Form 3160-5
(June 2019)

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

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

SUNDRY NOTICES AND REPORTS ON WELLS

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

SUBMIT IN TRIPLICATE *- Other instructions on page 2*

5. Lease Serial No.

6. If Indian, Allottee or Tribe Name

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

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

8. Well Name and No.

2. Name of Operator

9. API Well No.

3a. Address

3b. Phone No. *(include area code)*

10. Field and Pool or Exploratory Area

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

11. Country or Parish, State

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

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

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

14. I hereby certify that the foregoing is true and correct. Name *(Printed/Typed)*

Title

Signature

Date

THE SPACE FOR FEDERAL OR STATE OFICE 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)

GENERAL INSTRUCTIONS

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

SPECIFIC INSTRUCTIONS

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

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

NOTICES

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

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

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

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

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

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

☒ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

[1] API Number	[2] Pool Code	[3] Pool Name
30-025-47081	96603	Triste Draw; Bone Spring

[4] Property Code	[5] Property Name	[6] Well Number
322999	DOS EQUIS 11-14 FEDERAL COM	23H

[7] OGRID No.	[8] Operator Name	[9] Elevation
215099	CIMAREX ENERGY CO.	3617.9'

[10] Surface Location

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
C	11	24S	32E		545	NORTH	1746	WEST	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
N	14	24S	32E		100	SOUTH	1924	WEST	LEA

[12] Dedicated Acres	[13] Joint or Infill	[14] Consolidation Code	[15] Order No.
640			

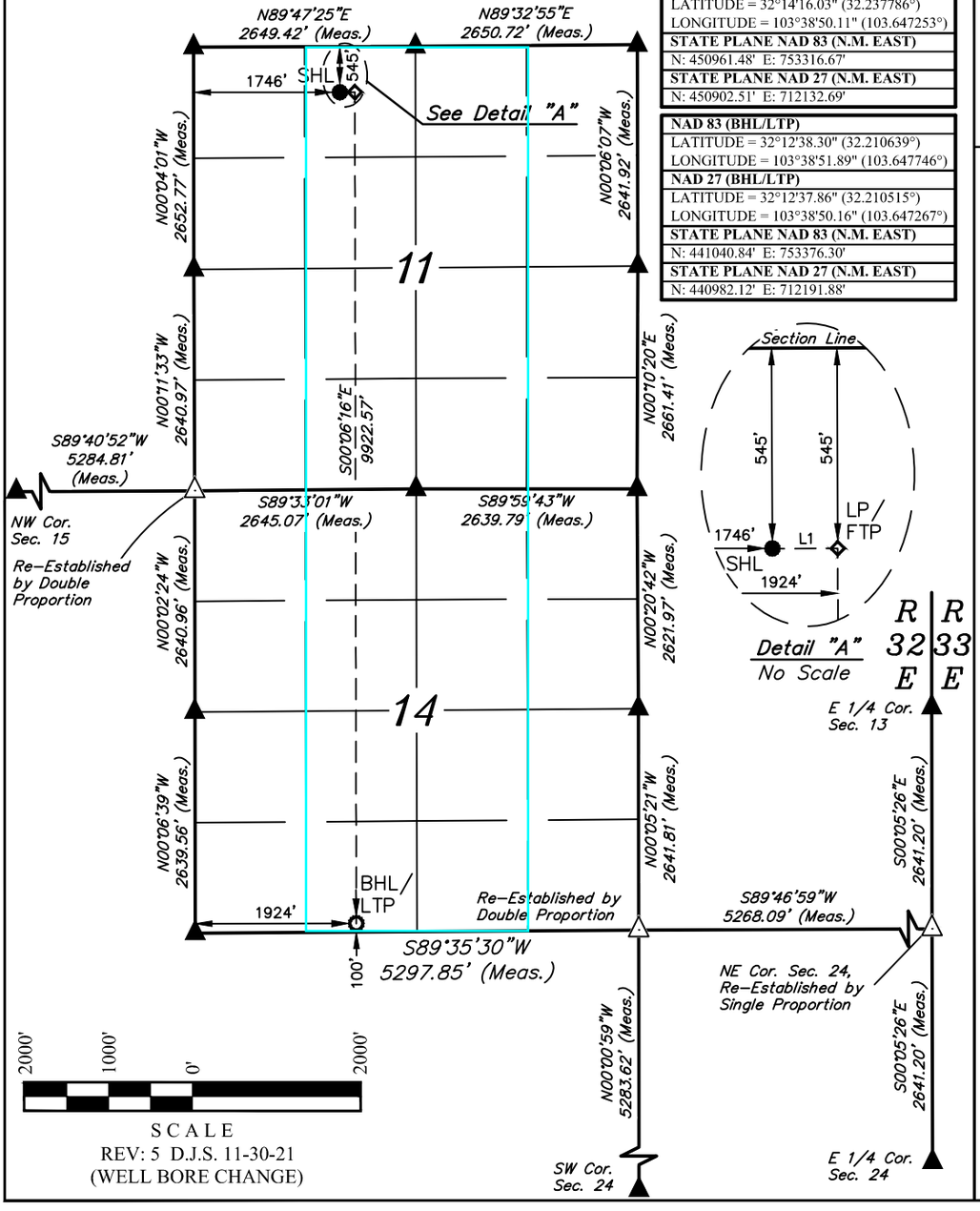
No allowable will be assigned to this completion until all interests have been consolidated or a non-standard unit has been approved by the division.

[16]

● = SURFACE HOLE LOCATION
◇ = LANDING POINT/ FIRST TAKE POINT
○ = BOTTOM HOLE LOCATION/ LAST TAKE POINT
▲ = SECTION CORNER LOCATED
△ = SECTION CORNER RE-ESTABLISHED. (Not Set on Ground.)

LINE TABLE		
LINE	DIRECTION	LENGTH
L1	N89°47'46"E	178.17'

NOTE:
- Distances referenced on plat to section lines are perpendicular.
- Basis of Bearing is a Transverse Mercator Projection with a Central Meridian of W103°53'00" (NAD 83)



NAD 83 (SURFACE HOLE LOCATION)
LATITUDE = 32°14'16.47" (32.237909°)
LONGITUDE = 103°38'53.92" (103.648310°)
NAD 27 (SURFACE HOLE LOCATION)
LATITUDE = 32°14'16.03" (32.237785°)
LONGITUDE = 103°38'52.19" (103.647829°)
STATE PLANE NAD 83 (N.M. EAST)
N: 450960.10' E: 753138.54'
STATE PLANE NAD 27 (N.M. EAST)
N: 450901.13' E: 711954.55'

NAD 83 (LP/FTP)
LATITUDE = 32°14'16.47" (32.237909°)
LONGITUDE = 103°38'51.84" (103.647734°)
NAD 27 (LP/FTP)
LATITUDE = 32°14'16.03" (32.237786°)
LONGITUDE = 103°38'50.11" (103.647253°)
STATE PLANE NAD 83 (N.M. EAST)
N: 450961.48' E: 753316.67'
STATE PLANE NAD 27 (N.M. EAST)
N: 450902.51' E: 712132.69'

NAD 83 (BHL/LTP)
LATITUDE = 32°12'38.30" (32.210639°)
LONGITUDE = 103°38'51.89" (103.647746°)
NAD 27 (BHL/LTP)
LATITUDE = 32°12'37.86" (32.210515°)
LONGITUDE = 103°38'50.16" (103.647267°)
STATE PLANE NAD 83 (N.M. EAST)
N: 441040.84' E: 753376.30'
STATE PLANE NAD 27 (N.M. EAST)
N: 440982.12' E: 712191.88'

[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.

Amithy Crawford 12/14/21
Signature Date

Amithy Crawford
Printed Name

acrawford@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.

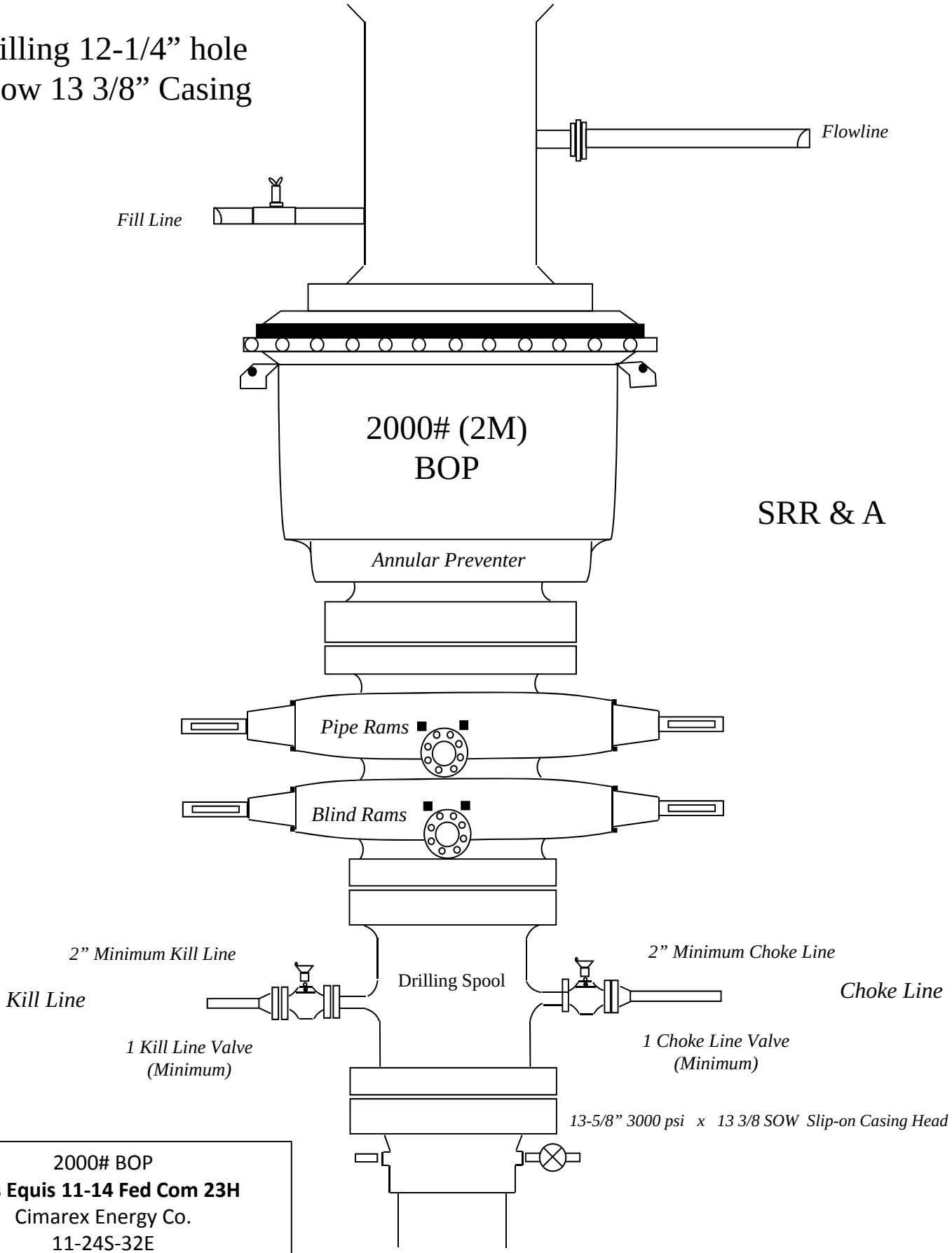
October 13, 2017
Date of Survey

Signature and Seal of Professional Surveyor:

PAUL BUCHELE NEW MEXICO 23782 PROFESSIONAL SURVEYOR 11-30-21

Certificate Number:

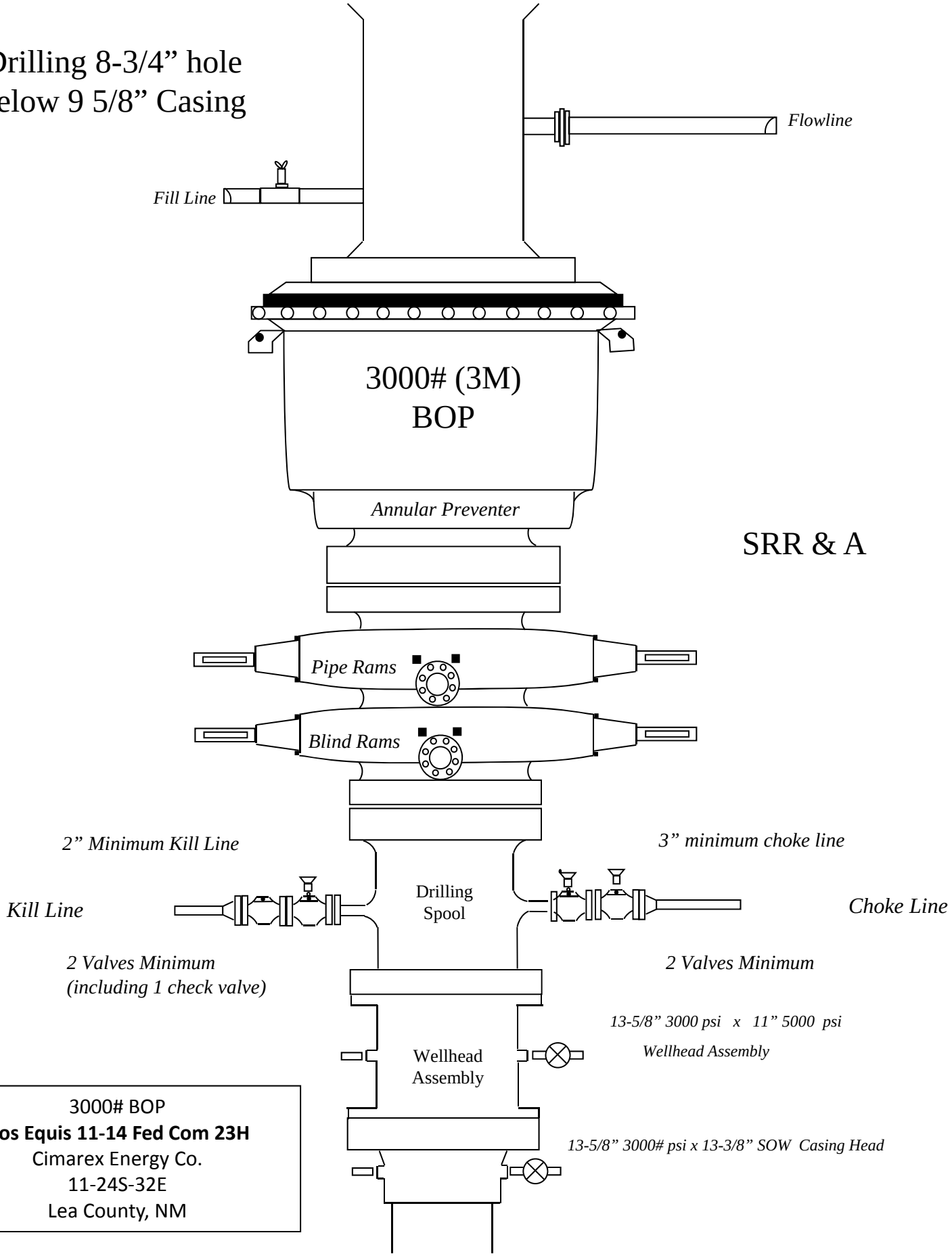
Drilling 12-1/4” hole
below 13 3/8” Casing



SRR & A

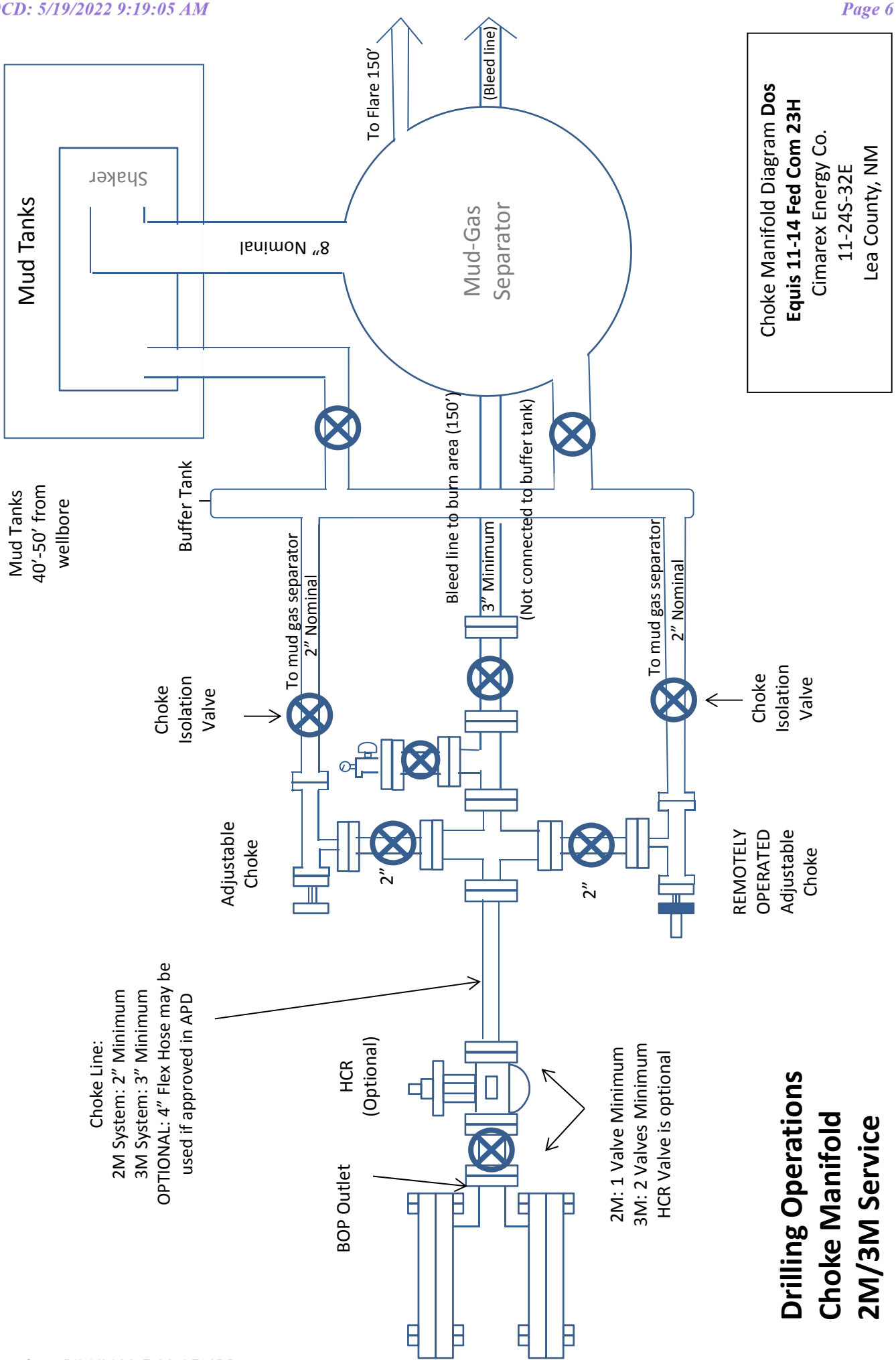
2000# BOP
Dos Equis 11-14 Fed Com 23H
Cimarex Energy Co.
11-24S-32E
Lea County, NM

Drilling 8-3/4" hole
below 9 5/8" Casing



SRR & A

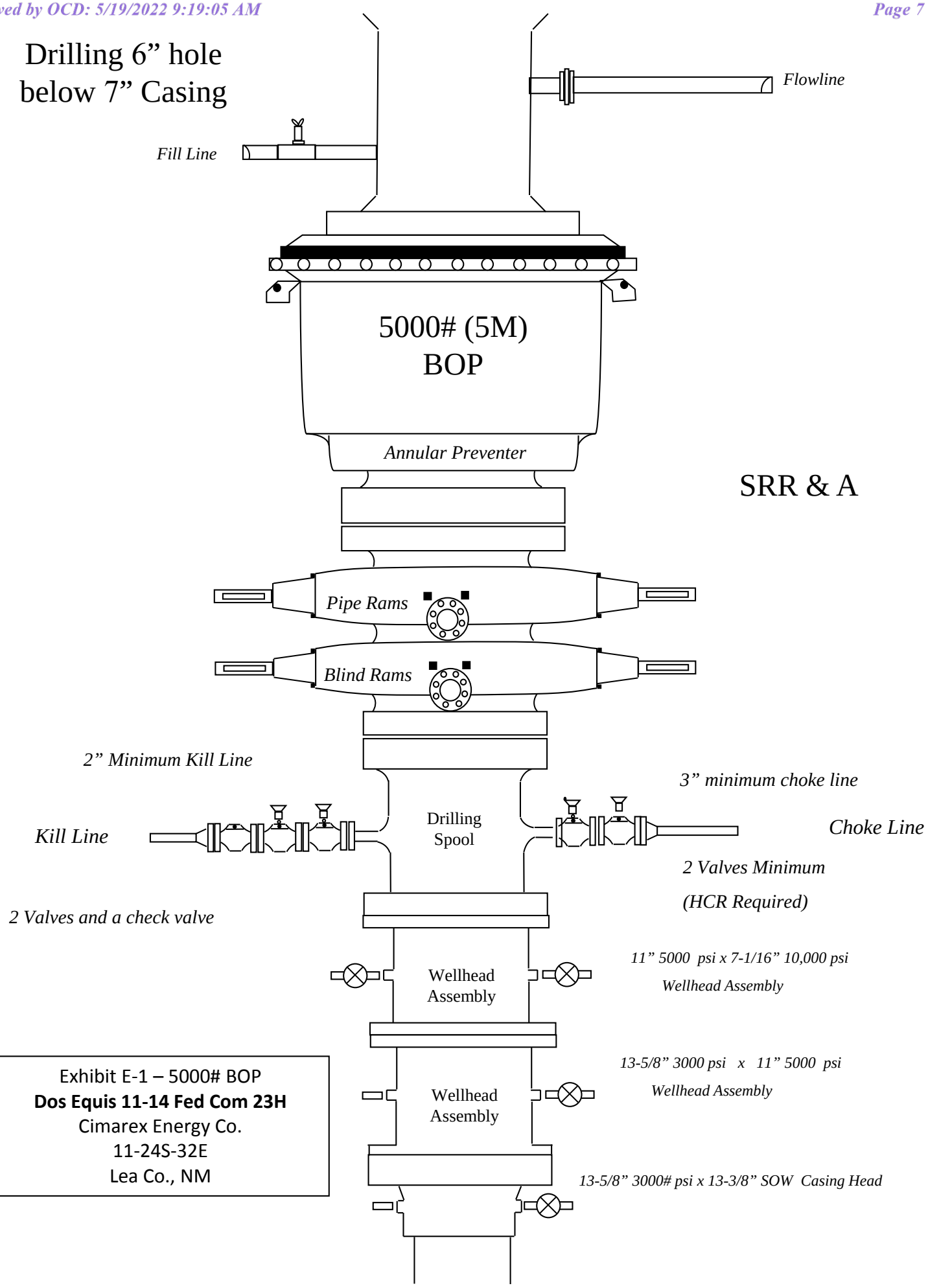
3000# BOP
Dos Equis 11-14 Fed Com 23H
Cimarex Energy Co.
11-24S-32E
Lea County, NM



Choke Manifold Diagram **Dos Equis 11-14 Fed Com 23H**
Cimarex Energy Co.
11-24S-32E
Lea County, NM

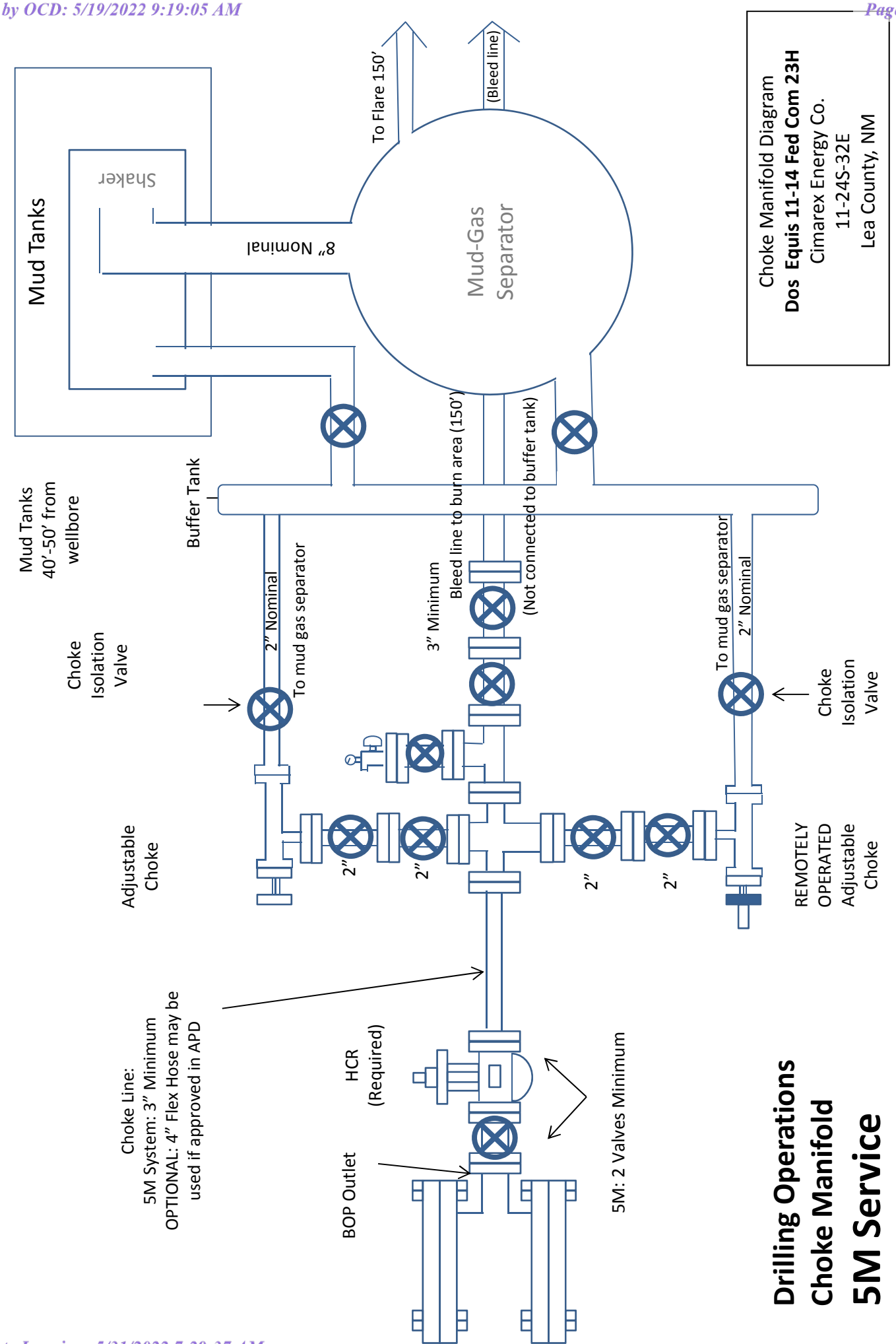
Drilling Operations
Choke Manifold
2M/3M Service

Drilling 6” hole below 7” Casing



SRR & A

Exhibit E-1 – 5000# BOP
Dos Equis 11-14 Fed Com 23H
Cimarex Energy Co.
11-24S-32E
Lea Co., NM


Drilling Operations
Choke Manifold
5M Service
Choke Manifold Diagram
Dos Equis 11-14 Fed Com 23H
Cimarex Energy Co.
11-24S-32E
Lea County, NM
Mud Tanks
Shaker
8" Nominal
Mud-Gas Separator
To Flare 150'
(Bleed line)
Mud Tanks 40'-50' from wellbore
Buffer Tank
Choke Isolation Valve
2" Nominal
To mud gas separator
3" Minimum
Bleed line to burn area (150')
(Not connected to buffer tank)
To mud gas separator
2" Nominal
Choke Isolation Valve
Adjustable Choke
2"
2"
2"
2"
REMOTELY OPERATED Adjustable Choke
Choke Line:
5M System: 3" Minimum
OPTIONAL: 4" Flex Hose may be used if approved in APD
HCR (Required)
BOP Outlet
5M: 2 Valves Minimum

Schlumberger

Cimarex Dos Equis 11-14 Federal Com 23H Rev2 IC 03Dec21 Proposal Geodetic Report

(Def Plan)

CIMAREX

Report Date:	December 03, 2021 - 12:58 PM	**Survey / DLS Computation:**	Minimum Curvature / Lubinski
Client:	Cimarex Energy	**Vertical Section Azimuth:**	179.657 ° (Grid North)
Field:	NM Lea County (NAD 83)	**Vertical Section Origin:**	0.000 ft, 0.000 ft
Structure / Slot:	Cimarex Dos Equis 11-14 Federal Com 23H / New Slot	**TVD Reference Datum:**	RKB=22ft (Unit 411)
Well:	Dos Equis 11-14 Federal Com 23H	**TVD Reference Elevation:**	3639.900 ft above MSL
Borehole:	Dos Equis 11-14 Federal Com 23H	**Seabed / Ground Elevation:**	3617.900 ft above MSL
UWI / API#:	Unknown / Unknown	**Magnetic Declination:**	6.389 °
Survey Name:	Cimarex Dos Equis 11-14 Federal Com 23H Rev2 IC 03Dec21	**Total Gravity Field Strength:**	998.4363mgn (9.80665 Based)
Survey Date:	August 22, 2019	**Gravity Model:**	GARM
Tort / AHD / DDI / ERD Ratio:	102.618 ° / 10099.377 ft / 6.290 / 0.918	**Total Magnetic Field Strength:**	47642.750 nT
Coordinate Reference System:	NAD83 New Mexico State Plane, Eastern Zone, US Feet	**Magnetic Dip Angle:**	59.858 °
Location Lat / Long:	N 32° 14' 16.47063", W 103° 38' 53.91680"	**Declination Date:**	December 03, 2021
Location Grid N/E Y/X:	N 450960.100 ftUS, E 753138.540 ftUS	**Magnetic Declination Model:**	HDGM 2021
CRS Grid Convergence Angle:	0.3654 °	**North Reference:**	Grid North
Grid Scale Factor:	0.99996047	**Grid Convergence Used:**	0.3654 °
Version / Patch:	2.10.826.8	**Total Corr Mag North->Grid North:**	6.0237 °
		Local Coord Referenced To:	Well Head

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 ° ' ")
SHL [545' FNL, 1746' FWL]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	N/A	450960.10	753138.54	N 32 14 16.47	W 103 38 53.92
	100.00	0.00	89.56	100.00	0.00	0.00	0.00	0.00	450960.10	753138.54	N 32 14 16.47	W 103 38 53.92
	200.00	0.00	89.56	200.00	0.00	0.00	0.00	0.00	450960.10	753138.54	N 32 14 16.47	W 103 38 53.92
	300.00	0.00	89.56	300.00	0.00	0.00	0.00	0.00	450960.10	753138.54	N 32 14 16.47	W 103 38 53.92
	400.00	0.00	89.56	400.00	0.00	0.00	0.00	0.00	450960.10	753138.54	N 32 14 16.47	W 103 38 53.92
	500.00	0.00	89.56	500.00	0.00	0.00	0.00	0.00	450960.10	753138.54	N 32 14 16.47	W 103 38 53.92
	600.00	0.00	89.56	600.00	0.00	0.00	0.00	0.00	450960.10	753138.54	N 32 14 16.47	W 103 38 53.92
	700.00	0.00	89.56	700.00	0.00	0.00	0.00	0.00	450960.10	753138.54	N 32 14 16.47	W 103 38 53.92
	800.00	0.00	89.56	800.00	0.00	0.00	0.00	0.00	450960.10	753138.54	N 32 14 16.47	W 103 38 53.92
	900.00	0.00	89.56	900.00	0.00	0.00	0.00	0.00	450960.10	753138.54	N 32 14 16.47	W 103 38 53.92
	1000.00	0.00	89.56	1000.00	0.00	0.00	0.00	0.00	450960.10	753138.54	N 32 14 16.47	W 103 38 53.92
	1100.00	0.00	89.56	1100.00	0.00	0.00	0.00	0.00	450960.10	753138.54	N 32 14 16.47	W 103 38 53.92
	1200.00	0.00	89.56	1200.00	0.00	0.00	0.00	0.00	450960.10	753138.54	N 32 14 16.47	W 103 38 53.92
	1300.00	0.00	89.56	1300.00	0.00	0.00	0.00	0.00	450960.10	753138.54	N 32 14 16.47	W 103 38 53.92
	1400.00	0.00	89.56	1400.00	0.00	0.00	0.00	0.00	450960.10	753138.54	N 32 14 16.47	W 103 38 53.92
	1500.00	0.00	89.56	1500.00	0.00	0.00	0.00	0.00	450960.10	753138.54	N 32 14 16.47	W 103 38 53.92
	1600.00	0.00	89.56	1600.00	0.00	0.00	0.00	0.00	450960.10	753138.54	N 32 14 16.47	W 103 38 53.92
	1700.00	0.00	89.56	1700.00	0.00	0.00	0.00	0.00	450960.10	753138.54	N 32 14 16.47	W 103 38 53.92
	1800.00	0.00	89.56	1800.00	0.00	0.00	0.00	0.00	450960.10	753138.54	N 32 14 16.47	W 103 38 53.92
	1900.00	0.00	89.56	1900.00	0.00	0.00	0.00	0.00	450960.10	753138.54	N 32 14 16.47	W 103 38 53.92
	2000.00	0.00	89.56	2000.00	0.00	0.00	0.00	0.00	450960.10	753138.54	N 32 14 16.47	W 103 38 53.92
	2100.00	0.00	89.56	2100.00	0.00	0.00	0.00	0.00	450960.10	753138.54	N 32 14 16.47	W 103 38 53.92
	2200.00	0.00	89.56	2200.00	0.00	0.00	0.00	0.00	450960.10	753138.54	N 32 14 16.47	W 103 38 53.92
	2300.00	0.00	89.56	2300.00	0.00	0.00	0.00	0.00	450960.10	753138.54	N 32 14 16.47	W 103 38 53.92
	2400.00	0.00	89.56	2400.00	0.00	0.00	0.00	0.00	450960.10	753138.54	N 32 14 16.47	W 103 38 53.92
Nudge 2°/100' DLS	2500.00	0.00	89.56	2500.00	0.00	0.00	0.00	0.00	450960.10	753138.54	N 32 14 16.47	W 103 38 53.92
	2600.00	2.00	89.56	2599.98	0.00	0.01	1.75	2.00	450960.11	753140.29	N 32 14 16.47	W 103 38 53.90
	2700.00	4.00	89.56	2699.84	-0.01	0.05	6.98	2.00	450960.15	753145.52	N 32 14 16.47	W 103 38 53.84
	2800.00	6.00	89.56	2799.45	-0.03	0.12	15.69	2.00	450960.22	753154.23	N 32 14 16.47	W 103 38 53.73
Hold	2815.46	6.31	89.56	2814.82	-0.03	0.13	17.35	2.00	450960.23	753155.89	N 32 14 16.47	W 103 38 53.71
	2900.00	6.31	89.56	2898.85	-0.05	0.21	26.64	0.00	450960.31	753165.18	N 32 14 16.47	W 103 38 53.61
	3000.00	6.31	89.56	2998.25	-0.07	0.29	37.63	0.00	450960.39	753176.17	N 32 14 16.47	W 103 38 53.48
	3100.00	6.31	89.56	3097.64	-0.09	0.38	48.62	0.00	450960.48	753187.16	N 32 14 16.47	W 103 38 53.35
	3200.00	6.31	89.56	3197.03	-0.10	0.46	59.61	0.00	450960.56	753198.15	N 32 14 16.47	W 103 38 53.22
	3300.00	6.31	89.56	3296.43	-0.12	0.55	70.60	0.00	450960.65	753209.13	N 32 14 16.47	W 103 38 53.09
	3400.00	6.31	89.56	3395.82	-0.14	0.63	81.59	0.00	450960.73	753220.12	N 32 14 16.47	W 103 38 52.97
	3500.00	6.31	89.56	3495.22	-0.16	0.72	92.57	0.00	450960.82	753231.11	N 32 14 16.47	W 103 38 52.84
	3600.00	6.31	89.56	3594.61	-0.18	0.80	103.56	0.00	450960.90	753242.10	N 32 14 16.47	W 103 38 52.71
	3700.00	6.31	89.56	3694.01	-0.20	0.89	114.55	0.00	450960.99	753253.09	N 32 14 16.47	W 103 38 52.58
	3800.00	6.31	89.56	3793.40	-0.22	0.97	125.54	0.00	450961.07	753264.08	N 32 14 16.47	W 103 38 52.46
	3900.00	6.31	89.56	3892.79	-0.24	1.06	136.53	0.00	450961.16	753275.06	N 32 14 16.47	W 103 38 52.33
	4000.00	6.31	89.56	3992.19	-0.26	1.14	147.52	0.00	450961.24	753286.05	N 32 14 16.47	W 103 38 52.20
	4100.00	6.31	89.56	4091.58	-0.28	1.23	158.51	0.00	450961.33	753297.04	N 32 14 16.47	W 103 38 52.07
Drop 2° DLS	4120.76	6.31	89.56	4112.22	-0.28	1.25	160.79	0.00	450961.35	753299.32	N 32 14 16.47	W 103 38 52.04
	4200.00	4.72	89.56	4191.09	-0.30	1.30	168.41	2.00	450961.40	753306.94	N 32 14 16.47	W 103 38 51.96
	4300.00	2.72	89.56	4290.87	-0.31	1.35	174.90	2.00	450961.45	753313.43	N 32 14 16.47	W 103 38 51.88
	4400.00	0.72	89.56	4390.82	-0.31	1.38	177.91	2.00	450961.48	753316.44	N 32 14 16.47	W 103 38 51.85
Hold	4436.22	0.00	89.56	4427.04	-0.31	1.38	178.14	2.00	450961.48	753316.67	N 32 14 16.47	W 103 38 51.84
	4500.00	0.00	89.56	4490.82	-0.31	1.38	178.14	0.00	450961.48	753316.67	N 32 14 16.47	W 103 38 51.84
	4600.00	0.00	89.56	4590.82	-0.31	1.38	178.14	0.00	450961.48	753316.67	N 32 14 16.47	W 103 38 51.84
	4700.00	0.00	89.56	4690.82	-0.31	1.38	178.14	0.00	450961.48	753316.67	N 32 14 16.47	W 103 38 51.84
	4800.00	0.00	89.56	4790.82	-0.31	1.38	178.14	0.00	450961.48	753316.67	N 32 14 16.47	W 103 38 51.84
	4900.00	0.00	89.56	4890.82	-0.31	1.38	178.14	0.00	450961.48	753316.67	N 32 14 16.47	W 103 38 51.84
	5000.00	0.00	89.56	4990.82	-0.31	1.38	178.14	0.00	450961.48	753316.67	N 32 14 16.47	W 103 38 51.84
	5100.00	0.00	89.56	5090.82	-0.31	1.38	178.14	0.00	450961.48	753316.67	N 32 14 16.47	W 103 38 51.84
	5200.00	0.00	89.56	5190.82	-0.31	1.38	178.14	0.00	450961.48	753316.67	N 32 14 16.47	W 103 38 51.84
	5300.00	0.00	89.56	5290.82	-0.31	1.38	178.14	0.00	450961.48	753316.67	N 32 14 16.47	W 103 38 51.84
	5400.00	0.00	89.56	5390.82	-0.31	1.38	178.14	0.00	450961.48	753316.67	N 32 14 16.47	W 103 38 51.84
	5500.00	0.00	89.56	5490.82	-0.31	1.38	178.14	0.00	450961.48	753316.67	N 32 14 16.47	W 103 38 51.84
	5600.00	0.00	89.56	5590.82	-0.31	1.38	178.14	0.00	450961.48	753316.67	N 32 14 16.47	W 103 38 51.84
	5700.00	0.00	89.56	5690.82	-0.31	1.38	178.14	0.00	450961.48	753316.67	N 32 14 16.47	W 103 38 51.84
	5800.00	0.00	89.56	5790.82	-0.31	1.38	178.14	0.00	450961.48	753316.67	N 32 14 16.47	W 103 38 51.84
	5900.00	0.00	89.56	5890.82	-0.31	1.38	178.14	0.00	450961.48	753316.67	N 32 14 16.47	W 103 38 51.84
	6000.00	0.00	89.56	5990.82	-0.31	1.38	178.14	0.00	450961.48	753316.67	N 32 14 16.47	W 103 38 51.84
	6100.00	0.00	89.56	6090.82	-0.31	1.38	178.14	0.00	450961.48	753316.67	N 32 14 16.47	W 103 38 51.84
	6200.00	0.00	89.56	6190.82	-0.31	1.38	178.14	0.00	450961.48	753316.67	N 32 14 16.47	W 103 38 51.84
	6300.00	0.00	89.56	6290.82	-0.31	1.38	178.14	0.00	450961.48	753316.67	N 32 14 16.47	W 103 38 51.84
	6400.00	0.00	89.56	6390.82	-0.31	1.38	178.14	0.00	450961.48	753316.67	N 32 14 16.47	W 103 38 51.84
	6500.00	0.00	89.56	6490.82	-0.31	1.38	178.14	0.00	450961.48	753316.67	N 32 14 16.47	W 103 38 51.84
	6600.00	0.00	89.56	6590.82	-0.31	1.38	178.14	0.00	450961.48	753316.67	N 32 14 16.47	W 103 38 51.84
	6700.00	0.00	89.56	6690.82	-0.31	1.38	178.14	0.00	450961.48	753316.67	N 32 14 16.47	W 103 38 51.84
	6800.00	0.00	89.56	6790.82	-0.31	1.38	178.14	0.00	450961.48	753316.67	N 32 14 16.47	W 103 38 51.84
	6900.00	0.00	89.56	6890.82	-0.31	1.38	178.14	0.00	450961.48	753316.67	N 32 14 16.47	W 103 38 51.84
	7000.00	0.00	89.56	6990.82	-0.31	1.38	178.14	0.00	450961.48	753316.67	N 32 14 16.47	W 103 38 51.84
	7100.00	0.00	89.56	7090.82	-0.31	1.38	178.14	0.00	450961.48	753316.67	N 32 14 16.47	W 103 38 51.84
	7200.00	0.00	89.56	7190.82	-0.31	1.38	178.14	0.00	450961.48	753316.67	N 32 14 16.47	W 103 38 51.84

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 ° ' ")
	7300.00	0.00	89.56	7290.82	-0.31	1.38	178.14	0.00	450961.48	753316.67	N 32 14 16.47	W 103 38 51.84
	7400.00	0.00	89.56	7390.82	-0.31	1.38	178.14	0.00	450961.48	753316.67	N 32 14 16.47	W 103 38 51.84
	7500.00	0.00	89.56	7490.82	-0.31	1.38	178.14	0.00	450961.48	753316.67	N 32 14 16.47	W 103 38 51.84
	7600.00	0.00	89.56	7590.82	-0.31	1.38	178.14	0.00	450961.48	753316.67	N 32 14 16.47	W 103 38 51.84
	7700.00	0.00	89.56	7690.82	-0.31	1.38	178.14	0.00	450961.48	753316.67	N 32 14 16.47	W 103 38 51.84
	7800.00	0.00	89.56	7790.82	-0.31	1.38	178.14	0.00	450961.48	753316.67	N 32 14 16.47	W 103 38 51.84
	7900.00	0.00	89.56	7890.82	-0.31	1.38	178.14	0.00	450961.48	753316.67	N 32 14 16.47	W 103 38 51.84
	8000.00	0.00	89.56	7990.82	-0.31	1.38	178.14	0.00	450961.48	753316.67	N 32 14 16.47	W 103 38 51.84
	8100.00	0.00	89.56	8090.82	-0.31	1.38	178.14	0.00	450961.48	753316.67	N 32 14 16.47	W 103 38 51.84
	8200.00	0.00	89.56	8190.82	-0.31	1.38	178.14	0.00	450961.48	753316.67	N 32 14 16.47	W 103 38 51.84
	8300.00	0.00	89.56	8290.82	-0.31	1.38	178.14	0.00	450961.48	753316.67	N 32 14 16.47	W 103 38 51.84
	8400.00	0.00	89.56	8390.82	-0.31	1.38	178.14	0.00	450961.48	753316.67	N 32 14 16.47	W 103 38 51.84
	8500.00	0.00	89.56	8490.82	-0.31	1.38	178.14	0.00	450961.48	753316.67	N 32 14 16.47	W 103 38 51.84
	8600.00	0.00	89.56	8590.82	-0.31	1.38	178.14	0.00	450961.48	753316.67	N 32 14 16.47	W 103 38 51.84
	8700.00	0.00	89.56	8690.82	-0.31	1.38	178.14	0.00	450961.48	753316.67	N 32 14 16.47	W 103 38 51.84
	8800.00	0.00	89.56	8790.82	-0.31	1.38	178.14	0.00	450961.48	753316.67	N 32 14 16.47	W 103 38 51.84
	8900.00	0.00	89.56	8890.82	-0.31	1.38	178.14	0.00	450961.48	753316.67	N 32 14 16.47	W 103 38 51.84
	9000.00	0.00	89.56	8990.82	-0.31	1.38	178.14	0.00	450961.48	753316.67	N 32 14 16.47	W 103 38 51.84
	9100.00	0.00	89.56	9090.82	-0.31	1.38	178.14	0.00	450961.48	753316.67	N 32 14 16.47	W 103 38 51.84
	9200.00	0.00	89.56	9190.82	-0.31	1.38	178.14	0.00	450961.48	753316.67	N 32 14 16.47	W 103 38 51.84
	9300.00	0.00	89.56	9290.82	-0.31	1.38	178.14	0.00	450961.48	753316.67	N 32 14 16.47	W 103 38 51.84
	9400.00	0.00	89.56	9390.82	-0.31	1.38	178.14	0.00	450961.48	753316.67	N 32 14 16.47	W 103 38 51.84
	9500.00	0.00	89.56	9490.82	-0.31	1.38	178.14	0.00	450961.48	753316.67	N 32 14 16.47	W 103 38 51.84
	9600.00	0.00	89.56	9590.82	-0.31	1.38	178.14	0.00	450961.48	753316.67	N 32 14 16.47	W 103 38 51.84
	9700.00	0.00	89.56	9690.82	-0.31	1.38	178.14	0.00	450961.48	753316.67	N 32 14 16.47	W 103 38 51.84
	9800.00	0.00	89.56	9790.82	-0.31	1.38	178.14	0.00	450961.48	753316.67	N 32 14 16.47	W 103 38 51.84
	9900.00	0.00	89.56	9890.82	-0.31	1.38	178.14	0.00	450961.48	753316.67	N 32 14 16.47	W 103 38 51.84
	10000.00	0.00	89.56	9990.82	-0.31	1.38	178.14	0.00	450961.48	753316.67	N 32 14 16.47	W 103 38 51.84
	10100.00	0.00	89.56	10090.82	-0.31	1.38	178.14	0.00	450961.48	753316.67	N 32 14 16.47	W 103 38 51.84
	10200.00	0.00	89.56	10190.82	-0.31	1.38	178.14	0.00	450961.48	753316.67	N 32 14 16.47	W 103 38 51.84
	10300.00	0.00	89.56	10290.82	-0.31	1.38	178.14	0.00	450961.48	753316.67	N 32 14 16.47	W 103 38 51.84
	10400.00	0.00	89.56	10390.82	-0.31	1.38	178.14	0.00	450961.48	753316.67	N 32 14 16.47	W 103 38 51.84
KOP, Build 10° DLS	10436.22	0.00	89.56	10427.04	-0.31	1.38	178.14	0.00	450961.48	753316.67	N 32 14 16.47	W 103 38 51.84
	10500.00	6.38	179.66	10490.69	3.23	-2.17	178.16	10.00	450957.93	753316.69	N 32 14 16.44	W 103 38 51.84
	10600.00	16.38	179.66	10588.60	22.94	-21.87	178.28	10.00	450938.23	753316.81	N 32 14 16.24	W 103 38 51.84
	10700.00	26.38	179.66	10681.60	59.34	-58.27	178.50	10.00	450901.83	753317.03	N 32 14 15.88	W 103 38 51.84
	10800.00	36.38	179.66	10766.87	111.34	-110.28	178.81	10.00	450849.83	753317.34	N 32 14 15.37	W 103 38 51.84
	10900.00	46.38	179.66	10841.81	177.36	-176.29	179.21	10.00	450783.81	753317.74	N 32 14 14.71	W 103 38 51.84
	11000.00	56.38	179.66	10904.15	255.39	-254.32	179.68	10.00	450705.79	753318.21	N 32 14 13.94	W 103 38 51.84
	11100.00	66.38	179.66	10951.99	343.06	-341.99	180.20	10.00	450618.13	753318.74	N 32 14 13.08	W 103 38 51.84
	11200.00	76.38	179.66	10983.88	437.70	-436.63	180.77	10.00	450523.49	753319.31	N 32 14 12.14	W 103 38 51.84
	11300.00	86.38	179.66	10998.85	536.45	-535.37	181.37	10.00	450424.75	753319.90	N 32 14 11.16	W 103 38 51.85
Landing Point	11336.22	90.00	179.66	11000.00	572.64	-571.57	181.58	10.00	450388.56	753320.12	N 32 14 10.80	W 103 38 51.85
	11400.00	90.00	179.66	11000.00	636.42	-635.35	181.97	0.00	450324.78	753320.50	N 32 14 10.17	W 103 38 51.85
	11500.00	90.00	179.66	11000.00	736.42	-735.34	182.57	0.00	450224.79	753321.10	N 32 14 9.18	W 103 38 51.85
	11600.00	90.00	179.66	11000.00	836.42	-835.34	183.17	0.00	450124.79	753321.70	N 32 14 8.19	W 103 38 51.85
	11700.00	90.00	179.66	11000.00	936.42	-935.34	183.77	0.00	450024.80	753322.30	N 32 14 7.20	W 103 38 51.85
	11800.00	90.00	179.66	11000.00	1036.42	-1035.34	184.37	0.00	449924.80	753322.90	N 32 14 6.21	W 103 38 51.85
	11900.00	90.00	179.66	11000.00	1136.42	-1135.34	184.97	0.00	449824.81	753323.50	N 32 14 5.22	W 103 38 51.85
	12000.00	90.00	179.66	11000.00	1236.42	-1235.34	185.57	0.00	449724.82	753324.11	N 32 14 4.24	W 103 38 51.85
	12100.00	90.00	179.66	11000.00	1336.42	-1335.33	186.17	0.00	449624.82	753324.71	N 32 14 3.25	W 103 38 51.85
	12200.00	90.00	179.66	11000.00	1436.42	-1435.33	186.78	0.00	449524.83	753325.31	N 32 14 2.26	W 103 38 51.85
	12300.00	90.00	179.66	11000.00	1536.42	-1535.33	187.38	0.00	449424.83	753325.91	N 32 14 1.27	W 103 38 51.85
	12400.00	90.00	179.66	11000.00	1636.42	-1635.33	187.98	0.00	449324.84	753326.51	N 32 14 0.28	W 103 38 51.85
	12500.00	90.00	179.66	11000.00	1736.42	-1735.33	188.58	0.00	449224.85	753327.11	N 32 13 59.29	W 103 38 51.85
	12600.00	90.00	179.66	11000.00	1836.42	-1835.32	189.18	0.00	449124.85	753327.71	N 32 13 58.30	W 103 38 51.85
	12700.00	90.00	179.66	11000.00	1936.42	-1935.32	189.78	0.00	449024.86	753328.31	N 32 13 57.31	W 103 38 51.85
	12800.00	90.00	179.66	11000.00	2036.42	-2035.32	190.38	0.00	448924.86	753328.91	N 32 13 56.32	W 103 38 51.85
	12900.00	90.00	179.66	11000.00	2136.42	-2135.32	190.98	0.00	448824.87	753329.51	N 32 13 55.33	W 103 38 51.85
	13000.00	90.00	179.66	11000.00	2236.42	-2235.32	191.58	0.00	448724.88	753330.12	N 32 13 54.34	W 103 38 51.85
	13100.00	90.00	179.66	11000.00	2336.42	-2335.32	192.18	0.00	448624.88	753330.72	N 32 13 53.35	W 103 38 51.85
	13200.00	90.00	179.66	11000.00	2436.42	-2435.31	192.79	0.00	448524.89	753331.32	N 32 13 52.36	W 103 38 51.85
	13300.00	90.00	179.66	11000.00	2536.42	-2535.31	193.39	0.00	448424.89	753331.92	N 32 13 51.37	W 103 38 51.85
	13400.00	90.00	179.66	11000.00	2636.42	-2635.31	193.99	0.00	448324.90	753332.52	N 32 13 50.38	W 103 38 51.85
	13500.00	90.00	179.66	11000.00	2736.42	-2735.31	194.59	0.00	448224.91	753333.12	N 32 13 49.39	W 103 38 51.85
	13600.00	90.00	179.66	11000.00	2836.42	-2835.31	195.19	0.00	448124.91	753333.72	N 32 13 48.40	W 103 38 51.86
	13700.00	90.00	179.66	11000.00	2936.42	-2935.30	195.79	0.00	448024.92	753334.32	N 32 13 47.41	W 103 38 51.86
	13800.00	90.00	179.66	11000.00	3036.42	-3035.30	196.39	0.00	447924.92	753334.92	N 32 13 46.42	W 103 38 51.86
	13900.00	90.00	179.66	11000.00	3136.42	-3135.30	196.99	0.00	447824.93	753335.52	N 32 13 45.43	W 103 38 51.86
	14000.00	90.00	179.66	11000.00	3236.42	-3235.30	197.59	0.00	447724.93	753336.13	N 32 13 44.45	W 103 38 51.86
	14100.00	90.00	179.66	11000.00	3336.42	-3335.30	198.19	0.00	447624.94	753336.73	N 32 13 43.46	W 103 38 51.86
	14200.00	90.00	179.66	11000.00	3436.42	-3435.30	198.80	0.00	447524.95	753337.33	N 32 13 42.47	W 103 38 51.86
	14300.00	90.00	179.66	11000.00	3536.42	-3535.29	199.40	0.00	447424.95	753337.93	N 32 13 41.48	W 103 38 51.86
	14400.00	90.00	179.66	11000.00	3636.42	-3635.29	200.00	0.00	447324.96	753338.53	N 32 13 40.49	W 103 38 51.86
	14500.00	90.00	179.66	11000.00	3736.42	-3735.29	200.60	0.00	447224.96	753339.13	N 32 13 39.50	W 103 38 51.86
	14600.00	90.00	179.66	11000.00	3836.42	-3835.29	201.20	0.00	447124.97	753339.73	N 32 13 38.51	W 103 38 51.86
	14700.00	90.00	179.66	11000.00	3936.42	-3935.29	201.80	0.00	447024.98	753340.33	N 32 13 37.52	W 103 38 51.86
	14800.00	90.00	179.66	11000.00	4036.42	-4035.28	202.40	0.00	446924.98	753340.93	N 32 13 36.53	W 103 38 51.86
	14900.00	90.00	179.66	11000.00	4136.42	-4135.28	203.00	0.00	446824.99	753341.53	N 32 13 35.54	W 103 38 51.86
	15000.00	90.00	179.66	11000.00	4236.42	-4235.28	203.60	0.00	446724.99	753342.14	N 32 13 34.55	W 103 38 51.86
	15100.00	90.00	179.66	11000.00	4336.42	-4335.28	204.21	0.00	446625.00	753342.74	N 32 13 33.56	W 103 38 51.86
	15200.00	90.00	179.66	11000.00	4436.42	-4435.28	204.81	0.00	446525.01	753343.34	N 32 13 32.57	W 103 38 51.86
	15300.00	90.00	179.66	11000.00	4536.42	-4535.28	205.41	0.00	446425.01	753343.94	N 32 13 31.58	W 103 38 51.86
	15400.00	90.00	179.66	11000.00	4636.42	-4635.27	206.01	0.00	446325.02	753344.54	N 32 13 30.59	W 103 38 51.86
	15500.00	90.00	179.66	11000.00	4736.42	-4735.27	206.61	0.00	446225.02	753345.14	N 32 13 29.60	W 103 38 51.86
	15600.00	90.00	179.66	11000.00	4836.42	-4835.27	207.21	0.00	446125.03	753345.74	N 32 13 28.61	W 103 38 51.86
	15700.00	90.00	179.66	11000.00	4936.42	-4935.27	207.81	0.00	446025.04	753346.34	N 32 13 27.62	W 103 38 51.86
	15800.00	90.00	179.66	11000.00	5036.42	-5035.27	208.41	0.00	445925.04	753346.94	N 32 13 26.63	W 103 38 51.86
	15900.00	90.00	179.66	11000.00	5136.42	-5135.27	209.01	0.00	445825.05	753347.54	N 32 13 25.64	W 103 38 51.86
	16000.00	90.00	179.66	11000.00	5236.42	-5235.26	209.61	0.00	445725.05	753348.15	N 32 13 24.65	W 103 38 51.87
	16100.00	90.00	179.66	11000.00	5336.42	-5335.26	210.22	0.00	445625.06	753348.75	N 32 13 23.67	W 103 38 51.87
	16200.00	90.00	179.66	11000.00	5436.42	-5435.26	210.82	0.00	445525.07	753349.35	N 32 13 22.68	W 103 38 51.87
	16300.00	90.00	179.66	11000.00	5536.42	-5535.26	211.42	0.00	445425.07	753349.95	N 32 13 21.69	W 103 38 51.87
	16400.00	90.00	179.66	11000.00	5636.42	-5635.26	212.02	0.00	445325.08	753350.55	N 32 13 20.70	W 103 38 51.87
	16500.00	90.00	179.66	11000.00	5736.42	-5735.25	212.62	0.00	445225.08	753351.15	N 32 13 19.71	W 103 38 51.87
	16600.00	90.00	179.66	11000.00	5836.42	-5835.25	213.22	0.00	445125.09	753351.75	N 32 13 18.72	W 103 38 51.87
	16700.00	90.00	179.66	11000.00	5936.42	-5935.25	213.82	0.00	445025.10	753352.35	N 32 13 17.73	W 103 38 51.87
	16800.00	90.00	179.66	11000.00	6036.42	-6035.25	214.42	0.00	444925.10	753352.95	N 32 13 16.74	W 103 38 51.87
	16900.00	90.00	179.66	11000.00	6136.42	-6135.25	215.02	0.00	444825.11	753353.55	N 32 13 15.75	W 103 38 51.87
	17000.00	90.00	179.66	11000.00	6236.42	-6235.25	215.62	0.00	444725.11	753354.16	N 32 13 14.76	W 103 38 51.87
	17100.00	90.00	179.66	11000.00	6336.42	-6335.24	216.23	0.00	444625.12	753354.76	N 32 13 13.77	W 103 38 51.87
	17200.00	90.00	179.66	11000.00	6436.42	-6435.24	216.83	0.00	444525.13	753355.36	N 32 13 12.78	W 103 38 51.87
	17300.00	90.00	179.66	11000.00	6536.42	-6535.24	217.43	0.00	444425.13	753355.96	N 32 13 11.79	W 103 38 51.87
	17400.00	90.00	179.66	11000.00	6636.42	-6635.24	218.03	0.00	444325.14	753356.56	N 32 13 10.80	W 103 38 51.87
	17500.00	90.00	179.66	11000.00	6736.42	-6735.24	218.63	0.00	444225.14	753357.16	N 32 13 9.81	W 103 38 51.87
	17600.00	90.00	179.66	11000.00	6836.42	-6835.23	219.23	0.00	444125.15	753357.76	N 32 13 8.82	W 103 38 51.87
	17700.00	90.00	179.66	11000.00	6936.42	-6935.23	219.83	0.00	444025.16	753358.36	N 32 13 7.83	W 103 38 51.87
	17800.00	90.00	179.66	11000.00	7036.42	-7035.23	220.43	0.00	443925.16	753358.96	N 32 13 6.84	W 103 38 51.87

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 ° ' ")
	17900.00	90.00	179.66	11000.00	7136.42	-7135.23	221.03	0.00	443825.17	753359.56	N 32 13 5.85	W 103 38 51.87
	18000.00	90.00	179.66	11000.00	7236.42	-7235.23	221.64	0.00	443725.17	753360.17	N 32 13 4.86	W 103 38 51.87
	18100.00	90.00	179.66	11000.00	7336.42	-7335.23	222.24	0.00	443625.18	753360.77	N 32 13 3.88	W 103 38 51.87
	18200.00	90.00	179.66	11000.00	7436.42	-7435.22	222.84	0.00	443525.19	753361.37	N 32 13 2.89	W 103 38 51.87
	18300.00	90.00	179.66	11000.00	7536.42	-7535.22	223.44	0.00	443425.19	753361.97	N 32 13 1.90	W 103 38 51.88
	18400.00	90.00	179.66	11000.00	7636.42	-7635.22	224.04	0.00	443325.20	753362.57	N 32 13 0.91	W 103 38 51.88
	18500.00	90.00	179.66	11000.00	7736.42	-7735.22	224.64	0.00	443225.20	753363.17	N 32 12 59.92	W 103 38 51.88
	18600.00	90.00	179.66	11000.00	7836.42	-7835.22	225.24	0.00	443125.21	753363.77	N 32 12 58.93	W 103 38 51.88
	18700.00	90.00	179.66	11000.00	7936.42	-7935.21	225.84	0.00	443025.22	753364.37	N 32 12 57.94	W 103 38 51.88
	18800.00	90.00	179.66	11000.00	8036.42	-8035.21	226.44	0.00	442925.22	753364.97	N 32 12 56.95	W 103 38 51.88
	18900.00	90.00	179.66	11000.00	8136.42	-8135.21	227.04	0.00	442825.23	753365.58	N 32 12 55.96	W 103 38 51.88
	19000.00	90.00	179.66	11000.00	8236.42	-8235.21	227.65	0.00	442725.23	753366.18	N 32 12 54.97	W 103 38 51.88
	19100.00	90.00	179.66	11000.00	8336.42	-8335.21	228.25	0.00	442625.24	753366.78	N 32 12 53.98	W 103 38 51.88
	19200.00	90.00	179.66	11000.00	8436.42	-8435.21	228.85	0.00	442525.24	753367.38	N 32 12 52.99	W 103 38 51.88
	19300.00	90.00	179.66	11000.00	8536.42	-8535.20	229.45	0.00	442425.25	753367.98	N 32 12 52.00	W 103 38 51.88
	19400.00	90.00	179.66	11000.00	8636.42	-8635.20	230.05	0.00	442325.26	753368.58	N 32 12 51.01	W 103 38 51.88
	19500.00	90.00	179.66	11000.00	8736.42	-8735.20	230.65	0.00	442225.26	753369.18	N 32 12 50.02	W 103 38 51.88
	19600.00	90.00	179.66	11000.00	8836.42	-8835.20	231.25	0.00	442125.27	753369.78	N 32 12 49.03	W 103 38 51.88
	19700.00	90.00	179.66	11000.00	8936.42	-8935.20	231.85	0.00	442025.27	753370.38	N 32 12 48.04	W 103 38 51.88
	19800.00	90.00	179.66	11000.00	9036.42	-9035.19	232.45	0.00	441925.28	753370.98	N 32 12 47.05	W 103 38 51.88
	19900.00	90.00	179.66	11000.00	9136.42	-9135.19	233.05	0.00	441825.29	753371.59	N 32 12 46.06	W 103 38 51.88
	20000.00	90.00	179.66	11000.00	9236.42	-9235.19	233.66	0.00	441725.29	753372.19	N 32 12 45.07	W 103 38 51.88
	20100.00	90.00	179.66	11000.00	9336.42	-9335.19	234.26	0.00	441625.30	753372.79	N 32 12 44.08	W 103 38 51.88
	20200.00	90.00	179.66	11000.00	9436.42	-9435.19	234.86	0.00	441525.30	753373.39	N 32 12 43.10	W 103 38 51.88
	20300.00	90.00	179.66	11000.00	9536.42	-9535.19	235.46	0.00	441425.31	753373.99	N 32 12 42.11	W 103 38 51.88
	20400.00	90.00	179.66	11000.00	9636.42	-9635.18	236.06	0.00	441325.32	753374.59	N 32 12 41.12	W 103 38 51.88
	20500.00	90.00	179.66	11000.00	9736.42	-9735.18	236.66	0.00	441225.32	753375.19	N 32 12 40.13	W 103 38 51.88
	20600.00	90.00	179.66	11000.00	9836.42	-9835.18	237.26	0.00	441125.33	753375.79	N 32 12 39.14	W 103 38 51.89
Cimarex Dos Equis 11-14 Federal Com 23H - PBHL [100' FSL, 1924' FWL]	20684.49	90.00	179.66	11000.00	9920.92	-9919.67	237.77	0.00	441040.84	753376.30	N 32 12 38.30	W 103 38 51.89

Survey Type: Def Plan

Survey Error Model: ISCWSA Rev 3 *** 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)	Expected Max Inclination (deg)	Survey Tool Type	Borehole / Survey
	1	0.000	22.000	1/100.000	17.500	13.375		A001Mb_MWD-Depth Only	Dos Equis 11-14 Federal Com 23H / Cimarex Dos Equis 11-14
	1	22.000	20684.493	1/100.000	17.500	13.375		A001Mb_MWD	Dos Equis 11-14 Federal Com 23H / Cimarex Dos Equis 11-14

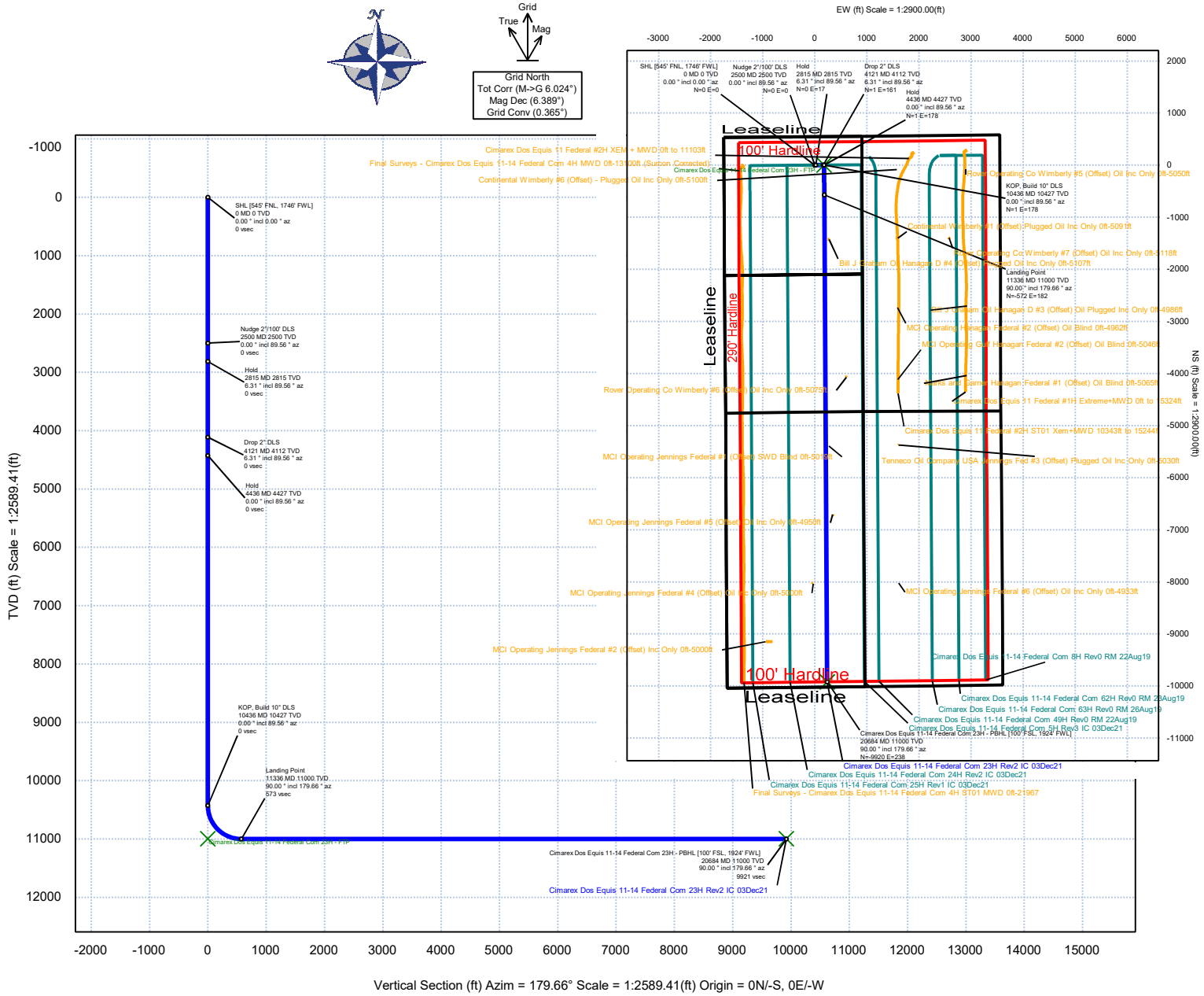
Schlumberger

Cimarex Energy Rev 2

CIMAREX

Borehole:	Well:	Field:	Structure:
Dos Equis 11-14 Federal Com 23H	Dos Equis 11-14 Federal Com 23H	NM Lea County (NAD 83)	Cimarex Dos Equis 11-14 Federal Com 23H

Gravity & Magnetic Parameters						Surface Location	NAD83 New Mexico State Plane, Eastern Zone, US Feet					Miscellaneous			
Model:	HDGM 2021	Dip:	59.858°	Date:	03-Dec-2021	Lat:	N 32 14 16.47	Northing:	450960.1ftUS	Grid Conv:	0.3654°	Slot:	New Slot	TVD Ref:	RKB=22ft (Unit 411)(3639.9ft above MSL)
MagDec:	6.389°	FS:	47642.75nT	Gravity FS:	998.436mgn (9.80665 Based)	Lon:	W 103 38 53.92	Easting:	753138.54ftUS	Scale Fact:	0.99996047	Plan:	Cimarex Dos Equis 11-14 Federal Com 23H Rev2 IC 03Dec21		



Vertical Section (ft) Azim = 179.66° Scale = 1:2589.41(ft) Origin = 0N/-S, 0E/-W

Critical Points

Critical Point	MD	INCL	AZIM	TVD	VSEC	N(+)/S(-)	E(+)/W(-)	DLS
SHL [545' FNL, 1746' FWL]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Nudge 2°/100' DLS	2500.00	0.00	89.56	2500.00	0.00	0.00	0.00	0.00
Hold	2815.46	6.31	89.56	2814.82	-0.03	0.13	17.35	2.00
Drop 2° DLS	4120.76	6.31	89.56	4112.22	-0.28	1.25	160.79	0.00
Hold	4436.22	0.00	89.56	4427.04	-0.31	1.38	178.14	2.00
KOP, Build 10° DLS	10436.22	0.00	89.56	10427.04	-0.31	1.38	178.14	0.00
Landing Point	11336.22	90.00	179.66	11000.00	572.64	-571.57	181.58	10.00
Cimarex Dos Equis 11-14 Federal Com 23H - PBHL [100' FSL, 1924' FWL]	20684.49	90.00	179.66	11000.00	9920.92	-9919.67	237.77	0.00

Schlumberger

CIMAREX

Cimarex Dos Equis 11-14 Federal Com 23H Rev2 IC 03Dec21 Anti-Collision Summary Report

Analysis Date-24hr Time:	December 03, 2021 - 14:02	**Analysis Method:**	3D Least Distance
Client:	Cimarex Energy	**Reference Trajectory:**	Cimarex Dos Equis 11-14 Federal Com 23H Rev2 IC 03Dec21 (Def Plan)
Field:	NM Lea County (NAD 83)	**Depth Interval:**	Every 10.00 Measured Depth (ft)
Structure:	Cimarex Dos Equis 11-14 Federal Com 23H	**Rule Set:**	NAL Procedure: D&M AntiCollision Standard S002
Slot:	New Slot	**Min Pts:**	All local minima indicated.
Well:	Dos Equis 11-14 Federal Com 23H	**Version / Patch:**	2.10.826.8
Borehole:	Dos Equis 11-14 Federal Com 23H	**Database \ Project:**	Us1455vsm3172\drilling-NM Lea County 2.10
Scan MD Range:	0.00ft ~ 20684.49ft		

Trajectory Error Model: ISCWSA3 3-D 95.000% Confidence 2.7955 sigma, for subject well. For offset wells, error model version is specified with each well respectively.

Offset Trajectories Summary

Offset Selection Criteria
Wellhead distance scan: Restricted within 61694.99 ft
Selection filters: Definitive Surveys - Definitive Plans - Definitive surveys exclude definitive plans
- All Non-Def Surveys when no Def-Survey is set in a borehole - All Non-Def Plans when no Def-Plan is set in a borehole

Offset Trajectory	Separation			Allow	Sep.	Controlling	Reference Trajectory		Risk Level			Alert	Status
	Ct-Ct (ft)	MAS (ft)	EOU (ft)	Dev. (ft)	Fact.	Rule	MD (ft)	TVD (ft)	Alert	Minor	Major		

Results highlighted: Sep-Factor separation <= 1.50 ft

Cimarex Dos Equis 11-14 Federal Com 5H Rev3 IC 03Dec21 (Def Plan)													Fail Major
	19.91	16.19	18.63	3.73	N/A	MAS = 4.93 (m)	0.00	0.00	CtCt<=15m<15.00			Enter Alert	
	19.91	16.19	18.62	3.72	N/A	MAS = 4.93 (m)	22.00	22.00				WRP	
	19.91	20.06	6.11	-0.15	1.49	OSF1.50	1310.00	1310.00		OSF<1.50		Enter Minor	
	19.91	29.23	0.00	-9.32	1.00	OSF1.50	1920.00	1920.00			OSF<1.00	Enter Major	
	19.91	30.43	-0.81	-10.52	0.96	OSF1.50	2000.00	2000.00				MinPt-CtCt	
	20.07	30.88	-0.95	-10.81	0.95	OSF1.50	2030.00	2030.00				MinPts	
	20.19	31.02	-0.92	-10.84	0.95	OSF1.50	2040.00	2040.00				MinPt-O-ADP	
	21.64	31.90	-0.06	-10.26	1.00	OSF1.50	2100.00	2100.00			OSF>1.00	Exit Major	
	34.43	34.55	10.97	-0.12	1.49	OSF1.50	2290.00	2290.00		OSF>1.50		Exit Minor	
	235.87	71.86	187.54	164.01	4.99	OSF1.50	4820.00	4810.82	OSF>5.00			Exit Alert	
	712.90	152.54	610.78	560.36	7.06	OSF1.50	10170.00	10160.82				MinPt-CtCt	
	713.32	154.54	609.86	558.78	6.97	OSF1.50	10310.00	10300.82				MINPT-O-EOU	
	713.55	154.83	609.91	558.73	6.96	OSF1.50	10330.00	10320.82				MinPt-O-ADP	
	717.77	156.56	612.97	561.21	6.92	OSF1.50	10460.00	10450.81				MinPt-O-SF	
	773.37	233.37	617.36	540.01	4.99	OSF1.50	13400.00	11000.00	OSF<5.00			Enter Alert	
	773.37	666.17	328.83	107.20	1.74	OSF1.50	20680.00	11000.00				MinPt-CtCt	
	773.38	666.48	328.63	106.90	1.74	OSF1.50	20684.49	11000.00				MinPts	
Cimarex Dos Equis 11-14 Federal Com 24H Rev2 IC 03Dec21 (Def Plan)													Fail Minor
	20.00	16.26	18.71	3.74	N/A	MAS = 4.96 (m)	0.00	0.00	CtCt<=15m<15.00			Enter Alert	
	20.00	16.26	18.71	3.74	17606.34	MAS = 4.96 (m)	22.00	22.00				WRP	
	20.00	20.06	6.20	-0.06	1.49	OSF1.50	1310.00	1310.00		OSF<1.50		Enter Minor	
	20.00	22.77	4.39	-2.77	1.31	OSF1.50	1490.00	1490.00				MinPt-CtCt	
	20.16	23.36	4.16	-3.20	1.28	OSF1.50	1530.00	1530.00				MINPT-O-EOU	
	20.28	23.51	4.18	-3.23	1.28	OSF1.50	1540.00	1540.00				MinPts	
	25.02	25.39	7.67	-0.37	1.48	OSF1.50	1670.00	1670.00		OSF>1.50		Exit Minor	
	136.02	41.84	107.70	94.18	4.98	OSF1.50	2790.00	2789.50	OSF>5.00			Exit Alert	
	714.32	153.75	611.39	560.57	7.02	OSF1.50	10300.00	10290.82				MINPT-O-EOU	
	714.54	154.02	611.43	560.52	7.00	OSF1.50	10320.00	10310.82				MinPt-O-ADP	
	718.03	155.52	613.92	562.51	6.97	OSF1.50	10440.00	10430.82				MinPt-O-SF	
	774.49	158.25	668.56	616.24	7.39	OSF1.50	11340.00	11000.00				MinPt-CtCt	
	774.49	233.28	618.54	541.21	5.00	OSF1.50	13460.00	11000.00	OSF<5.00			Enter Alert	
	774.49	663.58	331.68	110.91	1.75	OSF1.50	20684.49	11000.00				MinPts	
Cimarex Dos Equis 11-14 Federal Com 25H Rev1 IC 03Dec21 (Def Plan)													Warning Alert
	40.00	32.40	38.02	7.60	N/A	MAS = 9.87 (m)	0.00	0.00	CtCt<=15m<15.00			Enter Alert	
	40.00	32.40	38.02	7.60	26828.45	MAS = 9.87 (m)	22.00	22.00				WRP	
	40.00	32.40	23.70	7.60	2.65	MAS = 9.87 (m)	1490.00	1490.00				MinPts	
	40.16	32.40	23.46	7.76	2.59	MAS = 9.87 (m)	1530.00	1530.00				MINPT-O-EOU	
	40.86	32.40	23.77	8.46	2.57	MAS = 9.87 (m)	1570.00	1570.00				MinPt-O-SF	
	103.41	32.54	81.06	70.87	4.98	OSF1.50	2130.00	2130.00	OSF>5.00			Exit Alert	
	1426.81	429.70	1139.69	997.11	5.00	OSF1.50	16490.00	11000.00	OSF<5.00			Enter Alert	
	1426.81	706.46	955.18	720.35	3.03	OSF1.50	20684.49	11000.00				MinPts	
MCI Operating Hanagan Federal #2 (Offset) Oil Blind 0ft-4962ft (Def Survey)													Warning Alert
	3161.37	32.81	3159.40	3128.57	N/A	MAS = 10.00 (m)	0.00	0.00				Surface	
	3161.34	32.81	3158.65	3128.53	4434.78	MAS = 10.00 (m)	22.00	22.00				WRP	
	3139.67	943.35	2510.11	2196.32	5.00	OSF1.50	3060.00	3057.88	OSF<5.00			Enter Alert	
	3076.99	1544.93	2046.38	1532.06	2.99	OSF1.50	4980.00	4970.82				MinPt-CtCt	
	3076.99	1546.94	2045.04	1530.06	2.99	OSF1.50	4990.00	4980.82				MinPts	
	3979.51	1199.77	3178.31	2779.74	4.99	OSF1.50	7510.00	7500.82	OSF>5.00			Exit Alert	
	6181.69	366.41	5935.68	5815.27	25.65	OSF1.50	13510.00	11000.00				MinPt-CtCt	
	6182.01	367.04	5935.58	5814.96	25.61	OSF1.50	13570.00	11000.00				MINPT-O-EOU	
	6205.48	392.47	5942.11	5813.01	24.01	OSF1.50	14050.00	11000.00				MinPt-O-ADP	
	8485.45	1108.82	7744.80	7376.63	11.52	OSF1.50	19320.00	11000.00				MinPt-O-SF	
	9472.49	1212.89	8662.54	8259.60	11.75	OSF1.50	20684.49	11000.00				TD	
MCI Operating Gulf Hanagan Federal #2 (Offset) Oil Blind 0ft-5046ft (Def Survey)													Warning Alert
	4412.82	32.81	4410.84	4380.01	N/A	MAS = 10.00 (m)	0.00	0.00				Surface	
	4412.79	32.81	4410.17	4379.99	6790.62	MAS = 10.00 (m)	22.00	22.00				WRP	
	4355.30	1308.94	3482.01	3046.36	5.00	OSF1.50	4230.00	4221.00	OSF<5.00			Enter Alert	
	4352.94	1573.04	3303.58	2779.89	4.15	OSF1.50	5070.00	5060.82				MinPt-CtCt	
	4352.95	1573.36	3303.38	2779.59	4.15	OSF1.50	5080.00	5070.82				MinPts	

Offset Trajectory	Separation			Allow	Sep.	Controlling	Reference Trajectory		Risk Level			Alert	Status
	Ct-Ct (ft)	MAS (ft)	EOU (ft)	Dev. (ft)	Fact.	Rule	MD (ft)	TVD (ft)	Alert	Minor	Major		
	4777.56	1435.94	3819.14	3341.63	5.00	OSF1.50	7040.00	7030.82	OSF>5.00			Exit Alert	
	6098.89	384.42	5840.84	5714.46	24.11	OSF1.50	14890.00	11000.00				MinPt-CtCt	
	6099.58	385.79	5840.62	5713.79	24.03	OSF1.50	14980.00	11000.00				MINPT-O-EOU	
	6126.59	415.47	5847.85	5711.12	22.39	OSF1.50	15470.00	11000.00				MinPt-O-ADP	
	8349.17	1128.92	7595.09	7220.25	11.13	OSF1.50	20590.00	11000.00				MinPt-O-SF	
	8413.99	1137.51	7654.19	7276.48	11.13	OSF1.50	20684.49	11000.00				TD	
Marks and Garner Hanagan Federal #1 (Offset) Oil Blind 0ft-5065ft (Def Survey)													Warning Alert
	4980.31	32.81	4978.34	4947.51	N/A	MAS = 10.00 (m)	0.00	0.00				Surface	
	4980.30	32.81	4977.39	4947.49	5339.18	MAS = 10.00 (m)	22.00	22.00				WRP	
	4879.33	1466.97	3900.69	3412.36	4.99	OSF1.50	4730.00	4720.82	OSF<5.00			Enter Alert	
	4879.33	1577.03	3827.32	3302.30	4.64	OSF1.50	5080.00	5070.82				MinPt-CtCt	
	4879.33	1579.32	3825.79	3300.01	4.64	OSF1.50	5090.00	5080.82				MinPts	
	5066.05	1522.67	4049.97	3543.38	5.00	OSF1.50	6450.00	6440.82	OSF>5.00			Exit Alert	
	6513.36	676.60	6060.59	5836.76	14.54	OSF1.50	14820.00	11000.00				MinPt-CtCt	
	6513.43	676.79	6060.53	5836.64	14.53	OSF1.50	14850.00	11000.00				MINPT-O-EOU	
	6513.74	677.16	6060.60	5836.58	14.53	OSF1.50	14890.00	11000.00				MinPt-O-ADP	
	8328.59	1138.77	7567.93	7189.82	11.01	OSF1.50	20010.00	11000.00				MinPt-O-SF	
	8764.83	1192.42	7968.45	7572.42	11.06	OSF1.50	20684.49	11000.00				TD	
Cimarex Dos Equis 11-14 Federal Com 49H Rev0 RM 22Aug19 (Non-Def Plan)													Pass
	1056.24	32.81	1054.26	1023.43	N/A	MAS = 10.00 (m)	0.00	0.00				Surface	
	1056.22	32.81	1054.24	1023.41	N/A	MAS = 10.00 (m)	22.00	22.00				WRP	
	880.41	131.31	792.21	749.10	10.19	OSF1.50	10436.22	10427.04				MinPt-CtCt	
	880.50	131.60	792.11	748.90	10.17	OSF1.50	10460.00	10450.81				MINPT-O-EOU	
	880.59	131.72	792.12	748.87	10.16	OSF1.50	10470.00	10460.80				MinPt-O-ADP	
	887.52	133.69	797.73	753.83	10.09	OSF1.50	10640.00	10626.55				MinPt-O-SF	
	1639.67	416.91	1361.07	1222.77	5.92	OSF1.50	20680.00	11000.00				MinPt-CtCt	
	1639.68	417.02	1361.01	1222.66	5.92	OSF1.50	20684.49	11000.00				MinPts	
Final Surveys - Cimarex Dos Equis 11-14 Federal Com 4H ST01 MWD 0ft-21967 (Def Survey)													Pass
	1375.57	32.81	1374.39	1342.76	N/A	MAS = 10.00 (m)	0.00	0.00				MinPts	
	1375.59	32.81	1374.39	1342.79	47360.15	MAS = 10.00 (m)	22.00	22.00				WRP	
	1375.79	32.81	1374.31	1342.98	4644.68	MAS = 10.00 (m)	90.00	90.00				MINPT-O-EOU	
	1376.24	32.81	1374.22	1343.43	1629.40	MAS = 10.00 (m)	170.00	170.00				MINPT-O-EOU	
	1401.08	32.81	1382.39	1368.27	79.37	MAS = 10.00 (m)	2520.00	2520.00				MinPts	
	1401.14	32.81	1382.31	1368.33	78.73	MAS = 10.00 (m)	2540.00	2540.00				MINPT-O-EOU	
	1547.58	50.09	1513.83	1497.49	47.32	OSF1.50	4680.00	4670.82				MinPt-CtCt	
	1547.83	50.78	1513.62	1497.05	46.69	OSF1.50	4750.00	4740.82				MINPT-O-EOU	
	1548.16	51.17	1513.68	1496.99	46.34	OSF1.50	4790.00	4780.82				MinPt-O-ADP	
	1553.63	56.40	1515.67	1497.24	42.11	OSF1.50	5290.00	5280.82				MinPt-O-ADP	
	1579.88	82.26	1524.69	1497.61	29.16	OSF1.50	7740.00	7730.82				MinPt-CtCt	
	1580.78	85.09	1523.69	1495.68	28.20	OSF1.50	8020.00	8010.82				MINPT-O-EOU	
	1582.08	86.64	1523.95	1495.44	27.72	OSF1.50	8170.00	8160.82				MinPt-O-ADP	
	1586.95	91.45	1525.61	1495.50	26.33	OSF1.50	8630.00	8620.82				MinPt-O-ADP	
	1598.44	112.97	1522.78	1485.47	21.41	OSF1.50	10700.00	10681.60				MinPt-CtCt	
	1598.55	113.29	1522.68	1485.26	21.35	OSF1.50	10736.22	10713.52				MINPT-O-EOU	
	1598.66	113.41	1522.71	1485.25	21.33	OSF1.50	10750.00	10725.37				MinPt-O-ADP	
	1613.55	115.68	1536.07	1497.87	21.11	OSF1.50	11010.00	10909.61				MinPt-O-SF	
	2073.19	135.12	1982.78	1938.07	23.17	OSF1.50	12850.00	11000.00				MinPt-CtCt	
	2067.08	157.28	1961.89	1909.80	19.83	OSF1.50	13520.00	11000.00				MinPt-CtCt	
	2069.31	163.53	1959.96	1905.78	19.09	OSF1.50	13710.00	11000.00				MINPT-O-EOU	
	2071.78	166.52	1960.44	1905.26	18.76	OSF1.50	13800.00	11000.00				MinPt-O-ADP	
	2066.85	201.73	1932.03	1865.11	15.44	OSF1.50	14730.00	11000.00				MinPt-CtCt	
	2069.82	214.69	1926.37	1855.14	14.52	OSF1.50	15070.00	11000.00				MINPT-O-EOU	
	2075.51	230.64	1921.42	1844.87	13.55	OSF1.50	15460.00	11000.00				MINPT-O-EOU	
	2076.43	248.88	1910.18	1827.55	12.56	OSF1.50	15880.00	11000.00				MinPt-CtCt	
	2075.88	255.99	1904.86	1819.86	12.20	OSF1.50	16050.00	11000.00				MinPt-CtCt	
	2061.28	289.30	1868.08	1771.98	10.72	OSF1.50	16860.00	11000.00				MinPt-CtCt	
	2064.41	299.01	1864.74	1765.40	10.39	OSF1.50	17110.00	11000.00				MINPT-O-EOU	
	2066.84	301.96	1865.21	1764.88	10.30	OSF1.50	17190.00	11000.00				MinPt-O-ADP	
	2068.02	343.82	1838.47	1724.19	9.04	OSF1.50	18140.00	11000.00				MinPt-CtCt	
	2080.66	406.04	1809.64	1674.63	7.70	OSF1.50	19590.00	11000.00				MinPt-CtCt	
	2080.90	419.79	1800.71	1661.11	7.45	OSF1.50	19910.00	11000.00				MinPt-CtCt	
	2081.58	427.99	1795.93	1653.59	7.31	OSF1.50	20100.00	11000.00				MinPt-CtCt	
	2083.73	435.07	1793.36	1648.66	7.20	OSF1.50	20280.00	11000.00				MINPT-O-EOU	
	2090.19	453.85	1787.30	1636.34	6.92	OSF1.50	20684.49	11000.00				MinPts	
Final Surveys - Cimarex Dos Equis 11-14 Federal Com 4H MWD 0ft-13100ft (Surcon Corrected) (Def Survey)													Pass
	1375.57	32.81	1374.39	1342.76	N/A	MAS = 10.00 (m)	0.00	0.00				MinPts	
	1375.59	32.81	1374.39	1342.79	47360.15	MAS = 10.00 (m)	22.00	22.00				WRP	
	1375.79	32.81	1374.31	1342.98	4644.68	MAS = 10.00 (m)	90.00	90.00				MINPT-O-EOU	
	1376.24	32.81	1374.22	1343.43	1629.40	MAS = 10.00 (m)	170.00	170.00				MINPT-O-EOU	
	1401.08	32.81	1382.39	1368.27	79.37	MAS = 10.00 (m)	2520.00	2520.00				MinPts	
	1401.14	32.81	1382.31	1368.33	78.73	MAS = 10.00 (m)	2540.00	2540.00				MINPT-O-EOU	
	1547.58	50.09	1513.83	1497.49	47.32	OSF1.50	4680.00	4670.82				MinPt-CtCt	
	1547.83	50.78	1513.62	1497.05	46.69	OSF1.50	4750.00	4740.82				MINPT-O-EOU	
	1548.16	51.17	1513.68	1496.99	46.34	OSF1.50	4790.00	4780.82				MinPt-O-ADP	
	1553.63	56.40	1515.67	1497.24	42.11	OSF1.50	5290.00	5280.82				MinPt-O-ADP	
	1579.88	82.26	1524.69	1497.61	29.16	OSF1.50	7740.00	7730.82				MinPt-CtCt	
	1580.78	85.09	1523.69	1495.68	28.20	OSF1.50	8020.00	8010.82				MINPT-O-EOU	
	1582.08	86.64	1523.95	1495.44	27.72	OSF1.50	8170.00	8160.82				MinPt-O-ADP	
	1586.95	91.45	1525.61	1495.50	26.33	OSF1.50	8630.00	8620.82				MinPt-O-ADP	
	1598.44	112.97	1522.78	1485.47	21.41	OSF1.50	10700.00	10681.60				MinPt-CtCt	
	1598.55	113.29	1522.68	1485.26	21.35	OSF1.50	10736.22	10713.52				MINPT-O-EOU	
	1598.66	113.41	1522.71	1485.25	21.33	OSF1.50	10750.00	10725.37				MinPt-O-ADP	
	1613.55	115.68	1536.07	1497.87	21.11	OSF1.50	11010.00	10909.61				MinPt-O-SF	
	10006.15	147.93	9907.18	9858.22	102.17	OSF1.50	20684.49	11000.00				TD	
Cimarex Dos Equis 11 Federal #2H ST01 Xem+MWD 10343ft to 15244ft (Def Survey)													Pass
	1925.42	32.81	1923.44	1892.61	N/A	MAS = 10.00 (m)	0.00	0.00				Surface	

Offset Trajectory	Separation			Allow	Sep.	Controlling	Reference Trajectory		Risk Level			Alert	Status
	Ct-Ct (ft)	MAS (ft)	EOU (ft)	Dev. (ft)	Fact.	Rule	MD (ft)	TVD (ft)	Alert	Minor	Major		
	1925.38	32.81	1923.40	1892.57	944507.49	MAS = 10.00 (m)	10.00	10.00				MinPt-O-SF	
	1925.38	32.81	1923.40	1892.57	N/A	MAS = 10.00 (m)	22.00	22.00				WRP	
	1922.85	32.81	1912.71	1890.04	235.49	MAS = 10.00 (m)	1210.00	1210.00				MinPts	
	1693.00	60.20	1652.19	1632.80	43.60	OSF1.50	5560.00	5550.82				MinPt-CtCt	
	1693.13	60.64	1652.02	1632.50	43.30	OSF1.50	5600.00	5590.82				MINPT-O-EOU	
	1693.30	60.86	1652.04	1632.45	43.15	OSF1.50	5620.00	5610.82				MinPt-O-ADP	
	1652.27	99.99	1584.91	1552.29	25.29	OSF1.50	9310.00	9300.82				MinPt-CtCt	
	1644.08	109.18	1570.63	1534.90	22.98	OSF1.50	10180.00	10170.82				MinPts	
	1379.58	137.08	1286.98	1242.50	15.47	OSF1.50	11600.00	11000.00				MinPt-CtCt	
	1380.12	138.66	1286.46	1241.46	15.29	OSF1.50	11660.00	11000.00				MINPT-O-EOU	
	1382.32	141.09	1287.03	1241.23	15.05	OSF1.50	11740.00	11000.00				MinPt-O-ADP	
	1412.75	179.66	1291.74	1233.08	12.01	OSF1.50	12580.00	11000.00				MINPT-O-EOU	
	1422.24	218.72	1275.23	1203.52	9.89	OSF1.50	13250.00	11000.00				MinPt-CtCt	
	1396.29	376.29	1144.13	1019.94	5.61	OSF1.50	15160.00	11000.00				MinPt-CtCt	
	1396.40	376.82	1143.91	1019.58	5.60	OSF1.50	15180.00	11000.00				MINPT-O-EOU	
	1396.60	377.07	1143.93	1019.53	5.60	OSF1.50	15190.00	11000.00				MinPt-O-ADP	
	1398.09	377.87	1144.82	1020.22	5.59	OSF1.50	15230.00	11000.00				MinPt-O-SF	
	5700.39	200.01	5563.95	5500.37	44.76	OSF1.50	20684.49	11000.00				TD	
Continental Wimberly #6 (Offset) - Plugged Oil Inc Only 0ft-5100ft (Def Survey)													Pass
	1576.38	32.81	1574.40	1543.57	N/A	MAS = 10.00 (m)	0.00	0.00				Surface	
	1575.57	32.81	1573.45	1542.76	11619.31	MAS = 10.00 (m)	22.00	22.00				MinPt-O-SF	
	1574.87	32.81	1572.72	1542.06	9202.39	MAS = 10.00 (m)	70.00	70.00				MinPts	
	1574.59	38.38	1548.34	1536.20	64.80	OSF1.50	870.00	870.00				MinPt-CtCt	
	1570.89	111.66	1495.79	1459.23	21.46	OSF1.50	2250.00	2250.00				MinPt-CtCt	
	1393.09	249.25	1226.26	1143.84	8.44	OSF1.50	4870.00	4860.82				MinPt-CtCt	
	1397.77	263.32	1221.52	1134.45	8.01	OSF1.50	5180.00	5170.82				MINPT-O-EOU	
	1399.05	265.12	1221.61	1133.93	7.97	OSF1.50	5220.00	5210.82				MinPt-O-ADP	
	1399.41	265.41	1221.76	1134.00	7.96	OSF1.50	5230.00	5220.82				MinPt-O-SF	
	8178.45	237.65	8018.53	7940.81	52.58	OSF1.50	16420.00	11000.00				MinPt-O-SF	
	11511.30	291.04	11316.02	11220.26	60.08	OSF1.50	20684.49	11000.00				TD	
Bill J Graham Oil Hanagan D #4 (Offset) Plugged Oil Inc Only 0ft-5107ft (Def Survey)													Pass
	1444.28	32.81	1442.30	1411.47	N/A	MAS = 10.00 (m)	0.00	0.00				Surface	
	1444.26	32.81	1442.24	1411.45	40533.98	MAS = 10.00 (m)	10.00	10.00				MinPts	
	1444.26	32.81	1442.04	1411.45	5914.20	MAS = 10.00 (m)	22.00	22.00				WRP	
	1443.19	63.66	1400.09	1379.54	35.05	OSF1.50	1220.00	1220.00				MinPt-CtCt	
	1444.43	124.15	1361.00	1320.28	17.71	OSF1.50	2330.00	2330.00				MinPt-CtCt	
	1430.71	239.21	1270.57	1191.49	9.03	OSF1.50	4430.00	4420.82				MinPt-CtCt	
	1433.38	253.13	1263.93	1180.25	8.55	OSF1.50	4660.00	4650.82				MINPT-O-EOU	
	1436.25	256.54	1264.52	1179.71	8.46	OSF1.50	4730.00	4720.82				MinPt-O-ADP	
	1430.43	274.72	1246.62	1155.71	7.86	OSF1.50	5120.00	5110.82				MinPt-CtCt	
	1430.45	274.81	1246.58	1155.64	7.85	OSF1.50	5130.00	5120.82				MinPts	
	5887.89	79.66	5832.96	5808.23	118.94	OSF1.50	12190.00	11000.00				MinPt-CtCt	
	5888.09	80.19	5832.81	5807.90	118.09	OSF1.50	12240.00	11000.00				MINPT-O-EOU	
	5888.30	80.43	5832.85	5807.86	117.72	OSF1.50	12260.00	11000.00				MinPt-O-ADP	
	8015.63	243.20	7851.98	7772.43	50.35	OSF1.50	17630.00	11000.00				MinPt-O-SF	
	10334.76	286.84	10142.21	10047.91	54.78	OSF1.50	20684.49	11000.00				TD	
Cimarex Dos Equis 11 Federal #2H XEM + MWD 0ft to 11103ft (Def Survey)													Pass
	1925.42	32.81	1923.44	1892.61	N/A	MAS = 10.00 (m)	0.00	0.00				Surface	
	1925.38	32.81	1923.40	1892.57	944507.49	MAS = 10.00 (m)	10.00	10.00				MinPt-O-SF	
	1925.38	32.81	1923.40	1892.57	N/A	MAS = 10.00 (m)	22.00	22.00				WRP	
	1922.85	32.81	1912.71	1890.04	235.49	MAS = 10.00 (m)	1210.00	1210.00				MinPts	
	1693.00	60.20	1652.19	1632.80	43.60	OSF1.50	5560.00	5550.82				MinPt-CtCt	
	1693.13	60.64	1652.02	1632.50	43.30	OSF1.50	5600.00	5590.82				MINPT-O-EOU	
	1693.30	60.86	1652.04	1632.45	43.15	OSF1.50	5620.00	5610.82				MinPt-O-ADP	
	1652.27	99.99	1584.91	1552.29	25.29	OSF1.50	9310.00	9300.82				MinPt-CtCt	
	1641.71	112.46	1566.06	1529.24	22.27	OSF1.50	10490.00	10480.74				MinPt-CtCt	
	1641.84	112.88	1565.91	1528.96	22.19	OSF1.50	10530.00	10520.40				MINPT-O-EOU	
	1642.02	113.08	1565.95	1528.94	22.16	OSF1.50	10550.00	10540.07				MinPt-O-ADP	
	1666.79	116.68	1588.34	1550.11	21.77	OSF1.50	10940.00	10868.37				MinPt-O-SF	
	10169.82	156.71	10064.68	10013.11	98.59	OSF1.50	20684.49	11000.00				TD	
Continental Wimberly #1 (Offset) Plugged Oil Inc Only 0ft-5091ft (Def Survey)													Pass
	2113.93	32.81	2111.95	2081.12	N/A	MAS = 10.00 (m)	0.00	0.00				Surface	
	2113.92	32.81	2111.89	2081.11	40447.07	MAS = 10.00 (m)	10.00	10.00				MinPts	
	2113.92	32.81	2111.69	2081.11	8303.68	MAS = 10.00 (m)	22.00	22.00				WRP	
	2105.85	116.64	2027.43	1989.21	27.53	OSF1.50	2200.00	2200.00				MinPt-CtCt	
	1972.52	228.97	1819.19	1743.55	13.02	OSF1.50	4360.00	4350.83				MinPt-CtCt	
	1973.54	231.97	1818.20	1741.56	12.86	OSF1.50	4436.22	4427.04				MINPT-O-EOU	
	1976.99	236.04	1818.93	1740.94	12.66	OSF1.50	4540.00	4530.82				MinPt-O-ADP	
	1994.72	269.93	1814.11	1724.80	11.16	OSF1.50	5110.00	5100.82				MinPts	
	1994.87	269.99	1814.21	1724.88	11.15	OSF1.50	5130.00	5120.82				MinPt-O-SF	
	6068.94	105.57	5996.77	5963.37	90.76	OSF1.50	12180.00	11000.00				MinPt-CtCt	
	6069.09	105.96	5996.66	5963.13	90.41	OSF1.50	12220.00	11000.00				MINPT-O-EOU	
	6069.26	106.17	5996.69	5963.09	90.22	OSF1.50	12240.00	11000.00				MinPt-O-ADP	
	8065.67	248.33	7898.61	7817.34	49.59	OSF1.50	17490.00	11000.00				MinPt-O-SF	
	10449.96	293.15	10253.21	10156.81	54.18	OSF1.50	20684.49	11000.00				TD	
Cimarex Dos Equis 11-14 Federal Com 63H Rev0 RM 26Aug19 (Def Plan)													Pass
	2384.50	32.81	2382.52	2351.69	N/A	MAS = 10.00 (m)	0.00	0.00				Surface	
	2384.48	32.81	2382.50	2351.67	N/A	MAS = 10.00 (m)	10.00	10.00				MinPts	
	2384.47	32.81	2382.50	2351.67	N/A	MAS = 10.00 (m)	22.00	22.00				WRP	
	2206.80	131.28	2118.62	2075.53	25.58	OSF1.50	10436.22	10427.04				MinPt-CtCt	
	2207.00	131.93	2118.39	2075.07	25.45	OSF1.50	10490.00	10480.74				MINPT-O-EOU	
	2207.28	132.28	2118.44	2075.01	25.39	OSF1.50	10520.00	10510.52				MinPt-O-ADP	
	2244.42	137.65	2152.00	2106.77	24.79	OSF1.50	11020.00	10914.93				MinPt-O-SF	
	2406.13	489.10	2079.40	1917.03	7.40	OSF1.50	20670.00	11000.00				MinPt-CtCt	
	2406.15	489.63	2079.07	1916.52	7.40	OSF1.50	20684.49	11000.00				MinPts	
Cimarex Dos Equis 11-14 Federal Com 62H Rev0 RM 23Aug19 (Def Plan)													Pass

Offset Trajectory	Separation			Allow	Sep.	Controlling	Reference Trajectory		Risk Level			Alert	Status
	Ct-Ct (ft)	MAS (ft)	EOU (ft)	Dev. (ft)	Fact.	Rule	MD (ft)	TVD (ft)	Alert	Minor	Major		
	2404.45	32.81	2402.47	2371.64	N/A	MAS = 10.00 (m)	0.00	0.00				Surface	
	2404.42	32.81	2402.44	2371.62	N/A	MAS = 10.00 (m)	10.00	10.00				MinPts	
	2404.42	32.81	2402.45	2371.62	N/A	MAS = 10.00 (m)	22.00	22.00				WRP	
	2360.84	49.13	2327.39	2311.71	75.22	OSF1.50	4140.00	4131.35				MinPt-CtCt	
	2360.91	49.35	2327.31	2311.56	74.87	OSF1.50	4160.00	4151.25				MINPT-O-EOU	
	2360.99	49.45	2327.33	2311.54	74.71	OSF1.50	4170.00	4161.20				MinPt-O-ADP	
	2535.56	70.04	2488.20	2465.52	55.84	OSF1.50	5990.00	5980.82				MinPt-O-SF	
	2536.75	123.28	2453.90	2413.47	31.34	OSF1.50	10500.00	10490.69				MINPT-O-EOU	
	2537.04	123.62	2453.97	2413.42	31.26	OSF1.50	10530.00	10520.40				MinPt-O-ADP	
	2594.34	130.22	2506.86	2464.12	30.32	OSF1.50	11160.00	10973.11				MinPt-O-SF	
	2849.90	503.87	2513.33	2346.03	8.51	OSF1.50	20670.00	11000.00				MinPt-CtCt	
	2849.94	504.47	2512.96	2345.47	8.50	OSF1.50	20684.49	11000.00				MinPts	
Cimarex Dos Equis 11-14 Federal Com 8H Rev0 RM 22Aug19 (Def Plan)													Pass
	2424.41	32.81	2422.43	2391.60	N/A	MAS = 10.00 (m)	0.00	0.00				Surface	
	2424.38	32.81	2422.40	2391.58	N/A	MAS = 10.00 (m)	10.00	10.00				MinPts	
	2424.38	32.81	2422.41	2391.58	N/A	MAS = 10.00 (m)	22.00	22.00				WRP	
	2408.62	37.96	2382.62	2370.66	100.61	OSF1.50	3090.00	3087.70				MinPt-CtCt	
	2408.70	38.23	2382.51	2370.46	99.88	OSF1.50	3120.00	3117.52				MINPT-O-EOU	
	2408.84	38.41	2382.54	2370.43	99.40	OSF1.50	3140.00	3137.40				MinPt-O-ADP	
	3047.52	99.98	2980.16	2947.54	46.68	OSF1.50	8440.00	8430.82				MinPt-O-SF	
	3048.73	122.22	2966.58	2926.50	38.01	OSF1.50	10500.00	10490.69				MINPT-O-EOU	
	3049.07	122.64	2966.65	2926.43	37.88	OSF1.50	10540.00	10530.25				MinPt-O-ADP	
	3236.09	135.06	3145.39	3101.03	36.45	OSF1.50	11690.00	11000.00				MinPt-O-SF	
	3264.14	136.25	3172.64	3127.88	36.44	OSF1.50	11770.00	11000.00				MinPt-O-SF	
	3290.07	137.33	3197.86	3152.75	36.44	OSF1.50	11840.00	11000.00				MinPt-O-SF	
	3317.29	138.42	3224.35	3178.87	36.45	OSF1.50	11910.00	11000.00				MinPt-O-SF	
	3313.56	514.20	2970.10	2799.36	9.70	OSF1.50	20670.00	11000.00				MinPt-CtCt	
	3313.60	514.84	2969.71	2798.76	9.69	OSF1.50	20684.49	11000.00				MinPts	
Cimarex Dos Equis 11 Federal #1H Extreme+MWD 0ft to 15324ft (Def Survey)													Pass
	2910.84	32.81	2908.86	2878.03	N/A	MAS = 10.00 (m)	0.00	0.00				Surface	
	2910.82	32.81	2908.83	2878.01	402799.29	MAS = 10.00 (m)	22.00	22.00				WRP	
	2910.07	32.81	2907.30	2877.27	3636.30	MAS = 10.00 (m)	170.00	170.00				MinPts	
	2910.28	32.81	2907.15	2877.47	2536.14	MAS = 10.00 (m)	220.00	220.00				MINPT-O-EOU	
	2911.48	32.81	2907.16	2878.67	1242.56	MAS = 10.00 (m)	390.00	390.00				MINPT-O-EOU	
	2912.66	32.81	2901.23	2879.86	307.78	MAS = 10.00 (m)	1380.00	1380.00				MinPts	
	2742.53	47.76	2710.02	2694.77	89.83	OSF1.50	4410.00	4400.82				MinPt-CtCt	
	2742.57	47.87	2709.99	2694.70	89.63	OSF1.50	4420.00	4410.82				MINPT-O-EOU	
	2742.64	47.97	2709.99	2694.67	89.43	OSF1.50	4430.00	4420.82				MinPt-O-ADP	
	2752.64	53.40	2716.38	2699.24	80.25	OSF1.50	4940.00	4930.82				MINPT-O-EOU	
	2752.92	53.73	2716.43	2699.18	79.76	OSF1.50	4970.00	4960.82				MinPt-O-ADP	
	2766.25	66.89	2720.99	2699.35	63.87	OSF1.50	6230.00	6220.82				MinPt-CtCt	
	2766.45	69.30	2719.59	2697.15	61.59	OSF1.50	6460.00	6450.82				MinPt-CtCt	
	2703.86	110.06	2629.83	2593.81	37.50	OSF1.50	10300.00	10290.82				MinPt-O-SF	
	2695.72	112.37	2620.15	2583.35	36.60	OSF1.50	10520.00	10510.52				MinPt-CtCt	
	2695.91	112.75	2620.06	2583.16	36.50	OSF1.50	10550.00	10540.07				MinPts	
	2656.30	138.27	2563.27	2518.02	29.33	OSF1.50	11660.00	11000.00				MinPt-CtCt	
	2660.14	147.03	2561.26	2513.10	27.59	OSF1.50	11920.00	11000.00				MINPT-O-EOU	
	2660.92	148.21	2561.26	2512.71	27.38	OSF1.50	11950.00	11000.00				MINPT-O-EOU	
	2667.28	161.96	2558.47	2505.32	25.07	OSF1.50	12250.00	11000.00				MINPT-O-EOU	
	2670.25	165.58	2559.01	2504.66	24.54	OSF1.50	12340.00	11000.00				MinPt-O-ADP	
	2714.62	193.61	2584.66	2521.00	21.30	OSF1.50	12900.00	11000.00				MINPT-O-EOU	
	2707.06	235.76	2549.09	2471.31	17.39	OSF1.50	13530.00	11000.00				MinPt-CtCt	
	2690.68	334.35	2466.95	2356.33	12.15	OSF1.50	15060.00	11000.00				MinPt-CtCt	
	2691.25	385.05	2433.67	2306.19	10.55	OSF1.50	15190.00	11000.00				MINPT-O-EOU	
	2691.73	385.62	2433.75	2306.11	10.53	OSF1.50	15210.00	11000.00				MinPt-O-ADP	
	2706.77	390.71	2445.21	2316.06	10.47	OSF1.50	15430.00	11000.00				MinPt-O-SF	
	6166.98	292.27	5969.25	5874.71	32.57	OSF1.50	20684.49	11000.00				TD	
Rover Operating Co Wimberly #5 (Offset) Oil Inc Only 0ft-5050ft (Def Survey)													Pass
	2892.22	32.81	2890.24	2859.41	N/A	MAS = 10.00 (m)	0.00	0.00				Surface	
	2892.04	32.81	2890.04	2859.24	127367.27	MAS = 10.00 (m)	20.00	20.00				MinPt-O-SF	
	2892.03	32.81	2890.03	2859.22	132447.69	MAS = 10.00 (m)	22.00	22.00				WRP	
	2892.00	32.81	2889.93	2859.19	30830.68	MAS = 10.00 (m)	40.00	40.00				MinPts	
	2889.06	61.80	2847.19	2827.25	72.39	OSF1.50	1210.00	1210.00				MinPt-CtCt	
	2890.05	124.42	2806.44	2765.63	35.38	OSF1.50	2400.00	2400.00				MinPt-CtCt	
	2717.50	225.94	2566.20	2491.56	18.19	OSF1.50	4380.00	4370.82				MinPt-CtCt	
	2723.14	267.10	2544.41	2456.04	15.40	OSF1.50	5100.00	5090.82				MinPts	
	2723.36	267.18	2544.57	2456.18	15.39	OSF1.50	5130.00	5120.82				MinPt-O-SF	
	8544.20	253.80	8373.55	8290.40	51.35	OSF1.50	16390.00	11000.00				MinPt-O-SF	
	11788.56	308.57	11581.61	11479.99	57.98	OSF1.50	20684.49	11000.00				TD	
Rover Operating Co Wimberly #7 (Offset) Oil Inc Only 0ft-5118ft (Def Survey)													Pass
	2923.39	32.81	2921.41	2890.58	N/A	MAS = 10.00 (m)	0.00	0.00				Surface	
	2923.24	32.81	2921.25	2890.43	189824.30	MAS = 10.00 (m)	20.00	20.00				MinPt-O-SF	
	2923.24	32.81	2921.24	2890.43	211345.79	MAS = 10.00 (m)	22.00	22.00				WRP	
	2923.22	32.81	2921.22	2890.41	102933.56	MAS = 10.00 (m)	30.00	30.00				MinPts	
	2927.30	46.19	2895.85	2881.11	99.25	OSF1.50	890.00	890.00				MinPt-CtCt	
	2928.93	50.98	2894.28	2877.94	89.60	OSF1.50	1030.00	1030.00				MINPT-O-EOU	
	2928.18	63.86	2884.95	2864.32	70.93	OSF1.50	1220.00	1220.00				MinPt-CtCt	
	2929.02	66.36	2884.12	2862.66	68.20	OSF1.50	1310.00	1310.00				MINPT-O-EOU	
	2928.15	88.04	2868.79	2840.10	51.00	OSF1.50	1690.00	1690.00				MinPt-CtCt	
	2772.37	253.53	2602.69	2518.84	16.52	OSF1.50	4850.00	4840.82				MinPt-CtCt	
	2775.37	270.17	2594.59	2505.20	15.51	OSF1.50	5180.00	5170.82				MinPts	
	2775.47	270.20	2594.67	2505.27	15.51	OSF1.50	5190.00	5180.82				MinPt-O-SF	
	6321.87	136.89	6228.86	6184.97	71.96	OSF1.50	12170.00	11000.00				MinPt-CtCt	
	6321.98	137.26	6228.73	6184.72	71.77	OSF1.50	12210.00	11000.00				MINPT-O-EOU	
	6322.22	137.55	6228.78	6184.67	71.61	OSF1.50	12240.00	11000.00				MinPt-O-ADP	
	8133.42	260.11	7958.51	7873.31	47.70	OSF1.50	17290.00	11000.00				MinPt-O-SF	
	10602.65	307.47	10396.37	10295.19	52.37	OSF1.50	20684.49	11000.00				TD	
Bill J Graham Oil Hanagan D #3 (Offset) Oil Plugged Inc Only 0ft-4986ft (Def Survey)													Pass

Offset Trajectory	Separation			Allow	Sep.	Controlling	Reference Trajectory		Risk Level			Alert	Status
	Ct-Ct (ft)	MAS (ft)	EOU (ft)	Dev. (ft)	Fact.	Rule	MD (ft)	TVD (ft)	Alert	Minor	Major		
	3979.43	32.81	3977.45	3946.62	N/A	MAS = 10.00 (m)	0.00	0.00				Surface	
	3979.39	32.81	3977.37	3946.58	96275.61	MAS = 10.00 (m)	20.00	20.00				MinPts	
	3979.39	32.81	3977.34	3946.58	55043.75	MAS = 10.00 (m)	22.00	22.00				WRP	
	3973.90	97.41	3908.30	3876.50	62.44	OSF1.50	1860.00	1860.00				MinPt-CtCt	
	3840.65	235.18	3683.20	3605.48	24.69	OSF1.50	4460.00	4450.82				MinPt-CtCt	
	3845.78	249.68	3678.64	3596.10	23.28	OSF1.50	4820.00	4810.82				MINPT-O-EOU	
	3851.74	256.83	3679.82	3594.91	22.67	OSF1.50	4990.00	4980.82				MinPt-O-ADP	
	3855.43	266.81	3676.88	3588.62	21.83	OSF1.50	5090.00	5080.82				MinPts	
	6589.56	160.56	6480.85	6429.00	63.49	OSF1.50	13490.00	11000.00				MinPt-CtCt	
	6589.97	161.72	6480.49	6428.26	63.03	OSF1.50	13560.00	11000.00				MINPT-O-EOU	
	6590.55	162.40	6480.61	6428.14	62.76	OSF1.50	13600.00	11000.00				MinPt-O-ADP	
	8131.40	276.89	7945.33	7854.51	44.74	OSF1.50	18250.00	11000.00				MinPt-O-SF	
	9759.26	313.89	9548.66	9445.37	47.22	OSF1.50	20684.49	11000.00				TD	
Rover Operating Co Wimberly #6 (Offset) Oil Inc Only 0ft-5075ft (Def Survey)													Pass
	4109.93	32.81	4107.95	4077.12	N/A	MAS = 10.00 (m)	0.00	0.00				Surface	
	4109.92	32.81	4107.78	4077.11	26310.77	MAS = 10.00 (m)	20.00	20.00				MinPts	
	4109.92	32.81	4107.75	4077.11	21570.09	MAS = 10.00 (m)	22.00	22.00				WRP	
	4095.47	170.71	3980.99	3924.76	36.40	OSF1.50	3280.00	3276.55				MinPt-CtCt	
	4084.44	219.41	3937.50	3865.04	28.17	OSF1.50	4170.00	4161.20				MinPt-CtCt	
	4092.40	240.74	3931.22	3851.66	25.71	OSF1.50	4640.00	4630.82				MINPT-O-EOU	
	4095.28	269.24	3915.13	3826.04	22.97	OSF1.50	5090.00	5080.82				MinPt-CtCt	
	4095.28	269.26	3915.11	3826.02	22.97	OSF1.50	5100.00	5090.82				MinPts	
	4095.98	269.43	3915.68	3826.55	22.97	OSF1.50	5170.00	5160.82				MinPt-O-SF	
	5928.81	121.91	5845.73	5806.90	76.27	OSF1.50	14840.00	11000.00				MinPt-CtCt	
	5929.37	123.56	5845.18	5805.80	75.21	OSF1.50	14920.00	11000.00				MINPT-O-EOU	
	5930.26	124.65	5845.35	5805.61	74.54	OSF1.50	14970.00	11000.00				MinPt-O-ADP	
	7560.35	255.49	7388.46	7304.86	45.19	OSF1.50	19530.00	11000.00				MinPt-O-SF	
	8326.09	275.99	8140.62	8050.11	45.97	OSF1.50	20684.49	11000.00				TD	
MCI Operating Jennings Federal #1 (Offset) SWD Blind 0ft-5019ft (Def Survey)													Pass
	5398.69	32.81	5396.71	5365.88	N/A	MAS = 10.00 (m)	0.00	0.00				Surface	
	5398.66	32.81	5396.68	5365.85	N/A	MAS = 10.00 (m)	10.00	10.00				MinPt-O-SF	
	5398.65	32.81	5396.67	5365.84	N/A	MAS = 10.00 (m)	22.00	22.00				WRP	
	5394.10	64.45	5350.48	5329.65	129.48	OSF1.50	5040.00	5030.82				MinPt-CtCt	
	5394.19	64.85	5350.29	5329.34	128.70	OSF1.50	5080.00	5070.82				MINPT-O-EOU	
	5394.35	65.04	5350.32	5329.31	128.34	OSF1.50	5100.00	5090.82				MinPt-O-ADP	
	5845.22	81.61	5789.72	5763.61	111.88	OSF1.50	7300.00	7290.82				MinPt-O-SF	
	7797.57	97.39	7731.13	7700.17	125.86	OSF1.50	11000.00	10904.15				MinPt-O-SF	
	5961.18	145.22	5862.58	5815.96	63.87	OSF1.50	16160.00	11000.00				MinPt-CtCt	
	5961.76	146.96	5862.00	5814.80	63.09	OSF1.50	16240.00	11000.00				MINPT-O-EOU	
	5962.67	148.05	5862.18	5814.61	62.62	OSF1.50	16290.00	11000.00				MinPt-O-ADP	
	6670.34	199.99	6535.35	6470.35	51.27	OSF1.50	19150.00	11000.00				MinPt-O-SF	
	7485.55	215.67	7340.21	7269.88	53.18	OSF1.50	20684.49	11000.00				TD	
Tenneco Oil Company USA Jennings Fed #3 (Offset) Plugged Oil Inc Only 0ft-5030ft (Def Survey)													Pass
	5608.16	32.81	5606.18	5575.35	N/A	MAS = 10.00 (m)	0.00	0.00				Surface	
	5608.05	32.81	5606.06	5575.25	382790.11	MAS = 10.00 (m)	20.00	20.00				MinPt-O-SF	
	5608.05	32.81	5606.05	5575.24	386871.75	MAS = 10.00 (m)	22.00	22.00				WRP	
	5608.02	32.81	5605.98	5575.21	87871.49	MAS = 10.00 (m)	40.00	40.00				MinPts	
	5608.12	33.35	5585.22	5574.77	268.07	OSF1.50	680.00	680.00				MinPt-CtCt	
	5591.47	172.27	5475.95	5419.20	49.25	OSF1.50	3440.00	3435.58				MinPt-CtCt	
	5554.17	240.51	5393.17	5313.66	34.92	OSF1.50	4590.00	4580.82				MinPt-CtCt	
	5555.55	248.44	5389.25	5307.11	33.81	OSF1.50	4800.00	4790.82				MINPT-O-EOU	
	5556.60	249.69	5389.46	5306.91	33.65	OSF1.50	4860.00	4850.82				MinPt-O-ADP	
	5561.65	265.80	5383.79	5295.85	31.61	OSF1.50	5080.00	5070.82				MinPt-CtCt	
	5561.66	265.82	5383.78	5295.83	31.61	OSF1.50	5090.00	5080.82				MinPts	
	5563.22	266.08	5385.14	5297.14	31.59	OSF1.50	5210.00	5200.82				MinPt-O-SF	
	6094.02	168.81	5979.72	5925.21	55.85	OSF1.50	16150.00	11000.00				MinPt-CtCt	
	6094.74	170.86	5979.07	5923.87	55.16	OSF1.50	16240.00	11000.00				MINPT-O-EOU	
	6095.71	172.04	5979.26	5923.67	54.78	OSF1.50	16290.00	11000.00				MinPt-O-ADP	
	7308.03	274.56	7123.41	7033.46	40.60	OSF1.50	20180.00	11000.00				MinPt-O-SF	
	7598.14	284.18	7407.14	7313.96	40.74	OSF1.50	20684.49	11000.00				TD	
MCI Operating Jennings Federal #4 (Offset) Oil Inc Only 0ft-5000ft (Def Survey)													Pass
	8043.62	32.81	8041.64	8010.81	N/A	MAS = 10.00 (m)	0.00	0.00				Surface	
	8043.60	32.81	8041.55	8010.79	113550.19	MAS = 10.00 (m)	22.00	22.00				WRP	
	8043.58	44.59	8013.19	7998.99	283.11	OSF1.50	860.00	860.00				MinPt-CtCt	
	8037.54	147.23	7938.72	7890.31	82.99	OSF1.50	2790.00	2789.50				MinPt-CtCt	
	8042.20	161.75	7933.70	7880.45	75.50	OSF1.50	3220.00	3216.91				MINPT-O-EOU	
	8047.97	168.57	7934.92	7879.41	72.47	OSF1.50	3430.00	3425.64				MinPt-O-ADP	
	8032.10	235.89	7874.17	7796.21	51.50	OSF1.50	4440.00	4430.82				MinPt-CtCt	
	8036.38	249.89	7869.10	7786.49	48.63	OSF1.50	4850.00	4840.82				MINPT-O-EOU	
	8040.71	255.19	7869.89	7785.52	47.64	OSF1.50	5020.00	5010.82				MinPt-O-ADP	
	8046.48	267.40	7867.53	7779.07	45.47	OSF1.50	5190.00	5180.82				MinPts	
	8049.14	267.57	7870.07	7781.57	45.47	OSF1.50	5290.00	5280.82				MinPt-O-SF	
	5989.16	202.09	5852.66	5787.07	45.62	OSF1.50	18800.00	11000.00				MinPt-CtCt	
	5989.93	204.45	5851.85	5785.48	45.08	OSF1.50	18900.00	11000.00				MINPT-O-EOU	
	5990.94	205.66	5852.06	5785.28	44.82	OSF1.50	18950.00	11000.00				MinPt-O-ADP	
	6277.44	251.24	6108.22	6026.20	38.24	OSF1.50	20684.49	11000.00				MinPt-O-SF	
MCI Operating Jennings Federal #5 (Offset) Oil Inc Only 0ft-4950ft (Def Survey)													Pass
	6720.46	32.81	6718.48	6687.65	N/A	MAS = 10.00 (m)	0.00	0.00				Surface	
	6720.37	32.81	6718.38	6687.56	549728.07	MAS = 10.00 (m)	20.00	20.00				MinPt-O-SF	
	6720.36	32.81	6718.37	6687.55	555590.16	MAS = 10.00 (m)	22.00	22.00				WRP	
	6720.34	32.81	6718.30	6687.53	105302.79	MAS = 10.00 (m)	40.00	40.00				MinPts	
	6719.08	141.03	6624.39	6578.05	72.46	OSF1.50	2740.00	2739.72				MinPt-CtCt	
	6711.88	260.81	6537.34	6451.07	38.89	OSF1.50	4990.00	4980.82				MinPt-CtCt	
	6711.90	261.27	6537.05	6450.62	38.82	OSF1.50	5010.00	5000.82				MinPts	
	6714.63	261.64	6539.51	6452.99	38.79	OSF1.50	5190.00	5180.82				MinPt-O-SF	
	8030.66	196.66	7898.08	7834.00	62.63	OSF1.50	12150.00	11000.00				MinPt-O-SF	
	6012.20	172.85	5895.21	5839.35	53.77	OSF1.50	17470.00	11000.00				MinPt-CtCt	
	6012.97	175.17	5894.43	5837.79	53.04	OSF1.50	17570.00	11000.00				MINPT-O-EOU	

Offset Trajectory	Separation			Allow	Sep.	Controlling	Reference Trajectory		Risk Level			Alert	Status
	Ct-Ct (ft)	MAS (ft)	EOU (ft)	Dev. (ft)	Fact.	Rule	MD (ft)	TVD (ft)	Alert	Minor	Major		
	6013.97	176.37	5894.64	5837.60	52.68	OSF1.50	17620.00	11000.00				MinPt-O-ADP	
	6815.70	257.94	6642.12	6557.76	40.37	OSF1.50	20684.49	11000.00				MinPt-O-SF	
MCI Operating Jennings Federal #2 (Offset) Inc Only 0ft-5000ft (Def Survey)													Pass
	9186.55	32.81	9184.57	9153.74	N/A	MAS = 10.00 (m)	0.00	0.00				Surface	
	9186.45	32.81	9184.45	9153.64	582587.11	MAS = 10.00 (m)	22.00	22.00				WRP	
	9186.39	32.81	9184.28	9153.58	68214.14	MAS = 10.00 (m)	60.00	60.00				MinPts	
	9220.19	374.01	8970.19	8846.18	37.17	OSF1.50	5070.00	5060.82				MINPT-O-EOU	
	9220.21	374.03	8970.20	8846.18	37.17	OSF1.50	5080.00	5070.82				MinPt-O-ADP	
	9222.33	374.30	8972.12	8848.03	37.15	OSF1.50	5260.00	5250.82				MinPt-O-SF	
	6063.41	252.34	5893.43	5811.07	36.78	OSF1.50	19910.00	11000.00				MinPt-CtCt	
	6064.27	254.71	5892.71	5809.56	36.43	OSF1.50	20010.00	11000.00				MINPT-O-EOU	
	6065.31	255.93	5892.94	5809.38	36.26	OSF1.50	20060.00	11000.00				MinPt-O-ADP	
	6112.93	272.89	5929.26	5840.04	34.23	OSF1.50	20684.49	11000.00				MinPt-O-SF	
MCI Operating Jennings Federal #6 (Offset) Oil Inc Only 0ft-4933ft (Def Survey)													Pass
	8184.88	32.81	8182.90	8152.07	N/A	MAS = 10.00 (m)	0.00	0.00				Surface	
	8184.78	32.81	8182.79	8151.97	583093.96	MAS = 10.00 (m)	22.00	22.00				WRP	
	8184.74	32.81	8182.65	8151.93	74939.29	MAS = 10.00 (m)	50.00	50.00				MinPts	
	8150.96	258.12	7978.21	7892.83	47.72	OSF1.50	4950.00	4940.82				MinPt-CtCt	
	8151.07	260.20	7976.94	7890.87	47.34	OSF1.50	5020.00	5010.82				MinPts	
	8156.20	260.71	7981.69	7895.49	47.30	OSF1.50	5280.00	5270.82				MinPt-O-SF	
	6176.94	225.42	6024.94	5951.52	42.03	OSF1.50	18800.00	11000.00				MinPt-CtCt	
	6177.82	227.91	6024.16	5949.91	41.57	OSF1.50	18900.00	11000.00				MINPT-O-EOU	
	6178.86	229.17	6024.36	5949.69	41.34	OSF1.50	18950.00	11000.00				MinPt-O-ADP	
	6459.20	274.09	6274.80	6185.11	35.98	OSF1.50	20684.49	11000.00				MinPt-O-SF	

Schlumberger

Cimarex Dos Equis 11-14 Federal Com 23H Rev2 IC 03Dec21 Proposal Geodetic Report

(Def Plan)

CIMAREX

Report Date:	December 03, 2021 - 12:56 PM	**Survey / DLS Computation:**	Minimum Curvature / Lubinski
Client:	Cimarex Energy	**Vertical Section Azimuth:**	179.657 ° (Grid North)
Field:	NM Lea County (NAD 83)	**Vertical Section Origin:**	0.000 ft, 0.000 ft
Structure / Slot:	Cimarex Dos Equis 11-14 Federal Com 23H / New Slot	**TVD Reference Datum:**	RKB=22ft (Unit 411)
Well:	Dos Equis 11-14 Federal Com 23H	**TVD Reference Elevation:**	3639.900 ft above MSL
Borehole:	Dos Equis 11-14 Federal Com 23H	**Seabed / Ground Elevation:**	3617.900 ft above MSL
UWI / API#:	Unknown / Unknown	**Magnetic Declination:**	6.389 °
Survey Name:	Cimarex Dos Equis 11-14 Federal Com 23H Rev2 IC 03Dec21	**Total Gravity Field Strength:**	998.4363mgn (9.80665 Based)
Survey Date:	August 22, 2019	**Gravity Model:**	GARM
Tort / AHD / DDI / ERD Ratio:	102.618 ° / 10099.377 ft / 6.290 / 0.918	**Total Magnetic Field Strength:**	47642.750 nT
Coordinate Reference System:	NAD83 New Mexico State Plane, Eastern Zone, US Feet	**Magnetic Dip Angle:**	59.858 °
Location Lat / Long:	N 32° 14' 16.47063", W 103° 38' 53.91680"	**Declination Date:**	December 03, 2021
Location Grid N/E Y/X:	N 450960.100 ftUS, E 753138.540 ftUS	**Magnetic Declination Model:**	HDGM 2021
CRS Grid Convergence Angle:	0.3654 °	**North Reference:**	Grid North
Grid Scale Factor:	0.99996047	**Grid Convergence Used:**	0.3654 °
Version / Patch:	2.10.826.8	**Total Corr Mag North->Grid North:**	6.0237 °
		Local Coord Referenced To:	Well Head

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 ° ' ")
SHL [545' FNL, 1746' FWL]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	N/A	450960.10	753138.54	N 32 14 16.47	W 103 38 53.92
Nudge 2°/100' DLS	2500.00	0.00	89.56	2500.00	0.00	0.00	0.00	0.00	450960.10	753138.54	N 32 14 16.47	W 103 38 53.92
Hold	2815.46	6.31	89.56	2814.82	-0.03	0.13	17.35	2.00	450960.23	753155.89	N 32 14 16.47	W 103 38 53.71
Drop 2° DLS	4120.76	6.31	89.56	4112.22	-0.28	1.25	160.79	0.00	450961.35	753299.32	N 32 14 16.47	W 103 38 52.04
Hold	4436.22	0.00	89.56	4427.04	-0.31	1.38	178.14	2.00	450961.48	753316.67	N 32 14 16.47	W 103 38 51.84
KOP, Build 10° DLS	10436.22	0.00	89.56	10427.04	-0.31	1.38	178.14	0.00	450961.48	753316.67	N 32 14 16.47	W 103 38 51.84
Landing Point	11336.22	90.00	179.66	11000.00	572.64	-571.57	181.58	10.00	450388.56	753320.12	N 32 14 10.80	W 103 38 51.85
Cimarex Dos Equis 11-14 Federal Com 23H - PBHL [100' FSL, 1924' FWL]	20684.49	90.00	179.66	11000.00	9920.92	-9919.67	237.77	0.00	441040.84	753376.30	N 32 12 38.30	W 103 38 51.89

Survey Type: Def Plan

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

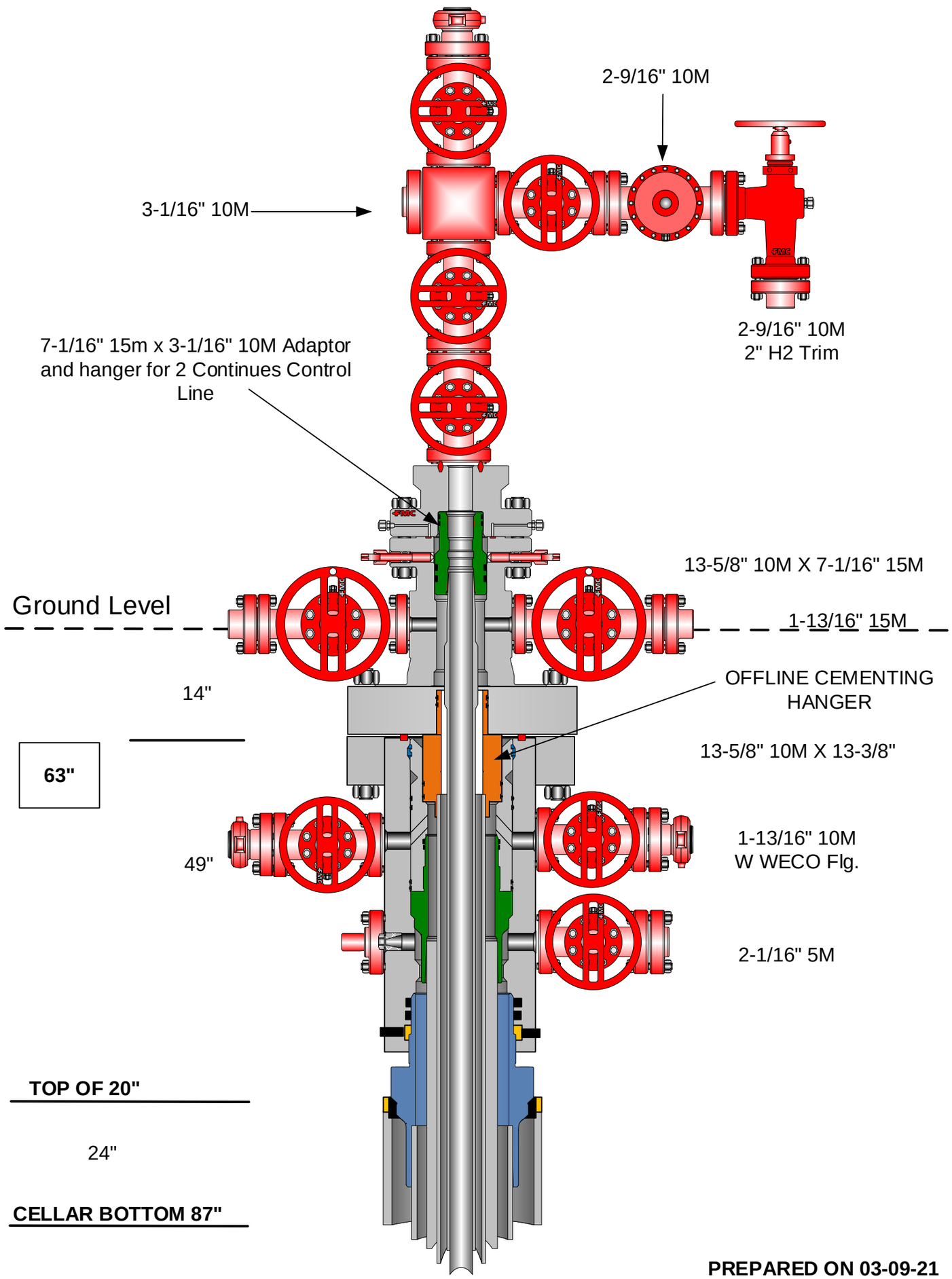
Survey Program:

Description	Part	MD From (ft)	MD To (ft)	EOU Freq (ft)	Hole Size (in)	Casing Diameter (in)	Expected Max Inclination (deg)	Survey Tool Type	Borehole / Survey
	1	0.000	22.000	1/100.000	17.500	13.375		A001Mb_MWD-Depth Only	Dos Equis 11-14 Federal Com 23H / Cimarex Dos Equis 11-14
	1	22.000	20684.493	1/100.000	17.500	13.375		A001Mb_MWD	Dos Equis 11-14 Federal Com 23H / Cimarex Dos Equis 11-14

Dos Equis 11-14 Fed Com 23H **LEA CO., NM**

Hole Size	Casing Depth From	Casing Depth To	Setting Depth TVD	Casing Size	Weight (lb/ft)	Grade	Conn.	SF Collapse	SF Burst	SF Tension
17 1/2	0	1216	1216	13-3/8"	48.00	H-40	ST&C	1.40	3.28	5.52
12 1/4	0	4860	4860	9-5/8"	40.00	HCK-55	LT&C	1.46	1.52	2.89
8 3/4	0	10436	10436	7"	29.00	L-80	LT&C	1.44	1.67	1.84
8 3/4	10436	11336	11000	7"	29.00	P-110	BT&C	1.66	2.18	56.80
6	9436	20684	11000	4-1/2"	11.60	P-110	BT&C	1.47	2.08	20.23
						BLM Minimum Safety Factor		1.125	1	1.6 Dry 1.8 Wet

CACTUS FOR SERVICE
WEARBUSHING
IN CASING HEAD &
CASING SPOOL



PREPARED ON 03-09-21

1. Geological Formations

TVD of target 11,000
MD at TD 20,684

Pilot Hole TD N/A
Deepest expected fresh water

Formation	Depth (TVD) from KB	Water/Mineral Bearing/Target Zone	Hazards
Rustler	1166	Useable Water	
Salado (top Salt)	1390	N/A	
Base of Salt	4684	N/A	
Lamar	4910	N/A	
Bell Canyon	4965	N/A	
Cherry Canyon	5858	N/A	
Brushy Canyon	7222	Hydrocarbons	
Bone Spring	8779	Hydrocarbons	
Leonard Shale	8892	Hydrocarbons	
Avalon Shale	9219	Hydrocarbons	
1st Bone Spring Sand	9944	Hydrocarbons	
2nd Bone Spring Carb	10108	Hydrocarbons	
2nd Bone Spring Sand	10478	Hydrocarbons	

2. Casing Program

Hole Size	Casing Depth From	Casing Depth To	Setting Depth TVD	Casing Size	Weight (lb/ft)	Grade	Conn.	SF Collapse	SF Burst	SF Tension
17 1/2	0	1216	1216	13-3/8"	48.00	H-40	ST&C	1.40	3.28	5.52
12 1/4	0	4860	4860	9-5/8"	40.00	HCK-55	LT&C	1.46	1.52	2.89
8 3/4	0	10436	10436	7"	29.00	L-80	LT&C	1.44	1.67	1.84
8 3/4	10436	11336	11000	7"	29.00	P-110	BT&C	1.66	2.18	56.80
6	9436	20684	11000	4-1/2"	11.60	P-110	BT&C	1.47	2.08	20.23
						BLM Minimum Safety Factor		1.125	1	1.6 Dry 1.8 Wet

TVD was used on all calculations.
All casing strings will be tested in accordance with Onshore Oil and Gas Order #2 III.B.1.h

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

3. Cementing Program

Casing	# Sks	Wt. lb/gal	Yld ft3/sack	H2O gal/sk	500# Comp. Strength (hours)	Slurry Description
Surface	589	13.50	1.72	9.15	15.5	Lead: Class C + Bentonite
	158	14.80	1.34	6.32	9.5	Tail: Class C + LCM
Intermediate	912	12.90	1.88	9.65	12	Lead: 35:65 (Poz:C) + Salt + Bentonite
	284	14.80	1.34	6.32	9.5	Tail: Class C + LCM
Production	355	10.30	3.64	22.18		Lead: Tuned Light + LCM
	150	14.80	1.36	6.57	9.5	Tail: Class C + Retarder
Completion System	694	14.20	1.30	5.86	14:30	Tail: 50:50 (Poz:H) + Salt + Bentonite + Fluid Loss + Dispersant + SMS

Casing String	TOC	% Excess
Surface	0	45
Intermediate	0	51
Production	4660	25
Completion System	11136	10

Cimarex request the ability to perform casing integrity tests after plug bump of cement job.

4. Pressure Control Equipment

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

BOP installed and tested before drilling which hole?	Size	Min Required WP	Type		Tested To
12 1/4	13 5/8	2M	Annular	X	2M
			Blind Ram		
			Pipe Ram		
			Double Ram	X	
			Other		
8 3/4		3M	Annular	X	3M
			Blind Ram		
			Pipe Ram		
			Double Ram	X	
			Other		
6	13 5/8	5M	Annular	X	5M
			Blind Ram		
			Pipe Ram	X	
			Double Ram	X	
			Other		

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

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

X	Formation integrity test will be performed per Onshore Order #2. On Exploratory wells or on that portion of any well approved for a 5M BOPE system or greater, a pressure integrity test of each casing shoe shall be performed. Will be tested in accordance with Onshore Oil and Gas Order #2 III.B.1.i.	
X	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?

5. Mud Program

Depth	Type	Weight (ppg)	Viscosity	Water Loss
0' to 1216'	Fresh Water	7.83 - 8.33	28	N/C
1216' to 4860'	Brine Water	9.80 - 10.30	30-32	N/C
4860' to 11336'	Cut Brine or OBM	8.50 - 9.00	27-70	N/C
11336' to 20684'	OBM	8.50 - 9.00	50-70	N/C

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

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

6. Logging and Testing Procedures

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

Additional Logs Planned	Interval

7. Drilling Conditions

Condition	
BH Pressure at deepest TVD	5148 psi
Abnormal Temperature	No

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

8. Other Facets of Operation

9. Wellhead

A multi-bowl wellhead system will be utilized.

After running the 13-3/8" surface casing, a 13 5/8" BOP/BOPE system with a minimum working pressure of 5000 psi will be installed on the wellhead system and will be pressure tested to 250 psi low followed by a 5000 psi test. Annular will be tested to working pressure, or a maximum test pressure of 5000 psi. The pressure test will be repeated at least every 30 days, as per Onshore Order No. 2.

The multi-bowl wellhead will be installed by vendor's representative. A copy of the installation instructions has been sent to the BLM field office.

The wellhead will be installed by a third-party welder while being monitored by the wellhead vendor representative.

All BOP equipment will be tested utilizing a conventional test plug. Not a cup or J-packer type.

A solid steel body pack-off will be utilized after running and cementing the intermediate casing. After installation the pack-off and lower flange will be pressure tested to 5000 psi.

A solid steel body pack-off will be utilized after running and cementing the production casing. After installation the pack-off and lower flange will be pressure tested to 5000 psi.

All casing strings will be tested as per Onshore Order No.2 to atleast 0.22 psi/ft or 1,500 whichever is greater and not to exceed 70% of casing burst.

If well conditions dictate conventional slips will be set and BOPE will be tested to appropriate pressures based on permitted pressure requirements.

10. Other Variances
Cimarex requests to perform offline cementing. OLC procedure as follows: 1.Land casing on solid body mandrel hanger. Engage packoff and lockring 2. Install BPV 3. Skid rig 4. Check for pressure and remove BPV 5. Circulate down casing, taking returns through casing valves 6. Pump lead and tail cement 7. Displace cement and bump the plug 8. Ensure floats are holding pressure 9. RD cement crew 10. Install BPV and TA cap.

Cimarex requests permission to skid the rig to the next well on the pad to begin operations instead of waiting 8 hours for surface cement to harden on this 23H well. Surface cement will be pumped, we will ensure floats hold, do a green cement test and then Skid to the next well on pad. We will not perform any operations on this 23H well until at least 8 hours and when both tail and lead slurry reach 500psi. The mandrel hanger is made up on the last joint of 13 3/8" casing and then lowered down with and landing joint. It is then lowered down until the mandrel contacts the landing ring which is prewelded to the conductor pipe. At this point the 13 3/8" casing is entirely supported by the conductor pipe via the landing ring / mandrel and is independent from the rig. This allows us to walk the rig away from the 23H well and begin work on the next well while the cement is hardening. There is no way for the casing to be moved or knocked off center since it is hanging from the landing ring.

Cimarex Energy Offline Cementing 7” Casing Information for Sundry Approval Plan REV0

Cementing Operational Workflow

Conventional Cementing

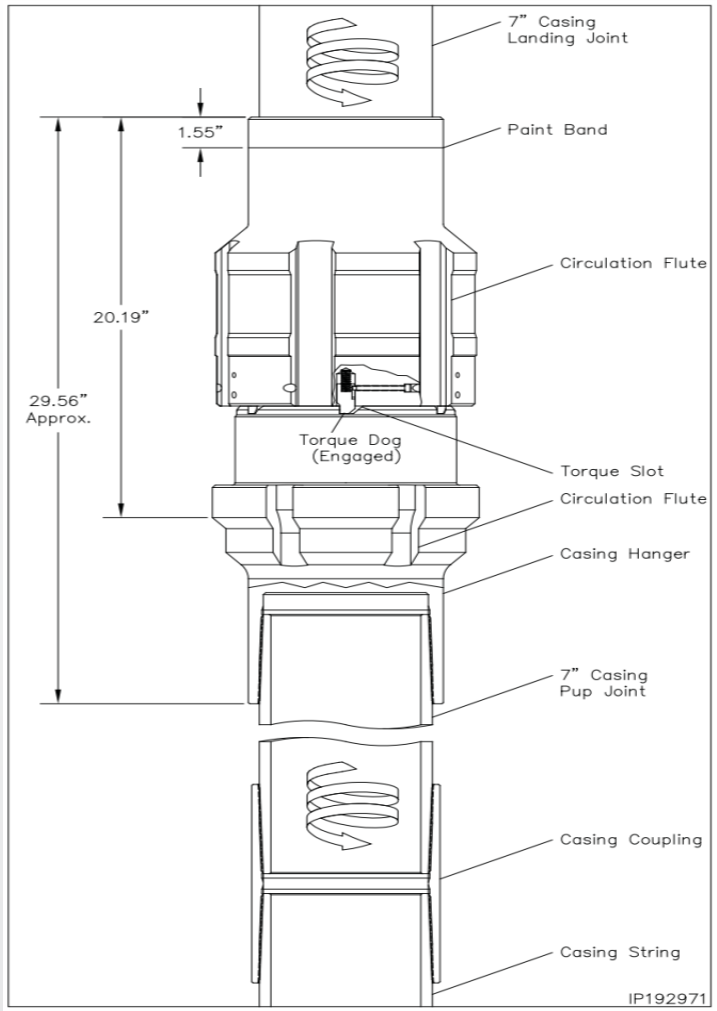
1. Land casing on fluted mandrel hanger
2. Circulate down casing, taking returns through BOP stack
3. Pump lead and tail cement
4. Displace cement and bump the plug
5. Ensure floats are holding pressure
6. RD cement crew
7. Install packoff to isolate pressure
8. Install BPV and skid rig

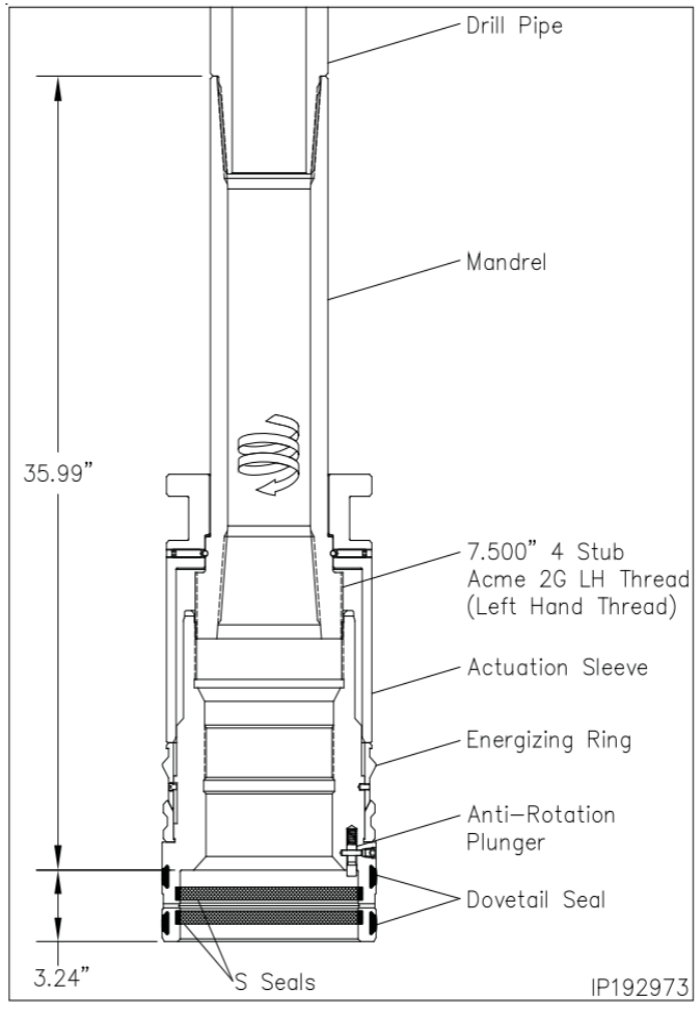
Offline Cementing

1. Land casing on **solid body** mandrel hanger
   a) Engage packoff and lockring
2. Install BPV
3. Skid rig
4. Check for pressure and remove BPV
5. Circulate down casing, taking returns through casing valves
6. Pump lead and tail cement
7. Displace cement and bump the plug
8. Ensure floats are holding pressure
9. RD cement crew
10. Install BPV and TA cap

Conventional Cementing Equipment-Fluted Mandrel

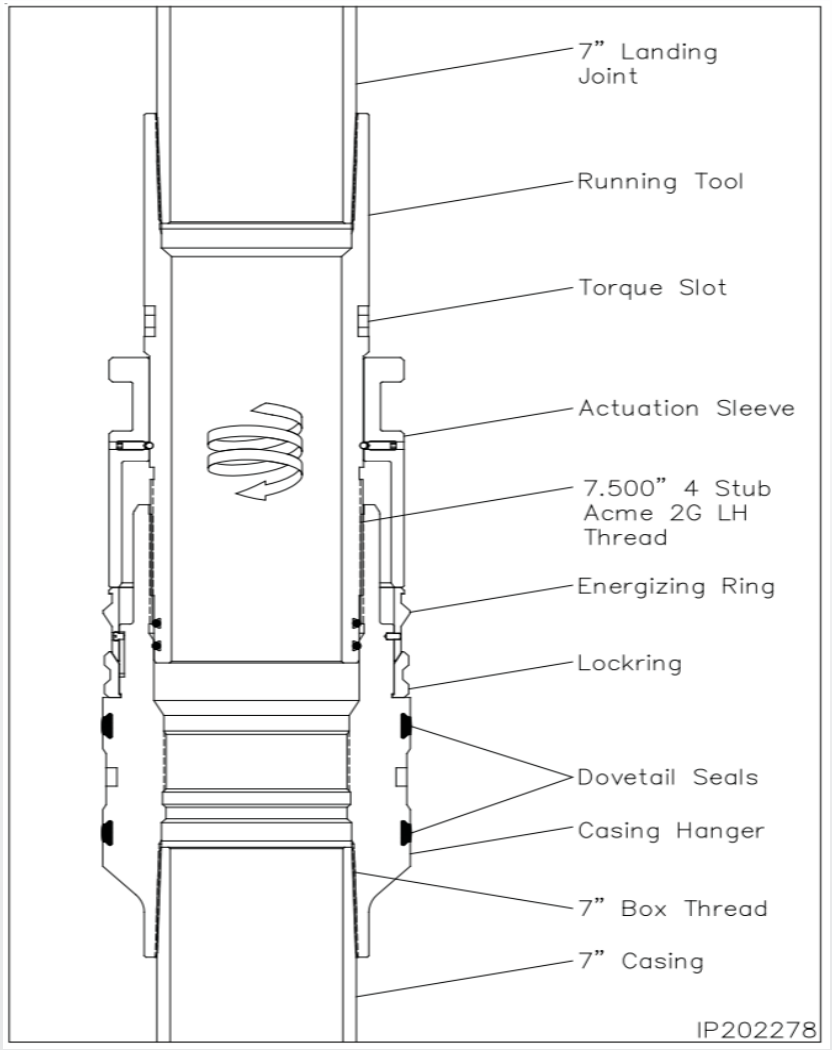
- Fluted Hanger allows returns up past the hanger body
- Returns throughout cement job flow up through BOP stack and into flowline
- Packoff is installed **after** cement job to isolate pressure above and below hanger
- Lockring engaged during packoff installation



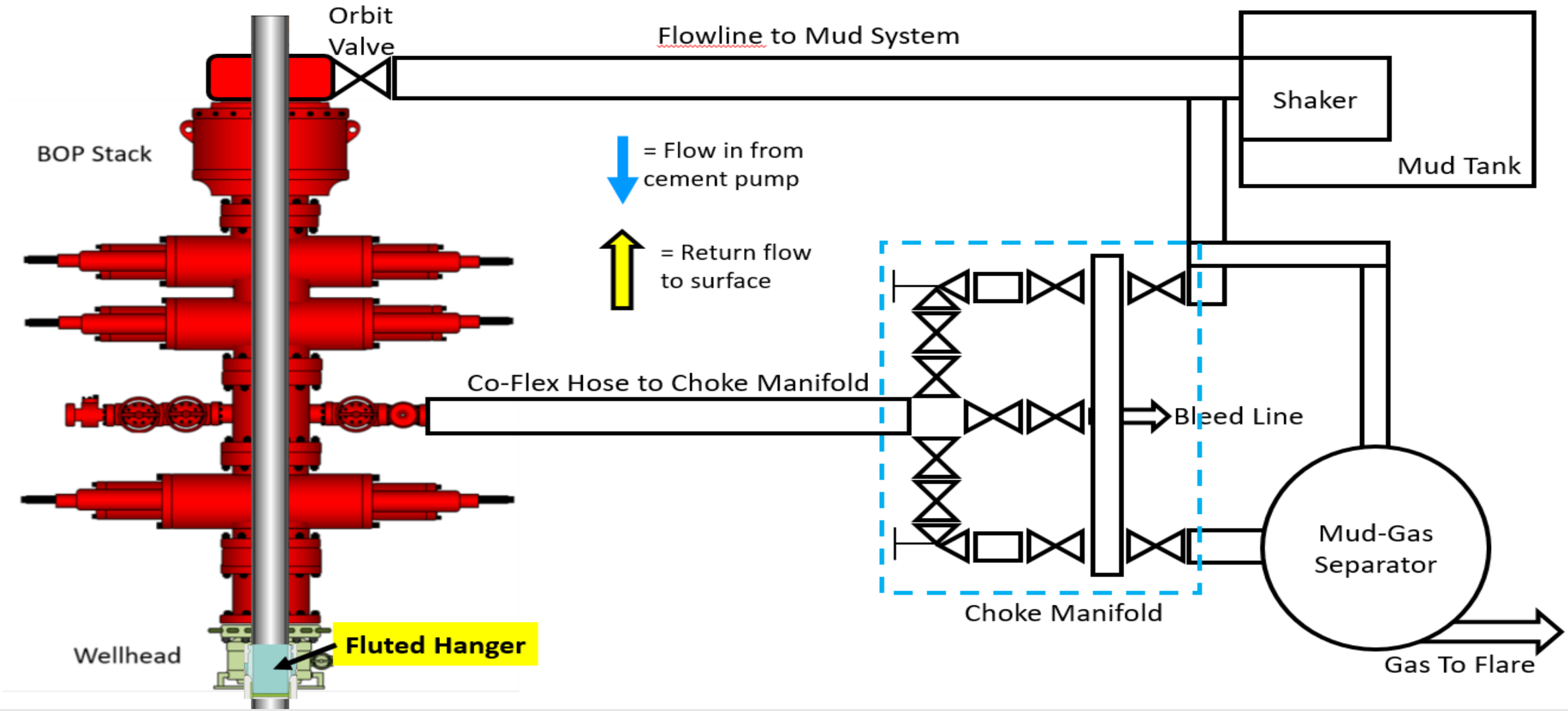


Offline Cementing Equipment-Solid Body Mandrel Hanger

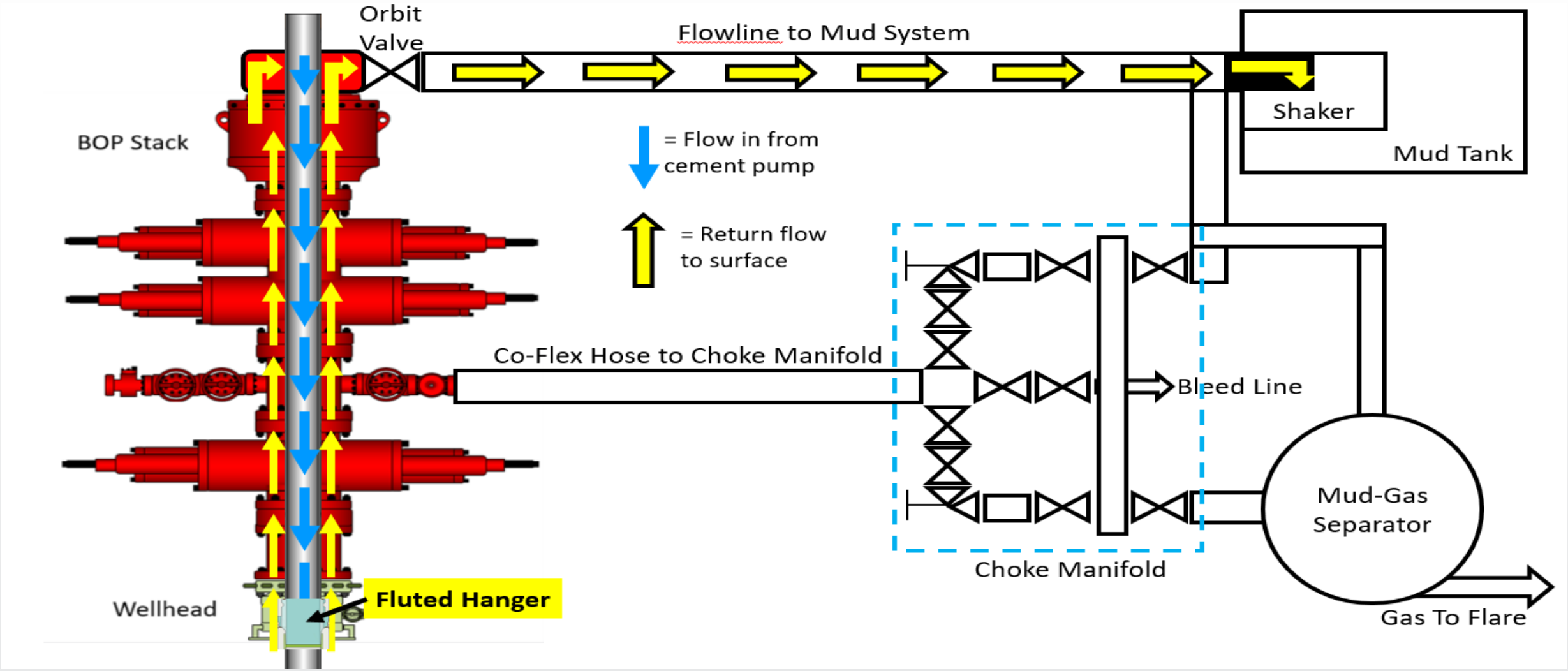
- Solid Body Mandrel Hanger allows for casing to be landed and pressure isolated in one step, **prior** to cementing
- Lockring is engaged to lock casing in place
- Casing is isolated and returns throughout cement job flow through the casing valves and through flowback iron independent of rig



Conventional Cementing Flow Diagram



Conventional Cementing Flow Diagram



Offline Cementing -- Intermediate Casing

= Flow in from cement pump

= Return flow to surface

Cement Company Iron

Tank

Mud-Gas Separator

Gas To Flare

Solid Body Hanger

3” Flowback Iron

Same process flow as other casing valve

Choke Manifold

Open Top Tank

Offline Cementing -- Intermediate Casing

= Flow in from cement pump

= Return flow to surface

Cement Company Iron

Tank

Mud-Gas Separator

Gas To Flare

Solid Body Hanger

3” Flowback Iron

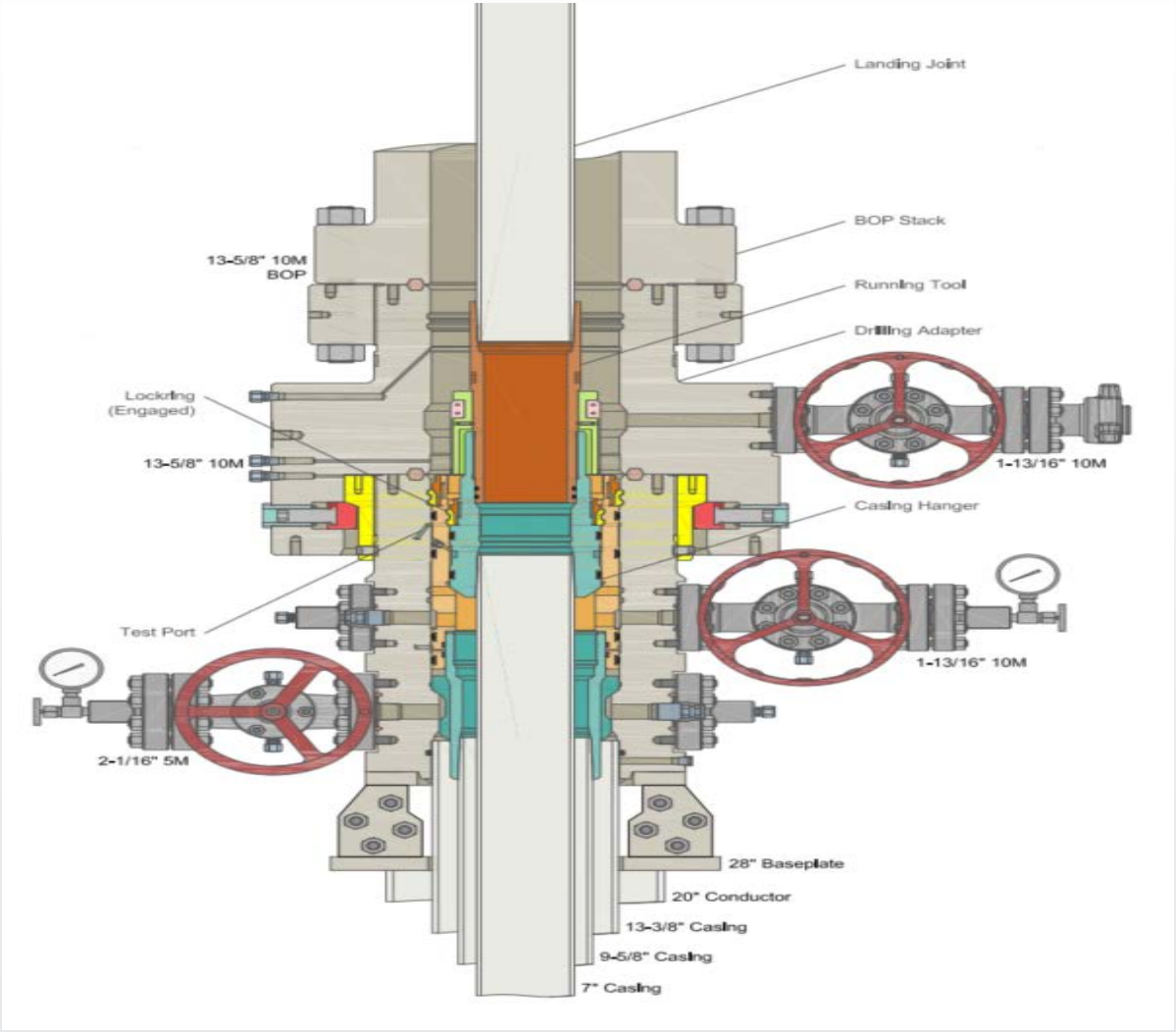
Same process flow as other casing valve

Choke Manifold

Open Top Tank

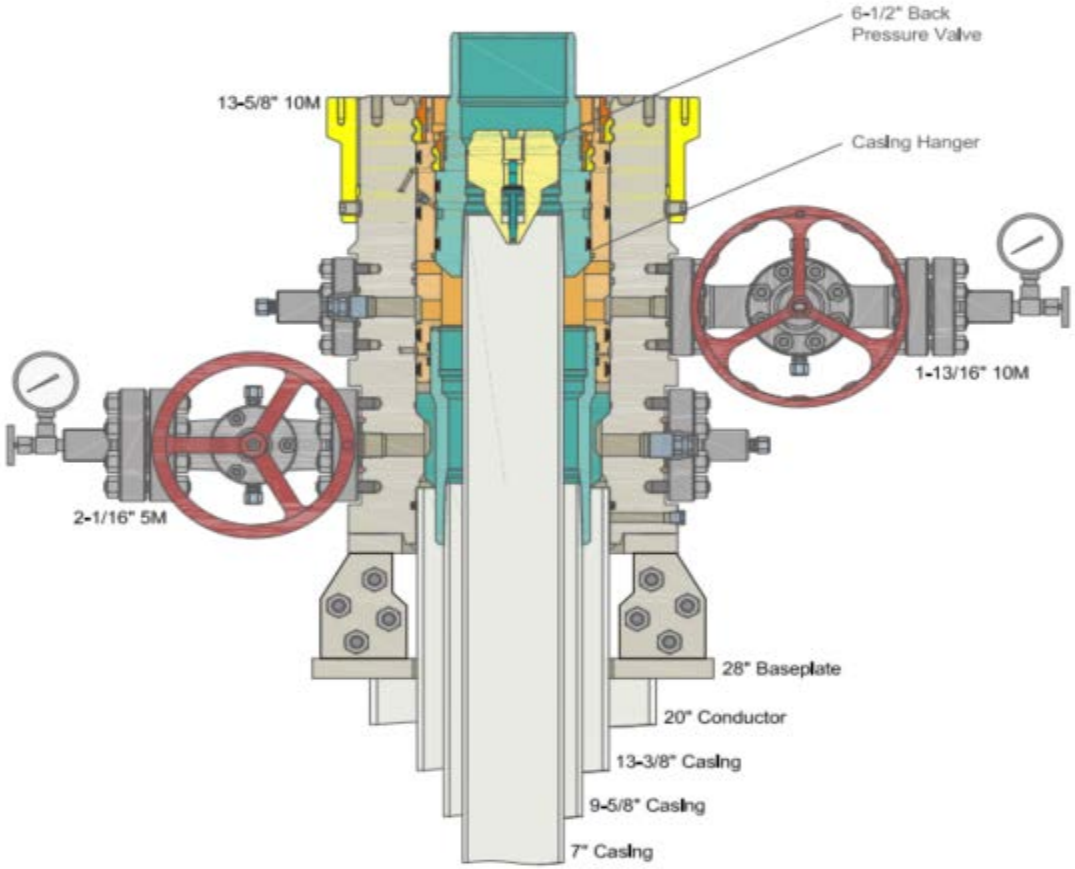
Offline Cementing Progression

- Run 7” casing
- Land 11” nominal x 7” hanger
- Test casing hanger
- Energize 11” nom x 7” hanger lock ring and pull test
- Re-test casing hanger
- Barriers & Procedures after landing casing before setting packoff
  - 10K BOP & 5K Annular-Internal and Annular barrier
  - Kill Weight Fluid in annulus and casing (ensure well is static before setting solid body packoff) Internal and Annular barrier
    - **If well is not static we <u>WILL NOT</u> set solid body packoff.**
  - 10K float collar-Internal Barrier
  - 10k float Shoe-Internal Barrier
    - **<u>After circulating a 1.5 casing capacities to ensure full column of mud and no entrained gas pumps will be shut off and floats checked for flow</u>**



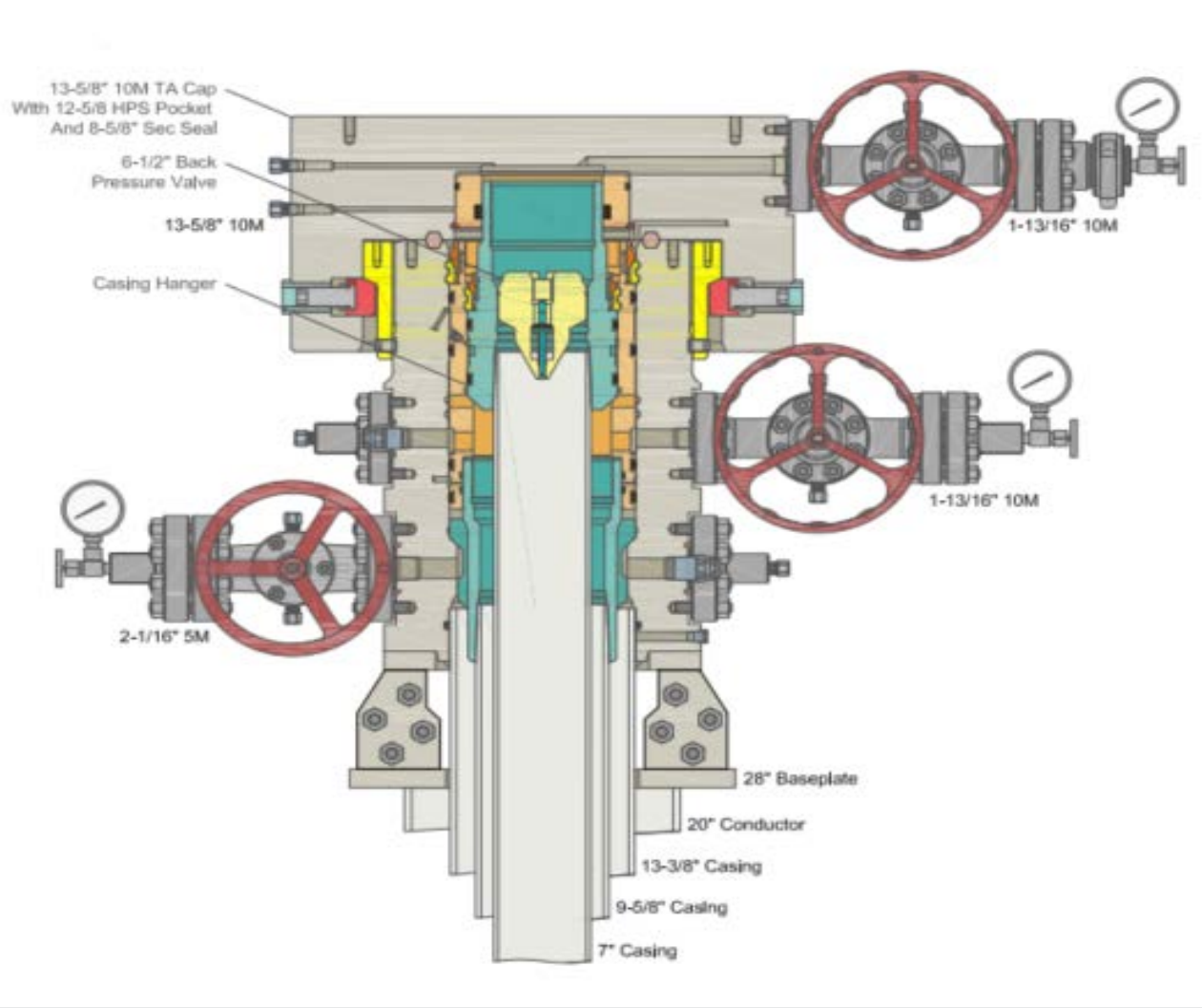
Offline Cementing Progression

- Pick up running tool with 6-1/2” nominal Back Pressure valve run into well and set
- Barriers and procedures **BEFORE** removing BOP’s
  - Kill weight Fluid in annulus-Annular Barrier
  - Solid Body Packoff-Annular Barrier
  - 10K Float Equipment-Internal Barrier
  - 10K Back pressure valve installed with BOP still on well-Internal Barrier
    - BPV will be tested before it arrives on location by Cactus



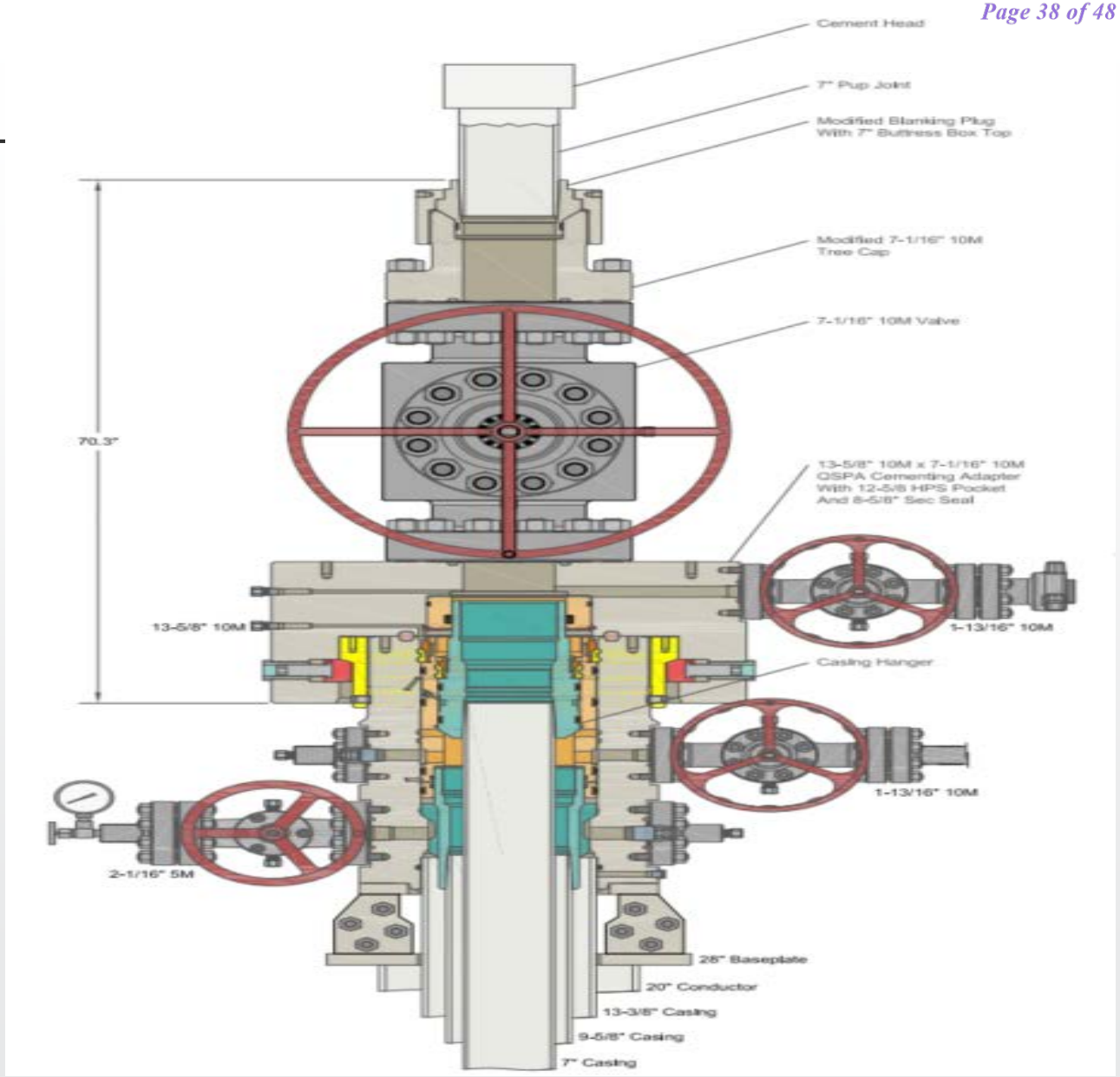
Offline Cementing Progression

- Nipple down BOP
- Nipple up TA Cap and test
- Skid Drilling Rig
- Barriers and procedures **AFTER** removing BOP's
  - Kill weight Fluid in annulus-Annular Barrier
  - Solid Body Packoff-Annular Barrier
  - 10K Float Equipment-Internal Barrier
  - 10K Back pressure valve-Internal Barrier
  - 10K rated TA cap with Valve-Internal Barrier



Offline Cementing Progression

- Check Pressure on TA Cap and remove
- Install adaptor with Gate valve for off line cementing and test
- Rig up flowback iron independent of rig
- Retrieve Back Pressure Valve
- Shut in well
- Rig up to cement and pump job
- NU 10K TA cap after cement job
- Barriers and procedures before **rigging up cementing equipment**
  - **Address well and ensure no pressure on TA cap**
    - **Ability to pump into well through casing valves on backside to kill if needed**
  - Kill weight Fluid in annulus-Annular barrier
  - Solid Body Packoff-Annular barrier
  - 10K Float Equipment-Internal Barrier
  - 10K Back pressure valve-Internal Barrier



Offline Cementing Risk and COA Compliance

- All testing and breaks tested in accordance with Onshore Order # 2 and COA's
- If no cement to surface, bradenhead squeeze still possible with offline cementing equipment
- Time from skid rig to offline cementing ops typically 24 hours
- Conditions where we would not Offline Cement
  - Well is flowing
- All wellhead equipment equipment rated to 10K maintaining APD compliant
  - 10K flowback iron independent of rig circulating system
  - 10K Back Pressure Valve
  - 10K Gate Valve & TA combo for second barrier during operations
  - 10K 1-13/16 Valve coming off TA cap
  - 10K TA Cap

PECOS DISTRICT
DRILLING CONDITIONS OF APPROVAL

OPERATOR'S NAME:	**Cimarex**
LEASE NO.:	**NMNM001917**
LOCATION:	Section 11, T.24 S., R.32 E., NMPM
COUNTY:	Lea County, New Mexico

WELL NAME & NO.:	Dos Equis 11-14 Fed Com 23H
SURFACE HOLE FOOTAGE:	545'/N & 1746'/W
BOTTOM HOLE FOOTAGE	100'/S & 1924'/W

COA

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

A. HYDROGEN SULFIDE

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

B. CASING

1. The **13-3/8** inch surface casing shall be set at approximately **1216** feet (a minimum of 25 feet (Lea County) into the Rustler Anhydrite and above the salt) and cemented to the surface.

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

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

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

2. The minimum required fill of cement behind the **9-5/8** inch intermediate casing
   - Cement to surface. If cement does not circulate see B.1.a, c-d above.

Wait on cement (WOC) time for a primary cement job is to include the tail cement slurry due to cave/karst.

3. The minimum required fill of cement behind the **7** inch production casing is:
   - Cement should tie-back at least **200 feet** into previous casing string. Operator shall provide method of verification.

4. The minimum required fill of cement behind the **4-1/2** inch production liner is:
   - Cement should tie-back **100 feet** into the previous casing. Operator shall provide method of verification. **Excess calculates to 11%. Additional cement maybe required.**

C. PRESSURE CONTROL

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

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

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

D. SPECIAL REQUIREMENT (S)

Communitization Agreement

- The operator will submit a Communitization Agreement to the Santa Fe Office, 301 Dinosaur Trail Santa Fe, New Mexico 87508, at least 90 days before the anticipated date of first production from a well subject to a spacing order issued by the New Mexico Oil Conservation Division. The Communitization Agreement will include the signatures of all working interest owners in all Federal and Indian leases subject to the Communitization Agreement (i.e., operating rights owners and lessees of record), or certification that the operator has obtained the written signatures of all such owners and will make those signatures available to the BLM immediately upon request.
- If the operator does not comply with this condition of approval, the BLM may take enforcement actions that include, but are not limited to, those specified in 43 CFR 3163.1.
- In addition, the well sign shall include the surface and bottom hole lease numbers. When the Communitization Agreement number is known, it shall also be on the sign.

GENERAL REQUIREMENTS

The BLM is to be notified in advance for a representative to witness:

a. Spudding well (minimum of 24 hours)
b. Setting and/or Cementing of all casing strings (minimum of 4 hours)
c. BOPE tests (minimum of 4 hours)

☒ Eddy County
Call the Carlsbad Field Office, 620 East Greene St., Carlsbad, NM 88220, (575) 361-2822

☒ Lea County
Call the Hobbs Field Station, 414 West Taylor, Hobbs NM 88240, (575) 393-3612

1. Unless the production casing has been run and cemented or the well has been properly plugged, the drilling rig shall not be removed from over the hole without prior approval.

   a. In the event the operator has proposed to drill multiple wells utilizing a skid/walking rig. Operator shall secure the wellbore on the current well, after installing and testing the wellhead, by installing a blind flange of like pressure rating to the wellhead and a pressure gauge that can be monitored while drilling is performed on the other well(s).
   b. When the operator proposes to set surface casing with Spudder Rig
      - Notify the BLM when moving in and removing the Spudder Rig.

- Notify the BLM when moving in the 2nd Rig. Rig to be moved in within 90 days of notification that Spudder Rig has left the location.
- BOP/BOPE test to be conducted per Onshore Oil and Gas Order No. 2 as soon as 2nd Rig is rigged up on well.

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

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

A. CASING

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

2. Wait on cement (WOC) for Potash Areas: After cementing but before commencing any tests, the casing string shall stand cemented under pressure until both of the following conditions have been met: 1) cement reaches a minimum compressive strength of 500 psi for all cement blends, 2) until cement has been in place at least 24 hours. WOC time will be recorded in the driller's log. The casing intergrity test can be done (prior to the cement setting up) immediately after bumping the plug.

3. Wait on cement (WOC) for Water Basin: After cementing but before commencing any tests, the casing string shall stand cemented under pressure until both of the following conditions have been met: 1) cement reaches a minimum compressive strength of 500 psi at the shoe, 2) until cement has been in place at least 8 hours. WOC time will be recorded in the driller's log. See individual casing strings for details regarding lead cement slurry requirements. The casing intergrity test can be done (prior to the cement setting up) immediately after bumping the plug.

4. Provide compressive strengths including hours to reach required 500 pounds compressive strength prior to cementing each casing string. Have well specific cement details onsite prior to pumping the cement for each casing string.

5. No pea gravel permitted for remedial or fall back remedial without prior authorization from the BLM engineer.

6. On that portion of any well approved for a 5M BOPE system or greater, a pressure integrity test of each casing shoe shall be performed. Formation at the shoe shall be tested to a minimum of the mud weight equivalent anticipated to control the formation pressure to the next casing depth or at total depth of the well. This test shall be performed before drilling more than 20 feet of new hole.

7. If hardband drill pipe is rotated inside casing, returns will be monitored for metal. If metal is found in samples, drill pipe will be pulled and rubber protectors which have a larger diameter than the tool joints of the drill pipe will be installed prior to continuing drilling operations.
8. Whenever a casing string is cemented in the R-111-P potash area, the NMOCD requirements shall be followed.

B. PRESSURE CONTROL

1. All blowout preventer (BOP) and related equipment (BOPE) shall comply with well control requirements as described in Onshore Oil and Gas Order No. 2 and API RP 53 Sec. 17.

2. If a variance is approved for a flexible hose to be installed from the BOP to the choke manifold, the following requirements apply: The flex line must meet the requirements of API 16C. Check condition of flexible line from BOP to choke manifold, replace if exterior is damaged or if line fails test. Line to be as straight as possible with no hard bends and is to be anchored according to Manufacturer's requirements. The flexible hose can be exchanged with a hose of equal size and equal or greater pressure rating. Anchor requirements, specification sheet and hydrostatic pressure test certification matching the hose in service, to be onsite for review. These documents shall be posted in the company man's trailer and on the rig floor.

3. 5M or higher system requires an HCR valve, remote kill line and annular to match. The remote kill line is to be installed prior to testing the system and tested to stack pressure.

4. If the operator has proposed a multi-bowl wellhead assembly in the APD. The following requirements must be met:

    a. Wellhead shall be installed by manufacturer's representatives, submit documentation with subsequent sundry.
    b. If the welding is performed by a third party, the manufacturer's representative shall monitor the temperature to verify that it does not exceed the maximum temperature of the seal.

c. Manufacturer representative shall install the test plug for the initial BOP test.
d. Whenever any seal subject to test pressure is broken, all the tests in OOGO2.III.A.2.i must be followed.
e. If the cement does not circulate and one inch operations would have been possible with a standard wellhead, the well head shall be cut off, cementing operations performed and another wellhead installed.

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

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

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

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

d. The test shall be run on a 5000 psi chart for a 2-3M BOP/BOP, on a 10000 psi chart for a 5M BOP/BOPE and on a 15000 psi chart for a 10M BOP/BOPE. If a linear chart is used, it shall be a one hour chart. A circular chart shall have a maximum 2 hour clock. If a twelve hour or twenty-four hour chart is used, tester shall make a notation that it is run with a two hour clock.

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

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

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

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

C. DRILLING MUD

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

D. WASTE MATERIAL AND FLUIDS

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

Porto-johns and trash containers will be on-location during fracturing operations or any other crew-intensive operations.
ZS20122

Additional Information

Location of Well

0. SHL: NENW / 545 FNL / 1746 FWL / TWSP: 24S / RANGE: 32E / SECTION: 11 / LAT: 32.237909 / LONG: -103.64831 (TVD: 0 feet, MD: 0 feet)

PPP: NENW / 1262 FNL / 1869 FWL / TWSP: 24S / RANGE: 32E / SECTION: 11 / LAT: 32.235933 / LONG: -103.647911 (TVD: 12340 feet, MD: 12829 feet)

BHL: SESW / 100 FSL / 1869 FWL / TWSP: 24S / RANGE: 32E / SECTION: 14 / LAT: 32.210638 / LONG: -103.647924 (TVD: 12300 feet, MD: 22033 feet)

District I
1625 N. French Dr., Hobbs, NM 88240
Phone:(575) 393-6161 Fax:(575) 393-0720
District II
811 S. First St., Artesia, NM 88210
Phone:(575) 748-1283 Fax:(575) 748-9720
District III
1000 Rio Brazos 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 108572

CONDITIONS

Operator: CIMAREX ENERGY CO. 600 N. Marienfeld Street Midland, TX 79701	OGRID: 215099
	Action Number: 108572
	Action Type: [C-103] NOI Change of Plans (C-103A)

CONDITIONS

Created By	Condition	Condition Date
pkautz	None	5/31/2022