

Well Name: DOS EQUIS 11-14 FEDERAL COM	Well Location: T24S / R32E / SEC 11 / NENW / 32.237909 / -103.648375	County or Parish/State: LEA / NM
Well Number: 24H	Type of Well: OIL WELL	Allottee or Tribe Name:
Lease Number: NMNM0001917	Unit or CA Name:	Unit or CA Number:
US Well Number: 3002547645	Well Status: Approved Application for Permit to Drill	Operator: CIMAREX ENERGY COMPANY

Notice of Intent

Sundry ID: 2649262

Type of Submission: Notice of Intent	Type of Action: Other
Date Sundry Submitted: 12/16/2021	Time Sundry Submitted: 01:49
Date proposed operation will begin: 12/16/2021	

Procedure Description: Cimarex Energy Co. respectfully requests permission to change the BHL of this well to: 100' FSL & 1210' FWL of section 14 24S 32E. Cimarex requests to change the formation to Bone Spring. Cimarex requests drilling plan changes as attached. 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 24H 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 24H 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 24H 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.

Surface Disturbance

Is any additional surface disturbance proposed?: No

NOI Attachments

Procedure Description

BOPs_and_Chokes_Dos_Equis_11_14_Fed_Com_24H_20211216134857.pdf

Received by OCD: 5/19/2022 9:21:17 AM

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Offline_Cement_Procedure_20211216134834.pdf

Dos_Equis_11_14_Fed_Com_24H_Multibowl_20211216134828.pdf

Drilling_Plan_Dos_Equis_11_14_Fed_Com_24H_20211216134812.pdf

Directional_Dos_Equis_11_14_Fed_Com_24H_20211216134756.pdf

C102_Dos_Equis_11_14_Fed_Com_24H_20211216134734.pdf

Conditions of Approval

Additional Reviews

Dos_Equis_11_14_Fed_Com_24H_COA_20220201090424.pdf

Operator Certification

I certify that the foregoing is true and correct. Title 18 U.S.C. Section 1001 and Title 43 U.S.C. Section 1212, make it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction. Electronic submission of Sundry Notices through this system satisfies regulations requiring a submission of Form 3160-5 or a Sundry Notice.

Operator Electronic Signature: AMITHY CRAWFORD	Signed on: DEC 16, 2021 01:49 PM
Name: CIMAREX ENERGY COMPANY	
Title: Regulatory Analyst	
Street Address: 600 N MARIENFELD STE 600	
City: MIDLAND	State: TX
Phone: (432) 620-1909	
Email address: AMITHY.CRAWFORD@COTERRA.COM	

Field Representative

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

BLM Point of Contact

BLM POC Name: CHRISTOPHER WALLS	BLM POC Title: Petroleum Engineer
BLM POC Phone: 5752342234	BLM POC Email Address: cwalls@blm.gov
Disposition: Approved	Disposition Date: 02/28/2022
Signature: Chris Walls	

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

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

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

WELL LOCATION AND ACREAGE DEDICATION PLAT

¹ API Number 30-025-47645	² Pool Code 96603	³ Pool Name Triste Draw; Bone Spring
⁴ Property Code 322999	⁵ Property Name DOS EQUIS 11-14 FEDERAL COM	⁶ Well Number 24H
⁷ OGRID No. 215099	⁸ Operator Name CIMAREX ENERGY CO.	⁹ Elevation 3618.2'

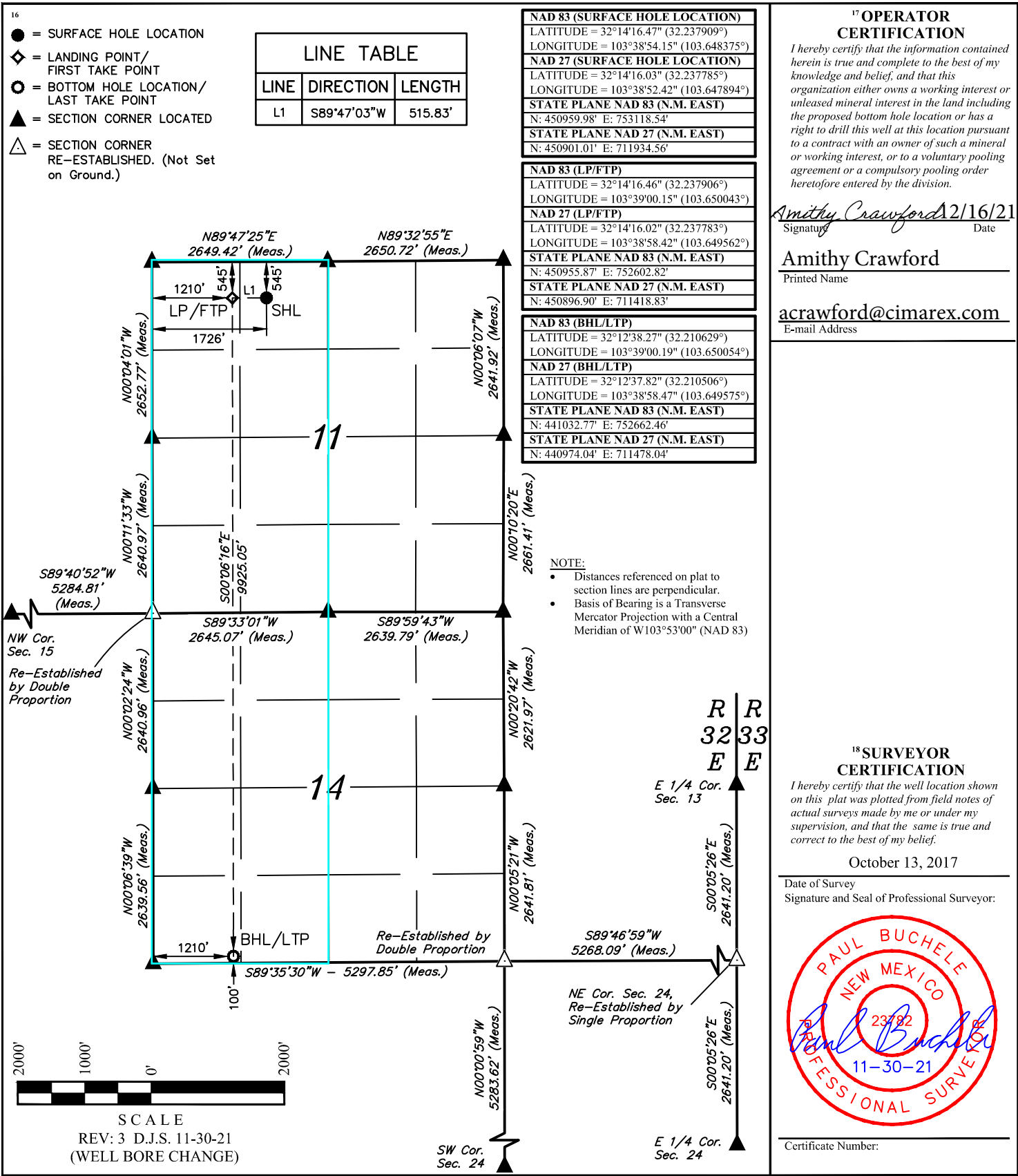
¹⁰ Surface Location

UL or lot no. C	Section 11	Township 24S	Range 32E	Lot Idn	Feet from the 545	North/South line NORTH	Feet from the 1726	East/West line WEST	County LEA
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¹¹ Bottom Hole Location If Different From Surface

UL or lot no. M	Section 14	Township 24S	Range 32E	Lot Idn	Feet from the 100	North/South line SOUTH	Feet from the 1210	East/West line WEST	County LEA
¹² Dedicated Acres 640	¹³ Joint or Infill	¹⁴ Consolidation Code	¹⁵ Order No.						

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



1. Geological Formations

TVD of target 10,700

Pilot Hole TD N/A

MD at TD 20,399

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	9212	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	10149	10149	7"	29.00	L-80	LT&C	1.48	1.72	1.89
8 3/4	10149	11049	10700	7"	29.00	P-110	BT&C	1.70	2.24	58.14
6	9149	20399	10700	4-1/2"	11.60	P-110	BT&C	1.51	2.14	20.40
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

Cimarex Energy Co., Dos Equis 11-14 Federal Com 24H

	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	# Sk	Wt. lb/gal	Yld ft ³ /sack	H ₂ O 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	337	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	695	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	10849	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	13 5/8	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 11049'	Cut Brine or OBM	8.50 - 9.00	27-70	N/C
11049' to 20399'	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
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6. Logging and Testing Procedures

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

Additional Logs Planned	Interval
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7. Drilling Conditions

Condition	
BH Pressure at deepest TVD	5007 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 at least 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.

Cimarex requests to perform offline cementing. OLC procedure as follows: 1. Land casing on solid body mandrel hanger. Engage packoff and locking 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 24H 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 24H 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 24H 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 Dos Equis 11-14 Federal Com 24H Rev2 IC 03Dec21 Proposal

Geodetic Report

(Def Plan)



Report Date: December 03, 2021 - 01:24 PM
Client: Cimarex Energy
Field: NM Lea County (NAD 83)
Structure / Slot: Cimarex Dos Equis 11-14 Federal Com 24H / New Slot
Well: Dos Equis 11-14 Federal Com 24H
Borehole: Dos Equis 11-14 Federal Com 24H
UWI / API#: Unknown / Unknown
Survey Name: Cimarex Dos Equis 11-14 Federal Com 24H Rev2 IC 03Dec21
Survey Date: August 22, 2019
Tort / AHD / DDI / ERD Ratio: 99.997 ° / 10439.449 ft / 6.299 / 0.976
Coordinate Reference System: NAD83 New Mexico State Plane, Eastern Zone, US Feet
Location Lat / Long: N 32° 14' 16.47071", W 103° 38' 54.14966"
Location Grid N/E Y/X: N 450959.980 ftUS, E 753118.540 ftUS
CRS Grid Convergence Angle: 0.3654 °
Grid Scale Factor: 0.99996046
Version / Patch: 2.10.826.8

Survey / DLS Computation: Minimum Curvature / Lubinski
Vertical Section Azimuth: 179.657 ° (Grid North)
Vertical Section Origin: 0.000 ft, 0.000 ft
TVD Reference Datum: RKB=22ft (Unit 411)
TVD Reference Elevation: 3640.200 ft above MSL
Seabed / Ground Elevation: 3618.200 ft above MSL
Magnetic Declination: 6.389 °
Total Gravity Field Strength: 998.4362mgn (9.80665 Based)
Gravity Model: GARM
Total Magnetic Field Strength: 47642.765 nT
Magnetic Dip Angle: 59.858 °
Declination Date: December 03, 2021
Magnetic Declination Model: HDGM 2021
North Reference: Grid North
Grid Convergence Used: 0.3654 °
Total Corr Mag North->Grid North: 6.0238 °
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, 1726' FWL]	0.00	0.00	181.79	0.00	0.00	0.00	0.00	N/A	450959.98	753118.54	N 32 14 16.47	W 103 38 54.15
	100.00	0.00	269.54	100.00	0.00	0.00	0.00	0.00	450959.98	753118.54	N 32 14 16.47	W 103 38 54.15
	200.00	0.00	269.54	200.00	0.00	0.00	0.00	0.00	450959.98	753118.54	N 32 14 16.47	W 103 38 54.15
	300.00	0.00	269.54	300.00	0.00	0.00	0.00	0.00	450959.98	753118.54	N 32 14 16.47	W 103 38 54.15
	400.00	0.00	269.54	400.00	0.00	0.00	0.00	0.00	450959.98	753118.54	N 32 14 16.47	W 103 38 54.15
	500.00	0.00	269.54	500.00	0.00	0.00	0.00	0.00	450959.98	753118.54	N 32 14 16.47	W 103 38 54.15
	600.00	0.00	269.54	600.00	0.00	0.00	0.00	0.00	450959.98	753118.54	N 32 14 16.47	W 103 38 54.15
	700.00	0.00	269.54	700.00	0.00	0.00	0.00	0.00	450959.98	753118.54	N 32 14 16.47	W 103 38 54.15
	800.00	0.00	269.54	800.00	0.00	0.00	0.00	0.00	450959.98	753118.54	N 32 14 16.47	W 103 38 54.15
	900.00	0.00	269.54	900.00	0.00	0.00	0.00	0.00	450959.98	753118.54	N 32 14 16.47	W 103 38 54.15
	1000.00	0.00	269.54	1000.00	0.00	0.00	0.00	0.00	450959.98	753118.54	N 32 14 16.47	W 103 38 54.15
	1100.00	0.00	269.54	1100.00	0.00	0.00	0.00	0.00	450959.98	753118.54	N 32 14 16.47	W 103 38 54.15
	1200.00	0.00	269.54	1200.00	0.00	0.00	0.00	0.00	450959.98	753118.54	N 32 14 16.47	W 103 38 54.15
	1300.00	0.00	269.54	1300.00	0.00	0.00	0.00	0.00	450959.98	753118.54	N 32 14 16.47	W 103 38 54.15
	1400.00	0.00	269.54	1400.00	0.00	0.00	0.00	0.00	450959.98	753118.54	N 32 14 16.47	W 103 38 54.15
Nudge 2"/100' DLS	1500.00	0.00	269.54	1500.00	0.00	0.00	0.00	0.00	450959.98	753118.54	N 32 14 16.47	W 103 38 54.15
	1600.00	2.00	269.54	1599.98	0.00	-0.01	-1.75	2.00	450959.97	753116.79	N 32 14 16.47	W 103 38 54.17
	1700.00	4.00	269.54	1699.84	0.01	-0.06	-6.98	2.00	450959.92	753111.56	N 32 14 16.47	W 103 38 54.23
Hold	1749.92	5.00	269.54	1749.61	0.02	-0.09	-10.89	2.00	450959.89	753107.65	N 32 14 16.47	W 103 38 54.28
	1800.00	5.00	269.54	1799.49	0.03	-0.12	-15.26	0.00	450959.86	753103.28	N 32 14 16.47	W 103 38 54.33
	1900.00	5.00	269.54	1899.11	0.05	-0.19	-23.97	0.00	450959.79	753094.57	N 32 14 16.47	W 103 38 54.43
	2000.00	5.00	269.54	1998.73	0.06	-0.26	-32.68	0.00	450959.72	753085.86	N 32 14 16.47	W 103 38 54.53
	2100.00	5.00	269.54	2098.35	0.08	-0.33	-41.40	0.00	450959.65	753077.15	N 32 14 16.47	W 103 38 54.63
	2200.00	5.00	269.54	2197.97	0.10	-0.40	-50.11	0.00	450959.58	753068.43	N 32 14 16.47	W 103 38 54.73
	2300.00	5.00	269.54	2297.59	0.12	-0.47	-58.82	0.00	450959.51	753059.72	N 32 14 16.47	W 103 38 54.83
	2400.00	5.00	269.54	2397.21	0.13	-0.54	-67.53	0.00	450959.44	753051.01	N 32 14 16.47	W 103 38 54.94
	2500.00	5.00	269.54	2496.83	0.15	-0.61	-76.25	0.00	450959.37	753042.30	N 32 14 16.47	W 103 38 55.04
	2600.00	5.00	269.54	2596.45	0.17	-0.68	-84.96	0.00	450959.30	753033.59	N 32 14 16.47	W 103 38 55.14
	2700.00	5.00	269.54	2696.07	0.19	-0.75	-93.67	0.00	450959.23	753024.87	N 32 14 16.47	W 103 38 55.24
	2800.00	5.00	269.54	2795.69	0.20	-0.82	-102.38	0.00	450959.16	753016.16	N 32 14 16.47	W 103 38 55.34
	2900.00	5.00	269.54	2895.31	0.22	-0.89	-111.10	0.00	450959.09	753007.45	N 32 14 16.47	W 103 38 55.44
	3000.00	5.00	269.54	2994.93	0.24	-0.95	-119.81	0.00	450959.03	752998.74	N 32 14 16.47	W 103 38 55.54
	3100.00	5.00	269.54	3094.55	0.25	-1.02	-128.52	0.00	450958.96	752990.02	N 32 14 16.47	W 103 38 55.65
	3200.00	5.00	269.54	3194.17	0.27	-1.09	-137.23	0.00	450958.89	752981.31	N 32 14 16.47	W 103 38 55.75
	3300.00	5.00	269.54	3293.79	0.29	-1.16	-145.95	0.00	450958.82	752972.60	N 32 14 16.47	W 103 38 55.85
	3400.00	5.00	269.54	3393.41	0.31	-1.23	-154.66	0.00	450958.75	752963.89	N 32 14 16.47	W 103 38 55.95
	3500.00	5.00	269.54	3493.03	0.32	-1.30	-163.37	0.00	450958.68	752955.17	N 32 14 16.47	W 103 38 56.05
	3600.00	5.00	269.54	3592.65	0.34	-1.37	-172.08	0.00	450958.61	752946.46	N 32 14 16.47	W 103 38 56.15
	3700.00	5.00	269.54	3692.27	0.36	-1.44	-180.80	0.00	450958.54	752937.75	N 32 14 16.47	W 103 38 56.25
	3800.00	5.00	269.54	3791.89	0.38	-1.51	-189.51	0.00	450958.47	752929.04	N 32 14 16.47	W 103 38 56.36
	3900.00	5.00	269.54	3891.51	0.39	-1.58	-198.22	0.00	450958.40	752920.33	N 32 14 16.47	W 103 38 56.46
	4000.00	5.00	269.54	3991.13	0.41	-1.65	-206.94	0.00	450958.33	752911.61	N 32 14 16.47	W 103 38 56.56
	4100.00	5.00	269.54	4090.75	0.43	-1.72	-215.65	0.00	450958.26	752902.90	N 32 14 16.47	W 103 38 56.66
	4200.00	5.00	269.54	4190.37	0.44	-1.79	-224.36	0.00	450958.19	752894.19	N 32 14 16.47	W 103 38 56.76
	4300.00	5.00	269.54	4289.99	0.46	-1.86	-233.07	0.00	450958.12	752885.48	N 32 14 16.47	W 103 38 56.86
	4400.00	5.00	269.54	4389.60	0.48	-1.93	-241.79	0.00	450958.05	752876.76	N 32 14 16.47	W 103 38 56.96
	4500.00	5.00	269.54	4489.22	0.50	-2.00	-250.50	0.00	450957.98	752868.05	N 32 14 16.47	W 103 38 57.07
	4600.00	5.00	269.54	4588.84	0.51	-2.07	-259.21	0.00	450957.91	752859.34	N 32 14 16.47	W 103 38 57.17
	4700.00	5.00	269.54	4688.46	0.53	-2.14	-267.92	0.00	450957.84	752850.63	N 32 14 16.47	W 103 38 57.27
	4800.00	5.00	269.54	4788.08	0.55	-2.20	-276.64	0.00	450957.78	752841.92	N 32 14 16.47	W 103 38 57.37
	4900.00	5.00	269.54	4887.70	0.57	-2.27	-285.35	0.00	450957.71	752833.20	N 32 14 16.47	W 103 38 57.47
	5000.00	5.00	269.54	4987.32	0.58	-2.34	-294.06	0.00	450957.64	752824.49	N 32 14 16.47	W 103 38 57.57
	5100.00	5.00	269.54	5086.94	0.60	-2.41	-302.77	0.00	450957.57	752815.78	N 32 14 16.47	W 103 38 57.67
	5200.00	5.00	269.54	5186.56	0.62	-2.48	-311.49	0.00	450957.50	752807.07	N 32 14 16.47	W 103 38 57.78
	5300.00	5.00	269.54	5286.18	0.63	-2.55	-320.20	0.00	450957.43	752798.35	N 32 14 16.47	W 103 38 57.88
	5400.00	5.00	269.54	5385.80	0.65	-2.62	-328.91	0.00	450957.36	752789.64	N 32 14 16.47	W 103 38 57.98
	5500.00	5.00	269.54	5485.42	0.67	-2.69	-337.62	0.00	450957.29	752780.93	N 32 14 16.47	W 103 38 58.08
	5600.00	5.00	269.54	5585.04	0.69	-2.76	-346.34	0.00	450957.22	752772.22	N 32 14 16.47	W 103 38 58.18
	5700.00	5.00	269.54	5684.66	0.70	-2.83	-355.05	0.00	450957.15	752763.50	N 32 14 16.47	W 103 38 58.28
	5800.00	5.00	269.54	5784.28	0.72	-2.90	-363.76	0.00	450957.08	752754.79	N 32 14 16.46	W 103 38 58.38
	5900.00	5.00	269.54	5883.90	0.74	-2.97	-372.48	0.00	450957.01	752746.08	N 32 14 16.46	W 103 38 58.48
	6000.00	5.00	269.54	5983.52	0.76	-3.04	-381.19	0.00	450956.94	752737.37	N 32 14 16.46	W 103 38 58.59
	6100.00	5.00	269.54	6083.14	0.77	-3.11	-389.90	0.00	450956.87	752728.66	N 32 14 16.46	W 103 38 58.69
	6200.00	5.00	269.54	6182.76	0.79	-3.18	-398.61	0.00	450956.80	752719.94	N 32 14 16.46	W 103 38 58.79
	6300.00	5.00	269.54	6282.38	0.81	-3.25	-407.33	0.00	450956.73	752711.23	N 32 14 16.46	W 103 38 58.89
	6400.00	5.00	269.54	6382.00	0.82	-3.32	-416.04	0.00	450956.66	752702.52	N 32 14 16.46	W 103 38 58.99
	6500.00	5.00	269.54	6481.62	0.84	-3.39	-424.75	0.00	450956.60	752693.81	N 32 14 16.46	W 103 38 59.09
	6600.00	5.00	269.54	6581.24	0.86	-3.45	-433.46	0.00	450956.53	752685.09	N 32 14 16.46	W 103 38 59.20
	6700.00	5.00	269.54	6680.86	0.88	-3.52	-442.18	0.00	450956.46	752676.38	N 32 14 16.46	W 103 38 59.30
	6800.00	5.00	269.54	6780.48	0.89	-3.59	-450.89	0.00	450956.39	752667.67	N 32 14 16.46	W 103 38 59.40
	6900.00	5.00	269.54	6880.10	0.91	-3.66	-459.60	0.00	450956.32	752658.96	N 32 14 16.46	W 103 38 59.50
	7000.00	5.00	269.54	6979.72	0.93	-3.73	-468.31	0.00	450956.25	752650.25	N 32 14 16.46	W 103 38 59.60
	7100.00	5.00	269.54	7079.34	0.95	-3.80	-477.03	0.00	450956.18	752641.53	N 32 14 16.46	W 103 38 59.70
	7200.00	5.00	269.54	7178.96	0.96	-3.87	-485.74	0.00	450956.11	752632.82	N 32 14	

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 ° ' ")
Drop 2" DLS	7419.31	5.00	269.54	7397.43	1.00	-4.02	-504.85	0.00	450955.96	752613.71	N 32 14 16.46	W 103 39 0.03
	7500.00	3.38	269.54	7477.90	1.01	-4.07	-510.74	2.00	450955.91	752607.82	N 32 14 16.46	W 103 39 0.10
	7600.00	1.38	269.54	7577.81	1.02	-4.10	-514.90	2.00	450955.88	752603.66	N 32 14 16.46	W 103 39 0.14
Hold	7669.23	0.00	269.54	7647.04	1.02	-4.11	-515.74	2.00	450955.87	752602.82	N 32 14 16.46	W 103 39 0.15
	7700.00	0.00	269.54	7677.81	1.02	-4.11	-515.74	0.00	450955.87	752602.82	N 32 14 16.46	W 103 39 0.15
	7800.00	0.00	269.54	7777.81	1.02	-4.11	-515.74	0.00	450955.87	752602.82	N 32 14 16.46	W 103 39 0.15
	7900.00	0.00	269.54	7877.81	1.02	-4.11	-515.74	0.00	450955.87	752602.82	N 32 14 16.46	W 103 39 0.15
	8000.00	0.00	269.54	7977.81	1.02	-4.11	-515.74	0.00	450955.87	752602.82	N 32 14 16.46	W 103 39 0.15
	8100.00	0.00	269.54	8077.81	1.02	-4.11	-515.74	0.00	450955.87	752602.82	N 32 14 16.46	W 103 39 0.15
	8200.00	0.00	269.54	8177.81	1.02	-4.11	-515.74	0.00	450955.87	752602.82	N 32 14 16.46	W 103 39 0.15
	8300.00	0.00	269.54	8277.81	1.02	-4.11	-515.74	0.00	450955.87	752602.82	N 32 14 16.46	W 103 39 0.15
	8400.00	0.00	269.54	8377.81	1.02	-4.11	-515.74	0.00	450955.87	752602.82	N 32 14 16.46	W 103 39 0.15
	8500.00	0.00	269.54	8477.81	1.02	-4.11	-515.74	0.00	450955.87	752602.82	N 32 14 16.46	W 103 39 0.15
	8600.00	0.00	269.54	8577.81	1.02	-4.11	-515.74	0.00	450955.87	752602.82	N 32 14 16.46	W 103 39 0.15
	8700.00	0.00	269.54	8677.81	1.02	-4.11	-515.74	0.00	450955.87	752602.82	N 32 14 16.46	W 103 39 0.15
	8800.00	0.00	269.54	8777.81	1.02	-4.11	-515.74	0.00	450955.87	752602.82	N 32 14 16.46	W 103 39 0.15
	8900.00	0.00	269.54	8877.81	1.02	-4.11	-515.74	0.00	450955.87	752602.82	N 32 14 16.46	W 103 39 0.15
	9000.00	0.00	269.54	8977.81	1.02	-4.11	-515.74	0.00	450955.87	752602.82	N 32 14 16.46	W 103 39 0.15
	9100.00	0.00	269.54	9077.81	1.02	-4.11	-515.74	0.00	450955.87	752602.82	N 32 14 16.46	W 103 39 0.15
	9200.00	0.00	269.54	9177.81	1.02	-4.11	-515.74	0.00	450955.87	752602.82	N 32 14 16.46	W 103 39 0.15
	9300.00	0.00	269.54	9277.81	1.02	-4.11	-515.74	0.00	450955.87	752602.82	N 32 14 16.46	W 103 39 0.15
	9400.00	0.00	269.54	9377.81	1.02	-4.11	-515.74	0.00	450955.87	752602.82	N 32 14 16.46	W 103 39 0.15
	9500.00	0.00	269.54	9477.81	1.02	-4.11	-515.74	0.00	450955.87	752602.82	N 32 14 16.46	W 103 39 0.15
	9600.00	0.00	269.54	9577.81	1.02	-4.11	-515.74	0.00	450955.87	752602.82	N 32 14 16.46	W 103 39 0.15
	9700.00	0.00	269.54	9677.81	1.02	-4.11	-515.74	0.00	450955.87	752602.82	N 32 14 16.46	W 103 39 0.15
	9800.00	0.00	269.54	9777.81	1.02	-4.11	-515.74	0.00	450955.87	752602.82	N 32 14 16.46	W 103 39 0.15
	9900.00	0.00	269.54	9877.81	1.02	-4.11	-515.74	0.00	450955.87	752602.82	N 32 14 16.46	W 103 39 0.15
	10000.00	0.00	269.54	9977.81	1.02	-4.11	-515.74	0.00	450955.87	752602.82	N 32 14 16.46	W 103 39 0.15
	10100.00	0.00	269.54	10077.81	1.02	-4.11	-515.74	0.00	450955.87	752602.82	N 32 14 16.46	W 103 39 0.15
KOP, Build 10" DLS	10149.23	0.00	269.54	10127.04	1.02	-4.11	-515.74	0.00	450955.87	752602.82	N 32 14 16.46	W 103 39 0.15
	10200.00	5.08	179.66	10177.74	3.27	-6.36	-515.73	10.00	450953.62	752602.83	N 32 14 16.44	W 103 39 0.15
	10300.00	15.08	179.66	10276.07	20.74	-23.83	-515.62	10.00	450936.15	752602.94	N 32 14 16.27	W 103 39 0.15
	10400.00	25.08	179.66	10369.88	55.03	-58.11	-515.42	10.00	450901.87	752603.14	N 32 14 15.93	W 103 39 0.15
	10500.00	35.08	179.66	10456.30	105.08	-108.17	-515.12	10.00	450851.82	752603.45	N 32 14 15.43	W 103 39 0.15
	10600.00	45.08	179.66	10532.72	169.38	-172.46	-514.73	10.00	450787.52	752603.83	N 32 14 14.80	W 103 39 0.16
	10700.00	55.08	179.66	10596.82	245.97	-249.06	-514.27	10.00	450710.93	752604.29	N 32 14 14.04	W 103 39 0.16
	10800.00	65.08	179.66	10646.64	332.53	-335.61	-513.75	10.00	450624.38	752604.81	N 32 14 13.18	W 103 39 0.16
	10900.00	75.08	179.66	10680.67	426.43	-429.51	-513.18	10.00	450530.49	752605.38	N 32 14 12.25	W 103 39 0.16
	11000.00	85.08	179.66	10697.88	524.81	-527.88	-512.59	10.00	450432.12	752605.97	N 32 14 11.28	W 103 39 0.16
Landing Point	11049.23	90.00	179.66	10700.00	573.98	-577.06	-512.30	10.00	450382.95	752606.26	N 32 14 10.79	W 103 39 0.16
	11100.00	90.00	179.66	10700.00	624.75	-627.82	-511.99	0.00	450332.18	752606.57	N 32 14 10.29	W 103 39 0.16
	11200.00	90.00	179.66	10700.00	724.75	-727.82	-511.39	0.00	450232.19	752607.17	N 32 14 9.30	W 103 39 0.16
	11300.00	90.00	179.66	10700.00	824.75	-827.82	-510.79	0.00	450132.20	752607.77	N 32 14 8.31	W 103 39 0.16
	11400.00	90.00	179.66	10700.00	924.75	-927.82	-510.19	0.00	450032.20	752608.37	N 32 14 7.32	W 103 39 0.16
	11500.00	90.00	179.66	10700.00	1024.75	-1027.82	-509.59	0.00	449932.21	752608.97	N 32 14 6.33	W 103 39 0.16
	11600.00	90.00	179.66	10700.00	1124.75	-1127.81	-508.99	0.00	449832.21	752609.57	N 32 14 5.34	W 103 39 0.16
	11700.00	90.00	179.66	10700.00	1224.75	-1227.81	-508.39	0.00	449732.22	752610.17	N 32 14 4.35	W 103 39 0.16
	11800.00	90.00	179.66	10700.00	1324.75	-1327.81	-507.79	0.00	449632.23	752610.78	N 32 14 3.36	W 103 39 0.16
	11900.00	90.00	179.66	10700.00	1424.75	-1427.81	-507.18	0.00	449532.23	752611.38	N 32 14 2.37	W 103 39 0.16
	12000.00	90.00	179.66	10700.00	1524.75	-1527.81	-506.58	0.00	449432.24	752611.98	N 32 14 1.39	W 103 39 0.16
	12100.00	90.00	179.66	10700.00	1624.75	-1627.80	-505.98	0.00	449332.24	752612.58	N 32 14 0.40	W 103 39 0.16
	12200.00	90.00	179.66	10700.00	1724.75	-1727.80	-505.38	0.00	449232.25	752613.18	N 32 13 59.41	W 103 39 0.16
	12300.00	90.00	179.66	10700.00	1824.75	-1827.80	-504.78	0.00	449132.26	752613.78	N 32 13 58.42	W 103 39 0.16
	12400.00	90.00	179.66	10700.00	1924.75	-1927.80	-504.18	0.00	449032.26	752614.38	N 32 13 57.43	W 103 39 0.16
	12500.00	90.00	179.66	10700.00	2024.75	-2027.80	-503.58	0.00	448932.27	752614.98	N 32 13 56.44	W 103 39 0.16
	12600.00	90.00	179.66	10700.00	2124.75	-2127.80	-502.98	0.00	448832.27	752615.58	N 32 13 55.45	W 103 39 0.16
	12700.00	90.00	179.66	10700.00	2224.75	-2227.79	-502.38	0.00	448732.28	752616.18	N 32 13 54.46	W 103 39 0.16
	12800.00	90.00	179.66	10700.00	2324.75	-2327.79	-501.78	0.00	448632.28	752616.79	N 32 13 53.47	W 103 39 0.16
	12900.00	90.00	179.66	10700.00	2424.75	-2427.79	-501.17	0.00	448532.29	752617.39	N 32 13 52.48	W 103 39 0.16
	13000.00	90.00	179.66	10700.00	2524.75	-2527.79	-500.57	0.00	448432.30	752617.99	N 32 13 51.49	W 103 39 0.16
	13100.00	90.00	179.66	10700.00	2624.75	-2627.79	-499.97	0.00	448332.30	752618.59	N 32 13 50.50	W 103 39 0.17
	13200.00	90.00	179.66	10700.00	2724.75	-2727.78	-499.37	0.00	448232.31	752619.19	N 32 13 49.51	W 103 39 0.17
	13300.00	90.00	179.66	10700.00	2824.75	-2827.78	-498.77	0.00	448132.31	752619.79	N 32 13 48.52	W 103 39 0.17
	13400.00	90.00	179.66	10700.00	2924.75	-2927.78	-498.17	0.00	448032.32	752620.39	N 32 13 47.53	W 103 39 0.17
	13500.00	90.00	179.66	10700.00	3024.75	-3027.78	-497.57	0.00	447932.33	752620.99	N 32 13 46.54	W 103 39 0.17
	13600.00	90.00	179.66	10700.00	3124.75	-3127.78	-496.97	0.00	447832.33	752621.59	N 32 13 45.55	W 103 39 0.17
	13700.00	90.00	179.66	10700.00	3224.75	-3227.78	-496.37	0.00	447732.34	752622.19	N 32 13 44.56	W 103 39 0.17
	13800.00	90.00	179.66	10700.00	3324.75	-3327.77	-495.77	0.00	447632.34	752622.80	N 32 13 43.57	W 103 39 0.17
	13900.00	90.00	179.66	10700.00	3424.75	-3427.77	-495.16	0.00	447532.35	752623.40	N 32 13 42.58	W 103 39 0.17
	14000.00	90.00	179.66	10700.00	3524.75	-3527.77	-494.56	0.00	447432.36	752624.00	N 32 13 41.59	W 103 39 0.17
	14100.00	90.00	179.66	10700.00	3624.75	-3627.77	-493.96	0.00	447332.36	752624.60	N 32 13 40.61	W 103 39 0.17
	14200.00	90.00	179.66	10700.00	3724.75	-3727.77	-493.36	0.00	447232.37	752625.20	N 32 13 39.62	W 103 39 0.17
	14300.00	90.00	179.66	10700.00	3824.75	-3827.76	-492.76	0.00	447132.37	752625.80	N 32 13 38.63	W 103 39 0.17
	14400.00	90.00	179.66	10700.00	3924.75	-3927.76	-492.16	0.00	447032.38	752626.40	N 32 13 37.64	W 103 39 0.17
	14500.00	90.00	179.66	10700.00	4024.75	-4027.76	-491.56	0.00	446932.39	752627.00	N 32 13 36.65	W 103 39 0.17
	14600.00	90.00	179.66	10700.00	4124.75	-4127.76	-490.96	0.00				

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	10700.00	7424.75	-7427.70	-471.12	0.00	443532.59	752647.44	N 32 13 3.00	W 103 39 0.18
	18000.00	90.00	179.66	10700.00	7524.75	-7527.70	-470.52	0.00	443432.59	752648.04	N 32 13 2.01	W 103 39 0.18
	18100.00	90.00	179.66	10700.00	7624.75	-7627.70	-469.92	0.00	443332.60	752648.64	N 32 13 1.02	W 103 39 0.19
	18200.00	90.00	179.66	10700.00	7724.75	-7727.69	-469.32	0.00	443232.61	752649.24	N 32 13 0.04	W 103 39 0.19
	18300.00	90.00	179.66	10700.00	7824.75	-7827.69	-468.72	0.00	443132.61	752649.84	N 32 12 59.05	W 103 39 0.19
	18400.00	90.00	179.66	10700.00	7924.75	-7927.69	-468.12	0.00	443032.62	752650.44	N 32 12 58.06	W 103 39 0.19
	18500.00	90.00	179.66	10700.00	8024.75	-8027.69	-467.52	0.00	442932.62	752651.04	N 32 12 57.07	W 103 39 0.19
	18600.00	90.00	179.66	10700.00	8124.75	-8127.69	-466.92	0.00	442832.63	752651.64	N 32 12 56.08	W 103 39 0.19
	18700.00	90.00	179.66	10700.00	8224.75	-8227.69	-466.32	0.00	442732.64	752652.24	N 32 12 55.09	W 103 39 0.19
	18800.00	90.00	179.66	10700.00	8324.75	-8327.68	-465.71	0.00	442632.64	752652.84	N 32 12 54.10	W 103 39 0.19
	18900.00	90.00	179.66	10700.00	8424.75	-8427.68	-465.11	0.00	442532.65	752653.45	N 32 12 53.11	W 103 39 0.19
	19000.00	90.00	179.66	10700.00	8524.75	-8527.68	-464.51	0.00	442432.65	752654.05	N 32 12 52.12	W 103 39 0.19
	19100.00	90.00	179.66	10700.00	8624.75	-8627.68	-463.91	0.00	442332.66	752654.65	N 32 12 51.13	W 103 39 0.19
	19200.00	90.00	179.66	10700.00	8724.75	-8727.68	-463.31	0.00	442232.67	752655.25	N 32 12 50.14	W 103 39 0.19
	19300.00	90.00	179.66	10700.00	8824.75	-8827.67	-462.71	0.00	442132.67	752655.85	N 32 12 49.15	W 103 39 0.19
	19400.00	90.00	179.66	10700.00	8924.75	-8927.67	-462.11	0.00	442032.68	752656.45	N 32 12 48.16	W 103 39 0.19
	19500.00	90.00	179.66	10700.00	9024.75	-9027.67	-461.51	0.00	441932.68	752657.05	N 32 12 47.17	W 103 39 0.19
	19600.00	90.00	179.66	10700.00	9124.75	-9127.67	-460.91	0.00	441832.69	752657.65	N 32 12 46.18	W 103 39 0.19
	19700.00	90.00	179.66	10700.00	9224.75	-9227.67	-460.31	0.00	441732.70	752658.25	N 32 12 45.19	W 103 39 0.19
	19800.00	90.00	179.66	10700.00	9324.75	-9327.67	-459.70	0.00	441632.70	752658.85	N 32 12 44.20	W 103 39 0.19
	19900.00	90.00	179.66	10700.00	9424.75	-9427.66	-459.10	0.00	441532.71	752659.46	N 32 12 43.21	W 103 39 0.19
	20000.00	90.00	179.66	10700.00	9524.75	-9527.66	-458.50	0.00	441432.71	752660.06	N 32 12 42.22	W 103 39 0.19
	20100.00	90.00	179.66	10700.00	9624.75	-9627.66	-457.90	0.00	441332.72	752660.66	N 32 12 41.23	W 103 39 0.19
	20200.00	90.00	179.66	10700.00	9724.75	-9727.66	-457.30	0.00	441232.73	752661.26	N 32 12 40.24	W 103 39 0.19
	20300.00	90.00	179.66	10700.00	9824.75	-9827.66	-456.70	0.00	441132.73	752661.86	N 32 12 39.26	W 103 39 0.19
Cimarex Dos Equis 11-14 Federal Com 24H - PBHL [100' FSL, 1210' FWL]	20399.97	90.00	179.66	10700.00	9924.71	-9927.62	-456.10	0.00	441032.77	752662.46	N 32 12 38.27	W 103 39 0.19

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 24H / Cimarex Dos Equis 11-14
	1	22.000	20399.968	1/100.000	17.500	13.375		A001Mb_MWD	Dos Equis 11-14 Federal Com 24H / Cimarex Dos Equis 11-14



Cimarex Dos Equis 11-14 Federal Com 24H Rev2 IC 03Dec21 Proposal Geodetic Report (Def Plan)



Report Date: December 03, 2021 - 01:22 PM
Client: Cimarex Energy
Field: NM Lea County (NAD 83)
Structure / Slot: Cimarex Dos Equis 11-14 Federal Com 24H / New Slot
Well: Dos Equis 11-14 Federal Com 24H
Borehole: Dos Equis 11-14 Federal Com 24H
UWI / API#: Unknown / Unknown
Survey Name: Cimarex Dos Equis 11-14 Federal Com 24H Rev2 IC 03Dec21
Survey Date: August 22, 2019
Tort / AHD / DDI / ERD Ratio: 99.997 ° / 10439.449 ft / 6.299 / 0.976
Coordinate Reference System: NAD83 New Mexico State Plane, Eastern Zone, US Feet
Location Lat / Long: N 32° 14' 16.47071", W 103° 38' 54.14966"
Location Grid N/E Y/X: N 450959.980 ftUS, E 753118.540 ftUS
CRS Grid Convergence Angle: 0.3654 °
Grid Scale Factor: 0.99996046
Version / Patch: 2.10.826.8

Survey / DLS Computation: Minimum Curvature / Lubinski
Vertical Section Azimuth: 179.657 ° (Grid North)
Vertical Section Origin: 0.000 ft, 0.000 ft
TVD Reference Datum: RKB=22ft (Unit 411)
TVD Reference Elevation: 3640.200 ft above MSL
Seabed / Ground Elevation: 3618.200 ft above MSL
Magnetic Declination: 6.389 °
Total Gravity Field Strength: 998.4362mgn (9.80665 Based)
Gravity Model: GARM
Total Magnetic Field Strength: 47642.765 nT
Magnetic Dip Angle: 59.858 °
Declination Date: December 03, 2021
Magnetic Declination Model: HDGM 2021
North Reference: Grid North
Grid Convergence Used: 0.3654 °
Total Corr Mag North->Grid North: 6.0238 °
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, 1726' FWL]	0.00	0.00	181.79	0.00	0.00	0.00	0.00	N/A	450959.98	753118.54	N 32 14 16.47	W 103 38 54.15
Nudge 2"/100'	1500.00	0.00	269.54	1500.00	0.00	0.00	0.00	0.00	450959.98	753118.54	N 32 14 16.47	W 103 38 54.15
DLS	1749.92	5.00	269.54	1749.61	0.02	-0.09	-10.89	2.00	450959.89	753107.65	N 32 14 16.47	W 103 38 54.28
Drop 2" DLS	7419.31	5.00	269.54	7397.43	1.00	-4.02	-504.85	0.00	450955.96	752613.71	N 32 14 16.46	W 103 39 0.03
Hold	7669.23	0.00	269.54	7647.04	1.02	-4.11	-515.74	2.00	450955.87	752602.82	N 32 14 16.46	W 103 39 0.15
KOP, Build 10"	10149.23	0.00	269.54	10127.04	1.02	-4.11	-515.74	0.00	450955.87	752602.82	N 32 14 16.46	W 103 39 0.15
DLS	11049.23	90.00	179.66	10700.00	573.98	-577.06	-512.30	10.00	450382.95	752606.26	N 32 14 10.79	W 103 39 0.16
Landing Point Cimarex Dos Equis 11-14 Federal Com 24H - PBHL [100' FSL, 1210' FWL]	20399.97	90.00	179.66	10700.00	9924.71	-9927.62	-456.10	0.00	441032.77	752662.46	N 32 12 38.27	W 103 39 0.19

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 24H / Cimarex Dos Equis 11-14
	1	22.000	20399.968	1/100.000	17.500	13.375		A001Mb_MWD	Dos Equis 11-14 Federal Com 24H / Cimarex Dos Equis 11-14

Schlumberger

Cimarex Energy

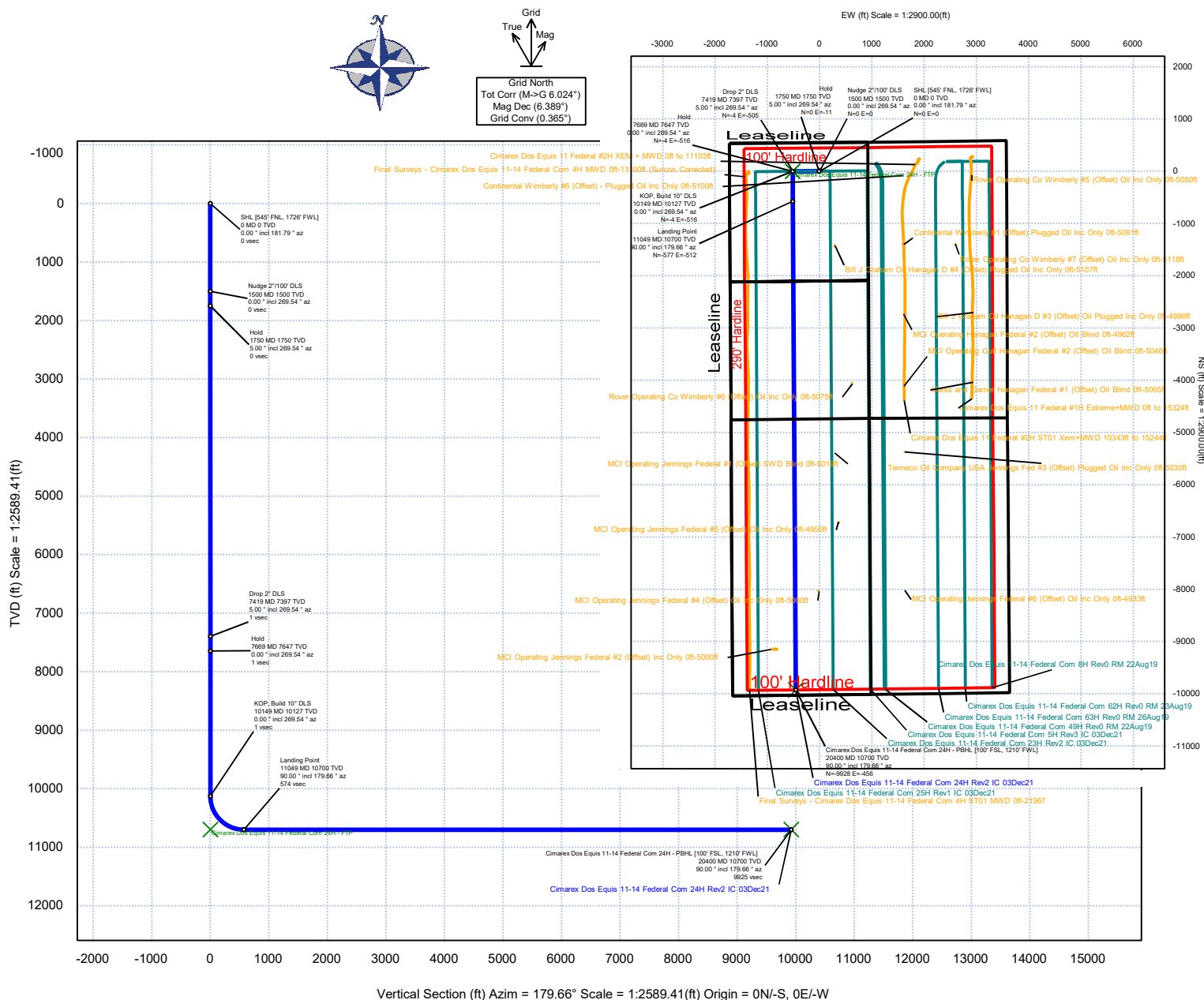
Rev 2



Borehole: Dos Equis 11-14 Federal Com 24H		Well: Dos Equis 11-14 Federal Com 24H		Field: NM Lea County (NAD 83)		Structure: Cimarex Dos Equis 11-14 Federal Com 24H	
Gravity & Magnetic Parameters Model: HDGM 2021 Dip: 59.858° Date: 03-Dec-2021 MagDec: 6.389° FS: 47642.765nT Gravity FS: 998.436mgN (9.80665 Based)				Surface Location NAD83 New Mexico State Plane, Eastern Zone, US Feet Lat: N 32 14 16.47 Northing: 450959.98RUS Grid Conv: 0.3654° Lon: W 103 38 54.15 Easting: 753118.54RUS Scale Fact: 0.99996046		Miscellaneous Slot: New Slot TVD Ref: RKB=22ft (Unit 411)(3640.2ft above MSL) Plan: Cimarex Dos Equis 11-14 Federal Com 24H Rev2 IC 03Dec21	



Grid North
Tot Corr (M→G 6.024°)
Mag Dec (6.389°)
Grid Conv (0.365°)



Critical Points

Critical Point	MD	INCL	AZIM	TVD	VSEC	N(+)/S(-)	E(+)/W(-)	DLS
SHL [545° FNL, 1726° FWL]	0.00	0.00	181.79	0.00	0.00	0.00	0.00	
Nudge 2°/100' DLS	1500.00	0.00	269.54	1500.00	0.00	0.00	0.00	0.00
Hold	1749.92	5.00	269.54	1749.61	0.02	-0.09	-10.89	2.00
Drop 2° DLS	7419.31	5.00	269.54	7397.43	1.00	-4.02	-504.85	0.00
Hold	7669.23	0.00	269.54	7647.04	1.02	-4.11	-515.74	2.00
KOP, Build 10° DLS	10149.23	0.00	269.54	10127.04	1.02	-4.11	-515.74	0.00
Landing Point	11049.23	90.00	179.66	10700.00	573.98	-577.06	-512.30	10.00
Cimarex Dos Equis 11-14 Federal Com 24H - PBHL [100° FSL, 1210° FWL]	20399.97	90.00	179.66	10700.00	9924.71	-9927.62	-456.10	0.00



Cimarex Dos Equis 11-14 Federal Com 24H Rev2 IC 03Dec21 Anti-Collision Summary Report

Analysis Date-24hr Time: December 03, 2021 - 13:22

Client: Cimarex Energy

Field: NM Lea County (NAD 83)

Structure: Cimarex Dos Equis 11-14 Federal Com 24H

Slot: New Slot

Well: Dos Equis 11-14 Federal Com 24H

Borehole: Dos Equis 11-14 Federal Com 24H

Scan MD Range: 0.00ft ~ 20399.97ft

Analysis Method: 3D Least Distance

Reference Trajectory: Cimarex Dos Equis 11-14 Federal Com 24H Rev2 IC 03Dec21 (Def Plan)

Depth Interval: Every 10.00 Measured Depth (ft)

Rule Set: NAL Procedure: D&M AntiCollision Standard S002

Min Pts: All local minima indicated.

Version / Patch: 2.10.826.8

Database \ Project: Us1455vm3172\drilling-NM Lea County 2.10

Trajectory Error Model: ISCSA3 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 61412.64 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 Dev. (ft)	Sep. Fact.	Controlling Rule	Reference Trajectory		Risk Level			Alert	Status
	Ct-Ct (ft)	MAS (ft)	EOU (ft)				MD (ft)	TVD (ft)	Alert	Minor	Major		

Results highlighted: Sep-Factor separation <= 1.50 ft

Cimarex Dos Equis 11-14 Federal Com 24H Rev2 IC 03Dec21 (Def Plan)													Fail Minor
20.00	16.40	18.02	3.60	N/A		MAS = 5.00 (m)	0.00	0.00	CtCt<=15m<15.00			Enter Alert	
20.00	16.40	18.02	3.60	50863.97		MAS = 5.00 (m)	22.00	22.00				WRP	
20.00	20.00	6.01	0.00	1.50		OSF1.50	1260.00	1260.00		OSF<1.50		Enter Minor	
20.00	23.46	3.70	-3.46	1.26		OSF1.50	1490.00	1490.00				MinPt-CtCt	
19.93	27.14	1.18	-7.21	1.07		OSF1.50	1750.00	1749.68				MinPt-CtCt	
20.07	27.56	1.04	-7.48	1.06		OSF1.50	1780.00	1779.57				MinPts	
20.19	27.69	1.07	-7.50	1.06		OSF1.50	1790.00	1789.53				MinPt-O-ADP	
30.38	30.56	9.35	-0.18	1.49		OSF1.50	2000.00	1998.73		OSF>1.50		Exit Minor	
244.82	74.87	194.24	169.95	5.00		OSF1.50	4930.00	4917.59		OSF>5.00		Exit Alert	
712.23	154.69	609.12	558.22	6.98		OSF1.50	10190.00	10167.77				MinPt-CtCt	
713.31	156.56	608.30	556.79	6.90		OSF1.50	10320.00	10295.29				MINPT-O-EOU	
713.55	156.81	608.35	556.74	6.89		OSF1.50	10340.00	10314.30				MinPt-O-ADP	
718.74	158.88	612.16	559.86	6.83		OSF1.50	10480.00	10439.74				MinPt-O-SF	
773.42	233.90	616.83	539.52	4.99		OSF1.50	13280.00	10700.00		OSF<5.00		Enter Alert	
773.42	659.21	333.29	114.21	1.78		OSF1.50	20399.97	10700.00				MinPts	

Cimarex Dos Equis 11-14 Federal Com 23H Rev2 IC 03Dec21 (Def Plan)													Fail Minor
20.00	16.26	18.72	3.75	N/A		MAS = 4.96 (m)	0.00	0.00	CtCt<=15m<15.00			Enter Alert	
20.00	16.26	18.71	3.74	N/A		MAS = 4.96 (m)	22.00	22.00				WRP	
20.00	20.06	6.20	-0.06	1.50		OSF1.50	1310.00	1310.00		OSF<1.50		Enter Minor	
20.00	22.92	4.30	-2.91	1.30		OSF1.50	1500.00	1500.00				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	4.19	-3.23	1.28		OSF1.50	1540.00	1540.00				MinPts	
25.04	25.43	7.66	-0.39	1.48		OSF1.50	1670.00	1669.90		OSF>1.50		Exit Minor	
135.13	41.64	106.93	93.48	4.97		OSF1.50	2790.00	2785.73		OSF>5.00		Exit Alert	
714.30	153.76	611.40	560.59	7.02		OSF1.50	10310.00	10285.70				MINPT-O-EOU	
714.52	153.98	611.44	560.54	7.01		OSF1.50	10330.00	10304.82				MinPt-O-ADP	
718.78	155.69	614.55	563.08	6.81		OSF1.50	10460.00	10422.79				MinPt-O-SF	
774.49	233.69	618.27	540.81	4.99		OSF1.50	13180.00	10700.00		OSF<5.00		Enter Alert	
774.50	663.61	331.65	110.86	1.78		OSF1.50	20399.97	10700.00				MinPts	

Cimarex Dos Equis 11-14 Federal Com 24H Rev3 IC 03Dec21 (Def Plan)													Warning Alert
39.92	32.19	38.63	7.73	N/A		MAS = 9.81 (m)	0.00	0.00	CtCt<=15m<15.00			Enter Alert	
39.91	32.19	38.63	7.73	N/A		MAS = 9.81 (m)	22.00	22.00				WRP	
39.91	32.19	24.21	7.73	2.68		MAS = 9.81 (m)	1500.00	1500.00				MinPts	
40.07	32.19	24.07	7.88	2.64		MAS = 9.81 (m)	1530.00	1530.00				MINPT-O-EOU	
40.77	32.19	24.37	8.58	2.61		MAS = 9.81 (m)	1570.00	1569.99				MinPt-O-SF	
109.93	34.14	86.74	75.79	4.96		OSF1.50	2280.00	2277.67		OSF>5.00		Exit Alert	
1426.80	429.14	1140.28	997.66	5.00		OSF1.50	16230.00	10700.00		OSF<5.00		Enter Alert	
1426.80	704.53	956.69	722.27	3.04		OSF1.50	20390.00	10700.00				MinPt-CtCt	
1426.82	704.98	956.40	721.84	3.04		OSF1.50	20399.97	10700.00				MinPts	

MCI Operating Hanagan Federal #2 (Offset) Oil Blind Off- 4962ft (Def Survey)													Warning Alert
3171.36	32.81	3169.38	3138.55	N/A		MAS = 10.00 (m)	0.00	0.00				Surface	
3171.32	32.81	3168.66	3138.51	4654.13		MAS = 10.00 (m)	22.00	22.00				WRP	
3171.32	453.34	2868.43	2717.98	10.53		OSF1.50	1500.00	1500.00				MinPt-CtCt	
3240.26	973.59	2590.54	2266.66	5.00		OSF1.50	3160.00	3154.32		OSF<5.00		Enter Alert	
3327.59	1546.92	2295.65	1780.67	3.23		OSF1.50	4990.00	4977.36				MinPts	
4215.75	1269.86	3367.89	2945.89	4.99		OSF1.50	7420.00	7398.12		OSF>5.00		Exit Alert	
6097.87	547.56	5731.14	5590.32	16.85		OSF1.50	13220.00	10700.00				MinPt-CtCt	
6097.91	547.65	5731.12	5590.26	16.84		OSF1.50	13240.00	10700.00				MINPT-O-EOU	
6098.18	547.96	5731.18	5590.22	16.84		OSF1.50	13280.00	10700.00				MinPt-O-ADP	
8066.91	1108.43	7326.52	6958.49	10.95		OSF1.50	18500.00	10700.00				MinPt-O-SF	
9420.89	1246.82	8588.35	8174.07	11.37		OSF1.50	20399.97	10700.00				TD	

MCI Operating Gulf Hanagan Federal #2 (Offset) Oil Blind Off- 5046ft (Def Survey)													Warning Alert
4419.97	32.81	4418.00	4387.17	N/A		MAS = 10.00 (m)	0.00	0.00				Surface	
4419.95	32.81	4417.35	4387.14	7147.47		MAS = 10.00 (m)	22.00	22.00				WRP	
4419.95	453.16	4117.18	3966.79	14.69		OSF1.50	1500.00	1500.00				MinPt-CtCt	
4511.37	1355.63	3606.96	3155.74	5.00		OSF1.50	4380.00	4369.68		OSF<5.00		Enter Alert	
4536.34	1573.40	3486.74	2962.94	4.33		OSF1.50	5080.00	5067.02				MinPts	
4910.97	1476.01	3925.91	3434.96	5.00		OSF1.50	6800.00	6780.48		OSF>5.00		Exit Alert	
6017.93	569.48	5636.55	5448.45	15.98		OSF1.50	14600.00	10700.00				MinPt-CtCt	

Offset Trajectory	Separation			Allow Dev. (ft)	Sep. Fact.	Controlling Rule	Reference Trajectory		Risk Level			Alert	Status
	Ct-Ct (ft)	MAS (ft)	EOU (ft)				MD (ft)	TVD (ft)	Alert	Minor	Major		
6018.07	569.77		5636.49	5448.29	15.97	OSF1.50	14640.00	10700.00				MINPT-O-EQU	
6018.61	570.38		5636.63	5448.23	15.96	OSF1.50	14690.00	10700.00				MinPt-O-ADP	
7933.92	1129.38	7179.53	6804.54	10.57		OSF1.50	19770.00	10700.00				MinPt-O-SF	
8358.12	1183.52	7567.68	7174.60	10.63		OSF1.50	20399.97	10700.00				TD	

Marks and Garner Hanagan
Federal #1 (Offset) Oil Blind Off-
5065ft (Def Survey)

Warning Alert

4991.95	32.81	4989.97	4959.14	N/A	MAS = 10.00 (m)	0.00	0.00					Surface	
4991.93	32.81	4989.05	4959.12	5538.35	MAS = 10.00 (m)	22.00	22.00					WRP	
4991.93	454.00	4688.60	4537.93	16.56	OSF1.50	1500.00	1500.00					MinPt-CtCt	
5168.98	1553.85	4132.42	3615.13	4.99	OSF1.50	5010.00	4997.29	OSF<5.00				Enter Alert	
5173.29	1578.91	4120.03	3594.38	4.92	OSF1.50	5090.00	5076.98					MinPts	
5173.84	1579.36	4120.27	3594.48	4.92	OSF1.50	5100.00	5086.94					MinPt-O-SF	
5231.73	1571.30	4183.42	3660.43	5.00	OSF1.50	5640.00	5624.89	OSF>5.00				Exit Alert	
5583.23	838.47	6022.64	5744.79	11.84	OSF1.50	14530.00	10700.00					MinPt-CtCt	
5583.32	838.63	6022.59	5744.69	11.84	OSF1.50	14560.00	10700.00					MINPT-O-EQU	
5583.44	838.76	6022.62	5744.69	11.83	OSF1.50	14580.00	10700.00					MinPt-O-ADP	
7923.19	1140.10	7161.66	6783.10	10.49	OSF1.50	18940.00	10700.00					MinPt-O-SF	
8819.41	1244.25	7988.52	7575.16	10.66	OSF1.50	20399.97	10700.00					TD	

Final Surveys - Cimarex Dos
Equis 11-14 Federal Com 4H
MWD Off-13100ft (Surcon
Corrected) (Def Survey)

Pass

1355.57	32.81	1354.39	1322.76	N/A	MAS = 10.00 (m)	0.00	0.00					MinPts	
1355.59	32.81	1354.39	1322.78	47591.48	MAS = 10.00 (m)	22.00	22.00					WRP	
1355.78	32.81	1354.31	1322.98	4581.21	MAS = 10.00 (m)	90.00	90.00					MINPT-O-EQU	
1356.24	32.81	1354.22	1323.43	1605.95	MAS = 10.00 (m)	170.00	170.00					MINPT-O-EQU	
866.44	83.08	810.70	783.36	15.82	OSF1.50	7760.00	7737.81					MinPt-CtCt	
867.30	85.74	809.79	781.56	15.35	OSF1.50	8030.00	8007.81					MINPT-O-EQU	
868.49	87.14	810.03	781.35	15.12	OSF1.50	8170.00	8147.81					MinPt-O-ADP	
873.41	91.89	811.78	781.52	14.41	OSF1.50	8640.00	8617.81					MinPt-O-ADP	
886.11	109.63	812.68	776.48	12.23	OSF1.50	10390.00	10360.78					MinPt-CtCt	
886.19	109.92	812.56	776.27	12.20	OSF1.50	10420.00	10387.84					MINPT-O-EQU	
886.26	110.02	812.56	776.24	12.19	OSF1.50	10430.00	10396.70					MinPt-O-ADP	
893.99	111.80	819.11	782.19	12.09	OSF1.50	10600.00	10532.72					MinPt-O-SF	
9920.13	143.15	9824.29	9776.98	104.83	OSF1.50	20399.97	10700.00					TD	

Final Surveys - Cimarex Dos
Equis 11-14 Federal Com 4H
ST01 MWD Off-21967 (Def
Survey)

Pass

1355.57	32.81	1354.39	1322.76	N/A	MAS = 10.00 (m)	0.00	0.00					MinPts	
1355.59	32.81	1354.39	1322.78	47591.48	MAS = 10.00 (m)	22.00	22.00					WRP	
1355.78	32.81	1354.31	1322.98	4581.21	MAS = 10.00 (m)	90.00	90.00					MINPT-O-EQU	
1356.24	32.81	1354.22	1323.43	1605.95	MAS = 10.00 (m)	170.00	170.00					MINPT-O-EQU	
866.44	83.08	810.70	783.36	15.82	OSF1.50	7760.00	7737.81					MinPt-CtCt	
867.30	85.74	809.79	781.56	15.35	OSF1.50	8030.00	8007.81					MINPT-O-EQU	
868.49	87.14	810.03	781.35	15.12	OSF1.50	8170.00	8147.81					MinPt-O-ADP	
873.41	91.89	811.78	781.52	14.41	OSF1.50	8640.00	8617.81					MinPt-O-ADP	
886.11	109.63	812.68	776.48	12.23	OSF1.50	10390.00	10360.78					MinPt-CtCt	
886.19	109.92	812.56	776.27	12.20	OSF1.50	10420.00	10387.84					MINPT-O-EQU	
886.26	110.02	812.56	776.24	12.19	OSF1.50	10430.00	10396.70					MinPt-O-ADP	
893.99	111.80	819.11	782.19	12.09	OSF1.50	10600.00	10532.72					MinPt-O-SF	
1843.99	119.88	1763.74	1724.11	23.25	OSF1.50	13250.00	10700.00					MinPt-CtCt	
1845.53	124.40	1762.27	1721.13	22.42	OSF1.50	13410.00	10700.00					MINPT-O-EQU	
1850.43	130.09	1763.39	1720.34	21.49	OSF1.50	13600.00	10700.00					MinPt-O-ADP	
1849.17	144.35	1752.61	1704.82	19.34	OSF1.50	14070.00	10700.00					MinPt-CtCt	
1845.81	154.75	1742.32	1691.06	18.00	OSF1.50	14420.00	10700.00					MinPt-CtCt	
1846.40	160.19	1739.36	1686.29	17.39	OSF1.50	14590.00	10700.00					MinPt-CtCt	
1848.07	170.66	1733.96	1677.40	16.33	OSF1.50	14900.00	10700.00					MinPt-CtCt	
1837.93	225.27	1687.42	1612.66	12.29	OSF1.50	16510.00	10700.00					MinPt-CtCt	
1840.61	232.81	1685.06	1607.77	11.90	OSF1.50	16740.00	10700.00					MINPT-O-EQU	
1843.33	236.10	1685.60	1607.23	11.75	OSF1.50	16840.00	10700.00					MinPt-O-ADP	
1847.68	258.07	1675.31	1589.61	10.77	OSF1.50	17430.00	10700.00					MinPt-CtCt	
1845.77	271.24	1664.61	1574.53	10.24	OSF1.50	17820.00	10700.00					MinPt-CtCt	
1860.43	311.62	1652.35	1548.81	8.98	OSF1.50	18950.00	10700.00					MinPt-CtCt	
1862.51	334.64	1639.09	1527.87	8.37	OSF1.50	19610.00	10700.00					MinPt-CtCt	
1863.54	341.06	1635.84	1522.48	8.22	OSF1.50	19790.00	10700.00					MinPt-CtCt	
1865.83	348.41	1633.23	1517.42	8.05	OSF1.50	20000.00	10700.00					MINPT-O-EQU	
1871.00	363.69	1628.27	1507.40	7.74	OSF1.50	20399.97	10700.00					MinPts	

Cimarex Dos Equis 11-14
Federal Com 49H Rev0 RM
22Aug19 (Non-Def Plan)

Pass

1076.02	32.81	1074.04	1043.21	N/A	MAS = 10.00 (m)	0.00	0.00					Surface	
1076.00	32.81	1074.02	1043.19	N/A	MAS = 10.00 (m)	22.00	22.00					WRP	
1076.00	32.81	1062.01	1043.19	89.37	MAS = 10.00 (m)	1500.00	1500.00					MinPts	
1076.07	32.81	1061.91	1043.26	88.17	MAS = 10.00 (m)	1520.00	1520.00					MINPT-O-EQU	
1588.24	128.01	1502.24	1460.23	18.88	OSF1.50	10190.00	10167.77					MINPT-O-EQU	
1588.42	128.25	1502.26	1460.17	18.85	OSF1.50	10210.00	10187.69					MinPt-O-ADP	
1607.12	131.94	1518.49	1475.17	18.53	OSF1.50	10550.00	10495.92					MinPt-O-SF	
2342.76	457.81	2036.90	1884.95	7.70	OSF1.50	20390.00	10700.00					MinPt-CtCt	
2342.78	458.04	2036.76	1884.74	7.70	OSF1.50	20399.97	10700.00					MinPts	

Bill J Graham Oil Hanagan D #4
(Offset) Plugged Oil Inc Only Off-
5107ft (Def Survey)

Pass

1447.73	32.81	1445.76	1414.93	N/A	MAS = 10.00 (m)	0.00	0.00					Surface	
1447.71	32.81	1445.70	1414.90	47642.42	MAS = 10.00 (m)	10.00	10.00					MinPts	
1447.71	32.81	1445.49	1414.90	6063.57	MAS = 10.00 (m)	22.00	22.00					WRP	
1446.68	63.63	1403.60	1383.05	35.15	OSF1.50	1220.00	1220.00					MinPt-CtCt	
1459.82	120.83	1378.61	1338.99	18.40	OSF1.50	2250.00	2247.78					MinPt-CtCt	
1468.49	137.88	1375.91	1330.61	16.19	OSF1.50	2580.00	2576.53					MINPT-O-EQU	
1483.27	155.43	1378.99	1327.85	14.48	OSF1.50	2900.00	2895.31					MinPt-O-ADP	
1523.64	239.64	1363.21	1294.01	9.61	OSF1.50	4460.00	4449.38					MINPT-O-EQU	
1529.27	247.31	1363.72	1281.96	9.34	OSF1.50	4570.00	4558.96					MinPt-O-ADP	
1542.51	271.45	1360.88	1271.06	8.58	OSF1.50	5010.00	4997.29					MinPt-CtCt	
1543.27	273.63	1360.19	1269.64	8.51	OSF1.50	5080.00	5067.02					MINPT-O-EQU	
1544.00	274.53	1360.33	1269.48	8.49	OSF1.50	5110.00	5096.90					MinPt-O-ADP	
1544.64	275.03	1360.63	1269.61	8.47	OSF1.50	5130.00	5116.83					MinPt-O-SF	
5644.21	88.27	5583.56	5555.95	102.11	OSF1.50	11900.00	10700.00					MinPt-CtCt	

Offset Trajectory	Separation			Allow Dev. (ft)	Sep. Fact.	Controlling Rule	Reference Trajectory		Risk Level			Alert	Status
	Ct-Ct (ft)	MAS (ft)	EOU (ft)				MD (ft)	TVD (ft)	Alert	Minor	Major		
5644.34	86.64		5583.43	5555.70	101.66	OSF1.50	11940.00	10700.00				MINPT-O-EQU	
5644.50	88.84		5583.47	5555.66	101.42	OSF1.50	11960.00	10700.00				MinPt-O-ADP	
7632.13	239.76	7470.78	7392.37	48.64		OSF1.50	17040.00	10700.00				MinPt-O-SF	
10201.05	286.82	10008.54	9914.23	54.06		OSF1.50	20399.97	10700.00				TD	
Continental Wimberly #6 (Offset) - Plugged Oil Inc Only 0ft-5100ft (Def Survey)													Pass
1596.34	32.81	1594.36	1563.53	N/A		MAS = 10.00 (m)	0.00	0.00				Surface	
1595.53	32.81	1593.42	1562.72	11840.28		MAS = 10.00 (m)	22.00	22.00				MinPt-O-SF	
1594.83	32.81	1592.68	1562.02	9342.85		MAS = 10.00 (m)	70.00	70.00				MinPts	
1594.55	38.37	1568.31	1556.18	65.64		OSF1.50	870.00	870.00				MinPt-CtCt	
1602.31	81.97	1547.00	1520.33	30.01		OSF1.50	1660.00	1659.92				MINPT-O-EQU	
1605.16	85.62	1547.42	1519.54	28.75		OSF1.50	1720.00	1719.78				MinPt-O-ADP	
1912.71	265.50	1735.01	1647.21	10.88		OSF1.50	5250.00	5236.37				MinPt-O-SF	
7879.34	234.49	7721.54	7644.85	51.34		OSF1.50	15770.00	10700.00				MinPt-O-SF	
11474.92	290.63	11279.95	11184.29	59.96		OSF1.50	20399.97	10700.00				TD	
Cimarex Dos Equis 11 Federal #2H XEM + MWD 0ft to 11103ft (Def Survey)													Pass
1945.27	32.81	1943.29	1912.46	N/A		MAS = 10.00 (m)	0.00	0.00				Surface	
1945.24	32.81	1943.25	1912.43	832630.53		MAS = 10.00 (m)	10.00	10.00				MinPt-O-SF	
1945.23	32.81	1943.25	1912.42	N/A		MAS = 10.00 (m)	22.00	22.00				WRP	
1942.71	32.81	1932.57	1909.30	237.93		MAS = 10.00 (m)	1210.00	1210.00				MinPts	
1941.74	32.81	1929.42	1908.33	187.62		MAS = 10.00 (m)	1520.00	1520.00				MinPts	
1941.82	32.81	1929.37	1909.02	185.16		MAS = 10.00 (m)	1540.00	1540.00				MINPT-O-EQU	
2364.78	100.26	2297.23	2264.52	36.11		OSF1.50	9330.00	9307.81				MinPt-CtCt	
2356.25	109.67	2282.48	2246.59	32.80		OSF1.50	10240.00	10217.43				MinPt-CtCt	
2356.38	110.07	2282.32	2246.31	32.69		OSF1.50	10280.00	10256.67				MINPT-O-EQU	
2356.54	110.26	2282.35	2246.28	32.63		OSF1.50	10300.00	10276.07				MinPt-O-ADP	
2392.14	114.51	2315.12	2277.63	31.88		OSF1.50	10790.00	10642.35				MinPt-O-SF	
2395.55	114.67	2318.42	2280.89	31.89		OSF1.50	10810.00	10650.77				MinPt-O-SF	
10318.19	156.69	10213.07	10161.50	100.02		OSF1.50	20399.97	10700.00				TD	
Cimarex Dos Equis 11 Federal #2H ST01 Xem+MWD 10343ft to 15244ft (Def Survey)													Pass
1945.27	32.81	1943.29	1912.46	N/A		MAS = 10.00 (m)	0.00	0.00				Surface	
1945.24	32.81	1943.25	1912.43	832630.53		MAS = 10.00 (m)	10.00	10.00				MinPt-O-SF	
1945.23	32.81	1943.25	1912.42	N/A		MAS = 10.00 (m)	22.00	22.00				WRP	
1942.71	32.81	1932.57	1909.30	237.93		MAS = 10.00 (m)	1210.00	1210.00				MinPts	
1941.74	32.81	1929.42	1908.33	187.62		MAS = 10.00 (m)	1520.00	1520.00				MinPts	
1941.82	32.81	1929.37	1909.02	185.16		MAS = 10.00 (m)	1540.00	1540.00				MINPT-O-EQU	
2364.78	100.26	2297.23	2264.52	36.11		OSF1.50	9330.00	9307.81				MinPt-CtCt	
2102.05	133.14	2012.63	1968.91	24.02		OSF1.50	11310.00	10700.00				MinPt-CtCt	
2102.49	134.48	2012.18	1968.01	23.78		OSF1.50	11370.00	10700.00				MINPT-O-EQU	
2103.27	135.38	2012.36	1967.89	23.63		OSF1.50	11410.00	10700.00				MinPt-O-ADP	
2104.40	136.51	2012.74	1967.90	23.44		OSF1.50	11450.00	10700.00				MinPt-O-ADP	
2135.00	176.42	2016.73	1958.58	18.34		OSF1.50	12310.00	10700.00				MINPT-O-EQU	
2143.82	216.47	1998.85	1927.35	14.98		OSF1.50	12970.00	10700.00				MinPt-CtCt	
2116.91	373.73	1867.10	1743.18	8.53		OSF1.50	14870.00	10700.00				MinPt-CtCt	
2117.01	374.06	1866.97	1742.95	8.53		OSF1.50	14890.00	10700.00				MINPT-O-EQU	
2117.13	374.22	1866.99	1742.91	8.52		OSF1.50	14900.00	10700.00				MinPt-O-ADP	
2119.79	375.22	1868.99	1744.57	8.51		OSF1.50	14980.00	10700.00				MinPt-O-SF	
5921.83	226.39	5768.14	5695.44	40.67		OSF1.50	20399.97	10700.00				TD	
Continental Wimberly #1 (Offset) Plugged Oil Inc Only 0ft: 5091ft (Def Survey)													Pass
2128.83	32.81	2126.85	2096.02	N/A		MAS = 10.00 (m)	0.00	0.00				Surface	
2128.82	32.81	2126.79	2096.01	45111.25		MAS = 10.00 (m)	10.00	10.00				MinPts	
2128.82	32.81	2126.59	2096.01	8534.53		MAS = 10.00 (m)	22.00	22.00				WRP	
2129.65	83.69	2073.23	2045.99	39.06		OSF1.50	1560.00	1560.00				MinPt-CtCt	
2132.06	91.15	2070.64	2040.91	35.83		OSF1.50	1700.00	1699.84				MINPT-O-EQU	
2142.34	102.93	2073.05	2039.41	31.80		OSF1.50	1920.00	1919.04				MinPt-O-ADP	
2255.02	189.79	2127.87	2065.29	18.00		OSF1.50	3550.00	3542.84				MINPT-O-EQU	
2272.72	212.96	2130.08	2059.76	16.14		OSF1.50	3970.00	3961.24				MinPt-O-ADP	
2374.86	270.06	2194.16	2104.80	13.28		OSF1.50	5110.00	5096.90				MinPts	
5991.22	127.41	5904.54	5863.81	73.48		OSF1.50	11890.00	10700.00				MinPt-CtCt	
5991.29	127.64	5904.46	5863.65	73.35		OSF1.50	11920.00	10700.00				MINPT-O-EQU	
5991.43	127.81	5904.49	5863.62	73.25		OSF1.50	11940.00	10700.00				MinPt-O-ADP	
7765.73	245.94	7600.28	7519.89	48.29		OSF1.50	16830.00	10700.00				MinPt-O-SF	
10408.10	294.17	10210.70	10113.93	53.75		OSF1.50	20399.97	10700.00				TD	
Cimarex Dos Equis 11-14 Federal Com 62H Rev0 RM 26Aug19 (Def Plan)													Pass
2404.45	32.81	2402.47	2371.64	N/A		MAS = 10.00 (m)	0.00	0.00				Surface	
2404.43	32.81	2402.45	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	
2404.42	32.81	2390.44	2371.62	200.12		MAS = 10.00 (m)	1500.00	1500.00				MinPts	
2404.49	32.81	2390.35	2371.69	197.43		MAS = 10.00 (m)	1520.00	1520.00				MINPT-O-EQU	
2919.42	128.35	2833.20	2791.08	34.63		OSF1.50	10220.00	10197.63				MINPT-O-EQU	
2919.81	128.81	2833.28	2791.00	34.51		OSF1.50	10260.00	10237.12				MinPt-O-ADP	
2967.28	134.77	2876.77	2832.51	33.69		OSF1.50	10860.00	10669.03				MinPt-O-SF	
3171.34	500.80	2836.81	2670.54	9.53		OSF1.50	20390.00	10700.00				MinPt-CtCt	
3171.37	501.10	2836.64	2670.27	9.62		OSF1.50	20399.97	10700.00				MinPts	
Cimarex Dos Equis 11-14 Federal Com 62H Rev0 RM 23Aug19 (Def Plan)													Pass
2424.40	32.81	2422.42	2391.59	N/A		MAS = 10.00 (m)	0.00	0.00				Surface	
2424.38	32.81	2422.40	2391.57	N/A		MAS = 10.00 (m)	10.00	10.00				MinPts	
2424.38	32.81	2422.40	2391.57	N/A		MAS = 10.00 (m)	22.00	22.00				WRP	
2424.38	32.81	2410.39	2391.57	201.78		MAS = 10.00 (m)	1500.00	1500.00				MinPts	
2424.44	32.81	2410.30	2391.64	199.06		MAS = 10.00 (m)	1520.00	1520.00				MINPT-O-EQU	
3249.51	119.78	3169.00	3129.73	41.35		OSF1.50	10230.00	10207.54				MINPT-O-EQU	
3249.79	120.12	3169.05	3129.67	41.24		OSF1.50	10260.00	10237.12				MinPt-O-ADP	
3314.44	127.01	3229.11	3187.43	39.74		OSF1.50	10980.00	10695.82				MinPt-O-SF	
3622.46	510.00	3281.80	3112.46	10.69		OSF1.50	20380.00	10700.00				MinPt-CtCt	
3622.50	510.68	3281.38	3111.81	10.68		OSF1.50	20399.97	10700.00				MinPts	

Offset Trajectory	Separation			Allow Dev. (ft)	Sep. Fact.	Controlling Rule	Reference Trajectory		Risk Level			Alert	Status
	Ct-Ct (ft)	MAS (ft)	EOU (ft)				MD (ft)	TVD (ft)	Alert	Minor	Major		
Cimarex Dos Equis 11-14 Federal Com 8H Rev0 RM 22Aug19 (Def Plan)													
	2444.36	32.81	2442.38	2411.55	N/A	MAS = 10.00 (m)	0.00	0.00					Pass
	2444.34	32.81	2442.36	2411.53	N/A	MAS = 10.00 (m)	10.00	10.00					Surface
	2444.34	32.81	2442.36	2411.53	N/A	MAS = 10.00 (m)	22.00	22.00					MinPts
	2444.34	32.81	2430.35	2411.53	203.42	MAS = 10.00 (m)	1500.00	1500.00					WRP
	2444.41	32.81	2430.25	2411.60	200.68	MAS = 10.00 (m)	1520.00	1520.00					MinPts
	3761.83	118.97	3681.85	3642.86	48.21	OSF1.50	10230.00	10207.54					MINPT-O-EQU
	3762.17	119.39	3681.92	3642.79	48.04	OSF1.50	10270.00	10246.91					MINPT-O-EQU
	4088.03	517.50	3742.37	3570.53	11.89	OSF1.50	20380.00	10700.00					MinPt-O-ADP
	4088.08	518.25	3741.92	3569.83	11.87	OSF1.50	20399.97	10700.00					MinPt-CtCt
													MinPts
Rover Operating Co Wimberly #5 (Offset) Oil Inc Only Off-5050ft (Def Survey)													
	2912.22	32.81	2910.24	2879.41	N/A	MAS = 10.00 (m)	0.00	0.00					Pass
	2912.04	32.81	2910.03	2879.23	126743.64	MAS = 10.00 (m)	20.00	20.00					Surface
	2912.03	32.81	2910.03	2879.22	131448.93	MAS = 10.00 (m)	22.00	22.00					MinPt-O-SF
	2911.99	32.81	2909.92	2879.18	32293.89	MAS = 10.00 (m)	40.00	40.00					WRP
	2909.05	61.79	2867.19	2847.26	72.91	OSF1.50	1210.00	1210.00					MinPts
	2915.02	81.64	2859.93	2833.37	54.85	OSF1.50	1610.00	1609.97					MinPt-CtCt
	2918.79	86.27	2860.62	2832.53	51.91	OSF1.50	1680.00	1679.88					MINPT-O-EQU
	3223.78	267.16	3045.02	2956.63	18.22	OSF1.50	5100.00	5086.94					MinPt-O-ADP
	8370.48	251.21	8201.58	8119.26	50.82	OSF1.50	15740.00	10700.00					MinPt-O-SF
	11831.23	308.31	11624.49	11522.92	58.23	OSF1.50	20399.97	10700.00					TD
Cimarex Dos Equis 11 Federal #1H Extreme+MWD Off to 15324ft (Def Survey)													
	2930.78	32.81	2928.80	2897.97	N/A	MAS = 10.00 (m)	0.00	0.00					Pass
	2930.75	32.81	2928.77	2897.95	415119.73	MAS = 10.00 (m)	22.00	22.00					Surface
	2930.01	32.81	2927.23	2897.20	3661.24	MAS = 10.00 (m)	170.00	170.00					WRP
	2930.21	32.81	2927.08	2897.40	2553.56	MAS = 10.00 (m)	220.00	220.00					MinPts
	2931.41	32.81	2927.09	2898.60	1251.08	MAS = 10.00 (m)	390.00	390.00					MINPT-O-EQU
	2932.60	32.81	2921.16	2899.79	309.89	MAS = 10.00 (m)	1380.00	1380.00					MINPT-O-EQU
	2932.87	32.81	2920.45	2900.07	280.53	MAS = 10.00 (m)	1520.00	1520.00					MinPts
	3414.90	110.95	3340.27	3303.95	46.98	OSF1.50	10410.00	10378.90					MINPT-O-EQU
	3414.93	111.03	3340.24	3303.89	46.94	OSF1.50	10420.00	10387.84					MinPt-CtCt
	3414.99	111.12	3340.25	3303.87	46.91	OSF1.50	10430.00	10396.70					MINPT-O-EQU
	3377.19	135.40	3286.26	3241.79	37.95	OSF1.50	11370.00	10700.00					MinPt-O-ADP
	3379.41	141.06	3284.71	3238.35	36.43	OSF1.50	11560.00	10700.00					MinPt-CtCt
	3389.65	159.50	3282.65	3230.15	32.26	OSF1.50	11970.00	10700.00					MINPT-O-EQU
	3392.67	163.24	3283.19	3229.43	31.54	OSF1.50	12070.00	10700.00					MinPt-O-ADP
	3428.88	234.15	3272.12	3194.73	22.14	OSF1.50	13240.00	10700.00					MinPt-CtCt
	3411.74	382.16	3156.31	3029.58	13.45	OSF1.50	14850.00	10700.00					MINPT-O-EQU
	3412.15	383.31	3155.95	3028.84	13.41	OSF1.50	14900.00	10700.00					MinPt-O-ADP
	3412.52	383.75	3156.03	3028.77	13.40	OSF1.50	14920.00	10700.00					MINPT-O-EQU
	3434.29	389.34	3174.07	3044.95	13.29	OSF1.50	15240.00	10700.00					MinPt-O-ADP
	6517.19	314.95	6304.70	6202.24	31.77	OSF1.50	20399.97	10700.00					MinPt-O-SF
													TD
Rover Operating Co Wimberly #7 (Offset) Oil Inc Only Off-5118ft (Def Survey)													
	2940.93	32.81	2938.95	2908.12	N/A	MAS = 10.00 (m)	0.00	0.00					Pass
	2940.78	32.81	2938.79	2907.97	186964.03	MAS = 10.00 (m)	20.00	20.00					Surface
	2940.78	32.81	2938.78	2907.97	206915.76	MAS = 10.00 (m)	22.00	22.00					MinPt-O-SF
	2940.78	32.81	2938.75	2907.95	103456.65	MAS = 10.00 (m)	30.00	30.00					WRP
	2940.76	46.17	2913.40	2898.67	99.88	OSF1.50	890.00	890.00					MinPts
	2946.46	50.95	2911.83	2895.51	90.19	OSF1.50	1030.00	1030.00					MinPt-CtCt
	2945.74	63.85	2902.51	2881.89	71.37	OSF1.50	1220.00	1220.00					MINPT-O-EQU
	2946.57	66.34	2901.68	2880.22	68.63	OSF1.50	1310.00	1310.00					MinPt-CtCt
	2947.49	83.67	2891.05	2863.82	54.09	OSF1.50	1560.00	1560.00					MINPT-O-EQU
	2948.06	85.40	2890.47	2862.67	52.98	OSF1.50	1610.00	1609.97					MinPt-O-ADP
	2948.91	86.38	2890.66	2862.53	52.38	OSF1.50	1640.00	1639.94					MinPt-O-ADP
	2989.49	114.67	2912.38	2874.82	39.77	OSF1.50	2120.00	2118.28					MinPts
	3140.71	216.69	2995.59	2924.02	21.93	OSF1.50	4010.00	4001.09					MinPt-O-ADP
	3224.54	270.34	3043.64	2954.20	18.02	OSF1.50	5200.00	5186.56					MinPts
	6361.16	159.45	6253.18	6201.71	61.75	OSF1.50	11880.00	10700.00					MinPt-CtCt
	6361.26	159.75	6253.08	6201.51	61.63	OSF1.50	11920.00	10700.00					MINPT-O-EQU
	6361.40	159.91	6253.12	6201.49	61.57	OSF1.50	11940.00	10700.00					MinPt-O-ADP
	7936.30	258.88	7762.24	7677.42	46.78	OSF1.50	16630.00	10700.00					MinPt-O-SF
	10629.16	309.01	10421.88	10320.14	52.22	OSF1.50	20399.97	10700.00					TD
Bill J Graham Oil Hanagan D #3 (Offset) Oil Plugged Inc Only Off-4986ft (Def Survey)													
	3993.97	32.81	3992.00	3961.17	N/A	MAS = 10.00 (m)	0.00	0.00					Pass
	3993.94	32.81	3991.92	3961.13	108946.88	MAS = 10.00 (m)	20.00	20.00					Surface
	3993.94	32.81	3991.89	3961.13	59085.25	MAS = 10.00 (m)	22.00	22.00					MinPts
	3991.03	84.53	3934.01	3906.50	72.49	OSF1.50	1560.00	1560.00					WRP
	3992.34	88.32	3932.81	3904.03	69.33	OSF1.50	1650.00	1649.93					MinPt-CtCt
	3994.13	90.47	3933.16	3903.66	67.67	OSF1.50	1700.00	1699.94					MINPT-O-EQU
	4063.49	148.82	3963.61	3914.67	41.49	OSF1.50	2770.00	2765.80					MinPt-O-ADP
	4078.01	172.01	3962.68	3906.00	35.96	OSF1.50	3130.00	3124.43					MINPT-O-EQU
	4078.37	172.44	3962.75	3905.93	35.87	OSF1.50	3140.00	3134.40					MinPt-O-ADP
	4150.20	223.76	4000.37	3926.45	28.06	OSF1.50	4180.00	4170.44					MINPT-O-EQU
	4150.66	224.32	4000.45	3926.34	27.99	OSF1.50	4190.00	4180.40					MinPt-O-ADP
	4224.34	266.98	4045.68	3957.37	23.91	OSF1.50	5100.00	5086.94					MinPts
	6657.01	181.38	6534.48	6475.62	56.51	OSF1.50	13200.00	10700.00					MinPt-CtCt
	6657.30	182.27	6534.18	6475.03	56.23	OSF1.50	13260.00	10700.00					MINPT-O-EQU
	6657.79	182.87	6534.27	6474.92	56.05	OSF1.50	13300.00	10700.00					MinPt-O-ADP
	7992.12	278.09	7805.29	7714.04	43.79	OSF1.50	17620.00	10700.00					MinPt-O-SF
	9807.70	317.86	9594.49	9489.84	46.84	OSF1.50	20399.97	10700.00					TD
Rover Operating Co Wimberly #6 (Offset) Oil Inc Only Off-5075ft (Def Survey)													
	4112.74	32.81	4110.76	4079.93	N/A	MAS = 10.00 (m)	0.00	0.00					Pass
	4112.72	32.81	4110.59	4079.91	27232.05	MAS = 10.00 (m)	20.00	20.00					Surface
	4112.72	32.81	4110.56	4079.91	22189.08	MAS = 10.00 (m)	22.00	22.00					MinPts
	4115.83	85.21	4058.36	4030.62	74.14	OSF1.50	1600.00	1599.98					WRP
	4128.67	168.18	4015.87	3960.47	37.24	OSF1.50	3220.00	3214.09					MinPt-CtCt
	4133.34	173.81	4016.80	3959.53	36.07	OSF1.50	3370.00	3363.52					MINPT-O-EQU
													MinPt-O-ADP

Offset Trajectory	Separation			Allow Dev. (ft)	Sep. Fact.	Controlling Rule	Reference Trajectory		Risk Level			Alert	Status
	Cl-Cl (ft)	MAS (ft)	EOU (ft)				MD (ft)	TVD (ft)	Alert	Minor	Major		
4138.54	202.81	4002.68	3935.73	30.90		OSF1.50	3780.00	3771.96				MinPt-CiCl	
4147.38	222.90	3998.11	3924.48	28.15		OSF1.50	4250.00	4240.18				MINPT-O-EOU	
4159.97	238.05	4000.59	3921.92	26.43		OSF1.50	4580.00	4568.92				MinPt-O-ADP	
4172.73	269.28	3992.55	3903.45	23.40		OSF1.50	5020.00	5007.25				MinPt-CiCl	
4172.74	269.32	3992.53	3903.42	23.40		OSF1.50	5030.00	5017.21				MinPts	
4174.45	269.63	3994.02	3904.81	23.39		OSF1.50	5140.00	5126.79				MinPt-O-SF	
5724.73	133.20	5634.14	5591.53	67.11		OSF1.50	14550.00	10700.00				MinPt-CiCl	
5725.28	134.73	5633.68	5590.56	66.32		OSF1.50	14630.00	10700.00				MINPT-O-EOU	
5725.98	135.53	5633.84	5590.45	65.92		OSF1.50	14670.00	10700.00				MinPt-O-ADP	
7195.73	252.72	7025.69	6943.01	43.49		OSF1.50	18910.00	10700.00				MinPt-O-SF	
8184.73	278.42	7997.67	7906.31	44.77		OSF1.50	20399.97	10700.00				TD	

MCI Operating Jennings
Federal #1 (Offset) SWD Blind
0ft-5019ft (Def Survey)

Pass

5399.60	32.81	5397.62	5366.79	N/A	MAS = 10.00 (m)	0.00	0.00					Surface	
5399.57	32.81	5397.59	5366.76	N/A	MAS = 10.00 (m)	10.00	10.00					MinPt-O-SF	
5399.56	32.81	5397.58	5366.75	N/A	MAS = 10.00 (m)	22.00	22.00					WRP	
5399.55	32.81	5385.57	5366.75	449.20	MAS = 10.00 (m)	1500.00	1500.00					MinPts	
5421.26	65.51	5376.33	5355.75	127.96	OSF1.50	5040.00	5027.17					MINPT-O-EOU	
5421.44	65.75	5376.95	5355.89	127.49	OSF1.50	5060.00	5047.09					MinPt-O-SF	
5926.70	84.80	5889.06	5841.89	109.03	OSF1.50	7400.00	7378.20					MinPt-O-SF	
7619.97	97.22	7553.69	7522.75	123.09	OSF1.50	10600.00	10532.72					MinPt-O-SF	
5713.01	146.66	5613.46	5566.35	60.58	OSF1.50	15870.00	10700.00					MinPt-CiCl	
5713.59	148.36	5612.88	5565.20	59.85	OSF1.50	15950.00	10700.00					MINPT-O-EOU	
5714.30	149.25	5613.02	5565.04	59.50	OSF1.50	15990.00	10700.00					MinPt-O-ADP	
6336.64	196.20	6204.17	6140.44	49.67	OSF1.50	18610.00	10700.00					MinPt-O-SF	
7291.81	213.30	7148.08	7078.51	52.38	OSF1.50	20399.97	10700.00					TD	

Tenneco Oil Company USA
Jennings Fed #3 (Offset)
Plugged Oil Inc Only 0ft-5030ft
(Def Survey)

Pass

5613.78	32.81	5611.81	5580.98	N/A	MAS = 10.00 (m)	0.00	0.00					Surface	
5613.68	32.81	5611.68	5580.87	377861.86	MAS = 10.00 (m)	20.00	20.00					MinPt-O-SF	
5613.67	32.81	5611.68	5580.86	381258.29	MAS = 10.00 (m)	22.00	22.00					WRP	
5613.64	32.81	5611.60	5580.83	87988.17	MAS = 10.00 (m)	40.00	40.00					MinPts	
5613.74	33.33	5590.86	5580.41	268.52	OSF1.50	680.00	680.00					MinPt-CiCl	
5632.45	135.85	5541.22	5496.60	63.09	OSF1.50	2620.00	2616.37					MINPT-O-EOU	
5650.51	157.24	5545.02	5493.27	54.58	OSF1.50	3110.00	3104.51					MinPt-O-ADP	
5678.70	224.22	5528.56	5454.48	38.32	OSF1.50	4150.00	4140.56					MinPt-CiCl	
5683.08	237.09	5524.35	5445.99	36.25	OSF1.50	4510.00	4499.19					MINPT-O-EOU	
5689.27	244.56	5525.56	5444.71	35.17	OSF1.50	4710.00	4698.43					MinPt-O-ADP	
5705.44	264.81	5528.24	5440.63	32.55	OSF1.50	5030.00	5017.21					MinPts	
5709.18	266.23	5531.02	5442.94	32.40	OSF1.50	5150.00	5136.75					MinPt-O-SF	
7427.18	196.29	7294.81	7230.89	58.07	OSF1.50	11500.00	10700.00					MinPt-O-SF	
7386.32	195.25	7254.64	7191.07	58.07	OSF1.50	11570.00	10700.00					MinPt-O-SF	
7357.41	194.50	7226.22	7162.91	58.07	OSF1.50	11620.00	10700.00					MinPt-O-SF	
5014.18	189.90	5885.86	5824.28	48.79	OSF1.50	15860.00	10700.00					MinPt-CiCl	
8014.74	191.58	5885.29	5823.14	48.35	OSF1.50	15940.00	10700.00					MINPT-O-EOU	
8015.63	192.67	5885.46	5822.95	48.08	OSF1.50	15990.00	10700.00					MinPt-O-ADP	
7005.17	276.69	6819.14	6726.48	38.69	OSF1.50	19450.00	10700.00					MinPt-O-SF	
7536.53	293.53	7339.34	7243.00	39.09	OSF1.50	20399.97	10700.00					TD	

MCI Operating Jennings
Federal #2 (Offset) Inc Only 0ft-
5000ft (Def Survey)

Pass

9184.68	32.81	9182.70	9151.87	N/A	MAS = 10.00 (m)	0.00	0.00					Surface	
9184.58	32.81	9182.58	9151.77	576924.41	MAS = 10.00 (m)	22.00	22.00					WRP	
9184.52	32.81	9182.41	9151.71	68200.25	MAS = 10.00 (m)	60.00	60.00					MinPts	
9168.83	374.31	8918.62	8794.52	36.93	OSF1.50	5130.00	5116.83					MinPt-CiCl	
9168.84	374.33	8918.62	8794.51	36.93	OSF1.50	5140.00	5126.79					MinPts	
9170.48	374.56	8920.08	8795.92	36.92	OSF1.50	5300.00	5286.18					MinPt-O-SF	
7029.54	256.99	6856.66	6772.55	41.78	OSF1.50	15460.00	10700.00					MinPt-O-SF	
5666.70	232.74	5509.77	5433.96	37.34	OSF1.50	19620.00	10700.00					MinPt-CiCl	
5667.59	235.22	5509.01	5432.37	36.94	OSF1.50	19720.00	10700.00					MINPT-O-EOU	
5668.69	236.51	5509.25	5432.19	36.74	OSF1.50	19770.00	10700.00					MinPt-O-ADP	
5720.17	255.03	5548.39	5465.13	34.32	OSF1.50	20399.97	10700.00					MinPt-O-SF	

MCI Operating Jennings
Federal #4 (Offset) Oil Inc Only
0ft-5000ft (Def Survey)

Pass

8043.40	32.81	8041.42	8010.59	N/A	MAS = 10.00 (m)	0.00	0.00					Surface	
8043.38	32.81	8041.34	8010.57	122536.74	MAS = 10.00 (m)	22.00	22.00					WRP	
8043.31	44.56	8013.00	7998.81	283.27	OSF1.50	860.00	860.00					MinPt-CiCl	
8036.61	148.13	7937.20	7888.48	82.47	OSF1.50	2820.00	2815.61					MinPt-CiCl	
8041.31	162.61	7932.24	7878.70	75.09	OSF1.50	3250.00	3243.98					MINPT-O-EOU	
8047.42	169.84	7933.52	7877.58	71.91	OSF1.50	3470.00	3463.14					MinPt-O-ADP	
8028.81	233.65	7872.38	7795.16	51.97	OSF1.50	4390.00	4379.64					MinPt-CiCl	
8033.67	248.72	7867.17	7784.95	48.84	OSF1.50	4820.00	4808.01					MINPT-O-EOU	
8037.89	253.93	7867.91	7783.96	47.86	OSF1.50	4980.00	4967.40					MinPt-O-ADP	
8045.66	267.72	7866.50	7777.94	45.42	OSF1.50	5200.00	5186.56					MinPts	
8049.39	267.94	7870.06	7781.45	45.41	OSF1.50	5320.00	5306.11					MinPt-O-SF	
5701.92	203.76	5564.31	5498.17	43.06	OSF1.50	18520.00	10700.00					MinPt-CiCl	
5702.70	205.85	5563.70	5496.85	42.62	OSF1.50	18610.00	10700.00					MINPT-O-EOU	
5703.50	206.79	5563.87	5496.71	42.42	OSF1.50	18650.00	10700.00					MinPt-O-ADP	
6005.19	252.26	5835.30	5752.93	36.42	OSF1.50	20399.97	10700.00					MinPt-O-SF	

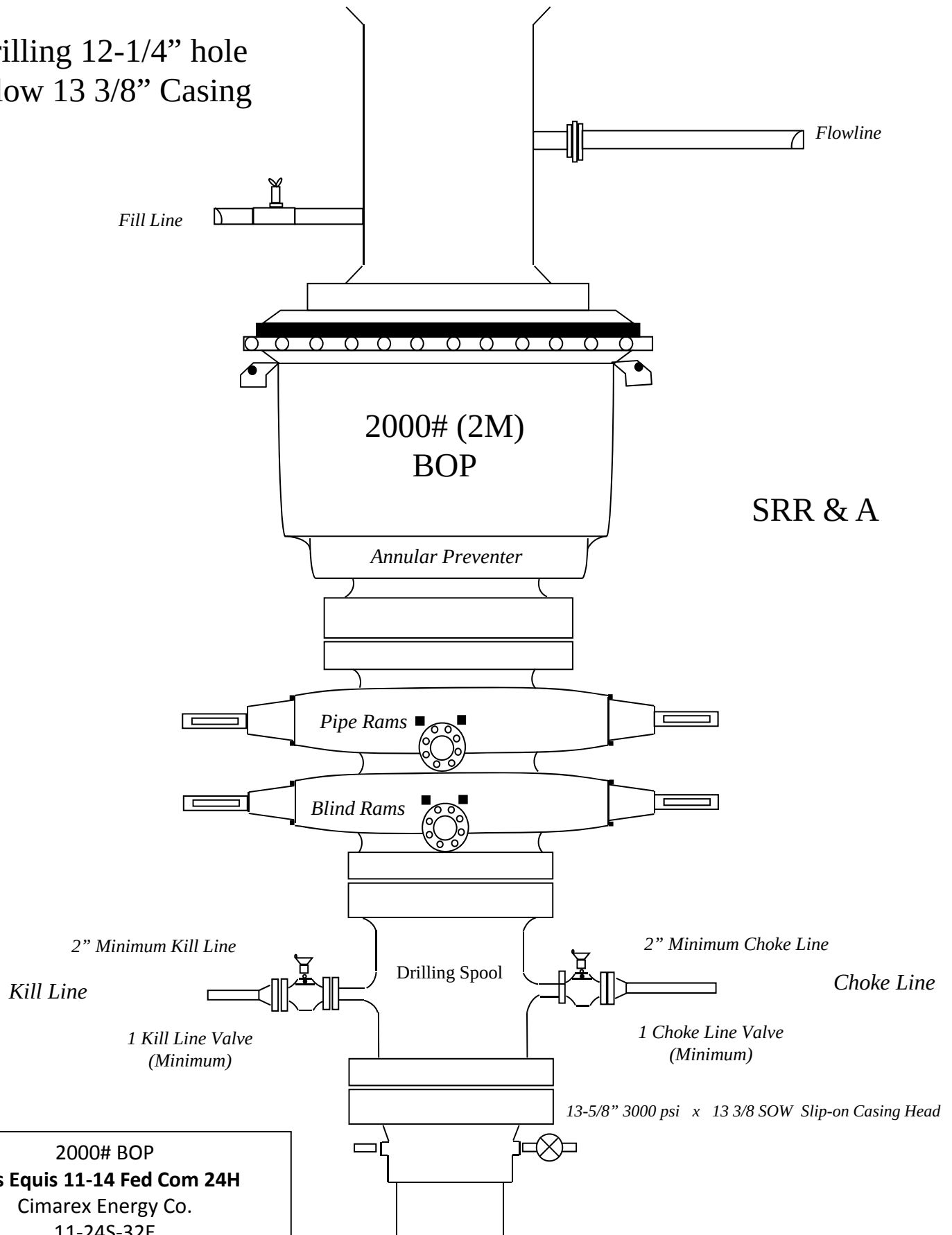
MCI Operating Jennings
Federal #5 (Offset) Oil Inc Only
0ft-4950ft (Def Survey)

Pass

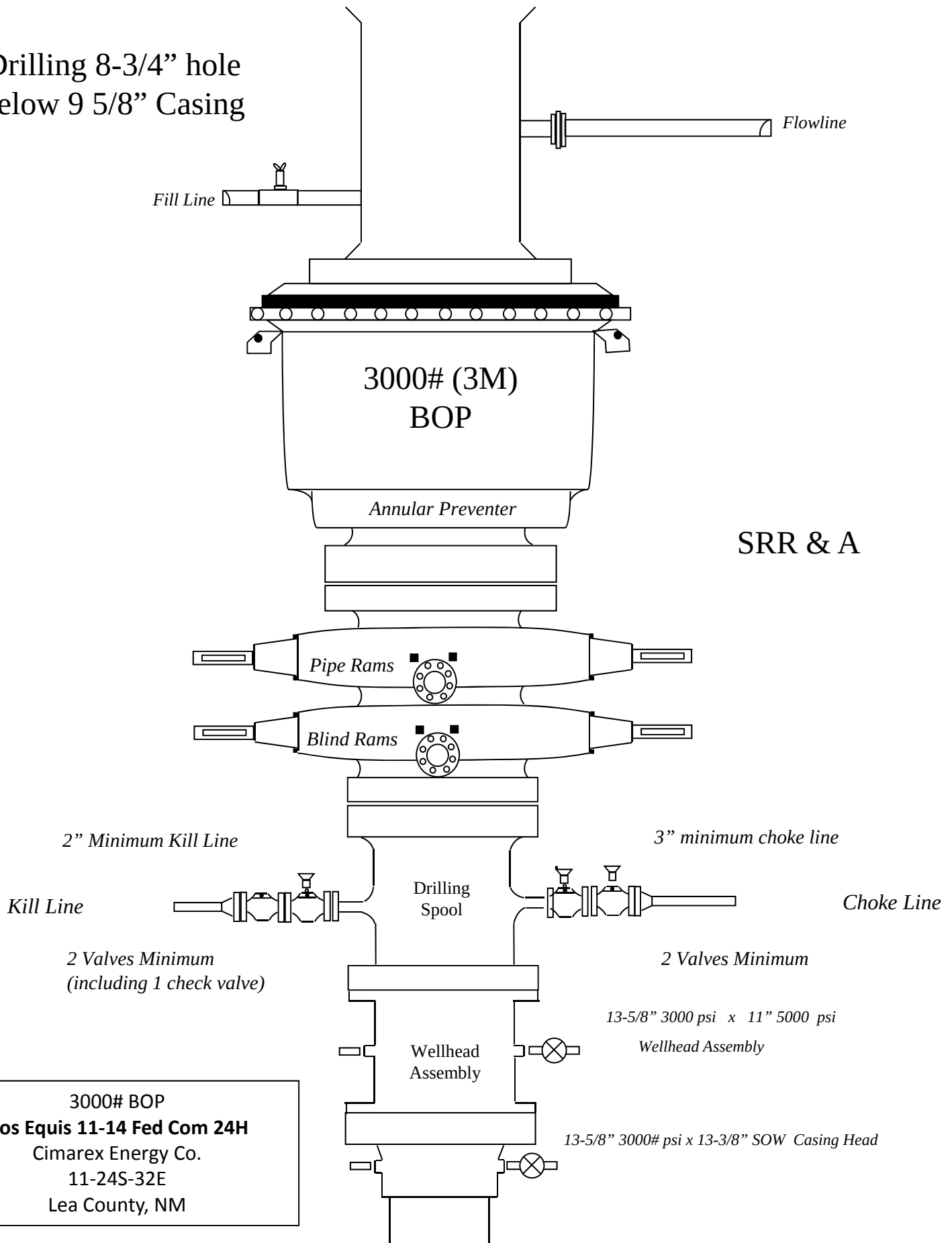
6721.41	32.81	6719.43	6688.60	N/A	MAS = 10.00 (m)	0.00	0.00					Surface	
6721.32	32.81	6719.32	6688.51	541716.34	MAS = 10.00 (m)	20.00	20.00					MinPt-O-SF	
6721.31	32.81	6719.32	6688.50	546585.99	MAS = 10.00 (m)	22.00	22.00					WRP	
6721.28	32.81	6719.24	6688.45	105355.60	MAS = 10.00 (m)	40.00	40.00					MinPts	
6724.53	128.85	6637.97	6595.68	79.48	OSF1.50	2460.00	2456.98					MinPt-CiCl	
6735.49	162.51	6626.43	6572.90	62.90	OSF1.50	3260.00	3253.94					MINPT-O-EOU	
6737.34	256.93	6565.39	6480.41	39.63	OSF1.50	4860.00	4847.86					MinPt-CiCl	
6738.38	261.48	6563.39	6476.89	38.94	OSF1.50	5030.00	5017.21					MinPts	
6742.19	261.94	6566.87	6480.25	38.91	OSF1.50	5190.00	5176.60					MinPt-O-SF	
7334.52	190.02	7206.32	7144.50	59.28	OSF1.50	12660.00	10700.00					MinPt-O-SF	
5771.76	179.87	5650.10	5591.89	49.53	OSF1.50	17190.00	10700.00					MinPt-CiCl	
5772.37	181.66	5649.52	5590.71	49.03	OSF1.50	17270.00	10700.00					MINPT-O-EOU	
5773.32	182.81	5649.70	5590.50	48.72	OSF1.50	17320.00	10700.00					MinPt-O-ADP	

Offset Trajectory	Separation			Allow Dev. (ft)	Sep. Fact.	Controlling Rule	Reference Trajectory		Risk Level			Alert	Status
	Ct-Ct (ft)	MAS (ft)	EOU (ft)				MD (ft)	TVD (ft)	Alert	Minor	Major		
	6606.41	261.82	6430.26	6344.60	38.53	OSF1.50	20399.97	10700.00				MinPt-O-SF	
MCI Operating Jennings Federal #6 (Offset) Oil Inc Only Off-4933ft (Def Survey)													
	8188.72	32.81	8186.75	8155.92	N/A	MAS = 10.00 (m)	0.00	0.00				Surface	Pass
	8188.63	32.81	8186.63	8155.82	576802.49	MAS = 10.00 (m)	22.00	22.00				WRP	
	8188.55	32.81	8186.50	8155.78	76389.24	MAS = 10.00 (m)	50.00	50.00				MinPts	
	8247.34	258.68	8074.22	7988.65	48.18	OSF1.50	4970.00	4957.44				MINPT-O-EQU	
	8248.44	260.26	8074.27	7988.18	47.90	OSF1.50	5020.00	5007.25				MinPt-O-ADP	
	8255.92	260.93	8081.28	7994.99	47.83	OSF1.50	5230.00	5216.45				MinPt-O-SF	
	6092.21	248.74	5924.70	5843.47	37.47	OSF1.50	18510.00	10700.00				MinPt-CtCt	
	6092.91	250.87	5923.98	5842.04	37.15	OSF1.50	18600.00	10700.00				MINPT-O-EQU	
	6093.87	252.06	5924.15	5841.81	36.97	OSF1.50	18650.00	10700.00				MinPt-O-ADP	
	6379.35	293.62	6181.97	6085.73	33.12	OSF1.50	20399.97	10700.00				MinPt-O-SF	

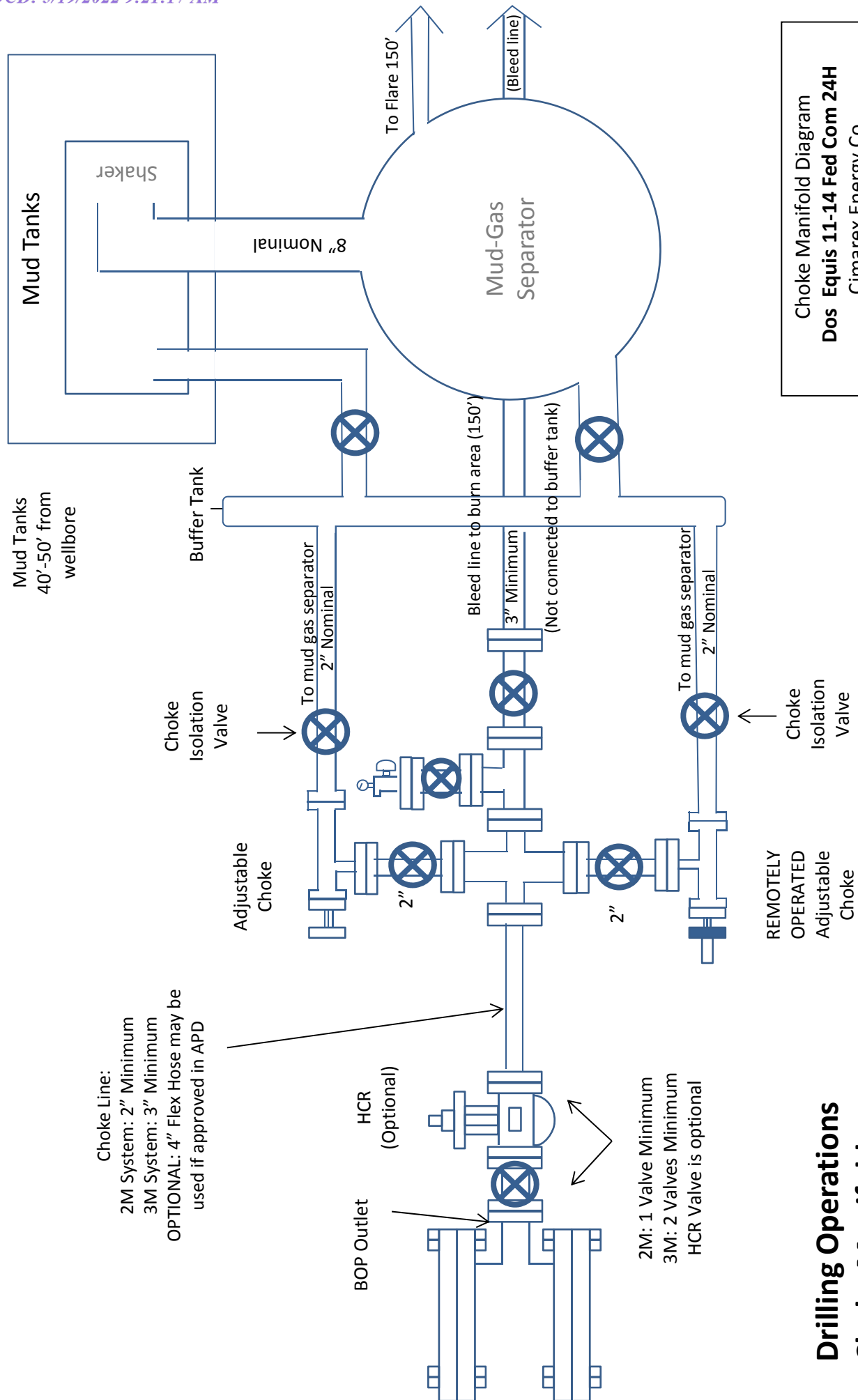
Drilling 12-1/4" hole
below 13 3/8" Casing



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



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



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

Drilling 6" hole
below 7" Casing

Fill Line

Flowline

5000# (5M)
BOP

Annular Preventer

SRR & A

Pipe Rams

Blind Rams

2" Minimum Kill Line

Kill Line

Drilling
Spool

3" minimum choke line

Choke Line

2 Valves Minimum

(HCR Required)

2 Valves and a check valve

Wellhead
Assembly

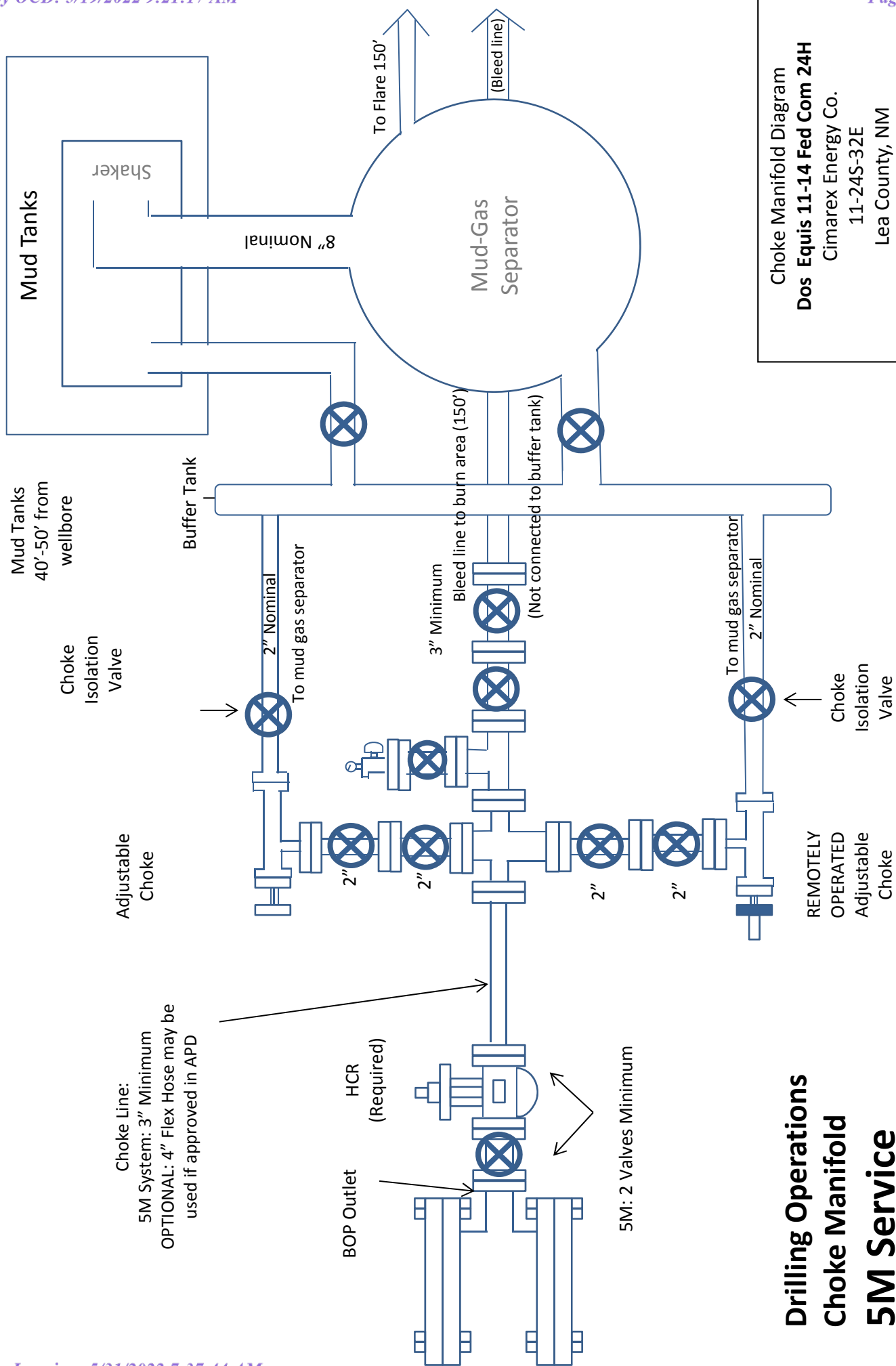
11" 5000 psi x 7-1/16" 10,000 psi
Wellhead Assembly

Wellhead
Assembly

13-5/8" 3000 psi x 11" 5000 psi
Wellhead Assembly

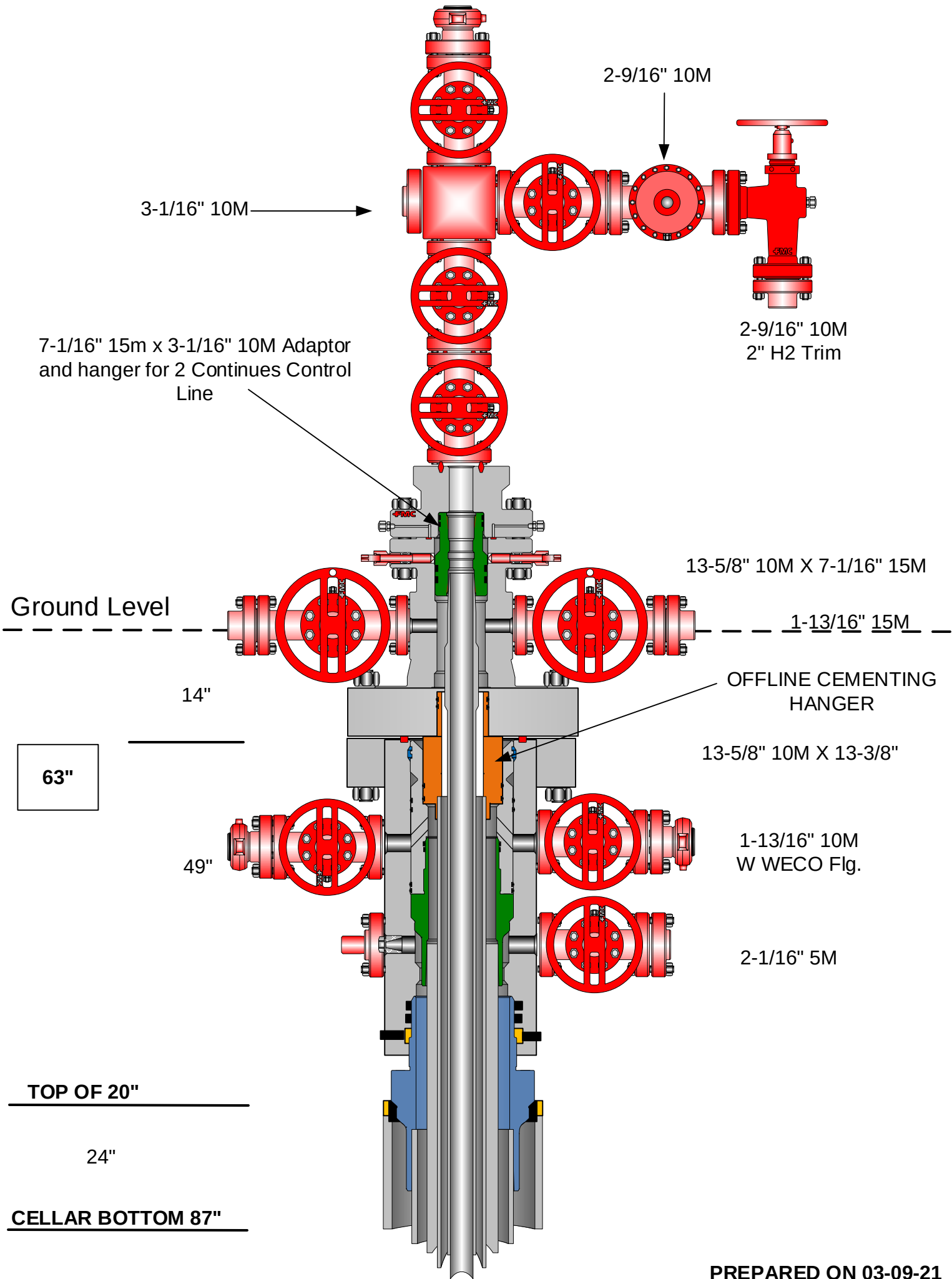
13-5/8" 3000# psi x 13-3/8" SOW Casing Head

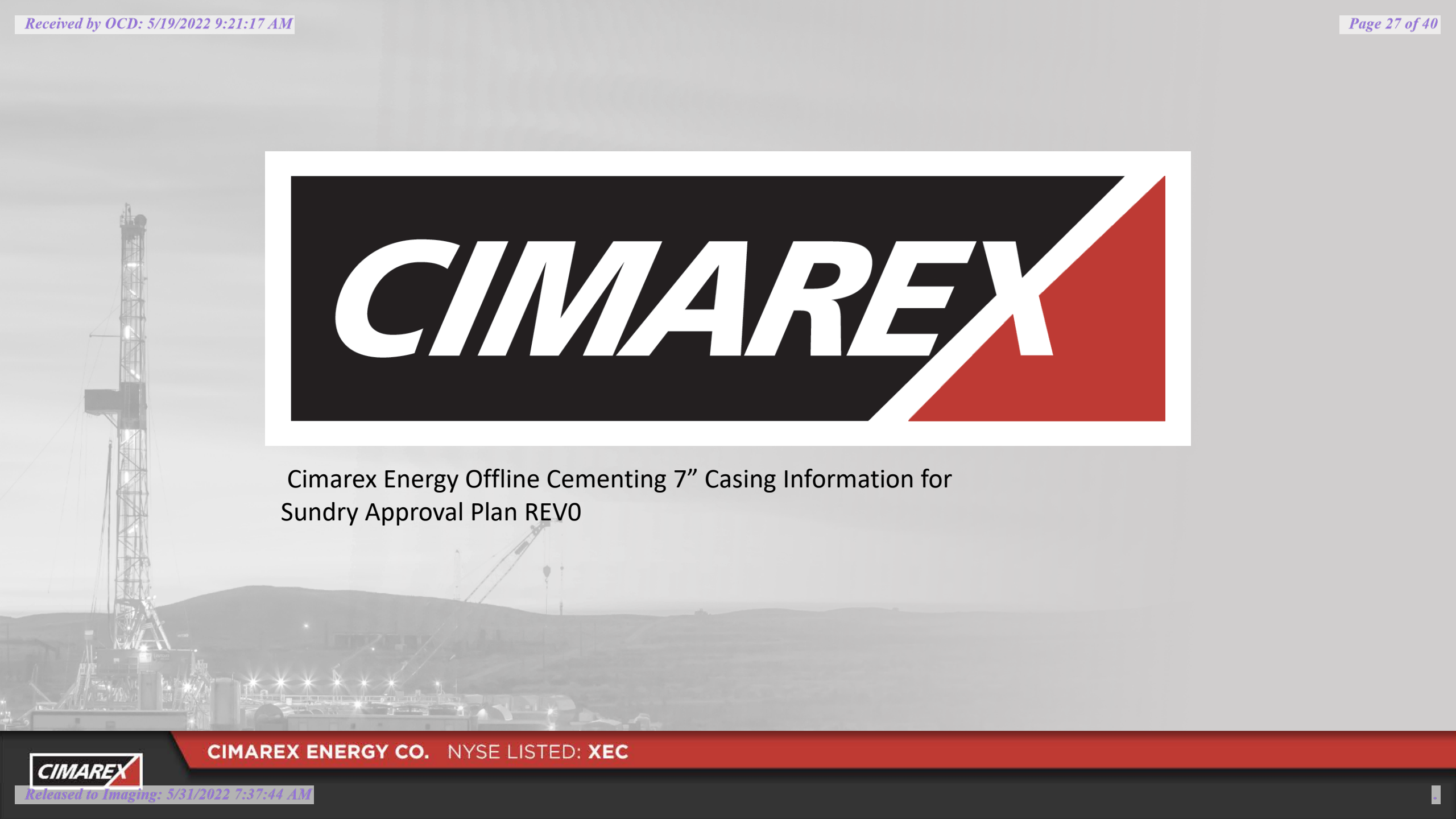
Exhibit E-1 – 5000# BOP
Dos Equis 11-14 Fed Com 24H
Cimarex Energy Co.
11-24S-32E
Lea Co., NM



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	10149	10149	7"	29.00	L-80	LT&C	1.48	1.72	1.89
8 3/4	10149	11049	10700	7"	29.00	P-110	BT&C	1.70	2.24	58.14
6	9149	20399	10700	4-1/2"	11.60	P-110	BT&C	1.51	2.14	20.40
BLM Minimum Safety Factor								1.125	1	1.6 Dry 1.8 Wet

CACTUS FOR SERVICE
WEARBUSHING
IN CASING HEAD &
CASING SPOOL





CIMAREX

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



CIMAREX ENERGY CO. NYSE LISTED: XEC

Cementing Operational Workflow

Conventional Cementing

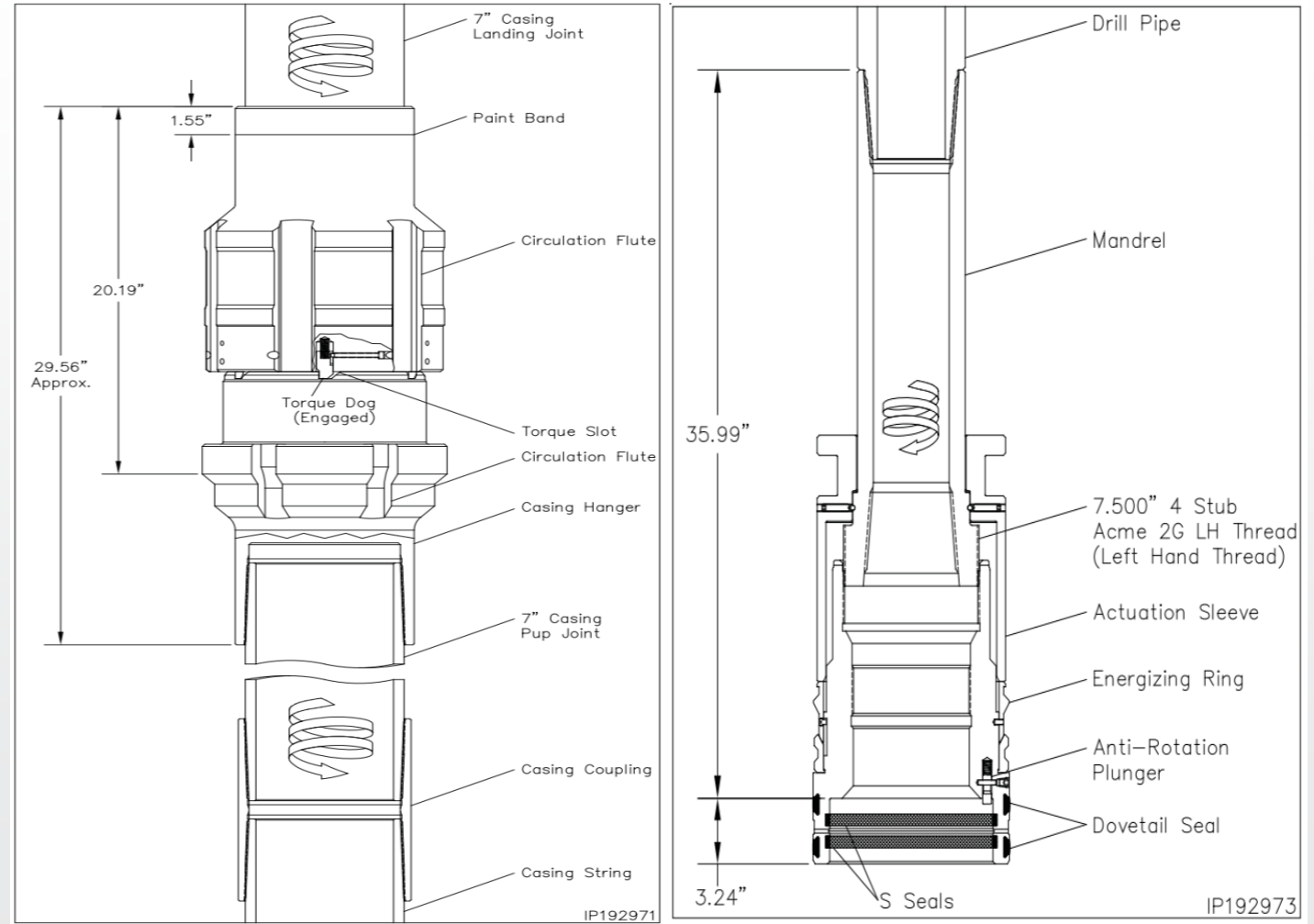
1. Land casing on fluted mandrel hanger
2. Circulate down casing, taking returns through BOP stack
3. Pump lead and tail cement
4. Displace cement and bump the plug
5. Ensure floats are holding pressure
6. RD cement crew
7. Install packoff to isolate pressure
8. Install BPV and skid rig

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

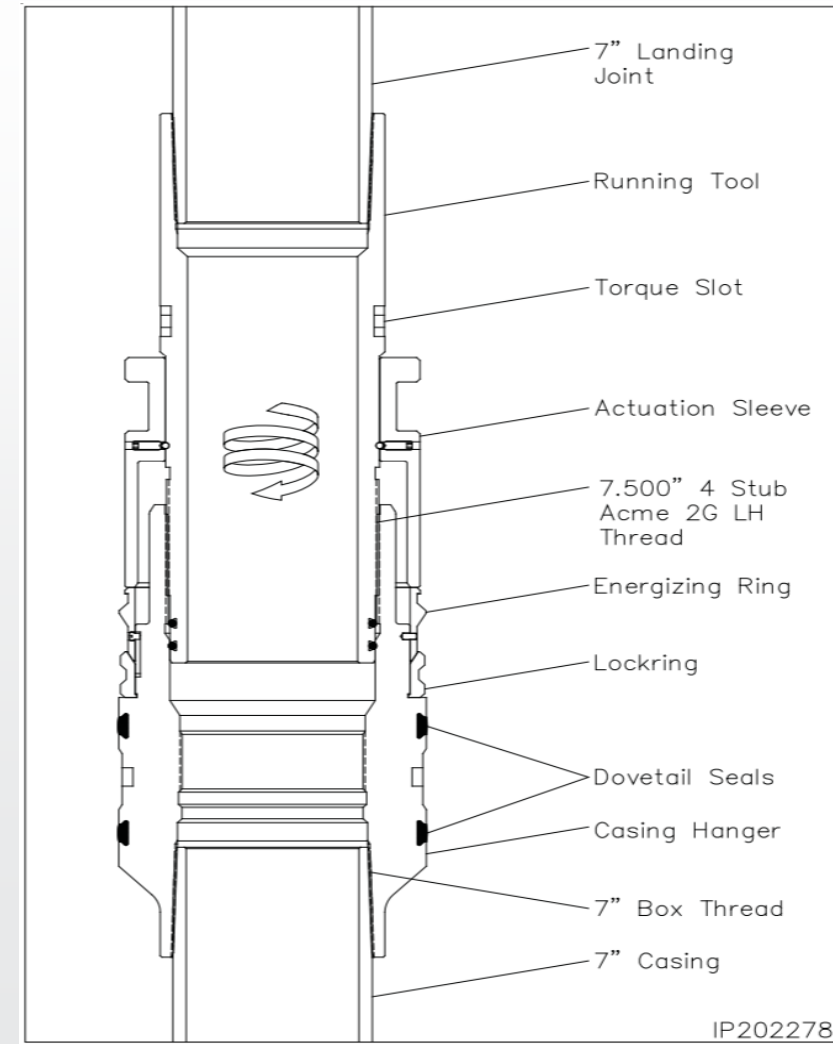
Conventional Cementing Equipment-Fluted Mandrel

- 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

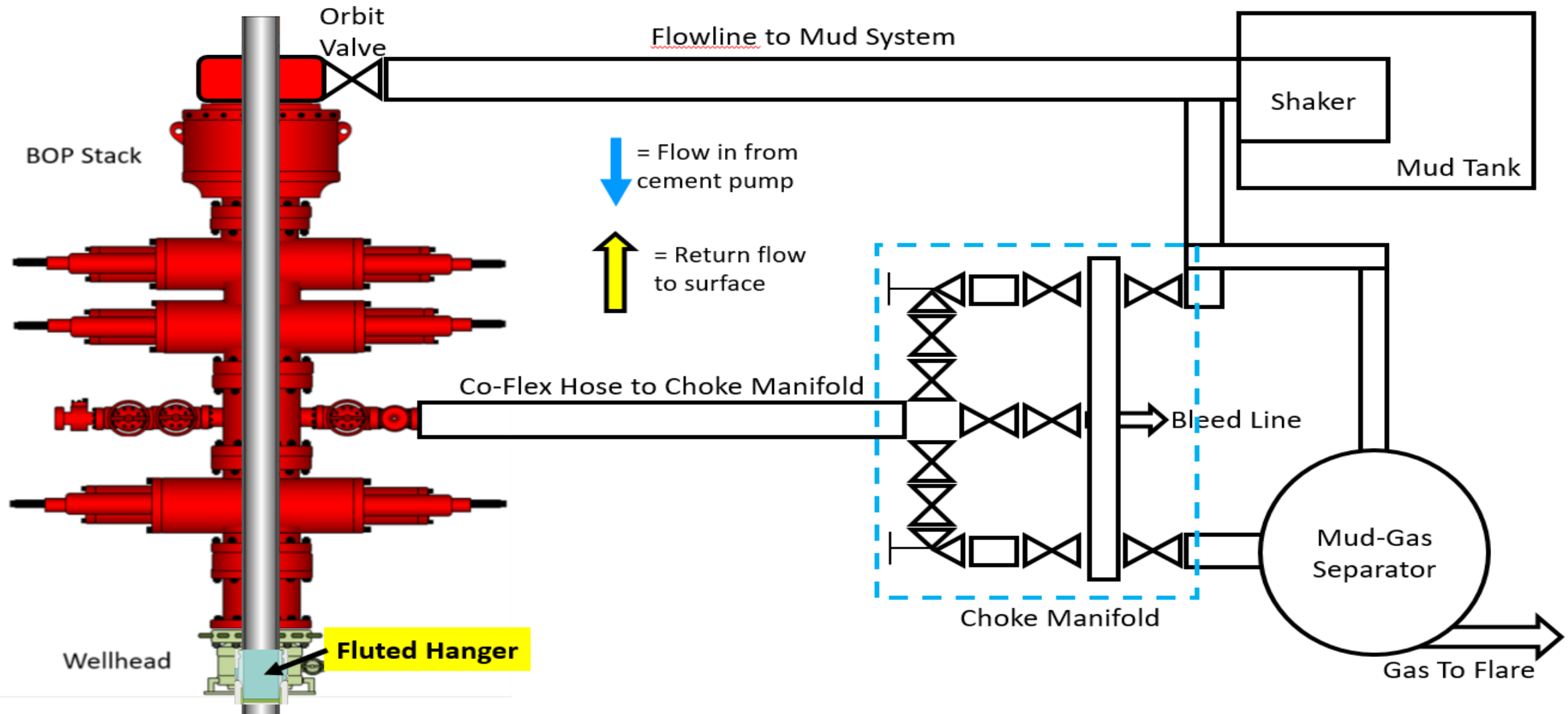


Offline Cementing Equipment-Solid Body Mandrel Hanger

- 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



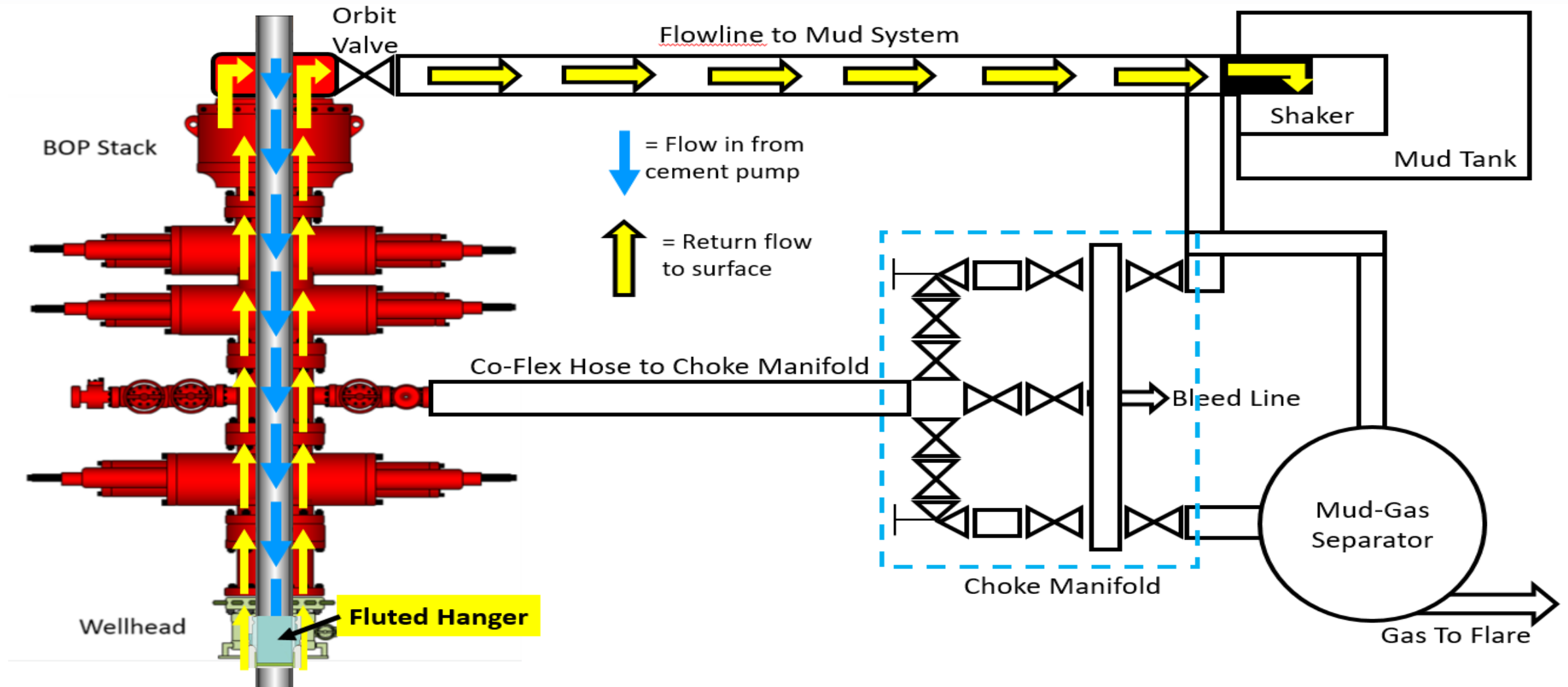
Conventional Cementing Flow Diagram



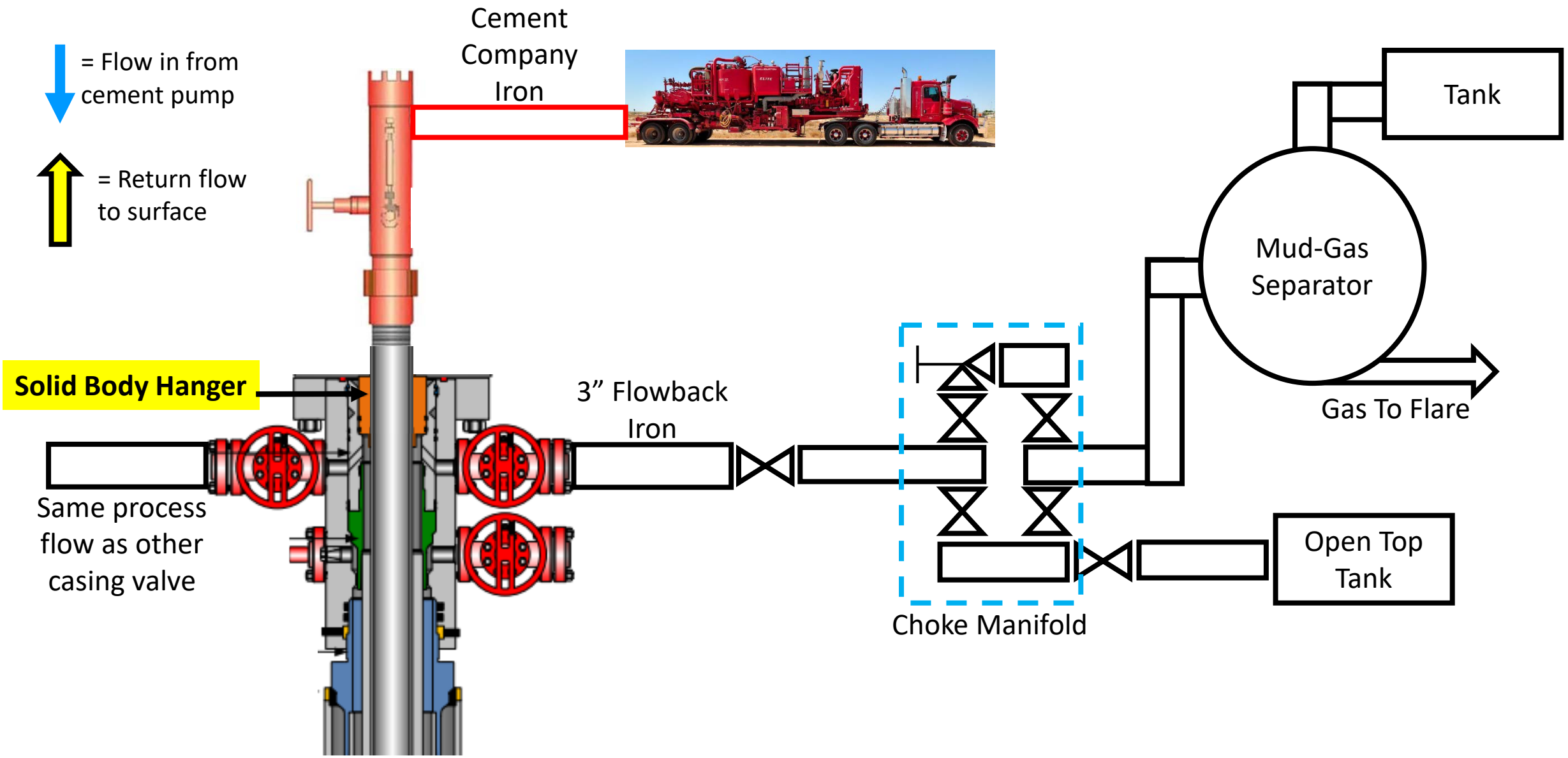
CIMAREX ENERGY CO. NYSE LISTED: XEC



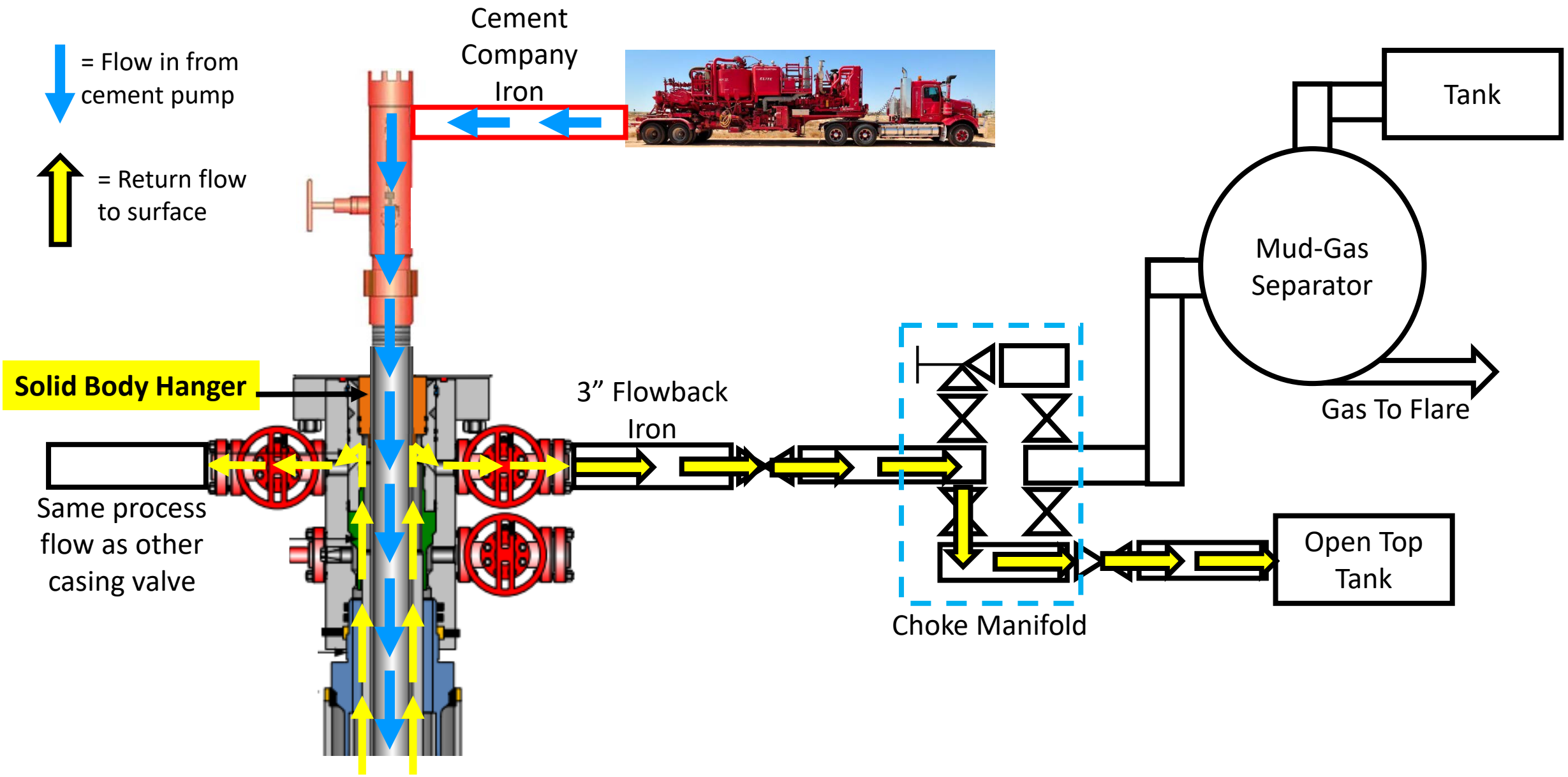
Conventional Cementing Flow Diagram



Offline Cementing -- Intermediate Casing

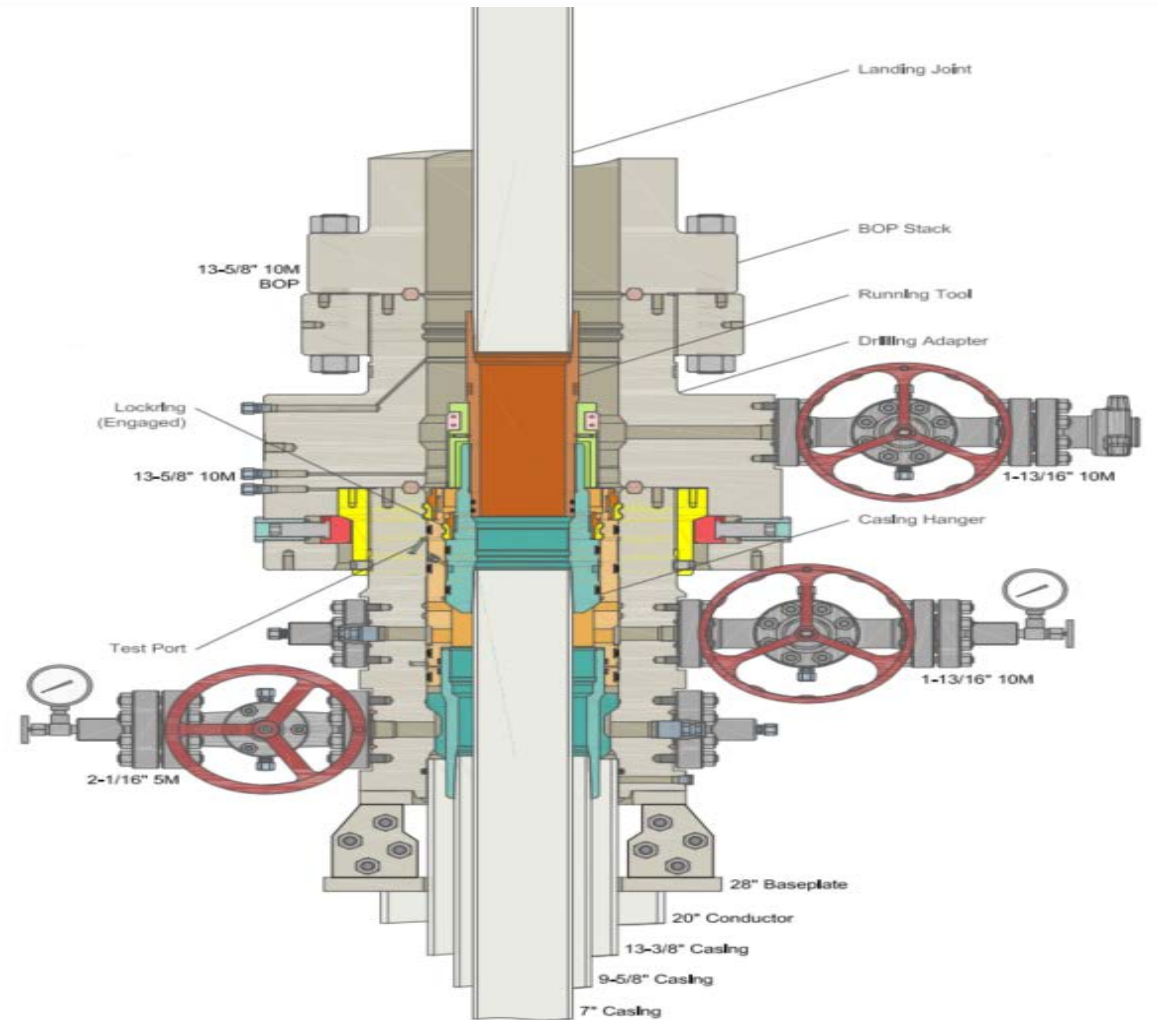


Offline Cementing -- Intermediate Casing



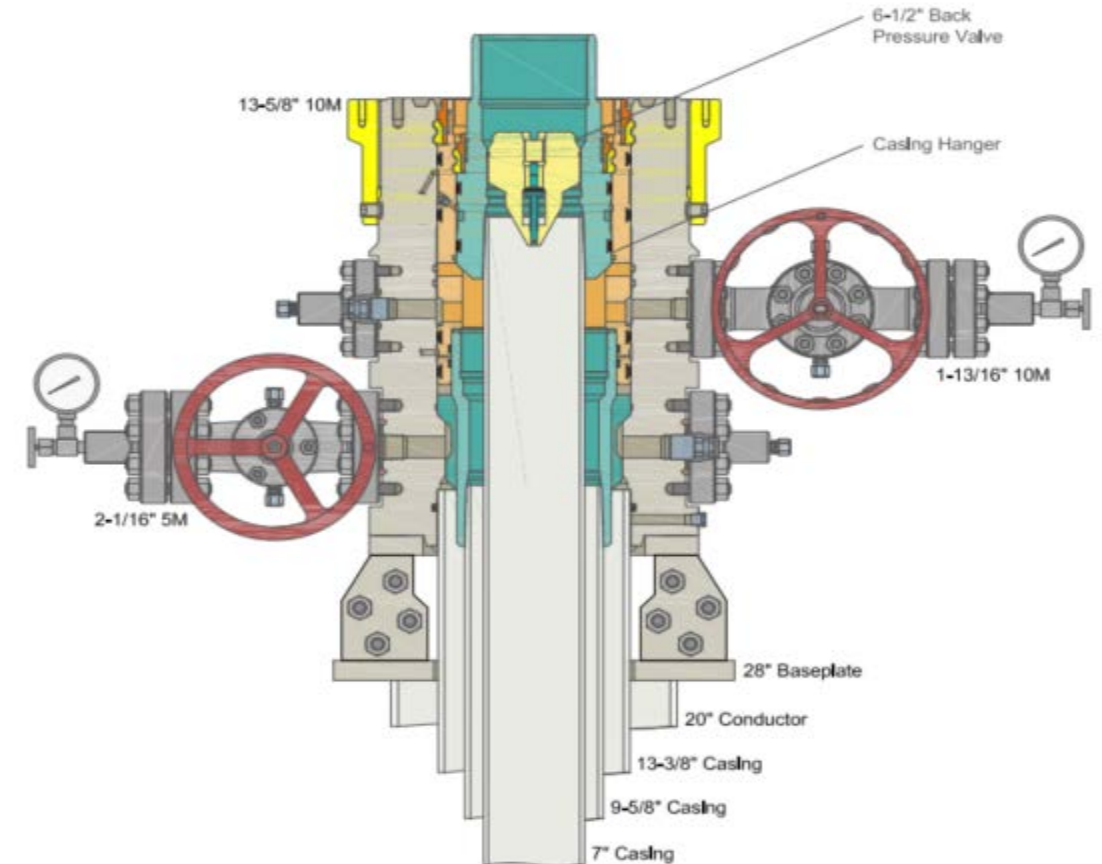
Offline Cementing Progression

- 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 WILL NOT set solid body packoff.**
 - 10K float collar-Internal Barrier
 - 10k float Shoe-Internal Barrier
 - **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**



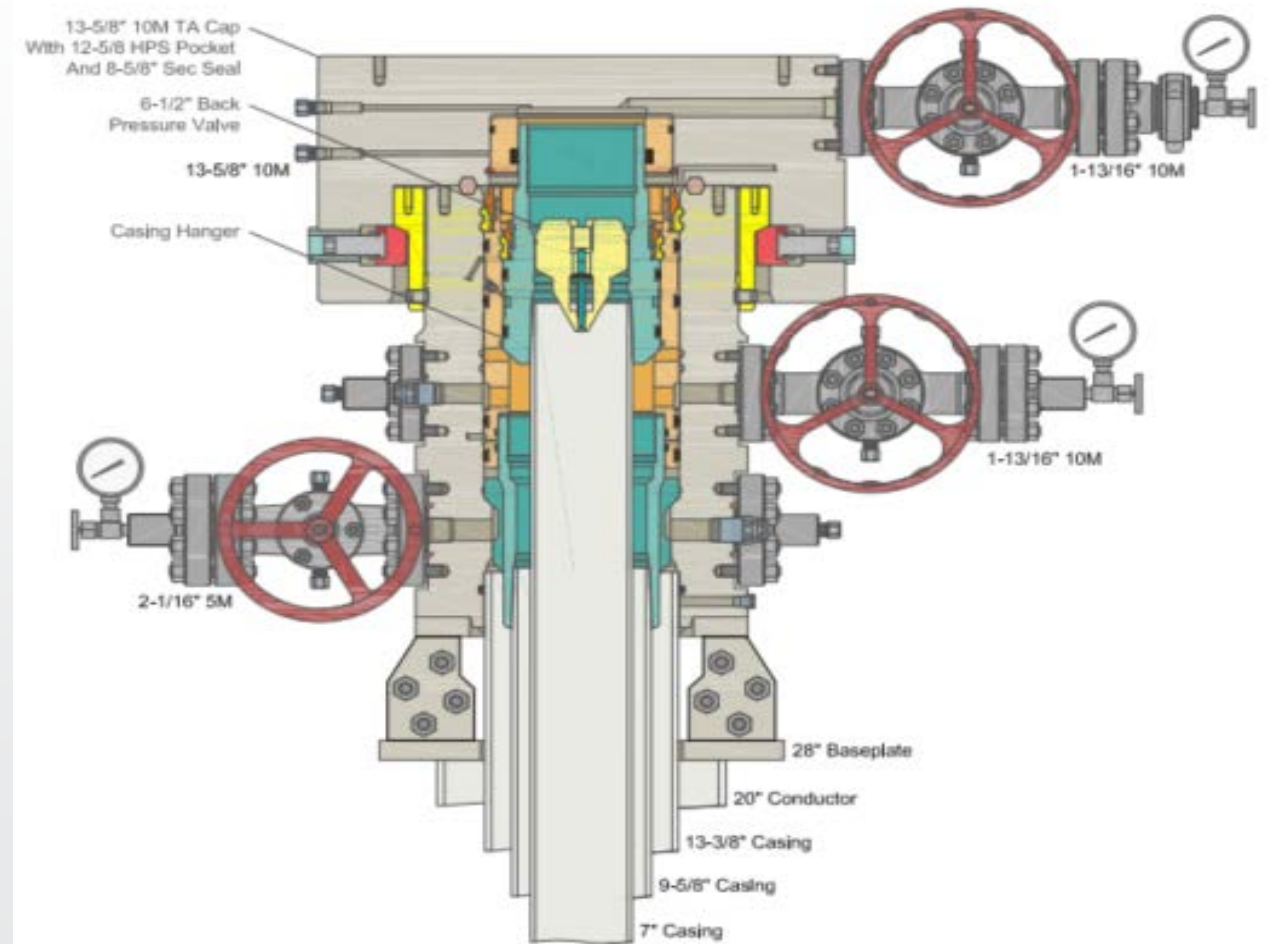
Offline Cementing Progression

- 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



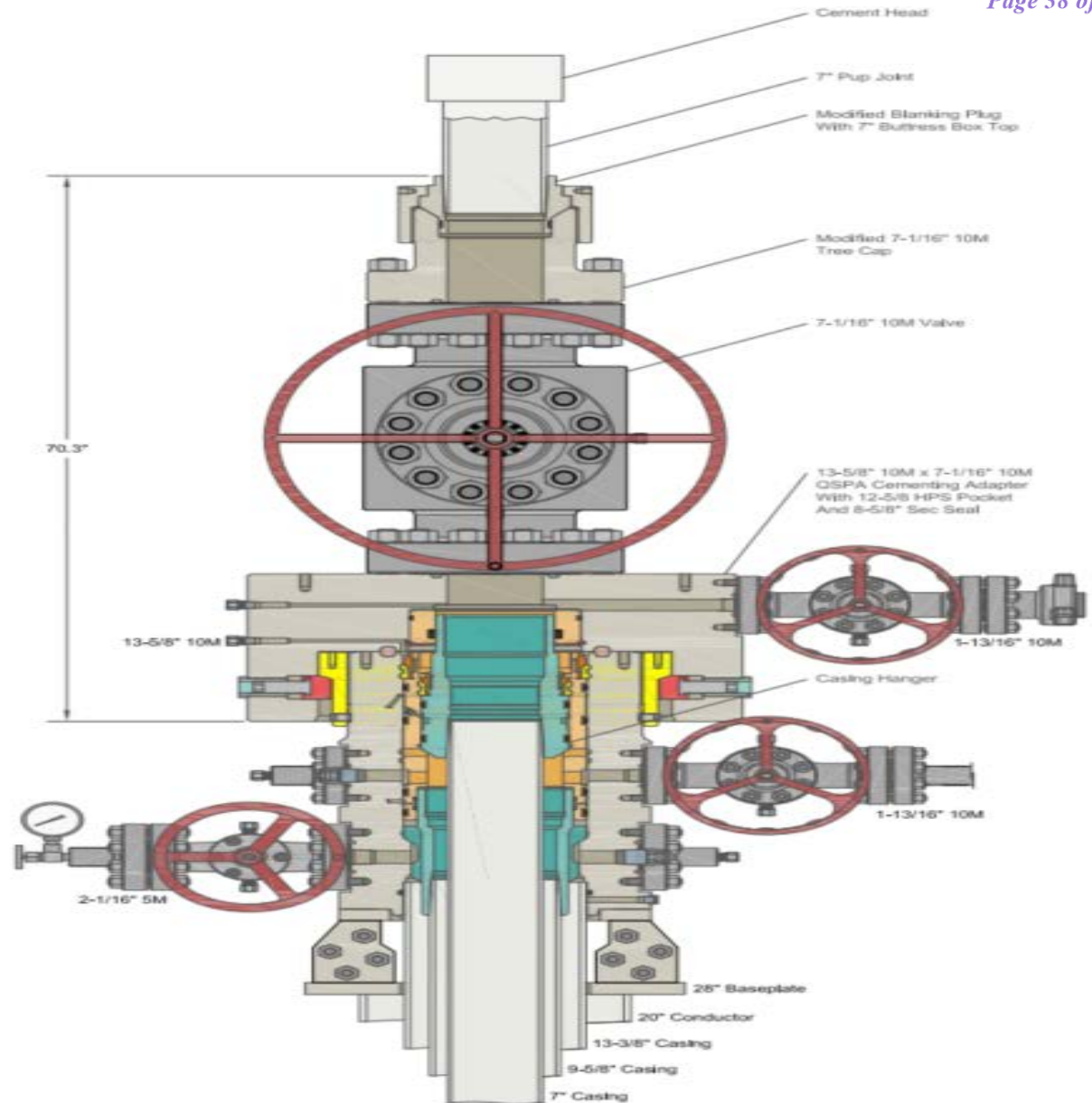
Offline Cementing Progression

- 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 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

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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 108576

CONDITIONS

Operator: CIMAREX ENERGY CO. 600 N. Marienfeld Street Midland, TX 79701	OGRID: 215099
	Action Number: 108576
	Action Type: [C-103] NOI Change of Plans (C-103A)

CONDITIONS

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