

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

Rcvd 4/17/2020 - NMOC

FORM APPROVED
OMB No. 1004-0137
Expires: July 31, 2010

WELL COMPLETION OR RECOMPLETION REPORT AND LOG

1a. Type of Well ☒ Oil Well ☐ Gas Well ☐ Dry ☐ Other				5. Lease Serial No. NMNM26394	
b. Type of Completion ☒ New Well ☐ Work Over ☐ Deepen ☐ Plug Back ☐ Diff. Resvr. Other _____				6. If Indian, Allottee or Tribe Name	
2. Name of Operator CIMAREX ENERGY COMPANY				Contact: FATIMA VASQUEZ E-Mail: fvasquez@cimarex.com	
3. Address 600 N MARIENFELD ST SUITE 600 MIDLAND, TX 79701				3a. Phone No. (include area code) Ph: 432.620.1933	
4. Location of Well (Report location clearly and in accordance with Federal requirements)* At surface NWNE 390FNL 1360FEL 32.107722 N Lat, 103.573181 W Lon At top prod interval reported below NENE 803FNL 323FEL 32.106581 N Lat, 103.569831 W Lon At total depth SESE 100FSL 331FEL 32.094550 N Lat, 103.569825 W Lon				8. Lease Name and Well No. CASCADE 28 FEDERAL 85H	
14. Date Spudded 10/16/2019				15. Date T.D. Reached 11/28/2019	
16. Date Completed ☐ D & A ☒ Ready to Prod. 01/23/2020				9. API Well No. 30-025-46313	
18. Total Depth: MD 16925 TVD 12274				19. Plug Back T.D.: MD 16909 TVD 12274	
20. Depth Bridge Plug Set: MD TVD				10. Field and Pool, or Exploratory BOBCAT DRAW; UPR WOLFCAMP	
21. Type Electric & Other Mechanical Logs Run (Submit copy of each) NA				11. Sec., T., R., M., or Block and Survey or Area Sec 28 T25S R33E Mer NMP	
22. Was well cored? ☒ No ☐ Yes (Submit analysis) Was DST run? ☒ No ☐ Yes (Submit analysis) Directional Survey? ☐ No ☒ Yes (Submit analysis)				12. County or Parish LEA	
23. Casing and Liner Record (Report all strings set in well)				13. State NM	
17. Elevations (DF, KB, RT, GL)* 3364 GL					

Hole Size	Size/Grade	Wt. (#/ft.)	Top (MD)	Bottom (MD)	Stage Cementer Depth	No. of Sk. & Type of Cement	Slurry Vol. (BBL)	Cement Top*	Amount Pulled
14.750	10.750 J-55	40.5	0	1020		875		0	
6.750	5.500 P-110	23.0	0	11717				0	
9.875	7.625 HCL-80	29.7	0	11835				710	
6.750	5.000 P-110	18.0	11717	16925		1130		0	
8.750	7.625 HCL-80	29.7	11835	12530		2310		710	

Size	Depth Set (MD)	Packer Depth (MD)	Size	Depth Set (MD)	Packer Depth (MD)	Size	Depth Set (MD)	Packer Depth (MD)

Formation	Top	Bottom	Perforated Interval	Size	No. Holes	Perf. Status
A) WOLFCAMP	12165		12544 TO 16885	0.350	588	PRODUCING
B)						
C)						
D)						

Depth Interval	Amount and Type of Material
12544 TO 16885	207,114 BBLS & 10,494,500# SAND

Date First Produced	Test Date	Hours Tested	Test Production	Oil BBL	Gas MCF	Water BBL	Oil Gravity Corr. API	Gas Gravity	Production Method
01/23/2020	02/16/2020	24	→	1477.0	3606.0	5193.0	46.5		FLOWS FROM WELL
Choke Size	Tbg. Press. Flwg.	Csg. Press.	24 Hr. Rate	Oil BBL	Gas MCF	Water BBL	Gas:Oil Ratio	Well Status	
36	SI	2117.0	→	1477	3606	5193	2441	POW	

Date First Produced	Test Date	Hours Tested	Test Production	Oil BBL	Gas MCF	Water BBL	Oil Gravity Corr. API	Gas Gravity	Production Method
			→						
Choke Size	Tbg. Press. Flwg.	Csg. Press.	24 Hr. Rate	Oil BBL	Gas MCF	Water BBL	Gas:Oil Ratio	Well Status	
	SI		→						

(See Instructions and spaces for additional data on reverse side)

ELECTRONIC SUBMISSION #508563 VERIFIED BY THE BLM WELL INFORMATION SYSTEM

** OPERATOR-SUBMITTED ** OPERATOR-SUBMITTED ** OPERATOR-SUBMITTED **

28b. Production - Interval C

Date First Produced	Test Date	Hours Tested	Test Production →	Oil BBL	Gas MCF	Water BBL	Oil Gravity Corr. API	Gas Gravity	Production Method
Choke Size	Tbg. Press. Flwg. SI	Csg. Press.	24 Hr. Rate →	Oil BBL	Gas MCF	Water BBL	Gas:Oil Ratio	Well Status	

28c. Production - Interval D

Date First Produced	Test Date	Hours Tested	Test Production →	Oil BBL	Gas MCF	Water BBL	Oil Gravity Corr. API	Gas Gravity	Production Method
Choke Size	Tbg. Press. Flwg. SI	Csg. Press.	24 Hr. Rate →	Oil BBL	Gas MCF	Water BBL	Gas:Oil Ratio	Well Status	

29. Disposition of Gas(*Sold, used for fuel, vented, etc.*)
SOLD

30. Summary of Porous Zones (Include Aquifers):

Show all important zones of porosity and contents thereof: Cored intervals and all drill-stem tests, including depth interval tested, cushion used, time tool open, flowing and shut-in pressures and recoveries.

31. Formation (Log) Markers

Formation	Top	Bottom	Descriptions, Contents, etc.	Name	Top
					Meas. Depth
BELL CANYON	4958	6032	SANDSTONE: WATER	RUSTLER	994
CHERRY CANYON	6032	7514	SANDSTONE: WATER	TOP OF SALT	1328
BRUSHY CANYON	7514	9038	SANDSTONE: WATER	BELL CANYON	4958
BONE SPRING	9038	12165	LS/SHALE/SS:OIL,GAS,WATER	CHERRY CANYON	6032
WOLFCAMP	12165		SHALE/SANDSTONE:OIL,GAS,WATER	BRUSHY CANYON	7514
				BONE SPRING	9038
				WOLFCAMP	12165

32. Additional remarks (include plugging procedure):

33. Circle enclosed attachments:

- | | | | |
|---|--------------------|---------------|-----------------------|
| 1. Electrical/Mechanical Logs (1 full set req'd.) | 2. Geologic Report | 3. DST Report | 4. Directional Survey |
| 5. Sundry Notice for plugging and cement verification | 6. Core Analysis | 7 Other: | |

34. I hereby certify that the foregoing and attached information is complete and correct as determined from all available records (see attached instructions):

**Electronic Submission #508563 Verified by the BLM Well Information System.
For CIMAREX ENERGY COMPANY, sent to the Hobbs**

Name (*please print*) FATIMA VASQUEZ

Title REGULATORY ANALYST

Signature _____ (Electronic Submission)

Date 03/26/2020

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.

**** ORIGINAL ** ORIGINAL ** ORIGINAL ** ORIGINAL ** ORIGINAL ** ORIGINAL ** ORIGINAL ****

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENTFORM APPROVED
OMB NO. 1004-0137
Expires: January 31, 2018**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.
NMNM26394

6. If Indian, Allottee or Tribe Name

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

8. Well Name and No.
CASCADE 28 FEDERAL 85H9. API Well No.
30-025-4631310. Field and Pool or Exploratory Area
BOBCAT DRAW; UPR WOLFCAMP11. County or Parish, State
LEA COUNTY, NM**SUBMIT IN TRIPLICATE - Other instructions on page 2**

1. Type of Well

☒ Oil Well ☐ Gas Well ☐ Other

2. Name of Operator

CIMAREX ENERGY COMPANY

Contact: FATIMA VASQUEZ

E-Mail: fvasquez@cimarex.com

3a. Address

600 N MARIENFELD ST SUITE 600
MIDLAND, TX 79701

3b. Phone No. (include area code)

Ph: 432-620-1933

4. Location of Well (Footage, Sec., T., R., M., or Survey Description)

Sec 28 T25S R33E Mer NMP NWNE 390FNL 1360FEL
32.107722 N Lat, 103.573181 W Lon**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	Production Start-up
	☐ 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 determined that the site is ready for final inspection.

Cimarex completed this well as follows:

12/15/2019 Test csg to 12,740# for 30 min. OK. SWI.

01/08/2020 to

01/14/2020 Perf Wolfcamp @ 12,544' - 16,885', 588 holes, .35". Frac w/ 207,114 bbls total fluid & 10,494,500 # sand.

01/17/2020 to

01/18/2020 DO plugs. Circulate well clean. SI.

01/23/2020 Flowing well. TTP

14. I hereby certify that the foregoing is true and correct.

**Electronic Submission #507943 verified by the BLM Well Information System
For CIMAREX ENERGY COMPANY, sent to the Hobbs**

Name (Printed/Typed) FATIMA VASQUEZ

Title REGULATORY ANALYST

Signature (Electronic Submission)

Date 03/21/2020

THIS SPACE FOR FEDERAL OR STATE OFFICE USE

Approved By _____	Title _____	Date _____
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 _____	

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)

**** OPERATOR-SUBMITTED ** OPERATOR-SUBMITTED ** OPERATOR-SUBMITTED ****

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 30-25-46313	² Pool Code 98094	³ Pool Name Bobcat Draw; UPR Wolfcamp <i>KZ</i>
⁴ Property Code 31404	⁵ Property Name CASCADE 28 FEDERAL	⁶ Well Number 85H
⁷ OGRID No. 215099	⁸ Operator Name CIMAREX ENERGY CO.	⁹ Elevation 3364.0

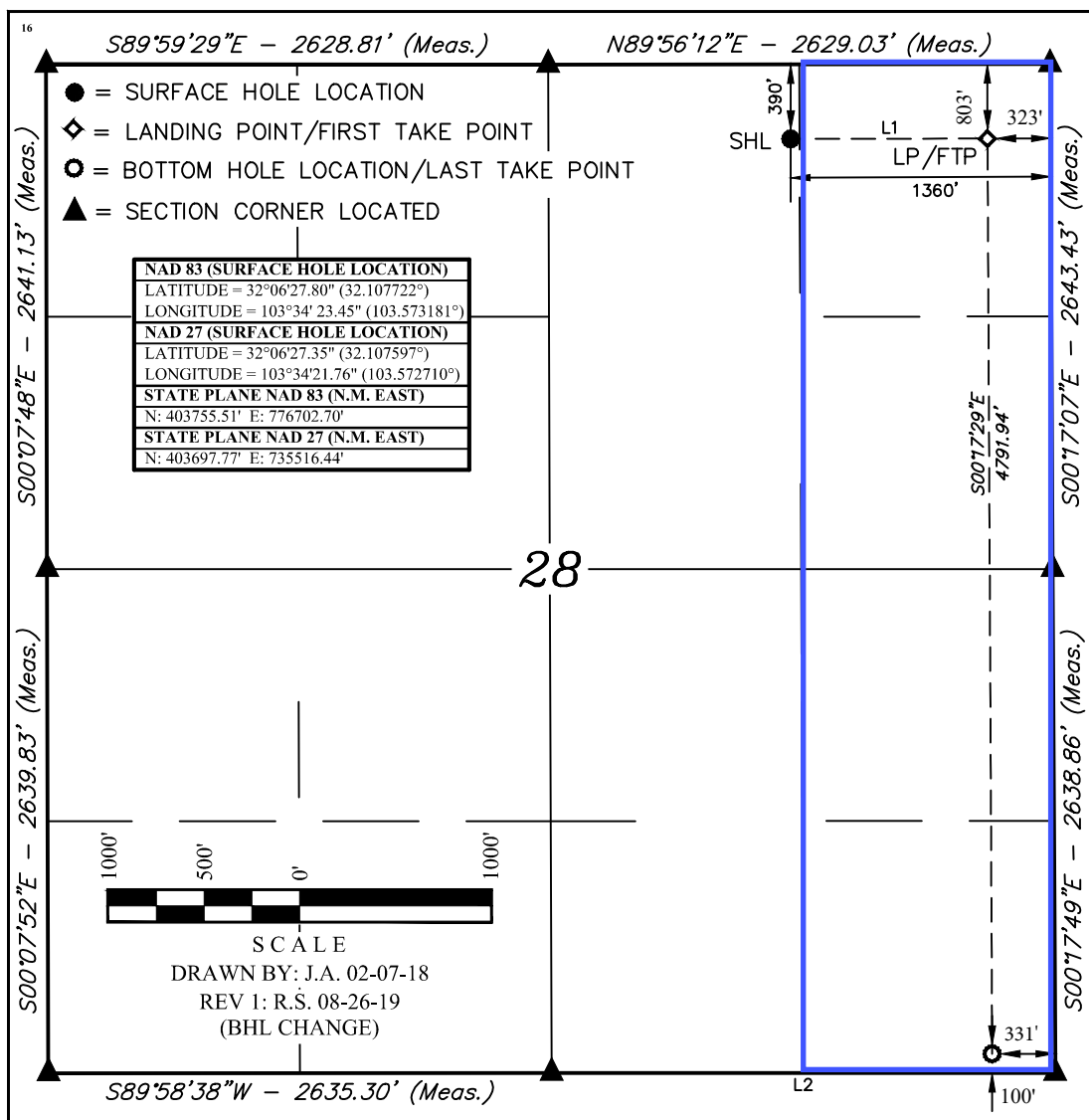
¹⁰ Surface Location

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
B	28	25S	33E		390	NORTH	1360	EAST	LEA

¹¹ Bottom Hole Location If Different From Surface

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
P	28	25S	33E		100	SOUTH	331	EAST	LEA
¹² Dedicated Acres 160	¹³ Joint or Infill	¹⁴ Consolidation Code	¹⁵ Order No.						

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



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.

Fatima Vasquez 3/26/2020
Signature Date

Fatima Vasquez
Printed Name

fvasquez@cimarex.com
E-mail Address

¹⁸ SURVEYOR
CERTIFICATION

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

January 24, 2018

Date of Survey
Signature and Seal of Professional Surveyor:



Certificate Number:

Intent ☐ As Drilled ☐

API #		
Operator Name:	Property Name:	Well Number

Kick Off Point (KOP)

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

First Take Point (FTP)

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

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? ☐

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

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1625 N. French Dr., Hobbs, NM 88240
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District III
1000 Rio Brazos Rd., Aztec, NM 87410
District IV
1220 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico
Energy, Minerals & Natural Resources

Form C-104
Revised August 1, 2011

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

Submit one copy to appropriate District Office

☐ AMENDED REPORT

I. REQUEST FOR ALLOWABLE AND AUTHORIZATION TO TRANSPORT

¹ Operator name and Address		² OGRID Number	
		³ Reason for Filing Code/ Effective Date	
⁴ API Number	⁵ Pool Name		⁶ Pool Code <i>KZ</i>
⁷ Property Code	⁸ Property Name		⁹ Well Number

II. ¹⁰Surface Location

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South Line	Feet from the	East/West line	County
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¹¹ Bottom Hole Location

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
¹² Lse Code	¹³ Producing Method Code		¹⁴ Gas Connection Date		¹⁵ C-129 Permit Number		¹⁶ C-129 Effective Date		¹⁷ C-129 Expiration Date

III. Oil and Gas Transporters

¹⁸ Transporter OGRID	¹⁹ Transporter Name and Address	²⁰ O/G/W

IV. Well Completion Data

²¹ Spud Date	²² Ready Date	²³ TD	²⁴ PBTd	²⁵ Perforations	²⁶ DHC, MC
²⁷ Hole Size		²⁸ Casing & Tubing Size	²⁹ Depth Set		³⁰ Sacks Cement
			<i>Fatima Vasquez</i>		

V. Well Test Data

³¹ Date New Oil	³² Gas Delivery Date	³³ Test Date	³⁴ Test Length	³⁵ Tbg. Pressure	³⁶ Csg. Pressure
³⁷ Choke Size	³⁸ Oil	³⁹ Water	⁴⁰ Gas		⁴¹ Test Method
⁴² I hereby certify that the rules of the Oil Conservation Division have been complied with and that the information given above is true and complete to the best of my knowledge and belief. Signature: <i>Fatima Vasquez</i> Printed name: Title: E-mail Address: Date:			OIL CONSERVATION DIVISION		
			Approved by: <i>Patricia Martinez</i>		
			Title: <i>LM II</i>		
			Approval Date: <i>6/16/2020</i>		
Phone:					



Final Surveys - Cimarex Cascade 28 Federal 85H MWD 0ft-16925ft (Surcon Corrected) Survey Geodetic Report (Def Survey)



Report Date:	December 03, 2019 - 02:19 PM	Survey / DLS Computation:	Minimum Curvature / Lubinski
Client:	Cimarex	Vertical Section Azimuth:	179.470 ° (Grid North)
Field:	NM Lea County (NAD 83)	Vertical Section Origin:	0.000 ft, 0.000 ft
Structure / Slot:	Cimarex Cascade 28 Federal 85H / Cimarex Cascade 28 Federal 85H	TVD Reference Datum:	RKB
Well:	Cimarex Cascade 28 Federal 85H	TVD Reference Elevation:	3390.000 ft above MSL
Borehole:	Original Borehole	Seabed / Ground Elevation:	3364.000 ft above MSL
UWI / API#:	Unknown / Unknown	Magnetic Declination:	6.593 °
Survey Name:	Final Surveys - Cimarex Cascade 28 Federal 85H MWD 0ft-16925ft (Surcon Corrected)	Total Gravity Field Strength:	998.4373mgn (9.80665 Based)
Survey Date:	October 15, 2019	Gravity Model:	GARM
Tort / AHD / DDI / ERD Ratio:	216.401 ° / 5898.360 ft / 6.245 / 0.480	Total Magnetic Field Strength:	47721.511 nT
Coordinate Reference System:	NAD83 New Mexico State Plane, Eastern Zone, US Feet	Magnetic Dip Angle:	59.700 °
Location Lat / Long:	N 32° 6' 27.79854", W 103° 34' 23.45237"	Declination Date:	November 20, 2019
Location Grid N/E Y/X:	N 403755.510 ftUS, E 776702.700 ftUS	Magnetic Declination Model:	HDGM 2019
CRS Grid Convergence Angle:	0.4040 °	North Reference:	Grid North
Grid Scale Factor:	0.99997254	Grid Convergence Used:	0.4040 °
Version / Patch:	2.10.787.0	Total Corr Mag North->Grid North:	6.1892 °
		Local Coord Referenced To:	Structure Reference Point

Comments	MD (ft)	Incl (°)	Azim Grid (°)	TVD (ft)	VSEC (ft)	NS (ft)	EW (ft)	DLS (°/100ft)	Northing (ftUS)	Easting (ftUS)	Latitude (N/S ° ' '')	Longitude (E/W ° ' '')	Closure Azimuth (°)	Closure (ft)
SHL [390' FNL, 1360' FEL]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	N/A	403755.51	776702.70	N 32 6 27.80	W 103 34 23.45	0.00	0.00
	200.00	0.62	11.21	200.00	-1.06	1.06	0.21	0.31	403756.57	776702.91	N 32 6 27.81	W 103 34 23.45	11.21	1.08
	301.00	0.70	21.51	300.99	-2.17	2.17	0.54	0.14	403757.68	776703.24	N 32 6 27.82	W 103 34 23.45	14.03	2.24
	484.00	0.72	8.85	483.98	-4.34	4.35	1.13	0.09	403759.86	776703.83	N 32 6 27.84	W 103 34 23.44	14.56	4.49
	666.00	0.73	351.45	665.96	-6.61	6.62	1.13	0.12	403762.13	776703.83	N 32 6 27.86	W 103 34 23.44	9.71	6.72
	757.00	0.71	341.88	756.95	-7.72	7.73	0.87	0.13	403763.24	776703.57	N 32 6 27.87	W 103 34 23.44	6.43	7.78
	848.00	0.82	337.78	847.95	-8.87	8.87	0.45	0.13	403764.38	776703.15	N 32 6 27.89	W 103 34 23.45	2.90	8.88
	933.00	0.76	337.22	932.94	-9.95	9.95	0.00	0.07	403765.46	776702.70	N 32 6 27.90	W 103 34 23.45	0.01	9.95
	1035.00	0.89	344.15	1034.93	-11.34	11.34	-0.48	0.16	403766.85	776702.22	N 32 6 27.91	W 103 34 23.46	357.59	11.35
	1129.00	0.70	352.05	1128.92	-12.62	12.61	-0.76	0.23	403768.12	776701.94	N 32 6 27.92	W 103 34 23.46	356.57	12.63
	1224.00	0.73	116.44	1223.91	-12.92	12.92	-0.29	1.33	403768.43	776702.41	N 32 6 27.93	W 103 34 23.45	358.70	12.92
	1413.00	1.24	136.92	1412.89	-10.87	10.89	2.18	0.32	403766.40	776704.88	N 32 6 27.91	W 103 34 23.43	11.33	11.10
	1507.00	1.18	142.64	1506.87	-9.34	9.37	3.46	0.14	403764.88	776706.16	N 32 6 27.89	W 103 34 23.41	20.28	9.99
	1602.00	1.01	149.52	1601.85	-7.83	7.88	4.48	0.23	403763.39	776707.18	N 32 6 27.88	W 103 34 23.40	29.64	9.06
	1696.00	1.73	113.03	1695.82	-6.55	6.61	6.21	1.17	403762.12	776708.91	N 32 6 27.86	W 103 34 23.38	43.22	9.07
	1791.00	1.72	114.40	1790.78	-5.37	5.46	8.83	0.04	403760.97	776711.53	N 32 6 27.85	W 103 34 23.35	58.27	10.38
	1885.00	1.53	115.24	1884.74	-4.23	4.34	11.25	0.20	403759.85	776713.95	N 32 6 27.84	W 103 34 23.32	68.90	12.05
	1980.00	1.48	114.88	1979.71	-3.16	3.28	13.51	0.05	403758.79	776716.21	N 32 6 27.83	W 103 34 23.30	76.34	13.90
	2074.00	1.53	107.57	2073.68	-2.25	2.39	15.80	0.21	403757.90	776718.50	N 32 6 27.82	W 103 34 23.27	81.39	15.98
	2263.00	1.44	100.40	2262.61	-1.01	1.20	20.54	0.11	403756.71	776723.24	N 32 6 27.81	W 103 34 23.21	86.65	20.58
	2358.00	1.57	91.52	2357.58	-0.74	0.95	23.02	0.28	403756.46	776725.72	N 32 6 27.81	W 103 34 23.18	87.63	23.04
	2452.00	1.80	83.83	2451.54	-0.84	1.08	25.77	0.34	403756.59	776728.47	N 32 6 27.81	W 103 34 23.15	87.61	25.80
	2547.00	2.11	76.51	2546.48	-1.38	1.64	28.96	0.42	403757.15	776731.66	N 32 6 27.81	W 103 34 23.12	86.75	29.01
	2641.00	2.25	75.09	2640.42	-2.22	2.52	32.42	0.16	403758.03	776735.12	N 32 6 27.82	W 103 34 23.08	85.55	32.52
	2736.00	2.40	77.14	2735.34	-3.11	3.45	36.17	0.18	403758.96	776738.86	N 32 6 27.83	W 103 34 23.03	84.56	36.33
	2830.00	4.54	78.83	2829.16	-4.22	4.60	41.73	2.28	403760.11	776744.43	N 32 6 27.84	W 103 34 22.97	83.70	41.99
	2924.00	7.04	79.33	2922.67	-5.92	6.39	51.05	2.66	403761.90	776753.75	N 32 6 27.86	W 103 34 22.86	82.86	51.45
	3019.00	9.62	84.42	3016.66	-7.64	8.24	64.67	2.82	403763.75	776767.37	N 32 6 27.88	W 103 34 22.70	82.74	65.19
	3113.00	9.75	84.63	3109.32	-9.01	9.75	80.41	0.14	403765.26	776783.11	N 32 6 27.89	W 103 34 22.52	83.09	81.00
	3207.00	9.95	83.55	3201.94	-10.52	11.41	96.41	0.29	403766.92	776799.10	N 32 6 27.90	W 103 34 22.33	83.25	97.08
	3302.00	11.64	88.27	3295.26	-11.56	12.62	114.14	2.01	403768.13	776816.84	N 32 6 27.92	W 103 34 22.12	83.69	114.84
	3396.00	11.48	89.94	3387.35	-11.68	12.92	132.98	0.39	403768.42	776835.67	N 32 6 27.92	W 103 34 21.91	84.45	133.60
	3585.00	11.19	95.90	3572.67	-9.48	11.05	170.03	0.64	403766.56	776872.72	N 32 6 27.90	W 103 34 21.47	86.28	170.39
	3679.00	10.61	96.21	3664.97	-7.44	9.18	187.70	0.62	403764.69	776890.40	N 32 6 27.88	W 103 34 21.27	87.20	187.93

Comments	MD (ft)	Incl (°)	Azim Grid (°)	TVD (ft)	VSEC (ft)	NS (ft)	EW (ft)	DLS (°/100ft)	Northing (ftUS)	Easting (ftUS)	Latitude (N/S ° ' ")	Longitude (E/W ° ' ")	Closure Azimuth (°)	Closure (ft)
	3774.00	10.31	97.44	3758.39	-5.23	7.13	204.83	0.39	403762.64	776907.52	N 32 6 27.85	W 103 34 21.07	88.01	204.95
	3962.00	8.05	93.56	3943.98	-1.96	4.13	234.65	1.25	403759.64	776937.34	N 32 6 27.82	W 103 34 20.72	88.99	234.69
	4057.00	7.41	97.01	4038.11	-0.68	2.97	247.37	0.83	403758.48	776950.06	N 32 6 27.81	W 103 34 20.58	89.31	247.39
	4151.00	6.46	92.59	4131.43	0.40	1.99	258.67	1.16	403757.50	776961.36	N 32 6 27.80	W 103 34 20.45	89.56	258.68
	4245.00	6.67	88.56	4224.81	0.60	1.89	269.41	0.54	403757.40	776972.10	N 32 6 27.80	W 103 34 20.32	89.60	269.42
	4339.00	6.95	91.72	4318.15	0.74	1.86	280.55	0.50	403757.37	776983.24	N 32 6 27.80	W 103 34 20.19	89.62	280.56
	4528.00	8.43	92.51	4505.44	1.92	0.91	305.82	0.79	403756.42	777008.51	N 32 6 27.79	W 103 34 19.90	89.83	305.82
	4623.00	8.16	97.13	4599.45	3.19	-0.23	319.47	0.76	403755.28	777022.16	N 32 6 27.77	W 103 34 19.74	90.04	319.47
	4717.00	7.39	85.70	4692.59	3.68	-0.61	332.12	1.83	403754.90	777034.81	N 32 6 27.77	W 103 34 19.59	90.10	332.12
	4811.00	7.33	75.02	4785.82	1.79	1.40	343.94	1.45	403756.91	777046.63	N 32 6 27.79	W 103 34 19.45	89.77	343.94
	4906.00	8.01	75.82	4879.97	-1.29	4.58	356.21	0.72	403760.09	777058.90	N 32 6 27.82	W 103 34 19.31	89.26	356.24
	5000.00	9.74	81.35	4972.84	-3.96	7.38	370.42	2.05	403762.89	777073.11	N 32 6 27.85	W 103 34 19.15	88.86	370.50
	5095.00	10.58	85.15	5066.35	-5.75	9.33	387.06	1.13	403764.84	777089.75	N 32 6 27.86	W 103 34 18.95	88.62	387.17
	5190.00	10.71	85.16	5159.72	-7.07	10.81	404.55	0.14	403766.32	777107.23	N 32 6 27.88	W 103 34 18.75	88.47	404.69
	5284.00	10.77	85.62	5252.07	-8.32	12.22	422.01	0.11	403767.73	777124.69	N 32 6 27.89	W 103 34 18.55	88.34	422.18
	5379.00	10.72	88.29	5345.41	-9.09	13.16	439.69	0.53	403768.67	777142.37	N 32 6 27.90	W 103 34 18.34	88.29	439.88
	5473.00	10.94	91.57	5437.73	-8.95	13.18	457.34	0.70	403768.69	777160.03	N 32 6 27.90	W 103 34 18.13	88.35	457.53
	5568.00	10.62	91.51	5531.06	-8.30	12.70	475.10	0.34	403768.21	777177.79	N 32 6 27.89	W 103 34 17.93	88.47	475.27
	5662.00	9.99	91.18	5623.54	-7.75	12.30	491.92	0.67	403767.81	777194.60	N 32 6 27.89	W 103 34 17.73	88.57	492.07
	5757.00	9.87	90.39	5717.12	-7.38	12.08	508.30	0.19	403767.59	777210.98	N 32 6 27.88	W 103 34 17.54	88.64	508.44
	5851.00	9.76	89.26	5809.74	-7.28	12.13	524.32	0.24	403767.64	777227.00	N 32 6 27.88	W 103 34 17.36	88.68	524.46
	5946.00	9.88	87.93	5903.35	-7.52	12.52	540.52	0.27	403768.03	777243.20	N 32 6 27.88	W 103 34 17.17	88.67	540.66
	6040.00	10.44	87.82	5995.87	-7.99	13.14	557.09	0.60	403768.65	777259.77	N 32 6 27.89	W 103 34 16.97	88.65	557.24
	6134.00	10.18	88.89	6088.36	-8.32	13.63	573.90	0.34	403769.13	777276.58	N 32 6 27.89	W 103 34 16.78	88.64	574.06
	6229.00	10.60	90.68	6181.80	-8.22	13.68	591.03	0.56	403769.19	777293.71	N 32 6 27.89	W 103 34 16.58	88.67	591.19
	6323.00	10.21	89.92	6274.25	-7.97	13.59	608.01	0.44	403769.10	777310.69	N 32 6 27.89	W 103 34 16.38	88.72	608.16
	6417.00	9.90	88.76	6366.81	-8.00	13.78	624.42	0.39	403769.29	777327.10	N 32 6 27.89	W 103 34 16.19	88.74	624.57
	6512.00	10.34	87.85	6460.33	-8.35	14.28	641.10	0.49	403769.79	777343.78	N 32 6 27.90	W 103 34 16.00	88.72	641.26
	6606.00	12.20	88.92	6552.51	-8.68	14.78	659.46	1.99	403770.29	777362.15	N 32 6 27.90	W 103 34 15.78	88.72	659.63
	6795.00	12.30	94.29	6737.22	-7.18	13.65	699.51	0.60	403769.16	777402.19	N 32 6 27.88	W 103 34 15.32	88.88	699.64
	6984.00	11.00	93.32	6922.32	-4.28	11.10	737.59	0.70	403766.61	777440.26	N 32 6 27.86	W 103 34 14.88	89.14	737.67
	7079.00	10.60	93.05	7015.64	-3.12	10.11	755.36	0.42	403765.62	777458.04	N 32 6 27.85	W 103 34 14.67	89.23	755.43
	7173.00	10.16	91.77	7108.10	-2.25	9.39	772.28	0.53	403764.90	777474.96	N 32 6 27.84	W 103 34 14.47	89.30	772.34
	7268.00	9.44	90.81	7201.71	-1.73	9.03	788.44	0.78	403764.53	777491.12	N 32 6 27.83	W 103 34 14.29	89.34	788.50
	7362.00	9.07	90.93	7294.49	-1.36	8.80	803.56	0.39	403764.31	777506.24	N 32 6 27.83	W 103 34 14.11	89.37	803.61
	7457.00	8.43	89.68	7388.38	-1.15	8.71	818.01	0.70	403764.22	777520.69	N 32 6 27.83	W 103 34 13.94	89.39	818.06
	7551.00	8.91	7481.31		-1.07	8.77	832.18	0.51	403764.28	777534.86	N 32 6 27.83	W 103 34 13.78	89.40	832.23
	7646.00	9.43	92.64	7575.09	-0.59	8.43	847.31	0.72	403763.94	777549.99	N 32 6 27.82	W 103 34 13.60	89.43	847.35
	7740.00	8.93	92.51	7667.89	0.22	7.75	862.29	0.53	403763.26	777564.97	N 32 6 27.81	W 103 34 13.43	89.48	862.33
	7835.00	8.47	88.98	7761.80	0.56	7.55	876.66	0.74	403763.06	777579.33	N 32 6 27.81	W 103 34 13.26	89.51	876.69
	7930.00	9.18	85.04	7855.67	-0.09	8.33	891.20	0.98	403763.84	777593.87	N 32 6 27.82	W 103 34 13.09	89.46	891.24
	8024.00	9.23	87.78	7948.46	-0.89	9.27	906.20	0.47	403764.78	777608.88	N 32 6 27.83	W 103 34 12.92	89.41	906.25
	8119.00	9.96	92.54	8042.13	-0.68	9.21	922.02	1.13	403764.71	777624.70	N 32 6 27.83	W 103 34 12.73	89.43	922.07
	8213.00	9.29	92.16	8134.81	0.12	8.56	937.73	0.72	403764.07	777640.40	N 32 6 27.82	W 103 34 12.55	89.48	937.77
	8308.00	8.84	91.96	8228.62	0.79	8.02	952.69	0.47	403763.53	777655.36	N 32 6 27.81	W 103 34 12.38	89.52	952.72
	8402.00	8.10	90.95	8321.60	1.28	7.66	966.53	0.80	403763.17	777669.20	N 32 6 27.81	W 103 34 12.22	89.55	966.56
	8497.00	7.50	90.03	8415.72	1.51	7.55	979.42	0.65	403763.06	777682.09	N 32 6 27.80	W 103 34 12.07	89.56	979.45
	8591.00	6.94	89.73	8508.97	1.60	7.57	991.23	0.60	403763.08	777693.90	N 32 6 27.80	W 103 34 11.93	89.56	991.26
	8686.00	6.47	87.68	8603.32	1.46	7.82	1002.32	0.56	403763.33	777704.99	N 32 6 27.81	W 103 34 11.80	89.55	1002.35
	8780.00	5.95	89.14	8696.77	1.26	8.10	1012.48	0.58	403763.61	777715.15	N 32 6 27.81	W 103 34 11.68	89.54	1012.52
	8875.00	5.44	86.32	8791.30	0.99	8.47	1021.90	0.61	403763.98	777724.57	N 32 6 27.81	W 103 34 11.57	89.53	1021.93
	8969.00	4.37	85.21	8884.96	0.48	9.05	1029.92	1.14	403764.56	777732.59	N 32 6 27.82	W 103 34 11.48	89.50	1029.96
	9064.00	2.91	87.86	8979.76	0.14	9.44	1035.93	1.55	403764.95	777738.60	N 32 6 27.82	W 103 34 11.41	89.48	1035.98
	9158.00	2.71	91.06	9073.65	0.13	9.49	1040.54	0.27	403765.00	777743.21	N 32 6 27.82	W 103 34 11.35	89.48	1040.58
	9253.00	1.53	103.80	9168.58	0.51	9.15	1044.02	1.33	403764.66	777746.68	N 32 6 27.82	W 103 34 11.31	89.50	1044.06
	9348.00	1.12	120.07	9263.56	1.30	8.38	1046.05	0.58	403763.89	777748.72	N 32 6 27.81	W 103 34 11.29	89.54	1046.08
	9442.00	0.72	160.93	9357.55	2.32	7.36	1047.04	0.79	403762.87	777749.71	N 32 6 27.80	W 103 34 11.28	89.60	1047.06
	9535.00	1.05	209.97	9450.54	3.61	6.07	1046.80	0.85	403761.58	777749.47	N 32 6 27.79	W 103 34 11.28	89.67	1046.82
	9630.00	1.84	233.73	9545.51	5.25	4.42	1045.14	1.03	403759.92	777747.81	N 32 6 27.77	W 103 34 11.30	89.76	1045.15
	9724.00	1.52	236.92	9639.47	6.81	2.84	1042.88	0.35	403758.35	777745.55	N 32 6 27.75	W 103 34 11.33	89.84	1042.88
	9818.00	1.05	291.08	9733.44	7.16	2.47	1041.03	1.32	403757.98	777743.70	N 32 6 27.75	W 103 34 11.35	89.86	1041.03
	9913.00	1.67	278.77	9828.42	6.61	3.00	1038.85	0.72	403758.51	777741.52	N 32 6 27.76	W 103 34 11.37	89.83	1038.85
	10008.00	1.70	273.27	9923.38	6.30	3.29	1036.07	0.17	403758.80	777738.74	N 32 6 27.76	W 103 34 11.41	89.82	1036.08
	10102.00	1.70	268.45	10017.33	6.23	3.33	1033.29	0.15	403758.84	777735.96	N 32 6 27.76	W 103 34 11.44	89.82	1033.29
	10197.00	1.60	264.40	10112.30	6.37	3.16	1030.56	0.16	403758.67	777733.23	N 32 6 27.76	W 103 34 11.47	89.82	1030.57
	10291.00	1.46	272.31	10206.26	6.43	3.08	1028.06	0.27	403758.59	777730.73	N 32 6 27.76	W 103 34 11.50	89.83	1028.06
	10385.00	1.26	290.98	10300.24	5.99	3.50	1025.90	0.51	403759.01	777728.57	N 32 6 27.76	W 103 34 11.53	89.80	1025.90
	10480.00	1.11	284.89	10395.22	5.36	4.11	1024.03	0.21	403759.62	777726.70	N 32 6 27.77	W 103 34 11.55	89.77	1024.04

Comments	MD (ft)	Incl (°)	Azim Grid (°)	TVD (ft)	VSEC (ft)	NS (ft)	EW (ft)	DLS (°/100ft)	Northing (ftUS)	Easting (ftUS)	Latitude (N/S ° ' ")	Longitude (E/W ° ' ")	Closure Azimuth (°)	Closure (ft)
	10574.00	0.65	271.70	10489.20	5.10	4.36	1022.62	0.53	403759.87	777725.29	N 32 6 27.77	W 103 34 11.56	89.76	1022.63
	10669.00	0.52	283.57	10584.20	4.97	4.48	1021.66	0.19	403759.99	777724.33	N 32 6 27.77	W 103 34 11.57	89.75	1021.67
	10763.00	0.43	13.19	10678.20	4.53	4.92	1021.33	0.72	403760.43	777724.00	N 32 6 27.78	W 103 34 11.58	89.72	1021.34
	10858.00	0.44	21.60	10773.19	3.84	5.61	1021.54	0.07	403761.12	777724.21	N 32 6 27.78	W 103 34 11.58	89.69	1021.56
	10952.00	0.36	19.21	10867.19	3.23	6.22	1021.77	0.09	403761.73	777724.44	N 32 6 27.79	W 103 34 11.57	89.65	1021.79
	11047.00	0.33	72.94	10962.19	2.87	6.58	1022.13	0.33	403762.09	777724.80	N 32 6 27.79	W 103 34 11.57	89.63	1022.15
	11236.00	0.36	100.68	11151.19	2.83	6.63	1023.24	0.09	403762.14	777725.91	N 32 6 27.79	W 103 34 11.56	89.63	1023.26
	11425.00	0.10	88.92	11340.19	2.95	6.53	1023.98	0.14	403762.04	777726.65	N 32 6 27.79	W 103 34 11.55	89.63	1024.01
	11519.00	0.28	91.79	11434.19	2.95	6.52	1024.30	0.19	403762.03	777726.97	N 32 6 27.79	W 103 34 11.54	89.64	1024.32
	11614.00	0.55	109.60	11529.18	3.12	6.36	1024.96	0.31	403761.87	777727.63	N 32 6 27.79	W 103 34 11.54	89.64	1024.98
	11709.00	0.52	56.16	11624.18	3.04	6.45	1025.75	0.51	403761.96	777728.42	N 32 6 27.79	W 103 34 11.53	89.64	1025.77
	11752.00	0.76	37.03	11667.18	2.71	6.78	1026.08	0.74	403762.29	777728.75	N 32 6 27.79	W 103 34 11.52	89.62	1026.10
First SLB Survey	11840.00	1.19	149.87	11755.17	3.04	6.46	1026.89	1.87	403761.97	777729.56	N 32 6 27.79	W 103 34 11.51	89.64	1026.91
KOP	11860.03	3.24	161.24	11775.18	3.76	5.74	1027.18	10.39	403761.25	777729.85	N 32 6 27.78	W 103 34 11.51	89.68	1027.19
	11871.00	4.37	162.93	11786.13	4.45	5.05	1027.40	10.39	403760.56	777730.07	N 32 6 27.78	W 103 34 11.51	89.72	1027.41
	11902.00	9.64	167.19	11816.89	8.12	1.39	1028.32	17.07	403756.90	777730.99	N 32 6 27.74	W 103 34 11.50	89.92	1028.32
	11934.00	13.56	169.32	11848.23	14.44	-4.91	1029.61	12.32	403750.60	777732.28	N 32 6 27.68	W 103 34 11.48	90.27	1029.62
	11966.00	17.74	170.99	11879.03	22.96	-13.42	1031.07	13.14	403742.09	777733.74	N 32 6 27.59	W 103 34 11.47	90.75	1031.16
	12011.00	23.82	177.71	11921.09	38.84	-29.29	1032.51	14.49	403726.22	777735.18	N 32 6 27.44	W 103 34 11.45	91.62	1032.92
	12060.00	28.09	180.52	11965.14	60.27	-50.72	1032.80	9.07	403704.79	777735.47	N 32 6 27.22	W 103 34 11.45	92.81	1034.04
	12105.00	29.08	181.78	12004.66	81.79	-72.24	1032.36	2.58	403683.27	777735.03	N 32 6 27.01	W 103 34 11.46	94.00	1034.89
	12155.00	33.90	182.23	12047.28	107.87	-98.34	1031.44	9.65	403657.18	777734.11	N 32 6 26.75	W 103 34 11.47	95.45	1036.12
	12200.00	38.40	180.05	12083.61	134.40	-124.87	1030.94	10.40	403630.65	777733.61	N 32 6 26.49	W 103 34 11.48	96.91	1038.48
	12249.00	43.83	175.13	12120.52	166.57	-157.02	1032.37	12.89	403598.49	777735.04	N 32 6 26.17	W 103 34 11.46	98.65	1044.24
	12294.00	50.47	174.10	12151.11	199.42	-189.85	1035.48	14.85	403565.67	777738.15	N 32 6 25.85	W 103 34 11.43	100.39	1052.74
	12344.00	54.23	174.80	12181.65	238.85	-229.24	1039.30	7.60	403526.27	777741.97	N 32 6 25.46	W 103 34 11.39	102.44	1064.28
	12376.00	56.15	177.42	12199.91	265.07	-255.45	1041.08	9.01	403500.06	777743.75	N 32 6 25.20	W 103 34 11.37	103.79	1071.96
	12407.00	58.53	180.38	12216.64	291.16	-281.54	1041.57	11.11	403473.98	777744.24	N 32 6 24.94	W 103 34 11.37	105.13	1078.95
	12439.00	62.08	181.00	12232.49	318.95	-309.33	1041.23	11.22	403446.19	777743.90	N 32 6 24.66	W 103 34 11.37	106.55	1086.21
	12470.00	67.49	180.74	12245.70	346.98	-337.36	1040.81	17.47	403418.16	777743.48	N 32 6 24.39	W 103 34 11.38	107.96	1094.12
	12544.00	76.62	179.95	12268.47	417.29	-407.69	1040.40	12.38	403347.83	777743.07	N 32 6 23.69	W 103 34 11.39	111.40	1117.42
	12576.00	78.81	180.99	12275.28	448.55	-438.95	1040.14	7.54	403316.57	777742.81	N 32 6 23.38	W 103 34 11.40	112.88	1128.97
	12607.00	80.72	182.12	12280.79	479.04	-469.44	1039.31	7.13	403286.08	777741.98	N 32 6 23.08	W 103 34 11.41	114.31	1140.41
	12639.00	83.03	182.82	12285.31	510.67	-501.09	1037.94	7.54	403254.43	777740.61	N 32 6 22.77	W 103 34 11.43	115.77	1152.57
	12702.00	86.08	183.60	12291.29	573.25	-563.70	1034.43	5.00	403191.83	777737.10	N 32 6 22.15	W 103 34 11.47	118.59	1178.05
	12797.00	90.17	184.38	12294.40	667.88	-658.40	1027.83	4.38	403097.13	777730.50	N 32 6 21.21	W 103 34 11.56	122.64	1220.62
	12892.00	91.40	180.24	12293.09	762.73	-753.29	1024.00	4.55	403002.24	777726.67	N 32 6 20.27	W 103 34 11.61	126.34	1271.23
	12987.00	90.46	179.90	12291.55	857.71	-848.28	1023.88	1.05	402907.26	777726.55	N 32 6 19.33	W 103 34 11.62	129.64	1329.63
	13082.00	90.41	178.71	12290.83	952.71	-943.27	1025.03	1.25	402812.27	777727.70	N 32 6 18.39	W 103 34 11.61	132.62	1393.00
	13176.00	90.16	177.82	12290.36	1046.68	-1037.22	1027.88	0.98	402718.32	777730.55	N 32 6 17.46	W 103 34 11.59	135.26	1460.26
	13272.00	89.58	177.62	12290.58	1142.64	-1133.14	1031.70	0.64	402622.40	777734.37	N 32 6 16.51	W 103 34 11.55	137.68	1532.45
	13366.00	90.01	177.43	12290.92	1236.58	-1227.05	1035.76	0.50	402528.49	777738.43	N 32 6 15.58	W 103 34 11.51	139.83	1605.76
	13461.00	90.17	178.17	12290.77	1331.54	-1321.98	1039.41	0.80	402433.56	777742.07	N 32 6 14.64	W 103 34 11.48	141.82	1681.67
	13556.00	90.05	180.07	12290.59	1426.54	-1416.97	1040.86	2.00	402338.58	777743.53	N 32 6 13.70	W 103 34 11.47	143.70	1758.18
	13650.00	90.27	180.32	12290.32	1520.53	-1510.97	1040.54	0.35	402244.59	777743.21	N 32 6 12.77	W 103 34 11.48	145.45	1834.60
	13745.00	91.52	180.50	12288.84	1615.50	-1605.95	1039.86	1.33	402149.61	777742.53	N 32 6 11.83	W 103 34 11.50	147.08	1913.22
	13840.00	91.14	179.78	12286.63	1710.47	-1700.92	1039.63	0.86	402054.64	777742.30	N 32 6 10.90	W 103 34 11.51	148.57	1993.48
	13935.00	91.23	179.74	12284.67	1805.45	-1795.90	1040.03	0.10	401959.66	777742.70	N 32 6 9.96	W 103 34 11.51	149.92	2075.32
	14029.00	91.26	179.72	12282.63	1899.42	-1889.88	1040.47	0.04	401865.69	777743.14	N 32 6 9.03	W 103 34 11.51	151.17	2157.37
	14124.00	89.05	179.28	12282.37	1994.42	-1984.87	1041.30	2.37	401770.70	777743.97	N 32 6 8.09	W 103 34 11.51	152.32	2241.43
	14219.00	89.44	179.55	12283.62	2089.41	-2079.86	1042.27	0.50	401675.71	777744.94	N 32 6 7.15	W 103 34 11.51	153.38	2326.40
	14409.00	90.85	180.01	12283.14	2279.40	-2269.85	1043.00	0.78	401485.73	777745.67	N 32 6 5.27	W 103 34 11.51	155.32	2498.01
	14504.00	89.42	177.60	12282.92	2374.38	-2364.82	1044.98	2.95	401390.76	777747.65	N 32 6 4.33	W 103 34 11.50	156.16	2585.41
	14599.00	88.72	176.35	12284.46	2469.28	-2459.67	1050.00	1.51	401295.91	777752.66	N 32 6 3.39	W 103 34 11.45	156.88	2674.41
	14694.00	89.62	180.53	12285.84	2564.23	-2554.60	1052.58	4.50	401200.98	777755.25	N 32 6 2.45	W 103 34 11.43	157.61	2762.96
	14788.00	89.02	179.68	12286.95	2658.22	-2648.60	1052.41	1.11	401106.99	777755.08	N 32 6 1.52	W 103 34 11.44	158.33	2850.02
	14883.00	88.56	180.28	12288.96	2753.19	-2743.57	1052.44	0.80	401012.02	777755.11	N 32 6 0.58	W 103 34 11.44	159.01	2938.51
	14977.00	89.71	180.07	12290.38	2847.17	-2837.56	1052.15	1.24	400918.03	777754.82	N 32 5 59.65	W 103 34 11.45	159.66	3026.35
	15072.00	90.10	180.53	12290.53	2942.16	-2932.56	1051.66	0.63	400823.04	777754.33	N 32 5 58.71	W 103 34 11.47	160.27	3115.43
	15166.00	90.18	180.22	12290.31	3036.15	-3026.56	1051.04	0.34	400729.04	777753.71	N 32 5 57.78	W 103 34 11.48	160.85	3203.86
	15261.00	91.82	180.23	12288.65	3131.12	-3121.54	1050.67	1.73	400634.06	777753.34	N 32 5 56.84	W 103 34 11.49	161.40	3293.62
	15355.00	89.90	178.26	12287.24	3225.10	-3215.51	1051.91	2.93	400540.09	777754.58	N 32 5 55.91	W 103 34 11.49	161.89	3383.20
	15544.00	90.32	177.75	12286.87	3414.04	-3404.40	1058.49	0.35	400351.22	777761.16	N 32 5 54.04	W 103 34 11.43	162.73	3565.15
	15638.00	90.45	177.72	12286.24	3508.00	-3498.32	1062.20	0.14	400257.29	777764.87	N 32 5 53.11	W 103 34 11.39	163.11	3656.02
	15734.00	88.98	178.46	12286.72	3603.96	-3594.26	1065.40	1.71	400161.35	777768.07	N 32 5 52.16	W 103 34 11.36	163.49	3748.84
	15828.00	89.59	177.91	12287.89	3697.93	-3688.21	1068.38	0.87	400067.41	777771.05	N 32 5 51.23	W 103 34 11.34	163.85	3839.83
	15922.00	89.09	179.											

Comments	MD (ft)	Incl (°)	Azim Grid (°)	TVD (ft)	VSEC (ft)	NS (ft)	EW (ft)	DLS (°/100ft)	Northing (ftUS)	Easting (ftUS)	Latitude (N/S ° ' ")	Longitude (E/W ° ' ")	Closure Azimuth (°)	Closure (ft)
	16017.00	91.27	179.81	12288.68	3886.91	-3877.17	1070.74	2.30	399878.46	777773.41	N 32 5 49.36	W 103 34 11.32	164.56	4022.30
	16112.00	91.35	180.14	12286.50	3981.88	-3972.14	1070.79	0.36	399783.48	777773.45	N 32 5 48.42	W 103 34 11.33	164.91	4113.94
	16206.00	91.27	178.70	12284.36	4075.85	-4066.11	1071.74	1.53	399689.52	777774.41	N 32 5 47.49	W 103 34 11.33	165.23	4204.98
	16301.00	90.43	179.98	12282.95	4170.84	-4161.09	1072.83	1.61	399594.54	777775.50	N 32 5 46.55	W 103 34 11.32	165.54	4297.17
	16396.00	89.27	179.89	12283.20	4265.83	-4256.09	1072.94	1.22	399499.55	777775.61	N 32 5 45.61	W 103 34 11.33	165.85	4389.25
	16491.00	91.71	180.09	12282.38	4360.82	-4351.08	1072.96	2.58	399404.56	777775.62	N 32 5 44.67	W 103 34 11.34	166.15	4481.42
	16585.00	91.12	180.20	12280.06	4454.78	-4445.05	1072.72	0.64	399310.59	777775.39	N 32 5 43.74	W 103 34 11.35	166.43	4572.66
	16680.00	91.16	180.12	12278.17	4549.76	-4540.03	1072.45	0.09	399215.61	777775.12	N 32 5 42.80	W 103 34 11.36	166.71	4664.98
	16870.00	90.93	179.43	12274.71	4739.72	-4730.00	1073.20	0.38	399025.65	777775.87	N 32 5 40.92	W 103 34 11.37	167.22	4850.22
Final Survey	16895.00	91.23	179.80	12274.24	4764.72	-4754.99	1073.37	1.91	399000.66	777776.04	N 32 5 40.67	W 103 34 11.37	167.28	4874.63
TD, PTB [101' FSL, 331' FEL]	16925.00	91.23	179.80	12273.59	4794.71	-4784.98	1073.47	0.00	398970.67	777776.14	N 32 5 40.38	W 103 34 11.37	167.36	4903.92

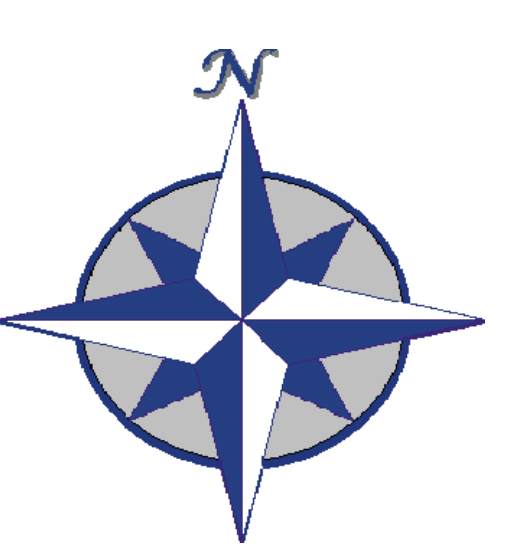
Survey Type: Def Survey

Survey Error Model: ISCWSA Rev 0 *** 3-D 95.000% Confidence 2.7955 sigma
Survey Program:

Description	Part	MD From (ft)	MD To (ft)	EOU Freq (ft)	Hole Size (in)	Casing Diameter (in)	Survey Tool Type	Borehole / Survey
	1	0.000	26.000	1/98.425	14.750	10.750	NAL_MWD_IFR1+MS-Depth Only	Original Borehole / Final Surveys - Cimarex Cascade 28 Federal 85H MWD 0ft-16925ft (Surcon)
	1	26.000	26.000	Act Stns	14.750	10.750	NAL_MWD_IFR1+MS-Depth Only	Original Borehole / Final Surveys - Cimarex Cascade 28 Federal 85H MWD 0ft-16925ft (Surcon)
	1	26.000	1020.000	Act Stns	14.750	10.750	NAL_MWD_IFR1+MS	Original Borehole / Final Surveys - Cimarex Cascade 28 Federal 85H
	1	1020.000	11835.000	Act Stns	9.875	7.625	NAL_MWD_IFR1+MS	Original Borehole / Final Surveys - Cimarex Cascade 28 Federal 85H
	1	11835.000	12535.000	Act Stns	8.750	7.000	NAL_MWD_IFR1+MS	Original Borehole / Final Surveys - Cimarex Cascade 28 Federal 85H
	1	12535.000	16925.000	Act Stns	6.000	4.500	NAL_MWD_IFR1+MS	Original Borehole / Final Surveys - Cimarex Cascade 28 Federal 85H

Borehole:				Well:				Field:				Structure:																			
Original Borehole				Cimarex Cascade 28 Federal 85H				NM Lea County (NAD 83)				Cimarex Cascade 28 Federal 85H																			
Gravity & Magnetic Parameters						Surface Location						Miscellaneous																			
Model:		HDGM 2019		Dip:		59.7°		Date:		20-Nov-2019		Lat:		N 32 6 27.80		Northing:		403755.51ftUS		Grid Conv:		0.404°		Slot:		Cimarex Cascade 28		TVD Ref:		RKB(3390ft above MSL)	
MagDec:		6.593°		FS:		47721.511nT		Gravity FS:		998.437mgn (9.80665 Based)		Lon:		W 103 34 23.45		Easting:		776702.7ftUS		Scale Fact:		0.99997254		Plan:		Final Surveys - Cimarex Cascade 28 Federal 85H MWD 0ft-16925ft (Surcon Corrected)					

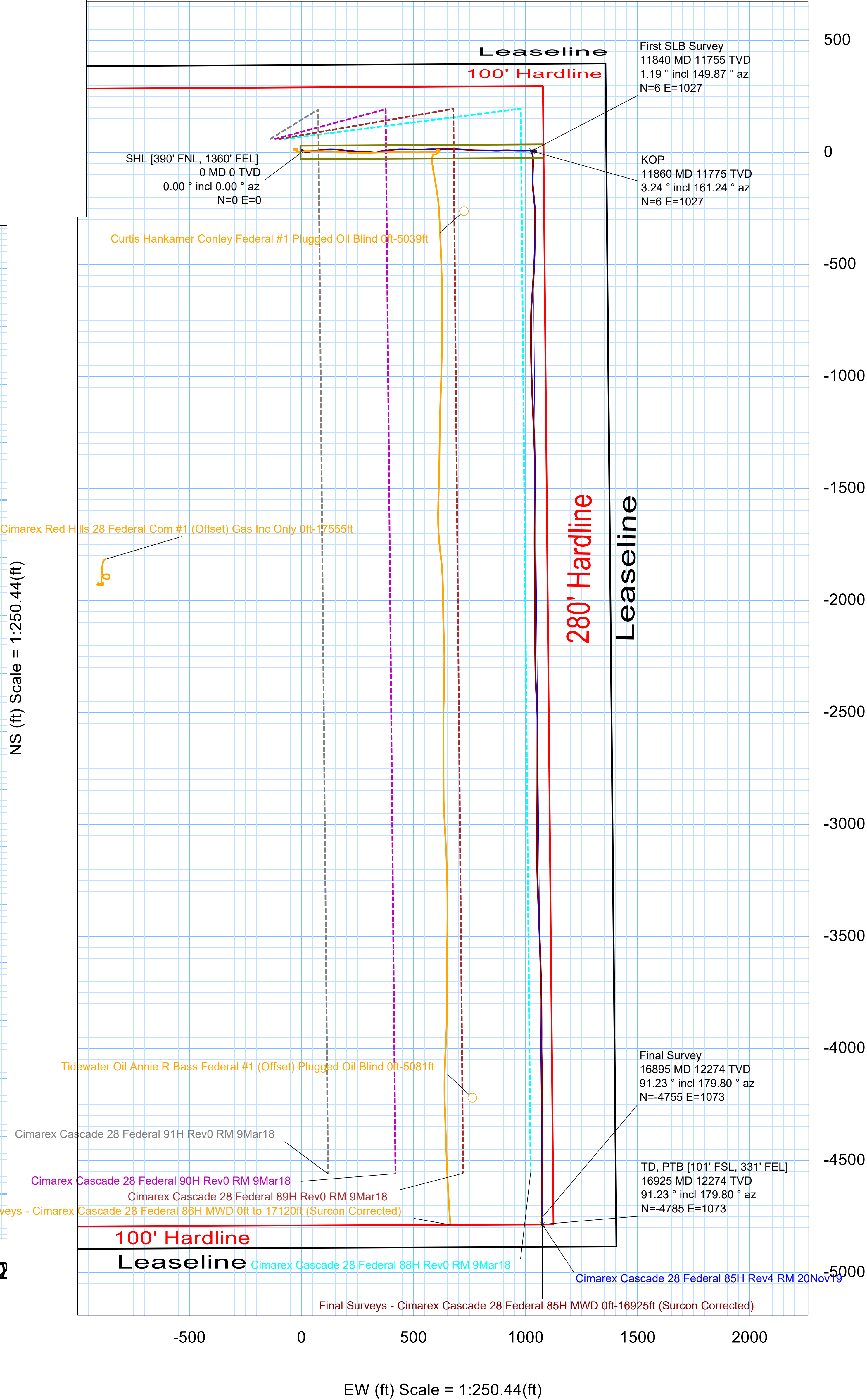
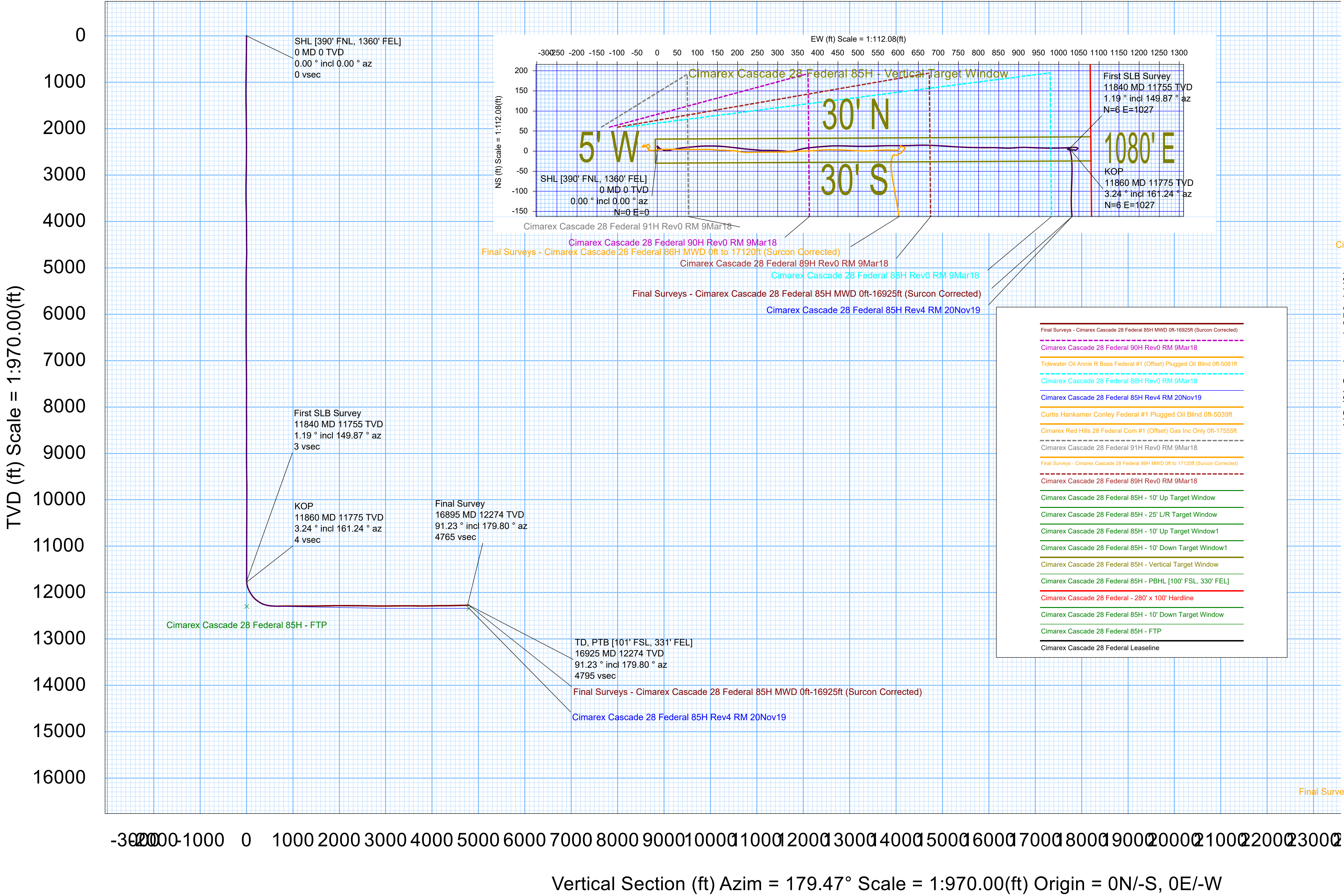
Critical Points								
Critical Point	MD	INCL	AZIM	TVD	VSEC	N(+)/S(-)	E(+)/W(-)	DLS
SHL [390' FNL, 1360' FEL]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
First SLB Survey	11840.00	1.19	149.87	11755.17	3.04	6.46	1026.89	1.87
KOP	11860.03	3.24	161.24	11775.18	3.76	5.74	1027.18	10.39
Final Survey	16895.00	91.23	179.80	12274.24	4764.72	-4754.99	1073.37	1.91
TD, PTB [101' FSL, 331' FEL]	16925.00	91.23	179.80	12273.59	4794.71	-4784.98	1073.47	0.00



Grid
True
Mag

Grid North
Tot Corr (M->G 6.189°)
Mag Dec (6.593°)
Grid Conv (0.404°)

CONTROLLED
Final Surveys - Cimarex Cascade 28 Federal 85H MWD 0ft-16925ft (Surcon Corrected)
of 3
03-Dec-2019
1 Client
2 Client
3 Office
4 Office
Copy number for





Cimarex Energy Co.

600 N. Marienfeld St. ♦ Suite 600 ♦ Midland, TX 79701 ♦ (432) 620-1938 ♦ Fax (432) 620-1940

A subsidiary of Cimarex Energy Co. • A NYSE Listed Company • "XEC"

March 26, 2020

Rcvd 4/17/2020 - NMOCD

State of New Mexico
Oil Conservation Division – District 1
1625 N. French Drive
Hobbs, NM 88240

Re: Request for Exception to Rule 107J
Tubingless Completion
Cascade 28 Federal 85H – 30-025-46313
Lea County, NM

Dear Sir:

Cimarex Energy Co. respectfully requests an exception to NMOCD Rule 107J, well tubing requirements. Cimarex request a tubingless completions for our Cascade 28 Federal 85H well to allow for greater flowback after frac stimulation.

Cimarex plans to install production tubing as soon as flow decreases, which should occur within 6 months.

Thank you for your consideration of this request. Please feel free to contact me if you need additional information.

Sincerely,

Fatima Vasquez

Fatima Vasquez
Regulatory Analyst
432-620-1933