

Well Name: DOS EQUIS 11-14 FEDERAL COM	Well Location: T24S / R32E / SEC 11 / NWNW / 32.238109 / -103.652759	County or Parish/State: LEA / NM
Well Number: 5H	Type of Well: OIL WELL	Allottee or Tribe Name:
Lease Number: NMNM01917	Unit or CA Name:	Unit or CA Number:
US Well Number: 3002545414	Well Status: Approved Application for Permit to Drill	Operator: CIMAREX ENERGY COMPANY

Notice of Intent

Sundry ID: 2648736

Type of Submission: Notice of Intent	Type of Action: Other
Date Sundry Submitted: 12/14/2021	Time Sundry Submitted: 01:40
Date proposed operation will begin: 01/15/2021	

Procedure Description: Cimarex Respectfully requests to change the BHL of this well to: 100' FSL & 2637' FWL of section 14 24S 32E. Cimarex also requests changes to the drilling plan 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 5H 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 5H 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 5H 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

Offline_Cement_Procedure_20211214134012.pdf

Received by OCD: 6/16/2022 11:45:02 AM

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Directional_Dos_Equis_11_4_Fed_Com_5H_20211214133424.pdf

Dos_Equis_11_14_Fed_Com_5H_Multibowl_20211214133236.pdf

BOPs_and_Chokes_Dos_Equis_11_14_Fed_Com_5H__1__20211214133226.pdf

Drilling_Plan_Dos_Equis_11_14_Fed_Com_5H_20211214124447.pdf

C102_Dos_Equis_11_14_Fed_Com_5H_20211214124434.pdf

Conditions of Approval

Additional Reviews

Dos_Equis_11_14_Fed_Com_5H_COA_20220201082002.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 14, 2021 01:40 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

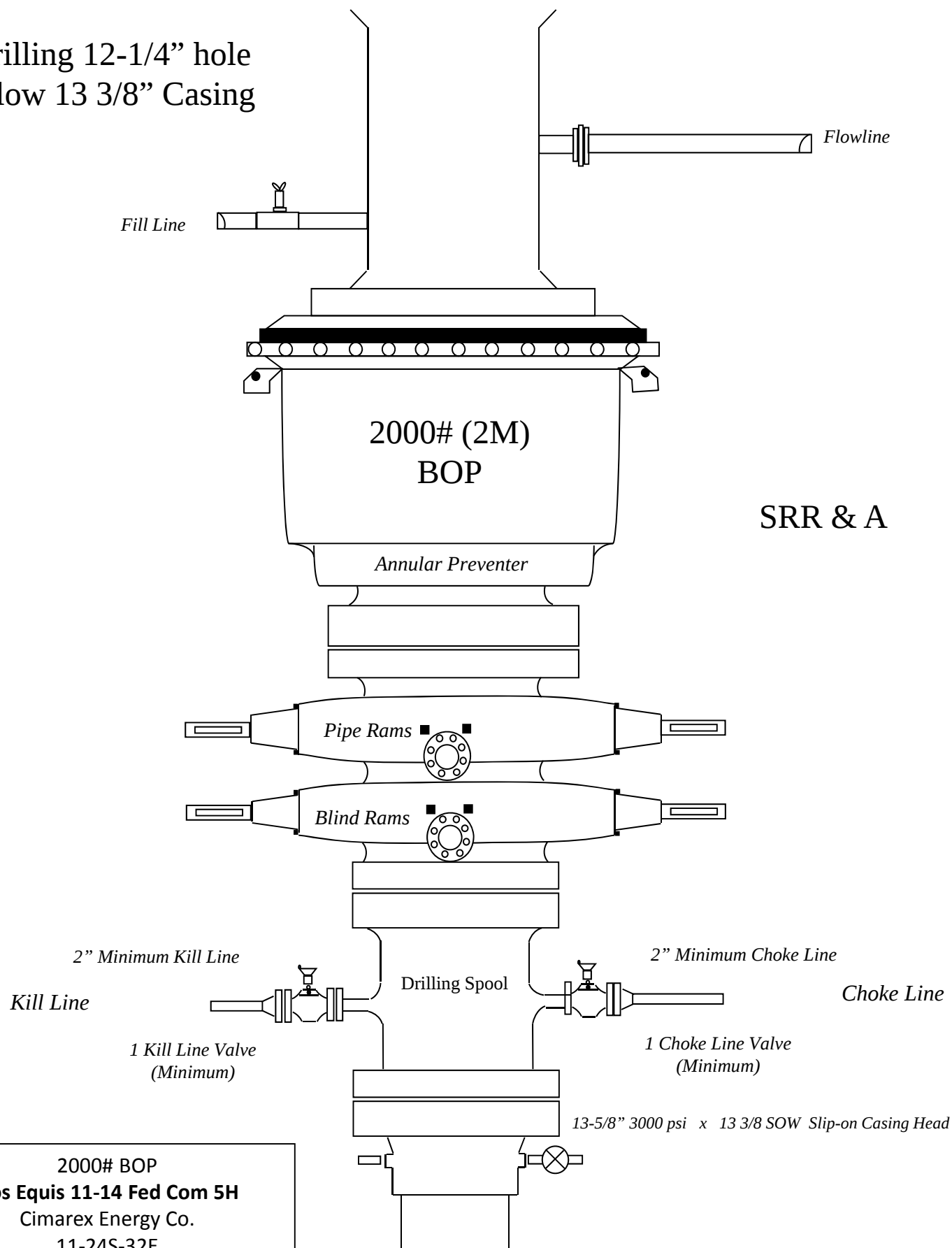
Disposition: Approved

Disposition Date: 02/28/2022

Signature: Chris Walls

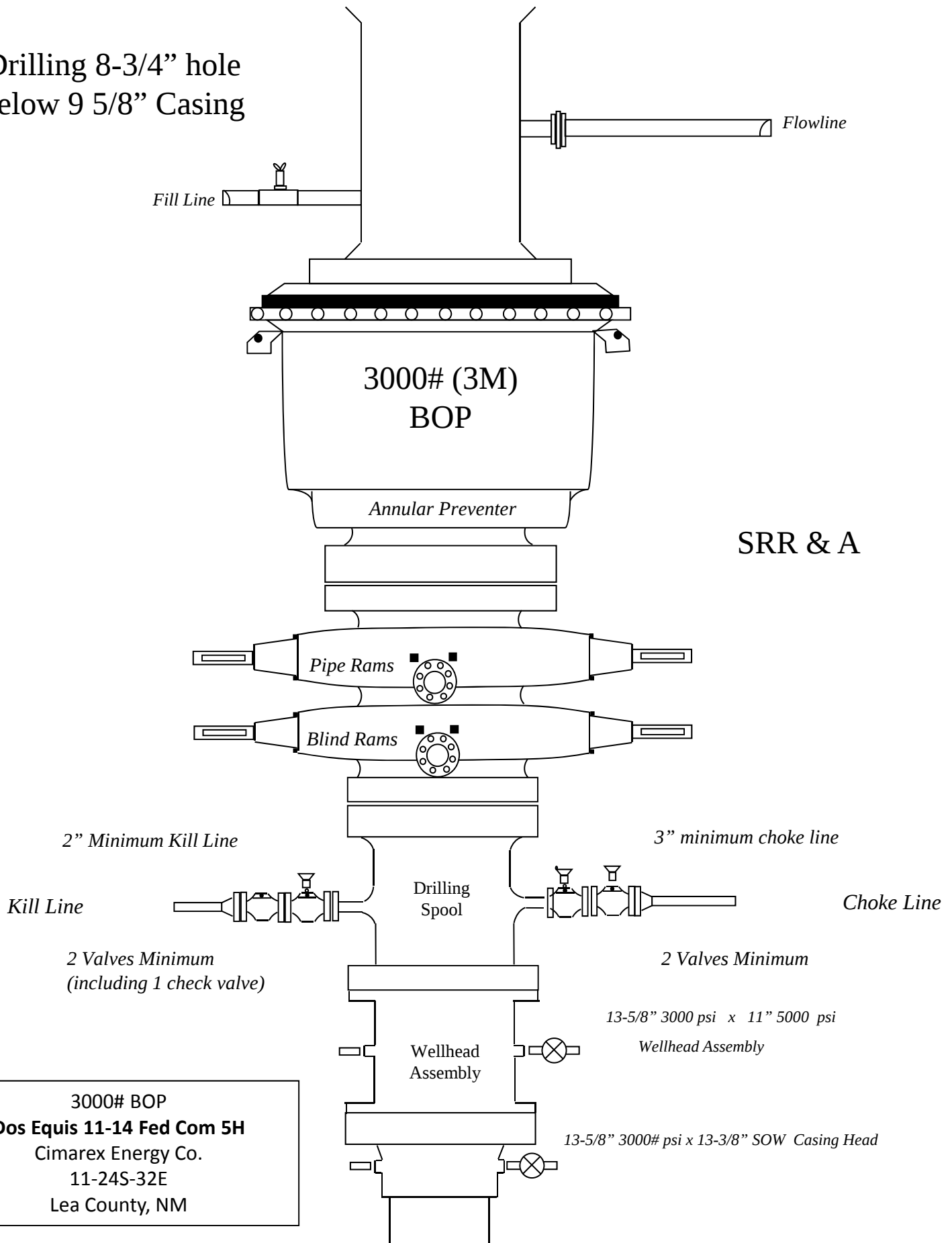
☒ AMENDED REPORT

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

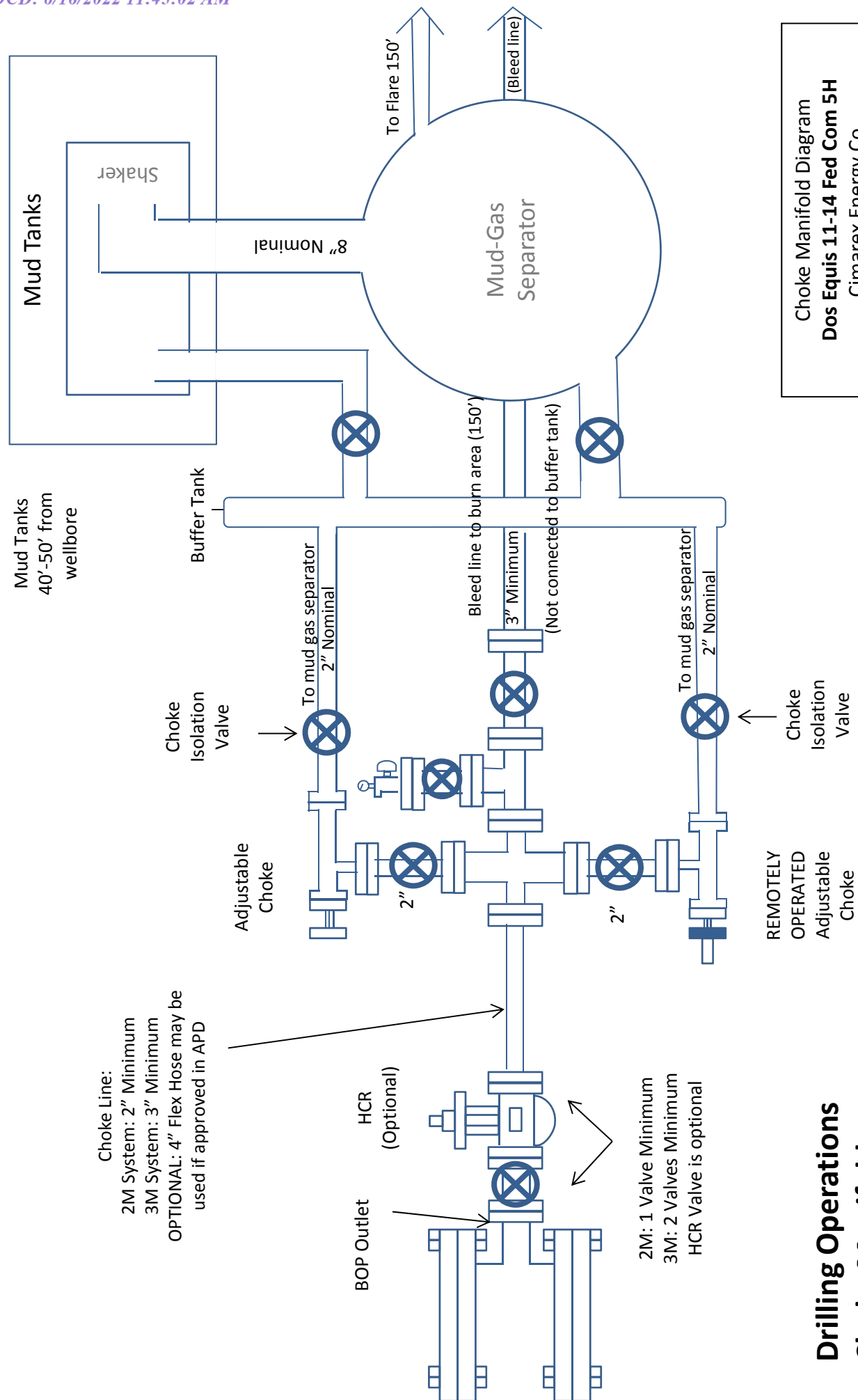


2000# BOP
Dos Equis 11-14 Fed Com 5H
Cimarex Energy Co.
11-24S-32E
Lea County, NM

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



3000# BOP
Dos Equis 11-14 Fed Com 5H
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

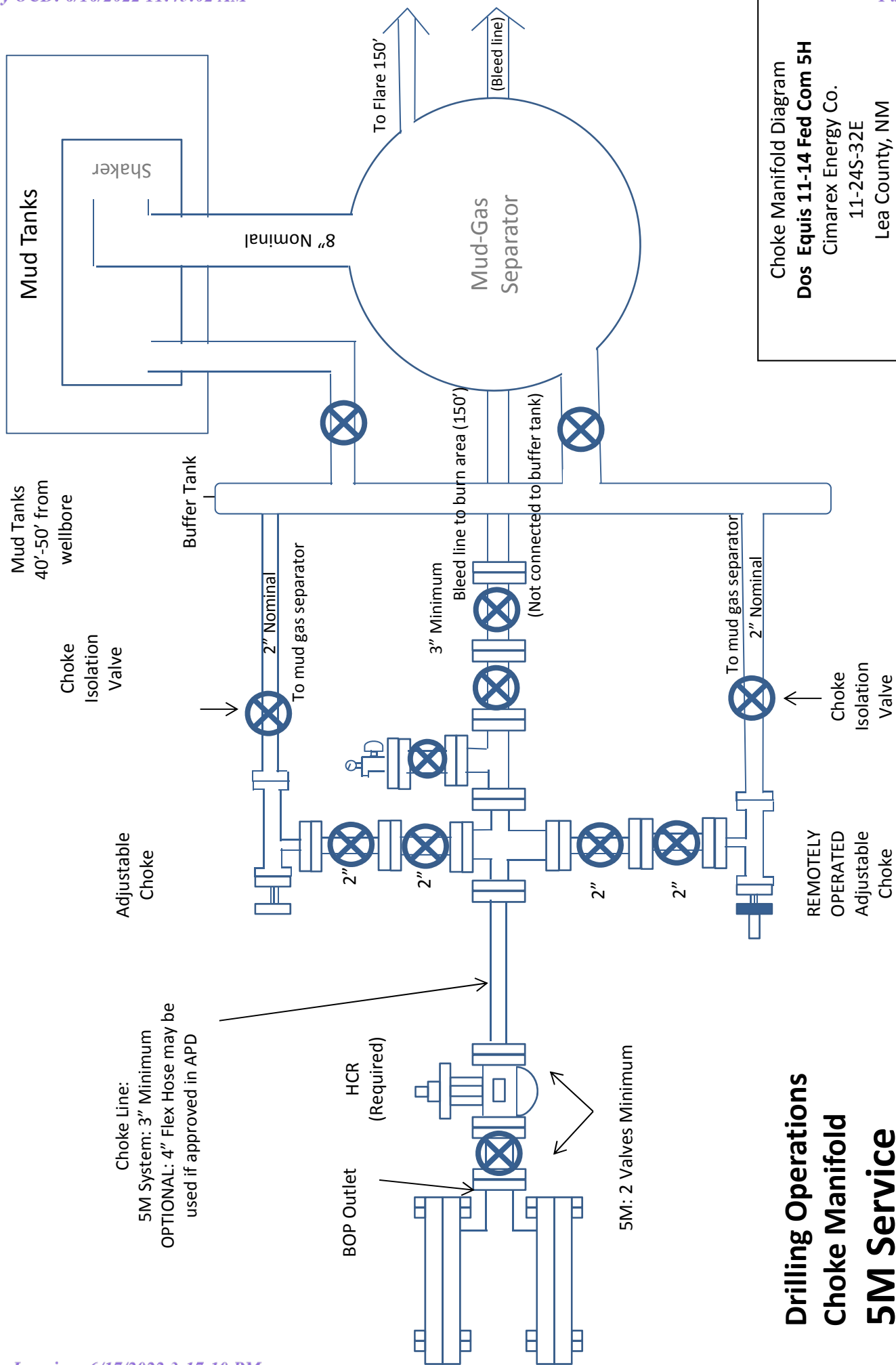
11" 5000 psi x 7-1/16" 10,000 psi
Wellhead Assembly

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 5H
Cimarex Energy Co.
11-24S-32E
Lea Co., NM





Cimarex Dos Equis 11-14 Federal Com 5H Rev3 IC 03Dec21 Proposal Geodetic Report (Def Plan)



Report Date:	December 03, 2021 - 12:41 PM	Survey / DLS Computation:	Minimum Curvature / Lubinski
Client:	Cimarex	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 5H / Cimarex Dos Equis 11-14 Federal Com 5H	TVD Reference Datum:	RKB=22ft (Unit 411)
Well:	Cimarex Dos Equis 11-14 Federal Com 5H	TVD Reference Elevation:	3639.700 ft above MSL
Borehole:	Original Borehole	Seabed / Ground Elevation:	3617.700 ft above MSL
UWI / API#:	Unknown / Unknown	Magnetic Declination:	6.389 °
Survey Name:	Cimarex Dos Equis 11-14 Federal Com 5H Rev3 IC 03Dec21	Total Gravity Field Strength:	998.4359mgn (9.80665 Based)
Survey Date:	August 28, 2019	Gravity Model:	GARM
Tort / AHD / DDI / ERD Ratio:	107.405 ° / 10789.884 ft / 6.345 / 1.008	Total Magnetic Field Strength:	47642.735 nT
Coordinate Reference System:	NAD83 New Mexico State Plane, Eastern Zone, US Feet	Magnetic Dip Angle:	59.858 °
Location Lat / Long:	N 32° 14' 16.47066", W 103° 38' 53.68498"	Declination Date:	December 03, 2021
Location Grid N/E Y/X:	N 450960.230 ftUS, E 753158.450 ftUS	Magnetic Declination Model:	HDGM 2021
CRS Grid Convergence Angle:	0.3655 °	North Reference:	Grid North
Grid Scale Factor:	0.99996048	Grid Convergence Used:	0.3655 °
Version / Patch:	2.10.826.8	Total Corr Mag North->Grid North:	6.0236 °
		Local Coord Referenced To:	Structure Reference Point

Comments	MD (ft)	Incl (°)	Azim Grid (°)	TVD (ft)	VSEC (ft)	NS (ft)	EW (ft)	DLS (°/100ft)	Northing (ftUS)	Easting (ftUS)	Latitude (N/S ° ' ")	Longitude (E/W ° ' ")
SHL [545' FNL, 1766' FWL]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	N/A	450960.23	753158.45	N 32 14 16.47	W 103 38 53.68
	100.00	0.00	89.55	100.00	0.00	0.00	0.00	0.00	450960.23	753158.45	N 32 14 16.47	W 103 38 53.68
	200.00	0.00	89.55	200.00	0.00	0.00	0.00	0.00	450960.23	753158.45	N 32 14 16.47	W 103 38 53.68
	300.00	0.00	89.55	300.00	0.00	0.00	0.00	0.00	450960.23	753158.45	N 32 14 16.47	W 103 38 53.68
	400.00	0.00	89.55	400.00	0.00	0.00	0.00	0.00	450960.23	753158.45	N 32 14 16.47	W 103 38 53.68
	500.00	0.00	89.55	500.00	0.00	0.00	0.00	0.00	450960.23	753158.45	N 32 14 16.47	W 103 38 53.68
	600.00	0.00	89.55	600.00	0.00	0.00	0.00	0.00	450960.23	753158.45	N 32 14 16.47	W 103 38 53.68
	700.00	0.00	89.55	700.00	0.00	0.00	0.00	0.00	450960.23	753158.45	N 32 14 16.47	W 103 38 53.68
	800.00	0.00	89.55	800.00	0.00	0.00	0.00	0.00	450960.23	753158.45	N 32 14 16.47	W 103 38 53.68
	900.00	0.00	89.55	900.00	0.00	0.00	0.00	0.00	450960.23	753158.45	N 32 14 16.47	W 103 38 53.68
	1000.00	0.00	89.55	1000.00	0.00	0.00	0.00	0.00	450960.23	753158.45	N 32 14 16.47	W 103 38 53.68
	1100.00	0.00	89.55	1100.00	0.00	0.00	0.00	0.00	450960.23	753158.45	N 32 14 16.47	W 103 38 53.68
	1200.00	0.00	89.55	1200.00	0.00	0.00	0.00	0.00	450960.23	753158.45	N 32 14 16.47	W 103 38 53.68
	1300.00	0.00	89.55	1300.00	0.00	0.00	0.00	0.00	450960.23	753158.45	N 32 14 16.47	W 103 38 53.68
	1400.00	0.00	89.55	1400.00	0.00	0.00	0.00	0.00	450960.23	753158.45	N 32 14 16.47	W 103 38 53.68
	1500.00	0.00	89.55	1500.00	0.00	0.00	0.00	0.00	450960.23	753158.45	N 32 14 16.47	W 103 38 53.68
	1600.00	0.00	89.55	1600.00	0.00	0.00	0.00	0.00	450960.23	753158.45	N 32 14 16.47	W 103 38 53.68
	1700.00	0.00	89.55	1700.00	0.00	0.00	0.00	0.00	450960.23	753158.45	N 32 14 16.47	W 103 38 53.68
	1800.00	0.00	89.55	1800.00	0.00	0.00	0.00	0.00	450960.23	753158.45	N 32 14 16.47	W 103 38 53.68
	1900.00	0.00	89.55	1900.00	0.00	0.00	0.00	0.00	450960.23	753158.45	N 32 14 16.47	W 103 38 53.68
Nudge 2"/100' DLS	2000.00	0.00	89.55	2000.00	0.00	0.00	0.00	0.00	450960.23	753158.45	N 32 14 16.47	W 103 38 53.68
	2100.00	2.00	89.55	2099.98	0.00	0.01	1.75	2.00	450960.24	753160.20	N 32 14 16.47	W 103 38 53.66
	2200.00	4.00	89.55	2199.84	-0.01	0.05	6.98	2.00	450960.28	753165.43	N 32 14 16.47	W 103 38 53.60
	2300.00	6.00	89.55	2299.45	-0.03	0.12	15.69	2.00	450960.35	753174.14	N 32 14 16.47	W 103 38 53.50
	2400.00	8.00	89.55	2398.70	-0.05	0.22	27.88	2.00	450960.45	753186.33	N 32 14 16.47	W 103 38 53.36
Hold	2435.14	8.70	89.55	2433.47	-0.06	0.26	32.98	2.00	450960.49	753191.43	N 32 14 16.47	W 103 38 53.30
	2500.00	8.70	89.55	2497.58	-0.08	0.34	42.80	0.00	450960.57	753201.24	N 32 14 16.47	W 103 38 53.19
	2600.00	8.70	89.55	2596.43	-0.11	0.45	57.93	0.00	450960.68	753216.37	N 32 14 16.47	W 103 38 53.01
	2700.00	8.70	89.55	2695.28	-0.14	0.57	73.06	0.00	450960.80	753231.50	N 32 14 16.47	W 103 38 52.83
	2800.00	8.70	89.55	2794.13	-0.16	0.69	88.19	0.00	450960.92	753246.63	N 32 14 16.47	W 103 38 52.66
	2900.00	8.70	89.55	2892.98	-0.19	0.81	103.32	0.00	450961.04	753261.76	N 32 14 16.47	W 103 38 52.48
	3000.00	8.70	89.55	2991.83	-0.22	0.93	118.45	0.00	450961.16	753276.89	N 32 14 16.47	W 103 38 52.31
	3100.00	8.70	89.55	3090.67	-0.25	1.05	133.58	0.00	450961.28	753292.02	N 32 14 16.47	W 103 38 52.13
	3200.00	8.70	89.55	3189.52	-0.28	1.17	148.71	0.00	450961.40	753307.15	N 32 14 16.47	W 103 38 51.95
	3300.00	8.70	89.55	3288.37	-0.31	1.29	163.84	0.00	450961.52	753322.28	N 32 14 16.47	W 103 38 51.78
	3400.00	8.70	89.55	3387.22	-0.33	1.41	178.97	0.00	450961.64	753337.41	N 32 14 16.47	W 103 38 51.60
	3500.00	8.70	89.55	3486.07	-0.36	1.52	194.10	0.00	450961.75	753352.54	N 32 14 16.47	W 103 38 51.43
	3600.00	8.70	89.55	3584.92	-0.39	1.64	209.23	0.00	450961.87	753367.67	N 32 14 16.47	W 103 38 51.25
	3700.00	8.70	89.55	3683.77	-0.42	1.76	224.36	0.00	450961.99	753382.80	N 32 14 16.47	W 103 38 51.07
	3800.00	8.70	89.55	3782.61	-0.45	1.88	239.49	0.00	450962.11	753397.93	N 32 14 16.47	W 103 38 50.90
	3900.00	8.70	89.55	3881.46	-0.48	2.00	254.62	0.00	450962.23	753413.06	N 32 14 16.47	W 103 38 50.72
	4000.00	8.70	89.55	3980.31	-0.50	2.12	269.75	0.00	450962.35	753428.19	N 32 14 16.47	W 103 38 50.54
	4100.00	8.70	89.55	4079.16	-0.53	2.24	284.88	0.00	450962.47	753443.32	N 32 14 16.47	W 103 38 50.37
	4200.00	8.70	89.55	4178.01	-0.56	2.36	300.01	0.00	450962.59	753458.45	N 32 14 16.48	W 103 38 50.19
	4300.00	8.70	89.55	4276.86	-0.59	2.47	315.14	0.00	450962.70	753473.58	N 32 14 16.48	W 103 38 50.02
	4400.00	8.70	89.55	4375.71	-0.62	2.59	330.27	0.00	450962.82	753488.71	N 32 14 16.48	W 103 38 49.84
	4500.00	8.70	89.55	4474.56	-0.64	2.71	345.40	0.00	450962.94	753503.84	N 32 14 16.48	W 103 38 49.66
	4600.00	8.70	89.55	4573.40	-0.67	2.83	360.53	0.00	450963.06	753518.97	N 32 14 16.48	W 103 38 49.49
	4700.00	8.70	89.55	4672.25	-0.70	2.95	375.66	0.00	450963.18	753534.10	N 32 14 16.48	W 103 38 49.31
	4800.00	8.70	89.55	4771.10	-0.73	3.07	390.79	0.00	450963.30	753549.23	N 32 14 16.48	W 103 38 49.14
	4900.00	8.70	89.55	4869.95	-0.76	3.19	405.92	0.00	450963.42	753564.36	N 32 14 16.48	W 103 38 48.96
	5000.00	8.70	89.55	4968.80	-0.79	3.31	421.05	0.00	450963.54	753579.49	N 32 14 16.48	W 103 38 48.78
	5100.00	8.70	89.55	5067.65	-0.81	3.43	436.18	0.00	450963.65	753594.62	N 32 14 16.48	W 103 38 48.61
	5200.00	8.70	89.55	5166.50	-0.84	3.54	451.32	0.00	450963.77	753609.75	N 32 14 16.48	W 103 38 48.43
	5300.00	8.70	89.55	5265.34	-0.87	3.66	466.45	0.00	450963.89	753624.88	N 32 14 16.48	W 103 38 48.25
	5400.00	8.70	89.55	5364.19	-0.90	3.78	481.58	0.00	450964.01	753640.01	N 32 14 16.48	W 103 38 48.08
	5500.00	8.70	89.55	5463.04	-0.93	3.90	496.71	0.00	450964.13	753655.14	N 32 14 16.48	W 103 38 47.90
	5600.00	8.70	89.55	5561.89	-0.95	4.02	511.84	0.00	450964.25	753670.27	N 32 14 16.48	W 103 38 47.73
	5700.00	8.70	89.55	5660.74	-0.98	4.14	526.97	0.00	450964.37	753685.39	N 32 14 16.48	W 103 38 47.55
	5800.00	8.70	89.55	5759.59	-1.01	4.26	542.10	0.00	450964.49	753700.52	N 32 14 16.48	W 103 38 47.37
	5900.00	8.70	89.55	5858.44	-1.04	4.38	557.23	0.00	450964.61	753715.65	N 32 14 16.48	W 103 38 47.20
	6000.00	8.70	89.55	5957.29	-1.07	4.49	572.36	0.00	450964.72	753730.78	N 32 14 16.48	W 103 38 47.02
	6100.00	8.70	89.55	6056.13	-1.10	4.61	587.49	0.00	450964.84	753745.91	N 32 14 16.48	W 103 38 46.84
	6200.00	8.70	89.55	6154.98	-1.12	4.73	602.62	0.00	450964.96	753761.04	N 32 14 16.48	W 103 38 46.67
	6300.00	8.70	89.55	6253.83	-1.15	4.85	617.75	0.00	450965.08	753776.17	N 32 14 16.48	W 103 38 46.49
6400.00	8.70	89.55	6352.68	-1.18	4.97	632.88	0.00	450965.20	753791.30	N 32 14 16.48	W 103 38 46.32	
6500.00	8.70	89.55	6451.53	-1.21	5.09	648.01	0.00	450965.32	753806.43	N 32 14 16.48	W 103 38 46.14	
6600.00	8.70	89.55	6550.38	-1.24	5.21	663.14	0.00	450965.44	753821.56	N 32 14 16.48	W 103 38 45.96	
6700.00	8.70	89.55	6649.23	-1.27	5.33	678.27	0.00	450965.56	753836.69	N 32 14 16.48	W 103 38 45.79	
6800.00	8.70	89.55	6748.07	-1.29	5.44	693.40	0.00	450965.67	753851.82	N 32 14 16.48	W 103 38 45.61	
6900.00	8.70	89.55	6846.92	-1.32	5.56	708.53	0.00	450965.79	753866.95	N 32 14 16.48	W 103 38 45.44	
7000.00	8.70	89.55	6945.77	-1.35	5.68	723.66	0.00	450965.91	753882.08	N 32 14 16.48	W 103 38 45.26	
7100.00	8.70	89.55	7044.62	-1.38	5.80	738.79	0.00	450966.03	753897.21	N 32 14 16.48	W 103 38 45.08	
7200.00	8.70	89.55	7143.47	-1.41	5.92	753.92	0.00	450966.15	753912.34	N 32 14 16.48	W 103 38 44.91	
7300.00	8.70	89.55	7242.32	-1.43	6.04	769.05	0.00	450966.27	753927.47	N 32 14 16.48	W 103 38 44.74	

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	7400.00	8.70	89.55	7341.17	-1.46	6.16	784.18	0.00	450966.39	753942.60	N 32 14 16.48	W 103 38 44.55
	7500.00	8.70	89.55	7440.02	-1.49	6.28	799.31	0.00	450966.51	753957.73	N 32 14 16.48	W 103 38 44.38
	7600.00	8.70	89.55	7538.86	-1.52	6.40	814.44	0.00	450966.63	753972.86	N 32 14 16.48	W 103 38 44.20
	7700.00	8.70	89.55	7637.71	-1.55	6.51	829.57	0.00	450966.74	753987.99	N 32 14 16.48	W 103 38 44.03
	7756.51	8.70	89.55	7693.57	-1.56	6.58	838.12	0.00	450966.81	753996.54	N 32 14 16.48	W 103 38 43.93
	7800.00	7.83	89.55	7736.61	-1.58	6.63	844.38	2.00	450966.86	754002.79	N 32 14 16.48	W 103 38 43.85
	7900.00	5.83	89.55	7835.89	-1.60	6.72	856.27	2.00	450966.95	754014.69	N 32 14 16.48	W 103 38 43.72
	8000.00	3.83	89.55	7935.53	-1.61	6.79	864.70	2.00	450967.02	754023.11	N 32 14 16.48	W 103 38 43.62
	8100.00	1.83	89.55	8035.41	-1.62	6.83	869.64	2.00	450967.06	754028.05	N 32 14 16.48	W 103 38 43.56
	8191.65	0.00	89.55	8127.04	-1.63	6.84	871.11	2.00	450967.07	754029.52	N 32 14 16.48	W 103 38 43.54
Hold	8200.00	0.00	89.55	8135.39	-1.63	6.84	871.11	0.00	450967.07	754029.52	N 32 14 16.48	W 103 38 43.54
	8300.00	0.00	89.55	8235.39	-1.63	6.84	871.11	0.00	450967.07	754029.52	N 32 14 16.48	W 103 38 43.54
	8400.00	0.00	89.55	8335.39	-1.63	6.84	871.11	0.00	450967.07	754029.52	N 32 14 16.48	W 103 38 43.54
	8500.00	0.00	89.55	8435.39	-1.63	6.84	871.11	0.00	450967.07	754029.52	N 32 14 16.48	W 103 38 43.54
	8600.00	0.00	89.55	8535.39	-1.63	6.84	871.11	0.00	450967.07	754029.52	N 32 14 16.48	W 103 38 43.54
	8700.00	0.00	89.55	8635.39	-1.63	6.84	871.11	0.00	450967.07	754029.52	N 32 14 16.48	W 103 38 43.54
	8800.00	0.00	89.55	8735.39	-1.63	6.84	871.11	0.00	450967.07	754029.52	N 32 14 16.48	W 103 38 43.54
	8900.00	0.00	89.55	8835.39	-1.63	6.84	871.11	0.00	450967.07	754029.52	N 32 14 16.48	W 103 38 43.54
	9000.00	0.00	89.55	8935.39	-1.63	6.84	871.11	0.00	450967.07	754029.52	N 32 14 16.48	W 103 38 43.54
	9100.00	0.00	89.55	9035.39	-1.63	6.84	871.11	0.00	450967.07	754029.52	N 32 14 16.48	W 103 38 43.54
KOP, Build 10" DLS	9200.00	0.00	89.55	9135.39	-1.63	6.84	871.11	0.00	450967.07	754029.52	N 32 14 16.48	W 103 38 43.54
	9300.00	0.00	89.55	9235.39	-1.63	6.84	871.11	0.00	450967.07	754029.52	N 32 14 16.48	W 103 38 43.54
	9400.00	0.00	89.55	9335.39	-1.63	6.84	871.11	0.00	450967.07	754029.52	N 32 14 16.48	W 103 38 43.54
	9500.00	0.00	89.55	9435.39	-1.63	6.84	871.11	0.00	450967.07	754029.52	N 32 14 16.48	W 103 38 43.54
	9600.00	0.00	89.55	9535.39	-1.63	6.84	871.11	0.00	450967.07	754029.52	N 32 14 16.48	W 103 38 43.54
	9700.00	0.00	89.55	9635.39	-1.63	6.84	871.11	0.00	450967.07	754029.52	N 32 14 16.48	W 103 38 43.54
	9800.00	0.00	89.55	9735.39	-1.63	6.84	871.11	0.00	450967.07	754029.52	N 32 14 16.48	W 103 38 43.54
	9900.00	0.00	89.55	9835.39	-1.63	6.84	871.11	0.00	450967.07	754029.52	N 32 14 16.48	W 103 38 43.54
	10000.00	0.00	89.55	9935.39	-1.63	6.84	871.11	0.00	450967.07	754029.52	N 32 14 16.48	W 103 38 43.54
	10100.00	0.00	89.55	10035.39	-1.63	6.84	871.11	0.00	450967.07	754029.52	N 32 14 16.48	W 103 38 43.54
Landing Point	10191.65	0.00	89.55	10127.04	-1.63	6.84	871.11	0.00	450967.07	754029.52	N 32 14 16.48	W 103 38 43.54
	10200.00	0.84	179.66	10135.39	-1.56	6.78	871.11	10.00	450967.01	754029.52	N 32 14 16.48	W 103 38 43.54
	10300.00	10.84	179.66	10234.75	8.59	-3.37	871.17	10.00	450956.86	754029.58	N 32 14 16.38	W 103 38 43.54
	10400.00	20.84	179.66	10330.83	35.84	-30.63	871.33	10.00	450929.61	754029.75	N 32 14 16.11	W 103 38 43.54
	10500.00	30.84	179.66	10420.72	79.36	-74.15	871.59	10.00	450886.09	754030.01	N 32 14 15.68	W 103 38 43.54
	10600.00	40.84	179.66	10501.69	137.84	-132.62	871.94	10.00	450827.62	754030.36	N 32 14 15.10	W 103 38 43.54
	10700.00	50.84	179.66	10571.27	209.48	-204.26	872.37	10.00	450755.98	754030.79	N 32 14 14.39	W 103 38 43.54
	10800.00	60.84	179.66	10627.36	292.12	-286.90	872.87	10.00	450673.35	754031.29	N 32 14 13.58	W 103 38 43.54
	10900.00	70.84	179.66	10668.24	383.24	-378.02	873.42	10.00	450582.23	754031.83	N 32 14 12.67	W 103 38 43.54
	11000.00	80.84	179.66	10692.68	480.07	-474.85	874.00	10.00	450485.40	754032.41	N 32 14 11.72	W 103 38 43.55
Landing Point	11091.65	90.00	179.66	10700.00	571.33	-566.11	874.55	10.00	450394.15	754032.96	N 32 14 10.81	W 103 38 43.55
	11100.00	90.00	179.66	10700.00	579.68	-574.46	874.60	0.00	450385.80	754033.01	N 32 14 10.73	W 103 38 43.55
	11200.00	90.00	179.66	10700.00	679.68	-674.46	875.20	0.00	450285.80	754033.61	N 32 14 9.74	W 103 38 43.55
	11300.00	90.00	179.66	10700.00	779.68	-774.45	875.80	0.00	450185.81	754034.22	N 32 14 8.75	W 103 38 43.55
	11400.00	90.00	179.66	10700.00	879.68	-874.45	876.40	0.00	450085.81	754034.82	N 32 14 7.76	W 103 38 43.55
	11500.00	90.00	179.66	10700.00	979.68	-974.45	877.00	0.00	449985.82	754035.42	N 32 14 6.77	W 103 38 43.55
	11600.00	90.00	179.66	10700.00	1079.68	-1074.45	877.60	0.00	449885.83	754036.02	N 32 14 5.78	W 103 38 43.55
	11700.00	90.00	179.66	10700.00	1179.68	-1174.45	878.21	0.00	449785.83	754036.62	N 32 14 4.79	W 103 38 43.55
	11800.00	90.00	179.66	10700.00	1279.68	-1274.45	878.81	0.00	449685.84	754037.22	N 32 14 3.80	W 103 38 43.55
	11900.00	90.00	179.66	10700.00	1379.68	-1374.44	879.41	0.00	449585.84	754037.82	N 32 14 2.82	W 103 38 43.55
Landing Point	12000.00	90.00	179.66	10700.00	1479.68	-1474.44	880.01	0.00	449485.85	754038.42	N 32 14 1.83	W 103 38 43.55
	12100.00	90.00	179.66	10700.00	1579.68	-1574.44	880.61	0.00	449385.86	754039.02	N 32 14 0.84	W 103 38 43.55
	12200.00	90.00	179.66	10700.00	1679.68	-1674.44	881.21	0.00	449285.86	754039.62	N 32 13 59.85	W 103 38 43.55
	12300.00	90.00	179.66	10700.00	1779.68	-1774.44	881.81	0.00	449185.87	754040.23	N 32 13 58.86	W 103 38 43.55
	12400.00	90.00	179.66	10700.00	1879.68	-1874.43	882.41	0.00	449085.87	754040.83	N 32 13 57.87	W 103 38 43.55
	12500.00	90.00	179.66	10700.00	1979.68	-1974.43	883.01	0.00	448985.88	754041.43	N 32 13 56.88	W 103 38 43.55
	12600.00	90.00	179.66	10700.00	2079.68	-2074.43	883.61	0.00	448885.89	754042.03	N 32 13 55.89	W 103 38 43.55
	12700.00	90.00	179.66	10700.00	2179.68	-2174.43	884.22	0.00	448785.89	754042.63	N 32 13 54.90	W 103 38 43.55
	12800.00	90.00	179.66	10700.00	2279.68	-2274.43	884.82	0.00	448685.90	754043.23	N 32 13 53.91	W 103 38 43.55
	12900.00	90.00	179.66	10700.00	2379.68	-2374.43	885.42	0.00	448585.90	754043.83	N 32 13 52.92	W 103 38 43.55
Landing Point	13000.00	90.00	179.66	10700.00	2479.68	-2474.42	886.02	0.00	448485.91	754044.43	N 32 13 51.93	W 103 38 43.55
	13100.00	90.00	179.66	10700.00	2579.68	-2574.42	886.62	0.00	448385.92	754045.03	N 32 13 50.94	W 103 38 43.55
	13200.00	90.00	179.66	10700.00	2679.68	-2674.42	887.22	0.00	448285.92	754045.63	N 32 13 49.95	W 103 38 43.56
	13300.00	90.00	179.66	10700.00	2779.68	-2774.42	887.82	0.00	448185.93	754046.24	N 32 13 48.96	W 103 38 43.56
	13400.00	90.00	179.66	10700.00	2879.68	-2874.42	888.42	0.00	448085.93	754046.84	N 32 13 47.97	W 103 38 43.56
	13500.00	90.00	179.66	10700.00	2979.6							

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 ° ' ")
	17800.00	90.00	179.66	10700.00	7279.68	-7274.34	914.87	0.00	443686.20	754073.28	N 32 13 4.43	W 103 38 43.58
	17900.00	90.00	179.66	10700.00	7379.68	-7374.33	915.47	0.00	443586.20	754073.88	N 32 13 3.44	W 103 38 43.58
	18000.00	90.00	179.66	10700.00	7479.68	-7474.33	916.07	0.00	443486.21	754074.48	N 32 13 2.45	W 103 38 43.58
	18100.00	90.00	179.66	10700.00	7579.68	-7574.33	916.67	0.00	443386.21	754075.08	N 32 13 1.47	W 103 38 43.58
	18200.00	90.00	179.66	10700.00	7679.68	-7674.33	917.27	0.00	443286.22	754075.68	N 32 13 0.48	W 103 38 43.58
	18300.00	90.00	179.66	10700.00	7779.68	-7774.33	917.87	0.00	443186.23	754076.28	N 32 12 59.49	W 103 38 43.58
	18400.00	90.00	179.66	10700.00	7879.68	-7874.33	918.47	0.00	443086.23	754076.89	N 32 12 58.50	W 103 38 43.58
	18500.00	90.00	179.66	10700.00	7979.68	-7974.32	919.07	0.00	442986.24	754077.49	N 32 12 57.51	W 103 38 43.58
	18600.00	90.00	179.66	10700.00	8079.68	-8074.32	919.68	0.00	442886.24	754078.09	N 32 12 56.52	W 103 38 43.58
	18700.00	90.00	179.66	10700.00	8179.68	-8174.32	920.28	0.00	442786.25	754078.69	N 32 12 55.53	W 103 38 43.58
	18800.00	90.00	179.66	10700.00	8279.68	-8274.32	920.88	0.00	442686.25	754079.29	N 32 12 54.54	W 103 38 43.58
	18900.00	90.00	179.66	10700.00	8379.68	-8374.32	921.48	0.00	442586.26	754079.89	N 32 12 53.55	W 103 38 43.58
	19000.00	90.00	179.66	10700.00	8479.68	-8474.32	922.08	0.00	442486.27	754080.49	N 32 12 52.56	W 103 38 43.58
	19100.00	90.00	179.66	10700.00	8579.68	-8574.31	922.68	0.00	442386.27	754081.09	N 32 12 51.57	W 103 38 43.58
	19200.00	90.00	179.66	10700.00	8679.68	-8674.31	923.28	0.00	442286.28	754081.69	N 32 12 50.58	W 103 38 43.58
	19300.00	90.00	179.66	10700.00	8779.68	-8774.31	923.88	0.00	442186.28	754082.29	N 32 12 49.59	W 103 38 43.58
	19400.00	90.00	179.66	10700.00	8879.68	-8874.31	924.48	0.00	442086.29	754082.90	N 32 12 48.60	W 103 38 43.58
	19500.00	90.00	179.66	10700.00	8979.68	-8974.31	925.08	0.00	441986.30	754083.50	N 32 12 47.61	W 103 38 43.58
	19600.00	90.00	179.66	10700.00	9079.68	-9074.30	925.69	0.00	441886.30	754084.10	N 32 12 46.62	W 103 38 43.58
	19700.00	90.00	179.66	10700.00	9179.68	-9174.30	926.29	0.00	441786.31	754084.70	N 32 12 45.63	W 103 38 43.58
	19800.00	90.00	179.66	10700.00	9279.68	-9274.30	926.89	0.00	441686.31	754085.30	N 32 12 44.64	W 103 38 43.59
	19900.00	90.00	179.66	10700.00	9379.68	-9374.30	927.49	0.00	441586.32	754085.90	N 32 12 43.65	W 103 38 43.59
	20000.00	90.00	179.66	10700.00	9479.68	-9474.30	928.09	0.00	441486.33	754086.50	N 32 12 42.66	W 103 38 43.59
	20100.00	90.00	179.66	10700.00	9579.68	-9574.30	928.69	0.00	441386.33	754087.10	N 32 12 41.67	W 103 38 43.59
	20200.00	90.00	179.66	10700.00	9679.68	-9674.29	929.29	0.00	441286.34	754087.70	N 32 12 40.69	W 103 38 43.59
	20300.00	90.00	179.66	10700.00	9779.68	-9774.29	929.89	0.00	441186.34	754088.30	N 32 12 39.70	W 103 38 43.59
	20400.00	90.00	179.66	10700.00	9879.68	-9874.29	930.49	0.00	441086.35	754088.90	N 32 12 38.71	W 103 38 43.59

Cimarex Dos
Equis 11-14
Federal Com 5H
- PBHL [100'
FSL, 2637' FWL]

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	Original Borehole / Cimarex Dos Equis 11-14 Federal Com 5H
	1	22.000	20437.442	1/100.000	17.500	13.375		A001Mb_MWD	Original Borehole / Cimarex Dos Equis 11-14 Federal Com 5H

...Original Borehole\Cimarex Dos Equis 11-14 Federal Com 5H Rev3 IC 03Dec21

Drilling Office 2.10.826.8

Schlumberger-Private

12/14/2021 2:33 PM Page 3 of 3



Cimarex Dos Equis 11-14 Federal Com 5H Rev3 IC 03Dec21 Proposal Geodetic Report (Def Plan)



Report Date: December 03, 2021 - 12:39 PM
Client: Cimarex
Field: NM Lea County (NAD 83)
Structure / Slot: Cimarex Dos Equis 11-14 Federal Com 5H / Cimarex Dos Equis 11-14 Federal Com 5H
Well: Cimarex Dos Equis 11-14 Federal Com 5H
Borehole: Original Borehole
UWI / API#: Unknown / Unknown
Survey Name: Cimarex Dos Equis 11-14 Federal Com 5H Rev3 IC 03Dec21
Survey Date: August 28, 2019
Tort / AHD / DDI / ERD Ratio: 107.405 ° / 10789.884 ft / 6.345 / 1.008
Coordinate Reference System: NAD83 New Mexico State Plane, Eastern Zone, US Feet
Location Lat / Long: N 32° 14' 16.47066", W 103° 38' 53.68498"
Location Grid N/E Y/X: N 450960.230 ftUS, E 753158.450 ftUS
CRS Grid Convergence Angle: 0.3655 °
Grid Scale Factor: 0.99996048
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: 3639.700 ft above MSL
Seabed / Ground Elevation: 3617.700 ft above MSL
Magnetic Declination: 6.389 °
Total Gravity Field Strength: 998.4359mgn (9.80665 Based)
Gravity Model: GARM
Total Magnetic Field Strength: 47642.735 nT
Magnetic Dip Angle: 59.858 °
Declination Date: December 03, 2021
Magnetic Declination Model: HDGM 2021
North Reference: Grid North
Grid Convergence Used: 0.3655 °
Total Corr Mag North->Grid North: 6.0236 °
Local Coord Referenced To: Structure Reference Point

Comments	MD (ft)	Incl (°)	Azim Grid (°)	TVD (ft)	VSEC (ft)	NS (ft)	EW (ft)	DLS (°/100ft)	Northing (ftUS)	Easting (ftUS)	Latitude (N/S ° ' ")	Longitude (E/W ° ' ")
SHL [545' FNL, 1766' FWL] Nudge 2"/100'	0.00	0.00	0.00	0.00	0.00	0.00	0.00	N/A	450960.23	753158.45	N 32 14 16.47	W 103 38 53.68
DLS	2000.00	0.00	89.55	2000.00	0.00	0.00	0.00	0.00	450960.23	753158.45	N 32 14 16.47	W 103 38 53.68
Hold	2435.14	8.70	89.55	2433.47	-0.06	0.26	32.98	2.00	450960.49	753191.43	N 32 14 16.47	W 103 38 53.30
Drop 2" DLS	7756.51	8.70	89.55	7693.57	-1.56	6.58	838.12	0.00	450966.81	753996.54	N 32 14 16.48	W 103 38 43.93
Hold	8191.65	0.00	89.55	8127.04	-1.63	6.84	871.11	2.00	450967.07	754029.52	N 32 14 16.48	W 103 38 43.54
KOP, Build 10" DLS	10191.65	0.00	89.55	10127.04	-1.63	6.84	871.11	0.00	450967.07	754029.52	N 32 14 16.48	W 103 38 43.54
Landing Point	11091.65	90.00	179.66	10700.00	571.33	-566.11	874.55	10.00	450394.15	754032.96	N 32 14 10.81	W 103 38 43.55
Cimarex Dos Equis 11-14 Federal Com 5H - PBHL [100' FSL, 2637' FWL]	20437.44	90.00	179.66	10700.00	9917.13	-9911.73	930.72	0.00	441048.91	754089.13	N 32 12 38.34	W 103 38 43.59

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	Original Borehole / Cimarex Dos Equis 11-14 Federal Com 5H
	1	22.000	20437.442	1/100.000	17.500	13.375		A001Mb_MWD	Original Borehole / Cimarex Dos Equis 11-14 Federal Com 5H



Cimarex Dos Equis 11-14 Federal Com 5H Rev3 IC 03Dec21 Anti-Collision Summary Report

Analysis Date-24hr Time: December 03, 2021 - 13:53

Client: Cimarex

Field: NM Lea County (NAD 83)

Structure: Cimarex Dos Equis 11-14 Federal Com 5H

Slot: Cimarex Dos Equis 11-14 Federal Com 5H

Well: Cimarex Dos Equis 11-14 Federal Com 5H

Borehole: Original Borehole

Scan MD Range: 0.00ft ~ 20437.44ft

Analysis Method: 3D Least Distance

Reference Trajectory: Cimarex Dos Equis 11-14 Federal Com 5H Rev3 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: Us1455vsm3172\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 61447.94 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 23H Rev2 IC 03Dec21 (Def Plan) Fail Major

19.91	16.19	18.62	3.72	N/A	MAS = 4.93 (m)	0.00	0.00	CtCt<=15m<15.00				Enter Alert	
19.91	16.19	18.62	3.72	26282.59	MAS = 4.93 (m)	22.00	22.00					WRP	
19.91	19.91	6.21	0.00	1.50	OSF1.50	1300.00	1300.00		OSF<1.50			Enter Minor	
19.91	29.23	-0.01	-9.32	1.00	OSF1.50	1920.00	1920.00			OSF<1.00		Enter Major	
19.91	30.44	-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	31.03	-0.92	-10.84	0.95	OSF1.50	2040.00	2040.00					MinPt-O-ADP	
21.66	31.92	-0.05	-10.26	1.00	OSF1.50	2100.00	2099.98			OSF>1.00		Exit Major	
34.58	34.71	11.01	-0.13	1.49	OSF1.50	2290.00	2289.50			OSF>1.50		Exit Minor	
237.11	72.13	188.59	164.98	4.99	OSF1.50	4830.00	4800.76		OSF>5.00			Exit Alert	
712.39	152.60	610.73	560.29	7.05	OSF1.50	10230.00	10165.36					MinPt-CtCt	
713.28	154.48	609.90	558.85	6.97	OSF1.50	10360.00	10292.98					MINPT-O-EQU	
713.50	154.70	609.94	558.80	6.96	OSF1.50	10380.00	10312.02					MinPt-O-ADP	
719.24	156.69	614.36	562.55	6.93	OSF1.50	10530.00	10446.07					MinPt-O-SF	
773.37	233.04	617.58	540.33	5.00	OSF1.50	13150.00	10700.00		OSF<5.00			Enter Alert	
773.37	666.22	328.80	107.15	1.74	OSF1.50	20437.44	10700.00					MinPts	

Cimarex Dos Equis 11-14 Federal Com 24H Rev2 IC 03Dec21 (Def Plan) Warning Alert

39.91	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	38.62	7.73	21803.00	MAS = 9.81 (m)	22.00	22.00					WRP	
39.91	32.19	24.30	7.73	2.70	MAS = 9.81 (m)	1490.00	1490.00					MinPts	
40.07	32.19	24.07	7.89	2.64	MAS = 9.81 (m)	1530.00	1530.00					MINPT-O-EQU	
40.77	32.19	24.37	8.58	2.61	MAS = 9.81 (m)	1570.00	1570.00					MinPt-O-SF	
110.45	34.24	87.20	76.21	4.97	OSF1.50	2280.00	2279.55		OSF>5.00			Exit Alert	
1426.80	429.46	1140.07	997.34	4.99	OSF1.50	16280.00	10700.00		OSF<5.00			Enter Alert	
1426.80	704.68	956.58	722.11	3.04	OSF1.50	20437.44	10700.00					MinPts	

Cimarex Dos Equis 11-14 Federal Com 25H Rev1 IC 03Dec21 (Def Plan) Warning Alert

59.91	32.81	57.93	27.11	N/A	MAS = 10.00 (m)	0.00	0.00					Surface	
59.91	32.81	57.93	27.11	27251.63	MAS = 10.00 (m)	22.00	22.00					WRP	
59.91	32.81	46.32	27.11	4.99	MAS = 10.00 (m)	1220.00	1220.00		OSF<5.00			Enter Alert	
59.91	32.81	43.61	27.11	4.04	MAS = 10.00 (m)	1490.00	1490.00					MinPts	
60.07	32.81	43.35	27.27	3.95	MAS = 10.00 (m)	1530.00	1530.00					MINPT-O-EQU	
62.00	32.81	44.53	29.20	3.87	MAS = 10.00 (m)	1610.00	1610.00					MinPt-O-SF	
94.42	32.81	73.82	61.61	4.96	MAS = 10.00 (m)	1950.00	1950.00		OSF>5.00			Exit Alert	
2139.71	155.70	2035.25	1984.01	20.86	OSF1.50	10260.00	10195.23					MinPt-CtCt	
2140.18	157.98	2034.19	1982.19	20.56	OSF1.50	10430.00	10358.58					MINPT-O-EQU	
2140.49	158.38	2034.24	1982.11	20.51	OSF1.50	10460.00	10385.69					MinPt-O-ADP	
2160.55	649.76	1726.72	1510.79	5.00	OSF1.50	19670.00	10700.00		OSF<5.00			Enter Alert	
2160.55	700.92	1692.61	1459.63	4.63	OSF1.50	20437.44	10700.00					MinPts	

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

1036.55	32.81	1034.57	1003.74	N/A	MAS = 10.00 (m)	0.00	0.00					Surface	
1036.54	32.81	1034.56	1003.73	N/A	MAS = 10.00 (m)	22.00	22.00					WRP	
307.14	93.84	243.92	213.30	4.98	OSF1.50	7240.00	7183.01		OSF<5.00			Enter Alert	
218.79	131.63	130.28	87.07	2.51	OSF1.50	10191.65	10127.04					MinPt-CtCt	
218.74	131.73	130.25	87.01	2.51	OSF1.50	10200.00	10135.39					MinPts	
218.91	131.85	130.34	87.05	2.51	OSF1.50	10210.00	10145.39					MinPt-O-SF	
458.75	140.04	364.73	318.71	4.98	OSF1.50	10780.00	10617.31		OSF>5.00			Exit Alert	
1629.62	331.21	1408.16	1298.42	7.42	OSF1.50	20437.44	10700.00					MinPts	

Cimarex Dos Equis 11 Federal #2H ST01 Xsm-MWD 10343ft to 15244ft (Def Survey) Warning Alert

1905.65	32.81	1903.67	1872.84	N/A	MAS = 10.00 (m)	0.00	0.00					Surface	
1905.62	32.81	1903.63	1872.81	N/A	MAS = 10.00 (m)	10.00	10.00					MinPt-O-SF	
1905.61	32.81	1903.63	1872.81	N/A	MAS = 10.00 (m)	22.00	22.00					WRP	
1903.08	32.81	1892.96	1870.27	233.07	MAS = 10.00 (m)	1210.00	1210.00					MinPts	
942.89	101.47	874.53	841.42	14.20	OSF1.50	9370.00	9305.39					MinPt-CtCt	
935.21	110.30	861.02	824.91	12.92	OSF1.50	10250.00	10185.29					MinPt-CtCt	
935.27	110.51	860.93	824.75	12.90	OSF1.50	10270.00	10205.15					MINPT-O-EQU	
935.35	110.62	860.94	824.72	12.89	OSF1.50	10280.00	10215.04					MinPt-O-ADP	
939.89	112.11	864.45	827.77	12.79	OSF1.50	10410.00	10340.14					MinPt-O-SF	
698.25	126.66	613.15	571.59	8.38	OSF1.50	11350.00	10700.00					MinPt-CtCt	
698.81	128.47	612.51	570.34	8.26	OSF1.50	11410.00	10700.00					MINPT-O-EQU	
702.28	132.37	613.38	569.92	8.06	OSF1.50	11520.00	10700.00					MinPt-O-ADP	

...Original Borehole\Cimarex Dos Equis 11-14 Federal Com 5H Rev3 IC 03Dec21

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		
	725.57	157.36	620.01	568.22	6.99	OSF1.50	12080.00	10700.00				MinPt-CiCl	
	730.33	171.19	615.54	559.14	6.46	OSF1.50	12360.00	10700.00				MINPT-O-EOU	
	735.68	222.45	586.72	513.23	4.99	OSF1.50	13260.00	10700.00	OSF<5.00			Enter Alert	
	710.35	358.97	470.38	351.38	2.98	OSF1.50	14910.00	10700.00				MinPt-CiCl	
	710.51	360.41	469.58	350.10	2.97	OSF1.50	14930.00	10700.00				MinPts	
	711.23	360.92	469.95	350.31	2.96	OSF1.50	14950.00	10700.00				MinPt-O-SF	
	980.26	298.91	779.65	681.36	4.97	OSF1.50	15590.00	10700.00	OSF>5.00			Exit Alert	
	5568.46	171.28	5451.43	5397.18	51.24	OSF1.50	20437.44	10700.00				TD	
MCI Operating Hanagan Federal #2 (Offset) Oil Blind Off-4962ft (Def Survey)													Warning Alert
	3151.54	32.81	3149.56	3118.73	N/A	MAS = 10.00 (m)	0.00	0.00				Surface	
	3151.50	32.81	3148.79	3118.69	4294.66	MAS = 10.00 (m)	22.00	22.00				WRP	
	3093.04	931.97	2471.06	2161.06	4.99	OSF1.50	3030.00	3021.48	OSF<5.00			Enter Alert	
	2963.44	1546.45	1931.78	1416.99	2.88	OSF1.50	5100.00	5067.65				MinPt-O-SF	
	2962.98	1546.13	1931.52	1416.84	2.88	OSF1.50	5120.00	5087.42				MinPt-O-ADP	
	2962.65	1545.75	1931.45	1416.91	2.88	OSF1.50	5140.00	5107.19				MINPT-O-EOU	
	2962.41	1544.76	1931.84	1417.64	2.88	OSF1.50	5180.00	5146.73				MinPt-CiCl	
	3626.30	1153.28	3056.05	2673.02	4.99	OSF1.50	7600.00	7538.86	OSF>5.00			Exit Alert	
	5995.91	384.42	5637.90	5511.49	23.30	OSF1.50	12020.00	10700.00				MinPt-O-ADP	
	5796.88	265.03	5618.45	5531.85	33.44	OSF1.50	12640.00	10700.00				MINPT-O-EOU	
	5763.21	210.44	5621.17	5552.77	42.09	OSF1.50	13260.00	10700.00				MinPt-CiCl	
	5803.91	284.13	5612.75	5519.79	31.19	OSF1.50	13950.00	10700.00				MINPT-O-EOU	
	5898.52	398.02	5631.45	5500.50	22.50	OSF1.50	14520.00	10700.00				MinPt-O-ADP	
	8061.07	1107.47	7321.32	6953.60	10.98	OSF1.50	18900.00	10700.00				MinPt-O-SF	
	9201.91	1228.99	8381.24	7972.92	11.26	OSF1.50	20437.44	10700.00				TD	
MCI Operating Gulf Hanagan Federal #2 (Offset) Oil Blind Off-5046ft (Def Survey)													Warning Alert
	4405.79	32.81	4403.81	4372.98	N/A	MAS = 10.00 (m)	0.00	0.00				Surface	
	4405.76	32.81	4403.11	4372.96	6567.93	MAS = 10.00 (m)	22.00	22.00				WRP	
	4309.97	1295.54	3445.62	3014.43	5.00	OSF1.50	4200.00	4178.01	OSF<5.00			Enter Alert	
	4270.48	1573.26	3220.95	2697.21	4.07	OSF1.50	5180.00	5146.73				MinPt-O-SF	
	4269.90	1572.95	3220.57	2696.95	4.08	OSF1.50	5220.00	5186.27				MinPt-O-ADP	
	4269.82	1572.85	3220.55	2696.96	4.08	OSF1.50	5230.00	5196.15				MINPT-O-EOU	
	4269.70	1572.51	3220.66	2697.19	4.08	OSF1.50	5260.00	5225.81				MinPt-CiCl	
	4693.40	1411.45	3751.26	3281.95	5.00	OSF1.50	7210.00	7153.35	OSF>5.00			Exit Alert	
	5811.69	397.93	5544.64	5413.75	22.18	OSF1.50	13410.00	10700.00				MinPt-O-ADP	
	5707.01	271.28	5524.38	5435.73	32.16	OSF1.50	14080.00	10700.00				MINPT-O-EOU	
	5679.00	228.17	5525.10	5450.84	38.20	OSF1.50	14640.00	10700.00				MinPt-CiCl	
	5719.00	301.03	5516.53	5417.97	28.99	OSF1.50	15320.00	10700.00				MINPT-O-EOU	
	5816.06	418.07	5535.59	5397.99	21.12	OSF1.50	15900.00	10700.00				MinPt-O-ADP	
	7930.30	1127.75	7177.00	6802.55	10.58	OSF1.50	20180.00	10700.00				MinPt-O-SF	
	8112.09	1152.32	7342.42	6959.76	10.59	OSF1.50	20437.44	10700.00				TD	
Marks and Garner Hanagan Federal #1 (Offset) Oil Blind Off-5065ft (Def Survey)													Warning Alert
	4968.79	32.81	4966.81	4935.99	N/A	MAS = 10.00 (m)	0.00	0.00				Surface	
	4968.78	32.81	4965.84	4935.97	5209.75	MAS = 10.00 (m)	22.00	22.00				WRP	
	4766.99	1433.17	3810.88	3333.82	4.99	OSF1.50	4640.00	4612.94	OSF<5.00			Enter Alert	
	4719.19	1578.39	3666.22	3140.80	4.49	OSF1.50	5300.00	5265.34				MinPt-O-SF	
	4716.66	1577.03	3664.58	3139.63	4.49	OSF1.50	5390.00	5354.31				MinPt-O-ADP	
	4716.20	1576.45	3664.50	3139.75	4.49	OSF1.50	5420.00	5383.96				MINPT-O-EOU	
	4715.88	1575.11	3665.04	3140.75	4.50	OSF1.50	5480.00	5443.27				MinPt-CiCl	
	4920.05	1478.52	3933.30	3441.53	5.00	OSF1.50	6880.00	6827.15	OSF>5.00			Exit Alert	
	5966.95	551.13	5597.79	5415.82	16.38	OSF1.50	14580.00	10700.00				MinPt-CiCl	
	5967.19	551.63	5597.69	5415.56	16.37	OSF1.50	14630.00	10700.00				MINPT-O-EOU	
	5968.23	552.82	5597.95	5415.41	16.33	OSF1.50	14700.00	10700.00				MinPt-O-ADP	
	7897.63	1136.33	7138.60	6761.30	10.48	OSF1.50	19750.00	10700.00				MinPt-O-SF	
	8364.12	1196.06	7565.31	7168.06	10.52	OSF1.50	20437.44	10700.00				TD	
Cimarex Dos Equis 11 Federal #2H XEM + MWD Off to 11103ft (Def Survey)													Pass
	1905.65	32.81	1903.67	1872.84	N/A	MAS = 10.00 (m)	0.00	0.00				Surface	
	1905.62	32.81	1903.63	1872.81	N/A	MAS = 10.00 (m)	10.00	10.00				MinPt-O-SF	
	1905.61	32.81	1903.63	1872.81	N/A	MAS = 10.00 (m)	22.00	22.00				WRP	
	1903.08	32.81	1892.95	1870.27	233.07	MAS = 10.00 (m)	1210.00	1210.00				MinPts	
	942.89	101.47	874.53	841.42	14.20	OSF1.50	9370.00	9305.39				MinPt-CiCl	
	935.21	110.30	861.02	824.91	12.92	OSF1.50	10270.00	10185.29				MinPt-CiCl	
	935.27	110.51	860.93	824.75	12.90	OSF1.50	10250.00	10205.15				MINPT-O-EOU	
	935.35	110.62	860.94	824.72	12.89	OSF1.50	10280.00	10215.04				MinPt-O-ADP	
	946.44	112.99	870.43	833.44	12.77	OSF1.50	10491.65	10413.52				MinPt-O-SF	
	10082.19	152.59	9979.80	9929.60	100.40	OSF1.50	20437.44	10700.00				TD	
Continental Wimberly #6 (Offset) - Plugged Oil Inc Only Off-5100ft (Def Survey)													Pass
	1556.51	32.81	1554.54	1523.71	N/A	MAS = 10.00 (m)	0.00	0.00				Surface	
	1555.70	32.81	1553.58	1522.89	11376.31	MAS = 10.00 (m)	22.00	22.00				MinPt-O-SF	
	1554.99	32.81	1552.84	1522.18	9066.33	MAS = 10.00 (m)	70.00	70.00				MinPts	
	1554.71	38.39	1528.46	1516.32	63.96	OSF1.50	870.00	870.00				MinPt-CiCl	
	1095.47	265.05	918.01	830.42	6.24	OSF1.50	5300.00	5265.34				MinPt-O-SF	
	1093.69	264.29	916.70	829.41	6.25	OSF1.50	5340.00	5304.88				MinPt-O-ADP	
	1093.48	264.04	916.64	829.44	6.26	OSF1.50	5350.00	5314.77				MINPT-O-EOU	
	1093.32	263.49	916.83	829.84	6.27	OSF1.50	5370.00	5334.54				MinPt-CiCl	
	7694.76	234.18	7537.15	7460.58	50.22	OSF1.50	15920.00	10700.00				MinPt-O-SF	
	11293.71	290.51	11098.81	11003.20	59.04	OSF1.50	20437.44	10700.00				TD	
Final Surveys - Cimarex Dos Equis 11-14 Federal Com 4H ST01 MWD Off-21967 (Def Survey)													Pass
	1395.48	32.81	1394.30	1362.67	N/A	MAS = 10.00 (m)	0.00	0.00				MinPts	
	1395.50	32.81	1394.30	1362.70	47468.83	MAS = 10.00 (m)	22.00	22.00				WRP	
	1395.70	32.81	1394.22	1362.89	4709.66	MAS = 10.00 (m)	90.00	90.00				MINPT-O-EOU	
	1396.15	32.81	1394.13	1363.34	1652.90	MAS = 10.00 (m)	170.00	170.00				MINPT-O-EOU	
	2294.53	88.14	2235.40	2206.38	39.52	OSF1.50	8200.00	8135.39				MinPt-O-ADP	
	2299.52	92.80	2237.29	2206.72	37.60	OSF1.50	8670.00	8605.39				MinPt-O-ADP	
	2312.85	110.87	2238.58	2201.98	31.57	OSF1.50	10470.00	10394.57				MinPt-CiCl	

...Original Borehole/Cimarex Dos Equis 11-14 Federal Com 5H Rev3 IC 03Dec21

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		
2312.96	111.23	2238.43	2201.73	31.47		OSF1.50	10510.00	10429.26				MINPT-O-EQU	
2313.09	111.40	2238.47	2201.68	31.43		OSF1.50	10530.00	10446.07				MinPt-O-ADP	
2338.90	114.50	2262.22	2224.41	30.91		OSF1.50	10920.00	10674.48				MinPt-O-SF	
2820.11	143.67	2724.00	2676.43	29.64		OSF1.50	12600.00	10700.00				MinPt-CtCt	
2815.74	166.86	2704.17	2648.88	25.45		OSF1.50	13270.00	10700.00				MinPt-CtCt	
2818.16	173.66	2702.08	2644.50	24.47		OSF1.50	13480.00	10700.00				MINPT-O-EQU	
2820.58	176.59	2702.52	2643.98	24.08		OSF1.50	13570.00	10700.00				MinPt-O-ADP	
2815.07	213.82	2672.19	2601.24	19.83		OSF1.50	14490.00	10700.00				MinPt-CtCt	
2818.09	226.74	2666.61	2591.36	18.72		OSF1.50	14830.00	10700.00				MINPT-O-EQU	
2824.00	242.67	2661.89	2581.33	17.52		OSF1.50	15210.00	10700.00				MINPT-O-EQU	
2825.91	262.03	2650.95	2563.94	16.23		OSF1.50	15630.00	10700.00				MinPt-CtCt	
2825.48	269.38	2645.57	2556.10	15.79		OSF1.50	15800.00	10700.00				MinPt-CtCt	
2810.02	305.07	2606.32	2504.96	13.86		OSF1.50	16630.00	10700.00				MinPt-CtCt	
2813.18	315.07	2602.81	2498.11	13.43		OSF1.50	16890.00	10700.00				MINPT-O-EQU	
2815.54	317.90	2603.28	2497.64	13.32		OSF1.50	16970.00	10700.00				MinPt-O-ADP	
2816.47	361.19	2575.35	2455.28	11.72		OSF1.50	17900.00	10700.00				MinPt-CtCt	
2828.21	430.30	2541.01	2397.91	9.88		OSF1.50	19450.00	10700.00				MinPt-CtCt	
2828.27	440.21	2534.47	2388.06	9.66		OSF1.50	19670.00	10700.00				MinPt-CtCt	
2828.67	448.74	2529.38	2380.13	9.47		OSF1.50	19860.00	10700.00				MinPt-CtCt	
2830.86	455.47	2526.88	2375.38	9.34		OSF1.50	20040.00	10700.00				MINPT-O-EQU	
2837.58	475.20	2520.45	2362.38	8.97		OSF1.50	20437.44	10700.00				MinPts	

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

Pass

1395.48	32.81	1394.30	1362.67	N/A	MAS = 10.00 (m)	0.00	0.00					MinPts	
1395.50	32.81	1394.30	1362.70	47468.83	MAS = 10.00 (m)	22.00	22.00					WRP	
1395.70	32.81	1394.22	1362.89	4709.66	MAS = 10.00 (m)	90.00	90.00					MINPT-O-EQU	
1396.15	32.81	1394.13	1363.34	1652.90	MAS = 10.00 (m)	170.00	170.00					MINPT-O-EQU	
2294.53	88.14	2235.40	2206.39	39.52	OSF1.50	8200.00	8135.39					MinPt-O-ADP	
2299.52	92.80	2237.29	2206.72	37.60	OSF1.50	8670.00	8605.39					MinPt-O-ADP	
2312.85	110.87	2238.58	2201.98	31.57	OSF1.50	10470.00	10394.57					MinPt-CtCt	
2312.96	111.23	2238.43	2201.73	31.47	OSF1.50	10510.00	10429.26					MINPT-O-EQU	
2313.09	111.40	2238.47	2201.68	31.43	OSF1.50	10530.00	10446.07					MinPt-O-ADP	
2338.90	114.50	2262.22	2224.41	30.91	OSF1.50	10920.00	10674.48					MinPt-O-SF	
10140.03	149.61	10039.89	9990.42	102.47	OSF1.50	20437.44	10700.00					TD	

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

Pass

1441.12	32.81	1439.14	1408.31	N/A	MAS = 10.00 (m)	0.00	0.00					Surface	
1441.10	32.81	1439.08	1408.29	36814.54	MAS = 10.00 (m)	10.00	10.00					MinPts	
1441.10	32.81	1438.87	1408.29	5812.82	MAS = 10.00 (m)	22.00	22.00					WRP	
1440.00	63.68	1396.89	1376.32	34.96	OSF1.50	1220.00	1220.00					MinPt-CtCt	
1435.69	141.41	1340.65	1294.18	15.42	OSF1.50	2640.00	2635.97					MinPt-CtCt	
1431.09	233.95	1274.47	1197.15	9.24	OSF1.50	4360.00	4336.17					MinPt-CtCt	
1433.74	252.17	1264.95	1181.57	8.59	OSF1.50	4640.00	4612.94					MINPT-O-EQU	
1435.70	254.51	1265.33	1181.19	8.52	OSF1.50	4690.00	4662.37					MinPt-O-ADP	
1440.93	273.54	1257.96	1167.44	7.95	OSF1.50	5080.00	5047.88					MinPt-CtCt	
1441.59	275.33	1257.38	1166.26	7.90	OSF1.50	5140.00	5107.19					MinPts	
1441.80	275.52	1257.46	1166.29	7.90	OSF1.50	5150.00	5117.07					MinPt-O-SF	
5622.25	81.84	5595.87	5540.40	110.29	OSF1.50	11950.00	10700.00					MinPt-CtCt	
5622.41	82.21	5595.70	5540.16	109.72	OSF1.50	11990.00	10700.00					MINPT-O-EQU	
5622.71	82.59	5595.83	5540.12	109.24	OSF1.50	12020.00	10700.00					MinPt-O-ADP	
7639.52	239.81	7478.14	7399.71	48.68	OSF1.50	17120.00	10700.00					MinPt-O-SF	
10182.60	286.62	9990.22	9895.97	54.00	OSF1.50	20437.44	10700.00					TD	

Cimarex Dos Equis 11-14 Federal Com 63H Rev0 RM 26Aug19 (Def Plan)

Pass

2364.64	32.81	2362.66	2331.83	N/A	MAS = 10.00 (m)	0.00	0.00					Surface	
2364.61	32.81	2362.64	2331.81	N/A	MAS = 10.00 (m)	10.00	10.00					MinPts	
2364.61	32.81	2362.64	2331.81	N/A	MAS = 10.00 (m)	22.00	22.00					WRP	
1496.92	128.40	1410.65	1368.51	17.74	OSF1.50	10191.65	10127.04					MinPt-CtCt	
1497.06	128.86	1410.49	1368.20	17.67	OSF1.50	10230.00	10165.36					MINPT-O-EQU	
1497.25	129.10	1410.53	1368.15	17.64	OSF1.50	10250.00	10185.29					MinPt-O-ADP	
1526.40	134.13	1436.31	1392.26	17.30	OSF1.50	10650.00	10538.04					MinPt-O-SF	
2072.94	420.80	1791.75	1652.14	7.42	OSF1.50	20430.00	10700.00					MinPt-CtCt	
2072.95	421.07	1791.58	1651.89	7.41	OSF1.50	20437.44	10700.00					MinPts	

Continental Wimberly #1 (Offset) Plugged Oil Inc Only Off-5091ft (Def Survey)

Pass

2099.19	32.81	2097.21	2066.38	N/A	MAS = 10.00 (m)	0.00	0.00					Surface	
2099.18	32.81	2097.15	2066.37	37718.34	MAS = 10.00 (m)	10.00	10.00					MinPts	
2099.18	32.81	2096.95	2066.37	8135.30	MAS = 10.00 (m)	22.00	22.00					WRP	
1800.10	270.47	1619.06	1529.63	10.05	OSF1.50	5240.00	5206.04					MinPt-O-SF	
1799.16	270.18	1618.25	1528.38	10.06	OSF1.50	5290.00	5255.46					MinPts	
1799.14	270.10	1618.31	1529.05	10.06	OSF1.50	5300.00	5285.34					MinPt-CtCt	
5646.64	88.33	5585.94	5558.31	102.06	OSF1.50	11930.00	10700.00					MinPt-CtCt	
5646.83	88.94	5585.73	5557.89	101.33	OSF1.50	11980.00	10700.00					MINPT-O-EQU	
5647.29	89.48	5585.83	5557.81	100.68	OSF1.50	12020.00	10700.00					MinPt-O-ADP	
7599.34	243.79	7435.30	7355.55	47.62	OSF1.50	17020.00	10700.00					MinPt-O-SF	
10207.34	291.97	10011.39	9915.36	53.13	OSF1.50	20437.44	10700.00					TD	

Cimarex Dos Equis 11-14 Federal Com 62H Rev0 RM 23Aug19 (Def Plan)

Pass

2384.59	32.81	2382.61	2351.78	N/A	MAS = 10.00 (m)	0.00	0.00					Surface	
2384.56	32.81	2382.58	2351.76	N/A	MAS = 10.00 (m)	10.00	10.00					MinPts	
2384.56	32.81	2382.58	2351.75	N/A	MAS = 10.00 (m)	22.00	22.00					WRP	
1825.78	119.79	1745.24	1705.97	23.22	OSF1.50	10191.65	10127.04					MinPt-CtCt	
1825.95	120.35	1745.06	1705.60	23.11	OSF1.50	10240.00	10175.33					MINPT-O-EQU	
1826.14	120.58	1745.10	1705.57	23.07	OSF1.50	10260.00	10195.23					MinPt-O-ADP	
1880.53	127.71	1794.73	1752.82	22.41	OSF1.50	10820.00	10636.80					MinPt-O-SF	
2428.63	453.78	2125.45	1974.85	8.06	OSF1.50	20430.00	10700.00					MinPt-CtCt	
2428.64	454.11	2125.25	1974.64	8.05	OSF1.50	20437.44	10700.00					MinPts	

Cimarex Dos Equis 11 Federal #1H Extreme MWD Off to 15324ft (Def Survey)

Pass

2891.00	32.81	2889.02	2858.19	N/A	MAS = 10.00 (m)	0.00	0.00					Surface	
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...Original Borehole/Cimarex Dos Equis 11-14 Federal Com 5H Rev3 IC 03Dec21

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		
2890.98	32.81	2886.99	2859.17	394179.15		MAS = 10.00 (m)	22.00	22.00				WRP	
2899.23	32.81	2887.45	2857.42	3611.47		MAS = 10.00 (m)	170.00	170.00				MinPts	
2890.44	32.81	2887.31	2857.63	2518.81		MAS = 10.00 (m)	220.00	220.00				MINPT-O-EQU	
2891.64	32.81	2887.32	2858.83	1234.09		MAS = 10.00 (m)	390.00	390.00				MINPT-O-EQU	
2892.82	32.81	2881.39	2860.01	305.68		MAS = 10.00 (m)	1380.00	1380.00				MinPts	
1997.71	110.42	1923.44	1887.29	27.61		OSF1.50	10310.00	10244.55				MinPt-CiCi	
1997.78	110.62	1923.37	1887.16	27.56		OSF1.50	10330.00	10264.05				MINPT-O-EQU	
1997.86	110.72	1923.38	1887.13	27.53		OSF1.50	10340.00	10273.74				MinPt-O-ADP	
1998.46	111.14	1923.71	1887.33	27.44		OSF1.50	10380.00	10312.02				MinPt-O-SF	
1997.73	111.25	1922.95	1886.53	27.40		OSF1.50	10430.00	10358.58				MinPt-CiCi	
1997.84	111.50	1922.85	1886.34	27.34		OSF1.50	10450.00	10376.72				MINPT-O-EQU	
1997.95	111.62	1922.89	1886.33	27.31		OSF1.50	10460.00	10385.69				MinPt-O-ADP	
1956.09	134.21	1865.96	1821.89	22.17		OSF1.50	11410.00	10700.00				MinPt-CiCi	
1958.20	139.99	1864.22	1818.21	21.26		OSF1.50	11580.00	10700.00				MINPT-O-EQU	
1969.94	159.64	1862.85	1810.30	18.72		OSF1.50	12020.00	10700.00				MINPT-O-EQU	
1972.34	162.67	1863.24	1809.68	18.39		OSF1.50	12090.00	10700.00				MinPt-O-ADP	
2008.10	232.09	1852.72	1776.02	13.08		OSF1.50	13280.00	10700.00				MinPt-CiCi	
1990.61	379.08	1737.23	1611.53	7.91		OSF1.50	14890.00	10700.00				MinPt-CiCi	
1991.19	381.46	1736.22	1609.73	7.86		OSF1.50	14940.00	10700.00				MINPT-O-EQU	
1991.77	382.10	1736.37	1609.67	7.85		OSF1.50	14960.00	10700.00				MinPt-O-SF	
2001.43	385.70	1743.64	1615.73	7.82		OSF1.50	15100.00	10700.00				MinPt-CiCi	
5891.72	261.99	5714.35	5629.74	34.77		OSF1.50	20437.44	10700.00				TD	

Cimarex Dos Equis 11-14
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22Aug19 (Def Plan)

2404.54	32.81	2402.57	2371.74	N/A	MAS = 10.00 (m)	0.00	0.00	Surface
2404.52	32.81	2402.54	2371.71	N/A	MAS = 10.00 (m)	10.00	10.00	MinPts
2404.52	32.81	2402.54	2371.71	N/A	MAS = 10.00 (m)	22.00	22.00	WRP
2359.68	93.85	2206.41	2175.83	37.08	OSF1.50	7780.00	7716.81	MinPt-CiCi
2269.78	94.10	2206.33	2175.67	36.98	OSF1.50	7800.00	7736.61	MINPT-O-EQU
2269.88	94.23	2206.35	2175.65	36.93	OSF1.50	7810.00	7746.52	MinPt-O-ADP
2332.57	101.57	2264.19	2231.00	35.10	OSF1.50	8420.00	8355.39	MinPt-O-SF
2337.24	119.61	2256.82	2217.60	29.77	OSF1.50	10250.00	10185.29	MINPT-O-EQU
2337.42	119.86	2256.86	2217.58	29.72	OSF1.50	10270.00	10205.15	MinPt-O-ADP
2468.34	131.65	2379.91	2336.69	28.63	OSF1.50	11160.00	10700.00	MinPt-O-SF
2492.26	132.90	2403.00	2359.38	28.63	OSF1.50	11230.00	10700.00	MinPt-O-SF
2832.73	477.00	2514.07	2355.73	8.94	OSF1.50	20430.00	10700.00	MinPt-CiCi
2832.75	477.36	2513.85	2355.38	8.93	OSF1.50	20437.44	10700.00	MinPts

Rover Operating Co Wimberly
#5 (Offset) Oil Inc Only Off-
5050ft (Def Survey)

2872.32	32.81	2870.34	2839.51	N/A	MAS = 10.00 (m)	0.00	0.00	Surface
2872.14	32.81	2870.14	2839.33	127219.90	MAS = 10.00 (m)	20.00	20.00	MinPt-O-SF
2872.13	32.81	2870.13	2839.32	132537.37	MAS = 10.00 (m)	22.00	22.00	WRP
2872.10	32.81	2870.02	2839.29	29824.89	MAS = 10.00 (m)	40.00	40.00	MinPts
2869.15	61.81	2827.29	2807.34	71.88	OSF1.50	1210.00	1210.00	MinPt-CiCi
2419.07	267.05	2240.28	2152.02	13.69	OSF1.50	5340.00	5304.88	MinPt-O-SF
2414.74	266.06	2236.55	2148.65	13.73	OSF1.50	5460.00	5423.50	MinPt-O-ADP
2414.65	265.95	2236.53	2148.70	13.73	OSF1.50	5470.00	5433.39	MINPT-O-EQU
2414.65	265.71	2236.61	2148.87	13.75	OSF1.50	5490.00	5453.16	MinPt-CiCi
7949.14	250.21	7780.87	7698.93	48.48	OSF1.50	15870.00	10700.00	MinPt-O-SF
11492.05	308.69	11285.04	11183.36	56.49	OSF1.50	20437.44	10700.00	TD

Rover Operating Co Wimberly
#7 (Offset) Oil Inc Only Off-
5118ft (Def Survey)

2905.96	32.81	2903.98	2873.15	N/A	MAS = 10.00 (m)	0.00	0.00	Surface
2905.82	32.81	2903.82	2873.01	191073.33	MAS = 10.00 (m)	20.00	20.00	MinPt-O-SF
2905.81	32.81	2903.82	2873.00	213633.77	MAS = 10.00 (m)	22.00	22.00	WRP
2905.80	32.81	2903.79	2872.99	102367.79	MAS = 10.00 (m)	30.00	30.00	MinPts
2909.88	46.21	2878.41	2863.67	98.62	OSF1.50	890.00	890.00	MinPt-CiCi
2911.50	51.01	2876.83	2860.49	89.01	OSF1.50	1030.00	1030.00	MINPT-O-EQU
2910.75	63.87	2867.50	2846.87	70.49	OSF1.50	1220.00	1220.00	MinPt-CiCi
2911.58	66.38	2866.67	2845.21	67.78	OSF1.50	1310.00	1310.00	MINPT-O-EQU
2910.71	88.05	2851.35	2822.66	50.69	OSF1.50	1690.00	1690.00	MinPt-CiCi
2512.68	270.45	2331.63	2242.24	14.04	OSF1.50	5380.00	5344.42	MinPt-O-SF
2509.97	269.85	2329.27	2240.12	14.06	OSF1.50	5480.00	5443.27	MinPt-O-ADP
2509.92	269.77	2329.27	2240.15	14.07	OSF1.50	5490.00	5453.16	MINPT-O-EQU
2509.91	269.68	2329.31	2240.22	14.07	OSF1.50	5500.00	5463.04	MinPt-CiCi
5800.54	118.86	5719.52	5681.68	76.57	OSF1.50	11930.00	10700.00	MinPt-CiCi
5800.76	119.44	5719.35	5681.32	76.19	OSF1.50	11980.00	10700.00	MINPT-O-EQU
5801.10	119.82	5719.44	5681.28	75.94	OSF1.50	12010.00	10700.00	MinPt-O-ADP
7587.08	255.36	7415.32	7331.72	45.35	OSF1.50	16820.00	10700.00	MinPt-O-SF
10297.19	306.38	10091.65	9990.81	51.04	OSF1.50	20437.44	10700.00	TD

Bill J Graham Oil Hanagan D #3
(Offset) Oil Plugged Inc Only Off-
4986ft (Def Survey)

3965.00	32.81	3963.02	3932.19	N/A	MAS = 10.00 (m)	0.00	0.00	Surface
3964.96	32.81	3962.94	3932.15	89169.97	MAS = 10.00 (m)	20.00	20.00	MinPts
3964.96	32.81	3962.91	3932.15	52549.55	MAS = 10.00 (m)	22.00	22.00	WRP
3959.48	97.42	3893.87	3862.05	62.20	OSF1.50	1860.00	1860.00	MinPt-CiCi
3653.18	267.32	3474.24	3385.87	20.66	OSF1.50	5290.00	5255.46	MinPt-O-SF
3651.41	267.09	3472.58	3384.32	20.67	OSF1.50	5390.00	5354.31	MinPt-O-ADP
3651.38	267.06	3472.57	3384.32	20.67	OSF1.50	5400.00	5364.19	MinPts
6044.25	145.24	5945.75	5899.04	64.65	OSF1.50	13240.00	10700.00	MinPt-CiCi
6044.78	146.71	5945.25	5898.03	63.96	OSF1.50	13320.00	10700.00	MINPT-O-EQU
6045.43	147.54	5945.36	5897.89	63.61	OSF1.50	13360.00	10700.00	MinPt-O-ADP
7563.90	270.47	7382.09	7293.43	42.63	OSF1.50	17790.00	10700.00	MinPt-O-SF
9396.79	311.61	9187.73	9085.18	45.80	OSF1.50	20437.44	10700.00	TD

Rover Operating Co Wimberly
#6 (Offset) Oil Inc Only Off-
5075ft (Def Survey)

4107.25	32.81	4105.27	4074.44	N/A	MAS = 10.00 (m)	0.00	0.00	Surface
4107.23	32.81	4105.25	4074.42	N/A	MAS = 10.00 (m)	10.00	10.00	MinPts
4107.23	32.81	4105.06	4074.42	21170.01	MAS = 10.00 (m)	22.00	22.00	WRP
4083.13	171.40	3968.19	3911.72	36.14	OSF1.50	3300.00	3288.37	MinPt-CiCi
4072.10	220.70	3924.30	3851.40	27.92	OSF1.50	4200.00	4178.01	MinPt-CiCi
4077.75	270.01	3897.09	3807.75	22.81	OSF1.50	5130.00	5097.30	MinPt-CiCi
4077.76	270.04	3897.05	3807.71	22.81	OSF1.50	5140.00	5107.19	MINPT-O-EQU
4077.78	270.07	3897.07	3807.71	22.81	OSF1.50	5150.00	5117.07	MinPt-O-ADP

...Original Borehole/Cimarex Dos Equis 11-14 Federal Com 5H Rev3 IC 03Dec21

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		
4078.65	270.25	3897.79	3806.39		22.80	OSF1.50	5220.00	5186.27				MinPt-O-SF	
5623.92	120.11	5542.04	5503.81		73.49	OSF1.50	14600.00	10700.00				MinPt-CiCt	
5624.41	121.53	5541.58	5502.88		72.59	OSF1.50	14670.00	10700.00				MINPT-O-EQU	
5625.29	122.61	5541.75	5502.68		71.94	OSF1.50	14720.00	10700.00				MinPt-O-ADP	
7180.57	250.59	7011.95	6929.98		43.77	OSF1.50	19060.00	10700.00				MinPt-O-SF	
8109.08	275.07	7924.25	7834.02		44.91	OSF1.50	20437.44	10700.00				TD	
MCI Operating Jennings Federal #1 (Offset) SWD Blind 0ft-5019ft (Def Survey)													
5397.86	32.81	5395.88	5365.05		N/A	MAS = 10.00 (m)	0.00	0.00				Surface	Pass
5397.83	32.81	5395.85	5365.03		N/A	MAS = 10.00 (m)	10.00	10.00				MinPt-O-SF	
5397.83	32.81	5395.84	5365.02		N/A	MAS = 10.00 (m)	22.00	22.00				WRP	
5397.83	46.75	5362.05	5347.12		180.65	OSF1.50	3580.00	3565.15				MinPt-CiCt	
5398.65	67.56	5362.94	5331.08		123.44	OSF1.50	5080.00	5047.88				MINPT-O-EQU	
5398.84	67.79	5352.98	5331.05		123.04	OSF1.50	5100.00	5067.65				MinPt-O-ADP	
5959.02	89.94	5897.93	5899.09		103.20	OSF1.50	7560.00	7499.32				MinPt-O-SF	
7608.70	100.19	7540.44	7508.51		119.09	OSF1.50	10600.00	10501.69				MinPt-O-SF	
7609.83	100.17	7541.57	7509.66		119.18	OSF1.50	10700.00	10571.27				MinPt-O-SF	
5899.84	146.55	5599.36	5552.29		60.48	OSF1.50	15910.00	10700.00				MinPt-CiCt	
5699.34	148.23	5598.75	5551.11		59.77	OSF1.50	15990.00	10700.00				MINPT-O-EQU	
5700.02	149.07	5598.86	5550.95		59.43	OSF1.50	16030.00	10700.00				MinPt-O-ADP	
6317.36	195.22	6185.54	6122.14		49.78	OSF1.50	18640.00	10700.00				MinPt-O-SF	
7276.00	212.38	7132.88	7063.63		52.50	OSF1.50	20437.44	10700.00				TD	
Tenneco Oil Company USA Jennings Fed #3 (Offset) Plugged Oil Inc Only 0ft-5030ft (Def Survey)													
5602.64	32.81	5600.66	5569.83		N/A	MAS = 10.00 (m)	0.00	0.00				Surface	Pass
5602.53	32.81	5600.54	5569.72		355915.05	MAS = 10.00 (m)	20.00	20.00				MinPt-O-SF	
5602.53	32.81	5600.53	5569.72		390472.95	MAS = 10.00 (m)	22.00	22.00				WRP	
5602.50	32.81	5600.45	5569.69		87555.20	MAS = 10.00 (m)	40.00	40.00				MinPts	
5602.50	33.36	5579.69	5569.23		267.67	OSF1.50	680.00	680.00				MinPt-CiCt	
5499.87	252.27	5331.00	5247.60		32.96	OSF1.50	4970.00	4939.14				MinPt-CiCt	
5496.28	266.93	5317.63	5229.35		31.12	OSF1.50	5270.00	5235.69				MinPt-CiCt	
5496.29	266.95	5317.63	5229.34		31.12	OSF1.50	5280.00	5245.57				MinPts	
5496.88	267.06	5318.13	5229.82		31.11	OSF1.50	5350.00	5314.77				MinPt-O-SF	
5673.23	155.51	5567.78	5517.72		56.62	OSF1.50	15900.00	10700.00				MinPt-CiCt	
5674.05	157.84	5567.01	5516.17		55.74	OSF1.50	16000.00	10700.00				MINPT-O-EQU	
5675.13	159.13	5567.26	5516.00		55.30	OSF1.50	16050.00	10700.00				MinPt-O-ADP	
6899.71	266.37	6720.55	6633.34		39.53	OSF1.50	19830.00	10700.00				MinPt-O-SF	
7262.63	278.38	7075.51	6984.25		39.77	OSF1.50	20437.44	10700.00				TD	
MCI Operating Jennings Federal #6 (Offset) Oil Inc Only 0ft-4950ft (Def Survey)													
6719.59	32.81	6717.61	6686.78		N/A	MAS = 10.00 (m)	0.00	0.00				Surface	Pass
6719.50	32.81	6717.51	6686.69		555164.90	MAS = 10.00 (m)	20.00	20.00				MinPt-O-SF	
6719.49	32.81	6717.50	6686.68		561722.16	MAS = 10.00 (m)	22.00	22.00				WRP	
6719.47	32.81	6717.42	6686.66		104984.64	MAS = 10.00 (m)	40.00	40.00				MinPts	
6715.78	142.16	6620.35	6573.63		71.85	OSF1.50	2770.00	2764.47				MinPt-CiCt	
6712.68	260.61	6538.26	6452.05		38.92	OSF1.50	4970.00	4939.14				MinPt-CiCt	
6712.73	261.93	6537.44	6450.80		38.72	OSF1.50	5020.00	4988.57				MinPts	
6717.45	262.52	6541.74	6454.94		38.68	OSF1.50	5250.00	5215.92				MinPt-O-SF	
7382.43	192.65	7252.49	7189.79		58.89	OSF1.50	12590.00	10700.00				MinPt-O-SF	
7363.61	192.18	7233.98	7171.43		58.89	OSF1.50	12620.00	10700.00				MinPt-O-SF	
5741.44	176.69	5621.87	5564.72		50.19	OSF1.50	17230.00	10700.00				MinPt-CiCt	
5742.10	178.69	5621.23	5563.42		49.61	OSF1.50	17320.00	10700.00				MINPT-O-EQU	
5742.87	179.60	5621.39	5563.27		49.36	OSF1.50	17360.00	10700.00				MinPt-O-ADP	
6576.23	259.12	6401.87	6317.10		38.78	OSF1.50	20437.44	10700.00				MinPt-O-SF	
MCI Operating Jennings Federal #6 (Offset) Oil Inc Only 0ft-4930ft (Def Survey)													
8181.11	32.81	8179.13	8148.30		N/A	MAS = 10.00 (m)	0.00	0.00				Surface	Pass
8181.01	32.81	8179.02	8148.20		587198.67	MAS = 10.00 (m)	22.00	22.00				WRP	
8180.97	32.81	8178.88	8148.16		73916.52	MAS = 10.00 (m)	50.00	50.00				MinPts	
8109.04	261.27	7934.18	7847.77		46.91	OSF1.50	5180.00	5146.73				MinPt-CiCt	
8109.05	261.28	7934.17	7847.76		46.91	OSF1.50	5190.00	5156.61				MINPT-O-EQU	
8109.07	261.32	7934.17	7847.75		46.91	OSF1.50	5200.00	5166.50				MinPt-O-ADP	
8114.65	261.88	7939.34	7852.77		46.89	OSF1.50	5480.00	5443.27				MinPt-O-SF	
5759.32	211.85	5616.35	5547.47		41.77	OSF1.50	18550.00	10700.00				MinPt-CiCt	
5760.15	214.37	5615.49	5545.78		41.27	OSF1.50	18650.00	10700.00				MINPT-O-EQU	
5761.21	215.65	5615.70	5545.56		41.03	OSF1.50	18700.00	10700.00				MinPt-O-ADP	
6059.89	262.54	5883.18	5797.35		36.27	OSF1.50	20437.44	10700.00				MinPt-O-SF	
MCI Operating Jennings Federal #4 (Offset) Oil Inc Only 0ft-5000ft (Def Survey)													
8043.90	32.81	8041.92	8011.09		N/A	MAS = 10.00 (m)	0.00	0.00				Surface	Pass
8043.88	32.81	8041.82	8011.07		108250.19	MAS = 10.00 (m)	22.00	22.00				WRP	
8043.85	44.61	8013.45	7999.24		282.99	OSF1.50	860.00	860.00				MinPt-CiCt	
8039.41	145.21	7941.94	7894.19		84.17	OSF1.50	2740.00	2734.82				MinPt-CiCt	
8043.88	160.05	7936.52	7883.83		76.33	OSF1.50	3170.00	3159.87				MINPT-O-EQU	
8049.28	166.55	7937.57	7882.73		73.36	OSF1.50	3370.00	3357.57				MinPt-O-ADP	
8039.83	231.45	7884.86	7808.37		52.54	OSF1.50	4310.00	4286.74				MinPt-CiCt	
8044.59	246.06	7879.86	7798.51		49.43	OSF1.50	4730.00	4701.91				MINPT-O-EQU	
8049.21	251.61	7880.78	7797.60		48.37	OSF1.50	4900.00	4869.95				MinPt-O-ADP	
8061.95	268.20	7882.47	7793.75		45.43	OSF1.50	5220.00	5186.27				MinPts	
8067.09	268.48	7887.40	7798.61		45.41	OSF1.50	5350.00	5314.77				MinPt-O-SF	
5765.78	212.65	5622.22	5553.10		41.67	OSF1.50	18560.00	10700.00				MinPt-CiCt	
5766.44	214.65	5621.58	5551.79		41.28	OSF1.50	18650.00	10700.00				MINPT-O-EQU	
5767.20	215.56	5621.73	5551.64		41.10	OSF1.50	18690.00	10700.00				MinPt-O-ADP	
6063.49	258.75	5889.28	5804.74		35.83	OSF1.50	20437.44	10700.00				MinPt-O-SF	
MCI Operating Jennings Federal #2 (Offset) Inc Only 0ft-5000ft (Def Survey)													
9188.46	32.81	9186.48	9155.66		N/A	MAS = 10.00 (m)	0.00	0.00				Surface	Pass
9188.36	32.81	9186.37	9155.55		58507.15	MAS = 10.00 (m)	22.00	22.00				WRP	
9188.31	32.81	9186.19	9155.50		68228.36	MAS = 10.00 (m)	60.00	60.00				MinPts	
9259.80	374.21	9009.67	8885.60		37.31	OSF1.50	5080.00	5047.88				MINPT-O-EQU	
9260.05	374.51	9009.71	8885.54		37.28	OSF1.50	5090.00	5057.76				MinPt-O-ADP	
9264.16	374.77	9013.64	8889.39		37.27	OSF1.50	5220.00	5186.27				MinPt-O-SF	

...Original Borehole/Cimarex Dos Equis 11-14 Federal Com 5H Rev3 IC 03Dec21

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		
	9956.10	285.79	5763.87	5670.31	31.80	OSF1.50	19660.00	10700.00				MinPt-CtCt	
	5956.71	287.73	5763.19	5668.58	31.59	OSF1.50	19750.00	10700.00				MINPT-O-EOU	
	5957.64	288.83	5763.38	5668.81	31.47	OSF1.50	19800.00	10700.00				MinPt-O-ADP	
	6006.02	304.21	5801.51	5701.80	30.09	OSF1.50	20437.44	10700.00				MinPt-O-SF	

Schlumberger

Cimarex

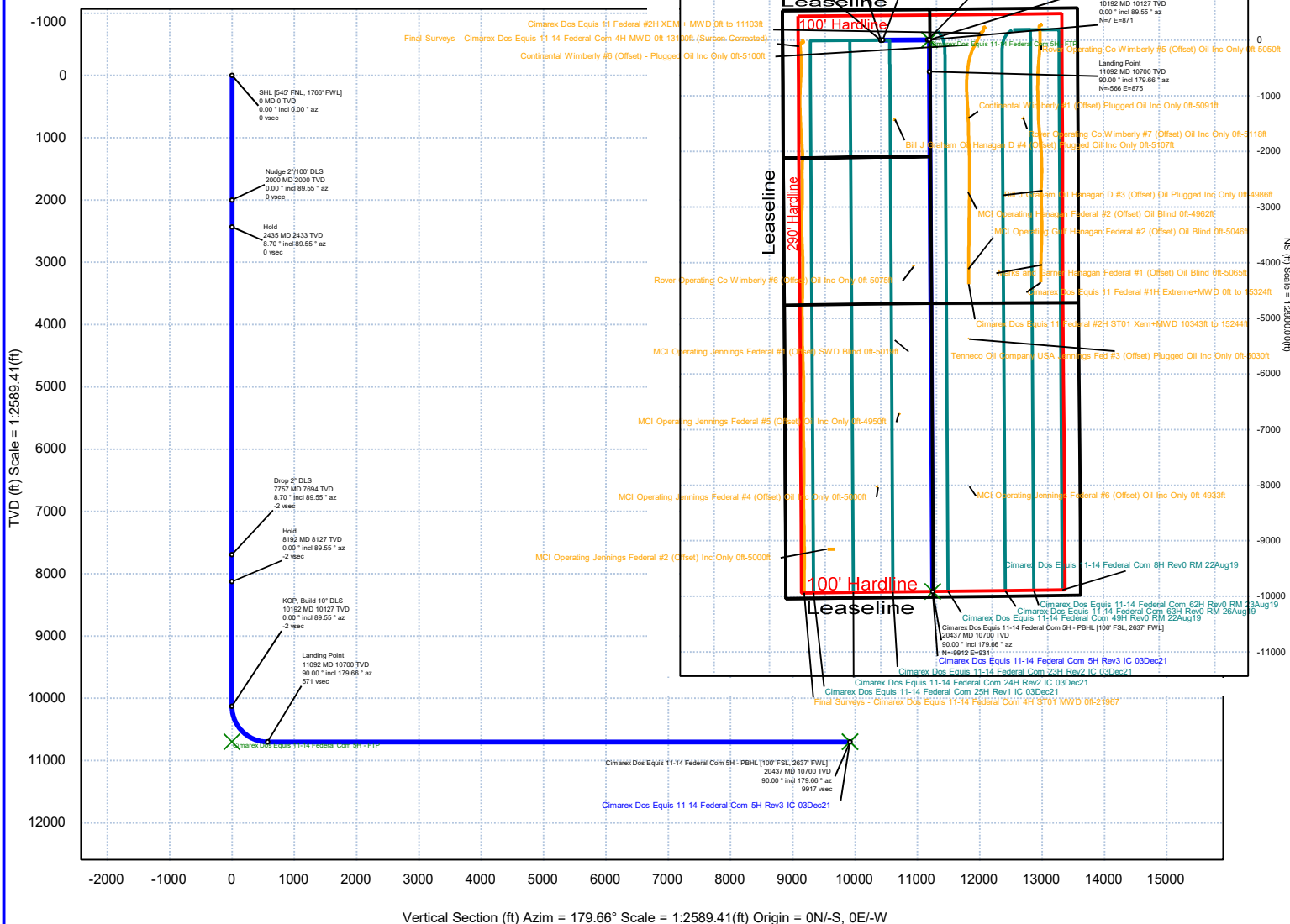
Rev 3

CIMAREX

Borehole: Original Borehole				Well: Cimarex Dos Equis 11-14 Federal Com 5H				Field: NM Lea County (NAD 83)				Structure: Cimarex Dos Equis 11-14 Federal Com 5H			
Gravity & Magnetic Parameters								Surface Location				Miscellaneous			
Model: HDGM 2021		Dip: 59.858°		Date: 03-Dec-2021				Lat: N 32 14 16.47		Northing: 450960.23RUS		Grid Conv: 0.3655°			
MagDec: 6.389°		FS: 47642.735nT		Gravity FS: 998.436mgn (9.80665 Based)				Lon: W 103 38 53.68		Easting: 753158.45RUS		Scale Fact: 0.99996048			
												Slot: Equis 11-14 Federal Com 5H Cimarex Dos Equis 11-14 Federal Com 5H Rev3 IC 03Dec21			
												TVD Ref: RKB=22ft (Unit 411)3639.7ft above MSL)			



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

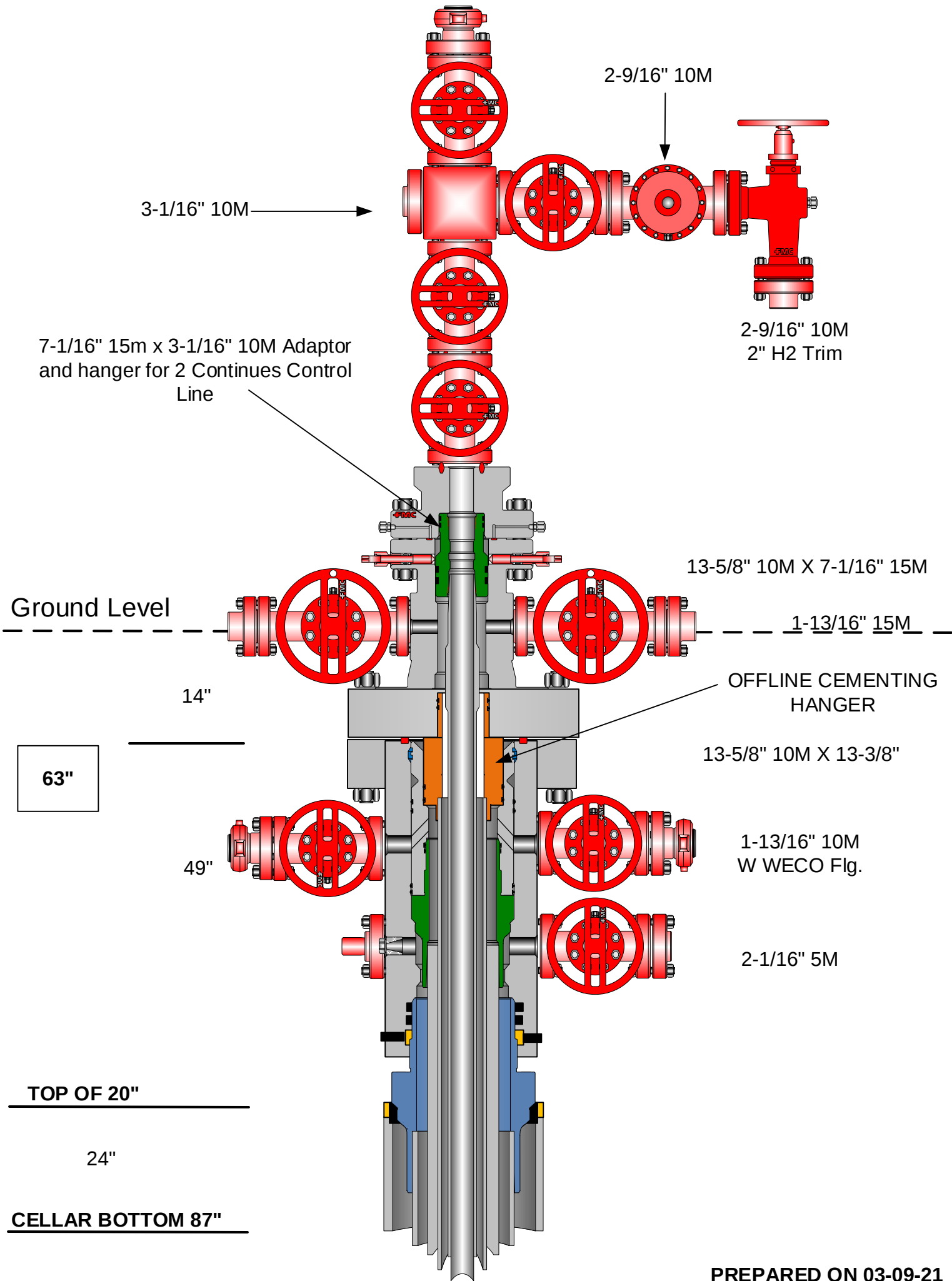


Critical Points

Critical Point	MD	INCL	AZIM	TVD	VSEC	N(+)/S(-)	E(+)/W(-)	DLS
SHL [545° FNL, 1766° FWL]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Nudge 2°/100' DLS	2000.00	0.00	89.55	2000.00	0.00	0.00	0.00	0.00
Hold	2435.14	8.70	89.55	2433.47	-0.06	0.26	32.98	2.00
Drop 2° DLS	7756.51	8.70	89.55	7693.57	-1.56	6.58	838.12	0.00
Hold	8191.65	0.00	89.55	8127.04	-1.63	6.84	871.11	2.00
KOP, Build 10° DLS	10191.65	0.00	89.55	10127.04	-1.63	6.84	871.11	0.00
Landing Point	11091.65	90.00	179.66	10700.00	571.33	-566.11	874.55	10.00
Cimarex Dos Equis 11-14 Federal Com 5H - PBHL [100° FSL, 2637° FWL]	20437.44	90.00	179.66	10700.00	9917.13	-9911.73	930.72	0.00

CACTUS FOR SERVICE
WEARBUSHING
IN CASING HEAD &
CASING SPOOL

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	10191	10191	7"	29.00	L-80	LT&C	1.47	1.71	1.89
8 3/4	10191	11091	10700	7"	29.00	P-110	BT&C	1.70	2.24	62.94
6	9191	20437	10700	4-1/2"	11.60	P-110	BT&C	1.51	2.14	20.97
BLM Minimum Safety Factor								1.125	1	1.6 Dry 1.8 Wet



PREPARED ON 03-09-21

1. Geological Formations

TVD of target 10,700

Pilot Hole TD N/A

MD at TD 20,437

Deepest expected fresh water

Formation	Depth (TVD) from KB	Water/Mineral Bearing/Target Zone	Hazards
Rustler	1166	Useable Water	
Salado (Top of 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	9944	Hydrocarbons	
2nd Bone Spring	10108	Hydrocarbons	
2nd Bone Spring	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	10191	10191	7"	29.00	L-80	LT&C	1.47	1.71	1.89
8 3/4	10191	11091	10700	7"	29.00	P-110	BT&C	1.70	2.24	62.94
6	9191	20437	10700	4-1/2"	11.60	P-110	BT&C	1.51	2.14	20.97
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 5H

	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	340	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	10891	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 11091'	Cut Brine or OBM	8.50 - 9.00	27-70	N/C
11091' to 20437'	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	
X	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
-------------------------	----------

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	H ₂ S is present
X	H ₂ S 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.

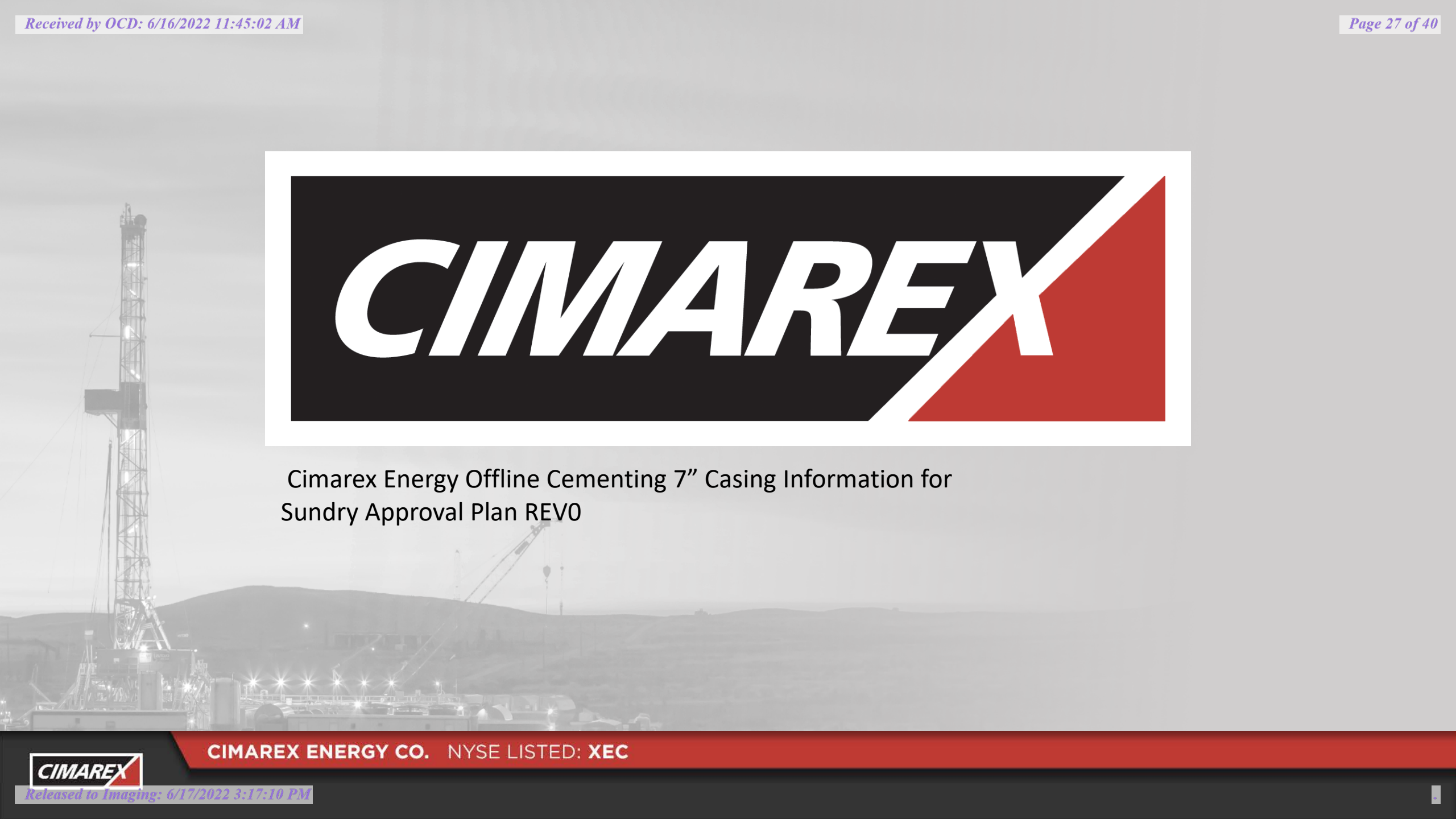
All casing strings will be tested as per Onshore Order No.2 to at least 0.22 psi/ft or 1,500 whichever is greater and not to exceed 70% of casing burst.

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

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 5H 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 5H 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 5H 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

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

CIMAREX ENERGY CO. NYSE LISTED: XEC



Cementing Operational Workflow

Conventional Cementing

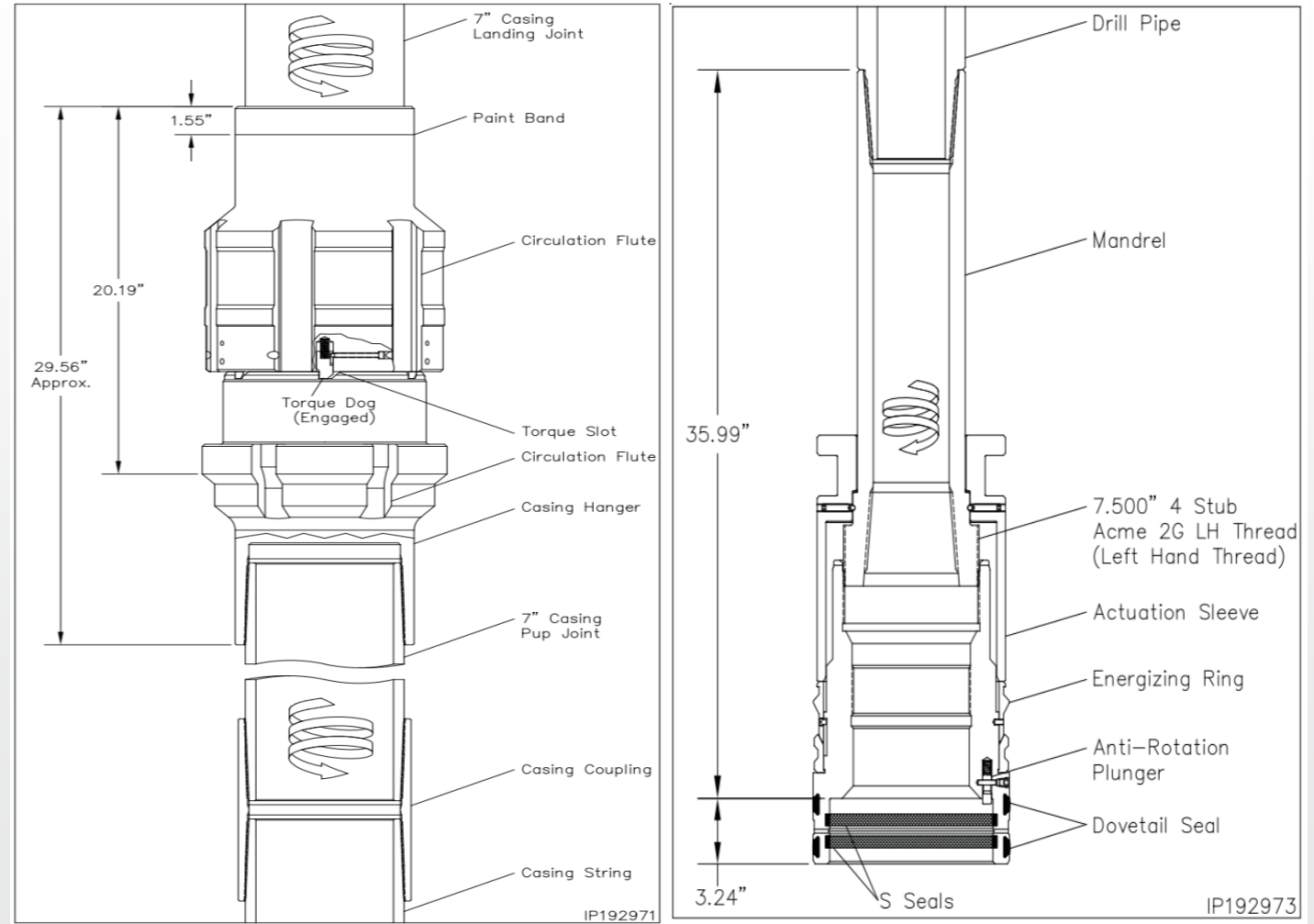
1. Land casing on fluted mandrel hanger
2. Circulate down casing, taking returns through BOP stack
3. Pump lead and tail cement
4. Displace cement and bump the plug
5. Ensure floats are holding pressure
6. RD cement crew
7. Install packoff to isolate pressure
8. Install BPV and skid rig

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

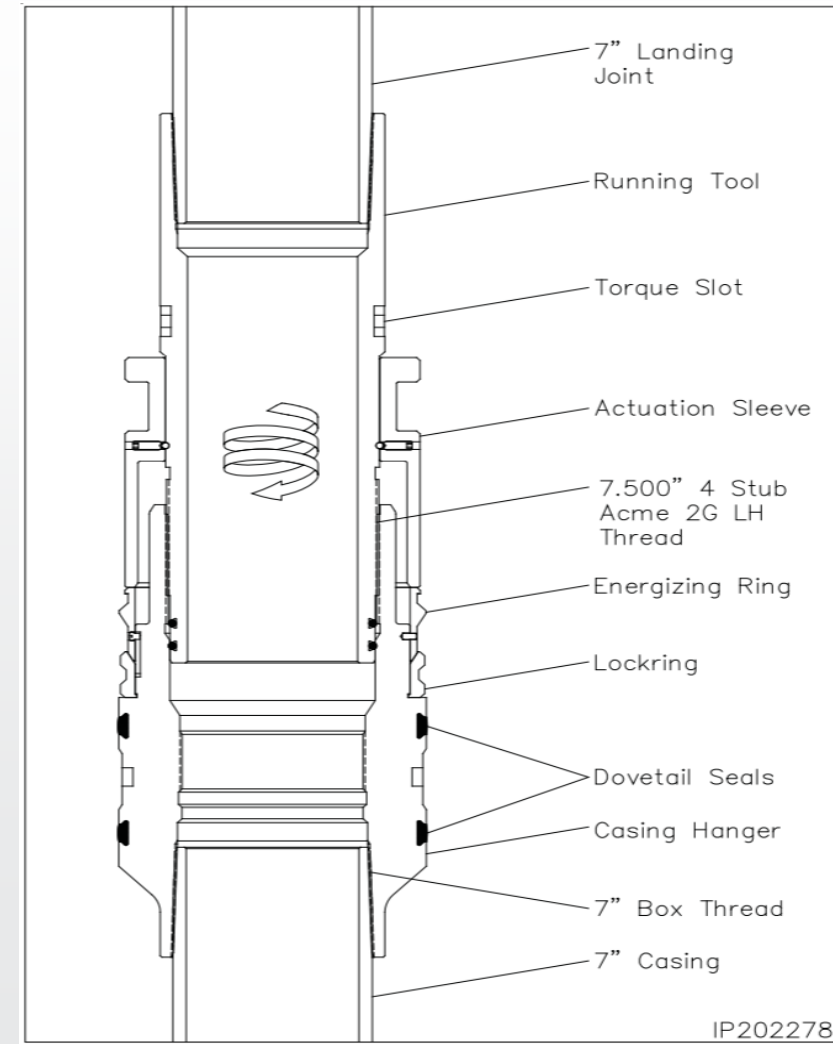
Conventional Cementing Equipment-Fluted Mandrel

- 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

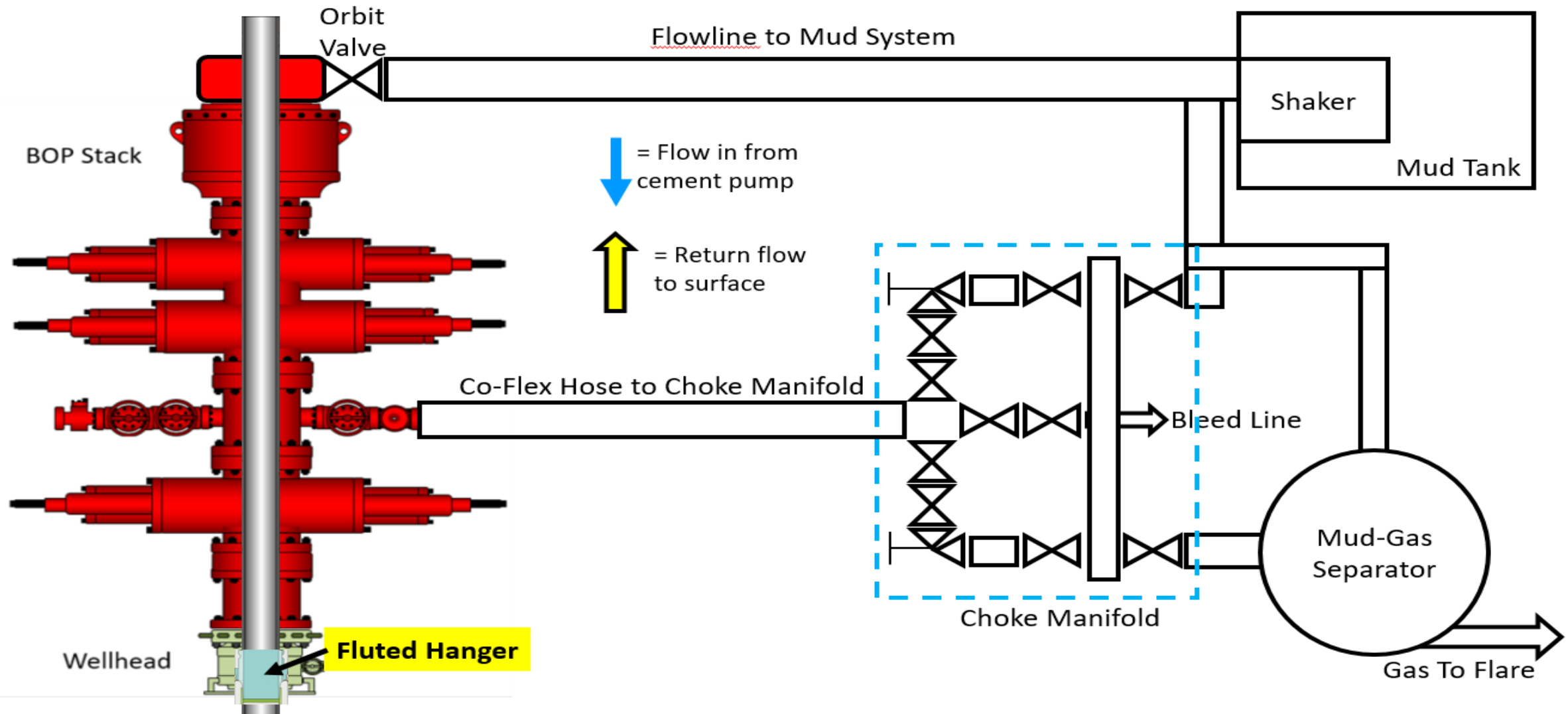


Offline Cementing Equipment-Solid Body Mandrel Hanger

- 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



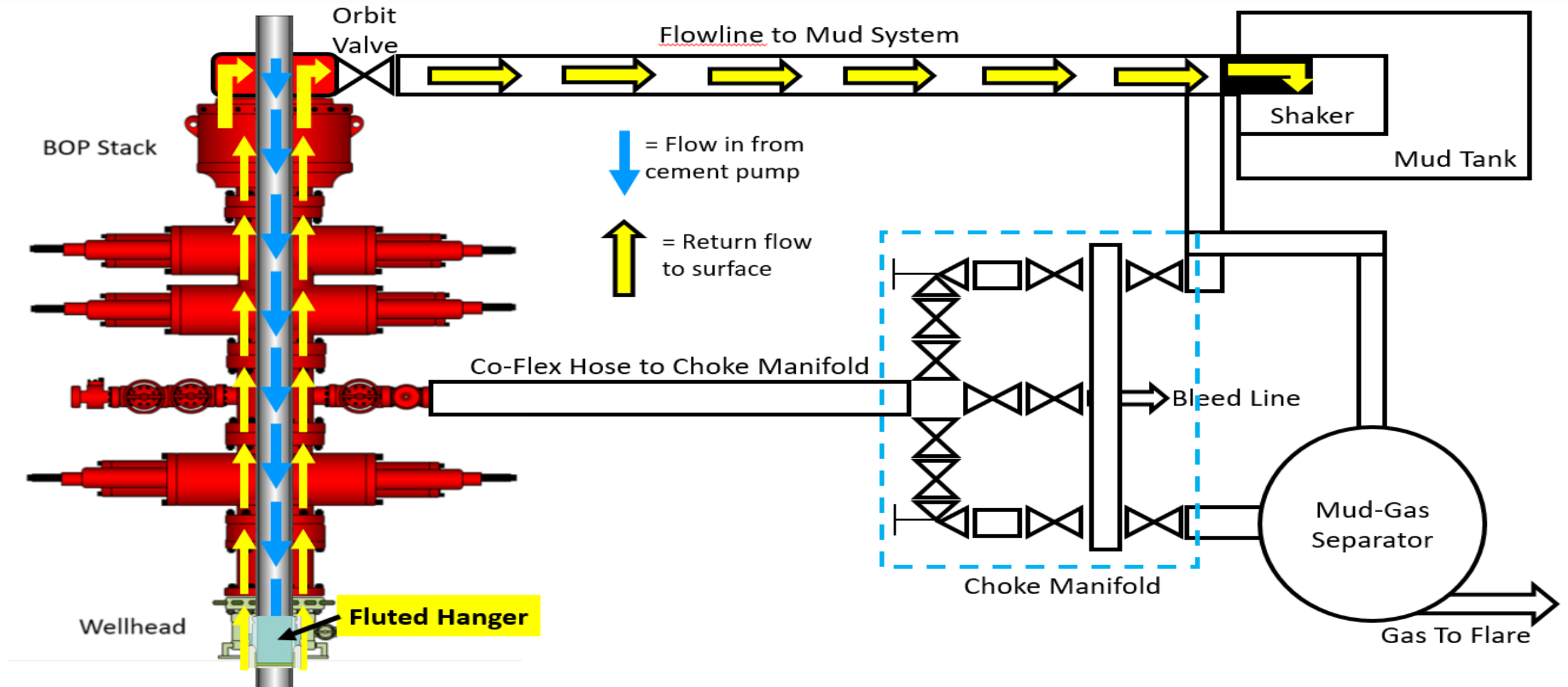
Conventional Cementing Flow Diagram



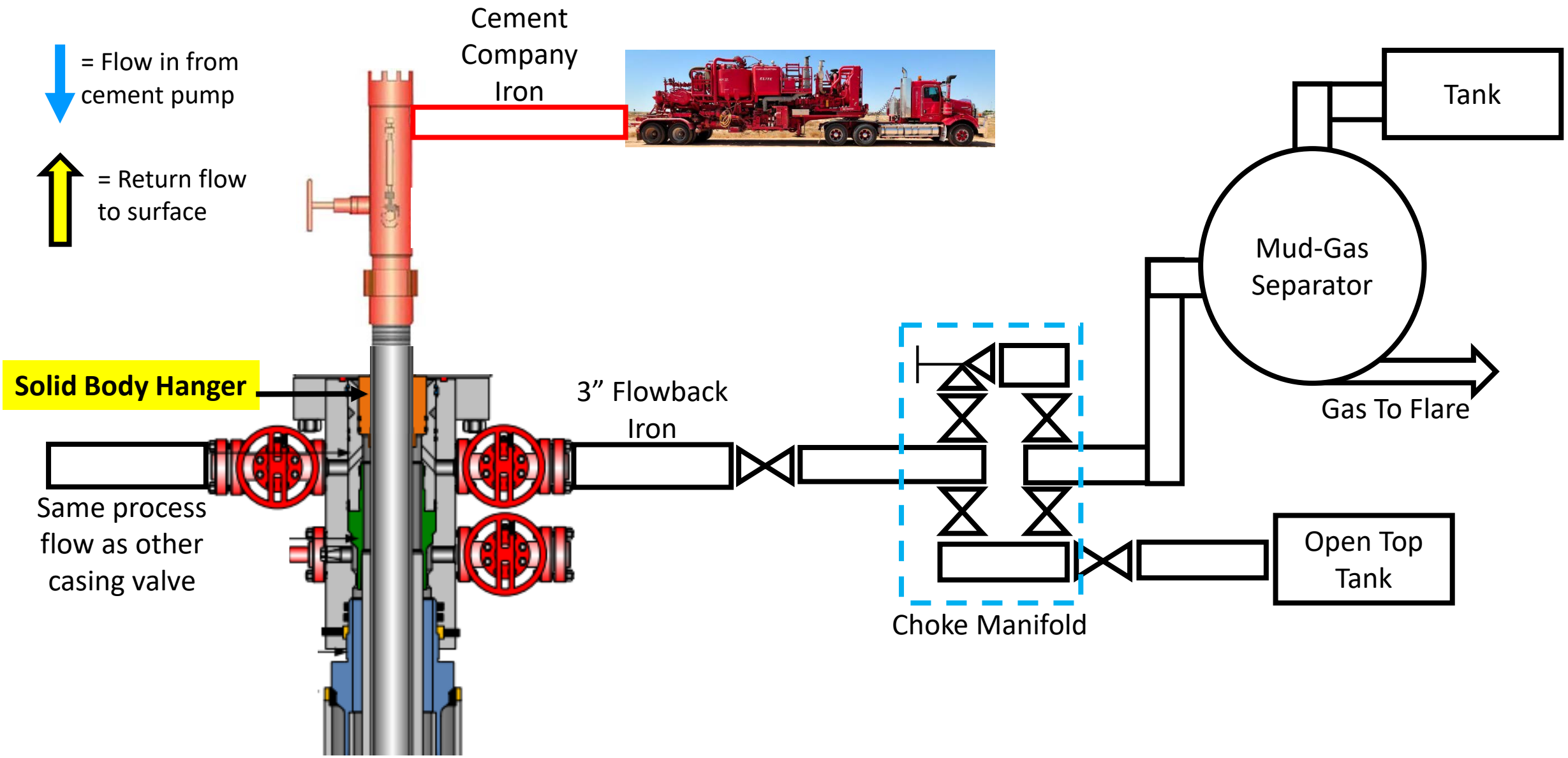
CIMAREX ENERGY CO. NYSE LISTED: XEC



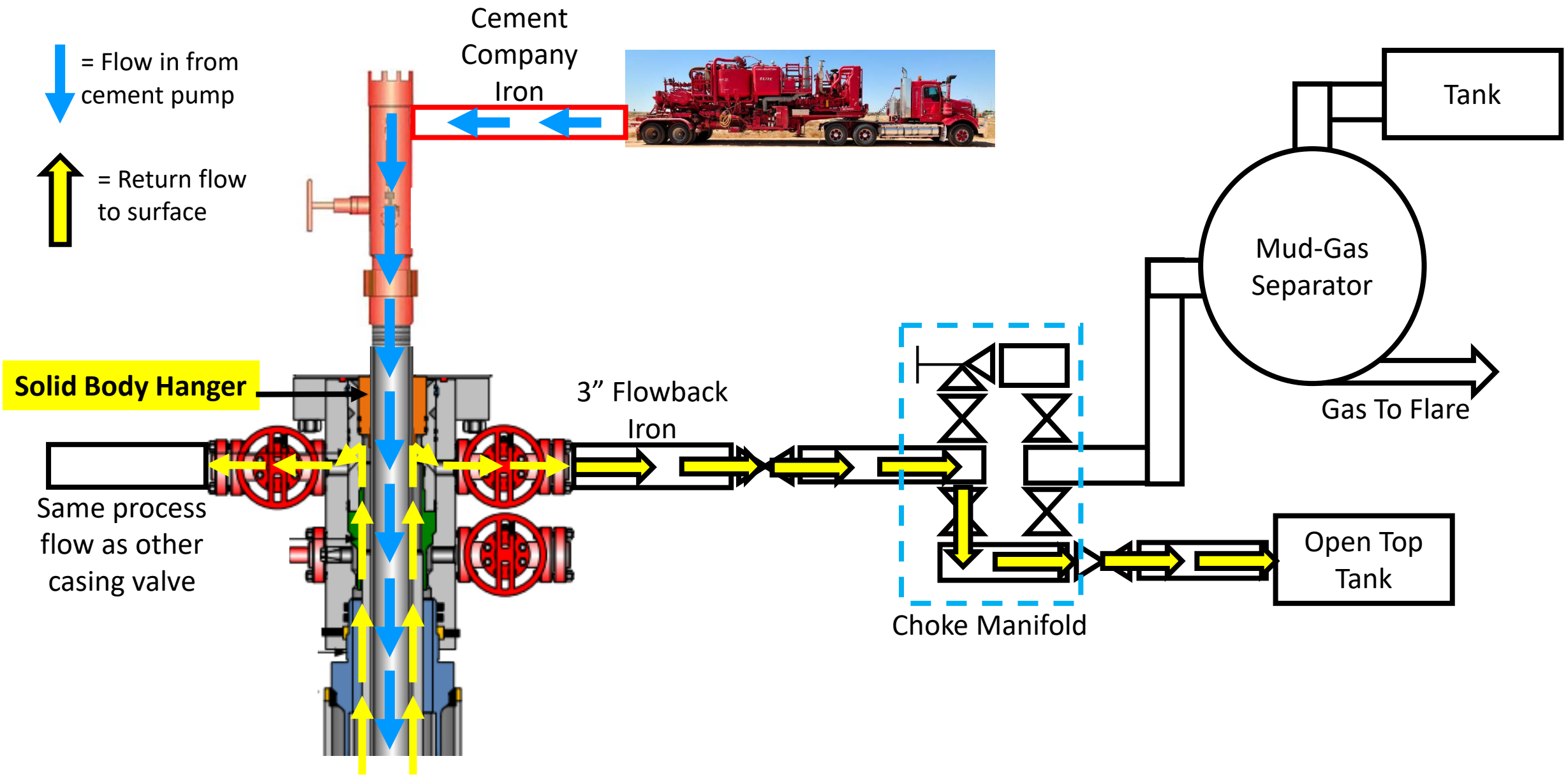
Conventional Cementing Flow Diagram



Offline Cementing -- Intermediate Casing

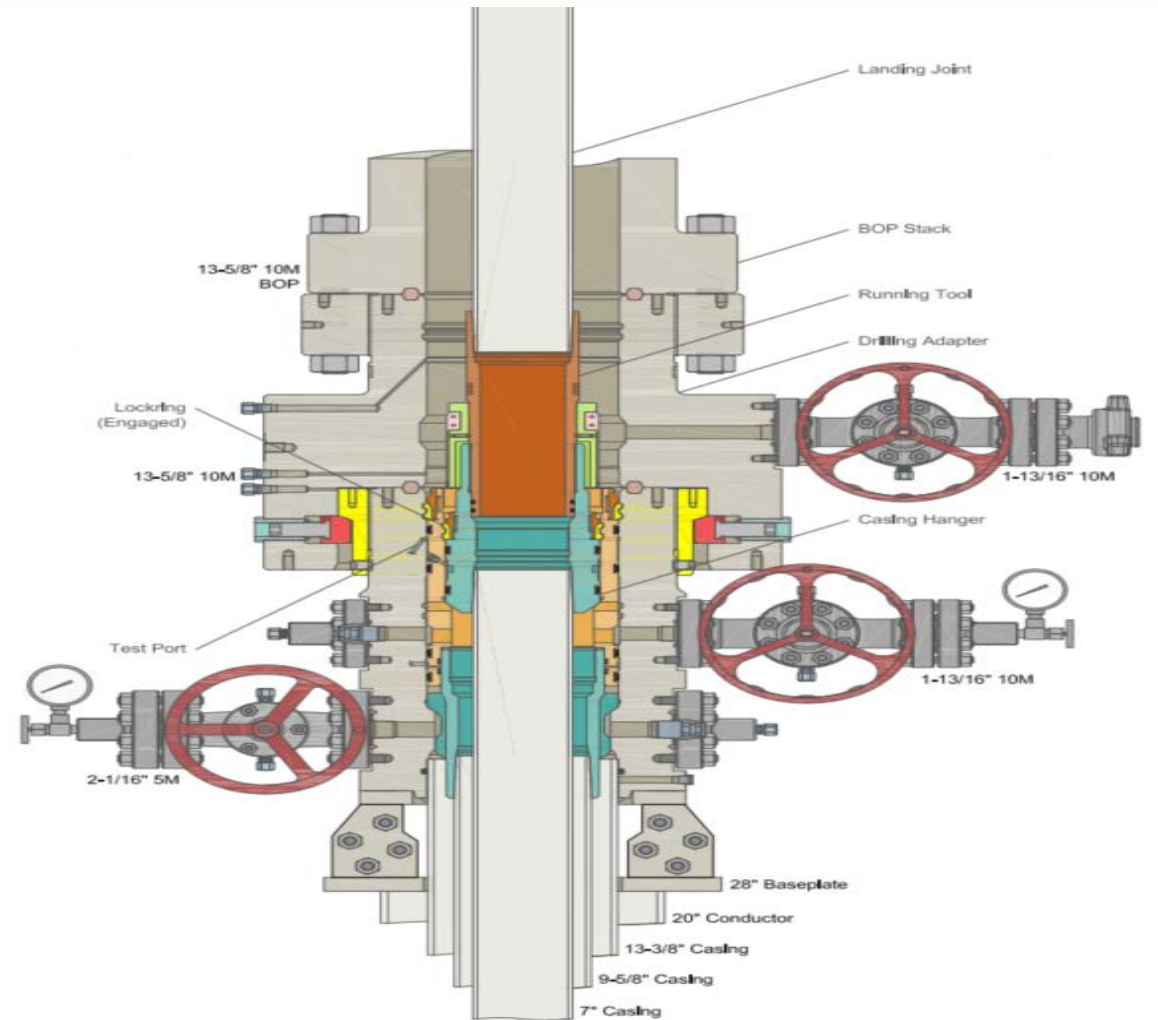


Offline Cementing -- Intermediate Casing



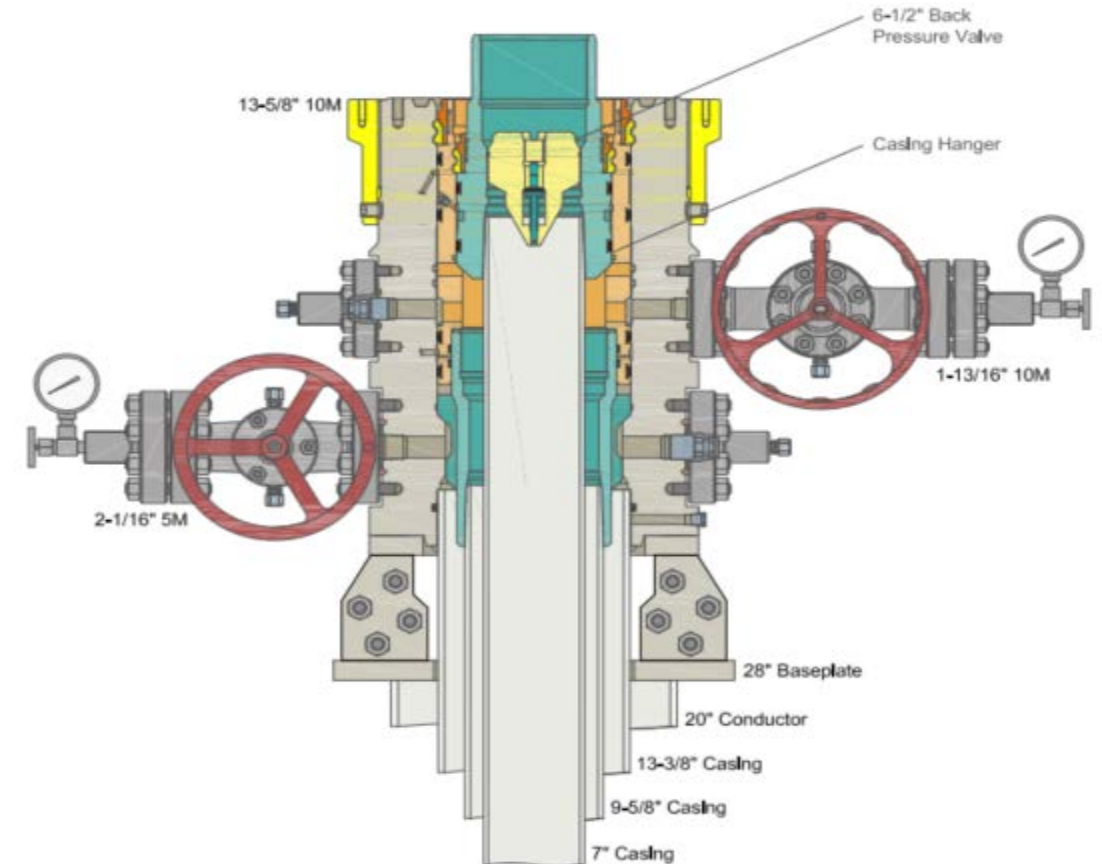
Offline Cementing Progression

- 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**



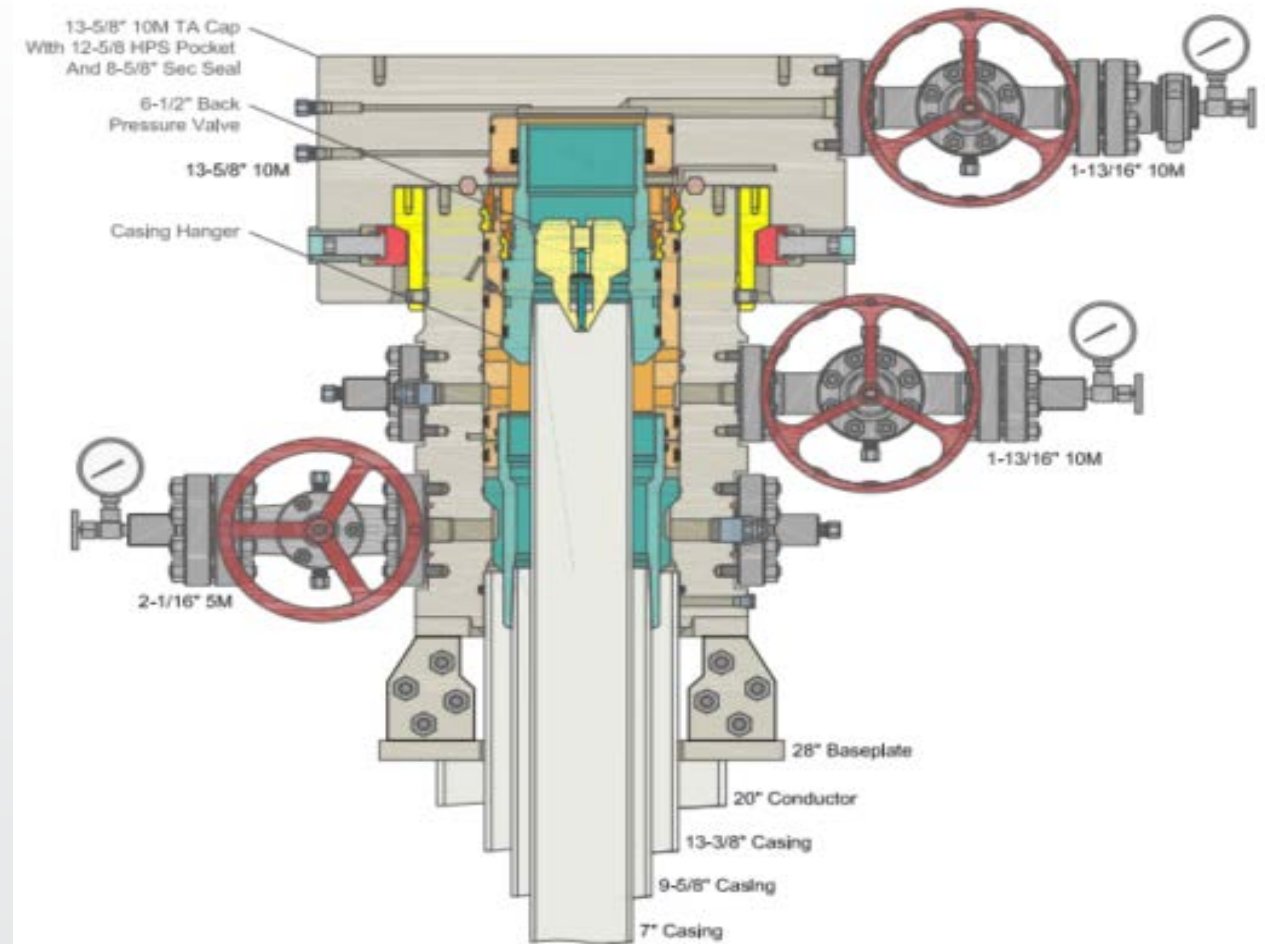
Offline Cementing Progression

- 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



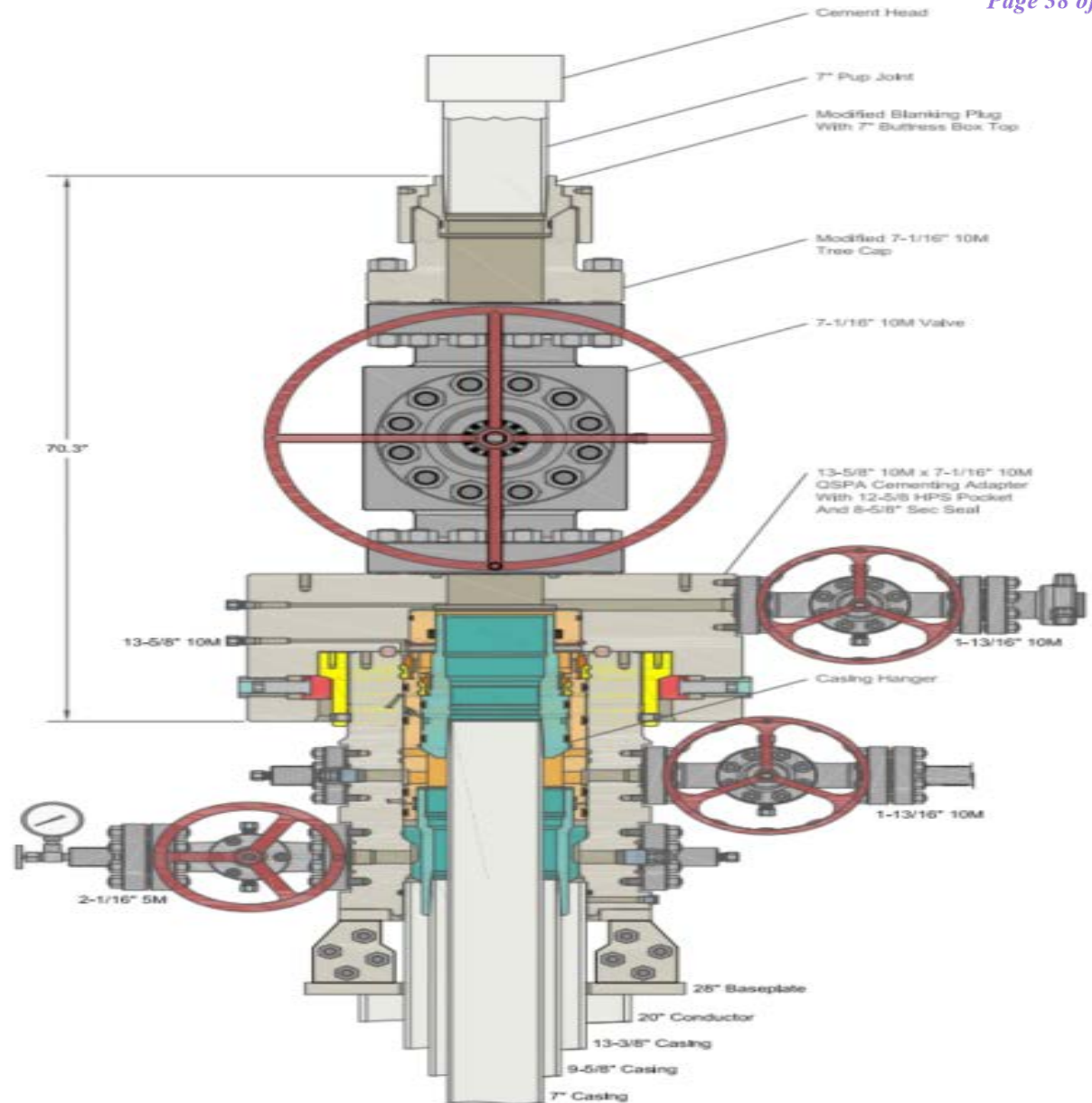
Offline Cementing Progression

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

CONDITIONS

Action 118009

CONDITIONS

Operator: CIMAREX ENERGY CO. 600 N. Marienfeld Street Midland, TX 79701	OGRID: 215099
	Action Number: 118009
	Action Type: [C-103] NOI Change of Plans (C-103A)

CONDITIONS

Created By	Condition	Condition Date
pkautz	REQUIRES NSP ORDER	6/17/2022