00	577.25	490.66	86.59	6.667		
12,250.00	12,224.78	12,239.36	12,224.54	43.71	43.62	-90.58	161.56	240.00	577.28	490.39	86.89	6.644		
12,300.00	12,273.63	12,284.62	12,269.77	43.86	43.76	-91.34	160.05	240.18	577.62	490.44	87.19	6.625		
12,350.00	12,321.37	12,330.14	12,314.99	44.00	43.91	-92.10	154.97	240.80	578.55	491.07	87.47	6.614		
12,400.00	12,367.65	12,376.29	12,360.27	44.14	44.05	-92.83	146.21	241.86	580.06	492.31	87.75	6.610		
12,450.00	12,412.09	12,423.12	12,405.34	44.27	44.19	-93.54	133.64	243.38	582.17	494.14	88.03	6.613		
12,500.00	12,454.38	12,470.67	12,449.89	44.38	44.32	-94.22	117.19	245.37	584.87	496.57	88.30	6.624		
12,550.00	12,494.18	12,519.00	12,493.61	44.48	44.45	-94.87	96.77	247.84	588.15	499.59	88.56	6.641		
12,600.00	12,531.20	12,568.15	12,536.14	44.57	44.57	-95.48	72.32	250.80	591.97	503.17	88.81	6.666		
12,650.00	12,565.15	12,618.19	12,577.10	44.65	44.68	-96.04	43.82	254.25	596.33	507.29	89.04	6.697		
12,700.00	12,595.77	12,669.15	12,616.08	44.71	44.78	-96.56	11.25	258.19	601.17	511.91	89.26	6.735		
12,750.00	12,622.83	12,721.08	12,652.64	44.77	44.86	-97.02	-25.33	262.62	606.46	517.00	89.46	6.779		
12,800.00	12,646.13	12,774.04	12,686.33	44.81	44.97	-97.42	-65.86	267.52	612.13	522.50	89.63	6.829		
12,850.00	12,665.48	12,828.04	12,716.66	44.88	45.09	-97.77	-110.20	272.89	618.13	528.35	89.79	6.884		
12,900.00	12,680.74	12,883.11	12,743.12	44.99	45.22	-98.04	-158.13	278.69	624.40	534.47	89.92	6.944		
12,950.00	12,691.80	12,939.28	12,765.21	45.09	45.34	-98.25	-209.37	284.89	630.86	540.81	90.05	7.006		
13,000.00	12,698.57	12,996.54	12,782.42	45.20	45.47	-98.39	-263.57	291.45	637.43	547.26	90.17	7.070		
13,052.80	12,701.00	13,058.17	12,794.75	45.30	45.60	-98.46	-323.48	298.70	644.41	554.12	90.29	7.137		
13,100.00	12,701.00	13,114.43	12,800.29	45.40	45.72	-98.87	-379.03	305.42	650.32	559.88	90.44	7.191		
13,200.00	12,701.00	13,241.16	12,801.00	45.65	46.01	-98.76	-505.02	318.97	660.16	569.19	90.97	7.257		
13,300.00	12,701.00	13,370.63	12,801.00	45.93	46.36	-98.67	-634.22	327.18	665.59	573.99	91.61	7.266		
13,400.00	12,701.00	13,491.92	12,801.00	46.26	46.74	-98.65	-755.48	329.72	666.74	574.43	92.31	7.223		
13,500.00	12,701.00	13,591.92	12,801.00	46.63	47.11	-98.65	-855.47	330.58	666.75	573.72	93.03	7.167		
13,600.00	12,701.00	13,691.92	12,801.00	47.03	47.51	-98.65	-955.47	331.44	666.76	572.92	93.83	7.106		
13,700.00	12,701.00	13,791.92	12,801.00	47.48	47.95	-98.65	-1,055.47	332.30	666.76	572.05	94.71	7.040		
13,800.00	12,701.00	13,891.92	12,801.00	47.96	48.43	-98.65	-1,155.46	333.16	666.77	571.10	95.67	6.970		
13,900.00	12,701.00	13,991.92	12,801.00	48.49	48.95	-98.65	-1,255.46	334.01	666.78	570.08	96.70	6.896		
14,000.00	12,701.00	14,091.92	12,801.00	49.04	49.51	-98.65	-1,355.46	334.87	666.78	568.99	97.80	6.818		
14,100.00	12,701.00	14,191.92	12,801.00	49.64	50.10	-98.65	-1,455.45	335.73	666.79	567.82	98.97	6.737		
14,200.00	12,701.00	14,291.92	12,801.00	50.26	50.72	-98.65	-1,555.45	336.59	666.80	566.59	100.21	6.654		

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

Anticollision Report

Company:	Earthstone Operating, LLC	Local Co-ordinate Reference:	Well Los Vaqueros Fed 442H
Project:	Lea County, NM (NAD 27)	TVD Reference:	GE 3183.53' + KB 27.5' @ 3211.03usft
Reference Site:	Los Vaqueros Fed Pad	MD Reference:	GE 3183.53' + KB 27.5' @ 3211.03usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Los Vaqueros Fed 442H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	LEAM Multi_User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design: Los Vaqueros Fed Pad - Los Vaqueros Fed 462H - OH - Plan #1											Offset Site Error:	0.00 usft
Survey Program: 0-OWSG_Rev2_MWD+HRGM											Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Distance		Rule Assigned:	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor
14,300.00	12,701.00	14,391.92	12,801.00	50.92	51.37	-98.65	-1,655.45	337.45	666.81	565.29	101.51	6.569
14,400.00	12,701.00	14,491.92	12,801.00	51.61	52.06	-98.65	-1,755.44	338.30	666.81	563.93	102.88	6.481
14,500.00	12,701.00	14,591.92	12,801.00	52.33	52.78	-98.65	-1,855.44	339.16	666.82	562.51	104.31	6.393
14,600.00	12,701.00	14,691.92	12,801.00	53.08	53.52	-98.65	-1,955.43	340.02	666.83	561.03	105.79	6.303
14,700.00	12,701.00	14,791.92	12,801.00	53.86	54.29	-98.65	-2,055.43	340.88	666.83	559.50	107.33	6.213
14,800.00	12,701.00	14,891.92	12,801.00	54.67	55.09	-98.65	-2,155.43	341.74	666.84	557.92	108.92	6.122
14,900.00	12,701.00	14,991.92	12,801.00	55.50	55.92	-98.65	-2,255.42	342.60	666.85	556.28	110.57	6.031
15,000.00	12,701.00	15,091.92	12,801.00	56.35	56.77	-98.65	-2,355.42	343.45	666.86	554.60	112.26	5.940
15,100.00	12,701.00	15,191.92	12,801.00	57.23	57.64	-98.65	-2,455.42	344.31	666.86	552.87	113.99	5.850
15,200.00	12,701.00	15,291.92	12,801.00	58.13	58.54	-98.65	-2,555.41	345.17	666.87	551.09	115.78	5.760
15,300.00	12,701.00	15,391.92	12,801.00	59.05	59.45	-98.65	-2,655.41	346.03	666.88	549.28	117.60	5.671
15,400.00	12,701.00	15,491.92	12,801.00	59.99	60.39	-98.64	-2,755.40	346.89	666.88	547.42	119.46	5.582
15,500.00	12,701.00	15,591.92	12,801.00	60.95	61.35	-98.64	-2,855.40	347.74	666.89	545.53	121.36	5.495
15,600.00	12,701.00	15,691.92	12,801.00	61.93	62.32	-98.64	-2,955.40	348.60	666.90	543.60	123.30	5.409
15,700.00	12,701.00	15,791.92	12,801.00	62.92	63.31	-98.64	-3,055.39	349.46	666.91	541.63	125.28	5.324
15,800.00	12,701.00	15,891.92	12,801.00	63.94	64.32	-98.64	-3,155.39	350.32	666.91	539.63	127.28	5.240
15,900.00	12,701.00	15,991.92	12,801.00	64.96	65.35	-98.64	-3,255.39	351.18	666.92	537.60	129.32	5.157
16,000.00	12,701.00	16,091.92	12,801.00	66.01	66.39	-98.64	-3,355.38	352.04	666.93	535.54	131.39	5.076
16,100.00	12,701.00	16,191.92	12,801.00	67.07	67.44	-98.64	-3,455.38	352.89	666.93	533.45	133.48	4.996
16,200.00	12,701.00	16,291.92	12,801.00	68.14	68.51	-98.64	-3,555.38	353.75	666.94	531.33	135.61	4.918
16,300.00	12,701.00	16,391.92	12,801.00	69.22	69.59	-98.64	-3,655.37	354.61	666.95	529.19	137.76	4.841
16,400.00	12,701.00	16,491.92	12,801.00	70.32	70.68	-98.64	-3,755.37	355.47	666.96	527.02	139.93	4.766
16,500.00	12,701.00	16,591.92	12,801.00	71.43	71.79	-98.64	-3,855.36	356.33	666.96	524.83	142.13	4.693
16,600.00	12,701.00	16,691.92	12,801.00	72.55	72.91	-98.64	-3,955.36	357.19	666.97	522.62	144.36	4.620
16,700.00	12,701.00	16,791.92	12,801.00	73.69	74.04	-98.64	-4,055.36	358.04	666.98	520.38	146.60	4.550
16,800.00	12,701.00	16,891.92	12,801.00	74.83	75.18	-98.64	-4,155.35	358.90	666.99	518.12	148.86	4.481
16,900.00	12,701.00	16,991.92	12,801.00	75.98	76.32	-98.64	-4,255.35	359.76	666.99	515.84	151.15	4.413
17,000.00	12,701.00	17,091.92	12,801.00	77.14	77.48	-98.64	-4,355.35	360.62	667.00	513.55	153.45	4.347
17,100.00	12,701.00	17,191.92	12,801.00	78.32	78.65	-98.64	-4,455.34	361.48	667.01	511.23	155.77	4.282
17,200.00	12,701.00	17,291.92	12,801.00	79.50	79.83	-98.64	-4,555.34	362.33	667.01	508.90	158.11	4.219
17,300.00	12,701.00	17,391.92	12,801.00	80.68	81.01	-98.64	-4,655.33	363.19	667.02	506.56	160.47	4.157
17,400.00	12,701.00	17,491.92	12,801.00	81.88	82.21	-98.64	-4,755.33	364.05	667.03	504.19	162.84	4.096
17,500.00	12,701.00	17,591.92	12,801.00	83.08	83.41	-98.64	-4,855.33	364.91	667.04	501.81	165.22	4.037
17,600.00	12,701.00	17,691.92	12,801.00	84.29	84.62	-98.64	-4,955.32	365.77	667.04	499.42	167.62	3.979
17,700.00	12,701.00	17,791.92	12,801.00	85.51	85.83	-98.64	-5,055.32	366.63	667.05	497.01	170.04	3.923
17,800.00	12,701.00	17,891.92	12,801.00	86.74	87.05	-98.64	-5,155.32	367.48	667.06	494.59	172.46	3.868
17,900.00	12,701.00	17,991.92	12,801.00	87.97	88.28	-98.64	-5,255.31	368.34	667.06	492.16	174.90	3.814
18,000.00	12,701.00	18,091.92	12,801.00	89.21	89.52	-98.64	-5,355.31	369.20	667.07	489.71	177.36	3.761
18,100.00	12,701.00	18,191.92	12,801.00	90.45	90.76	-98.64	-5,455.31	370.06	667.08	487.26	179.82	3.710
18,200.00	12,701.00	18,291.92	12,801.00	91.70	92.00	-98.64	-5,555.30	370.92	667.09	484.79	182.30	3.659
18,300.00	12,701.00	18,391.92	12,801.00	92.95	93.25	-98.64	-5,655.30	371.77	667.09	482.31	184.78	3.610
18,400.00	12,701.00	18,491.92	12,801.00	94.21	94.51	-98.64	-5,755.29	372.63	667.10	479.82	187.28	3.562
18,500.00	12,701.00	18,591.92	12,801.00	95.48	95.77	-98.64	-5,855.29	373.49	667.11	477.32	189.78	3.515
18,600.00	12,701.00	18,691.92	12,801.00	96.74	97.04	-98.64	-5,955.29	374.35	667.11	474.81	192.30	3.469
18,700.00	12,701.00	18,791.92	12,801.00	98.02	98.31	-98.64	-6,055.28	375.21	667.12	472.30	194.83	3.424
18,800.00	12,701.00	18,891.92	12,801.00	99.30	99.59	-98.64	-6,155.28	376.07	667.13	469.77	197.36	3.380
18,900.00	12,701.00	18,991.92	12,801.00	100.58	100.87	-98.64	-6,255.28	376.92	667.14	467.23	199.90	3.337
19,000.00	12,701.00	19,091.92	12,801.00	101.87	102.15	-98.64	-6,355.27	377.78	667.14	464.69	202.45	3.295
19,100.00	12,701.00	19,191.92	12,801.00	103.16	103.44	-98.64	-6,455.27	378.64	667.15	462.14	205.01	3.254
19,200.00	12,701.00	19,291.92	12,801.00	104.45	104.73	-98.64	-6,555.26	379.50	667.16	459.58	207.58	3.214
19,300.00	12,701.00	19,391.92	12,801.00	105.75	106.03	-98.64	-6,655.26	380.36	667.16	457.01	210.15	3.175
19,400.00	12,701.00	19,491.92	12,801.00	107.05	107.33	-98.64	-6,755.26	381.21	667.17	454.44	212.73	3.136

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

Anticollision Report

Company:	Earthstone Operating, LLC	Local Co-ordinate Reference:	Well Los Vaqueros Fed 442H
Project:	Lea County, NM (NAD 27)	TVD Reference:	GE 3183.53' + KB 27.5' @ 3211.03usft
Reference Site:	Los Vaqueros Fed Pad	MD Reference:	GE 3183.53' + KB 27.5' @ 3211.03usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Los Vaqueros Fed 442H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	LEAM Multi_User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design: Los Vaqueros Fed Pad - Los Vaqueros Fed 462H - OH - Plan #1													Offset Site Error: 0.00 usft
Survey Program: 0-OWSG_Rev2_MWD+HRGM													Offset Well Error: 0.00 usft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Distance			Separation Factor	Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)		
19,500.00	12,701.00	19,591.92	12,801.00	108.35	108.63	-98.64	-8,855.25	382.07	667.18	451.86	215.32	3.099	
19,600.00	12,701.00	19,691.92	12,801.00	109.66	109.94	-98.64	-6,955.25	382.93	667.19	449.27	217.91	3.062	
19,700.00	12,701.00	19,791.92	12,801.00	110.97	111.24	-98.64	-7,055.25	383.79	667.19	446.68	220.51	3.026	
19,800.00	12,701.00	19,891.92	12,801.00	112.29	112.56	-98.64	-7,155.24	384.65	667.20	444.08	223.12	2.990	
19,900.00	12,701.00	19,991.92	12,801.00	113.61	113.87	-98.64	-7,255.24	385.51	667.21	441.48	225.73	2.956	
20,000.00	12,701.00	20,091.92	12,801.00	114.93	115.19	-98.64	-7,355.24	386.36	667.21	438.87	228.35	2.922	
20,100.00	12,701.00	20,191.92	12,801.00	116.25	116.51	-98.64	-7,455.23	387.22	667.22	436.25	230.97	2.889	
20,200.00	12,701.00	20,291.92	12,801.00	117.57	117.84	-98.64	-7,555.23	388.08	667.23	433.63	233.60	2.856	
20,300.00	12,701.00	20,391.92	12,801.00	118.90	119.16	-98.64	-7,655.22	388.94	667.24	431.00	236.23	2.824	
20,400.00	12,701.00	20,491.92	12,801.00	120.23	120.49	-98.64	-7,755.22	389.80	667.24	428.37	238.87	2.793	
20,500.00	12,701.00	20,591.92	12,801.00	121.57	121.82	-98.64	-7,855.22	390.66	667.25	425.74	241.51	2.763	
20,600.00	12,701.00	20,691.92	12,801.00	122.90	123.16	-98.64	-7,955.21	391.51	667.26	423.10	244.16	2.733	
20,700.00	12,701.00	20,791.92	12,801.00	124.24	124.49	-98.64	-8,055.21	392.37	667.27	420.45	246.81	2.704	
20,800.00	12,701.00	20,891.92	12,801.00	125.58	125.83	-98.64	-8,155.21	393.23	667.27	417.80	249.47	2.675	
20,900.00	12,701.00	20,991.92	12,801.00	126.92	127.17	-98.64	-8,255.20	394.09	667.28	415.15	252.13	2.647	
21,000.00	12,701.00	21,091.92	12,801.00	128.26	128.51	-98.64	-8,355.20	394.95	667.29	412.49	254.80	2.619	
21,100.00	12,701.00	21,191.92	12,801.00	129.61	129.86	-98.64	-8,455.20	395.80	667.29	409.83	257.47	2.592	
21,200.00	12,701.00	21,291.92	12,801.00	130.96	131.20	-98.64	-8,555.19	396.66	667.30	407.16	260.14	2.565	
21,300.00	12,701.00	21,391.92	12,801.00	132.31	132.55	-98.64	-8,655.19	397.52	667.31	404.49	262.82	2.539	
21,400.00	12,701.00	21,491.92	12,801.00	133.66	133.90	-98.64	-8,755.18	398.38	667.32	401.82	265.50	2.513	
21,500.00	12,701.00	21,591.92	12,801.00	135.01	135.25	-98.64	-8,855.18	399.24	667.32	399.14	268.18	2.488	
21,600.00	12,701.00	21,691.92	12,801.00	136.37	136.61	-98.64	-8,955.18	400.10	667.33	396.46	270.87	2.464	
21,700.00	12,701.00	21,791.92	12,801.00	137.72	137.96	-98.64	-9,055.17	400.95	667.34	393.78	273.56	2.439	
21,800.00	12,701.00	21,891.92	12,801.00	139.08	139.32	-98.64	-9,155.17	401.81	667.34	391.09	276.25	2.416	
21,900.00	12,701.00	21,991.92	12,801.00	140.44	140.68	-98.64	-9,255.17	402.67	667.35	388.40	278.95	2.392	
22,000.00	12,701.00	22,091.92	12,801.00	141.80	142.04	-98.64	-9,355.16	403.53	667.36	385.71	281.65	2.369	
22,100.00	12,701.00	22,191.92	12,801.00	143.17	143.40	-98.64	-9,455.16	404.39	667.37	383.02	284.35	2.347	
22,200.00	12,701.00	22,291.92	12,801.00	144.53	144.76	-98.64	-9,555.15	405.24	667.37	380.32	287.05	2.325	
22,300.00	12,701.00	22,391.92	12,801.00	145.90	146.13	-98.64	-9,655.15	406.10	667.38	377.62	289.76	2.303	
22,400.00	12,701.00	22,491.92	12,801.00	147.26	147.49	-98.64	-9,755.15	406.96	667.39	374.91	292.47	2.282	
22,500.00	12,701.00	22,591.92	12,801.00	148.63	148.86	-98.64	-9,855.14	407.82	667.39	372.21	295.19	2.261	
22,600.00	12,701.00	22,691.92	12,801.00	150.00	150.23	-98.64	-9,955.14	408.68	667.40	369.50	297.90	2.240	
22,700.00	12,701.00	22,791.92	12,801.00	151.37	151.60	-98.64	-10,055.14	409.54	667.41	366.79	300.62	2.220	
22,800.00	12,701.00	22,891.92	12,801.00	152.74	152.97	-98.64	-10,155.13	410.39	667.42	364.07	303.34	2.200	
22,900.00	12,701.00	22,991.92	12,801.00	154.12	154.34	-98.64	-10,255.13	411.25	667.42	361.36	306.06	2.181	
23,000.00	12,701.00	23,091.92	12,801.00	155.49	155.71	-98.64	-10,355.13	412.11	667.43	358.64	308.79	2.161	
23,041.54	12,701.00	23,133.46	12,801.00	155.98	156.28	-98.64	-10,396.67	412.47	667.43	357.60	309.84	2.154 SF	

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

Anticollision Report

Company:	Earthstone Operating, LLC	Local Co-ordinate Reference:	Well Los Vaqueros Fed 442H
Project:	Lea County, NM (NAD 27)	TVD Reference:	GE 3183.53' + KB 27.5' @ 3211.03usft
Reference Site:	Los Vaqueros Fed Pad	MD Reference:	GE 3183.53' + KB 27.5' @ 3211.03usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Los Vaqueros Fed 442H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	LEAM Multi_User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design: Los Vaqueros Fed Pad - Los Vaqueros Fed 522H - OH - Plan #1												Offset Site Error:	0.00 usft
Survey Program: 0-OWSG_Rev2_MWD+HRGM												Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Distance		Separation Factor	Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)			
0.00	0.00	0.00	0.00	0.00	0.00	89.56	0.19	25.00	25.00				
100.00	100.00	99.78	99.78	0.13	0.13	89.56	0.19	25.00	25.00	24.74	0.26	96.302	
200.00	200.00	199.78	199.78	0.49	0.49	89.56	0.19	25.00	25.00	24.02	0.98	25.614	
300.00	300.00	299.78	299.78	0.85	0.85	89.56	0.19	25.00	25.00	23.31	1.69	14.767	
400.00	400.00	399.78	399.78	1.21	1.20	89.56	0.19	25.00	25.00	22.59	2.41	10.374	
500.00	500.00	499.78	499.78	1.56	1.56	89.56	0.19	25.00	25.00	21.87	3.13	7.995	
600.00	600.00	599.78	599.78	1.92	1.92	89.56	0.19	25.00	25.00	21.16	3.84	6.504	
700.00	700.00	699.78	699.78	2.28	2.28	89.56	0.19	25.00	25.00	20.44	4.56	5.482	
800.00	800.00	799.78	799.78	2.64	2.64	89.56	0.19	25.00	25.00	19.72	5.28	4.737	
900.00	900.00	899.78	899.78	3.00	3.00	89.56	0.19	25.00	25.00	19.01	5.99	4.171	
1,000.00	1,000.00	999.78	999.78	3.36	3.36	89.56	0.19	25.00	25.00	18.29	6.71	3.725	
1,100.00	1,100.00	1,099.78	1,099.78	3.71	3.71	89.56	0.19	25.00	25.00	17.57	7.43	3.365	
1,200.00	1,200.00	1,199.78	1,199.78	4.07	4.07	89.56	0.19	25.00	25.00	16.86	8.15	3.069	
1,300.00	1,300.00	1,299.78	1,299.78	4.43	4.43	89.56	0.19	25.00	25.00	16.14	8.86	2.821	
1,400.00	1,400.00	1,399.78	1,399.78	4.79	4.79	89.56	0.19	25.00	25.00	15.42	9.58	2.610	
1,500.00	1,500.00	1,499.78	1,499.78	5.15	5.15	89.56	0.19	25.00	25.00	14.70	10.30	2.428	
1,600.00	1,600.00	1,599.78	1,599.78	5.51	5.51	89.56	0.19	25.00	25.00	13.99	11.01	2.270	
1,700.00	1,700.00	1,699.78	1,699.78	5.87	5.86	89.56	0.19	25.00	25.00	13.27	11.73	2.131	
1,800.00	1,800.00	1,799.78	1,799.78	6.22	6.22	89.56	0.19	25.00	25.00	12.55	12.45	2.009	
1,900.00	1,900.00	1,899.78	1,899.78	6.58	6.58	89.56	0.19	25.00	25.00	11.84	13.16	1.899	
2,000.00	2,000.00	1,999.78	1,999.78	6.94	6.94	89.56	0.19	25.00	25.00	11.12	13.88	1.801	
2,100.00	2,100.00	2,099.78	2,099.78	7.30	7.30	89.56	0.19	25.00	25.00	10.40	14.60	1.713	
2,200.00	2,200.00	2,199.78	2,199.78	7.66	7.66	89.56	0.19	25.00	25.00	9.69	15.31	1.632	
2,300.00	2,300.00	2,299.78	2,299.78	8.02	8.02	89.56	0.19	25.00	25.00	8.97	16.03	1.559	
2,400.00	2,400.00	2,399.78	2,399.78	8.37	8.37	89.56	0.19	25.00	25.00	8.25	16.75	1.493 Level 3	
2,500.00	2,500.00	2,499.78	2,499.78	8.73	8.73	89.56	0.19	25.00	25.00	7.53	17.47	1.431 Level 3	
2,600.00	2,600.00	2,599.78	2,599.78	9.09	9.09	89.56	0.19	25.00	25.00	6.82	18.18	1.375 Level 3, CC	
2,700.00	2,699.98	2,700.49	2,700.47	9.45	9.45	153.71	1.21	23.56	25.16	6.27	18.89	1.332 Level 3	
2,800.00	2,799.84	2,801.20	2,801.03	9.80	9.80	151.90	4.27	19.24	25.62	6.05	19.57	1.309 Level 3, ES	
2,900.00	2,899.45	2,901.89	2,901.33	10.15	10.16	149.02	9.38	12.03	26.45	6.21	20.24	1.307 Level 3, SF	
2,999.75	2,998.46	3,002.30	3,000.98	10.50	10.52	145.30	16.50	1.99	27.71	6.79	20.91	1.325 Level 3	
3,100.00	3,097.73	3,102.52	3,100.22	10.86	10.88	141.59	24.57	-9.39	29.32	7.69	21.63	1.355 Level 3	
3,200.00	3,196.76	3,202.49	3,199.22	11.22	11.24	138.28	32.62	-20.75	31.04	8.69	22.35	1.389 Level 3	
3,300.00	3,295.79	3,302.46	3,298.21	11.59	11.60	135.34	40.67	-32.11	32.85	9.77	23.08	1.423 Level 3	
3,400.00	3,394.81	3,402.43	3,397.21	11.95	11.97	132.70	48.72	-43.47	34.75	10.93	23.81	1.459 Level 3	
3,500.00	3,493.84	3,502.40	3,496.20	12.32	12.34	130.34	56.77	-54.83	36.70	12.15	24.55	1.495 Level 3	
3,600.00	3,592.87	3,602.37	3,595.20	12.69	12.71	128.23	64.82	-66.18	38.71	13.42	25.29	1.531	
3,700.00	3,691.90	3,702.34	3,694.20	13.07	13.09	126.33	72.87	-77.54	40.77	14.74	26.04	1.566	
3,800.00	3,790.93	3,802.31	3,793.19	13.44	13.46	124.61	80.92	-88.90	42.87	16.09	26.78	1.601	
3,900.00	3,889.95	3,902.28	3,892.19	13.82	13.84	123.05	88.97	-100.26	45.01	17.47	27.54	1.635	
4,000.00	3,988.98	4,002.25	3,991.18	14.20	14.22	121.63	97.02	-111.61	47.18	18.88	28.29	1.667	
4,100.00	4,088.01	4,102.22	4,090.18	14.58	14.60	120.34	105.07	-122.97	49.37	20.32	29.05	1.699	
4,200.00	4,187.04	4,202.19	4,189.18	14.96	14.98	119.16	113.12	-134.33	51.58	21.77	29.81	1.730	
4,300.00	4,286.07	4,302.16	4,288.17	15.34	15.36	118.08	121.17	-145.69	53.82	23.24	30.58	1.760	
4,400.00	4,385.09	4,402.13	4,387.17	15.73	15.75	117.08	129.22	-157.05	56.07	24.73	31.34	1.789	
4,500.00	4,484.12	4,502.10	4,486.16	16.11	16.13	116.16	137.27	-168.40	58.34	26.23	32.11	1.817	
4,600.00	4,583.15	4,601.94	4,585.05	16.50	16.52	115.39	145.26	-179.68	60.64	27.76	32.88	1.844	
4,700.00	4,682.18	4,701.30	4,683.74	16.89	16.90	116.78	151.83	-188.95	63.62	29.99	33.63	1.892	
4,800.00	4,781.21	4,800.00	4,782.13	17.27	17.26	120.78	156.39	-195.39	67.78	33.45	34.33	1.974	
4,900.00	4,880.23	4,898.94	4,880.96	17.66	17.62	126.74	159.00	-199.06	73.72	38.73	34.99	2.107	
5,000.00	4,979.26	4,997.03	4,979.04	18.05	17.96	133.70	159.66	-200.00	82.18	46.57	35.60	2.308	
5,100.00	5,078.29	5,096.06	5,078.07	18.44	18.31	139.93	159.66	-200.00	92.38	56.14	36.23	2.549	

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

Anticollision Report

Company:	Earthstone Operating, LLC	Local Co-ordinate Reference:	Well Los Vaqueros Fed 442H
Project:	Lea County, NM (NAD 27)	TVD Reference:	GE 3183.53' + KB 27.5' @ 3211.03usft
Reference Site:	Los Vaqueros Fed Pad	MD Reference:	GE 3183.53' + KB 27.5' @ 3211.03usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Los Vaqueros Fed 442H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	LEAM Multi_User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design: Los Vaqueros Fed Pad - Los Vaqueros Fed 522H - OH - Plan #1												Offset Site Error:	0.00 usft
Survey Program: 0-OWSG_Rev2_MWD+HRGM												Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Distance		Minimum Separation (usft)	Separation Factor	Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)			
5,200.00	5,177.32	5,195.09	5,177.10	18.83	18.65	144.88	159.66	-200.00	103.45	66.57	36.88	2.805	
5,280.00	5,256.54	5,274.32	5,256.32	19.14	18.93	148.12	159.66	-200.00	112.76	75.35	37.41	3.014	
5,300.00	5,276.36	5,294.13	5,276.14	19.22	19.00	148.86	159.66	-200.00	115.08	77.53	37.55	3.065	
5,400.00	5,375.69	5,393.46	5,375.47	19.61	19.35	151.67	159.66	-200.00	125.07	86.84	38.23	3.272	
5,500.00	5,475.36	5,493.13	5,475.14	19.98	19.70	153.38	159.66	-200.00	132.18	93.27	38.92	3.397	
5,600.00	5,575.25	5,593.03	5,575.03	20.34	20.05	154.27	159.66	-200.00	136.25	96.63	39.62	3.439	
5,679.76	5,655.00	5,672.77	5,654.78	20.61	20.33	89.72	159.66	-200.00	137.25	97.07	40.18	3.416	
5,700.00	5,675.24	5,693.02	5,675.02	20.68	20.40	89.72	159.66	-200.00	137.25	96.93	40.32	3.404	
5,800.00	5,775.24	5,793.02	5,775.02	21.03	20.75	89.72	159.66	-200.00	137.25	96.22	41.02	3.346	
5,900.00	5,875.24	5,893.02	5,875.02	21.37	21.10	89.72	159.66	-200.00	137.25	95.52	41.73	3.289	
6,000.00	5,975.24	5,993.02	5,975.02	21.72	21.45	89.72	159.66	-200.00	137.25	94.82	42.43	3.234	
6,100.00	6,075.24	6,093.02	6,075.02	22.07	21.81	89.72	159.66	-200.00	137.25	94.11	43.14	3.182	
6,200.00	6,175.24	6,193.02	6,175.02	22.41	22.16	89.72	159.66	-200.00	137.25	93.40	43.84	3.130	
6,300.00	6,275.24	6,293.02	6,275.02	22.76	22.51	89.72	159.66	-200.00	137.25	92.70	44.55	3.081	
6,400.00	6,375.24	6,393.02	6,375.02	23.11	22.86	89.72	159.66	-200.00	137.25	91.99	45.26	3.033	
6,500.00	6,475.24	6,493.02	6,475.02	23.46	23.21	89.72	159.66	-200.00	137.25	91.28	45.96	2.986	
6,600.00	6,575.24	6,593.02	6,575.02	23.80	23.57	89.72	159.66	-200.00	137.25	90.58	46.67	2.941	
6,700.00	6,675.24	6,693.02	6,675.02	24.15	23.92	89.72	159.66	-200.00	137.25	89.87	47.38	2.897	
6,800.00	6,775.24	6,793.02	6,775.02	24.50	24.27	89.72	159.66	-200.00	137.25	89.16	48.09	2.854	
6,900.00	6,875.24	6,893.02	6,875.02	24.85	24.63	89.72	159.66	-200.00	137.25	88.45	48.79	2.813	
7,000.00	6,975.24	6,993.02	6,975.02	25.20	24.98	89.72	159.66	-200.00	137.25	87.75	49.50	2.773	
7,100.00	7,075.24	7,093.02	7,075.02	25.55	25.33	89.72	159.66	-200.00	137.25	87.04	50.21	2.733	
7,200.00	7,175.24	7,193.02	7,175.02	25.90	25.69	89.72	159.66	-200.00	137.25	86.33	50.92	2.695	
7,300.00	7,275.24	7,293.02	7,275.02	26.25	26.04	89.72	159.66	-200.00	137.25	85.62	51.63	2.658	
7,400.00	7,375.24	7,393.02	7,375.02	26.60	26.40	89.72	159.66	-200.00	137.25	84.91	52.34	2.622	
7,500.00	7,475.24	7,493.02	7,475.02	26.95	26.75	89.72	159.66	-200.00	137.25	84.20	53.05	2.587	
7,600.00	7,575.24	7,593.02	7,575.02	27.30	27.10	89.72	159.66	-200.00	137.25	83.49	53.76	2.553	
7,700.00	7,675.24	7,693.02	7,675.02	27.65	27.46	89.72	159.66	-200.00	137.25	82.78	54.47	2.520	
7,800.00	7,775.24	7,793.02	7,775.02	28.00	27.81	89.72	159.66	-200.00	137.25	82.07	55.18	2.487	
7,900.00	7,875.24	7,893.02	7,875.02	28.35	28.17	89.72	159.66	-200.00	137.25	81.36	55.89	2.456	
8,000.00	7,975.24	7,993.02	7,975.02	28.70	28.52	89.72	159.66	-200.00	137.25	80.65	56.60	2.425	
8,100.00	8,075.24	8,093.02	8,075.02	29.05	28.88	89.72	159.66	-200.00	137.25	79.94	57.31	2.395	
8,200.00	8,175.24	8,193.02	8,175.02	29.40	29.23	89.72	159.66	-200.00	137.25	79.23	58.02	2.366	
8,300.00	8,275.24	8,293.02	8,275.02	29.76	29.59	89.72	159.66	-200.00	137.25	78.52	58.73	2.337	
8,400.00	8,375.24	8,393.02	8,375.02	30.11	29.94	89.72	159.66	-200.00	137.25	77.81	59.44	2.309	
8,500.00	8,475.24	8,493.02	8,475.02	30.46	30.30	89.72	159.66	-200.00	137.25	77.10	60.15	2.282	
8,600.00	8,575.24	8,593.02	8,575.02	30.81	30.65	89.72	159.66	-200.00	137.25	76.39	60.86	2.255	
8,700.00	8,675.24	8,693.02	8,675.02	31.17	31.01	89.72	159.66	-200.00	137.25	75.68	61.57	2.229	
8,800.00	8,775.24	8,793.02	8,775.02	31.52	31.36	89.72	159.66	-200.00	137.25	74.96	62.28	2.204	
8,900.00	8,875.24	8,893.02	8,875.02	31.87	31.72	89.72	159.66	-200.00	137.25	74.25	62.99	2.179	
9,000.00	8,975.24	8,993.02	8,975.02	32.22	32.07	89.72	159.66	-200.00	137.25	73.54	63.71	2.154	
9,100.00	9,075.24	9,093.02	9,075.02	32.58	32.43	89.72	159.66	-200.00	137.25	72.83	64.42	2.131	
9,200.00	9,175.24	9,193.02	9,175.02	32.93	32.79	89.72	159.66	-200.00	137.25	72.12	65.13	2.107	
9,300.00	9,275.24	9,293.02	9,275.02	33.28	33.14	89.72	159.66	-200.00	137.25	71.41	65.84	2.084	
9,400.00	9,375.24	9,393.02	9,375.02	33.64	33.50	89.72	159.66	-200.00	137.25	70.69	66.55	2.062	
9,500.00	9,475.24	9,493.02	9,475.02	33.99	33.85	89.72	159.66	-200.00	137.25	69.98	67.27	2.040	
9,600.00	9,575.24	9,593.02	9,575.02	34.34	34.21	89.72	159.66	-200.00	137.25	69.27	67.98	2.019	
9,700.00	9,675.24	9,693.02	9,675.02	34.70	34.56	89.72	159.66	-200.00	137.25	68.56	68.69	1.998	
9,800.00	9,775.24	9,793.02	9,775.02	35.05	34.92	89.72	159.66	-200.00	137.25	67.84	69.40	1.978	
9,900.00	9,875.24	9,893.02	9,875.02	35.40	35.28	89.72	159.66	-200.00	137.25	67.13	70.12	1.957	
10,000.00	9,975.24	9,993.02	9,975.02	35.76	35.63	89.72	159.66	-200.00	137.25	66.42	70.83	1.938	
10,100.00	10,075.24	10,093.02	10,075.02	36.11	35.99	89.72	159.66	-200.00	137.25	65.71	71.54	1.918	

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

Anticollision Report

Company:	Earthstone Operating, LLC	Local Co-ordinate Reference:	Well Los Vaqueros Fed 442H
Project:	Lea County, NM (NAD 27)	TVD Reference:	GE 3183.53' + KB 27.5' @ 3211.03usft
Reference Site:	Los Vaqueros Fed Pad	MD Reference:	GE 3183.53' + KB 27.5' @ 3211.03usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Los Vaqueros Fed 442H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	LEAM Multi_User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design: Los Vaqueros Fed Pad - Los Vaqueros Fed 522H - OH - Plan #1													Offset Site Error:	0.00 usft
Survey Program: 0-OWSG_Rev2_MWD+HRGM													Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Rule Assigned:				Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
10,200.00	10,175.24	10,193.02	10,175.02	36.47	36.35	89.72	159.66	-200.00	137.25	64.99	72.25	1.899		
10,300.00	10,275.24	10,293.02	10,275.02	36.82	36.70	89.72	159.66	-200.00	137.25	64.28	72.97	1.881		
10,400.00	10,375.24	10,393.02	10,375.02	37.17	37.06	89.72	159.66	-200.00	137.25	63.57	73.68	1.863		
10,500.00	10,475.24	10,493.02	10,475.02	37.53	37.41	89.72	159.66	-200.00	137.25	62.85	74.39	1.845		
10,600.00	10,575.24	10,593.02	10,575.02	37.88	37.77	89.72	159.66	-200.00	137.25	62.14	75.11	1.827		
10,700.00	10,675.24	10,693.02	10,675.02	38.24	38.13	89.72	159.66	-200.00	137.25	61.43	75.82	1.810		
10,800.00	10,775.24	10,793.02	10,775.02	38.59	38.48	89.72	159.66	-200.00	137.25	60.71	76.53	1.793		
10,900.00	10,875.24	10,893.02	10,875.02	38.95	38.84	89.72	159.66	-200.00	137.25	60.00	77.25	1.777		
11,000.00	10,975.24	10,993.02	10,975.02	39.30	39.20	89.72	159.66	-200.00	137.25	59.29	77.96	1.760		
11,100.00	11,075.24	11,093.02	11,075.02	39.66	39.55	89.72	159.66	-200.00	137.25	58.57	78.67	1.745		
11,200.00	11,175.24	11,193.02	11,175.02	40.01	39.91	89.72	159.66	-200.00	137.25	57.86	79.39	1.729		
11,300.00	11,275.24	11,293.02	11,275.02	40.36	40.27	89.72	159.66	-200.00	137.25	57.15	80.10	1.713		
11,400.00	11,375.24	11,393.02	11,375.02	40.72	40.62	89.72	159.66	-200.00	137.25	56.43	80.82	1.698		
11,500.00	11,475.24	11,493.02	11,475.02	41.07	40.98	89.72	159.66	-200.00	137.25	55.72	81.53	1.683		
11,600.00	11,575.24	11,593.02	11,575.02	41.43	41.34	89.72	159.66	-200.00	137.25	55.01	82.24	1.669		
11,700.00	11,675.24	11,693.02	11,675.02	41.79	41.69	89.72	159.66	-200.00	137.25	54.29	82.96	1.654		
11,800.00	11,775.24	11,793.02	11,775.02	42.14	42.05	89.72	159.66	-200.00	137.25	53.58	83.67	1.640		
11,900.00	11,875.24	11,893.02	11,875.02	42.50	42.41	89.72	159.66	-200.00	137.25	52.86	84.38	1.626		
12,000.00	11,975.24	11,993.02	11,975.02	42.85	42.76	89.72	159.66	-200.00	137.25	52.15	85.10	1.613		
12,100.00	12,075.24	12,093.02	12,075.02	43.21	43.12	89.72	159.66	-200.00	137.25	51.44	85.81	1.599		
12,152.80	12,128.04	12,145.81	12,127.82	43.39	43.31	89.72	159.66	-200.00	137.25	51.06	86.19	1.592		
12,176.77	12,152.01	12,169.78	12,151.79	43.47	43.39	-90.00	159.66	-200.00	137.25	50.89	86.36	1.589		
12,200.00	12,175.19	12,192.96	12,174.97	43.55	43.48	-90.60	159.66	-200.00	137.25	50.73	86.52	1.586		
12,250.00	12,224.78	12,242.55	12,224.56	43.71	43.65	-93.18	159.66	-200.00	137.46	50.59	86.88	1.582		
12,300.00	12,273.63	12,291.40	12,273.41	43.86	43.83	-97.35	159.66	-200.00	138.46	51.23	87.24	1.587		
12,350.00	12,321.37	12,339.15	12,321.15	44.00	44.00	-102.79	159.66	-200.00	141.18	53.58	87.60	1.612		
12,400.00	12,367.65	12,385.42	12,367.43	44.14	44.16	-108.99	159.66	-200.00	146.77	58.79	87.97	1.668		
12,450.00	12,412.09	12,429.87	12,411.87	44.27	44.32	-115.35	159.66	-200.00	156.34	68.00	88.34	1.770		
12,500.00	12,454.38	12,472.15	12,454.16	44.38	44.47	-121.30	159.66	-200.00	170.71	82.03	88.68	1.925		
12,550.00	12,494.18	12,511.96	12,493.96	44.48	44.61	-126.44	159.66	-200.00	190.25	101.27	88.99	2.138		
12,600.00	12,531.20	12,548.97	12,530.98	44.57	44.75	-130.56	159.66	-200.00	214.88	125.63	89.25	2.408		
12,650.00	12,565.15	12,598.36	12,580.33	44.65	44.92	-135.86	158.10	-200.08	243.39	153.96	89.42	2.722		
12,700.00	12,595.77	12,656.73	12,638.22	44.71	45.10	-141.07	150.84	-200.44	273.27	184.15	89.12	3.066		
12,750.00	12,622.83	12,723.03	12,702.69	44.77	45.30	-145.81	135.52	-201.20	303.60	215.48	88.12	3.445		
12,800.00	12,646.13	12,800.08	12,774.78	44.81	45.51	-150.22	108.53	-202.55	333.44	247.33	86.11	3.872		
12,850.00	12,665.48	12,891.69	12,854.82	44.88	45.74	-154.36	64.24	-204.75	361.71	278.98	82.73	4.372		
12,900.00	12,680.74	13,002.57	12,940.73	44.99	45.96	-158.17	-5.51	-208.22	386.93	309.36	77.58	4.988		
12,950.00	12,691.80	13,137.08	13,024.49	45.09	46.15	-161.51	-110.23	-213.44	407.15	336.38	70.77	5.753		
13,000.00	12,698.57	13,295.55	13,088.67	45.20	46.48	-164.15	-254.39	-220.61	419.95	355.80	64.15	6.546		
13,052.80	12,701.00	13,462.32	13,111.00	45.30	46.81	-165.84	-418.87	-228.79	423.12	361.33	61.79	6.847		
13,100.00	12,701.00	13,507.84	13,111.00	45.40	46.90	-166.12	-464.36	-230.60	422.57	360.78	61.80	6.838		
13,200.00	12,701.00	13,604.44	13,111.00	45.65	47.12	-166.42	-560.94	-232.03	422.02	360.07	61.95	6.813		
13,218.98	12,701.00	13,622.79	13,111.00	45.70	47.17	-166.43	-579.29	-231.93	422.00	360.00	62.00	6.806		
13,300.00	12,701.00	13,703.79	13,111.00	45.93	47.39	-166.43	-660.29	-231.23	422.01	359.74	62.27	6.777		
13,400.00	12,701.00	13,803.79	13,111.00	46.26	47.70	-166.43	-760.28	-230.37	422.01	359.37	62.64	6.737		
13,500.00	12,701.00	13,903.79	13,111.00	46.63	48.05	-166.42	-860.28	-229.51	422.01	358.95	63.06	6.693		
13,600.00	12,701.00	14,003.79	13,111.00	47.03	48.44	-166.42	-960.28	-228.65	422.01	358.50	63.51	6.645		
13,700.00	12,701.00	14,103.79	13,111.00	47.48	48.87	-166.42	-1,060.27	-227.79	422.01	358.01	64.01	6.593		
13,800.00	12,701.00	14,203.79	13,111.00	47.96	49.34	-166.42	-1,160.27	-226.93	422.02	357.48	64.54	6.539		
13,900.00	12,701.00	14,303.79	13,111.00	48.49	49.84	-166.42	-1,260.26	-226.07	422.02	356.90	65.12	6.481		
14,000.00	12,701.00	14,403.79	13,111.00	49.04	50.38	-166.42	-1,360.26	-225.21	422.02	356.30	65.73	6.421		
14,100.00	12,701.00	14,503.79	13,111.00	49.64	50.95	-166.42	-1,460.26	-224.35	422.02	355.65	66.37	6.358		

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

Anticollision Report

Company:	Earthstone Operating, LLC	Local Co-ordinate Reference:	Well Los Vaqueros Fed 442H
Project:	Lea County, NM (NAD 27)	TVD Reference:	GE 3183.53' + KB 27.5' @ 3211.03usft
Reference Site:	Los Vaqueros Fed Pad	MD Reference:	GE 3183.53' + KB 27.5' @ 3211.03usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Los Vaqueros Fed 442H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	LEAM Multi_User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design: Los Vaqueros Fed Pad - Los Vaqueros Fed 522H - OH - Plan #1												Offset Site Error:	0.00 usft
Survey Program: 0-OWSG_Rev2_MWD+HRGM												Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis		Offset Wellbore Centre		Distance		Rule Assigned:		Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	
14,200.00	12,701.00	14,603.79	13,111.00	50.26	51.56	-166.42	-1,560.25	-223.49	422.03	354.97	67.05	6.294	
14,300.00	12,701.00	14,703.79	13,111.00	50.92	52.20	-166.41	-1,660.25	-222.63	422.03	354.26	67.77	6.227	
14,400.00	12,701.00	14,803.79	13,111.00	51.61	52.87	-166.41	-1,760.25	-221.77	422.03	353.51	68.52	6.159	
14,500.00	12,701.00	14,903.79	13,111.00	52.33	53.57	-166.41	-1,860.24	-220.91	422.03	352.73	69.30	6.090	
14,600.00	12,701.00	15,003.79	13,111.00	53.08	54.30	-166.41	-1,960.24	-220.05	422.04	351.92	70.12	6.019	
14,700.00	12,701.00	15,103.79	13,111.00	53.86	55.05	-166.41	-2,060.23	-219.19	422.04	351.08	70.96	5.948	
14,800.00	12,701.00	15,203.79	13,111.00	54.67	55.84	-166.41	-2,160.23	-218.33	422.04	350.21	71.83	5.876	
14,900.00	12,701.00	15,303.79	13,111.00	55.50	56.64	-166.41	-2,260.23	-217.47	422.04	349.31	72.73	5.803	
15,000.00	12,701.00	15,403.79	13,111.00	56.35	57.48	-166.41	-2,360.22	-216.60	422.04	348.39	73.65	5.730	
15,100.00	12,701.00	15,503.79	13,111.00	57.23	58.34	-166.40	-2,460.22	-215.74	422.05	347.44	74.61	5.657	
15,200.00	12,701.00	15,603.79	13,111.00	58.13	59.21	-166.40	-2,560.22	-214.88	422.05	346.47	75.58	5.584	
15,300.00	12,701.00	15,703.79	13,111.00	59.05	60.12	-166.40	-2,660.21	-214.02	422.05	345.47	76.58	5.511	
15,400.00	12,701.00	15,803.79	13,111.00	59.99	61.04	-166.40	-2,760.21	-213.16	422.05	344.45	77.61	5.438	
15,500.00	12,701.00	15,903.79	13,111.00	60.95	61.98	-166.40	-2,860.21	-212.30	422.06	343.40	78.65	5.366	
15,600.00	12,701.00	16,003.79	13,111.00	61.93	62.94	-166.40	-2,960.20	-211.44	422.06	342.34	79.72	5.294	
15,700.00	12,701.00	16,103.79	13,111.00	62.92	63.91	-166.40	-3,060.20	-210.58	422.06	341.25	80.81	5.223	
15,800.00	12,701.00	16,203.79	13,111.00	63.94	64.91	-166.40	-3,160.19	-209.72	422.06	340.15	81.91	5.153	
15,900.00	12,701.00	16,303.79	13,111.00	64.96	65.92	-166.39	-3,260.19	-208.86	422.06	339.03	83.04	5.083	
16,000.00	12,701.00	16,403.79	13,111.00	66.01	66.95	-166.39	-3,360.19	-208.00	422.07	337.88	84.18	5.014	
16,100.00	12,701.00	16,503.79	13,111.00	67.07	67.99	-166.39	-3,460.18	-207.14	422.07	336.73	85.34	4.946	
16,200.00	12,701.00	16,603.79	13,111.00	68.14	69.04	-166.39	-3,560.18	-206.28	422.07	335.55	86.52	4.878	
16,300.00	12,701.00	16,703.79	13,111.00	69.22	70.11	-166.39	-3,660.18	-205.42	422.07	334.36	87.71	4.812	
16,400.00	12,701.00	16,803.79	13,111.00	70.32	71.19	-166.39	-3,760.17	-204.56	422.08	333.15	88.92	4.747	
16,500.00	12,701.00	16,903.79	13,111.00	71.43	72.29	-166.39	-3,860.17	-203.70	422.08	331.93	90.15	4.682	
16,600.00	12,701.00	17,003.79	13,111.00	72.55	73.39	-166.39	-3,960.16	-202.84	422.08	330.70	91.38	4.619	
16,700.00	12,701.00	17,103.79	13,111.00	73.69	74.51	-166.38	-4,060.16	-201.98	422.08	329.45	92.64	4.556	
16,800.00	12,701.00	17,203.79	13,111.00	74.83	75.64	-166.38	-4,160.16	-201.12	422.08	328.18	93.90	4.495	
16,900.00	12,701.00	17,303.79	13,111.00	75.98	76.78	-166.38	-4,260.15	-200.26	422.09	326.91	95.18	4.435	
17,000.00	12,701.00	17,403.79	13,111.00	77.14	77.92	-166.38	-4,360.15	-199.40	422.09	325.62	96.46	4.376	
17,100.00	12,701.00	17,503.79	13,111.00	78.32	79.08	-166.38	-4,460.15	-198.54	422.09	324.33	97.76	4.317	
17,200.00	12,701.00	17,603.79	13,111.00	79.50	80.25	-166.38	-4,560.14	-197.68	422.09	323.02	99.08	4.260	
17,300.00	12,701.00	17,703.79	13,111.00	80.68	81.42	-166.38	-4,660.14	-196.81	422.10	321.70	100.40	4.204	
17,400.00	12,701.00	17,803.79	13,111.00	81.88	82.61	-166.38	-4,760.14	-195.95	422.10	320.37	101.73	4.149	
17,500.00	12,701.00	17,903.79	13,111.00	83.08	83.80	-166.37	-4,860.13	-195.09	422.10	319.03	103.07	4.095	
17,600.00	12,701.00	18,003.79	13,111.00	84.29	85.00	-166.37	-4,960.13	-194.23	422.10	317.68	104.42	4.042	
17,700.00	12,701.00	18,103.79	13,111.00	85.51	86.20	-166.37	-5,060.12	-193.37	422.10	316.32	105.78	3.990	
17,800.00	12,701.00	18,203.79	13,111.00	86.74	87.42	-166.37	-5,160.12	-192.51	422.11	314.95	107.15	3.939	
17,900.00	12,701.00	18,303.79	13,111.00	87.97	88.64	-166.37	-5,260.12	-191.65	422.11	313.58	108.53	3.889	
18,000.00	12,701.00	18,403.79	13,111.00	89.21	89.86	-166.37	-5,360.11	-190.79	422.11	312.19	109.92	3.840	
18,100.00	12,701.00	18,503.79	13,111.00	90.45	91.09	-166.37	-5,460.11	-189.93	422.11	310.80	111.31	3.792	
18,200.00	12,701.00	18,603.79	13,111.00	91.70	92.33	-166.37	-5,560.11	-189.07	422.12	309.40	112.71	3.745	
18,300.00	12,701.00	18,703.79	13,111.00	92.95	93.58	-166.36	-5,660.10	-188.21	422.12	308.00	114.12	3.699	
18,400.00	12,701.00	18,803.79	13,111.00	94.21	94.83	-166.36	-5,760.10	-187.35	422.12	306.59	115.53	3.654	
18,500.00	12,701.00	18,903.79	13,111.00	95.48	96.08	-166.36	-5,860.09	-186.49	422.12	305.17	116.96	3.609	
18,600.00	12,701.00	19,003.79	13,111.00	96.74	97.34	-166.36	-5,960.09	-185.63	422.12	303.74	118.39	3.566	
18,700.00	12,701.00	19,103.79	13,111.00	98.02	98.60	-166.36	-6,060.09	-184.77	422.13	302.31	119.82	3.523	
18,800.00	12,701.00	19,203.79	13,111.00	99.30	99.87	-166.36	-6,160.08	-183.91	422.13	300.87	121.26	3.481	
18,900.00	12,701.00	19,303.79	13,111.00	100.58	101.15	-166.36	-6,260.08	-183.05	422.13	299.42	122.71	3.440	
19,000.00	12,701.00	19,403.79	13,111.00	101.87	102.42	-166.36	-6,360.08	-182.19	422.13	297.97	124.16	3.400	
19,100.00	12,701.00	19,503.79	13,111.00	103.16	103.71	-166.35	-6,460.07	-181.33	422.14	296.52	125.62	3.360	
19,200.00	12,701.00	19,603.79	13,111.00	104.45	104.99	-166.35	-6,560.07	-180.47	422.14	295.06	127.08	3.322	
19,300.00	12,701.00	19,703.79	13,111.00	105.75	106.28	-166.35	-6,660.06	-179.61	422.14	293.59	128.55	3.284	

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

Anticollision Report

Company:	Earthstone Operating, LLC	Local Co-ordinate Reference:	Well Los Vaqueros Fed 442H
Project:	Lea County, NM (NAD 27)	TVD Reference:	GE 3183.53' + KB 27.5' @ 3211.03usft
Reference Site:	Los Vaqueros Fed Pad	MD Reference:	GE 3183.53' + KB 27.5' @ 3211.03usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Los Vaqueros Fed 442H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	LEAM Multi_User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design: Los Vaqueros Fed Pad - Los Vaqueros Fed 522H - OH - Plan #1													Offset Site Error:	0.00 usft
Survey Program: 0-OWSG_Rev2_MWD+HRGM													Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Distance				Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
19,400.00	12,701.00	19,803.79	13,111.00	107.05	107.57	-166.35	-6,760.06	-178.75	422.14	292.12	130.02	3.247		
19,500.00	12,701.00	19,903.79	13,111.00	108.35	108.87	-166.35	-6,860.06	-177.89	422.14	290.65	131.50	3.210		
19,600.00	12,701.00	20,003.79	13,111.00	109.66	110.17	-166.35	-6,960.05	-177.03	422.15	289.17	132.98	3.174		
19,700.00	12,701.00	20,103.79	13,111.00	110.97	111.48	-166.35	-7,060.05	-176.16	422.15	287.68	134.47	3.139		
19,800.00	12,701.00	20,203.79	13,111.00	112.29	112.78	-166.35	-7,160.05	-175.30	422.15	286.19	135.96	3.105		
19,900.00	12,701.00	20,303.79	13,111.00	113.61	114.09	-166.34	-7,260.04	-174.44	422.15	284.70	137.45	3.071		
20,000.00	12,701.00	20,403.79	13,111.00	114.93	115.41	-166.34	-7,360.04	-173.58	422.16	283.20	138.95	3.038		
20,100.00	12,701.00	20,503.79	13,111.00	116.25	116.72	-166.34	-7,460.04	-172.72	422.16	281.70	140.46	3.006		
20,200.00	12,701.00	20,603.79	13,111.00	117.57	118.04	-166.34	-7,560.03	-171.86	422.16	280.20	141.96	2.974		
20,300.00	12,701.00	20,703.79	13,111.00	118.90	119.36	-166.34	-7,660.03	-171.00	422.16	278.69	143.47	2.942		
20,400.00	12,701.00	20,803.79	13,111.00	120.23	120.69	-166.34	-7,760.02	-170.14	422.16	277.18	144.99	2.912		
20,500.00	12,701.00	20,903.79	13,111.00	121.57	122.01	-166.34	-7,860.02	-169.28	422.17	275.66	146.50	2.882		
20,600.00	12,701.00	21,003.79	13,111.00	122.90	123.34	-166.34	-7,960.02	-168.42	422.17	274.15	148.02	2.852		
20,700.00	12,701.00	21,103.79	13,111.00	124.24	124.67	-166.33	-8,060.01	-167.56	422.17	272.62	149.55	2.823		
20,800.00	12,701.00	21,203.79	13,111.00	125.58	126.01	-166.33	-8,160.01	-166.70	422.17	271.10	151.07	2.794		
20,900.00	12,701.00	21,303.79	13,111.00	126.92	127.34	-166.33	-8,260.01	-165.84	422.18	269.57	152.60	2.766		
21,000.00	12,701.00	21,403.79	13,111.00	128.26	128.68	-166.33	-8,360.00	-164.98	422.18	268.04	154.14	2.739		
21,100.00	12,701.00	21,503.79	13,111.00	129.61	130.02	-166.33	-8,460.00	-164.12	422.18	266.51	155.67	2.712		
21,200.00	12,701.00	21,603.79	13,111.00	130.96	131.36	-166.33	-8,559.99	-163.26	422.18	264.97	157.21	2.685		
21,300.00	12,701.00	21,703.79	13,111.00	132.31	132.71	-166.33	-8,659.99	-162.40	422.18	263.43	158.75	2.659		
21,400.00	12,701.00	21,803.79	13,111.00	133.66	134.05	-166.33	-8,759.99	-161.54	422.19	261.89	160.30	2.634		
21,500.00	12,701.00	21,903.79	13,111.00	135.01	135.40	-166.32	-8,859.98	-160.68	422.19	260.35	161.84	2.609		
21,600.00	12,701.00	22,003.79	13,111.00	136.37	136.75	-166.32	-8,959.98	-159.82	422.19	258.80	163.39	2.584		
21,700.00	12,701.00	22,103.79	13,111.00	137.72	138.10	-166.32	-9,059.98	-158.96	422.19	257.25	164.94	2.560		
21,800.00	12,701.00	22,203.79	13,111.00	139.08	139.46	-166.32	-9,159.97	-158.10	422.20	255.70	166.50	2.536		
21,900.00	12,701.00	22,303.79	13,111.00	140.44	140.81	-166.32	-9,259.97	-157.24	422.20	254.15	168.05	2.512		
22,000.00	12,701.00	22,403.79	13,111.00	141.80	142.17	-166.32	-9,359.96	-156.37	422.20	252.59	169.61	2.489		
22,100.00	12,701.00	22,503.79	13,111.00	143.17	143.53	-166.32	-9,459.96	-155.51	422.20	251.03	171.17	2.467		
22,200.00	12,701.00	22,603.79	13,111.00	144.53	144.89	-166.32	-9,559.96	-154.65	422.20	249.47	172.73	2.444		
22,300.00	12,701.00	22,703.79	13,111.00	145.90	146.25	-166.31	-9,659.95	-153.79	422.21	247.91	174.30	2.422		
22,400.00	12,701.00	22,803.79	13,111.00	147.26	147.61	-166.31	-9,759.95	-152.93	422.21	246.35	175.86	2.401		
22,500.00	12,701.00	22,903.79	13,111.00	148.63	148.97	-166.31	-9,859.95	-152.07	422.21	244.78	177.43	2.380		
22,600.00	12,701.00	23,003.79	13,111.00	150.00	150.34	-166.31	-9,959.94	-151.21	422.21	243.21	179.00	2.359		
22,700.00	12,701.00	23,103.79	13,111.00	151.37	151.70	-166.31	-10,059.94	-150.35	422.22	241.64	180.57	2.338		
22,800.00	12,701.00	23,203.79	13,111.00	152.74	153.07	-166.31	-10,159.94	-149.49	422.22	240.07	182.15	2.318		
22,900.00	12,701.00	23,303.79	13,111.00	154.12	154.44	-166.31	-10,259.93	-148.63	422.22	238.50	183.72	2.298		
23,000.00	12,701.00	23,403.79	13,111.00	155.49	155.81	-166.31	-10,359.93	-147.77	422.22	236.92	185.30	2.279		
23,041.54	12,701.00	23,445.33	13,111.00	155.98	156.38	-166.31	-10,401.47	-147.41	422.22	236.41	185.81	2.272		

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

Planning Report

Database:	LEAM Multi_User Db	Local Co-ordinate Reference:	Well Los Vaqueros Fed 442H
Company:	Earthstone Operating, LLC	TVD Reference:	GE 3183.53' + KB 27.5' @ 3211.03usft
Project:	Lea County, NM (NAD 27)	MD Reference:	GE 3183.53' + KB 27.5' @ 3211.03usft
Site:	Los Vaqueros Fed Pad	North Reference:	Grid
Well:	Los Vaqueros Fed 442H	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan #1		

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

Site		Los Vaqueros Fed Pad			
Site Position:		Northing:	372,540.36 usft	Latitude:	32° 1' 15.08 N
From:	Map	Easting:	786,686.05 usft	Longitude:	103° 24' 30.00 W
Position Uncertainty:	0.00 usft	Slot Radius:	13-3/16 "	Grid Convergence:	0.49

Well	Los Vaqueros Fed 442H					
Well Position	+N/-S	0.18 usft	Northing:	372,540.54 usft	Latitude:	32° 1' 15.08 N
	+E/-W	25.00 usft	Easting:	786,711.05 usft	Longitude:	103° 24' 29.71 W
Position Uncertainty		0.00 usft	Wellhead Elevation:		Ground Level:	3,183.53 usft

Wellbore	OH				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	HDGM_FILE	5/13/2023	6.20	59.55	47,224.50000000

Design	Plan #1			
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	179.51

Plan Survey Tool Program	Date	4/13/2023		
Depth From (usft)	Depth To (usft)	Survey (Wellbore)	Tool Name	Remarks
1	0.00	23,040.54 Plan #1 (OH)	OWSG_Rev2_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	
2,600.00	0.00	0.00	2,600.00	0.00	0.00	0.00	0.00	0.00	0.00	
2,999.75	8.00	295.24	2,998.46	11.87	-25.19	2.00	2.00	0.00	295.24	
5,280.00	8.00	295.24	5,256.54	147.12	-312.06	0.00	0.00	0.00	0.00	
5,679.76	0.00	0.00	5,655.00	158.99	-337.25	2.00	-2.00	0.00	180.00	
12,152.80	0.00	0.00	12,128.04	158.99	-337.25	0.00	0.00	0.00	0.00	
13,052.80	90.00	179.51	12,701.00	-413.94	-332.37	10.00	10.00	19.95	179.51	
23,041.54	90.00	179.51	12,701.00	-10,402.33	-247.37	0.00	0.00	0.00	0.00	PBHL (LV Fed 422H)

Planning Report

Database:	LEAM Multi_User Db	Local Co-ordinate Reference:	Well Los Vaqueros Fed 442H
Company:	Earthstone Operating, LLC	TVD Reference:	GE 3183.53' + KB 27.5' @ 3211.03usft
Project:	Lea County, NM (NAD 27)	MD Reference:	GE 3183.53' + KB 27.5' @ 3211.03usft
Site:	Los Vaqueros Fed Pad	North Reference:	Grid
Well:	Los Vaqueros Fed 442H	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan #1		

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
SHL (LV Fed 422H)									
100.00	0.00	0.00	100.00	0.00	0.00	0.00	0.00	0.00	0.00
200.00	0.00	0.00	200.00	0.00	0.00	0.00	0.00	0.00	0.00
300.00	0.00	0.00	300.00	0.00	0.00	0.00	0.00	0.00	0.00
400.00	0.00	0.00	400.00	0.00	0.00	0.00	0.00	0.00	0.00
500.00	0.00	0.00	500.00	0.00	0.00	0.00	0.00	0.00	0.00
600.00	0.00	0.00	600.00	0.00	0.00	0.00	0.00	0.00	0.00
700.00	0.00	0.00	700.00	0.00	0.00	0.00	0.00	0.00	0.00
800.00	0.00	0.00	800.00	0.00	0.00	0.00	0.00	0.00	0.00
900.00	0.00	0.00	900.00	0.00	0.00	0.00	0.00	0.00	0.00
1,000.00	0.00	0.00	1,000.00	0.00	0.00	0.00	0.00	0.00	0.00
1,046.03	0.00	0.00	1,046.03	0.00	0.00	0.00	0.00	0.00	0.00
Rustler									
1,100.00	0.00	0.00	1,100.00	0.00	0.00	0.00	0.00	0.00	0.00
1,200.00	0.00	0.00	1,200.00	0.00	0.00	0.00	0.00	0.00	0.00
1,300.00	0.00	0.00	1,300.00	0.00	0.00	0.00	0.00	0.00	0.00
1,400.00	0.00	0.00	1,400.00	0.00	0.00	0.00	0.00	0.00	0.00
1,481.03	0.00	0.00	1,481.03	0.00	0.00	0.00	0.00	0.00	0.00
Salado									
1,500.00	0.00	0.00	1,500.00	0.00	0.00	0.00	0.00	0.00	0.00
1,600.00	0.00	0.00	1,600.00	0.00	0.00	0.00	0.00	0.00	0.00
1,700.00	0.00	0.00	1,700.00	0.00	0.00	0.00	0.00	0.00	0.00
1,800.00	0.00	0.00	1,800.00	0.00	0.00	0.00	0.00	0.00	0.00
1,900.00	0.00	0.00	1,900.00	0.00	0.00	0.00	0.00	0.00	0.00
2,000.00	0.00	0.00	2,000.00	0.00	0.00	0.00	0.00	0.00	0.00
2,100.00	0.00	0.00	2,100.00	0.00	0.00	0.00	0.00	0.00	0.00
2,200.00	0.00	0.00	2,200.00	0.00	0.00	0.00	0.00	0.00	0.00
2,300.00	0.00	0.00	2,300.00	0.00	0.00	0.00	0.00	0.00	0.00
2,400.00	0.00	0.00	2,400.00	0.00	0.00	0.00	0.00	0.00	0.00
2,500.00	0.00	0.00	2,500.00	0.00	0.00	0.00	0.00	0.00	0.00
2,600.00	0.00	0.00	2,600.00	0.00	0.00	0.00	0.00	0.00	0.00
2,700.00	2.00	295.24	2,699.98	0.74	-1.58	-0.76	2.00	2.00	0.00
2,800.00	4.00	295.24	2,799.84	2.98	-6.31	-3.03	2.00	2.00	0.00
2,900.00	6.00	295.24	2,899.45	6.69	-14.20	-6.81	2.00	2.00	0.00
2,999.75	8.00	295.24	2,998.46	11.87	-25.19	-12.09	2.00	2.00	0.00
3,100.00	8.00	295.24	3,097.73	17.82	-37.80	-18.14	0.00	0.00	0.00
3,200.00	8.00	295.24	3,196.76	23.75	-50.38	-24.18	0.00	0.00	0.00
3,300.00	8.00	295.24	3,295.79	29.68	-62.96	-30.22	0.00	0.00	0.00
3,400.00	8.00	295.24	3,394.81	35.61	-75.54	-36.26	0.00	0.00	0.00
3,500.00	8.00	295.24	3,493.84	41.54	-88.12	-42.30	0.00	0.00	0.00
3,600.00	8.00	295.24	3,592.87	47.48	-100.70	-48.34	0.00	0.00	0.00
3,700.00	8.00	295.24	3,691.90	53.41	-113.28	-54.37	0.00	0.00	0.00
3,800.00	8.00	295.24	3,790.93	59.34	-125.86	-60.41	0.00	0.00	0.00
3,900.00	8.00	295.24	3,889.95	65.27	-138.44	-66.45	0.00	0.00	0.00
4,000.00	8.00	295.24	3,988.98	71.20	-151.03	-72.49	0.00	0.00	0.00
4,100.00	8.00	295.24	4,088.01	77.13	-163.61	-78.53	0.00	0.00	0.00
4,200.00	8.00	295.24	4,187.04	83.06	-176.19	-84.57	0.00	0.00	0.00
4,300.00	8.00	295.24	4,286.07	88.99	-188.77	-90.60	0.00	0.00	0.00
4,400.00	8.00	295.24	4,385.09	94.92	-201.35	-96.64	0.00	0.00	0.00
4,500.00	8.00	295.24	4,484.12	100.86	-213.93	-102.68	0.00	0.00	0.00
4,600.00	8.00	295.24	4,583.15	106.79	-226.51	-108.72	0.00	0.00	0.00
4,700.00	8.00	295.24	4,682.18	112.72	-239.09	-114.76	0.00	0.00	0.00

Planning Report

Database:	LEAM Multi_User Db	Local Co-ordinate Reference:	Well Los Vaqueros Fed 442H
Company:	Earthstone Operating, LLC	TVD Reference:	GE 3183.53' + KB 27.5' @ 3211.03usft
Project:	Lea County, NM (NAD 27)	MD Reference:	GE 3183.53' + KB 27.5' @ 3211.03usft
Site:	Los Vaqueros Fed Pad	North Reference:	Grid
Well:	Los Vaqueros Fed 442H	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan #1		

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)	
4,800.00	8.00	295.24	4,781.21	118.65	-251.67	-120.80	0.00	0.00	0.00	
4,900.00	8.00	295.24	4,880.23	124.58	-264.25	-126.84	0.00	0.00	0.00	
5,000.00	8.00	295.24	4,979.26	130.51	-276.83	-132.87	0.00	0.00	0.00	
5,072.47	8.00	295.24	5,051.03	134.81	-285.95	-137.25	0.00	0.00	0.00	
Base Salt										
5,100.00	8.00	295.24	5,078.29	136.44	-289.41	-138.91	0.00	0.00	0.00	
5,200.00	8.00	295.24	5,177.32	142.37	-301.99	-144.95	0.00	0.00	0.00	
5,280.00	8.00	295.24	5,256.54	147.12	-312.06	-149.78	0.00	0.00	0.00	
5,300.00	7.60	295.24	5,276.36	148.28	-314.51	-150.96	2.00	-2.00	0.00	
5,385.27	5.89	295.24	5,361.03	152.54	-323.57	-155.31	2.00	-2.00	0.00	
Lamar										
5,400.00	5.60	295.24	5,375.69	153.17	-324.90	-155.95	2.00	-2.00	0.00	
5,400.34	5.59	295.24	5,376.03	153.19	-324.93	-155.96	2.00	-2.00	0.00	
Bell Canyon										
5,500.00	3.60	295.24	5,475.36	156.59	-332.15	-159.42	2.00	-2.00	0.00	
5,600.00	1.60	295.24	5,575.25	158.52	-336.24	-161.39	2.00	-2.00	0.00	
5,679.76	0.00	0.00	5,655.00	158.99	-337.25	-161.87	2.00	-2.00	0.00	
5,700.00	0.00	0.00	5,675.24	158.99	-337.25	-161.87	0.00	0.00	0.00	
5,800.00	0.00	0.00	5,775.24	158.99	-337.25	-161.87	0.00	0.00	0.00	
5,900.00	0.00	0.00	5,875.24	158.99	-337.25	-161.87	0.00	0.00	0.00	
6,000.00	0.00	0.00	5,975.24	158.99	-337.25	-161.87	0.00	0.00	0.00	
6,100.00	0.00	0.00	6,075.24	158.99	-337.25	-161.87	0.00	0.00	0.00	
6,200.00	0.00	0.00	6,175.24	158.99	-337.25	-161.87	0.00	0.00	0.00	
6,300.00	0.00	0.00	6,275.24	158.99	-337.25	-161.87	0.00	0.00	0.00	
6,400.00	0.00	0.00	6,375.24	158.99	-337.25	-161.87	0.00	0.00	0.00	
6,410.79	0.00	0.00	6,386.03	158.99	-337.25	-161.87	0.00	0.00	0.00	
Cherry Canyon										
6,500.00	0.00	0.00	6,475.24	158.99	-337.25	-161.87	0.00	0.00	0.00	
6,600.00	0.00	0.00	6,575.24	158.99	-337.25	-161.87	0.00	0.00	0.00	
6,700.00	0.00	0.00	6,675.24	158.99	-337.25	-161.87	0.00	0.00	0.00	
6,800.00	0.00	0.00	6,775.24	158.99	-337.25	-161.87	0.00	0.00	0.00	
6,900.00	0.00	0.00	6,875.24	158.99	-337.25	-161.87	0.00	0.00	0.00	
7,000.00	0.00	0.00	6,975.24	158.99	-337.25	-161.87	0.00	0.00	0.00	
7,100.00	0.00	0.00	7,075.24	158.99	-337.25	-161.87	0.00	0.00	0.00	
7,200.00	0.00	0.00	7,175.24	158.99	-337.25	-161.87	0.00	0.00	0.00	
7,300.00	0.00	0.00	7,275.24	158.99	-337.25	-161.87	0.00	0.00	0.00	
7,400.00	0.00	0.00	7,375.24	158.99	-337.25	-161.87	0.00	0.00	0.00	
7,500.00	0.00	0.00	7,475.24	158.99	-337.25	-161.87	0.00	0.00	0.00	
7,600.00	0.00	0.00	7,575.24	158.99	-337.25	-161.87	0.00	0.00	0.00	
7,700.00	0.00	0.00	7,675.24	158.99	-337.25	-161.87	0.00	0.00	0.00	
7,800.00	0.00	0.00	7,775.24	158.99	-337.25	-161.87	0.00	0.00	0.00	
7,895.79	0.00	0.00	7,871.03	158.99	-337.25	-161.87	0.00	0.00	0.00	
Brushy Canyon										
7,900.00	0.00	0.00	7,875.24	158.99	-337.25	-161.87	0.00	0.00	0.00	
8,000.00	0.00	0.00	7,975.24	158.99	-337.25	-161.87	0.00	0.00	0.00	
8,100.00	0.00	0.00	8,075.24	158.99	-337.25	-161.87	0.00	0.00	0.00	
8,200.00	0.00	0.00	8,175.24	158.99	-337.25	-161.87	0.00	0.00	0.00	
8,300.00	0.00	0.00	8,275.24	158.99	-337.25	-161.87	0.00	0.00	0.00	
8,400.00	0.00	0.00	8,375.24	158.99	-337.25	-161.87	0.00	0.00	0.00	
8,500.00	0.00	0.00	8,475.24	158.99	-337.25	-161.87	0.00	0.00	0.00	
8,600.00	0.00	0.00	8,575.24	158.99	-337.25	-161.87	0.00	0.00	0.00	
8,700.00	0.00	0.00	8,675.24	158.99	-337.25	-161.87	0.00	0.00	0.00	
8,800.00	0.00	0.00	8,775.24	158.99	-337.25	-161.87	0.00	0.00	0.00	

Planning Report

Database:	LEAM Multi_User Db	Local Co-ordinate Reference:	Well Los Vaqueros Fed 442H
Company:	Earthstone Operating, LLC	TVD Reference:	GE 3183.53' + KB 27.5' @ 3211.03usft
Project:	Lea County, NM (NAD 27)	MD Reference:	GE 3183.53' + KB 27.5' @ 3211.03usft
Site:	Los Vaqueros Fed Pad	North Reference:	Grid
Well:	Los Vaqueros Fed 442H	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan #1		

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)	
8,900.00	0.00	0.00	8,875.24	158.99	-337.25	-161.87	0.00	0.00	0.00	
9,000.00	0.00	0.00	8,975.24	158.99	-337.25	-161.87	0.00	0.00	0.00	
9,100.00	0.00	0.00	9,075.24	158.99	-337.25	-161.87	0.00	0.00	0.00	
9,200.00	0.00	0.00	9,175.24	158.99	-337.25	-161.87	0.00	0.00	0.00	
9,300.00	0.00	0.00	9,275.24	158.99	-337.25	-161.87	0.00	0.00	0.00	
9,310.79	0.00	0.00	9,286.03	158.99	-337.25	-161.87	0.00	0.00	0.00	
Top BSPG Lime										
9,400.00	0.00	0.00	9,375.24	158.99	-337.25	-161.87	0.00	0.00	0.00	
9,500.00	0.00	0.00	9,475.24	158.99	-337.25	-161.87	0.00	0.00	0.00	
9,600.00	0.00	0.00	9,575.24	158.99	-337.25	-161.87	0.00	0.00	0.00	
9,700.00	0.00	0.00	9,675.24	158.99	-337.25	-161.87	0.00	0.00	0.00	
9,800.00	0.00	0.00	9,775.24	158.99	-337.25	-161.87	0.00	0.00	0.00	
9,900.00	0.00	0.00	9,875.24	158.99	-337.25	-161.87	0.00	0.00	0.00	
10,000.00	0.00	0.00	9,975.24	158.99	-337.25	-161.87	0.00	0.00	0.00	
10,100.00	0.00	0.00	10,075.24	158.99	-337.25	-161.87	0.00	0.00	0.00	
10,200.00	0.00	0.00	10,175.24	158.99	-337.25	-161.87	0.00	0.00	0.00	
10,300.00	0.00	0.00	10,275.24	158.99	-337.25	-161.87	0.00	0.00	0.00	
10,400.00	0.00	0.00	10,375.24	158.99	-337.25	-161.87	0.00	0.00	0.00	
10,500.00	0.00	0.00	10,475.24	158.99	-337.25	-161.87	0.00	0.00	0.00	
10,585.79	0.00	0.00	10,561.03	158.99	-337.25	-161.87	0.00	0.00	0.00	
1st BSPG Ss										
10,600.00	0.00	0.00	10,575.24	158.99	-337.25	-161.87	0.00	0.00	0.00	
10,700.00	0.00	0.00	10,675.24	158.99	-337.25	-161.87	0.00	0.00	0.00	
10,800.00	0.00	0.00	10,775.24	158.99	-337.25	-161.87	0.00	0.00	0.00	
10,805.79	0.00	0.00	10,781.03	158.99	-337.25	-161.87	0.00	0.00	0.00	
2nd BSPG Carb										
10,900.00	0.00	0.00	10,875.24	158.99	-337.25	-161.87	0.00	0.00	0.00	
11,000.00	0.00	0.00	10,975.24	158.99	-337.25	-161.87	0.00	0.00	0.00	
11,100.00	0.00	0.00	11,075.24	158.99	-337.25	-161.87	0.00	0.00	0.00	
11,130.79	0.00	0.00	11,106.03	158.99	-337.25	-161.87	0.00	0.00	0.00	
2nd BSPG Ss										
11,200.00	0.00	0.00	11,175.24	158.99	-337.25	-161.87	0.00	0.00	0.00	
11,300.00	0.00	0.00	11,275.24	158.99	-337.25	-161.87	0.00	0.00	0.00	
11,400.00	0.00	0.00	11,375.24	158.99	-337.25	-161.87	0.00	0.00	0.00	
11,500.00	0.00	0.00	11,475.24	158.99	-337.25	-161.87	0.00	0.00	0.00	
11,575.79	0.00	0.00	11,551.03	158.99	-337.25	-161.87	0.00	0.00	0.00	
3rd BSPG Carb										
11,600.00	0.00	0.00	11,575.24	158.99	-337.25	-161.87	0.00	0.00	0.00	
11,700.00	0.00	0.00	11,675.24	158.99	-337.25	-161.87	0.00	0.00	0.00	
11,800.00	0.00	0.00	11,775.24	158.99	-337.25	-161.87	0.00	0.00	0.00	
11,900.00	0.00	0.00	11,875.24	158.99	-337.25	-161.87	0.00	0.00	0.00	
12,000.00	0.00	0.00	11,975.24	158.99	-337.25	-161.87	0.00	0.00	0.00	
12,100.00	0.00	0.00	12,075.24	158.99	-337.25	-161.87	0.00	0.00	0.00	
12,152.80	0.00	0.00	12,128.04	158.99	-337.25	-161.87	0.00	0.00	0.00	
12,175.79	2.30	179.51	12,151.03	158.53	-337.24	-161.41	10.00	10.00	0.00	
3rd BSPG Ss										
12,200.00	4.72	179.51	12,175.19	157.05	-337.23	-159.93	10.00	10.00	0.00	
12,250.00	9.72	179.51	12,224.78	150.77	-337.18	-153.65	10.00	10.00	0.00	
12,300.00	14.72	179.51	12,273.63	140.19	-337.09	-143.07	10.00	10.00	0.00	
12,350.00	19.72	179.51	12,321.37	125.39	-336.96	-128.27	10.00	10.00	0.00	
12,400.00	24.72	179.51	12,367.65	106.49	-336.80	-109.37	10.00	10.00	0.00	
12,450.00	29.72	179.51	12,412.09	83.63	-336.60	-86.50	10.00	10.00	0.00	
12,500.00	34.72	179.51	12,454.38	56.98	-336.38	-59.85	10.00	10.00	0.00	

Planning Report

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Company:	Earthstone Operating, LLC	TVD Reference:	GE 3183.53' + KB 27.5' @ 3211.03usft
Project:	Lea County, NM (NAD 27)	MD Reference:	GE 3183.53' + KB 27.5' @ 3211.03usft
Site:	Los Vaqueros Fed Pad	North Reference:	Grid
Well:	Los Vaqueros Fed 442H	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan #1		

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)	
12,550.00	39.72	179.51	12,494.18	26.74	-336.12	-29.62	10.00	10.00	0.00	
12,600.00	44.72	179.51	12,531.20	-6.84	-335.83	3.97	10.00	10.00	0.00	
12,631.44	47.86	179.51	12,552.92	-29.57	-335.64	26.70	10.00	10.00	0.00	
FTP (LV Fed 442H)										
12,643.67	49.09	179.51	12,561.03	-38.72	-335.56	35.85	10.00	10.00	0.00	
Wolfcamp										
12,650.00	49.72	179.51	12,565.15	-43.53	-335.52	40.66	10.00	10.00	0.00	
12,700.00	54.72	179.51	12,595.77	-83.03	-335.19	80.16	10.00	10.00	0.00	
12,750.00	59.72	179.51	12,622.83	-125.06	-334.83	122.19	10.00	10.00	0.00	
12,800.00	64.72	179.51	12,646.13	-169.28	-334.45	166.41	10.00	10.00	0.00	
12,850.00	69.72	179.51	12,665.48	-215.36	-334.06	212.50	10.00	10.00	0.00	
12,900.00	74.72	179.51	12,680.74	-262.96	-333.66	260.10	10.00	10.00	0.00	
12,950.00	79.72	179.51	12,691.80	-311.70	-333.24	308.84	10.00	10.00	0.00	
13,000.00	84.72	179.51	12,698.57	-361.22	-332.82	358.37	10.00	10.00	0.00	
13,052.80	90.00	179.51	12,701.00	-413.94	-332.37	411.09	10.00	10.00	0.00	
13,100.00	90.00	179.51	12,701.00	-461.15	-331.97	458.29	0.00	0.00	0.00	
13,200.00	90.00	179.51	12,701.00	-561.14	-331.12	558.29	0.00	0.00	0.00	
13,300.00	90.00	179.51	12,701.00	-661.14	-330.27	658.29	0.00	0.00	0.00	
13,400.00	90.00	179.51	12,701.00	-761.14	-329.42	758.29	0.00	0.00	0.00	
13,500.00	90.00	179.51	12,701.00	-861.13	-328.57	858.29	0.00	0.00	0.00	
13,600.00	90.00	179.51	12,701.00	-961.13	-327.71	958.29	0.00	0.00	0.00	
13,700.00	90.00	179.51	12,701.00	-1,061.12	-326.86	1,058.29	0.00	0.00	0.00	
13,800.00	90.00	179.51	12,701.00	-1,161.12	-326.01	1,158.29	0.00	0.00	0.00	
13,900.00	90.00	179.51	12,701.00	-1,261.12	-325.16	1,258.29	0.00	0.00	0.00	
14,000.00	90.00	179.51	12,701.00	-1,361.11	-324.31	1,358.29	0.00	0.00	0.00	
14,100.00	90.00	179.51	12,701.00	-1,461.11	-323.46	1,458.29	0.00	0.00	0.00	
14,200.00	90.00	179.51	12,701.00	-1,561.11	-322.61	1,558.29	0.00	0.00	0.00	
14,300.00	90.00	179.51	12,701.00	-1,661.10	-321.76	1,658.29	0.00	0.00	0.00	
14,400.00	90.00	179.51	12,701.00	-1,761.10	-320.91	1,758.29	0.00	0.00	0.00	
14,500.00	90.00	179.51	12,701.00	-1,861.10	-320.06	1,858.29	0.00	0.00	0.00	
14,600.00	90.00	179.51	12,701.00	-1,961.09	-319.20	1,958.29	0.00	0.00	0.00	
14,700.00	90.00	179.51	12,701.00	-2,061.09	-318.35	2,058.29	0.00	0.00	0.00	
14,800.00	90.00	179.51	12,701.00	-2,161.08	-317.50	2,158.29	0.00	0.00	0.00	
14,900.00	90.00	179.51	12,701.00	-2,261.08	-316.65	2,258.29	0.00	0.00	0.00	
15,000.00	90.00	179.51	12,701.00	-2,361.08	-315.80	2,358.29	0.00	0.00	0.00	
15,100.00	90.00	179.51	12,701.00	-2,461.07	-314.95	2,458.29	0.00	0.00	0.00	
15,200.00	90.00	179.51	12,701.00	-2,561.07	-314.10	2,558.29	0.00	0.00	0.00	
15,300.00	90.00	179.51	12,701.00	-2,661.07	-313.25	2,658.29	0.00	0.00	0.00	
15,400.00	90.00	179.51	12,701.00	-2,761.06	-312.40	2,758.29	0.00	0.00	0.00	
15,500.00	90.00	179.51	12,701.00	-2,861.06	-311.55	2,858.29	0.00	0.00	0.00	
15,600.00	90.00	179.51	12,701.00	-2,961.06	-310.70	2,958.29	0.00	0.00	0.00	
15,700.00	90.00	179.51	12,701.00	-3,061.05	-309.84	3,058.29	0.00	0.00	0.00	
15,800.00	90.00	179.51	12,701.00	-3,161.05	-308.99	3,158.29	0.00	0.00	0.00	
15,900.00	90.00	179.51	12,701.00	-3,261.04	-308.14	3,258.29	0.00	0.00	0.00	
16,000.00	90.00	179.51	12,701.00	-3,361.04	-307.29	3,358.29	0.00	0.00	0.00	
16,100.00	90.00	179.51	12,701.00	-3,461.04	-306.44	3,458.29	0.00	0.00	0.00	
16,200.00	90.00	179.51	12,701.00	-3,561.03	-305.59	3,558.29	0.00	0.00	0.00	
16,300.00	90.00	179.51	12,701.00	-3,661.03	-304.74	3,658.29	0.00	0.00	0.00	
16,400.00	90.00	179.51	12,701.00	-3,761.03	-303.89	3,758.29	0.00	0.00	0.00	
16,500.00	90.00	179.51	12,701.00	-3,861.02	-303.04	3,858.29	0.00	0.00	0.00	
16,600.00	90.00	179.51	12,701.00	-3,961.02	-302.19	3,958.29	0.00	0.00	0.00	
16,700.00	90.00	179.51	12,701.00	-4,061.02	-301.33	4,058.29	0.00	0.00	0.00	
16,800.00	90.00	179.51	12,701.00	-4,161.01	-300.48	4,158.29	0.00	0.00	0.00	
16,900.00	90.00	179.51	12,701.00	-4,261.01	-299.63	4,258.29	0.00	0.00	0.00	

Planning Report

Database:	LEAM Multi_User Db	Local Co-ordinate Reference:	Well Los Vaqueros Fed 442H
Company:	Earthstone Operating, LLC	TVD Reference:	GE 3183.53' + KB 27.5' @ 3211.03usft
Project:	Lea County, NM (NAD 27)	MD Reference:	GE 3183.53' + KB 27.5' @ 3211.03usft
Site:	Los Vaqueros Fed Pad	North Reference:	Grid
Well:	Los Vaqueros Fed 442H	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan #1		

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)	
17,000.00	90.00	179.51	12,701.00	-4,361.01	-298.78	4,358.29	0.00	0.00	0.00	
17,100.00	90.00	179.51	12,701.00	-4,461.00	-297.93	4,458.29	0.00	0.00	0.00	
17,200.00	90.00	179.51	12,701.00	-4,561.00	-297.08	4,558.29	0.00	0.00	0.00	
17,300.00	90.00	179.51	12,701.00	-4,660.99	-296.23	4,658.29	0.00	0.00	0.00	
17,400.00	90.00	179.51	12,701.00	-4,760.99	-295.38	4,758.29	0.00	0.00	0.00	
17,500.00	90.00	179.51	12,701.00	-4,860.99	-294.53	4,858.29	0.00	0.00	0.00	
17,600.00	90.00	179.51	12,701.00	-4,960.98	-293.68	4,958.29	0.00	0.00	0.00	
17,700.00	90.00	179.51	12,701.00	-5,060.98	-292.83	5,058.29	0.00	0.00	0.00	
17,800.00	90.00	179.51	12,701.00	-5,160.98	-291.97	5,158.29	0.00	0.00	0.00	
17,900.00	90.00	179.51	12,701.00	-5,260.97	-291.12	5,258.29	0.00	0.00	0.00	
18,000.00	90.00	179.51	12,701.00	-5,360.97	-290.27	5,358.29	0.00	0.00	0.00	
18,100.00	90.00	179.51	12,701.00	-5,460.97	-289.42	5,458.29	0.00	0.00	0.00	
18,200.00	90.00	179.51	12,701.00	-5,560.96	-288.57	5,558.29	0.00	0.00	0.00	
18,300.00	90.00	179.51	12,701.00	-5,660.96	-287.72	5,658.29	0.00	0.00	0.00	
18,400.00	90.00	179.51	12,701.00	-5,760.95	-286.87	5,758.29	0.00	0.00	0.00	
18,500.00	90.00	179.51	12,701.00	-5,860.95	-286.02	5,858.29	0.00	0.00	0.00	
18,600.00	90.00	179.51	12,701.00	-5,960.95	-285.17	5,958.29	0.00	0.00	0.00	
18,700.00	90.00	179.51	12,701.00	-6,060.94	-284.32	6,058.29	0.00	0.00	0.00	
18,800.00	90.00	179.51	12,701.00	-6,160.94	-283.47	6,158.29	0.00	0.00	0.00	
18,900.00	90.00	179.51	12,701.00	-6,260.94	-282.61	6,258.29	0.00	0.00	0.00	
19,000.00	90.00	179.51	12,701.00	-6,360.93	-281.76	6,358.29	0.00	0.00	0.00	
19,100.00	90.00	179.51	12,701.00	-6,460.93	-280.91	6,458.29	0.00	0.00	0.00	
19,200.00	90.00	179.51	12,701.00	-6,560.93	-280.06	6,558.29	0.00	0.00	0.00	
19,300.00	90.00	179.51	12,701.00	-6,660.92	-279.21	6,658.29	0.00	0.00	0.00	
19,400.00	90.00	179.51	12,701.00	-6,760.92	-278.36	6,758.29	0.00	0.00	0.00	
19,500.00	90.00	179.51	12,701.00	-6,860.91	-277.51	6,858.29	0.00	0.00	0.00	
19,600.00	90.00	179.51	12,701.00	-6,960.91	-276.66	6,958.29	0.00	0.00	0.00	
19,700.00	90.00	179.51	12,701.00	-7,060.91	-275.81	7,058.29	0.00	0.00	0.00	
19,800.00	90.00	179.51	12,701.00	-7,160.90	-274.96	7,158.29	0.00	0.00	0.00	
19,900.00	90.00	179.51	12,701.00	-7,260.90	-274.10	7,258.29	0.00	0.00	0.00	
20,000.00	90.00	179.51	12,701.00	-7,360.90	-273.25	7,358.29	0.00	0.00	0.00	
20,100.00	90.00	179.51	12,701.00	-7,460.89	-272.40	7,458.29	0.00	0.00	0.00	
20,169.04	90.00	179.51	12,701.00	-7,529.93	-271.82	7,527.33	0.00	0.00	0.00	
SLC (LV Fed 422H)										
20,200.00	90.00	179.51	12,701.00	-7,560.89	-271.55	7,558.29	0.00	0.00	0.00	
20,300.00	90.00	179.51	12,701.00	-7,660.89	-270.70	7,658.29	0.00	0.00	0.00	
20,400.00	90.00	179.51	12,701.00	-7,760.88	-269.85	7,758.29	0.00	0.00	0.00	
20,500.00	90.00	179.51	12,701.00	-7,860.88	-269.00	7,858.29	0.00	0.00	0.00	
20,600.00	90.00	179.51	12,701.00	-7,960.87	-268.15	7,958.29	0.00	0.00	0.00	
20,700.00	90.00	179.51	12,701.00	-8,060.87	-267.30	8,058.29	0.00	0.00	0.00	
20,800.00	90.00	179.51	12,701.00	-8,160.87	-266.45	8,158.29	0.00	0.00	0.00	
20,900.00	90.00	179.51	12,701.00	-8,260.86	-265.60	8,258.29	0.00	0.00	0.00	
21,000.00	90.00	179.51	12,701.00	-8,360.86	-264.74	8,358.29	0.00	0.00	0.00	
21,100.00	90.00	179.51	12,701.00	-8,460.86	-263.89	8,458.29	0.00	0.00	0.00	
21,200.00	90.00	179.51	12,701.00	-8,560.85	-263.04	8,558.29	0.00	0.00	0.00	
21,300.00	90.00	179.51	12,701.00	-8,660.85	-262.19	8,658.29	0.00	0.00	0.00	
21,400.00	90.00	179.51	12,701.00	-8,760.85	-261.34	8,758.29	0.00	0.00	0.00	
21,500.00	90.00	179.51	12,701.00	-8,860.84	-260.49	8,858.29	0.00	0.00	0.00	
21,600.00	90.00	179.51	12,701.00	-8,960.84	-259.64	8,958.29	0.00	0.00	0.00	
21,700.00	90.00	179.51	12,701.00	-9,060.84	-258.79	9,058.29	0.00	0.00	0.00	
21,800.00	90.00	179.51	12,701.00	-9,160.83	-257.94	9,158.29	0.00	0.00	0.00	
21,900.00	90.00	179.51	12,701.00	-9,260.83	-257.09	9,258.29	0.00	0.00	0.00	
22,000.00	90.00	179.51	12,701.00	-9,360.82	-256.23	9,358.29	0.00	0.00	0.00	
22,100.00	90.00	179.51	12,701.00	-9,460.82	-255.38	9,458.29	0.00	0.00	0.00	

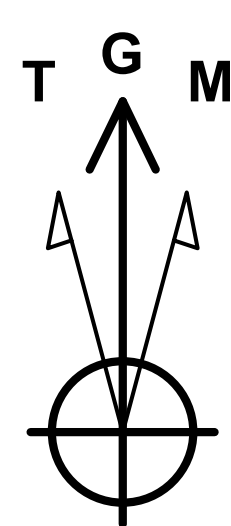
Planning Report

Database:	LEAM Multi_User Db	Local Co-ordinate Reference:	Well Los Vaqueros Fed 442H
Company:	Earthstone Operating, LLC	TVD Reference:	GE 3183.53' + KB 27.5' @ 3211.03usft
Project:	Lea County, NM (NAD 27)	MD Reference:	GE 3183.53' + KB 27.5' @ 3211.03usft
Site:	Los Vaqueros Fed Pad	North Reference:	Grid
Well:	Los Vaqueros Fed 442H	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan #1		

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)
22,200.00	90.00	179.51	12,701.00	-9,560.82	-254.53	9,558.29	0.00	0.00	0.00
22,300.00	90.00	179.51	12,701.00	-9,660.81	-253.68	9,658.29	0.00	0.00	0.00
22,400.00	90.00	179.51	12,701.00	-9,760.81	-252.83	9,758.29	0.00	0.00	0.00
22,500.00	90.00	179.51	12,701.00	-9,860.81	-251.98	9,858.29	0.00	0.00	0.00
22,600.00	90.00	179.51	12,701.00	-9,960.80	-251.13	9,958.29	0.00	0.00	0.00
22,700.00	90.00	179.51	12,701.00	-10,060.80	-250.28	10,058.29	0.00	0.00	0.00
22,800.00	90.00	179.51	12,701.00	-10,160.80	-249.43	10,158.29	0.00	0.00	0.00
22,878.09	90.00	179.51	12,701.00	-10,238.89	-248.76	10,236.38	0.00	0.00	0.00
LTP (LV Fed 422H)									
22,900.00	90.00	179.51	12,701.00	-10,260.79	-248.58	10,258.29	0.00	0.00	0.00
23,000.00	90.00	179.51	12,701.00	-10,360.79	-247.73	10,358.29	0.00	0.00	0.00
23,041.54	90.00	179.51	12,701.00	-10,402.33	-247.37	10,399.83	0.00	0.00	0.00
PBHL (LV Fed 422H)									

Formations						
Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)	
1,046.03	1,046.03	Rustler				
1,481.03	1,481.03	Salado				
5,072.47	5,051.03	Base Salt				
5,385.27	5,361.03	Lamar				
5,400.34	5,376.03	Bell Canyon				
6,410.79	6,386.03	Cherry Canyon				
7,895.79	7,871.03	Brushy Canyon				
9,310.79	9,286.03	Top BSPG Lime				
10,585.79	10,561.03	1st BSPG Ss				
10,805.79	10,781.03	2nd BSPG Carb				
11,130.79	11,106.03	2nd BSPG Ss				
11,575.79	11,551.03	3rd BSPG Carb				
12,175.79	12,151.03	3rd BSPG Ss				
12,643.67	12,561.03	Wolfcamp				

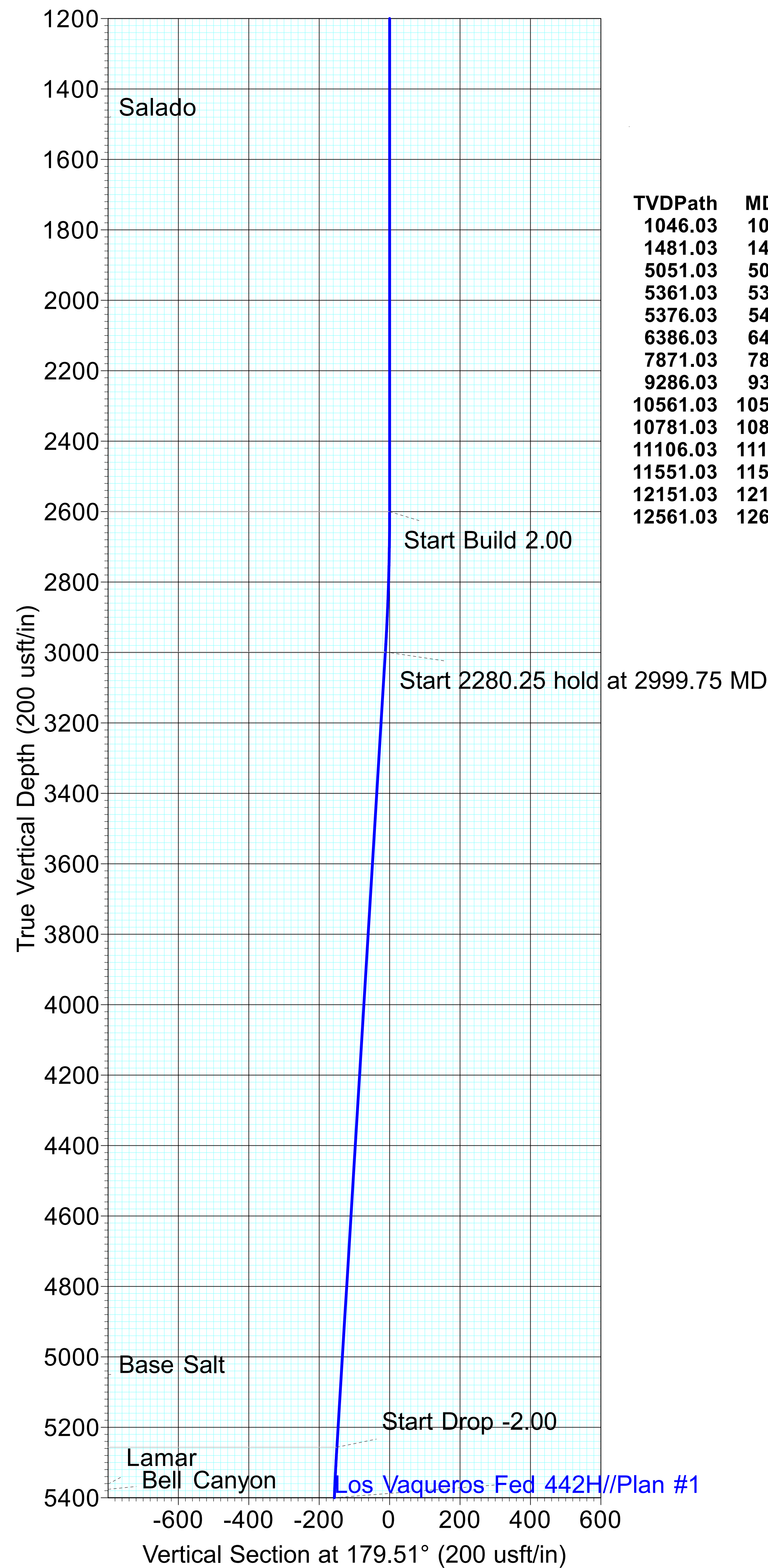
Project: Lea County, NM (NAD 27)
Site: Los Vaqueros Fed Pad
Well: Los Vaqueros Fed 442H
Wellbore: OH
Design: Plan #1



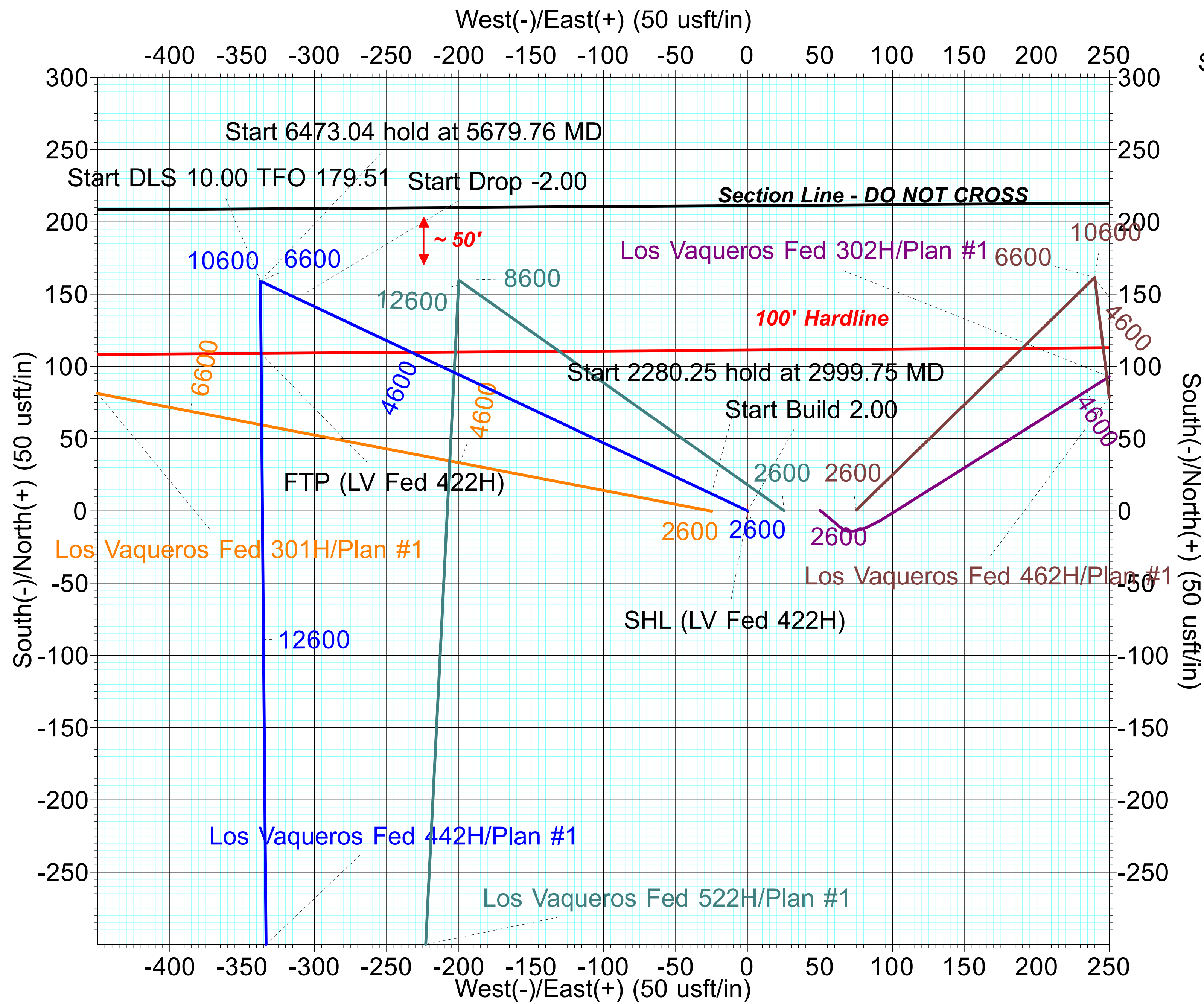
Azimuths to Grid North
True North: -0.49°
Magnetic North: 5.71°

Magnetic Field
Strength: 47224.5nT
Dip Angle: 59.55°
Date: 5/13/2023
Model: HDGM FILE

Geodetic System: US State Plane 1927 (Exact solution)
Datum: NAD 1927 (NADCON CONUS)
Ellipsoid: Clarke 1866
Zone: New Mexico East 3001
Referenced TVD: GE 3183.53' + KB 27.5' @ 3211.03usft

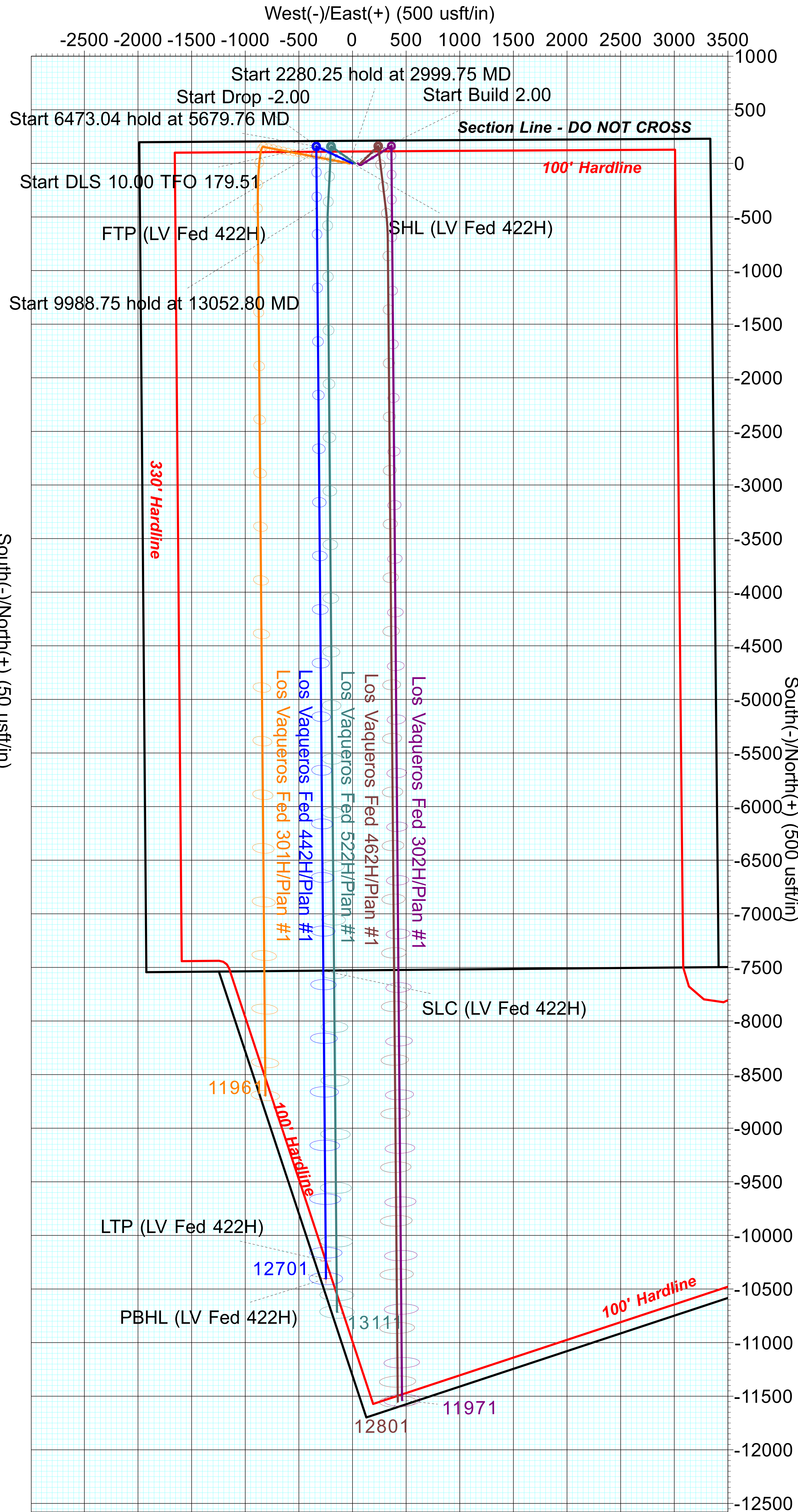
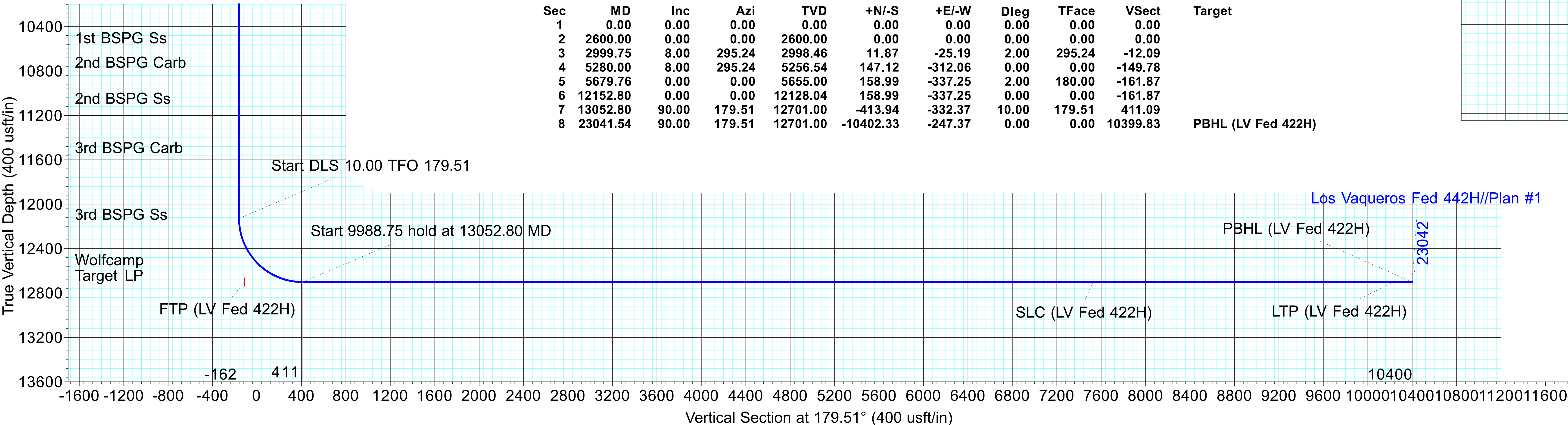


FORMATION TOP DETAILS		
TVPdPath	MDPPath	Formation
1046.03	1046.03	Rustler
1481.03	1481.03	Salado
5051.03	5072.47	Base Salt
5361.03	5385.27	Lamar
5376.03	5400.34	Bell Canyon
6386.03	6410.79	Cherry Canyon
7871.03	7895.79	Brushy Canyon
9286.03	9310.79	Top BSPG Lime
10561.03	10585.79	1st BSPG Ss
10781.03	10805.79	2nd BSPG Carb
11106.03	11130.79	2nd BSPG Ss
11551.03	11575.79	3rd BSPG Carb
12151.03	12175.79	3rd BSPG Ss
12561.03	12643.67	Wolfcamp



DESIGN TARGET DETAILS							
Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
SHL (LV Fed 422H)	0.00	0.00	0.00	372540.54	786711.05	32° 1' 15.08 N	103° 24' 29.71 W
FTP (LV Fed 422H)	12701.00	108.98	-336.82	372649.52	786374.23	32° 1' 16.18 N	103° 24' 33.61 W
LTP (LV Fed 422H)	12701.00	-10238.89	-248.76	362301.65	786462.29	31° 59' 33.78 N	103° 24' 33.61 W
PBHL (LV Fed 422H)	12701.00	-10402.33	-247.37	362138.21	786463.68	31° 59' 32.16 N	103° 24' 33.61 W
SLC (LV Fed 422H)	12701.00	-7529.93	-271.72	365010.61	786439.33	32° 0' 0.59 N	103° 24' 33.61 W

SECTION DETAILS										
Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSect	Target
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
2	2600.00	0.00	0.00	2600.00	0.00	0.00	0.00	0.00	0.00	
3	2999.75	8.00	295.24	2998.46	11.87	-25.19	2.00	295.24	-12.09	
4	5280.00	8.00	295.24	5256.54	147.12	-312.06	0.00	0.00	-149.78	
5	5679.76	0.00	0.00	5655.00	158.99	-337.25	2.00	180.00	-161.87	
6	12152.80	0.00	0.00	12128.04	158.99	-337.25	0.00	0.00	-161.87	
7	13052.80	90.00	179.51	12701.00	-413.94	-332.37	10.00	179.51	411.09	
8	23041.54	90.00	179.51	12701.00	-10402.33	-247.37	0.00	0.00	10399.83	PBHL (LV Fed 422H)



Plan: Plan #1 (Los Vaqueros Fed 442H/OH)
Created By: Pete Broussard
Date: 13:25, April 13 2023

Connection Data Sheet

OD (in.)	WEIGHT (lbs./ft.)	WALL (in.)	GRADE	DRIFT (in.)	RBW%	CONNECTION
5.000	Nominal: 18.00 Plain End: 17.95	0.362	VST P110 EC	4.151	87.5	DWC/C-IS PLUS

PIPE PROPERTIES

Nominal OD	5.000	in.
Nominal ID	4.276	in.
Nominal Area	5.275	sq.in.
Grade Type	API 5CT	
Min. Yield Strength	125	ksi
Max. Yield Strength	140	ksi
Min. Tensile Strength	135	ksi
Yield Strength	659	klb
Ultimate Strength	712	klb
Min. Internal Yield	15,840	psi
High Collapse	14,820	psi

CONNECTION PROPERTIES

Connection Type	Semi-Premium T&C	
Connection OD (nom)	5.800	in.
Connection ID (nom)	4.276	in.
Make-Up Loss	4.063	in.
Coupling Length	9.125	in.
Critical Cross Section	5.275	sq.in.
Tension Efficiency	100.0%	of pipe
Compression Efficiency	100.0%	of pipe
Internal Pressure Efficiency	100.0%	of pipe
External Pressure Efficiency	100.0%	of pipe

CONNECTION PERFORMANCES

Yield Strength	659	klb
Parting Load	712	klb
Compression Rating	659	klb
Min. Internal Yield	15,840	psi
High Collapse	14,820	psi
Maximum Uniaxial Bend Rating	114.6	°/100 ft
Ref String Length w 1.4 Design Factor	26,150	ft

FIELD TORQUE VALUES

Min. Make-up Torque	14,500	ft.lbs
Opti. Make-up Torque	15,500	ft.lbs
Max. Make-up Torque	16,500	ft.lbs
Min. Shoulder Torque	1,450	ft.lbs
Max. Shoulder Torque	11,600	ft.lbs
Max. Delta Turn	0.200	Turns
Max Operational Torque	18,600	ft.lbs
Maximum Torsional Value (MTV)	20,460	ft.lbs

For detailed information on performance properties, refer to DWC Connection Data Notes on following page(s).

Connection specifications within the control of VAM USA were correct as of the date printed. Specifications are subject to change without notice. Certain connection specifications are dependent on the mechanical properties of the pipe. Mechanical properties of mill proprietary pipe grades were obtained from mill publications and are subject to change. Properties of mill proprietary grades should be confirmed with the mill. Users are advised to obtain current connection specifications and verify pipe mechanical properties for each application.

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06/18/2021 11:13 AM



VAM USA
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DWC Connection Data Notes:

1. DWC connections are available with a seal ring (SR) option.
2. All standard DWC/C connections are interchangeable for a given pipe OD. DWC connections are interchangeable with DWC/C-SR connections of the same OD and wall.
3. Connection performance properties are based on nominal pipe body and connection dimensions.
4. DWC connection internal and external pressure resistance is calculated using the API rating for buttress connections. API Internal pressure resistance is calculated from formulas 31, 32, and 35 in the API Bulletin 5C3.
5. DWC joint strength is the minimum pipe body yield strength multiplied by the connection critical area.
6. API joint strength is for reference only. It is calculated from formulas 42 and 43 in the API Bulletin 5C3.
7. Bending efficiency is equal to the compression efficiency.
8. The torque values listed are recommended. The actual torque required may be affected by field conditions such as temperature, thread compound, speed of make-up, weather conditions, etc.
9. Connection yield torque is not to be exceeded.
10. Reference string length is calculated by dividing the joint strength by both the nominal weight in air and a design factor (DF) of 1.4. These values are offered for reference only and do not include load factors such as bending, buoyancy, temperature, load dynamics, etc.
11. DWC connections will accommodate API standard drift diameters.
12. DWC/C family of connections are compatible with API Buttress BTC connections. Please contact tech.support@vam-usa.com for details on connection ratings and make-up.

Connection specifications within the control of VAM USA were correct as of the date printed. Specifications are subject to change without notice. Certain connection specifications are dependent on the mechanical properties of the pipe. Mechanical properties of mill proprietary pipe grades were obtained from mill publications and are subject to change. Properties of mill proprietary grades should be confirmed with the mill. Users are advised to obtain current connection specifications and verify pipe mechanical properties for each application.

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1. Geologic Formations

TVD of target	12,701' EOL	Kick Off Point	12,152'
MD at TD:	23,041'	Deepest expected fresh water:	400'

Formation	Depth (TVD) from KB	Water/Mineral Bearing/ Target Zone?	Hazards*
Quaternary Fill	Surface	Water	
Rustler	1040	Water	
Top of Salt	1500	Salt	
Base of Salt	5009	Salt	
Lamar	5334	Salt Water	
Delaware	5378	Water	
Bone Spring Lime	9274	Oil/Gas	
1st BSPG Ss	10600	Oil/Gas	
2nd BSPG Ss	11062	Oil/Gas	
3rd BSPG Ss	12142	Oil/Gas	
Wolfcamp	12520	Oil/Gas	
Wolfcamp X Sand	12554	Oil/Gas	
Wolfcamp Y Sand	12627	Oil/Gas	
Wolfcamp A	12659	Target Oil/Gas	
Wolfcamp B	12976	Not Penetrated	

2. Casing Program

Hole Size	Casing Interval		Csg. Size	Weight (lbs)	Grade	Conn.	SF Collapse	SF Burst	SF Body Tension	SF Joint Tension
	From	To								
14.5"	0	1090	10.75"	45.5	J55	BTC	6.15	9.18	14.42	16.05
9.875"	0	12000	7.625"	29.7	L80 HC	BTC	1.49	1.65	1.92	1.92
7.875"	0	11500	5.5"	23	P110 HC	GBCD	2.38	1.99	2.76	2.87
6.75"	11500	23,041	5."	18	P110 EC	DWC/C-IS Plus	1.73	2.17	2.49	2.88
BLM Minimum Safety Factor							1.125	1	1.6 Dry 1.8 Wet	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

The 5-1/2" casing will be run back 500' into the intermediate casing to ensure the coupling OD clearance is greater than .422" for cement bond tie in.

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	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.	Y
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?	N
If yes, does production casing cement tie back a minimum of 50' above the Reef?	
Is well within the designated 4 string boundary?	
Is well located in SOPA but not in R-111-P?	N
If yes, are the first 2 strings cemented to surface and 3 rd string cement tied back 500' into previous casing?	
Is well located in R-111-P and SOPA?	N
If yes, are the first three strings cemented to surface?	
Is 2 nd string set 100' to 600' below the base of salt?	
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?	

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3. Cementing Program

Casing	# Sk	Wt. lb/ gal	Yld ft ³ / sack	H ₂ O gal/sk	500# Comp. Strength (hours)	Slurry Description
Surface	290	12.5	1.83	9	12	Lead: Class C + 4% Gel + 1% CaCl ₂
	290	14.8	1.34	6.34	8	Tail: Class C + 2% CaCl ₂
Intermediate	990	10.3	3.65	9.6	16	Lead: 35:65:6 C Blend
	130	16.4	1.27	6.34	8	Tail: Class H
Production	320	12.7	2.13	19	72	Lead: 50:50:10 H Blend
	2690	14.5	1.24	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.

If losses are encountered in the intermediate section a DV/ECP tool will be run ~50' above the Lamar Lime Top, cement will be adjusted accordingly if this contingency is necessary.

Casing String	TOC Tail	TOC Lead	% Excess
Surface	590	0	50%
1 st Intermediate	11500	0'	50%
Production	12,000'	4,834'	35% OH in Lateral (KOP to EOL) – 40% OH in Vertical

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4. Pressure Control Equipment

N	A variance is requested for the use of a diverter on the surface casing. See attached for schematic.
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BOP installed and tested before drilling which hole?	Size?	Min. Required WP	Type	x	Tested to:
9.875	11"	3M	Annular	x	2000 psi
			Blind Ram	x	3M
			Pipe Ram	x	
			Double Ram		
			Other*		
6-3/4"	11"	10M	Annular	x	5000 psi
			Blind Ram	x	10M
			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.

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5. Mud Program

Depth		Type	Weight (ppg)	Viscosity	Water Loss
From	To				
Surface	10-3/4" Shoe	FW Gel	8.6 - 8.8	28-34	N/C
10-3/4" Shoe	7-5/8" Int shoe	Saturated Brine	8.8 - 9.5	28-34	N/C
7-5/8" Int shoe	Lateral TD	OBM	12.5 - 13	45 - 65	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
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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	

Earthstone Operating LLC - Los Vaqueros Fed 442H**7. Drilling Conditions**

Condition	Specify what type and where?
BH Pressure at deepest TVD	8590 psi at 12701' TVD
Abnormal Temperature	NO 180 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?
Y	Is casing pre-set?

x	H ₂ S Plan.
x	BOP & Choke Schematics.
x	Directional Plan

District I
1625 N. French Dr., Hobbs, NM 88240
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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 260521

CONDITIONS

Operator: Earthstone Operating, LLC 1400 Woodloch Forest; Ste 300 The Woodlands, TX 77380	OGRID: 331165
	Action Number: 260521
	Action Type: [C-103] NOI Change of Plans (C-103A)

CONDITIONS

Created By	Condition	Condition Date
pkautz	None	10/2/2023