OXY

PRD NM DIRECTIONAL PLANS (NAD 1983)
Charlie Chocolate 14-15
Charlie Chocolate 14-15 Fed Com 31H

Wellbore #2

Plan: Permitting Plan

Standard Planning Report

16 May, 2019

Database:	HOPSPP	**Local Co-ordinate Reference:**	Well Charlie Chocolate 14-15 Fed Com 31H
Company:	ENGINEERING DESIGNS	**TVD Reference:**	RKB=26.5' @ 3290.20ft
Project:	PRD NM DIRECTIONAL PLANS (NAD 1983)	**MD Reference:**	RKB=26.5' @ 3290.20ft
Site:	Charlie Chocolate 14-15	**North Reference:**	Grid
Well:	Charlie Chocolate 14-15 Fed Com 31H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Wellbore #2		
Design:	Permitting Plan		

Project PRD NM DIRECTIONAL PLANS (NAD 1983)

Map System:	US State Plane 1983	**System Datum:**	Mean Sea Level
Geo Datum:	North American Datum 1983		
Map Zone:	New Mexico Eastern Zone		Using geodetic scale factor

Site Charlie Chocolate 14-15

Site Position:		**Northing:**	574,700.48 usft	**Latitude:**	32° 34' 47.130378 N
From:	Map	**Easting:**	600,645.96 usft	**Longitude:**	104° 8' 26.833530 W
Position Uncertainty:	2.00 ft	**Slot Radius:**	13.200 in	**Grid Convergence:**	0.10 °

Well Charlie Chocolate 14-15 Fed Com 31H

Well Position	**+N/-S**	0.00 ft	**Northing:**	574,700.48 usft	**Latitude:**	32° 34' 47.130378 N
	+E/-W	0.00 ft	**Easting:**	600,645.96 usft	**Longitude:**	104° 8' 26.833530 W
Position Uncertainty		0.00 ft	**Wellhead Elevation:**	0.00 ft	**Ground Level:**	3,263.70 ft

Wellbore Wellbore #2

Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	HDGM	5/15/2019	7.28	60.32	47,984

Design Permitting Plan

Audit Notes:

Version:		**Phase:**	PROTOTYPE	**Tie On Depth:**	8,211.10

Vertical Section:	Depth From (TVD) (ft)	+N/-S (ft)	+E/-W (ft)	Direction (°)
	0.00	0.00	0.00	268.53

Plan Sections

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	TFO (°)	Target
8,211.10	8.08	119.59	8,172.39	-194.76	342.95	0.00	0.00	0.00	0.00	
8,731.59	45.00	268.50	8,647.18	-219.35	179.39	10.00	7.09	28.61	152.41	
9,189.77	90.80	269.78	8,815.00	-224.75	-233.87	10.00	10.00	0.28	1.79	
19,165.77	90.80	269.78	8,675.00	-262.57	-10,208.82	0.00	0.00	0.00	0.00	PBHL (Charlie

Database:	HOPSPP	**Local Co-ordinate Reference:**	Well Charlie Chocolate 14-15 Fed Com 31H
Company:	ENGINEERING DESIGNS	**TVD Reference:**	RKB=26.5' @ 3290.20ft
Project:	PRD NM DIRECTIONAL PLANS (NAD 1983)	**MD Reference:**	RKB=26.5' @ 3290.20ft
Site:	Charlie Chocolate 14-15	**North Reference:**	Grid
Well:	Charlie Chocolate 14-15 Fed Com 31H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Wellbore #2		
Design:	Permitting Plan		

Planned Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
8,211.10	8.08	119.59	8,172.39	-194.76	342.95	-337.83	0.00	0.00	0.00
8,300.00	4.11	207.00	8,260.92	-200.69	346.94	-341.67	10.00	-4.47	98.32
8,400.00	12.29	254.82	8,359.89	-206.69	335.01	-329.59	10.00	8.18	47.82
8,500.00	22.02	262.96	8,455.34	-211.78	306.06	-300.52	10.00	9.73	8.14
8,600.00	31.92	266.23	8,544.36	-215.83	260.96	-255.33	10.00	9.89	3.27
8,700.00	41.86	268.06	8,624.25	-218.70	201.09	-195.40	10.00	9.94	1.84
8,731.59	45.00	268.50	8,647.18	-219.35	179.39	-173.69	10.00	9.96	1.38
8,800.00	51.84	268.77	8,692.56	-220.56	128.26	-122.55	10.00	10.00	0.40
8,900.00	61.83	269.09	8,747.19	-222.11	44.67	-38.95	10.00	10.00	0.32
9,000.00	71.83	269.35	8,786.48	-223.36	-47.14	52.87	10.00	10.00	0.26
9,100.00	81.83	269.58	8,809.24	-224.26	-144.38	150.10	10.00	10.00	0.23
9,189.77	90.80	269.78	8,815.00	-224.75	-233.87	239.58	10.00	10.00	0.22
9,200.00	90.80	269.78	8,814.86	-224.79	-244.10	249.80	0.00	0.00	0.00
9,300.00	90.80	269.78	8,813.45	-225.17	-344.09	349.77	0.00	0.00	0.00
9,400.00	90.80	269.78	8,812.05	-225.55	-444.08	449.73	0.00	0.00	0.00
9,500.00	90.80	269.78	8,810.65	-225.93	-544.07	549.70	0.00	0.00	0.00
9,600.00	90.80	269.78	8,809.24	-226.31	-644.06	649.67	0.00	0.00	0.00
9,700.00	90.80	269.78	8,807.84	-226.69	-744.05	749.63	0.00	0.00	0.00
9,800.00	90.80	269.78	8,806.44	-227.06	-844.04	849.60	0.00	0.00	0.00
9,900.00	90.80	269.78	8,805.03	-227.44	-944.03	949.57	0.00	0.00	0.00
10,000.00	90.80	269.78	8,803.63	-227.82	-1,044.02	1,049.53	0.00	0.00	0.00
10,100.00	90.80	269.78	8,802.23	-228.20	-1,144.01	1,149.50	0.00	0.00	0.00
10,200.00	90.80	269.78	8,800.82	-228.58	-1,244.00	1,249.46	0.00	0.00	0.00
10,300.00	90.80	269.78	8,799.42	-228.96	-1,343.99	1,349.43	0.00	0.00	0.00
10,400.00	90.80	269.78	8,798.02	-229.34	-1,443.98	1,449.40	0.00	0.00	0.00
10,500.00	90.80	269.78	8,796.61	-229.72	-1,543.97	1,549.36	0.00	0.00	0.00
10,600.00	90.80	269.78	8,795.21	-230.10	-1,643.96	1,649.33	0.00	0.00	0.00
10,700.00	90.80	269.78	8,793.81	-230.48	-1,743.95	1,749.29	0.00	0.00	0.00
10,800.00	90.80	269.78	8,792.40	-230.86	-1,843.93	1,849.26	0.00	0.00	0.00
10,900.00	90.80	269.78	8,791.00	-231.24	-1,943.92	1,949.23	0.00	0.00	0.00
11,000.00	90.80	269.78	8,789.60	-231.61	-2,043.91	2,049.19	0.00	0.00	0.00
11,100.00	90.80	269.78	8,788.19	-231.99	-2,143.90	2,149.16	0.00	0.00	0.00
11,200.00	90.80	269.78	8,786.79	-232.37	-2,243.89	2,249.13	0.00	0.00	0.00
11,300.00	90.80	269.78	8,785.39	-232.75	-2,343.88	2,349.09	0.00	0.00	0.00
11,400.00	90.80	269.78	8,783.98	-233.13	-2,443.87	2,449.06	0.00	0.00	0.00
11,500.00	90.80	269.78	8,782.58	-233.51	-2,543.86	2,549.02	0.00	0.00	0.00
11,600.00	90.80	269.78	8,781.18	-233.89	-2,643.85	2,648.99	0.00	0.00	0.00
11,700.00	90.80	269.78	8,779.77	-234.27	-2,743.84	2,748.96	0.00	0.00	0.00
11,800.00	90.80	269.78	8,778.37	-234.65	-2,843.83	2,848.92	0.00	0.00	0.00
11,900.00	90.80	269.78	8,776.97	-235.03	-2,943.82	2,948.89	0.00	0.00	0.00
12,000.00	90.80	269.78	8,775.56	-235.41	-3,043.81	3,048.85	0.00	0.00	0.00
12,100.00	90.80	269.78	8,774.16	-235.78	-3,143.80	3,148.82	0.00	0.00	0.00
12,200.00	90.80	269.78	8,772.76	-236.16	-3,243.79	3,248.79	0.00	0.00	0.00
12,300.00	90.80	269.78	8,771.35	-236.54	-3,343.78	3,348.75	0.00	0.00	0.00
12,400.00	90.80	269.78	8,769.95	-236.92	-3,443.77	3,448.72	0.00	0.00	0.00
12,500.00	90.80	269.78	8,768.55	-237.30	-3,543.76	3,548.68	0.00	0.00	0.00
12,600.00	90.80	269.78	8,767.14	-237.68	-3,643.74	3,648.65	0.00	0.00	0.00
12,700.00	90.80	269.78	8,765.74	-238.06	-3,743.73	3,748.62	0.00	0.00	0.00
12,800.00	90.80	269.78	8,764.34	-238.44	-3,843.72	3,848.58	0.00	0.00	0.00
12,900.00	90.80	269.78	8,762.93	-238.82	-3,943.71	3,948.55	0.00	0.00	0.00
13,000.00	90.80	269.78	8,761.53	-239.20	-4,043.70	4,048.52	0.00	0.00	0.00
13,100.00	90.80	269.78	8,760.13	-239.58	-4,143.69	4,148.48	0.00	0.00	0.00
13,200.00	90.80	269.78	8,758.72	-239.96	-4,243.68	4,248.45	0.00	0.00	0.00
13,300.00	90.80	269.78	8,757.32	-240.33	-4,343.67	4,348.41	0.00	0.00	0.00

Database:	HOPSPP	**Local Co-ordinate Reference:**	Well Charlie Chocolate 14-15 Fed Com 31H
Company:	ENGINEERING DESIGNS	**TVD Reference:**	RKB=26.5' @ 3290.20ft
Project:	PRD NM DIRECTIONAL PLANS (NAD 1983)	**MD Reference:**	RKB=26.5' @ 3290.20ft
Site:	Charlie Chocolate 14-15	**North Reference:**	Grid
Well:	Charlie Chocolate 14-15 Fed Com 31H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Wellbore #2		
Design:	Permitting Plan		

Planned Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
13,400.00	90.80	269.78	8,755.91	-240.71	-4,443.66	4,448.38	0.00	0.00	0.00
13,500.00	90.80	269.78	8,754.51	-241.09	-4,543.65	4,548.35	0.00	0.00	0.00
13,600.00	90.80	269.78	8,753.11	-241.47	-4,643.64	4,648.31	0.00	0.00	0.00
13,700.00	90.80	269.78	8,751.70	-241.85	-4,743.63	4,748.28	0.00	0.00	0.00
13,800.00	90.80	269.78	8,750.30	-242.23	-4,843.62	4,848.24	0.00	0.00	0.00
13,900.00	90.80	269.78	8,748.90	-242.61	-4,943.61	4,948.21	0.00	0.00	0.00
14,000.00	90.80	269.78	8,747.49	-242.99	-5,043.60	5,048.18	0.00	0.00	0.00
14,100.00	90.80	269.78	8,746.09	-243.37	-5,143.59	5,148.14	0.00	0.00	0.00
14,200.00	90.80	269.78	8,744.69	-243.75	-5,243.58	5,248.11	0.00	0.00	0.00
14,300.00	90.80	269.78	8,743.28	-244.13	-5,343.57	5,348.08	0.00	0.00	0.00
14,400.00	90.80	269.78	8,741.88	-244.50	-5,443.55	5,448.04	0.00	0.00	0.00
14,500.00	90.80	269.78	8,740.48	-244.88	-5,543.54	5,548.01	0.00	0.00	0.00
14,600.00	90.80	269.78	8,739.07	-245.26	-5,643.53	5,647.97	0.00	0.00	0.00
14,700.00	90.80	269.78	8,737.67	-245.64	-5,743.52	5,747.94	0.00	0.00	0.00
14,800.00	90.80	269.78	8,736.27	-246.02	-5,843.51	5,847.91	0.00	0.00	0.00
14,900.00	90.80	269.78	8,734.86	-246.40	-5,943.50	5,947.87	0.00	0.00	0.00
15,000.00	90.80	269.78	8,733.46	-246.78	-6,043.49	6,047.84	0.00	0.00	0.00
15,100.00	90.80	269.78	8,732.06	-247.16	-6,143.48	6,147.80	0.00	0.00	0.00
15,200.00	90.80	269.78	8,730.65	-247.54	-6,243.47	6,247.77	0.00	0.00	0.00
15,300.00	90.80	269.78	8,729.25	-247.92	-6,343.46	6,347.74	0.00	0.00	0.00
15,400.00	90.80	269.78	8,727.85	-248.30	-6,443.45	6,447.70	0.00	0.00	0.00
15,500.00	90.80	269.78	8,726.44	-248.68	-6,543.44	6,547.67	0.00	0.00	0.00
15,600.00	90.80	269.78	8,725.04	-249.05	-6,643.43	6,647.63	0.00	0.00	0.00
15,700.00	90.80	269.78	8,723.64	-249.43	-6,743.42	6,747.60	0.00	0.00	0.00
15,800.00	90.80	269.78	8,722.23	-249.81	-6,843.41	6,847.57	0.00	0.00	0.00
15,900.00	90.80	269.78	8,720.83	-250.19	-6,943.40	6,947.53	0.00	0.00	0.00
16,000.00	90.80	269.78	8,719.43	-250.57	-7,043.39	7,047.50	0.00	0.00	0.00
16,100.00	90.80	269.78	8,718.02	-250.95	-7,143.38	7,147.47	0.00	0.00	0.00
16,200.00	90.80	269.78	8,716.62	-251.33	-7,243.36	7,247.43	0.00	0.00	0.00
16,300.00	90.80	269.78	8,715.22	-251.71	-7,343.35	7,347.40	0.00	0.00	0.00
16,400.00	90.80	269.78	8,713.81	-252.09	-7,443.34	7,447.36	0.00	0.00	0.00
16,500.00	90.80	269.78	8,712.41	-252.47	-7,543.33	7,547.33	0.00	0.00	0.00
16,600.00	90.80	269.78	8,711.01	-252.85	-7,643.32	7,647.30	0.00	0.00	0.00
16,700.00	90.80	269.78	8,709.60	-253.22	-7,743.31	7,747.26	0.00	0.00	0.00
16,800.00	90.80	269.78	8,708.20	-253.60	-7,843.30	7,847.23	0.00	0.00	0.00
16,900.00	90.80	269.78	8,706.80	-253.98	-7,943.29	7,947.19	0.00	0.00	0.00
17,000.00	90.80	269.78	8,705.39	-254.36	-8,043.28	8,047.16	0.00	0.00	0.00
17,100.00	90.80	269.78	8,703.99	-254.74	-8,143.27	8,147.13	0.00	0.00	0.00
17,200.00	90.80	269.78	8,702.59	-255.12	-8,243.26	8,247.09	0.00	0.00	0.00
17,300.00	90.80	269.78	8,701.18	-255.50	-8,343.25	8,347.06	0.00	0.00	0.00
17,400.00	90.80	269.78	8,699.78	-255.88	-8,443.24	8,447.03	0.00	0.00	0.00
17,500.00	90.80	269.78	8,698.38	-256.26	-8,543.23	8,546.99	0.00	0.00	0.00
17,600.00	90.80	269.78	8,696.97	-256.64	-8,643.22	8,646.96	0.00	0.00	0.00
17,700.00	90.80	269.78	8,695.57	-257.02	-8,743.21	8,746.92	0.00	0.00	0.00
17,800.00	90.80	269.78	8,694.17	-257.40	-8,843.20	8,846.89	0.00	0.00	0.00
17,900.00	90.80	269.78	8,692.76	-257.77	-8,943.18	8,946.86	0.00	0.00	0.00
18,000.00	90.80	269.78	8,691.36	-258.15	-9,043.17	9,046.82	0.00	0.00	0.00
18,100.00	90.80	269.78	8,689.96	-258.53	-9,143.16	9,146.79	0.00	0.00	0.00
18,200.00	90.80	269.78	8,688.55	-258.91	-9,243.15	9,246.75	0.00	0.00	0.00
18,300.00	90.80	269.78	8,687.15	-259.29	-9,343.14	9,346.72	0.00	0.00	0.00
18,400.00	90.80	269.78	8,685.75	-259.67	-9,443.13	9,446.69	0.00	0.00	0.00
18,500.00	90.80	269.78	8,684.34	-260.05	-9,543.12	9,546.65	0.00	0.00	0.00
18,600.00	90.80	269.78	8,682.94	-260.43	-9,643.11	9,646.62	0.00	0.00	0.00
18,700.00	90.80	269.78	8,681.54	-260.81	-9,743.10	9,746.59	0.00	0.00	0.00

Database:	HOPSPP	**Local Co-ordinate Reference:**	Well Charlie Chocolate 14-15 Fed Com 31H
Company:	ENGINEERING DESIGNS	**TVD Reference:**	RKB=26.5' @ 3290.20ft
Project:	PRD NM DIRECTIONAL PLANS (NAD 1983)	**MD Reference:**	RKB=26.5' @ 3290.20ft
Site:	Charlie Chocolate 14-15	**North Reference:**	Grid
Well:	Charlie Chocolate 14-15 Fed Com 31H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Wellbore #2		
Design:	Permitting Plan		

Planned Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
18,800.00	90.80	269.78	8,680.13	-261.19	-9,843.09	9,846.55	0.00	0.00	0.00
18,900.00	90.80	269.78	8,678.73	-261.57	-9,943.08	9,946.52	0.00	0.00	0.00
19,000.00	90.80	269.78	8,677.33	-261.94	-10,043.07	10,046.48	0.00	0.00	0.00
19,100.00	90.80	269.78	8,675.92	-262.32	-10,143.06	10,146.45	0.00	0.00	0.00
19,165.77	90.80	269.78	8,675.00	-262.57	-10,208.82	10,212.19	0.00	0.00	0.00

Design Targets

Target Name - hit/miss target - Shape	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (usft)	Easting (usft)	Latitude	Longitude
PBHL (Charlie - plan hits target center - Point	0.00	0.00	8,675.00	-262.57	-10,208.82	574,437.93	590,438.05	32° 34' 44.699382 N	104° 10' 26.142437
FTP (Charlie - plan misses target center by 205.24ft at 8752.27ft MD (8661.54 TVD, -219.73 N, 164.51 E) - Point	0.00	0.00	8,815.00	-222.69	300.77	574,477.81	600,946.70	32° 34' 44.921559 N	104° 8' 23.323388

Plan Annotations

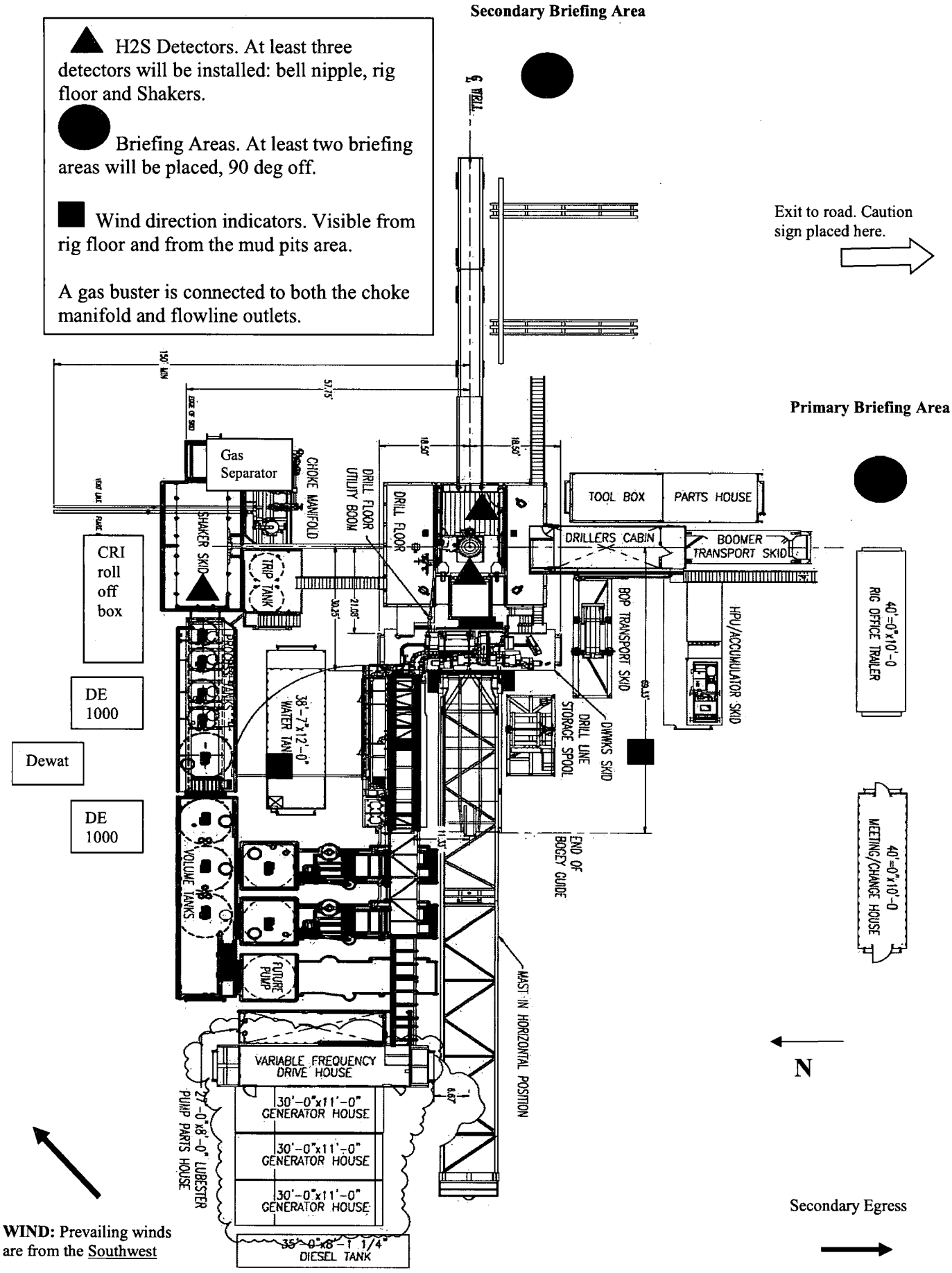
Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates +N/-S (ft)	Local Coordinates +E/-W (ft)	Comment
8,211.10	8,172.39	-194.76	342.95	ST, Build & Turn 10°/100'
8,731.59	8,647.18	-219.35	179.39	Build & Turn 10.00°/100'
9,189.77	8,815.00	-224.75	-233.87	Landing Point
19,165.77	8,675.00	-262.57	-10,208.82	TD at 19165.77' MD

Permian Drilling
Hydrogen Sulfide Drilling Operations Plan
Charlie Chocolate 14_15 Fed Com 31H

Open drill site. No homes or buildings are near the proposed location.

1. Escape

   Personnel shall escape upwind of wellbore in the event of an emergency gas release. Escape can take place through the lease road on the Southeast side of the location. Personnel need to move to a safe distance and block the entrance to location. If the primary route is not an option due to the wind direction, then a secondary egress route should be taken.


Secondary Briefing Area
H2S Detectors. At least three detectors will be installed: bell nipple, rig floor and Shakers.
Briefing Areas. At least two briefing areas will be placed, 90 deg off.
Wind direction indicators. Visible from rig floor and from the mud pits area.
A gas buster is connected to both the choke manifold and flowline outlets.
Exit to road. Caution sign placed here.
Primary Briefing Area
Gas Separator
CHOKE MANIFOLD
DRILL FLOOR UTILITY BOOM
DRILL FLOOR
TOOL BOX
PARTS HOUSE
DRILLERS CABIN
BOOMER TRANSPORT SKID
SHAKER SKID
TRIP TANK
CRI roll off box
DE 1000
Dewat
DE 1000
38'-7"x12'-0" WATER TANK
BOP TRANSPORT SKID
HPU/ACCUMULATOR SKID
DRILL LINE STORAGE SPOOL
DWKKS SKID
40'-0"x10'-0 RIG OFFICE TRAILER
40'-0"x10'-0 MEETING/CHANGE HOUSE
END OF BOGEY GUIDE
VOLUME TANKS
FUTURE PUMP
MAST IN HORIZONTAL POSITION
VARIABLE FREQUENCY DRIVE HOUSE
30'-0"x11'-0" GENERATOR HOUSE
30'-0"x11'-0" GENERATOR HOUSE
30'-0"x11'-0" GENERATOR HOUSE
27'-0"x8'-0" LUBESTER PUMP PARTS HOUSE
35'-0"x8'-1 1/4" DIESEL TANK
N
WIND: Prevailing winds are from the Southwest
Secondary Egress

PECOS DISTRICT
DRILLING CONDITIONS OF APPROVAL

OPERATOR'S NAME:	OXY USA WTP LP
LEASE NO.:	NMLC050797
WELL NAME & NO.:	CHARLIE CHOCOLATE 14-15 FED COM 31H
SURFACE HOLE FOOTAGE:	450'/N & 420'/E
BOTTOM HOLE FOOTAGE	660'/N & 20'/W
LOCATION:	SECTION 14, T20S, R28E, NMPM
COUNTY:	EDDY

COA

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

ALL PREVIOUS COAs STILL APPLY.

A. HYDROGEN SULFIDE

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

B. CASING

Casing Design:

1. The **13-3/8** inch surface casing shall be set at approximately **400** feet (a minimum of 70 feet (Eddy County) into the Rustler Anhydrite and above the salt) and cemented to the surface.

    a. If cement does not circulate to the surface, the appropriate BLM office shall be notified and a temperature survey utilizing an electronic type temperature survey with surface log readout will be used or a cement bond log shall be run to verify the top of the cement. Temperature survey will be run a minimum of

six hours after pumping cement and ideally between 8-10 hours after completing the cement job.

b. Wait on cement (WOC) time for a primary cement job will be a minimum of **8 hours** or 500 pounds compressive strength, whichever is greater. (This is to include the lead cement)
c. Wait on cement (WOC) time for a remedial job will be a minimum of 4 hours after bringing cement to surface or 500 pounds compressive strength, whichever is greater.
d. If cement falls back, remedial cementing will be done prior to drilling out that string.

2. The minimum required fill of cement behind the **9-5/8** inch intermediate casing is:

Option 1 (Single Stage):

- Cement to surface. If cement does not circulate see B.1.a, c-d above. **Wait on cement (WOC) time for a primary cement job is to include the lead cement slurry due to cave/karst or potash.**

Option 2:

Operator has proposed a DV tool, the depth may be adjusted as long as the cement is changed proportionally. The DV tool may be cancelled if cement circulates to surface on the first stage.

a. First stage to DV tool: Cement to circulate. If cement does not circulate off the DV tool, contact the appropriate BLM office before proceeding with second stage cement job.

b. Second stage above DV tool:

- Cement to surface. If cement does not circulate, contact the appropriate BLM office.
  Wait on cement (WOC) time for a primary cement job is to include the lead cement slurry due to cave/karst or potash.

❖ In **High Cave/Karst Areas** if cement does not circulate to surface on the first two casing strings, the cement on the 3rd casing string must come to surface.

❖ **Special Capitan Reef requirements.** If lost circulation (50% or greater) occurs below the Base of the Salt, the operator shall do the following:

- Switch to fresh water mud to protect the Capitan Reef and use fresh water mud until setting the intermediate casing. The appropriate BLM office is to be notified for a PET to witness the switch to fresh water.

- Daily drilling reports from the Base of the Salt to the setting of the intermediate casing are to be submitted to the BLM CFO engineering staff via e-mail by 0800 hours each morning. Any lost circulation encountered is to be recorded on these drilling reports. The daily drilling report should show mud volume per shift/tour. Failure to submit these reports will result in an Incidence of Non-Compliance being issued for failure to comply with the Conditions of Approval. If not already planned, the operator shall run a caliper survey for the intermediate well bore and submit to the appropriate BLM office.

The pilot hole plugging procedure is approved as written. Note plug tops on subsequent drilling report.

Or,

Pilot hole is required to have a plug at the bottom of the hole. If two plugs are set, the BLM is to be contacted **(575-361-2822 Eddy County) (575-393-3612 Lea County)** prior to tag of bottom plug, which must be a minimum of 200' in length. Operator can set one plug from bottom of pilot hole to kick-off point and save the WOC time for tagging the first plug. Note plug tops on subsequent drilling report.

3. The minimum required fill of cement behind the **7-5/8** inch 2nd intermediate casing is:

Option 1 (Single Stage):

- Cement to surface. If cement does not circulate see B.1.a, c-d above. **Wait on cement (WOC) time for a primary cement job is to include the lead cement slurry due to cave/karst or potash. Excess calculates to 10% - additional cement might be required.**

Option 2:

Operator has proposed a DV tool, the depth may be adjusted as long as the cement is changed proportionally. The DV tool may be cancelled if cement circulates to surface on the first stage.

a. First stage to DV tool: Cement to circulate. If cement does not circulate off the DV tool, contact the appropriate BLM office before proceeding with second stage cement job.

b. Second stage above DV tool:

- Cement to surface. If cement does not circulate, contact the appropriate BLM office.
  Wait on cement (WOC) time for a primary cement job is to include the lead cement slurry due to cave/karst or potash. .

4. The minimum required fill of cement behind the **5-1/2** inch production casing is:

    - Cement should tie-back **200 feet** into the previous casing. Operator shall provide method of verification. **Excess calculates to 19% - additional cement might be required.**

C. PRESSURE CONTROL

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

2.

Option 1:

a. Minimum working pressure of the blowout preventer (BOP) and related equipment (BOPE) required for drilling below the surface casing shoe shall be **3000 (3M)** psi.

b. Minimum working pressure of the blowout preventer (BOP) and related equipment (BOPE) required for drilling below the intermediate casing shoe shall be **3000 (3M)** psi.

c. Minimum working pressure of the blowout preventer (BOP) and related equipment (BOPE) required for drilling below the 2nd intermediate casing shoe into the lateral shall be **5000 (5M)** psi.

d. Minimum working pressure of the blowout preventer (BOP) and related equipment (BOPE) required for drilling below the intermediate casing shoe into the pilot hole shall be **10,000 (10M)** psi. **Variance is approved to use a 5000 (5M) Annular which shall be tested to 5000 (5M) psi.**

Option 2:

1. Operator has proposed a multi-bowl wellhead assembly. This assembly will only be tested when installed on the surface casing. Minimum working pressure of the blowout preventer (BOP) and related equipment (BOPE) required for drilling below the surface casing shoe shall be **10,000 (10M)** psi. **Variance is approved to use a 5000 (5M) Annular which shall be tested to 5000 (5M) psi.**

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

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

D. SPECIAL REQUIREMENT (S)

Offline Cementing

- Contact the BLM prior to the commencement of any offline cementing procedure.

BOP Break Testing Variance

- While in transfer between wells, the BOPE shall be secured by the hydraulic carrier or cradle.
- Any well control event while drilling require notification to the BLM Petroleum Engineer prior to the commencement of any BOP Break Testing operations.
- A full BOP test is required prior to drilling the first deep intermediate hole section. If any subsequent hole interval is deeper than the first, a full BOP test will be required.

Communitization Agreement

- The operator will submit a Communitization Agreement to the Carlsbad Field Office, 620 E Greene St. Carlsbad, New Mexico 88220, at least 90 days before the anticipated date of first production from a well subject to a spacing order issued by the New Mexico Oil Conservation Division. The Communitization Agreement will include the signatures of all working interest owners in all Federal and Indian leases subject to the Communitization Agreement (i.e., operating rights owners and lessees of record), or certification that the operator has obtained the written signatures of all such owners and will make those signatures available to the BLM immediately upon request.
- If the operator does not comply with this condition of approval, the BLM may take enforcement actions that include, but are not limited to, those specified in 43 CFR 3163.1.
- In addition, the well sign shall include the surface and bottom hole lease numbers. When the Communitization Agreement number is known, it shall also be on the sign.

GENERAL REQUIREMENTS

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

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

☒ Chaves and Roosevelt Counties
Call the Roswell Field Office, 2909 West Second St., Roswell NM 88201.
During office hours call (575) 627-0272.
After office hours call (575)

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

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

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

   a. In the event the operator has proposed to drill multiple wells utilizing a skid/walking rig. Operator shall secure the wellbore on the current well, after installing and testing the wellhead, by installing a blind flange of like pressure rating to the wellhead and a pressure gauge that can be monitored while drilling is performed on the other well(s).
   b. When the operator proposes to set surface casing with Spudder Rig
      - Notify the BLM when moving in and removing the Spudder Rig.
      - Notify the BLM when moving in the 2nd Rig. Rig to be moved in within 90 days of notification that Spudder Rig has left the location.
      - BOP/BOPE test to be conducted per Onshore Oil and Gas Order No. 2 as soon as 2nd Rig is rigged up on well.

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

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

A. CASING

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

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

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

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

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

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

7. If hardband drill pipe is rotated inside casing, returns will be monitored for metal. If metal is found in samples, drill pipe will be pulled and rubber protectors which have a larger diameter than the tool joints of the drill pipe will be installed prior to continuing drilling operations.

8. Whenever a casing string is cemented in the R-111-P potash area, the NMOCD requirements shall be followed.

B. PRESSURE CONTROL

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

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

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

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

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

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

    a. In a water basin, for all casing strings utilizing slips, these are to be set as soon as the crew and rig are ready and any fallback cement remediation has been done. The casing cut-off and BOP installation can be initiated four hours after installing the slips, which will be approximately six hours after bumping the

plug. For those casing strings not using slips, the minimum wait time before cut-off is eight hours after bumping the plug. BOP/BOPE testing can begin after cut-off or once cement reaches 500 psi compressive strength (including lead when specified), whichever is greater. However, if the float does not hold, cut-off cannot be initiated until cement reaches 500 psi compressive strength (including lead when specified).

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

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

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

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

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

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

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

C. DRILLING MUD

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

D. WASTE MATERIAL AND FLUIDS

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

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

NMK6202019