

Well Name: CAVE LION FEDERAL 26 35 5 WA	Well Location: T26S / R35E / SEC 5 / SESE / 32.0663116 / -103.3847721	County or Parish/State: LEA / NM
Well Number: 15H	Type of Well: OIL WELL	Allottee or Tribe Name:
Lease Number: NMNM013647, NMNM13647	Unit or CA Name:	Unit or CA Number:
US Well Number: 3002545424	Well Status: Approved Application for Permit to Drill	Operator: MARATHON OIL PERMIAN LLC

FINAL_RD_PLAT_CAVE_LION_5_FEDERAL_NM_LE_0002.00060_REV4_Prop_Ls_Rd_Eas_BLM_Cert_10.2 7.20_20210330173515.pdf

FINAL_RD_PLAT_CAVE_LION_5_FEDERAL_NM_LE_0002.00160_REV3_Prop_Ls_Rd_Eas_BLM_Cert_10.2 7.20_20210330173515.pdf

Operator Certification

I certify that the foregoing is true and correct. 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. Electronic submission of Sundry Notices through this system satisfies regulations requiring a submission of Form 3160-5 or a Sundry Notice.

Operator Electronic Signature: MELISSA SZUDERA	Signed on: MAR 30, 2021 05:35 PM
Name: MARATHON OIL PERMIAN LLC	
Title: REGULATORY COMPLIANCE REPRESENTATIVE	
Street Address: 5555 San Felipe St.	
City: Houston	State: TX
Phone: (713) 296-3179	
Email address: mszudera@marathonoil.com	

Field Representative

Representative Name:		
Street Address:		
City:	State:	Zip:
Phone:		
Email address:		

BLM Point of Contact

BLM POC Name: Cody Layton	BLM POC Title: Assistant Field Manager Lands & Minerals
BLM POC Phone: 5752345959	BLM POC Email Address: clayton@blm.gov
Disposition: Approved	Disposition Date: 07/14/2021
Signature: Cody R. Layton	

District I
1625 N. French Dr., Hobbs, NM 88240
Phone: (575) 393-6161 Fax: (575) 393-0720
District II
811 S. First St., Artesia, NM 88210
Phone: (575) 748-1283 Fax: (575) 748-9720
District III
1000 Rio Brazos Road, Aztec, NM 87410
Phone: (505) 334-6178 Fax: (505) 334-6170
District IV
1220 S. St. Francis Dr., Santa Fe, NM 87505
Phone: (505) 476-3460 Fax: (505) 476-3462

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

Form C-102
Revised August 1, 2011
Submit one copy to appropriate
District Office

☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

¹ API Number 3002545424	² Pool Code 97088	³ Pool Name WC-025 G-08 S2535340; BONE SPRING
⁴ Property Code	⁵ Property Name CAVE LION 5 TB FEDERAL	⁶ Well Number 15H
⁷ OGRID No. 372098	⁸ Operator Name MARATHON OIL PERMIAN LLC	⁹ Elevation 3228'

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
P	5	26S	35E		450	SOUTH	1268	EAST	LEA

¹¹ Bottom Hole Location If Different From Surface

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
B	5	26S	35E		100	NORTH	1485	EAST	LEA

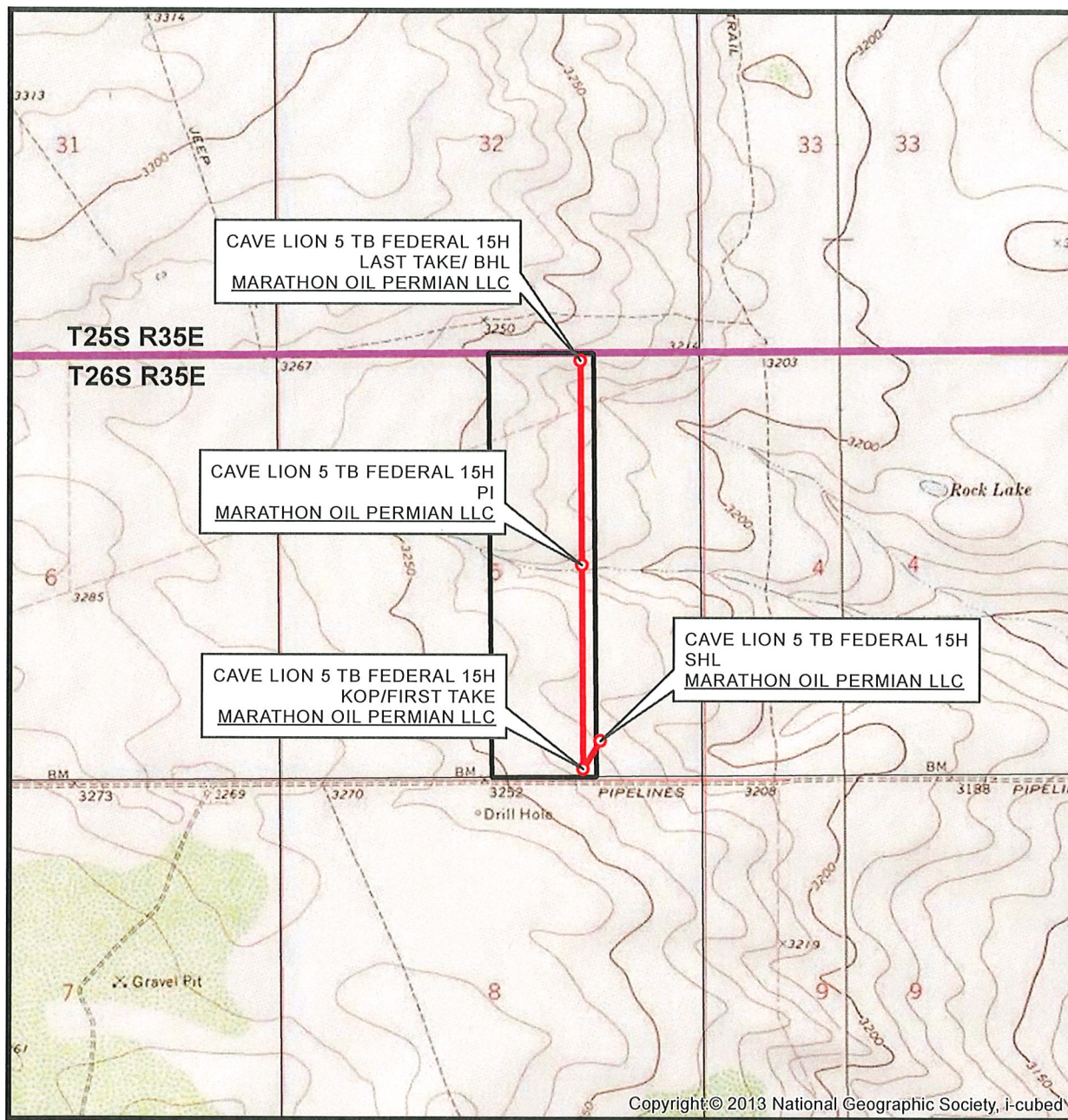
¹² Dedicated Acres 160.0	¹³ Joint or Infill	¹⁴ Consolidation Code	¹⁵ Order No.
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No allowable will be assigned to this completion until all interests have been consolidated or a non-standard unit has been approved by the division.

Defining Well CORNER COORDINATES NAD 83, SPCS NM EAST A - X: 833719.73' / Y: 388693.48' B - X: 833691.73' / Y: 391333.75' C - X: 833663.69' / Y: 393977.99' D - X: 834984.08' / Y: 393986.54' E - X: 835012.04' / Y: 391342.22' F - X: 835038.03' / Y: 388702.32' CORNER COORDINATES NAD 27, SPCS NM EAST A - X: 792532.07' / Y: 388635.88' B - X: 792504.19' / Y: 391276.08' C - X: 792476.27' / Y: 393920.25' D - X: 793796.64' / Y: 393928.78' E - X: 793824.48' / Y: 391284.54' F - X: 793850.36' / Y: 388644.71' LAST TAKE POINT/BOTTOM HOLE LOCATION 100' FNL 1485' FEL, SECTION 5 NAD 83, SPCS NM EAST X: 834820.54' / Y: 393885.47' LAT: 32.07932756N / LON: 103.38577962W NAD 27, SPCS NM EAST X: 793633.10' / Y: 393827.73' LAT: 32.07920127N / LON: 103.38531673W KICK OFF POINT/FIRST TAKE POINT 100' FSL 1485' FEL, SECTION 5 NAD 83, SPCS NM EAST X: 834870.45' / Y: 388801.20' LAT: 32.06535174N / LON: 103.38576266W NAD 27, SPCS NM EAST X: 793682.79' / Y: 388743.59' LAT: 32.06522538N / LON: 103.38530055W SURFACE HOLE LOCATION 450' FSL 1268' FEL, SECTION 5 NAD 83, SPCS NM EAST X: 835084.28' / Y: 389152.58' LAT: 32.06631239N / LON: 103.38506250W NAD 27, SPCS NM EAST X: 793896.63' / Y: 389094.96' LAT: 32.06618603N / LON: 103.38460036W SHEET 1 OF 3 JOB No. R3757_006 REV 7 WHM 10/9/2020	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: 10/27/2020 Printed Name: Melissa Szudera E-mail Address: mszudera@marathonoil.com 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. OCTOBER 27, 2020 Date of Survey Signature and Seal of Professional Surveyor: DAVID W. MYERS 11403 PROFESSIONAL SURVEYOR Certificate Number: DAVID W. MYERS 11403
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Distances/areas relative to NAD 83 Combined Scale Factor: 0.99985058 Convergence Angle: 00°29'34.80475"

LOCATION VERIFICATION MAP



SEC. 5 TWP. 26-S RGE. 35-E
 SURVEY: N.M.P.M.
 COUNTY: LEA
 OPERATOR: MARATHON OIL PERMIAN LLC
 DESCRIPTION: 450' FSL & 1268' FEL
 ELEVATION: 3228'
 LEASE: CAVE LION 5 FEDERAL
 U.S.G.S. TOPOGRAPHIC MAP: ANDREWS PLACE, NM, TX.

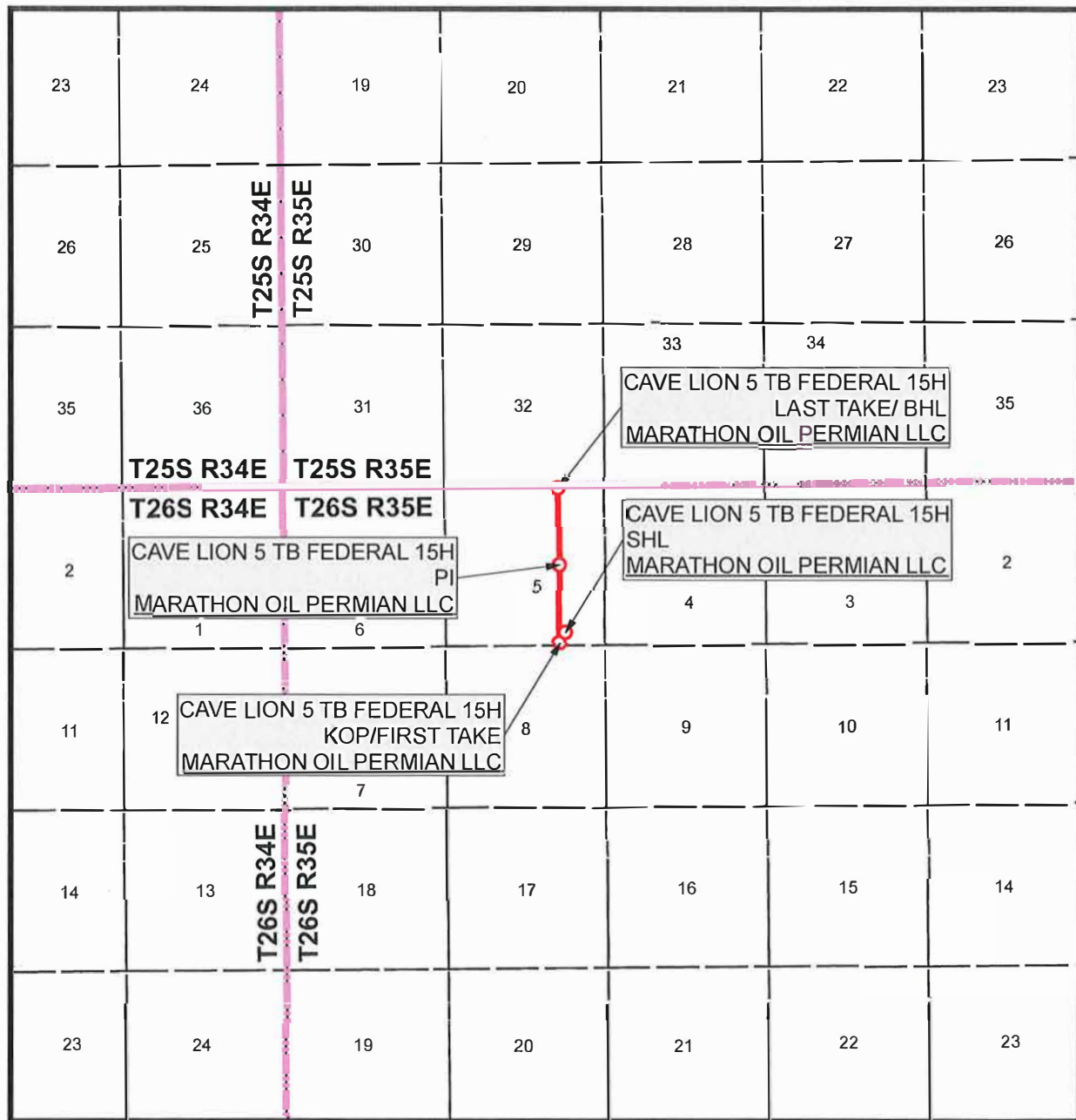
1" = 2,000'
 CONTOUR INTERVAL = 10'



SHEET 2 OF 3

PREPARED BY:
 R-SQUARED GLOBAL, LLC
 1309 LOUISVILLE AVENUE, MONROE, LA 71201
 318-323-6900 OFFICE
 JOB No. R3767_006

VICINITY MAP



SEC. 5 TWP. 26-S RGE. 35-E
 SURVEY: N.M.P.M.
 COUNTY: LEA
 OPERATOR: MARATHON OIL PERMIAN LLC
 DESCRIPTION: 450' FSL & 1268' FEL
 ELEVATION: 3228'
 LEASE: CAVE LION 5 FEDERAL
 U.S.G.S. TOPOGRAPHIC MAP: ANDREWS PLACE, NM, TX.

1" = 1 MILE



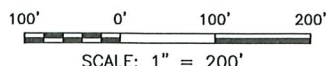
SHEET 3 OF 3

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 1309 LOUISVILLE AVENUE, MONROE, LA 71201
 318-323-6900 OFFICE
 JOB No. R3757_006

WELL PAD EXISTING TOPO

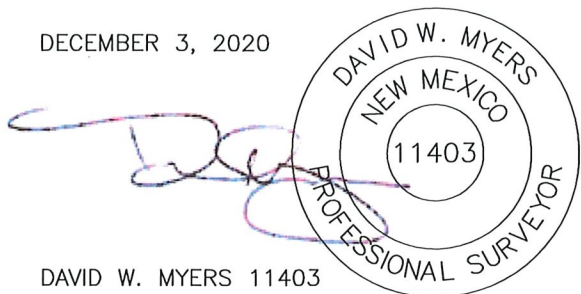
CAVE LION 5 FEDERAL
SEC. 5, TWP. 26-S RGE. 35-E
SURVEY: N.M.P.M.
COUNTY: LEA

OPERATOR: MARATHON OIL PERMIAN LLC
U.S.G.S. TOPOGRAPHIC MAP: ANDREWS PLACE, N.M.



- A. CAVE LION 5 TB FEDERAL 15H
B. CAVE LION 5 TB FEDERAL 12H
C. CAVE LION 5 TB FEDERAL 14H
D. CAVE LION 5 WXY FEDERAL 18H

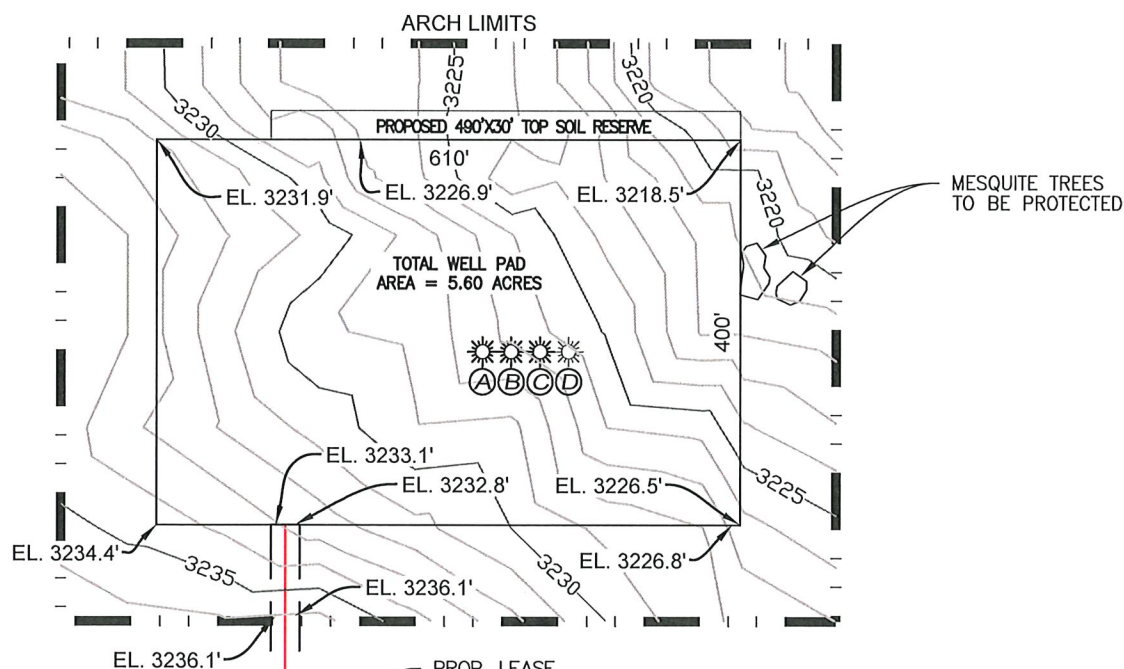
DECEMBER 3, 2020



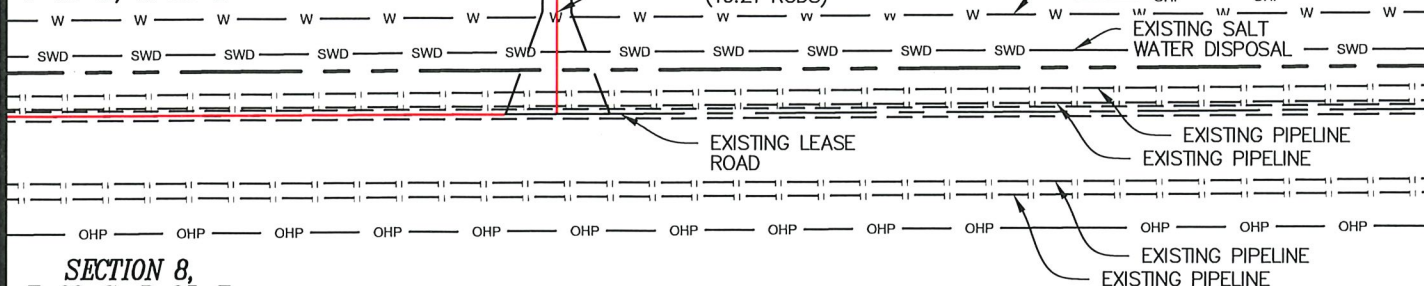
I HEREBY CERTIFY THAT THE DIMENSIONS, EXISTING ELEVATIONS AND AREAS SHOWN HEREIN ARE BASED ON RECENT GROUND SURVEYS PERFORMED BY ME OR UNDER MY SUPERVISION RELATIVE TO ENGINEERING DESIGN DATA PROVIDED PREVIOUSLY BY OTHERS. NO WARRANTY IS EXPRESSED HEREIN REGARDING THE ENGINEERING DESIGN DATA PROVIDED.



DAVID W. MYERS 11403



SECTION 5,
T-26-S, R-35-E



SECTION 8,
T-26-S, R-35-E

REV 6	12/03/2020	MWS
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LEGEND

PROPOSED PAD SURFACE
ARCH SURVEY LIMITS
PROPOSED LEASE ROAD
EXIST. 1' CONTOUR LINES
EXIST. 5' CONTOUR LINES
WATER LINE

The plan view map displays several key features:

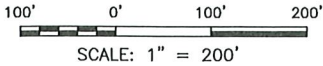
- PIPELINE**: Indicated by a dashed line at the top.
- SALT WATER DISPOSAL**: Labeled as "SWD" near the pipeline.
- PROPERTY LINE**: Shown as a solid black line.
- PROPOSED 1' CONTOUR LINES**: Represented by blue lines.
- PROPOSED 5' CONTOUR LINES**: Represented by pink lines.
- EROSION CONTROL FENCE**: Labeled as "ECF" near the bottom right.
- OVERHEAD POWER**: Labeled as "OHP" near the bottom center.
- FENCE**: Indicated by 'x' marks at the bottom corners.

SHEET 1 OF 5
PREPARED BY:
R-SQUARED GLOBAL, LLC
1309 LOUISVILLE AVENUE, MONROE, LA 71201
318-323-6900 OFFICE
JOB No. R3757 006

WELL PAD CONTOURS

CAVE LION 5 FEDERAL
SEC. 5, TWP. 26-S RGE. 35-E
SURVEY: N.M.P.M.
COUNTY: LEA

OPERATOR: MARATHON OIL PERMIAN LLC
U.S.G.S. TOPOGRAPHIC MAP: ANDREWS PLACE, N.M.



- A. CAVE LION 5 TB FEDERAL 15H
- B. CAVE LION 5 TB FEDERAL 12H
- C. CAVE LION 5 TB FEDERAL 14H
- D. CAVE LION 5 WXY FEDERAL 18H

TOTAL CUT VOLUME: 15,546.50 cu yd
TOTAL FILL VOLUME: 15,394.01 cu yd

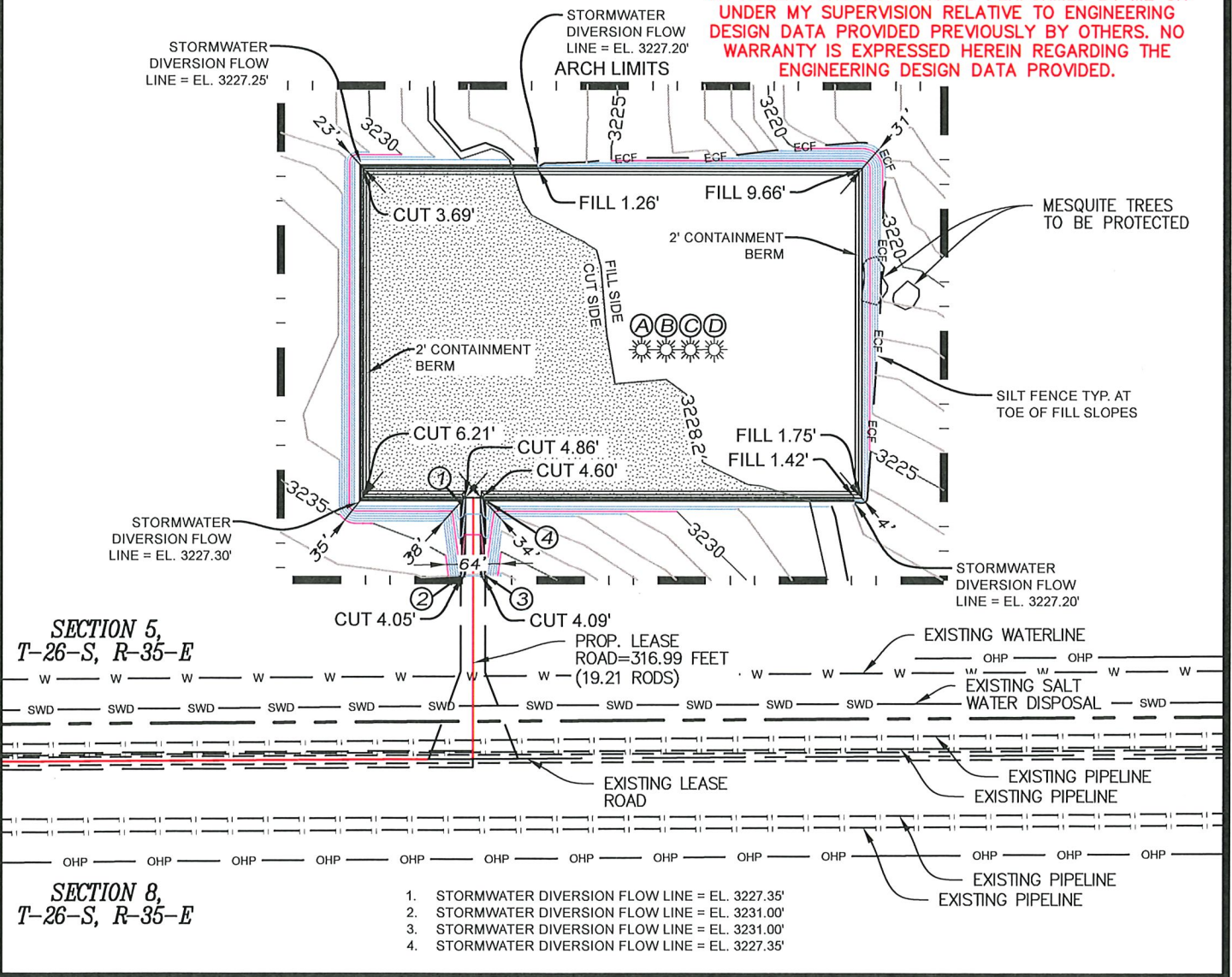
PROPOSED SHORT-TERM
DISTURBANCE AREA = 6.66 ACRES

DECEMBER 3, 2020



DAVID W. MYERS 11403

I HEREBY CERTIFY THAT THE DIMENSIONS, EXISTING ELEVATIONS AND AREAS SHOWN HEREIN ARE BASED ON RECENT GROUND SURVEYS PERFORMED BY ME OR UNDER MY SUPERVISION RELATIVE TO ENGINEERING DESIGN DATA PROVIDED PREVIOUSLY BY OTHERS. NO WARRANTY IS EXPRESSED HEREIN REGARDING THE ENGINEERING DESIGN DATA PROVIDED.



REV 6 12/03/2020 MWS

LEGEND

- PROPOSED PAD SURFACE
- ARCH SURVEY LIMITS
- PROPOSED LEASE ROAD
- EXIST. 1' CONTOUR LINES
- EXIST. 5' CONTOUR LINES
- WATER LINE

- PIPELINE
- SALT WATER DISPOSAL
- PROPERTY LINE
- PROPOSED 1' CONTOUR LINES
- PROPOSED 5' CONTOUR LINES
- EROSION CONTROL FENCE
- OVERHEAD POWER
- FENCE

SHEET 2 OF 5
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WELL PAD CROSS SECTIONS

CAVE LION 5 FEDERAL
SEC. 5, TWP. 26-S RGE. 35-E
SURVEY: N.M.P.M.

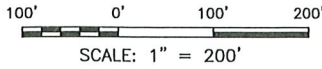
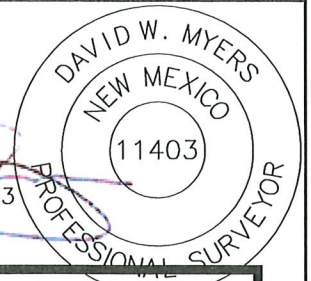
DECEMBER 3, 2020

COUNTY: LEA

DAVID W. MYERS 11403

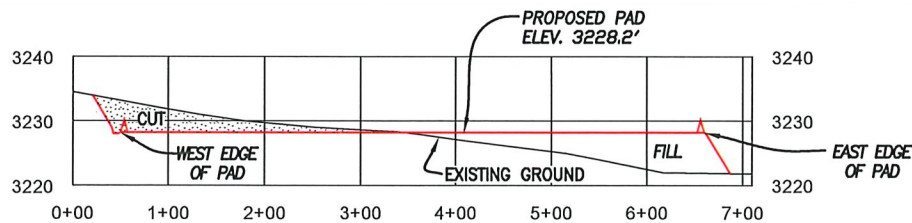
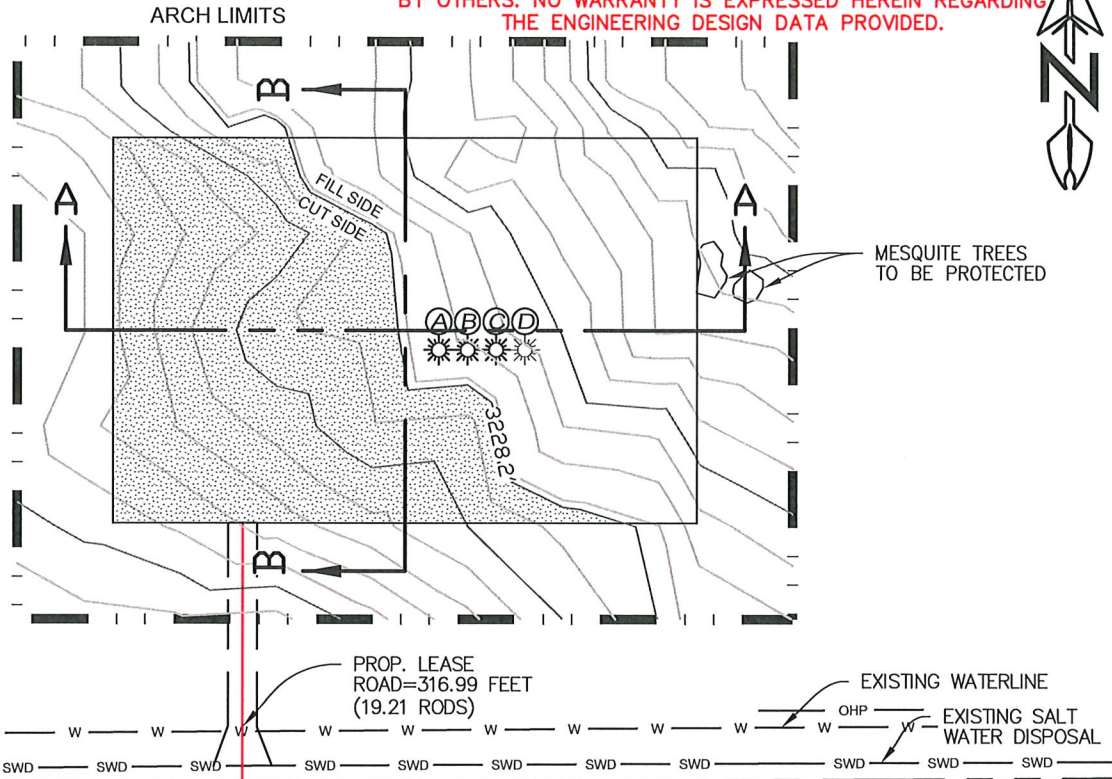
OPERATOR: MARATHON OIL PERMIAN LLC

U.S.G.S. TOPOGRAPHIC MAP: ANDREWS PLACE, N.M.

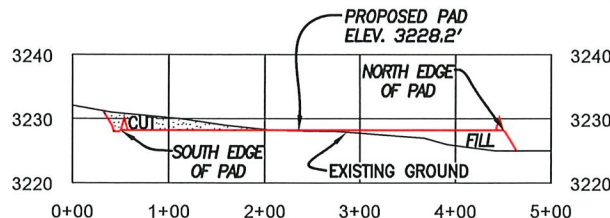


- A. CAVE LION 5 TB FEDERAL 15H
- B. CAVE LION 5 TB FEDERAL 12H
- C. CAVE LION 5 TB FEDERAL 14H
- D. CAVE LION 5 WXY FEDERAL 18H

I HEREBY CERTIFY THAT THE DIMENSIONS, EXISTING ELEVATIONS AND AREAS SHOWN HEREIN ARE BASED ON RECENT GROUND SURVEYS PERFORMED BY ME OR UNDER MY SUPERVISION RELATIVE TO ENGINEERING DESIGN DATA PROVIDED PREVIOUSLY BY OTHERS. NO WARRANTY IS EXPRESSED HEREIN REGARDING THE ENGINEERING DESIGN DATA PROVIDED.



SECTION A-A



SECTION B-B

REV 6 12/03/2020 MWS

PROPOSED PAD SURFACE	—	SALT WATER DISPOSAL	— SWD —
ARCH SURVEY LIMITS	— —	PROPERTY LINE	— P —
PROPOSED LEASE ROAD	—	PROPOSED 1' CONTOUR LINES	—
EXIST. 1' CONTOUR LINES	—	PROPOSED 5' CONTOUR LINES	—
EXIST. 5' CONTOUR LINES	—	EROSION CONTROL FENCE	— ECF —
WATER LINE	— w —	STORM WATER CONTROL DIVERSION	—

HORIZONTAL: 1" = 200'
VERTICAL: 1" = 30'
SHEET 3 OF 5
PREPARED BY:
R-SQUARED GLOBAL, LLC
1309 LOUISVILLE AVENUE, MONROE, LA 71201
318-323-6900 OFFICE
JOB No. R3757_006

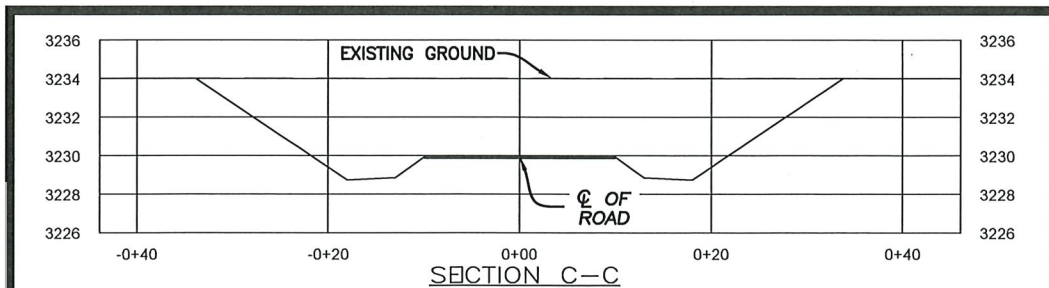
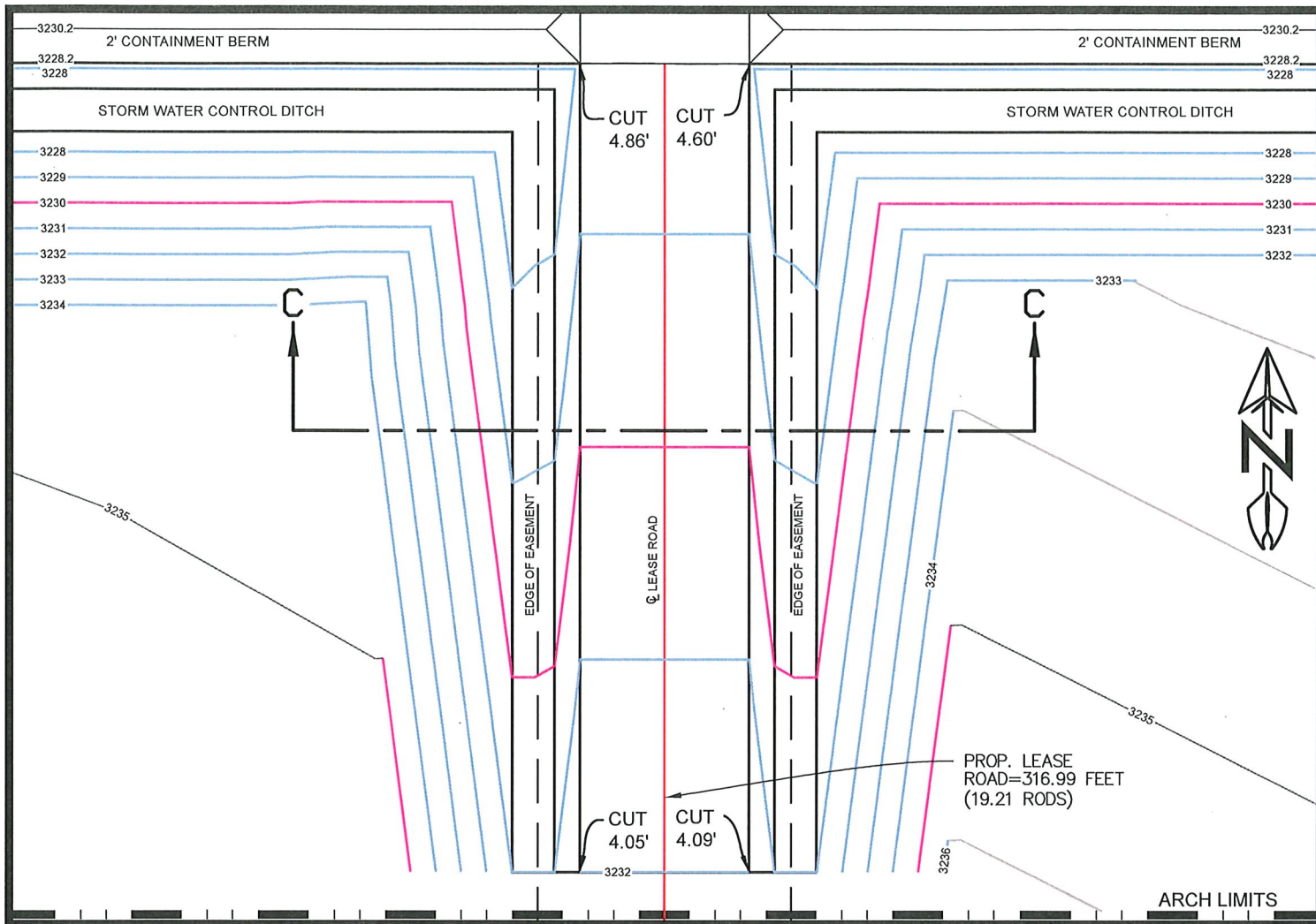
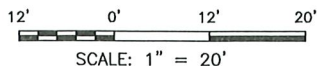
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PROPOSED ACCESS ROAD CROSS SECTION

CAVE LION 5 FEDERAL
SEC. 5, TWP. 26-S RGE. 35-E
SURVEY: N.M.P.M.

COUNTY: LEA

OPERATOR: MARATHON OIL PERMIAN LLC
U.S.G.S. TOPOGRAPHIC MAP: ANDREWS PLACE, N.M.



REV 6 12/03/2020 MWS

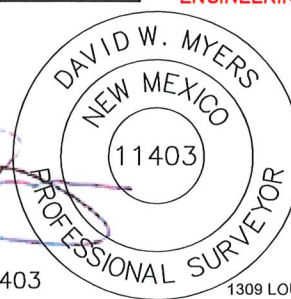
HORIZONTAL: 1" = 20'
VERTICAL: 1" = 10'

DECEMBER 3, 2020

LEGEND	
PROPOSED PAD SURFACE	---
ARCH SURVEY LIMITS	— —
PROPOSED LEASE ROAD	—
EXIST. 1' CONTOUR LINES	—
EXIST. 5' CONTOUR LINES	—
PROPOSED 1' CONTOUR LINES	—
PROPOSED 5' CONTOUR LINES	—
EROSION CONTROL FENCE	— ECF —
STORM WATER CONTROL DIVERSION	—
DISTURBANCE AREA BOUNDARY	—

I HEREBY CERTIFY THAT THE DIMENSIONS, EXISTING ELEVATIONS AND AREAS SHOWN HEREIN ARE BASED ON RECENT GROUND SURVEYS PERFORMED BY ME OR UNDER MY SUPERVISION RELATIVE TO ENGINEERING DESIGN DATA PROVIDED PREVIOUSLY BY OTHERS. NO WARRANTY IS EXPRESSED HEREIN REGARDING THE ENGINEERING DESIGN DATA PROVIDED.

DAVID W. MYERS 11403



SHEET 4 OF 5
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318-323-6900 OFFICE
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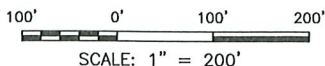
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INTERIM RECLAMATION PLAT

CAVE LION 5 FEDERAL
SEC. 5, TWP. 26-S RGE. 35-E
SURVEY: N.M.P.M.

COUNTY: LEA

OPERATOR: MARATHON OIL PERMIAN LLC
U.S.G.S. TOPOGRAPHIC MAP: ANDREWS PLACE, N.M.

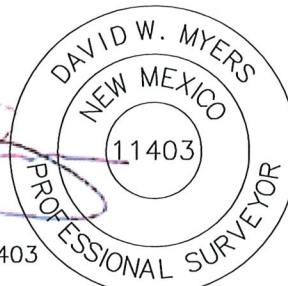


- A. CAVE LION 5 TB FEDERAL 15H
- B. CAVE LION 5 TB FEDERAL 12H
- C. CAVE LION 5 TB FEDERAL 14H
- D. CAVE LION 5 WXY FEDERAL 18H

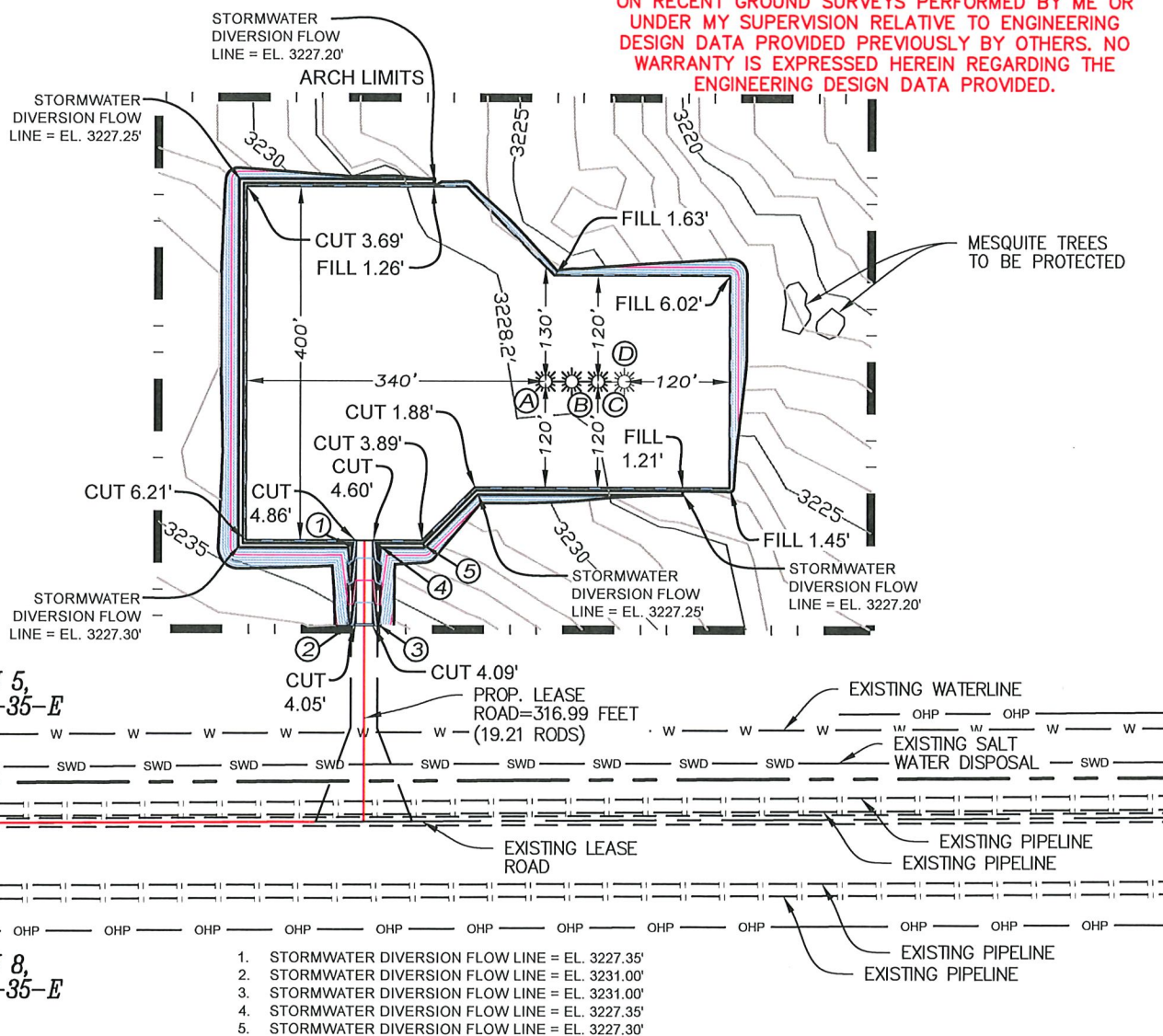
DECEMBER 3, 2020

LONG-TERM PAD DISTURBANCE = 4.92 ACRES

DAVID W. MYERS 11403



I HEREBY CERTIFY THAT THE DIMENSIONS, EXISTING ELEVATIONS AND AREAS SHOWN HEREIN ARE BASED ON RECENT GROUND SURVEYS PERFORMED BY ME OR UNDER MY SUPERVISION RELATIVE TO ENGINEERING DESIGN DATA PROVIDED PREVIOUSLY BY OTHERS. NO WARRANTY IS EXPRESSED HEREIN REGARDING THE ENGINEERING DESIGN DATA PROVIDED.



SECTION 5,
T-26-S, R-35-E

SECTION 8,
T-26-S, R-35-E

REV 6 12/03/2020 MWS

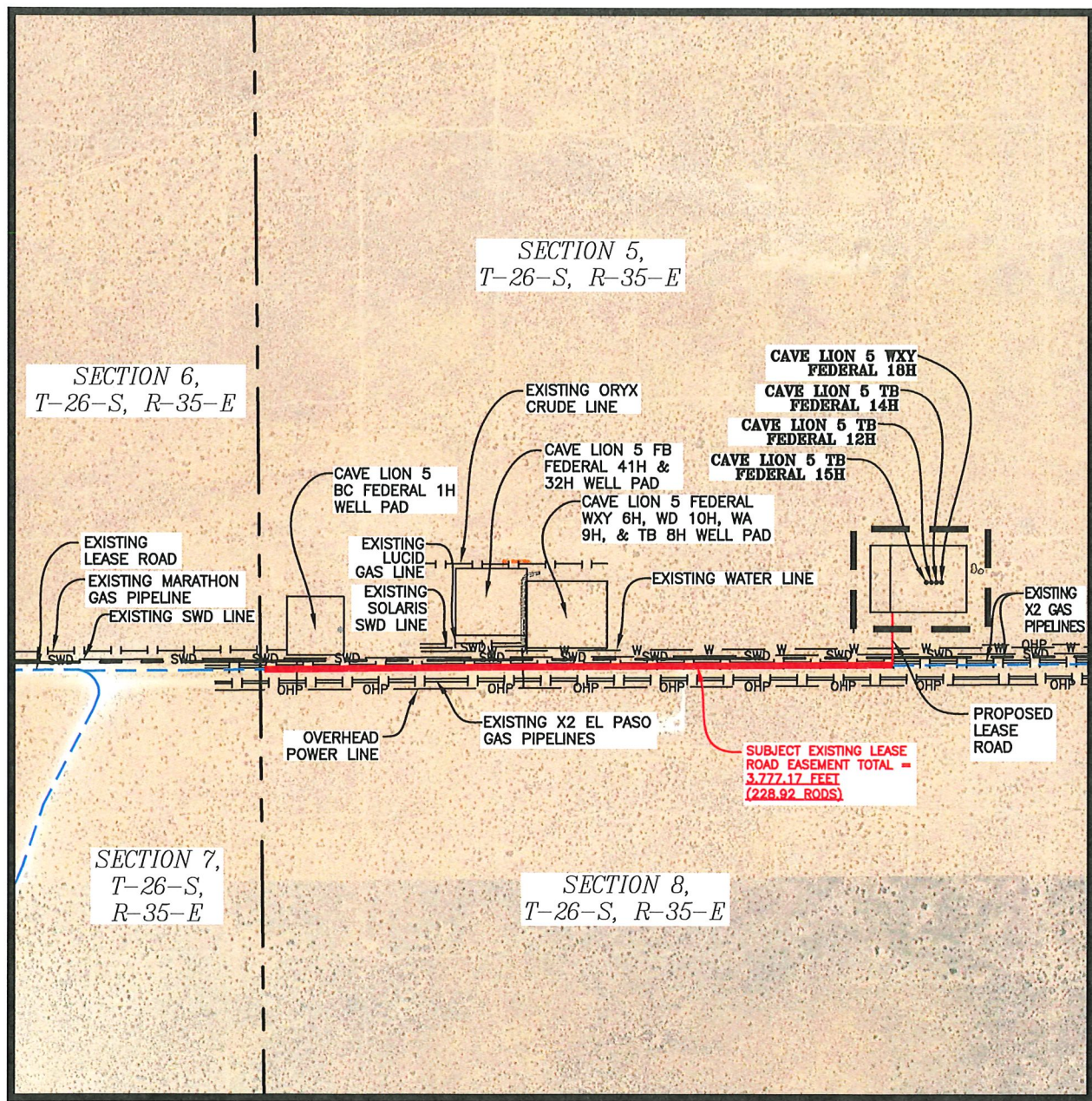
LEGEND	
INTERIM RECLAMATION	---
ARCH SURVEY LIMITS	==
PROPOSED LEASE ROAD	---
EXIST. 1' CONTOUR LINES	---
EXIST. 5' CONTOUR LINES	---

PIPELINE	---
SALT WATER DISPOSAL	---
PROPERTY LINE	---
PROPOSED 1' CONTOUR LINES	---
PROPOSED 5' CONTOUR LINES	---
EROSION CONTROL FENCE	---
OVERHEAD POWER	---
FENCE	---

SHEET 5 OF 5
PREPARED BY:
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1309 LOUISVILLE AVENUE, MONROE, LA 71201
318-323-6900 OFFICE
JOB No. R3757_006

EXISTING ACCESS ROAD

CAVE LION 5 FEDERAL
SEC. 5 TWP. 26-S RGE. 35-E
SURVEY: N.M.P.M.
COUNTY: LEA
OPERATOR: MARATHON OIL PERMIAN LLC
U.S.G.S. TOPOGRAPHIC MAP: ANDREW'S PLACE, N.M.



5	12/03/2020	MWS
REV.	DATE	BY

SCALE: 1" = 1,000'

LEGEND	
WELL PAD	—
ARCH SURVEY LIMITS	— — —
SUBJECT EXISTING LEASE ROAD	—
EXISTING LEASE ROAD	- - -
PROPOSED LEASE ROAD	—
SECTION LINE	- - -
FUTURE WELLS	*
WELLS	.

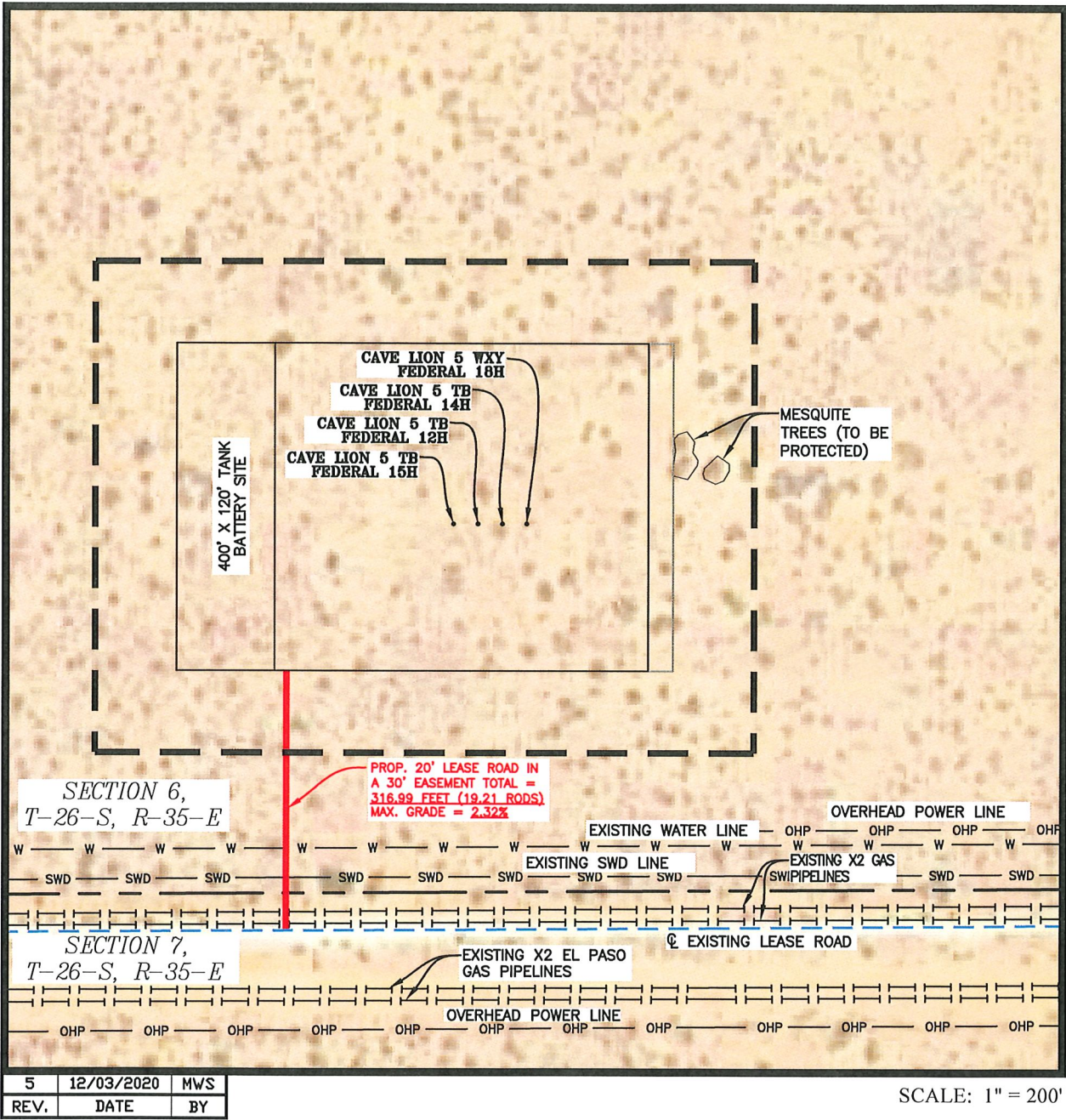
EXISTING WATER LINE	— W — W —
SALT WATER DISPOSAL LINE	— SWD — SWD —
EXISTING GAS PIPELINE	— — — — —
OVERHEAD POWER	— OHP — OHP —

SHEET 1 OF 8

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1309 LOUISVILLE AVENUE, MONROE, LA 71201
318-323-6900 OFFICE
JOB No. R3757_007

NEW OR RECONSTRUCTED ACCESS ROADS

CAVE LION 5 FEDERAL
SEC. 5 TWP. 26-S RGE. 35-E
SURVEY: N.M.P.M.
COUNTY: LEA
OPERATOR: MARATHON OIL PERMIAN LLC
U.S.G.S. TOPOGRAPHIC MAP: ANDREW'S PLACE, N.M.



LEGEND				
WELL PAD	—		EXISTING WATER LINE	— W — W —
ARCH SURVEY LIMITS	— — —		SALT WATER DISPOSAL LINE	— SWD — SWD —
EXISTING LEASE ROAD	— — —		EXISTING GAS PIPELINE	— — — — —
PROPOSED LEASE ROAD	—		OVERHEAD POWER	— OHP — OHP —
SECTION LINE	— — —			
FUTURE WELLS	*			
WELLS	.			

SHEET 2 OF 8

PREPARED BY:
R-SQUARED GLOBAL, LLC
1309 LOUISVILLE AVENUE, MONROE, LA 71201
318-323-6900 OFFICE
JOB No. R3757_007

ONE-MILE RADIUS MAP

CAVE LION 5 FEDERAL (PAD 2)

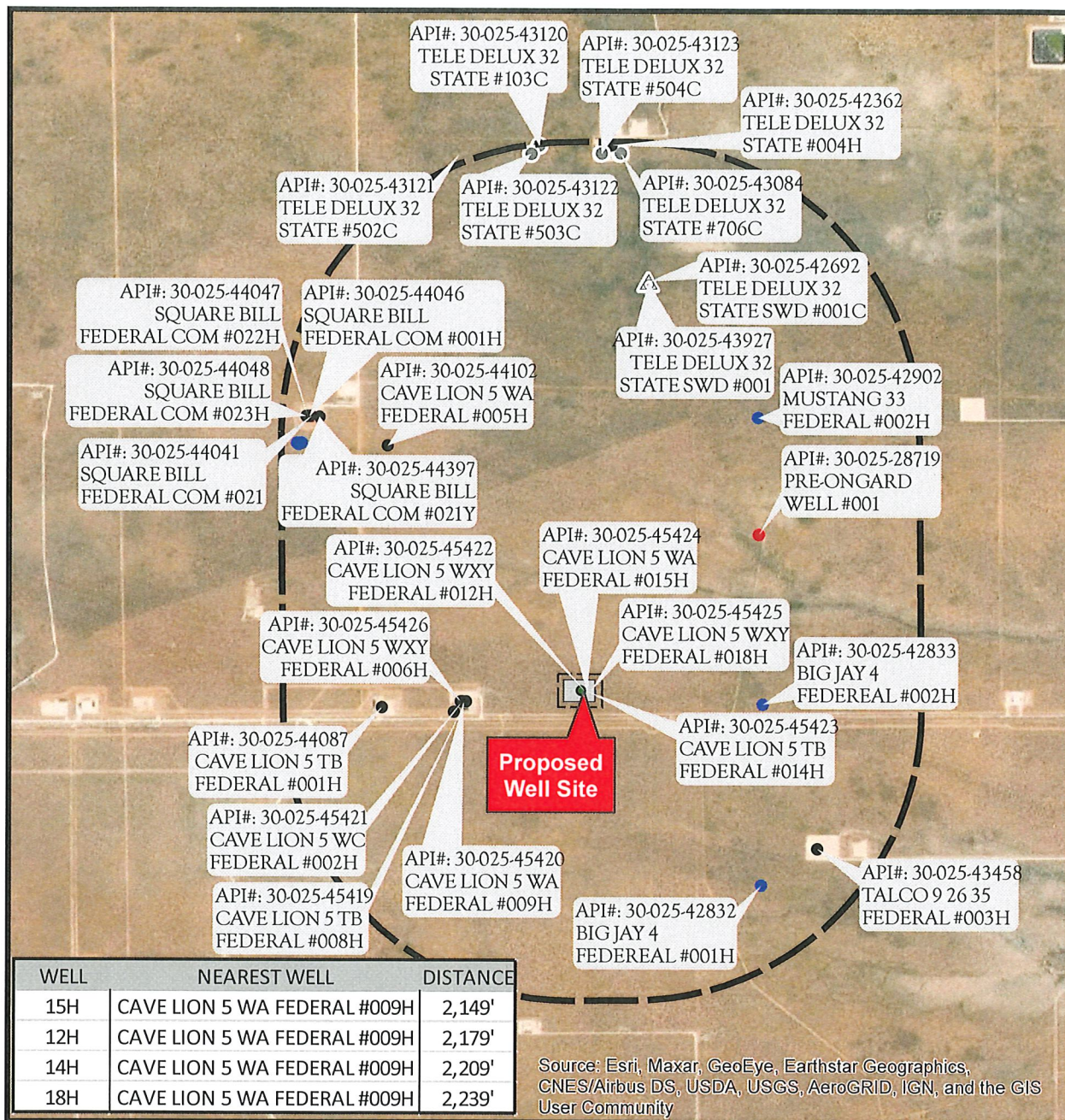
SEC. 5 TWP. 26-S RGE. 35-E

SURVEY: N.M.P.M.

COUNTY: LEA

OPERATOR: MARATHON OIL PERMIAN LLC

U.S.G.S. TOPOGRAPHIC MAP: ANDREWS PLACE, NM, TX.



REV 5 MWS 12/03/2020

1" = 3,000'

- Proposed Well Pad
- Arch Survey Limits
- Section Line
- CO2 Active
- CO2 Cancelled
- CO2, Plugged
- Gas, Active
- Gas, Cancelled
- Gas, New
- Gas, Plugged
- Gas, Abandoned
- Injection, Active
- Injection, New
- Injection, Plugged
- Salt Water Injection, Cancelled
- Injection, Abandoned
- Oil, Active
- Oil, Cancelled
- Oil, New
- Oil, Plugged
- Oil, Abandoned
- Salt Water Injection, Active
- Salt Water Injection, New
- Salt Water Injection, Plugged
- Water, Active
- Water, Plugged



SHEET 3 OF 8

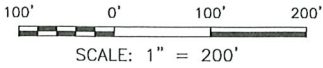
PREPARED BY:
R-SQUARED GLOBAL, LLC
1309 LOUISVILLE AVENUE, MONROE, LA 71201
318-323-6900 OFFICE
JOB No. R3757_006

Page 14 of 30
Retrieved by O.C.D.: 7/15/2021 9:39:11 AM
Released to Imaging: 9/24/2021 1:58:04 PM

WELL PAD PLAT

CAVE LION 5 FEDERAL
SEC. 5 TWP. 26-S RGE. 35-E
SURVEY: N.M.P.M.
COUNTY: LEA

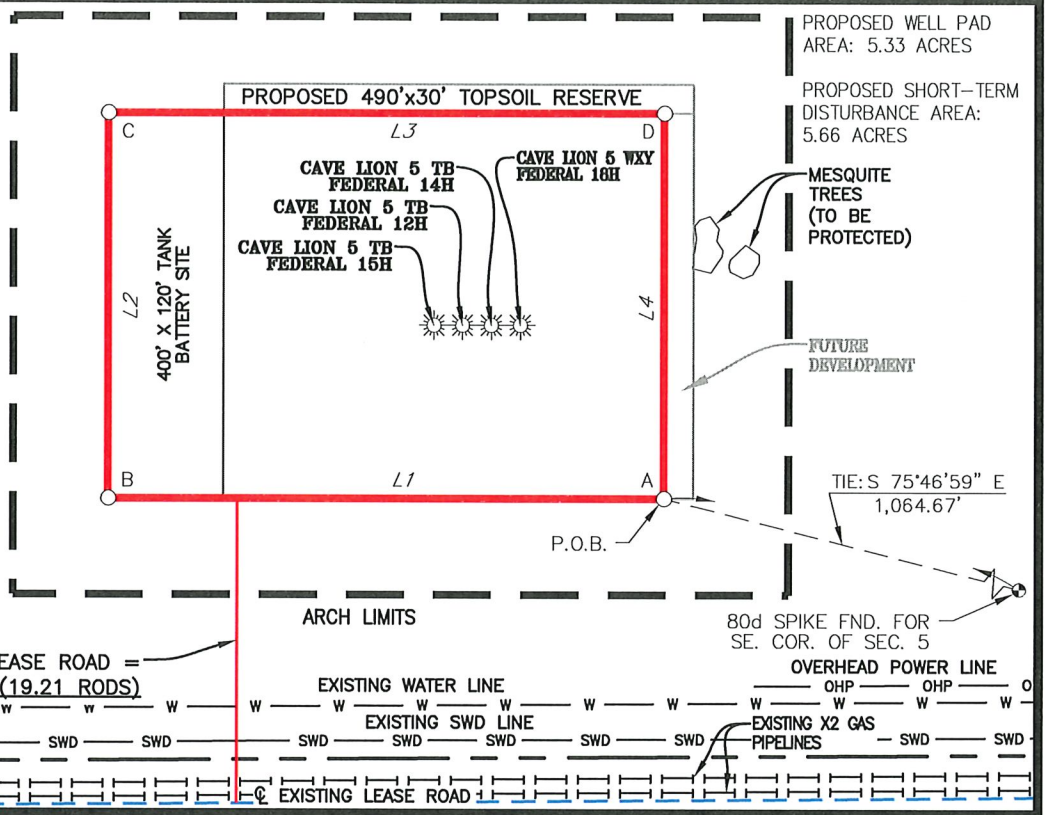
OPERATOR: MARATHON OIL PERMIAN LLC
U.S.G.S. TOPOGRAPHIC MAP: ANDREW'S PLACE, N.M.



LINE	BEARING	DISTANCE
L1	WEST	580.00'
L2	NORTH	400.00'
L3	EAST	580.00'
L4	SOUTH	400.00'

NAD 83			
A	E:(X)835324.26 N:(Y)388972.64	LAT:32.06581200 LON:-103.38429298	
B	E:(X)834744.26 N:(Y)388972.64	LAT:32.06582600 LON:-103.38616510	
C	E:(X)834744.26 N:(Y)389372.64	LAT:32.06692544 LON:-103.38615377	
D	E:(X)835324.26 N:(Y)389372.64	LAT:32.06691144 LON:-103.38428162	

NAD 27			
A	E:(X)794136.60 N:(Y)388915.02	LAT:32.06568562 LON:-103.38383091	
B	E:(X)793556.60 N:(Y)388915.01	LAT:32.06569965 LON:-103.38570297	
C	E:(X)793556.62 N:(Y)389315.01	LAT:32.06679910 LON:-103.38569157	
D	E:(X)794136.61 N:(Y)389315.01	LAT:32.06678507 LON:-103.38381949	



SECTION 5,
T-26-S, R-35-E
PROP. LEASE ROAD =
316.99 FEET (19.21 RODS)
SECTION 8, T-26-S, R-35-E
EXISTING LEASE ROAD

FIELD NOTES DESCRIBING

A tract of land being 5.33 acres. Said tract being located in Section 5, Township 26 South, Range 35 East, New Mexico Principal Meridian, Lea County, New Mexico.

Being more particularly described by metes and bounds as follows:

BEGINNING at a point from which an 80d spike found for the Southeast corner of said Section 5 bears S 75°46'59" E a distance of 1,064.67 feet.

THENCE

WEST a distance of 580.00 feet to the Southwest corner of this tract, and
NORTH a distance of 400.00 feet to the Northwest corner of this tract, and
EAST a distance of 580.00 feet to the Northeast corner of this tract, and
SOUTH a distance of 400.00 feet to the **POINT OF BEGINNING**.

The total area of the herein described tract contains 5.33 acres of land.

All bearings and coordinates refer to NAD 83, New Mexico State Plane Coordinate System, East Zone, U.S. Survey Feet. (All bearings, distances, coordinates and areas are based on grid measurements utilizing a combined scale factor of 0.99985058, convergence angle of 0.49300132°.)

Title information furnished by Marathon Oil Permian LLC.

Reference accompanying Certificate of Survey prepared in conjunction with this legal description for easement.

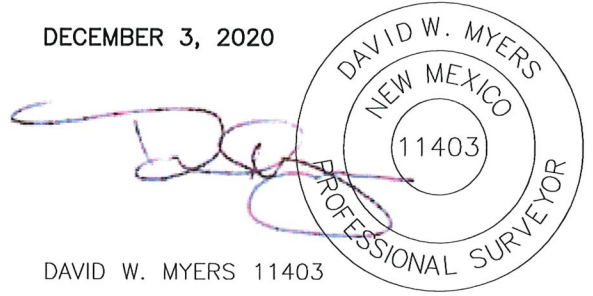
STATE OF NEW MEXICO
COUNTY OF LEA

I, David W. Myers, New Mexico Professional Surveyor No. 11403, do hereby certify that this easement survey plat and the actual survey on the ground upon which it is based were performed by me or under my direct supervision; that I am responsible for this survey; that this survey meets the minimum standards for surveying in New Mexico; and that it is true and correct to the best of my knowledge and belief. I further certify that this survey is not a land division or subdivision as defined in the New Mexico Subdivision Act and that this instrument is an easement survey plat crossing an existing tract or tracts.

LEGEND P.O.B. POINT OF BEGINNING

EXISTING ROAD	ARCH LIMITS	OHP	OVERHEAD POWER
PROPOSED ROAD	FENCE		
SURFACE SITE EDGE	SECTION LINE		
EXIST. PIPELINE	SALT WATER DISPOSAL		
MONUMENT	WATER LINE		
QUARTER SPLIT			

DECEMBER 3, 2020



DAVID W. MYERS 11403

Marathon Oil
Permian LLC

PLAT FOR A SURFACE SITE ON THE PROPERTY OF
BUREAU OF LAND MANAGEMENT
LEA COUNTY, NEW MEXICO

5	12/03/2020	ADD WELL LABEL	MWS	AJG
REV.	DATE	DESCRIPTION	BY	CHKD
SHEET 4 OF 8				
DRAWN BY:	JCS			
DATE:	03/05/2018			
CHECKED BY:	MWS			



1309 LOUISVILLE AVE.
MONROE, LA 71201
(318) 323-6900
FAX (318) 362-0064

WELL LOCATION PLAT

CAVE LION 5 FEDERAL

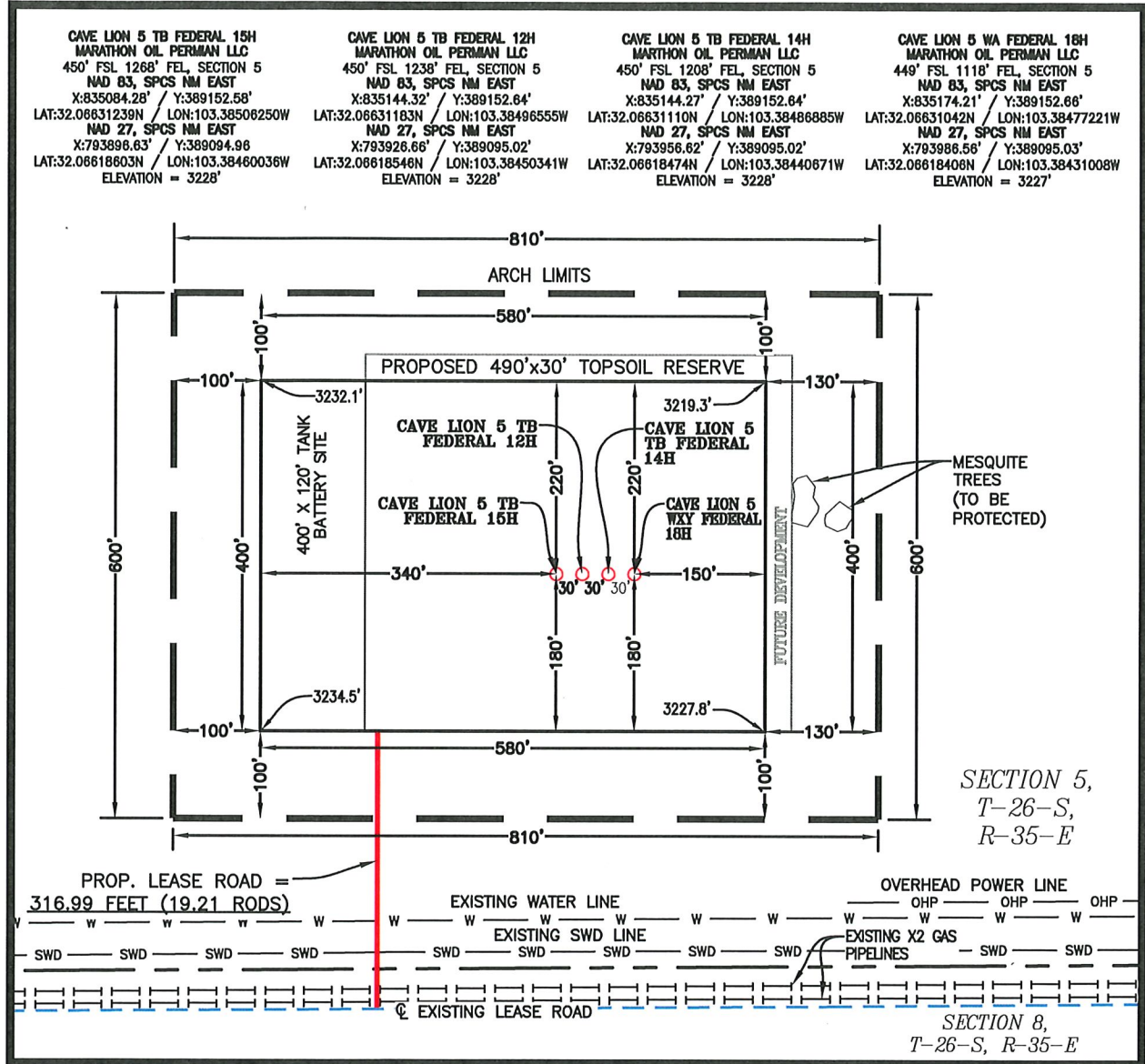
SEC. 5 TWP. 26-S RGE. 35-E

SURVEY: N.M.P.M.

COUNTY: LEA

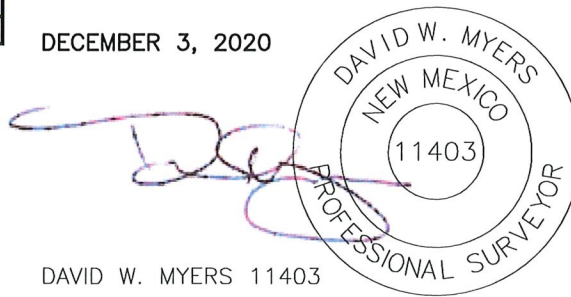
OPERATOR: MARATHON OIL PERMIAN LLC

U.S.G.S. TOPOGRAPHIC MAP: ANDREW'S PLACE, N.M.



5	12/03/2020	MWS
REV.	DATE	BY

DECEMBER 3, 2020



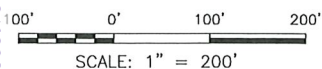
DAVID W. MYERS 11403

LEGEND	
PROPOSED WELL PAD	—
ARCH SURVEY LIMITS	— —
PROPOSED LEASE ROAD	—
EXISTING LEASE ROAD	- - -
SECTION LINE	- - -
SALT WATER DISPOSAL	— SWD —
WATER LINE	— W —
EXISTING GAS PIPELINE	— + + + —
OVERHEAD POWER LINE	— OHP —

SHEET 5 OF 8

PREPARED BY:
R-SQUARED GLOBAL, LLC
1809 LOUISVILLE AVENUE, MONROE, LA 71201
318-323-6000 OFFICE
JOB No. R3757_007

NOTE:
THIS IS NOT A BOUNDARY SURVEY,
APPARENT PROPERTY CORNERS AND
PROPERTY LINES ARE SHOWN FOR
INFORMATION ONLY. BOUNDARY DATA SHOWN
IS FROM STATE OF NEW MEXICO OIL
CONSERVATION DIVISION FORM C-102
INCLUDED IN THIS SUBMITTAL.



Pad Plat - Page 12 of 13

Pad Plat - Page 13 of 13

MARATHON OIL PERMIAN LLC

DRILLING AND OPERATIONS PLAN

WELL NAME / NUMBER: CAVE LION 5 TB FED COM 15H

STATE: NEW MEXICO **COUNTY:** LEA

Application Data Report

1. WELL LOCATION TABLE

Traverse Segment	Latitude NAD83	Longitude NAD83	Elevation (ft SS)	MD (RKB)	TVD (RKB)	Lease Serial	NS Foot	NS Indicator	EW Foot	EW Indicator	TWSP	Range	Section	Aliquot/Lot	Lease Type
SHL	32.06631239	-103.3850625	3228	0	0	NMNM013647	450	FSL	1268	FEL	26S	35E	5	SESE	F
FTP	32.06535174	-103.3857627	-9229	12482.8	12457.27	NMNM013647	100	FSL	1485	FEL	26S	35E	5	SWSE	F
BHL	32.07932756	-103.3857796	-9167	17356.72	12395.15	NMNM013647	100	FNL	1485	FEL	26S	35E	5	NWNE	F

Drilling Plan Data Report

1. GEOLOGIC FORMATIONS

Formation	True Vertical Depth (ft)	Measured Depth (ft)	Lithologies	Mineral Resources
Rustler	1061	1061	Salt/Anhydrite	BRINE
Castile	3539	3550.5	Salt/Anhydrite	BRINE
Base of Salt	5359	5384.5	Limy Sands	BRINE
Lamar	5359	5384.5	Sand/Shales	NONE
Delaware	5388	5413.5	Sands/Shale	OIL
Bone Spring	9299	9324.5	Sands/Carbonates	OIL
Wolfcamp	12509	N/A	Carbonates/Shales/Sands	OIL

2. BLOWOUT PREVENTION

BOP installed and tested before drilling which hole?	Size?	Min. Required WP	Type	✓	Tested to:
14 3/4"	13 5/8"	10000	Annular	X	100% of working pressure
			BOP Stack	X	10000
9 7/8"	13 5/8"	10000	Annular	X	100% of working pressure
			BOP Stack	X	10000
6 3/4"	13 5/8"	10000	Annular	X	100% of working pressure
			BOP Stack	X	10000

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, full opening safety valve / inside BOP and choke lines and choke manifold. See attached schematics.

Y	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.	

3. CASING PROGRAM

String Type	Hole Size	Csg Size	Top Set MD	Bottom Set MD	Top Set TVD	Bottom Set TVD	Top Set MSL	Bottom Set MSL	Weight (lbs/ft)	Grade	Conn.	SF Collapse	SF Burst	SF Tension
Surface	14 3/4"	10 3/4	0	1261	0	1261	3228	1967	40.5	J-55	STC	6.57	1.95	2.98
Intermediate	9 7/8"	7 5/8	0	11526	0	11500	3228	-8272	29.7	P-110	BTC	2.3	1.24	2.35
Production	6 3/4"	5 1/2	0	17356 5/7	0	12395 1/7	3228	-9167 1/7	20	P-110	BTC	1.33	1.24	1.86

All casing strings will be tested in accordance with Onshore Oil and Gas Order #2 III.B.1.h

Is casing new? If used, attach certification as required in Onshore Order #1	Y
Does casing meet API specifications? If no, attach casing specification sheet.	Y
Is premium or uncommon casing planned? If yes attach casing specification sheet.	N
Does the above casing design meet or exceed BLM's minimum standards? If not provide justification (loading assumptions, casing design criteria).	Y
Will the intermediate pipe be kept at a minimum 1/3 fluid filled to avoid approaching the collapse pressure rating of the casing?	Y
Is well located within Capitan Reef?	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?	

4. CEMENT

String Type	Lead/Tail	Stage Tool Depth	Top MD	Bottom MD	Quantity (sks)	Yield (ft3/sks)	Density (ppg)	Slurry Volume (ft3)	Excess (%)	Cement Type	Additives
Surface	Lead	--	0	1008.8	811	1.73	13.5	1403	150	Class C	LCM
Surface	Tail	--	1008.8	1261	211	1.33	14.8	281	100	Class C	Accelerator
Intermediate	Lead	--	0	10500	1811	2.49	11.0	4510	100	Class C	Extender, Accelerator
Intermediate	Tail	--	10500	11526	224	1.28	13.8	286	30	Class H	Retarder
Production	Lead	--	9026	9526	47	1.29	14.5	60	30	Class H	Viscosifier, Retarder
Production	Tail	--	9526	17356.72	802	1.09	14.5	874	30	Class H	Extender, Fluid Loss, Dispersant

Stage tool depth(s) will be adjusted based on hole conditions and cement volumes will be adjusted proportionally. Stage tool will be set a minimum of 50 feet below previous casing and a minimum of 200 feet above current shoe. Lab reports with the 500 psi compressive strength time for the cement will be onsite for review.

Pilot hole depth: N/A TVD/MD

KOP: N/A TVD/MD

Plug Top	Plug Bottom	Excess (%)	Quantity (sx)	Density (ppg)	Yield (ft3/sks)	Water gal/sk	Slurry Description and Cement Type

Attach plugging procedure for pilot hole: N/A

5. CIRCULATING MEDIUM

Top Depth	Bottom Depth	Mud Type	Min. Weight (ppg)	Max Weight (ppg)
0	1261	Water Based Mud	8.4	8.8
1261	11526	Brine	9.2	10.2
11526	17356.72	Oil Based Mud	10.5	12.5

Losses or gains in the mud system will be monitored visually/manually as well as with an electronic PVT.
The necessary mud products for additional weight and fluid loss control will be on location at all times.

6. TEST, LOGGING, CORING

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

GR from TD to surface (horizontal well - vertical portion of hole)

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

GR while drilling from Intermediate casing shoe to TD.

Coring operation description for the well:

No coring is planned at this time.

Mud Logger: None.

DST's: None.

Open Hole Logs: GR while drilling from Intermediate casing shoe to TD.

7. PRESSURE

ANTICIPATED BOTTOM HOLE PRESSURE: 8,057 psi

ANTICIPATED BOTTOM HOLE TEMPERATURE: 195 °F

ANTICIPATED ABNORMAL PRESSURE: N

ANTICIPATED ABNORMAL TEMPERATURE: N

POTENTIAL HAZARDS:

A. H2S detection equipment will be in operation after drilling out the surface casing shoe until the production casing has been cemented. Breathing equipment will be on location from drilling out the surface shoe until production casing is cemented. If H2S is encountered the operator will comply with Onshore Order #6.

B. No abnormal temperatures or pressures are anticipated. All personnel will be familiar with all aspects of safe operation of equipment being used to drill this well. Adequate flare lines will be installed off the mud/gas separator where gas may be flared safely.

C. No losses are anticipated at this time.

D. All personnel will be familiar with all aspects of safe operation of equipment being used to drill this well.

E. Adequate flare lines will be installed off the mud/gas separator where gas may be flared safely.

8. OTHER

Other Well Information**AUXILIARY WELL CONTROL AND MONITORING EQUIPMENT**

A Kelly cock will be in the drill string at all times.

A full opening drill pipe stabbing valve having the appropriate connections will be on the rig floor unobstructed and readily accessible at all times.

Hydrogen Sulfide detection equipment will be in operation after drilling out the surface casing shoe until the production casing is cemented. Breathing equipment will be on location upon drilling the surface casing shoe until total depth is reached. **If Hydrogen Sulfide is encountered, measured amounts and formations will be reported to the BLM**

ANTICIPATED STARTING DATE AND DURATION OF OPERATIONS

Road and location construction will begin after the BLM has approved the APD. Anticipated spud date will be as soon as possible after BLM approval and as soon as a rig will be available. Move in operations and drilling is expected to take 30 days.



Marathon Oil Corporation
Well Name: Cave Lion 5 TB Federal #15H
Project: Lea County, NM
Wellbore: Wellbore #1
Plan: Preliminary Plan #1



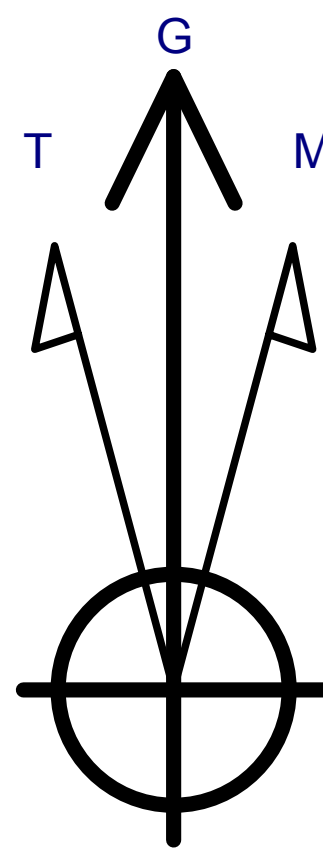
Map System: US State Plane 1927 (Exact solution)
Datum: NAD 1927 (NADCON CONUS)
Ellipsoid: Clarke 1866
Zone Name: New Mexico East 3001

Latitude: 32.06618603
Longitude: -103.38460035

Grid East: 793896.63
Grid North: 389094.96
Scale Factor: 1.000

Geomagnetic Model: IGRF2020
Sample Date: 21-Oct-20
Magnetic Declination: 6.52°
Dip Angle from Horizontal: 59.81°
Magnetic Field Strength: 47488.37045538nT

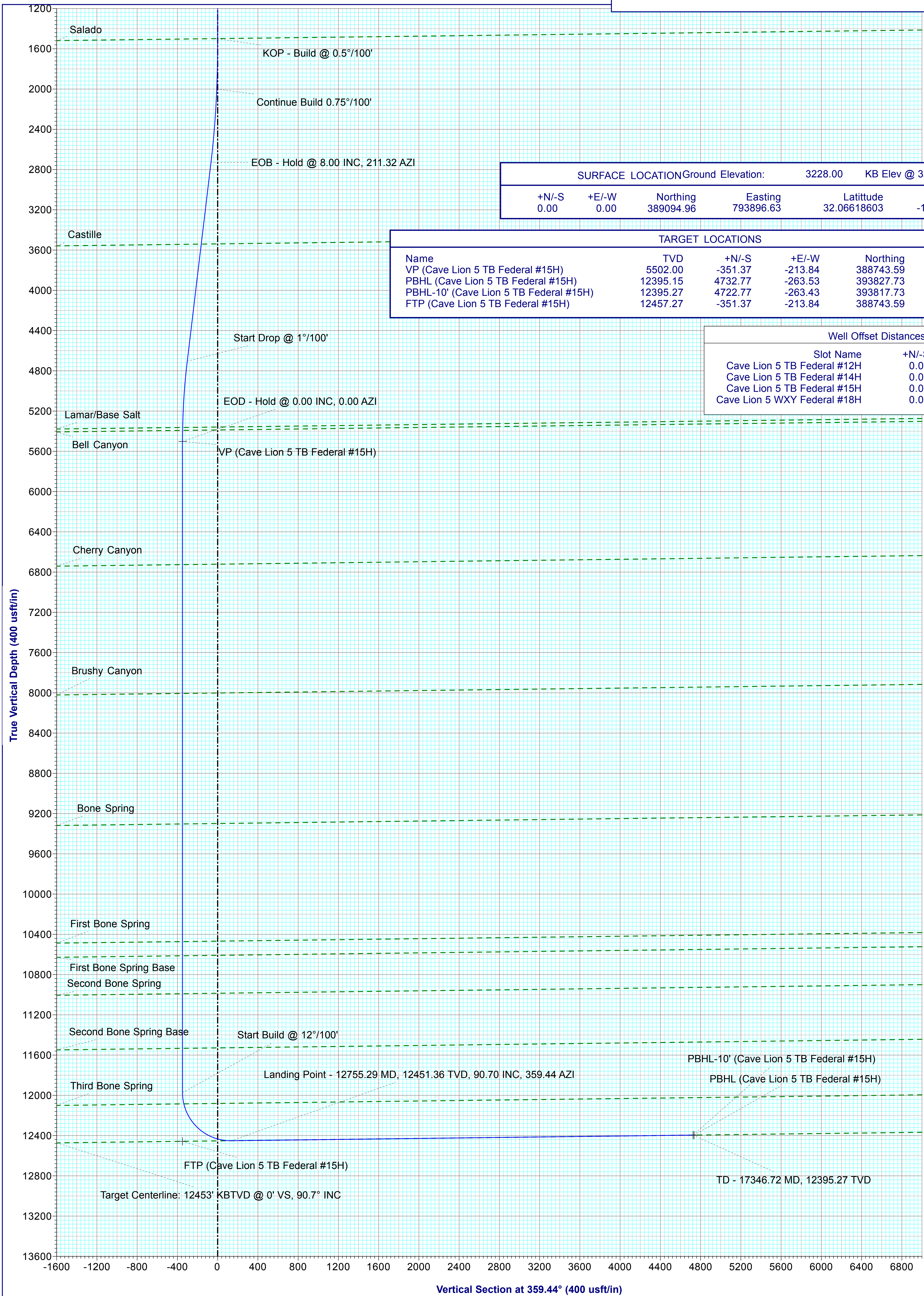
To convert a Magnetic Direction to a Grid Direction, Add 6.02°



Azimuths to Grid North
True North: -0.50°
Magnetic North: 6.02°

Magnetic Field
Strength: 47488.4nT
Dip Angle: 59.81°
Date: 10/21/2020
Model: IGRF2020

Well Planning: Chris Thomas
11:15, October 22 2020

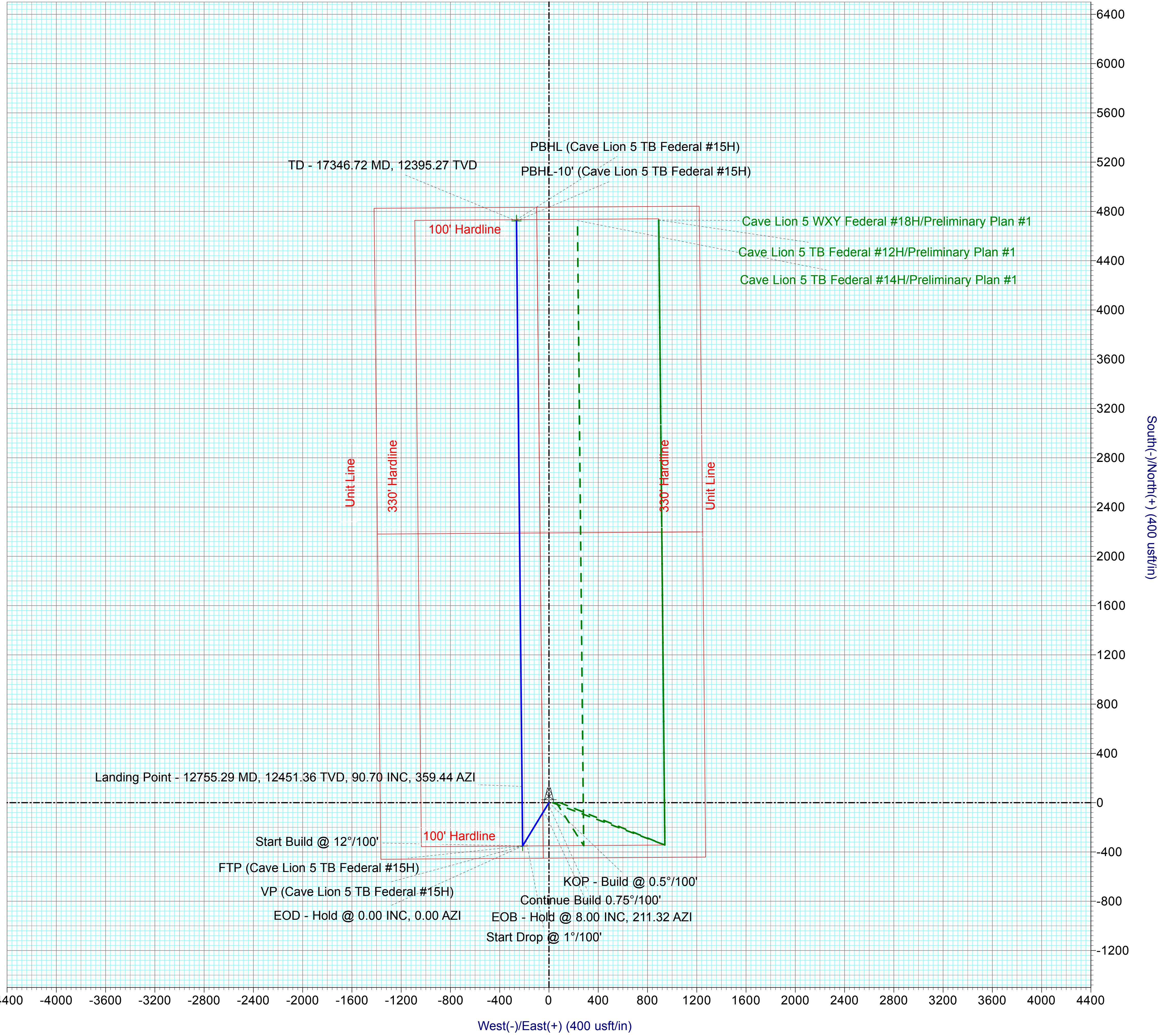


SURFACE LOCATION		Ground Elevation:	3228.00	KB Elev @ 3253.00usft		
+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	
0.00	0.00	389094.96	793896.63	32.06618603	-103.38460035	

TARGET LOCATIONS					
Name	TVD	+N/-S	+E/-W	Northing	Easting
VP (Cave Lion 5 TB Federal #15H)	5502.00	-351.37	-213.84	388743.59	793682.79
PBHL (Cave Lion 5 TB Federal #15H)	12395.15	4732.77	-263.53	393827.73	793633.10
PBHL-10' (Cave Lion 5 TB Federal #15H)	12395.27	4722.77	-263.43	393817.73	793633.20
FTP (Cave Lion 5 TB Federal #15H)	12457.27	-351.37	-213.84	388743.59	793682.79

Well Offset Distances			
Slot Name	+N/-S	+E/-W	
Cave Lion 5 TB Federal #12H	0.06	30.03	
Cave Lion 5 TB Federal #14H	0.06	59.99	
Cave Lion 5 TB Federal #15H	0.00	0.00	
Cave Lion 5 WXY Federal #18H	0.07	89.93	

SECTION DETAILS:									
Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSect
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2	1500.00	0.00	0.00	1500.00	0.00	0.00	0.00	0.00	0.00
3	2000.00	2.50	211.32	1999.84	-9.32	-5.67	0.50	211.32	-9.26
4	2733.51	8.00	211.32	2729.99	-66.64	-40.55	0.75	0.00	-66.24
5	4727.39	8.00	211.32	4704.47	-303.72	-184.84	0.00	0.00	-301.90
6	5527.53	0.00	0.00	5502.00	-351.37	-213.84	1.00	180.00	-349.26
7	11999.46	0.00	0.00	11973.93	-351.37	-213.84	0.00	0.00	-349.26
8	12755.29	90.70	359.44	12451.36	131.90	-218.56	12.00	359.44	134.03
9	17346.72	90.70	359.44	12395.27	4722.77	-263.43	0.00	0.00	4725.12



Marathon Oil Corporation

Lea County, NM

Cave Lion 5

Cave Lion 5 TB Federal #15H

Wellbore #1

Plan: Preliminary Plan #1

Standard Planning Report - Geographic

22 October, 2020

Planning Report - Geographic

Database:	EDM 5000.15 Single User Db	Local Co-ordinate Reference:	Well Cave Lion 5 TB Federal #15H
Company:	Marathon Oil Corporation	TVD Reference:	KB Elev @ 3253.00usft
Project:	Lea County, NM	MD Reference:	KB Elev @ 3253.00usft
Site:	Cave Lion 5	North Reference:	Grid
Well:	Cave Lion 5 TB Federal #15H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Preliminary Plan #1		

Project	Lea County, NM		
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	Cave Lion 5				
Site Position:		Northing:	389,095.02 usft	Latitude:	32.06618547
From:	Map	Easting:	793,926.66 usft	Longitude:	-103.38450342
Position Uncertainty:	0.00 usft	Slot Radius:	13-3/16 "	Grid Convergence:	0.50 °

Well	Cave Lion 5 TB Federal #15H					
Well Position	+N/-S	0.00 usft	Northing:	389,094.96 usft	Latitude:	32.06618603
	+E/-W	0.00 usft	Easting:	793,896.63 usft	Longitude:	-103.38460035
Position Uncertainty		0.00 usft	Wellhead Elevation:		Ground Level:	3,228.00 usft

Wellbore	Wellbore #1				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2020	10/21/2020	6.52	59.81	47,488.37045538

Design	Preliminary 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	359.44

Plan Survey Tool Program	Date	10/22/2020		
Depth From (usft)	Depth To (usft)	Survey (Wellbore)	Tool Name	Remarks
1	0.00	17,346.72 Preliminary Plan #1 (Wellbore #1	MWD+IFR1 OWSG MWD + IFR1	

Plan Sections										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	TFO (°)	Target
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
1,500.00	0.00	0.00	1,500.00	0.00	0.00	0.00	0.00	0.00	0.00	
2,000.00	2.50	211.32	1,999.84	-9.32	-5.67	0.50	0.50	0.00	211.32	
2,733.51	8.00	211.32	2,729.99	-66.64	-40.55	0.75	0.75	0.00	0.00	
4,727.39	8.00	211.32	4,704.47	-303.72	-184.84	0.00	0.00	0.00	0.00	
5,527.53	0.00	0.00	5,502.00	-351.37	-213.84	1.00	-1.00	0.00	180.00	VP (Cave Lion 5 TB F
11,999.46	0.00	0.00	11,973.93	-351.37	-213.84	0.00	0.00	0.00	0.00	
12,755.29	90.70	359.44	12,451.36	131.90	-218.56	12.00	12.00	0.00	359.44	
17,346.72	90.70	359.44	12,395.27	4,722.77	-263.43	0.00	0.00	0.00	0.00	PBHL-10' (Cave Lion

Planning Report - Geographic

Database:	EDM 5000.15 Single User Db	Local Co-ordinate Reference:	Well Cave Lion 5 TB Federal #15H
Company:	Marathon Oil Corporation	TVD Reference:	KB Elev @ 3253.00usft
Project:	Lea County, NM	MD Reference:	KB Elev @ 3253.00usft
Site:	Cave Lion 5	North Reference:	Grid
Well:	Cave Lion 5 TB Federal #15H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Preliminary Plan #1		

Planned Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
0.00	0.00	0.00	0.00	0.00	0.00	389,094.96	793,896.63	32.06618603	-103.38460035
100.00	0.00	0.00	100.00	0.00	0.00	389,094.96	793,896.63	32.06618603	-103.38460035
200.00	0.00	0.00	200.00	0.00	0.00	389,094.96	793,896.63	32.06618603	-103.38460035
300.00	0.00	0.00	300.00	0.00	0.00	389,094.96	793,896.63	32.06618603	-103.38460035
400.00	0.00	0.00	400.00	0.00	0.00	389,094.96	793,896.63	32.06618603	-103.38460035
500.00	0.00	0.00	500.00	0.00	0.00	389,094.96	793,896.63	32.06618603	-103.38460035
600.00	0.00	0.00	600.00	0.00	0.00	389,094.96	793,896.63	32.06618603	-103.38460035
700.00	0.00	0.00	700.00	0.00	0.00	389,094.96	793,896.63	32.06618603	-103.38460035
800.00	0.00	0.00	800.00	0.00	0.00	389,094.96	793,896.63	32.06618603	-103.38460035
900.00	0.00	0.00	900.00	0.00	0.00	389,094.96	793,896.63	32.06618603	-103.38460035
1,000.00	0.00	0.00	1,000.00	0.00	0.00	389,094.96	793,896.63	32.06618603	-103.38460035
1,061.00	0.00	0.00	1,061.00	0.00	0.00	389,094.96	793,896.63	32.06618603	-103.38460035
Rustler									
1,100.00	0.00	0.00	1,100.00	0.00	0.00	389,094.96	793,896.63	32.06618603	-103.38460035
1,200.00	0.00	0.00	1,200.00	0.00	0.00	389,094.96	793,896.63	32.06618603	-103.38460035
1,300.00	0.00	0.00	1,300.00	0.00	0.00	389,094.96	793,896.63	32.06618603	-103.38460035
1,400.00	0.00	0.00	1,400.00	0.00	0.00	389,094.96	793,896.63	32.06618603	-103.38460035
1,499.00	0.00	0.00	1,499.00	0.00	0.00	389,094.96	793,896.63	32.06618603	-103.38460035
Salado									
1,500.00	0.00	0.00	1,500.00	0.00	0.00	389,094.96	793,896.63	32.06618603	-103.38460035
KOP - Build @ 0.5°/100'									
1,600.00	0.50	211.32	1,600.00	-0.37	-0.23	389,094.59	793,896.40	32.06618502	-103.38460109
1,700.00	1.00	211.32	1,699.99	-1.49	-0.91	389,093.47	793,895.72	32.06618196	-103.38460332
1,800.00	1.50	211.32	1,799.97	-3.35	-2.04	389,091.60	793,894.59	32.06617686	-103.38460703
1,900.00	2.00	211.32	1,899.92	-5.96	-3.63	389,089.00	793,893.00	32.06616973	-103.38461223
2,000.00	2.50	211.32	1,999.84	-9.32	-5.67	389,085.64	793,890.96	32.06616056	-103.38461892
Continue Build 0.75°/100'									
2,100.00	3.25	211.32	2,099.71	-13.60	-8.28	389,081.36	793,888.35	32.06614885	-103.38462745
2,200.00	4.00	211.32	2,199.51	-19.00	-11.56	389,075.96	793,885.06	32.06613408	-103.38463822
2,300.00	4.75	211.32	2,299.22	-25.52	-15.53	389,069.44	793,881.10	32.06611627	-103.38465120
2,400.00	5.50	211.32	2,398.82	-33.15	-20.17	389,061.81	793,876.45	32.06609540	-103.38466641
2,500.00	6.25	211.32	2,498.30	-41.89	-25.50	389,053.07	793,871.13	32.06607150	-103.38468383
2,600.00	7.00	211.32	2,597.63	-51.75	-31.49	389,043.21	793,865.13	32.06604455	-103.38470347
2,700.00	7.75	211.32	2,696.80	-62.71	-38.17	389,032.24	793,858.46	32.06601458	-103.38472532
2,733.51	8.00	211.32	2,729.99	-66.64	-40.55	389,028.32	793,856.07	32.06600385	-103.38473314
EOB - Hold @ 8.00 INC, 211.32 AZI									
2,800.00	8.00	211.32	2,795.84	-74.54	-45.37	389,020.42	793,851.26	32.06598224	-103.38474889
2,900.00	8.00	211.32	2,894.86	-86.43	-52.60	389,008.53	793,844.03	32.06594973	-103.38477259
3,000.00	8.00	211.32	2,993.89	-98.32	-59.84	388,996.64	793,836.79	32.06591722	-103.38479628
3,100.00	8.00	211.32	3,092.92	-110.21	-67.08	388,984.74	793,829.55	32.06588471	-103.38481998
3,200.00	8.00	211.32	3,191.94	-122.10	-74.31	388,972.85	793,822.32	32.06585220	-103.38484367
3,300.00	8.00	211.32	3,290.97	-134.00	-81.55	388,960.96	793,815.08	32.06581969	-103.38486737
3,400.00	8.00	211.32	3,389.99	-145.89	-88.78	388,949.07	793,807.84	32.06578718	-103.38489106
3,500.00	8.00	211.32	3,489.02	-157.78	-96.02	388,937.18	793,800.61	32.06575467	-103.38491476
3,552.48	8.00	211.32	3,540.99	-164.02	-99.82	388,930.94	793,796.81	32.06573761	-103.38492719
Castille									
3,600.00	8.00	211.32	3,588.05	-169.67	-103.26	388,925.29	793,793.37	32.06572217	-103.38493845
3,700.00	8.00	211.32	3,687.07	-181.56	-110.49	388,913.40	793,786.13	32.06568966	-103.38496215
3,800.00	8.00	211.32	3,786.10	-193.45	-117.73	388,901.51	793,778.90	32.06565715	-103.38498584
3,900.00	8.00	211.32	3,885.13	-205.34	-124.97	388,889.62	793,771.66	32.06562464	-103.38500954
4,000.00	8.00	211.32	3,984.15	-217.23	-132.20	388,877.73	793,764.42	32.06559213	-103.38503323
4,100.00	8.00	211.32	4,083.18	-229.12	-139.44	388,865.84	793,757.19	32.06555962	-103.38505693
4,200.00	8.00	211.32	4,182.21	-241.01	-146.68	388,853.95	793,749.95	32.06552711	-103.38508062
4,300.00	8.00	211.32	4,281.23	-252.90	-153.91	388,842.06	793,742.71	32.06549460	-103.38510432

Planning Report - Geographic

Database:	EDM 5000.15 Single User Db	Local Co-ordinate Reference:	Well Cave Lion 5 TB Federal #15H
Company:	Marathon Oil Corporation	TVD Reference:	KB Elev @ 3253.00usft
Project:	Lea County, NM	MD Reference:	KB Elev @ 3253.00usft
Site:	Cave Lion 5	North Reference:	Grid
Well:	Cave Lion 5 TB Federal #15H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Preliminary Plan #1		

Planned Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
4,400.00	8.00	211.32	4,380.26	-264.79	-161.15	388,830.17	793,735.48	32.06546209	-103.38512801
4,500.00	8.00	211.32	4,479.29	-276.68	-168.39	388,818.28	793,728.24	32.06542959	-103.38515170
4,600.00	8.00	211.32	4,578.31	-288.57	-175.62	388,806.38	793,721.00	32.06539708	-103.38517540
4,700.00	8.00	211.32	4,677.34	-300.46	-182.86	388,794.49	793,713.77	32.06536457	-103.38519909
4,727.39	8.00	211.32	4,704.47	-303.72	-184.84	388,791.24	793,711.79	32.06535566	-103.38520559
Start Drop @ 1°/100'									
4,800.00	7.28	211.32	4,776.43	-311.97	-189.86	388,782.99	793,706.77	32.06533312	-103.38522201
4,900.00	6.28	211.32	4,875.73	-322.04	-195.99	388,772.91	793,700.64	32.06530557	-103.38524209
5,000.00	5.28	211.32	4,975.22	-330.64	-201.22	388,764.32	793,695.40	32.06528207	-103.38525922
5,100.00	4.28	211.32	5,074.87	-337.75	-205.55	388,757.21	793,691.08	32.06526263	-103.38527339
5,200.00	3.28	211.32	5,174.65	-343.38	-208.97	388,751.58	793,687.65	32.06524725	-103.38528460
5,300.00	2.28	211.32	5,274.53	-347.51	-211.49	388,747.45	793,685.14	32.06523594	-103.38529284
5,388.76	1.39	211.32	5,363.25	-349.93	-212.97	388,745.02	793,683.66	32.06522932	-103.38529767
Lamar/Base Salt									
5,400.00	1.28	211.32	5,374.48	-350.16	-213.10	388,744.80	793,683.53	32.06522871	-103.38529812
5,417.78	1.10	211.32	5,392.26	-350.47	-213.29	388,744.49	793,683.33	32.06522785	-103.38529874
Bell Canyon									
5,500.00	0.28	211.32	5,474.47	-351.31	-213.81	388,743.65	793,682.82	32.06522555	-103.38530042
5,527.53	0.00	0.00	5,502.00	-351.37	-213.84	388,743.59	793,682.79	32.06522539	-103.38530053
EOD - Hold @ 0.00 INC, 0.00 AZI - VP (Cave Lion 5 TB Federal #15H)									
5,600.00	0.00	0.00	5,574.47	-351.37	-213.84	388,743.59	793,682.79	32.06522539	-103.38530053
5,700.00	0.00	0.00	5,674.47	-351.37	-213.84	388,743.59	793,682.79	32.06522539	-103.38530053
5,800.00	0.00	0.00	5,774.47	-351.37	-213.84	388,743.59	793,682.79	32.06522539	-103.38530053
5,900.00	0.00	0.00	5,874.47	-351.37	-213.84	388,743.59	793,682.79	32.06522539	-103.38530053
6,000.00	0.00	0.00	5,974.47	-351.37	-213.84	388,743.59	793,682.79	32.06522539	-103.38530053
6,100.00	0.00	0.00	6,074.47	-351.37	-213.84	388,743.59	793,682.79	32.06522539	-103.38530053
6,200.00	0.00	0.00	6,174.47	-351.37	-213.84	388,743.59	793,682.79	32.06522539	-103.38530053
6,300.00	0.00	0.00	6,274.47	-351.37	-213.84	388,743.59	793,682.79	32.06522539	-103.38530053
6,400.00	0.00	0.00	6,374.47	-351.37	-213.84	388,743.59	793,682.79	32.06522539	-103.38530053
6,500.00	0.00	0.00	6,474.47	-351.37	-213.84	388,743.59	793,682.79	32.06522539	-103.38530053
6,600.00	0.00	0.00	6,574.47	-351.37	-213.84	388,743.59	793,682.79	32.06522539	-103.38530053
6,700.00	0.00	0.00	6,674.47	-351.37	-213.84	388,743.59	793,682.79	32.06522539	-103.38530053
6,751.79	0.00	0.00	6,726.27	-351.37	-213.84	388,743.59	793,682.79	32.06522539	-103.38530053
Cherry Canyon									
6,800.00	0.00	0.00	6,774.47	-351.37	-213.84	388,743.59	793,682.79	32.06522539	-103.38530053
6,900.00	0.00	0.00	6,874.47	-351.37	-213.84	388,743.59	793,682.79	32.06522539	-103.38530053
7,000.00	0.00	0.00	6,974.47	-351.37	-213.84	388,743.59	793,682.79	32.06522539	-103.38530053
7,100.00	0.00	0.00	7,074.47	-351.37	-213.84	388,743.59	793,682.79	32.06522539	-103.38530053
7,200.00	0.00	0.00	7,174.47	-351.37	-213.84	388,743.59	793,682.79	32.06522539	-103.38530053
7,300.00	0.00	0.00	7,274.47	-351.37	-213.84	388,743.59	793,682.79	32.06522539	-103.38530053
7,400.00	0.00	0.00	7,374.47	-351.37	-213.84	388,743.59	793,682.79	32.06522539	-103.38530053
7,500.00	0.00	0.00	7,474.47	-351.37	-213.84	388,743.59	793,682.79	32.06522539	-103.38530053
7,600.00	0.00	0.00	7,574.47	-351.37	-213.84	388,743.59	793,682.79	32.06522539	-103.38530053
7,700.00	0.00	0.00	7,674.47	-351.37	-213.84	388,743.59	793,682.79	32.06522539	-103.38530053
7,800.00	0.00	0.00	7,774.47	-351.37	-213.84	388,743.59	793,682.79	32.06522539	-103.38530053
7,900.00	0.00	0.00	7,874.47	-351.37	-213.84	388,743.59	793,682.79	32.06522539	-103.38530053
8,000.00	0.00	0.00	7,974.47	-351.37	-213.84	388,743.59	793,682.79	32.06522539	-103.38530053
8,031.79	0.00	0.00	8,006.27	-351.37	-213.84	388,743.59	793,682.79	32.06522539	-103.38530053
Brushy Canyon									
8,100.00	0.00	0.00	8,074.47	-351.37	-213.84	388,743.59	793,682.79	32.06522539	-103.38530053
8,200.00	0.00	0.00	8,174.47	-351.37	-213.84	388,743.59	793,682.79	32.06522539	-103.38530053
8,300.00	0.00	0.00	8,274.47	-351.37	-213.84	388,743.59	793,682.79	32.06522539	-103.38530053
8,400.00	0.00	0.00	8,374.47	-351.37	-213.84	388,743.59	793,682.79	32.06522539	-103.38530053
8,500.00	0.00	0.00	8,474.47	-351.37	-213.84	388,743.59	793,682.79	32.06522539	-103.38530053

Planning Report - Geographic

Database:	EDM 5000.15 Single User Db	Local Co-ordinate Reference:	Well Cave Lion 5 TB Federal #15H
Company:	Marathon Oil Corporation	TVD Reference:	KB Elev @ 3253.00usft
Project:	Lea County, NM	MD Reference:	KB Elev @ 3253.00usft
Site:	Cave Lion 5	North Reference:	Grid
Well:	Cave Lion 5 TB Federal #15H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Preliminary Plan #1		

Planned Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
8,600.00	0.00	0.00	8,574.47	-351.37	-213.84	388,743.59	793,682.79	32.06522539	-103.38530053
8,700.00	0.00	0.00	8,674.47	-351.37	-213.84	388,743.59	793,682.79	32.06522539	-103.38530053
8,800.00	0.00	0.00	8,774.47	-351.37	-213.84	388,743.59	793,682.79	32.06522539	-103.38530053
8,900.00	0.00	0.00	8,874.47	-351.37	-213.84	388,743.59	793,682.79	32.06522539	-103.38530053
9,000.00	0.00	0.00	8,974.47	-351.37	-213.84	388,743.59	793,682.79	32.06522539	-103.38530053
9,100.00	0.00	0.00	9,074.47	-351.37	-213.84	388,743.59	793,682.79	32.06522539	-103.38530053
9,200.00	0.00	0.00	9,174.47	-351.37	-213.84	388,743.59	793,682.79	32.06522539	-103.38530053
9,300.00	0.00	0.00	9,274.47	-351.37	-213.84	388,743.59	793,682.79	32.06522539	-103.38530053
9,328.79	0.00	0.00	9,303.27	-351.37	-213.84	388,743.59	793,682.79	32.06522539	-103.38530053
Bone Spring									
9,400.00	0.00	0.00	9,374.47	-351.37	-213.84	388,743.59	793,682.79	32.06522539	-103.38530053
9,500.00	0.00	0.00	9,474.47	-351.37	-213.84	388,743.59	793,682.79	32.06522539	-103.38530053
9,600.00	0.00	0.00	9,574.47	-351.37	-213.84	388,743.59	793,682.79	32.06522539	-103.38530053
9,700.00	0.00	0.00	9,674.47	-351.37	-213.84	388,743.59	793,682.79	32.06522539	-103.38530053
9,800.00	0.00	0.00	9,774.47	-351.37	-213.84	388,743.59	793,682.79	32.06522539	-103.38530053
9,900.00	0.00	0.00	9,874.47	-351.37	-213.84	388,743.59	793,682.79	32.06522539	-103.38530053
10,000.00	0.00	0.00	9,974.47	-351.37	-213.84	388,743.59	793,682.79	32.06522539	-103.38530053
10,100.00	0.00	0.00	10,074.47	-351.37	-213.84	388,743.59	793,682.79	32.06522539	-103.38530053
10,200.00	0.00	0.00	10,174.47	-351.37	-213.84	388,743.59	793,682.79	32.06522539	-103.38530053
10,300.00	0.00	0.00	10,274.47	-351.37	-213.84	388,743.59	793,682.79	32.06522539	-103.38530053
10,400.00	0.00	0.00	10,374.47	-351.37	-213.84	388,743.59	793,682.79	32.06522539	-103.38530053
10,497.79	0.00	0.00	10,472.27	-351.37	-213.84	388,743.59	793,682.79	32.06522539	-103.38530053
First Bone Spring									
10,500.00	0.00	0.00	10,474.47	-351.37	-213.84	388,743.59	793,682.79	32.06522539	-103.38530053
10,600.00	0.00	0.00	10,574.47	-351.37	-213.84	388,743.59	793,682.79	32.06522539	-103.38530053
10,638.79	0.00	0.00	10,613.27	-351.37	-213.84	388,743.59	793,682.79	32.06522539	-103.38530053
First Bone Spring Base									
10,700.00	0.00	0.00	10,674.47	-351.37	-213.84	388,743.59	793,682.79	32.06522539	-103.38530053
10,800.00	0.00	0.00	10,774.47	-351.37	-213.84	388,743.59	793,682.79	32.06522539	-103.38530053
10,900.00	0.00	0.00	10,874.47	-351.37	-213.84	388,743.59	793,682.79	32.06522539	-103.38530053
11,000.00	0.00	0.00	10,974.47	-351.37	-213.84	388,743.59	793,682.79	32.06522539	-103.38530053
11,015.79	0.00	0.00	10,990.27	-351.37	-213.84	388,743.59	793,682.79	32.06522539	-103.38530053
Second Bone Spring									
11,100.00	0.00	0.00	11,074.47	-351.37	-213.84	388,743.59	793,682.79	32.06522539	-103.38530053
11,200.00	0.00	0.00	11,174.47	-351.37	-213.84	388,743.59	793,682.79	32.06522539	-103.38530053
11,300.00	0.00	0.00	11,274.47	-351.37	-213.84	388,743.59	793,682.79	32.06522539	-103.38530053
11,400.00	0.00	0.00	11,374.47	-351.37	-213.84	388,743.59	793,682.79	32.06522539	-103.38530053
11,500.00	0.00	0.00	11,474.47	-351.37	-213.84	388,743.59	793,682.79	32.06522539	-103.38530053
11,558.79	0.00	0.00	11,533.27	-351.37	-213.84	388,743.59	793,682.79	32.06522539	-103.38530053
Second Bone Spring Base									
11,600.00	0.00	0.00	11,574.47	-351.37	-213.84	388,743.59	793,682.79	32.06522539	-103.38530053
11,700.00	0.00	0.00	11,674.47	-351.37	-213.84	388,743.59	793,682.79	32.06522539	-103.38530053
11,800.00	0.00	0.00	11,774.47	-351.37	-213.84	388,743.59	793,682.79	32.06522539	-103.38530053
11,900.00	0.00	0.00	11,874.47	-351.37	-213.84	388,743.59	793,682.79	32.06522539	-103.38530053
11,999.46	0.00	0.00	11,973.93	-351.37	-213.84	388,743.59	793,682.79	32.06522539	-103.38530053
Start Build @ 12°/100'									
12,000.00	0.06	359.44	11,974.47	-351.37	-213.84	388,743.59	793,682.79	32.06522539	-103.38530053
12,100.00	12.06	359.44	12,073.73	-340.82	-213.94	388,754.13	793,682.68	32.06525438	-103.38530057
12,111.66	13.46	359.44	12,085.11	-338.25	-213.97	388,756.71	793,682.66	32.06526147	-103.38530058
Third Bone Spring									
12,200.00	24.06	359.44	12,168.63	-309.87	-214.25	388,785.09	793,682.38	32.06533947	-103.38530067
12,300.00	36.06	359.44	12,255.02	-259.87	-214.73	388,835.09	793,681.89	32.06547692	-103.38530083
12,389.00	46.75	359.44	12,321.68	-201.09	-215.31	388,893.87	793,681.32	32.06563850	-103.38530101
FTP (Cave Lion 5 TB Federal #15H)									

Planning Report - Geographic

Database:	EDM 5000.15 Single User Db	Local Co-ordinate Reference:	Well Cave Lion 5 TB Federal #15H
Company:	Marathon Oil Corporation	TVD Reference:	KB Elev @ 3253.00usft
Project:	Lea County, NM	MD Reference:	KB Elev @ 3253.00usft
Site:	Cave Lion 5	North Reference:	Grid
Well:	Cave Lion 5 TB Federal #15H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Preliminary Plan #1		

Planned Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
12,400.00	48.06	359.44	12,329.12	-193.00	-215.39	388,901.96	793,681.24	32.06566075	-103.38530104
12,500.00	60.06	359.44	12,387.70	-112.18	-216.18	388,982.78	793,680.45	32.06588291	-103.38530130
12,600.00	72.06	359.44	12,428.20	-20.95	-217.07	389,074.01	793,679.56	32.06613369	-103.38530159
12,700.00	84.06	359.44	12,448.84	76.70	-218.02	389,171.66	793,678.60	32.06640213	-103.38530190
12,755.29	90.70	359.44	12,451.36	131.90	-218.56	389,226.86	793,678.06	32.06655388	-103.38530208
Landing Point - 12755.29 MD, 12451.36 TVD, 90.70 INC, 359.44 AZI									
12,800.00	90.70	359.44	12,450.82	176.61	-219.00	389,271.57	793,677.63	32.06667676	-103.38530222
12,900.00	90.70	359.44	12,449.59	276.59	-219.98	389,371.55	793,676.65	32.06695162	-103.38530254
13,000.00	90.70	359.44	12,448.37	376.58	-220.95	389,471.54	793,675.67	32.06722648	-103.38530286
13,100.00	90.70	359.44	12,447.15	476.57	-221.93	389,571.53	793,674.70	32.06750134	-103.38530317
13,200.00	90.70	359.44	12,445.93	576.56	-222.91	389,671.52	793,673.72	32.06777620	-103.38530349
13,300.00	90.70	359.44	12,444.71	676.55	-223.89	389,771.50	793,672.74	32.06805105	-103.38530381
13,400.00	90.70	359.44	12,443.49	776.53	-224.86	389,871.49	793,671.76	32.06832591	-103.38530413
13,500.00	90.70	359.44	12,442.26	876.52	-225.84	389,971.48	793,670.79	32.06860077	-103.38530445
13,600.00	90.70	359.44	12,441.04	976.51	-226.82	390,071.47	793,669.81	32.06887563	-103.38530477
13,700.00	90.70	359.44	12,439.82	1,076.50	-227.80	390,171.46	793,668.83	32.06915049	-103.38530509
13,800.00	90.70	359.44	12,438.60	1,176.48	-228.77	390,271.44	793,667.86	32.06942535	-103.38530541
13,900.00	90.70	359.44	12,437.38	1,276.47	-229.75	390,371.43	793,666.88	32.06970021	-103.38530572
14,000.00	90.70	359.44	12,436.16	1,376.46	-230.73	390,471.42	793,665.90	32.06997506	-103.38530604
14,100.00	90.70	359.44	12,434.93	1,476.45	-231.70	390,571.41	793,664.92	32.07024992	-103.38530636
14,200.00	90.70	359.44	12,433.71	1,576.44	-232.68	390,671.39	793,663.95	32.07052478	-103.38530668
14,300.00	90.70	359.44	12,432.49	1,676.42	-233.66	390,771.38	793,662.97	32.07079964	-103.38530700
14,400.00	90.70	359.44	12,431.27	1,776.41	-234.64	390,871.37	793,661.99	32.07107450	-103.38530732
14,500.00	90.70	359.44	12,430.05	1,876.40	-235.61	390,971.36	793,661.01	32.07134936	-103.38530764
14,600.00	90.70	359.44	12,428.83	1,976.39	-236.59	391,071.35	793,660.04	32.07162422	-103.38530796
14,700.00	90.70	359.44	12,427.60	2,076.37	-237.57	391,171.33	793,659.06	32.07189907	-103.38530827
14,800.00	90.70	359.44	12,426.38	2,176.36	-238.54	391,271.32	793,658.08	32.07217393	-103.38530859
14,900.00	90.70	359.44	12,425.16	2,276.35	-239.52	391,371.31	793,657.11	32.07244879	-103.38530891
15,000.00	90.70	359.44	12,423.94	2,376.34	-240.50	391,471.30	793,656.13	32.07272365	-103.38530923
15,100.00	90.70	359.44	12,422.72	2,476.33	-241.48	391,571.28	793,655.15	32.07299851	-103.38530955
15,200.00	90.70	359.44	12,421.50	2,576.31	-242.45	391,671.27	793,654.17	32.07327337	-103.38530987
15,300.00	90.70	359.44	12,420.27	2,676.30	-243.43	391,771.26	793,653.20	32.07354822	-103.38531018
15,400.00	90.70	359.44	12,419.05	2,776.29	-244.41	391,871.25	793,652.22	32.07382308	-103.38531050
15,500.00	90.70	359.44	12,417.83	2,876.28	-245.39	391,971.24	793,651.24	32.07409794	-103.38531082
15,600.00	90.70	359.44	12,416.61	2,976.26	-246.36	392,071.22	793,650.27	32.07437280	-103.38531114
15,700.00	90.70	359.44	12,415.39	3,076.25	-247.34	392,171.21	793,649.29	32.07464766	-103.38531146
15,800.00	90.70	359.44	12,414.17	3,176.24	-248.32	392,271.20	793,648.31	32.07492252	-103.38531178
15,900.00	90.70	359.44	12,412.94	3,276.23	-249.29	392,371.19	793,647.33	32.07519737	-103.38531210
16,000.00	90.70	359.44	12,411.72	3,376.22	-250.27	392,471.17	793,646.36	32.07547223	-103.38531241
16,100.00	90.70	359.44	12,410.50	3,476.20	-251.25	392,571.16	793,645.38	32.07574709	-103.38531273
16,200.00	90.70	359.44	12,409.28	3,576.19	-252.23	392,671.15	793,644.40	32.07602195	-103.38531305
16,300.00	90.70	359.44	12,408.06	3,676.18	-253.20	392,771.14	793,643.42	32.07629681	-103.38531337
16,400.00	90.70	359.44	12,406.84	3,776.17	-254.18	392,871.13	793,642.45	32.07657167	-103.38531369
16,500.00	90.70	359.44	12,405.61	3,876.15	-255.16	392,971.11	793,641.47	32.07684652	-103.38531400
16,600.00	90.70	359.44	12,404.39	3,976.14	-256.14	393,071.10	793,640.49	32.07712138	-103.38531432
16,700.00	90.70	359.44	12,403.17	4,076.13	-257.11	393,171.09	793,639.52	32.07739624	-103.38531464
16,800.00	90.70	359.44	12,401.95	4,176.12	-258.09	393,271.08	793,638.54	32.07767110	-103.38531496
16,900.00	90.70	359.44	12,400.73	4,276.11	-259.07	393,371.06	793,637.56	32.07794596	-103.38531528
17,000.00	90.70	359.44	12,399.51	4,376.09	-260.04	393,471.05	793,636.58	32.07822081	-103.38531560
17,100.00	90.70	359.44	12,398.28	4,476.08	-261.02	393,571.04	793,635.61	32.07849567	-103.38531591
17,200.00	90.70	359.44	12,397.06	4,576.07	-262.00	393,671.03	793,634.63	32.07877053	-103.38531623
17,300.00	90.70	359.44	12,395.84	4,676.06	-262.98	393,771.01	793,633.65	32.07904539	-103.38531655
17,346.72	90.70	359.44	12,395.27	4,722.77	-263.43	393,817.73	793,633.20	32.07917380	-103.38531670
TD - 17346.72 MD, 12395.27 TVD - PBHL (Cave Lion 5 TB Federal #15H) - PBHL-10' (Cave Lion 5 TB Federal #15H)									

Planning Report - Geographic

Database:	EDM 5000.15 Single User Db	Local Co-ordinate Reference:	Well Cave Lion 5 TB Federal #15H
Company:	Marathon Oil Corporation	TVD Reference:	KB Elev @ 3253.00usft
Project:	Lea County, NM	MD Reference:	KB Elev @ 3253.00usft
Site:	Cave Lion 5	North Reference:	Grid
Well:	Cave Lion 5 TB Federal #15H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Preliminary Plan #1		

Design Targets									
Target Name - hit/miss target - Shape	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude
VP (Cave Lion 5 TB Fed - plan hits target center - Point	0.00	0.00	5,502.00	-351.37	-213.84	388,743.59	793,682.79	32.06522539	-103.38530053
PBHL (Cave Lion 5 TB F - plan misses target center by 10.00usft at 17346.72usft MD (12395.27 TVD, 4722.77 N, -263.43 E) - Point	0.00	0.00	12,395.15	4,732.77	-263.53	393,827.73	793,633.10	32.07920129	-103.38531673
PBHL-10' (Cave Lion 5 T - plan hits target center - Point	0.00	0.00	12,395.27	4,722.77	-263.43	393,817.73	793,633.20	32.07917380	-103.38531670
FTP (Cave Lion 5 TB Fe - plan misses target center by 202.41usft at 12389.00usft MD (12321.68 TVD, -201.09 N, -215.31 E) - Point	0.00	0.00	12,457.27	-351.37	-213.84	388,743.59	793,682.79	32.06522539	-103.38530053

Formations						
Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)	
1,061.00	1,061.00	Rustler		-0.70	359.44	
1,499.00	1,499.00	Salado		-0.70	359.44	
3,552.48	3,540.99	Castille		-0.70	359.44	
5,388.76	5,363.25	Lamar/Base Salt		-0.70	359.44	
5,417.78	5,392.26	Bell Canyon		-0.70	359.44	
6,751.79	6,726.27	Cherry Canyon		-0.70	359.44	
8,031.79	8,006.27	Brushy Canyon		-0.70	359.44	
9,328.79	9,303.27	Bone Spring		-0.70	359.44	
10,497.79	10,472.27	First Bone Spring		-0.70	359.44	
10,638.79	10,613.27	First Bone Spring Base		-0.70	359.44	
11,015.79	10,990.27	Second Bone Spring		-0.70	359.44	
11,558.79	11,533.27	Second Bone Spring Base		-0.70	359.44	
12,111.66	12,085.11	Third Bone Spring		-0.70	359.44	

Plan Annotations					
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates			
		+N/-S (usft)	+E/-W (usft)	Comment	
1,500.00	1,500.00	0.00	0.00	KOP - Build @ 0.5°/100'	
2,000.00	1,999.84	-9.32	-5.67	Continue Build 0.75°/100'	
2,733.51	2,729.99	-66.64	-40.55	EOB - Hold @ 8.00 INC, 211.32 AZI	
4,727.39	4,704.47	-303.72	-184.84	Start Drop @ 1°/100'	
5,527.53	5,502.00	-351.37	-213.84	EOD - Hold @ 0.00 INC, 0.00 AZI	
11,999.46	11,973.93	-351.37	-213.84	Start Build @ 12°/100'	
12,755.29	12,451.36	131.90	-218.56	Landing Point - 12755.29 MD, 12451.36 TVD, 90.70 INC, 359.44 AZI	
17,346.72	12,395.27	4,722.77	-263.43	TD - 17346.72 MD, 12395.27 TVD	

District I
1625 N. French Dr., Hobbs, NM 88240
Phone:(575) 393-6161 Fax:(575) 393-0720
District II
811 S. First St., Artesia, NM 88210
Phone:(575) 748-1283 Fax:(575) 748-9720
District III
1000 Rio Brazos Rd., Aztec, NM 87410
Phone:(505) 334-6178 Fax:(505) 334-6170
District IV
1220 S. St Francis Dr., Santa Fe, NM 87505
Phone:(505) 476-3470 Fax:(505) 476-3462

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

CONDITIONS

Action 36469

CONDITIONS

Operator: MARATHON OIL PERMIAN LLC 5555 San Felipe St. Houston, TX 77056	OGRID: 372098
	Action Number: 36469
	Action Type: [C-103] NOI Change of Plans (C-103A)

CONDITIONS

Created By	Condition	Condition Date
pkautz	None	9/24/2021