

OXY

PRD NM DIRECTIONAL PLANS (NAD 1983)

Width CC 6_7

Width CC 6_7 Federal Com 15H

Wellbore #1

Plan: Permitting Plan

Standard Planning Report

11 April, 2019

Oxy Planning Report

Database:	HOPSPP	Local Co-ordinate Reference:	Well Width CC 6_7 Federal Com 15H
Company:	ENGINEERING DESIGNS	TVD Reference:	RKB=26.5' @ 2986.50ft
Project:	PRD NM DIRECTIONAL PLANS (NAD 1983)	MD Reference:	RKB=26.5' @ 2986.50ft
Site:	Width CC 6_7	North Reference:	Grid
Well:	Width CC 6_7 Federal Com 15H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
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:	Width CC 6_7		
Site Position:	Map	Northing:	456,291.88 usft
From:		Easting:	638,489.93 usft
Position Uncertainty:	2.00 ft	Slot Radius:	13.200 in
		Latitude:	32° 15' 14.510911 N
		Longitude:	104° 1' 8.606765 W
		Grid Convergence:	0.17 °

Well:	Width CC 6_7 Federal Com 15H		
Well Position	+N-S	0.00 ft	Northing:
	+E-W	0.00 ft	Easting:
Position Uncertainty	0.00 ft	Wellhead Elevation:	0.00 ft
		Latitude:	32° 15' 14.510911 N
		Longitude:	104° 1' 8.606765 W
		Ground Level:	2,960.00 ft

Wellbore:	Wellbore #1		
Magnetics	Model Name	Sample Date	Declination
			(°)
	HDGM	4/11/2019	7.05
			Dip Angle
			(°)
			Field Strength
			(nT)
			60.00
			47,926

Design:	Permitting Plan		
Audit Notes:			
Version:	Phase:	PROTOTYPE	Tie On Depth:
			0.00
Vertical Section:	Depth From (TVD)	+N/S	+E/W
	(ft)	(ft)	(ft)
	0.00	0.00	0.00
			Direction
			(°)
			185.56

Plan Sections										
Measured Depth	Inclination	Azimuth	Vertical Depth	+N/S	+E/W	Dogleg Rate	Build Rate	Turn Rate	TFO	Target
(ft)	(°)	(°)	(ft)	(ft)	(ft)	(°/100ft)	(°/100ft)	(°/100ft)	(°)	
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
2,859.00	0.00	0.00	2,859.00	0.00	0.00	0.00	0.00	0.00	0.00	
3,759.01	18.00	271.25	3,744.28	3.05	-140.18	2.00	2.00	0.00	271.25	
6,148.20	18.00	271.25	6,016.53	19.11	-878.31	0.00	0.00	0.00	0.00	
7,427.37	18.00	179.72	7,253.72	-177.51	-1,078.26	2.00	0.00	-7.16	-134.33	
8,148.52	90.11	179.72	7,649.62	-723.57	-1,075.55	10.00	10.00	0.00	0.00	
17,973.52	90.11	179.72	7,630.00	-10,548.43	-1,026.74	0.00	0.00	0.00	0.00	PBHL (Width CC

Oxy Planning Report

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Company:	ENGINEERING DESIGNS	TVD Reference:	RKB=26.5' @ 2986.50ft
Project:	PRD NM DIRECTIONAL PLANS (NAD 1983)	MD Reference:	RKB=26.5' @ 2986.50ft
Site:	Width CC 6_7	North Reference:	Grid
Well:	Width CC 6_7 Federal Com 15H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
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)
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
100.00	0.00	0.00	100.00	0.00	0.00	0.00	0.00	0.00	0.00
200.00	0.00	0.00	200.00	0.00	0.00	0.00	0.00	0.00	0.00
300.00	0.00	0.00	300.00	0.00	0.00	0.00	0.00	0.00	0.00
400.00	0.00	0.00	400.00	0.00	0.00	0.00	0.00	0.00	0.00
500.00	0.00	0.00	500.00	0.00	0.00	0.00	0.00	0.00	0.00
600.00	0.00	0.00	600.00	0.00	0.00	0.00	0.00	0.00	0.00
700.00	0.00	0.00	700.00	0.00	0.00	0.00	0.00	0.00	0.00
800.00	0.00	0.00	800.00	0.00	0.00	0.00	0.00	0.00	0.00
900.00	0.00	0.00	900.00	0.00	0.00	0.00	0.00	0.00	0.00
1,000.00	0.00	0.00	1,000.00	0.00	0.00	0.00	0.00	0.00	0.00
1,100.00	0.00	0.00	1,100.00	0.00	0.00	0.00	0.00	0.00	0.00
1,200.00	0.00	0.00	1,200.00	0.00	0.00	0.00	0.00	0.00	0.00
1,300.00	0.00	0.00	1,300.00	0.00	0.00	0.00	0.00	0.00	0.00
1,400.00	0.00	0.00	1,400.00	0.00	0.00	0.00	0.00	0.00	0.00
1,500.00	0.00	0.00	1,500.00	0.00	0.00	0.00	0.00	0.00	0.00
1,600.00	0.00	0.00	1,600.00	0.00	0.00	0.00	0.00	0.00	0.00
1,700.00	0.00	0.00	1,700.00	0.00	0.00	0.00	0.00	0.00	0.00
1,800.00	0.00	0.00	1,800.00	0.00	0.00	0.00	0.00	0.00	0.00
1,900.00	0.00	0.00	1,900.00	0.00	0.00	0.00	0.00	0.00	0.00
2,000.00	0.00	0.00	2,000.00	0.00	0.00	0.00	0.00	0.00	0.00
2,100.00	0.00	0.00	2,100.00	0.00	0.00	0.00	0.00	0.00	0.00
2,200.00	0.00	0.00	2,200.00	0.00	0.00	0.00	0.00	0.00	0.00
2,300.00	0.00	0.00	2,300.00	0.00	0.00	0.00	0.00	0.00	0.00
2,400.00	0.00	0.00	2,400.00	0.00	0.00	0.00	0.00	0.00	0.00
2,500.00	0.00	0.00	2,500.00	0.00	0.00	0.00	0.00	0.00	0.00
2,600.00	0.00	0.00	2,600.00	0.00	0.00	0.00	0.00	0.00	0.00
2,700.00	0.00	0.00	2,700.00	0.00	0.00	0.00	0.00	0.00	0.00
2,800.00	0.00	0.00	2,800.00	0.00	0.00	0.00	0.00	0.00	0.00
2,859.00	0.00	0.00	2,859.00	0.00	0.00	0.00	0.00	0.00	0.00
2,900.00	0.82	271.25	2,900.00	0.01	-0.29	0.02	2.00	2.00	0.00
3,000.00	2.82	271.25	2,999.94	0.08	-3.47	0.26	2.00	2.00	0.00
3,100.00	4.82	271.25	3,099.72	0.22	-10.13	0.76	2.00	2.00	0.00
3,200.00	6.82	271.25	3,199.20	0.44	-20.27	1.52	2.00	2.00	0.00
3,300.00	8.82	271.25	3,298.26	0.74	-33.87	2.55	2.00	2.00	0.00
3,400.00	10.82	271.25	3,396.79	1.11	-50.92	3.83	2.00	2.00	0.00
3,500.00	12.82	271.25	3,494.66	1.55	-71.40	5.37	2.00	2.00	0.00
3,600.00	14.82	271.25	3,591.77	2.07	-95.28	7.17	2.00	2.00	0.00
3,700.00	16.82	271.25	3,687.97	2.67	-122.53	9.22	2.00	2.00	0.00
3,759.01	18.00	271.25	3,744.28	3.05	-140.18	10.55	2.00	2.00	0.00
3,800.00	18.00	271.25	3,783.26	3.32	-152.85	11.50	0.00	0.00	0.00
3,900.00	18.00	271.25	3,878.37	4.00	-183.74	13.82	0.00	0.00	0.00
4,000.00	18.00	271.25	3,973.47	4.67	-214.64	16.15	0.00	0.00	0.00
4,100.00	18.00	271.25	4,068.58	5.34	-245.53	18.47	0.00	0.00	0.00
4,200.00	18.00	271.25	4,163.68	6.01	-276.42	20.79	0.00	0.00	0.00
4,300.00	18.00	271.25	4,258.79	6.69	-307.32	23.12	0.00	0.00	0.00
4,400.00	18.00	271.25	4,353.90	7.36	-338.21	25.44	0.00	0.00	0.00
4,500.00	18.00	271.25	4,449.00	8.03	-369.11	27.77	0.00	0.00	0.00
4,600.00	18.00	271.25	4,544.11	8.70	-400.00	30.09	0.00	0.00	0.00
4,700.00	18.00	271.25	4,639.21	9.37	-430.90	32.42	0.00	0.00	0.00
4,800.00	18.00	271.25	4,734.32	10.05	-461.79	34.74	0.00	0.00	0.00
4,900.00	18.00	271.25	4,829.42	10.72	-492.69	37.06	0.00	0.00	0.00
5,000.00	18.00	271.25	4,924.53	11.39	-523.58	39.39	0.00	0.00	0.00
5,100.00	18.00	271.25	5,019.63	12.06	-554.48	41.71	0.00	0.00	0.00

Oxy Planning Report

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Project:	PRD NM DIRECTIONAL PLANS (NAD 1983)	MD Reference:	RKB=26.5' @ 2986.50ft
Site:	Width CC 6_7	North Reference:	Grid
Well:	Width CC 6_7 Federal Com 15H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
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)	
5,200.00	18.00	271.25	5,114.74	12.73	-585.37	44.04	0.00	0.00	0.00	
5,300.00	18.00	271.25	5,209.85	13.41	-616.27	46.36	0.00	0.00	0.00	
5,400.00	18.00	271.25	5,304.95	14.08	-647.16	48.68	0.00	0.00	0.00	
5,500.00	18.00	271.25	5,400.06	14.75	-678.06	51.01	0.00	0.00	0.00	
5,600.00	18.00	271.25	5,495.16	15.42	-708.95	53.33	0.00	0.00	0.00	
5,700.00	18.00	271.25	5,590.27	16.09	-739.84	55.66	0.00	0.00	0.00	
5,800.00	18.00	271.25	5,685.37	16.77	-770.74	57.98	0.00	0.00	0.00	
5,900.00	18.00	271.25	5,780.48	17.44	-801.63	60.30	0.00	0.00	0.00	
6,000.00	18.00	271.25	5,875.58	18.11	-832.53	62.63	0.00	0.00	0.00	
6,100.00	18.00	271.25	5,970.69	18.78	-863.42	64.95	0.00	0.00	0.00	
6,148.20	18.00	271.25	6,016.53	19.11	-878.31	66.07	0.00	0.00	0.00	
6,200.00	17.29	268.75	6,065.89	19.11	-894.01	67.59	2.00	-1.37	-4.81	
6,300.00	16.02	263.36	6,161.70	17.19	-922.58	72.27	2.00	-1.27	-5.40	
6,400.00	14.91	257.12	6,258.09	12.73	-948.83	79.25	2.00	-1.11	-6.24	
6,500.00	13.99	249.99	6,354.93	5.72	-972.73	88.54	2.00	-0.92	-7.13	
6,600.00	13.30	242.02	6,452.12	-3.81	-994.25	100.11	2.00	-0.69	-7.97	
6,700.00	12.89	233.38	6,549.52	-15.86	-1,013.36	113.96	2.00	-0.41	-8.64	
6,800.00	12.77	224.38	6,647.04	-30.42	-1,030.05	130.07	2.00	-0.12	-9.00	
6,900.00	12.96	215.43	6,744.54	-47.46	-1,044.28	148.41	2.00	0.19	-8.95	
7,000.00	13.45	206.92	6,841.90	-66.97	-1,056.05	168.96	2.00	0.48	-8.50	
7,100.00	14.19	199.15	6,939.01	-88.92	-1,065.34	191.71	2.00	0.75	-7.78	
7,200.00	15.16	192.24	7,035.76	-113.29	-1,072.13	216.62	2.00	0.97	-6.91	
7,300.00	16.32	186.21	7,132.01	-140.04	-1,076.42	243.66	2.00	1.15	-6.03	
7,400.00	17.62	181.01	7,227.66	-169.14	-1,078.21	272.80	2.00	1.30	-5.20	
7,427.37	18.00	179.72	7,253.72	-177.51	-1,078.26	281.14	2.00	1.38	-4.73	
7,500.00	25.26	179.72	7,321.19	-204.27	-1,078.13	307.75	10.00	10.00	0.00	
7,600.00	35.26	179.72	7,407.45	-254.60	-1,077.88	357.83	10.00	10.00	0.00	
7,700.00	45.26	179.72	7,483.66	-319.15	-1,077.56	422.04	10.00	10.00	0.00	
7,800.00	55.26	179.72	7,547.51	-395.95	-1,077.18	498.44	10.00	10.00	0.00	
7,900.00	65.26	179.72	7,597.05	-482.67	-1,076.75	584.71	10.00	10.00	0.00	
8,000.00	75.26	179.72	7,630.78	-576.67	-1,076.28	678.23	10.00	10.00	0.00	
8,100.00	85.26	179.72	7,647.67	-675.10	-1,075.79	776.15	10.00	10.00	0.00	
8,148.52	90.11	179.72	7,649.62	-723.57	-1,075.55	824.36	10.00	10.00	0.00	
8,200.00	90.11	179.72	7,649.52	-775.05	-1,075.29	875.58	0.00	0.00	0.00	
8,300.00	90.11	179.72	7,649.32	-875.05	-1,074.80	975.06	0.00	0.00	0.00	
8,400.00	90.11	179.72	7,649.12	-975.05	-1,074.30	1,074.54	0.00	0.00	0.00	
8,500.00	90.11	179.72	7,648.92	-1,075.04	-1,073.80	1,174.02	0.00	0.00	0.00	
8,600.00	90.11	179.72	7,648.72	-1,175.04	-1,073.31	1,273.50	0.00	0.00	0.00	
8,700.00	90.11	179.72	7,648.52	-1,275.04	-1,072.81	1,372.98	0.00	0.00	0.00	
8,800.00	90.11	179.72	7,648.32	-1,375.04	-1,072.31	1,472.46	0.00	0.00	0.00	
8,900.00	90.11	179.72	7,648.12	-1,475.04	-1,071.82	1,571.94	0.00	0.00	0.00	
9,000.00	90.11	179.72	7,647.92	-1,575.04	-1,071.32	1,671.42	0.00	0.00	0.00	
9,100.00	90.11	179.72	7,647.72	-1,675.04	-1,070.82	1,770.90	0.00	0.00	0.00	
9,200.00	90.11	179.72	7,647.52	-1,775.03	-1,070.33	1,870.38	0.00	0.00	0.00	
9,300.00	90.11	179.72	7,647.32	-1,875.03	-1,069.83	1,969.86	0.00	0.00	0.00	
9,400.00	90.11	179.72	7,647.12	-1,975.03	-1,069.33	2,069.34	0.00	0.00	0.00	
9,500.00	90.11	179.72	7,646.92	-2,075.03	-1,068.84	2,168.82	0.00	0.00	0.00	
9,600.00	90.11	179.72	7,646.73	-2,175.03	-1,068.34	2,268.30	0.00	0.00	0.00	
9,700.00	90.11	179.72	7,646.53	-2,275.03	-1,067.84	2,367.78	0.00	0.00	0.00	
9,800.00	90.11	179.72	7,646.33	-2,375.03	-1,067.35	2,467.26	0.00	0.00	0.00	
9,900.00	90.11	179.72	7,646.13	-2,475.02	-1,066.85	2,566.74	0.00	0.00	0.00	
10,000.00	90.11	179.72	7,645.93	-2,575.02	-1,066.35	2,666.22	0.00	0.00	0.00	
10,100.00	90.11	179.72	7,645.73	-2,675.02	-1,065.86	2,765.70	0.00	0.00	0.00	
10,200.00	90.11	179.72	7,645.53	-2,775.02	-1,065.36	2,865.18	0.00	0.00	0.00	

Oxy Planning Report

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Project:	PRD NM DIRECTIONAL PLANS (NAD 1983)	MD Reference:	RKB=26.5' @ 2986.50ft
Site:	Width CC 6_7	North Reference:	Grid
Well:	Width CC 6_7 Federal Com 15H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
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)	
10,300.00	90.11	179.72	7,645.33	-2,875.02	-1,064.86	2,964.66	0.00	0.00	0.00	
10,400.00	90.11	179.72	7,645.13	-2,975.02	-1,064.37	3,064.14	0.00	0.00	0.00	
10,500.00	90.11	179.72	7,644.93	-3,075.02	-1,063.87	3,163.62	0.00	0.00	0.00	
10,600.00	90.11	179.72	7,644.73	-3,175.01	-1,063.37	3,263.10	0.00	0.00	0.00	
10,700.00	90.11	179.72	7,644.53	-3,275.01	-1,062.88	3,362.58	0.00	0.00	0.00	
10,800.00	90.11	179.72	7,644.33	-3,375.01	-1,062.38	3,462.06	0.00	0.00	0.00	
10,900.00	90.11	179.72	7,644.13	-3,475.01	-1,061.88	3,561.54	0.00	0.00	0.00	
11,000.00	90.11	179.72	7,643.93	-3,575.01	-1,061.39	3,661.02	0.00	0.00	0.00	
11,100.00	90.11	179.72	7,643.73	-3,675.01	-1,060.89	3,760.50	0.00	0.00	0.00	
11,200.00	90.11	179.72	7,643.53	-3,775.01	-1,060.39	3,859.98	0.00	0.00	0.00	
11,300.00	90.11	179.72	7,643.33	-3,875.00	-1,059.90	3,959.46	0.00	0.00	0.00	
11,400.00	90.11	179.72	7,643.13	-3,975.00	-1,059.40	4,058.94	0.00	0.00	0.00	
11,500.00	90.11	179.72	7,642.93	-4,075.00	-1,058.90	4,158.42	0.00	0.00	0.00	
11,600.00	90.11	179.72	7,642.73	-4,175.00	-1,058.40	4,257.90	0.00	0.00	0.00	
11,700.00	90.11	179.72	7,642.53	-4,275.00	-1,057.91	4,357.38	0.00	0.00	0.00	
11,800.00	90.11	179.72	7,642.33	-4,375.00	-1,057.41	4,456.86	0.00	0.00	0.00	
11,900.00	90.11	179.72	7,642.13	-4,475.00	-1,056.91	4,556.34	0.00	0.00	0.00	
12,000.00	90.11	179.72	7,641.93	-4,574.99	-1,056.42	4,655.82	0.00	0.00	0.00	
12,100.00	90.11	179.72	7,641.73	-4,674.99	-1,055.92	4,755.30	0.00	0.00	0.00	
12,200.00	90.11	179.72	7,641.53	-4,774.99	-1,055.42	4,854.78	0.00	0.00	0.00	
12,300.00	90.11	179.72	7,641.33	-4,874.99	-1,054.93	4,954.26	0.00	0.00	0.00	
12,400.00	90.11	179.72	7,641.13	-4,974.99	-1,054.43	5,053.74	0.00	0.00	0.00	
12,500.00	90.11	179.72	7,640.93	-5,074.99	-1,053.93	5,153.22	0.00	0.00	0.00	
12,600.00	90.11	179.72	7,640.73	-5,174.99	-1,053.44	5,252.70	0.00	0.00	0.00	
12,700.00	90.11	179.72	7,640.53	-5,274.98	-1,052.94	5,352.18	0.00	0.00	0.00	
12,800.00	90.11	179.72	7,640.33	-5,374.98	-1,052.44	5,451.66	0.00	0.00	0.00	
12,900.00	90.11	179.72	7,640.13	-5,474.98	-1,051.95	5,551.14	0.00	0.00	0.00	
13,000.00	90.11	179.72	7,639.93	-5,574.98	-1,051.45	5,650.62	0.00	0.00	0.00	
13,100.00	90.11	179.72	7,639.73	-5,674.98	-1,050.95	5,750.10	0.00	0.00	0.00	
13,200.00	90.11	179.72	7,639.53	-5,774.98	-1,050.46	5,849.58	0.00	0.00	0.00	
13,300.00	90.11	179.72	7,639.33	-5,874.98	-1,049.96	5,949.06	0.00	0.00	0.00	
13,400.00	90.11	179.72	7,639.14	-5,974.97	-1,049.46	6,048.54	0.00	0.00	0.00	
13,500.00	90.11	179.72	7,638.94	-6,074.97	-1,048.97	6,148.02	0.00	0.00	0.00	
13,600.00	90.11	179.72	7,638.74	-6,174.97	-1,048.47	6,247.50	0.00	0.00	0.00	
13,700.00	90.11	179.72	7,638.54	-6,274.97	-1,047.97	6,346.98	0.00	0.00	0.00	
13,800.00	90.11	179.72	7,638.34	-6,374.97	-1,047.48	6,446.46	0.00	0.00	0.00	
13,900.00	90.11	179.72	7,638.14	-6,474.97	-1,046.98	6,545.94	0.00	0.00	0.00	
14,000.00	90.11	179.72	7,637.94	-6,574.97	-1,046.48	6,645.42	0.00	0.00	0.00	
14,100.00	90.11	179.72	7,637.74	-6,674.96	-1,045.99	6,744.90	0.00	0.00	0.00	
14,200.00	90.11	179.72	7,637.54	-6,774.96	-1,045.49	6,844.38	0.00	0.00	0.00	
14,300.00	90.11	179.72	7,637.34	-6,874.96	-1,044.99	6,943.86	0.00	0.00	0.00	
14,400.00	90.11	179.72	7,637.14	-6,974.96	-1,044.50	7,043.34	0.00	0.00	0.00	
14,500.00	90.11	179.72	7,636.94	-7,074.96	-1,044.00	7,142.82	0.00	0.00	0.00	
14,600.00	90.11	179.72	7,636.74	-7,174.96	-1,043.50	7,242.30	0.00	0.00	0.00	
14,700.00	90.11	179.72	7,636.54	-7,274.96	-1,043.01	7,341.78	0.00	0.00	0.00	
14,800.00	90.11	179.72	7,636.34	-7,374.95	-1,042.51	7,441.26	0.00	0.00	0.00	
14,900.00	90.11	179.72	7,636.14	-7,474.95	-1,042.01	7,540.74	0.00	0.00	0.00	
15,000.00	90.11	179.72	7,635.94	-7,574.95	-1,041.52	7,640.22	0.00	0.00	0.00	
15,100.00	90.11	179.72	7,635.74	-7,674.95	-1,041.02	7,739.70	0.00	0.00	0.00	
15,200.00	90.11	179.72	7,635.54	-7,774.95	-1,040.52	7,839.18	0.00	0.00	0.00	
15,300.00	90.11	179.72	7,635.34	-7,874.95	-1,040.03	7,938.66	0.00	0.00	0.00	
15,400.00	90.11	179.72	7,635.14	-7,974.95	-1,039.53	8,038.14	0.00	0.00	0.00	
15,500.00	90.11	179.72	7,634.94	-8,074.94	-1,039.03	8,137.62	0.00	0.00	0.00	
15,600.00	90.11	179.72	7,634.74	-8,174.94	-1,038.53	8,237.10	0.00	0.00	0.00	

Oxy Planning Report

Database:	HOPSPP	Local Co-ordinate Reference:	Well Width CC 6_7 Federal Com 15H
Company:	ENGINEERING DESIGNS	TVD Reference:	RKB=26.5' @ 2986.50ft
Project:	PRD NM DIRECTIONAL PLANS (NAD 1983)	MD Reference:	RKB=26.5' @ 2986.50ft
Site:	Width CC 6_7	North Reference:	Grid
Well:	Width CC 6_7 Federal Com 15H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
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)
15,700.00	90.11	179.72	7,634.54	-8,274.94	-1,038.04	8,336.58	0.00	0.00	0.00
15,800.00	90.11	179.72	7,634.34	-8,374.94	-1,037.54	8,436.06	0.00	0.00	0.00
15,900.00	90.11	179.72	7,634.14	-8,474.94	-1,037.04	8,535.54	0.00	0.00	0.00
16,000.00	90.11	179.72	7,633.94	-8,574.94	-1,036.55	8,635.02	0.00	0.00	0.00
16,100.00	90.11	179.72	7,633.74	-8,674.94	-1,036.05	8,734.50	0.00	0.00	0.00
16,200.00	90.11	179.72	7,633.54	-8,774.93	-1,035.55	8,833.98	0.00	0.00	0.00
16,300.00	90.11	179.72	7,633.34	-8,874.93	-1,035.06	8,933.46	0.00	0.00	0.00
16,400.00	90.11	179.72	7,633.14	-8,974.93	-1,034.56	9,032.94	0.00	0.00	0.00
16,500.00	90.11	179.72	7,632.94	-9,074.93	-1,034.06	9,132.42	0.00	0.00	0.00
16,600.00	90.11	179.72	7,632.74	-9,174.93	-1,033.57	9,231.90	0.00	0.00	0.00
16,700.00	90.11	179.72	7,632.54	-9,274.93	-1,033.07	9,331.38	0.00	0.00	0.00
16,800.00	90.11	179.72	7,632.34	-9,374.93	-1,032.57	9,430.86	0.00	0.00	0.00
16,900.00	90.11	179.72	7,632.14	-9,474.92	-1,032.08	9,530.34	0.00	0.00	0.00
17,000.00	90.11	179.72	7,631.94	-9,574.92	-1,031.58	9,629.82	0.00	0.00	0.00
17,100.00	90.11	179.72	7,631.74	-9,674.92	-1,031.08	9,729.30	0.00	0.00	0.00
17,200.00	90.11	179.72	7,631.55	-9,774.92	-1,030.59	9,828.78	0.00	0.00	0.00
17,300.00	90.11	179.72	7,631.35	-9,874.92	-1,030.09	9,928.26	0.00	0.00	0.00
17,400.00	90.11	179.72	7,631.15	-9,974.92	-1,029.59	10,027.74	0.00	0.00	0.00
17,500.00	90.11	179.72	7,630.95	-10,074.91	-1,029.10	10,127.22	0.00	0.00	0.00
17,600.00	90.11	179.72	7,630.75	-10,174.91	-1,028.60	10,226.70	0.00	0.00	0.00
17,700.00	90.11	179.72	7,630.55	-10,274.91	-1,028.10	10,326.18	0.00	0.00	0.00
17,800.00	90.11	179.72	7,630.35	-10,374.91	-1,027.61	10,425.66	0.00	0.00	0.00
17,900.00	90.11	179.72	7,630.15	-10,474.91	-1,027.11	10,525.14	0.00	0.00	0.00
17,973.52	90.11	179.72	7,630.00	-10,548.43	-1,026.74	10,598.28	0.00	0.00	0.00

Design Targets									
Target Name	hit/miss target	Dip Angle (°)	Dip Dir (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (usft)	Easting (usft)	Latitude Longitude
PBHL (Width CC 6_7)	- plan hits target center	0.00	0.00	7,630.00	-10,548.43	-1,026.74	445,744.32	637,463.27	32° 13' 30.162953 N 104° 1' 20.918139
FTP (Width CC 6_7)	- plan misses target center by 328.07ft at 7638.30ft MD (7437.96 TVD, -277.74 N, -1077.77 E)	0.00	0.00	7,650.00	-27.40	-1,079.01	456,264.48	637,411.01	32° 15' 14.270845 N 104° 1' 21.172143

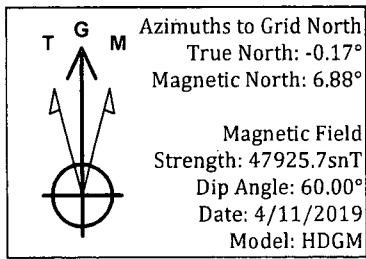
Plan Annotations				
Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates		Comment
		+N/-S (ft)	+E/-W (ft)	
2,859.00	2,859.00	0.00	0.00	Build 2.00°/100'
3,759.01	3,744.28	3.05	-140.18	Hold 18.00° Tangent
6,148.20	6,016.53	19.11	-878.31	Turn 2.00°/100'
7,427.37	7,253.72	-177.51	-1,078.26	KOP, Build 10.00°/100'
8,148.52	7,649.62	-723.57	-1,075.55	Landing Point
17,973.52	7,630.00	-10,548.43	-1,026.74	TD at 17973.52' MD



Project: PRD NM DIRECTIONAL PLANS (NAD 1983)
 Site: Width CC 6_7
 Well: Width CC 6_7 Federal Com 15H
 Wellbore: Wellbore #1
 Design: Permitting Plan

PROJECT DETAILS: NM DIRECTIONAL PLANS (NAD 1983)

Geodetic System: US State Plane 1983
 Datum: North American Datum 1983
 Ellipsoid: GRS 1980
 Zone: New Mexico Eastern Zone
 System Datum: Mean Sea Level

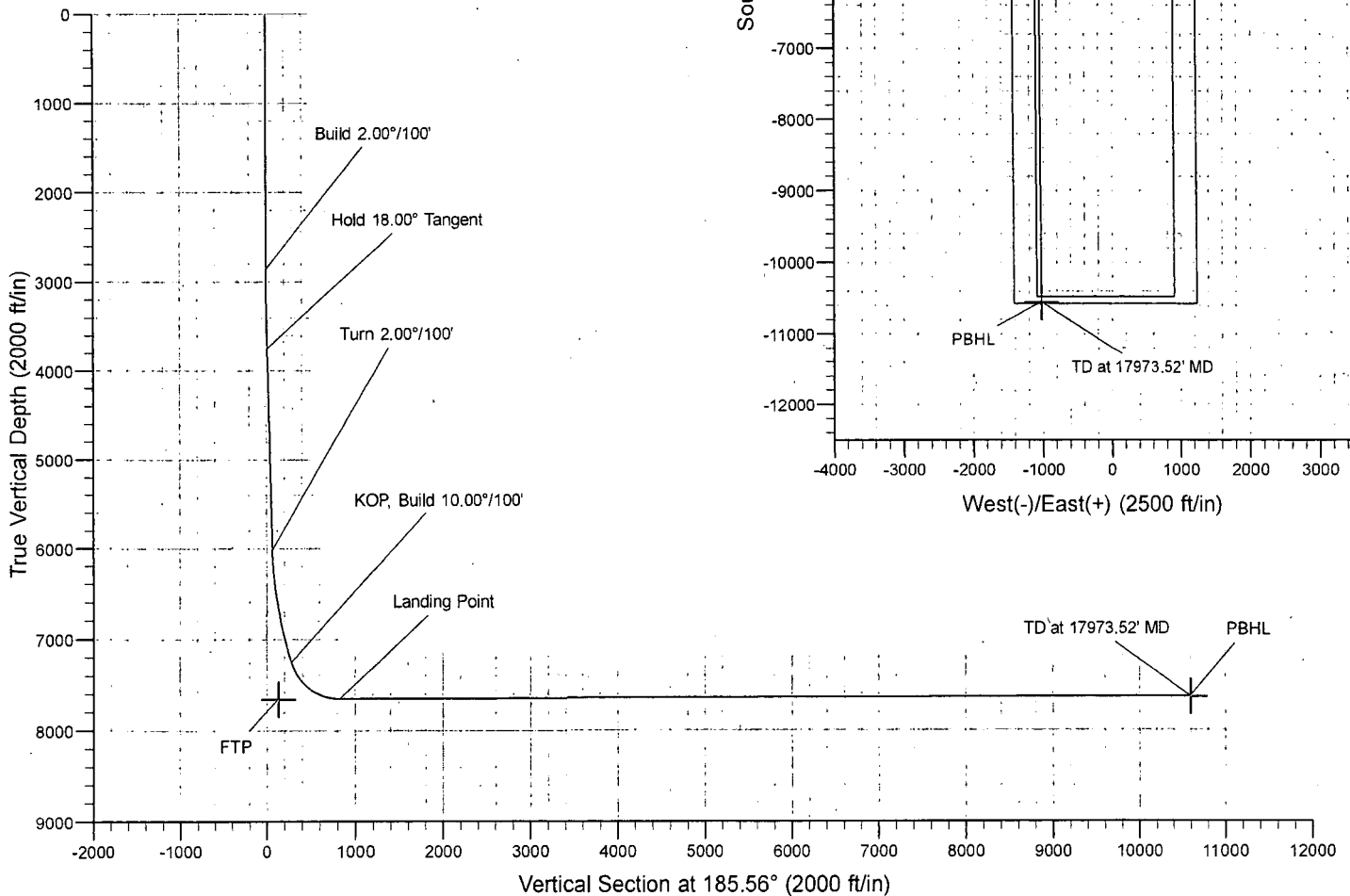
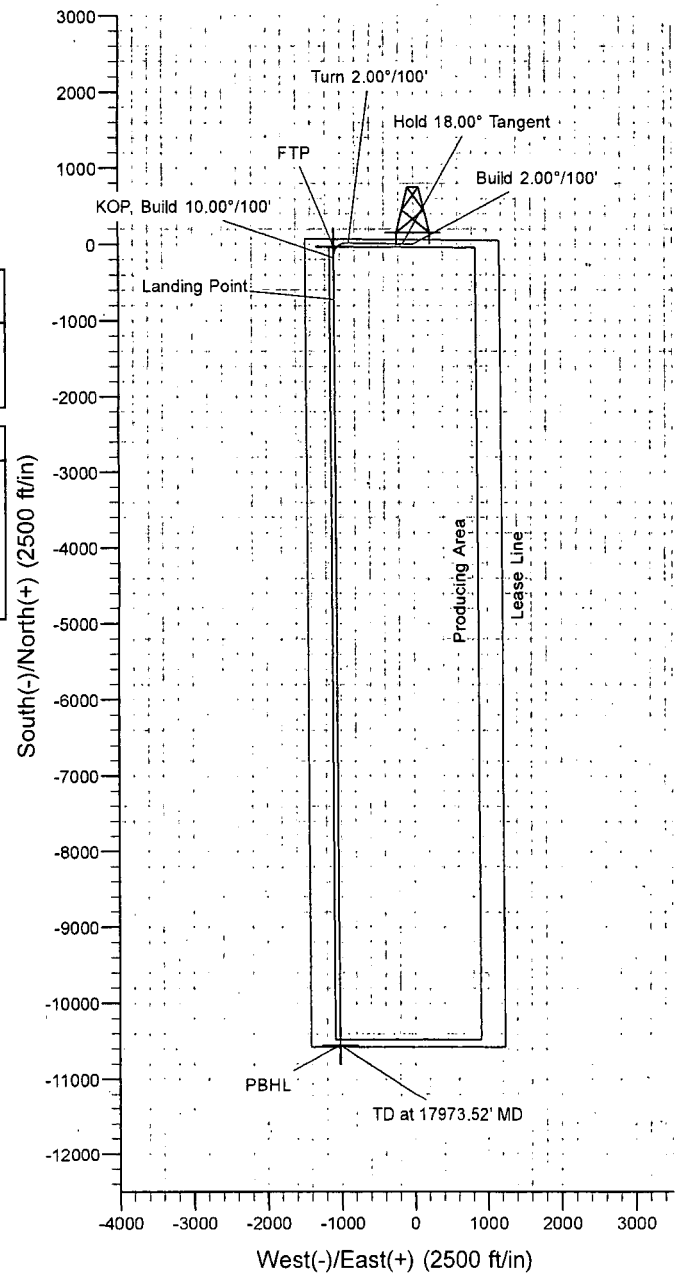


WELL DETAILS: Width CC 6_7 Federal Com 15H

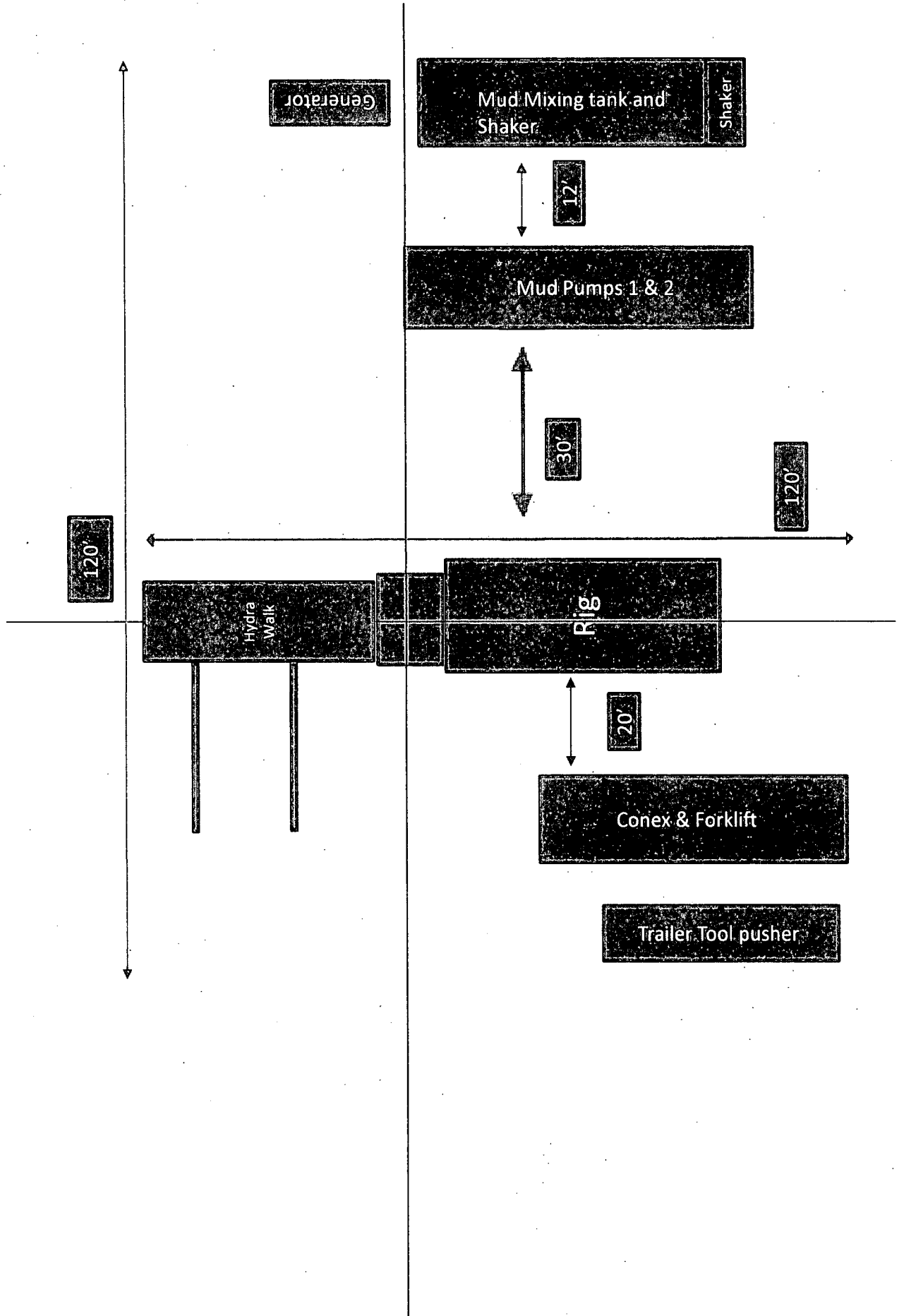
+N/-S	+E/-W	Ground Level	2960.00	Latitude	Longitude
0.00	0.00	Northing	456291.88	32° 15' 14.510911 N	104° 1' 8.606765 W

SECTION DETAILS

MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	Vsect	Annotation
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
2859.00	0.00	0.00	2859.00	0.00	0.00	0.00	0.00	0.00	Build 2.00°/100'
3759.01	18.00	271.25	3744.28	3.05	-140.18	2.00	271.25	10.55	Hold 18.00° Tangent
6148.20	18.00	271.25	6016.53	19.11	-878.31	0.00	0.00	66.07	Turn 2.00°/100'
7427.37	18.00	179.72	7253.72	-177.51	-1078.26	2.00	-134.33	281.14	KOP, Build 10.00°/100'
8148.52	90.11	179.72	7649.62	-723.57	-1075.55	10.00	0.00	824.36	Landing Point
17973.52	90.11	179.72	7630.00	-10548.43	-1026.74	0.00	0.00	10598.28	TD at 17973.52' MD



Spudder Rig Layout



PERFORMANCE DATA

TMK UP DQX
Technical Data Sheet

5.500 in

20.00 lbs/ft

P-110

Tubular Parameters

Size	5.500	in	Minimum Yield	110,000	psi
Nominal Weight	20.00	lbs/ft	Minimum Tensile	125,000	psi
Grade	P-110		Yield Load	641,000	lbs
PE Weight	19.81	lbs/ft	Tensile Load	729,000	lbs
Wall Thickness	0.361	in	Min. Internal Yield Pressure	12,600	psi
Nominal ID	4.778	in	Collapse Pressure	11,100	psi
Drift Diameter	4.653	in			
Nom. Pipe Body Area	5.828	in ²			

Connection Parameters

Connection OD	6.050	in
Connection ID	4.778	in
Make-Up Loss	4.122	in
Critical Section Area	5.828	in ²
Tension Efficiency	100.0	%
Compression Efficiency	100.0	%
Yield Load In Tension	641,000	lbs
Min. Internal Yield Pressure	12,600	psi
Collapse Pressure	11,100	psi

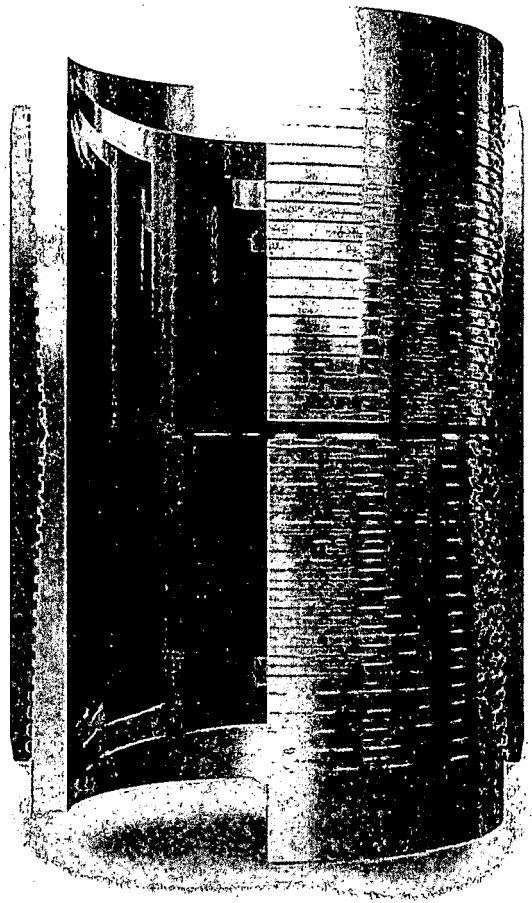
Make-Up Torques

Min. Make-Up Torque	11,600	ft-lbs
Opt. Make-Up Torque	12,900	ft-lbs
Max. Make-Up Torque	14,100	ft-lbs
Yield Torque	20,600	ft-lbs

Printed on: July-29-2014

NOTE:

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PERFORMANCE DATA

TMK UP SF TORQ™

5.500 in

20.00 lbs/ft

P110 HC

Technical Data Sheet

Tubular Parameters

Size	5.500	in	Minimum Yield	110,000	psi
Nominal Weight	20.00	lbs/ft	Minimum Tensile	125,000	psi
Grade	P110 HC		Yield Load	641,000	lbs
PE Weight	19.81	lbs/ft	Tensile Load	728,000	lbs
Wall Thickness	0.361	in	Min. Internal Yield Pressure	12,640	psi
Nominal ID	4.778	in	Collapse Pressure	12,780	psi
Drift Diameter	4.653	in			
Nom. Pipe Body Area	5.828	in ²			

Connection Parameters

Connection OD	5.777	in
Connection ID	4.734	in
Make-Up Loss	5.823	in
Critical Section Area	5.875	in ²
Tension Efficiency	90.0	%
Compression Efficiency	90.0	%
Yield Load In Tension	576,000	lbs
Min. Internal Yield Pressure	12,640	psi
Collapse Pressure	12,780	psi
Uniaxial Bending	83	% / 100 ft

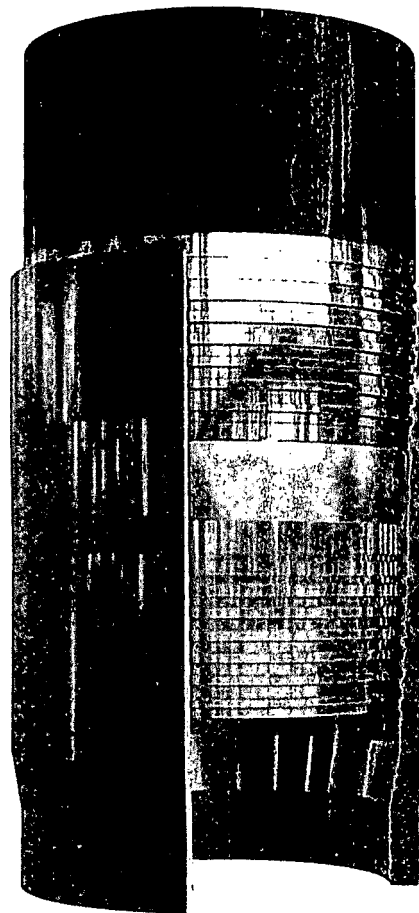
Make-Up Torques

Min. Make-Up Torque	15,700	ft-lbs
Opt. Make-Up Torque	19,600	ft-lbs
Max. Make-Up Torque	21,600	ft-lbs
Operating Torque	29,000	ft-lbs
Yield Torque	36,000	ft-lbs

Printed on: February-22-2018

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PERFORMANCE DATA

TMK UP TORQ™ DQW
Technical Data Sheet

5.500 in

20.00 lbs/ft

P110 CY

Tubular Parameters

Size	5.500	in	Minimum Yield	110,000	psi
Nominal Weight	20.00	lbs/ft	Minimum Tensile	125,000	psi
Grade	P110 CY		Yield Load	641,000	lbs
PE Weight	19.81	lbs/ft	Tensile Load	729,000	lbs
Wall Thickness	0.361	in	Min. Internal Yield Pressure	12,640	psi
Nominal ID	4.778	in	Collapse Pressure	11,110	psi
Drift Diameter	4.653	in			
Nom. Pipe Body Area	5.828	in ²			

Connection Parameters

Connection OD	6.050	in
Connection ID	4.778	in
Make-Up Loss	4.324	in
Critical Section Area	5.828	in ²
Tension Efficiency	100.0	%
Compression Efficiency	100.0	%
Yield Load In Tension	641,000	lbs
Min. Internal Yield Pressure	12,640	psi
Collapse Pressure	11,110	psi
Uniaxial Bending	92	% / 100 ft

Make-Up Torques

Min. Make-Up Torque	14,000	ft-lbs
Opt. Make-Up Torque	16,000	ft-lbs
Max. Make-Up Torque	18,000	ft-lbs
Operating Torque	36,800	ft-lbs
Yield Torque	46,000	ft-lbs



Printed on: March-05-2019

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