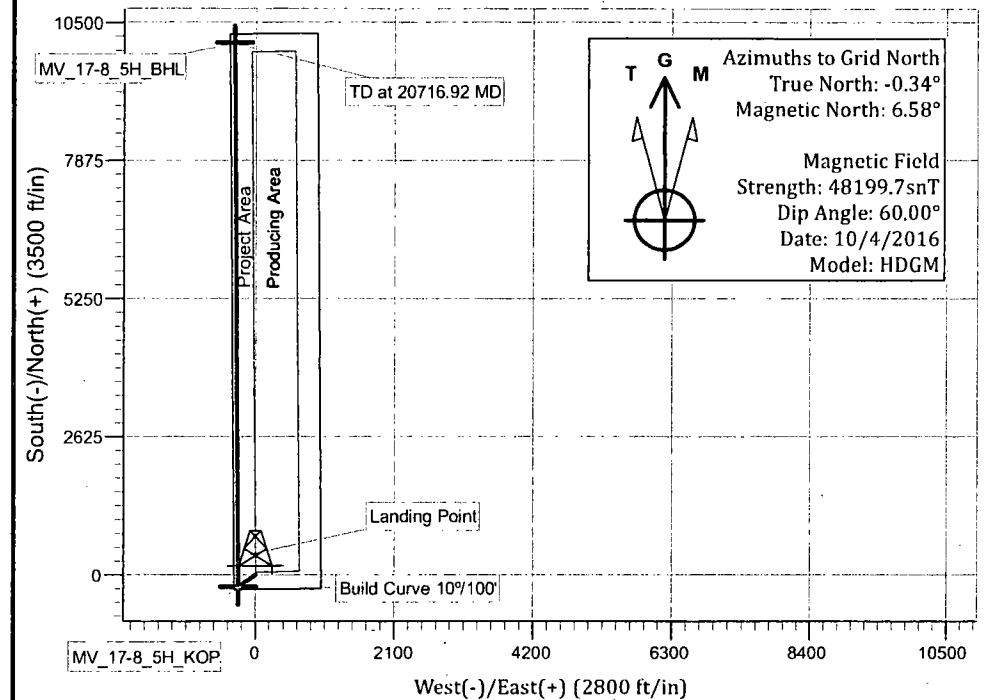
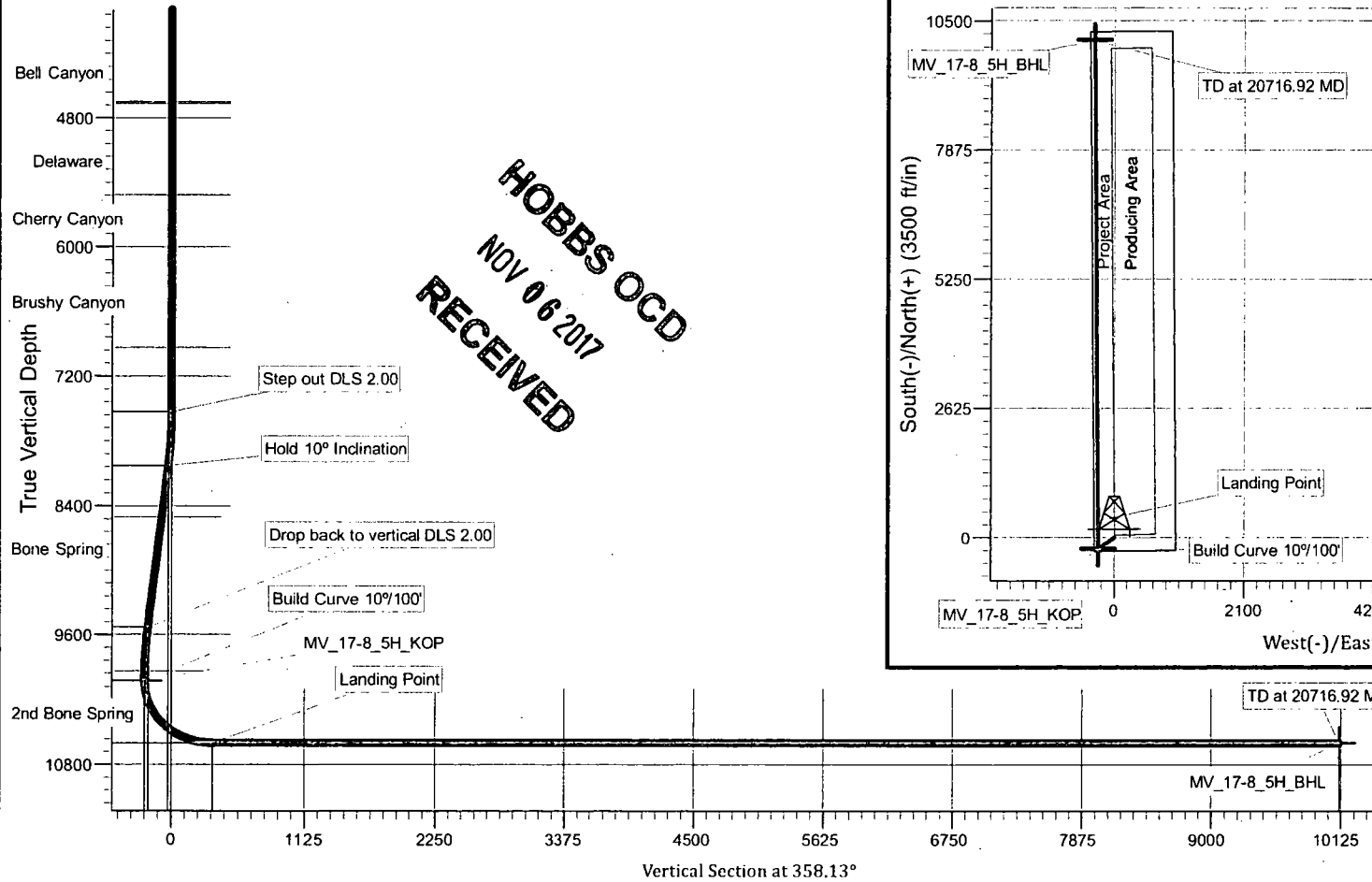




Project: NM DIRECTIONAL PLANS (NAD 1983)
Site: Mesa Verde 17-8 Fed Com
Well: Mesa Verde 17-8 Fed Com 5H
Wellbore: WB00
Design: Permitting Plan

WELL DETAILS: Mesa Verde 17-8 Fed Com 5H

Ground Level: 3560.50 WELL @ 3587.00ft (Original Well Elev)
+N/-S +E/-W Northing Easting Latitude Longitude
0.00 0.00 441093.32 739872.60 32° 12' 39.645530 N 103° 41' 29.055109 W



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

ANNOTATIONS

TVD	MD	Inc	Azi	+N/-S	+E/-W	VSect	Departure	Annotation
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	SHL
7530.00	7530.00	0.00	0.00	0.00	0.00	0.00	0.00	Step out DLS 2.00
8027.48	8030.01	10.00	228.53	-28.82	-32.61	-27.74	43.52	Hold 10° Inclination
9529.52	9555.23	10.00	228.53	-204.22	-231.07	-196.55	308.38	Drop back to vertical DLS 2.00
10027.00	10055.24	0.00	0.00	-233.04	-263.68	-224.29	351.90	Build Curve 10°/100'
10599.96	10955.24	90.00	359.63	339.90	-267.39	348.47	924.86	Landing Point
10599.96	20716.92	90.00	359.63	10101.38	-330.52	10106.78	10686.54	TD at 20716.92 MD

Oxy Planning Report

Database:	HOPSP	Local Co-ordinate Reference:	Well Mesa Verde 17-8 Fed Com 5H
Company:	OXY	TVD Reference:	WELL @ 3587.00ft (Original Well Elev)
Project:	NM DIRECTIONAL PLANS (NAD 1983)	MD Reference:	WELL @ 3587.00ft (Original Well Elev)
Site:	Mesa Verde 17-8 Fed Com	North Reference:	Grid
Well:	Mesa Verde 17-8 Fed Com 5H	Survey Calculation Method:	Minimum Curvature
Wellbore:	WB00		
Design:	Permitting Plan		

Project	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	Mesa Verde 17-8 Fed Com		
Site Position:	Northings:	441,093.32 usft	Latitude: 32° 12' 39.645531 N
From: Map	Eastings:	739,872.60 usft	Longitude: 103° 41' 29.055109 W
Position Uncertainty:	0.00 ft	Spot Radius:	13 200 in
			Grid Convergence: 0.34 °

Well	Mesa Verde 17-8 Fed Com 5H		
Well Position	+N-S	0.00 ft	Northings: 441,093.32 usft
	+E-W	0.00 ft	Eastings: 739,872.60 usft
Position Uncertainty	0.00 ft	Wellhead Elevation:	3,560.50 ft
			Ground Level: 3,560.50 ft

Wellbore	WB00		
Magnetics	Model Name	Sample Date	Declination (°)
	HDGM	10/4/2016	6.92
			Dip Angle (°)
			60.00
			Field Strength (nT)
			48.200

Design	Permitting Plan		
Audit Notes:			
Version:	Phase:	PROTOTYPE	Tie On Depth: 0.00
Vertical Section:	Depth From (TVD)	+N-S (ft)	+E-W (ft)
	0.00	0.00	0.00
			Direction (°)
			358.13

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
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
7,530.00	0.00	0.00	7,530.00	0.00	0.00	0.00	0.00	0.00	0.00	
8,030.01	10.00	228.53	8,027.47	-28.82	-32.61	2.00	2.00	0.00	228.53	
9,555.23	10.00	228.53	9,529.53	-204.22	-231.07	0.00	0.00	0.00	0.00	
10,055.24	0.00	359.63	10,027.00	-233.04	-263.68	2.00	-2.00	0.00	180.00	MV_17-8_5H_KOP
10,955.24	90.00	359.63	10,599.96	339.90	-267.39	10.00	10.00	0.00	-0.37	
20,716.92	90.00	359.63	10,600.00	10,101.38	-330.52	0.00	0.00	0.00	0.00	MV_17-8_5H_BHL

Oxy Planning Report

Database: HOPSPP Company: OXY Project: NM DIRECTIONAL PLANS (NAD 1983) Site: Mesa Verde 17-8 Fed Com Well: Mesa Verde 17-8 Fed Com 5H Wellbore: WB00 Design: Permitting Plan	Local Co-ordinate Reference: Well Mesa Verde 17-8 Fed Com 5H TVD Reference: WELL @ 3587.00ft (Original Well Elev) MD Reference: WELL @ 3587.00ft (Original Well Elev) North Reference: Grid Survey Calculation Method: Minimum Curvature	
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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
SHL									
942.00	0.00	0.00	942.00	0.00	0.00	0.00	0.00	0.00	0.00
Rustler									
1,028.00	0.00	0.00	1,028.00	0.00	0.00	0.00	0.00	0.00	0.00
Salado									
3,336.00	0.00	0.00	3,336.00	0.00	0.00	0.00	0.00	0.00	0.00
Castile									
4,651.00	0.00	0.00	4,651.00	0.00	0.00	0.00	0.00	0.00	0.00
Delaware									
4,666.00	0.00	0.00	4,666.00	0.00	0.00	0.00	0.00	0.00	0.00
Bell Canyon									
5,518.00	0.00	0.00	5,518.00	0.00	0.00	0.00	0.00	0.00	0.00
Cherry Canyon									
6,935.00	0.00	0.00	6,935.00	0.00	0.00	0.00	0.00	0.00	0.00
Brushy Canyon									
7,530.00	0.00	0.00	7,530.00	0.00	0.00	0.00	0.00	0.00	0.00
Step out DLS 2.00									
7,600.00	1.40	228.53	7,599.99	-0.57	-0.64	-0.55	2.00	2.00	0.00
7,700.00	3.40	228.53	7,699.90	-3.34	-3.78	-3.21	2.00	2.00	0.00
7,800.00	5.40	228.53	7,799.60	-8.42	-9.53	-8.10	2.00	2.00	0.00
7,900.00	7.40	228.53	7,898.97	-15.80	-17.88	-15.21	2.00	2.00	0.00
8,000.00	9.40	228.53	7,997.89	-25.47	-28.82	-24.52	2.00	2.00	0.00
8,030.01	10.00	228.53	8,027.48	-28.82	-32.61	-27.74	2.00	2.00	0.00
Hold 10° Inclination									
8,100.00	10.00	228.53	8,096.40	-36.87	-41.72	-35.49	0.00	0.00	0.00
8,200.00	10.00	228.53	8,194.88	-48.37	-54.73	-46.56	0.00	0.00	0.00
8,300.00	10.00	228.53	8,293.36	-59.87	-67.74	-57.62	0.00	0.00	0.00
8,400.00	10.00	228.53	8,391.84	-71.37	-80.75	-68.69	0.00	0.00	0.00
8,500.00	10.00	228.53	8,490.33	-82.87	-93.77	-79.76	0.00	0.00	0.00
8,512.87	10.00	228.53	8,503.00	-84.35	-95.44	-81.18	0.00	0.00	0.00
Bone Spring									
8,600.00	10.00	228.53	8,588.81	-94.37	-106.78	-90.83	0.00	0.00	0.00
8,700.00	10.00	228.53	8,687.29	-105.87	-119.79	-101.90	0.00	0.00	0.00
8,800.00	10.00	228.53	8,785.77	-117.37	-132.80	-112.96	0.00	0.00	0.00
8,900.00	10.00	228.53	8,884.25	-128.87	-145.81	-124.03	0.00	0.00	0.00
9,000.00	10.00	228.53	8,982.73	-140.37	-158.82	-135.10	0.00	0.00	0.00
9,100.00	10.00	228.53	9,081.21	-151.87	-171.84	-146.17	0.00	0.00	0.00
9,200.00	10.00	228.53	9,179.69	-163.37	-184.85	-157.24	0.00	0.00	0.00
9,300.00	10.00	228.53	9,278.17	-174.87	-197.86	-168.30	0.00	0.00	0.00
9,400.00	10.00	228.53	9,376.65	-186.37	-210.87	-179.37	0.00	0.00	0.00
9,500.00	10.00	228.53	9,475.13	-197.87	-223.88	-190.44	0.00	0.00	0.00
9,555.23	10.00	228.53	9,529.52	-204.22	-231.07	-196.55	0.00	0.00	0.00
Drop back to vertical DLS 2.00									
9,600.00	9.10	228.53	9,573.67	-209.14	-236.64	-201.29	2.00	-2.00	0.00
9,700.00	7.10	228.53	9,672.67	-218.47	-247.20	-210.27	2.00	-2.00	0.00
9,800.00	5.10	228.53	9,772.10	-225.52	-255.17	-217.05	2.00	-2.00	0.00
9,900.00	3.10	228.53	9,871.83	-230.26	-260.53	-221.61	2.00	-2.00	0.00
9,966.23	1.78	228.53	9,938.00	-232.13	-262.65	-223.41	2.00	-2.00	0.00
2nd Bone Spring									
10,000.00	1.10	228.53	9,971.76	-232.69	-263.28	-223.95	2.00	-2.00	0.00
10,055.24	0.00	0.00	10,027.00	-233.04	-263.68	-224.29	2.00	-2.00	238.00
Build Curve 10°/100'									

Oxy Planning Report

Database:	HOPSPP	Local Co-ordinate Reference:	Well Mesa Verde 17-8 Fed Com 5H
Company:	OXY	TVD Reference:	WELL @ 3587.00ft (Original Well Elev)
Project:	NM DIRECTIONAL PLANS (NAD 1983)	MD Reference:	WELL @ 3587.00ft (Original Well Elev)
Site:	Mesa Verde 17-8 Fed Com	North Reference:	Grid
Well:	Mesa Verde 17-8 Fed Com 5H	Survey Calculation Method:	Minimum Curvature
Wellbore:	WB00		
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)
10,100.00	4.48	359.63	10,071.71	-231.29	-263.69	-222.55	10.00	10.00	-0.83
10,200.00	14.48	359.63	10,170.22	-214.85	-263.80	-206.11	10.00	10.00	0.00
10,300.00	24.48	359.63	10,264.38	-181.55	-264.02	-172.82	10.00	10.00	0.00
10,400.00	34.48	359.63	10,351.33	-132.41	-264.33	-123.70	10.00	10.00	0.00
10,500.00	44.48	359.63	10,428.42	-68.92	-264.74	-60.22	10.00	10.00	0.00
10,600.00	54.48	359.63	10,493.31	7.00	-265.23	15.67	10.00	10.00	0.00
10,700.00	64.48	359.63	10,544.04	93.03	-265.79	101.67	10.00	10.00	0.00
10,800.00	74.48	359.63	10,579.06	186.56	-266.40	195.17	10.00	10.00	0.00
10,900.00	84.48	359.63	10,597.30	284.75	-267.03	293.33	10.00	10.00	0.00
10,955.24	90.00	359.63	10,599.96	339.90	-267.39	348.47	10.00	10.00	0.00
Landing Point									
11,000.00	90.00	359.63	10,599.96	384.66	-267.68	393.21	0.00	0.00	0.00
11,100.00	90.00	359.63	10,599.96	484.66	-268.32	493.18	0.00	0.00	0.00
11,200.00	90.00	359.63	10,599.96	584.66	-268.97	593.14	0.00	0.00	0.00
11,300.00	90.00	359.63	10,599.96	684.66	-269.62	693.11	0.00	0.00	0.00
11,400.00	90.00	359.63	10,599.96	784.65	-270.26	793.07	0.00	0.00	0.00
11,500.00	90.00	359.63	10,599.96	884.65	-270.91	893.04	0.00	0.00	0.00
11,600.00	90.00	359.63	10,599.96	984.65	-271.56	993.00	0.00	0.00	0.00
11,700.00	90.00	359.63	10,599.96	1,084.65	-272.20	1,092.97	0.00	0.00	0.00
11,800.00	90.00	359.63	10,599.96	1,184.65	-272.85	1,192.93	0.00	0.00	0.00
11,900.00	90.00	359.63	10,599.96	1,284.64	-273.50	1,292.90	0.00	0.00	0.00
12,000.00	90.00	359.63	10,599.96	1,384.64	-274.14	1,392.87	0.00	0.00	0.00
12,100.00	90.00	359.63	10,599.96	1,484.64	-274.79	1,492.83	0.00	0.00	0.00
12,200.00	90.00	359.63	10,599.96	1,584.64	-275.44	1,592.80	0.00	0.00	0.00
12,300.00	90.00	359.63	10,599.96	1,684.63	-276.08	1,692.76	0.00	0.00	0.00
12,400.00	90.00	359.63	10,599.96	1,784.63	-276.73	1,792.73	0.00	0.00	0.00
12,500.00	90.00	359.63	10,599.96	1,884.63	-277.38	1,892.69	0.00	0.00	0.00
12,600.00	90.00	359.63	10,599.96	1,984.63	-278.02	1,992.66	0.00	0.00	0.00
12,700.00	90.00	359.63	10,599.96	2,084.63	-278.67	2,092.62	0.00	0.00	0.00
12,800.00	90.00	359.63	10,599.96	2,184.62	-279.32	2,192.59	0.00	0.00	0.00
12,900.00	90.00	359.63	10,599.96	2,284.62	-279.96	2,292.56	0.00	0.00	0.00
13,000.00	90.00	359.63	10,599.96	2,384.62	-280.61	2,392.52	0.00	0.00	0.00
13,100.00	90.00	359.63	10,599.96	2,484.62	-281.26	2,492.49	0.00	0.00	0.00
13,200.00	90.00	359.63	10,599.96	2,584.62	-281.90	2,592.45	0.00	0.00	0.00
13,300.00	90.00	359.63	10,599.96	2,684.61	-282.55	2,692.42	0.00	0.00	0.00
13,400.00	90.00	359.63	10,599.96	2,784.61	-283.20	2,792.38	0.00	0.00	0.00
13,500.00	90.00	359.63	10,599.96	2,884.61	-283.84	2,892.35	0.00	0.00	0.00
13,600.00	90.00	359.63	10,599.96	2,984.61	-284.49	2,992.31	0.00	0.00	0.00
13,700.00	90.00	359.63	10,599.96	3,084.61	-285.14	3,092.28	0.00	0.00	0.00
13,800.00	90.00	359.63	10,599.96	3,184.60	-285.78	3,192.25	0.00	0.00	0.00
13,900.00	90.00	359.63	10,599.96	3,284.60	-286.43	3,292.21	0.00	0.00	0.00
14,000.00	90.00	359.63	10,599.96	3,384.60	-287.08	3,392.18	0.00	0.00	0.00
14,100.00	90.00	359.63	10,599.96	3,484.60	-287.72	3,492.14	0.00	0.00	0.00
14,200.00	90.00	359.63	10,599.96	3,584.60	-288.37	3,592.11	0.00	0.00	0.00
14,300.00	90.00	359.63	10,599.96	3,684.59	-289.02	3,692.07	0.00	0.00	0.00
14,400.00	90.00	359.63	10,599.96	3,784.59	-289.66	3,792.04	0.00	0.00	0.00
14,500.00	90.00	359.63	10,599.96	3,884.59	-290.31	3,892.00	0.00	0.00	0.00
14,600.00	90.00	359.63	10,599.96	3,984.59	-290.96	3,991.97	0.00	0.00	0.00
14,700.00	90.00	359.63	10,599.96	4,084.58	-291.60	4,091.94	0.00	0.00	0.00
14,800.00	90.00	359.63	10,599.96	4,184.58	-292.25	4,191.90	0.00	0.00	0.00
14,900.00	90.00	359.63	10,599.96	4,284.58	-292.90	4,291.87	0.00	0.00	0.00
15,000.00	90.00	359.63	10,599.96	4,384.58	-293.54	4,391.83	0.00	0.00	0.00
15,100.00	90.00	359.63	10,599.96	4,484.58	-294.19	4,491.80	0.00	0.00	0.00

Oxy Planning Report

Database:	HOPSPP	Local Co-ordinate Reference:	Well Mesa Verde 17-8 Fed Com 5H
Company:	OXY	TVD Reference:	WELL @ 3587.00ft (Original Well Elev)
Project:	NM DIRECTIONAL PLANS (NAD 1983)	MD Reference:	WELL @ 3587.00ft (Original Well Elev)
Site:	Mesa Verde 17-8 Fed Com	North Reference:	Grid
Well:	Mesa Verde 17-8 Fed Com 5H	Survey Calculation Method:	Minimum Curvature
Wellbore:	WB00		
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)
15,200.00	90.00	359.63	10,599.96	4,584.57	-294.84	4,591.76	0.00	0.00	0.00
15,300.00	90.00	359.63	10,599.96	4,684.57	-295.49	4,691.73	0.00	0.00	0.00
15,400.00	90.00	359.63	10,599.96	4,784.57	-296.13	4,791.70	0.00	0.00	0.00
15,500.00	90.00	359.63	10,599.96	4,884.57	-296.78	4,891.66	0.00	0.00	0.00
15,600.00	90.00	359.63	10,599.96	4,984.57	-297.43	4,991.63	0.00	0.00	0.00
15,700.00	90.00	359.63	10,599.96	5,084.56	-298.07	5,091.59	0.00	0.00	0.00
15,800.00	90.00	359.63	10,599.96	5,184.56	-298.72	5,191.56	0.00	0.00	0.00
15,900.00	90.00	359.63	10,599.96	5,284.56	-299.37	5,291.52	0.00	0.00	0.00
16,000.00	90.00	359.63	10,599.96	5,384.56	-300.01	5,391.49	0.00	0.00	0.00
16,100.00	90.00	359.63	10,599.96	5,484.56	-300.66	5,491.45	0.00	0.00	0.00
16,200.00	90.00	359.63	10,599.96	5,584.55	-301.31	5,591.42	0.00	0.00	0.00
16,300.00	90.00	359.63	10,599.96	5,684.55	-301.95	5,691.39	0.00	0.00	0.00
16,400.00	90.00	359.63	10,599.96	5,784.55	-302.60	5,791.35	0.00	0.00	0.00
16,500.00	90.00	359.63	10,599.96	5,884.55	-303.25	5,891.32	0.00	0.00	0.00
16,600.00	90.00	359.63	10,599.96	5,984.54	-303.89	5,991.28	0.00	0.00	0.00
16,700.00	90.00	359.63	10,599.96	6,084.54	-304.54	6,091.25	0.00	0.00	0.00
16,800.00	90.00	359.63	10,599.96	6,184.54	-305.19	6,191.21	0.00	0.00	0.00
16,900.00	90.00	359.63	10,599.96	6,284.54	-305.83	6,291.18	0.00	0.00	0.00
17,000.00	90.00	359.63	10,599.96	6,384.54	-306.48	6,391.14	0.00	0.00	0.00
17,100.00	90.00	359.63	10,599.96	6,484.53	-307.13	6,491.11	0.00	0.00	0.00
17,200.00	90.00	359.63	10,599.96	6,584.53	-307.77	6,591.08	0.00	0.00	0.00
17,300.00	90.00	359.63	10,599.96	6,684.53	-308.42	6,691.04	0.00	0.00	0.00
17,400.00	90.00	359.63	10,599.96	6,784.53	-309.07	6,791.01	0.00	0.00	0.00
17,500.00	90.00	359.63	10,599.96	6,884.53	-309.71	6,890.97	0.00	0.00	0.00
17,600.00	90.00	359.63	10,599.96	6,984.52	-310.36	6,990.94	0.00	0.00	0.00
17,700.00	90.00	359.63	10,599.96	7,084.52	-311.01	7,090.90	0.00	0.00	0.00
17,800.00	90.00	359.63	10,599.96	7,184.52	-311.65	7,190.87	0.00	0.00	0.00
17,900.00	90.00	359.63	10,599.96	7,284.52	-312.30	7,290.83	0.00	0.00	0.00
18,000.00	90.00	359.63	10,599.96	7,384.52	-312.95	7,390.80	0.00	0.00	0.00
18,100.00	90.00	359.63	10,599.96	7,484.51	-313.59	7,490.77	0.00	0.00	0.00
18,200.00	90.00	359.63	10,599.96	7,584.51	-314.24	7,590.73	0.00	0.00	0.00
18,300.00	90.00	359.63	10,599.96	7,684.51	-314.89	7,690.70	0.00	0.00	0.00
18,400.00	90.00	359.63	10,599.96	7,784.51	-315.53	7,790.66	0.00	0.00	0.00
18,500.00	90.00	359.63	10,599.96	7,884.51	-316.18	7,890.63	0.00	0.00	0.00
18,600.00	90.00	359.63	10,599.96	7,984.50	-316.83	7,990.59	0.00	0.00	0.00
18,700.00	90.00	359.63	10,599.96	8,084.50	-317.47	8,090.56	0.00	0.00	0.00
18,800.00	90.00	359.63	10,599.96	8,184.50	-318.12	8,190.52	0.00	0.00	0.00
18,900.00	90.00	359.63	10,599.96	8,284.50	-318.77	8,290.49	0.00	0.00	0.00
19,000.00	90.00	359.63	10,599.96	8,384.49	-319.41	8,390.46	0.00	0.00	0.00
19,100.00	90.00	359.63	10,599.96	8,484.49	-320.06	8,490.42	0.00	0.00	0.00
19,200.00	90.00	359.63	10,599.96	8,584.49	-320.71	8,590.39	0.00	0.00	0.00
19,300.00	90.00	359.63	10,599.96	8,684.49	-321.35	8,690.35	0.00	0.00	0.00
19,400.00	90.00	359.63	10,599.96	8,784.49	-322.00	8,790.32	0.00	0.00	0.00
19,500.00	90.00	359.63	10,599.96	8,884.48	-322.65	8,890.28	0.00	0.00	0.00
19,600.00	90.00	359.63	10,599.96	8,984.48	-323.29	8,990.25	0.00	0.00	0.00
19,700.00	90.00	359.63	10,599.96	9,084.48	-323.94	9,090.21	0.00	0.00	0.00
19,800.00	90.00	359.63	10,599.96	9,184.48	-324.59	9,190.18	0.00	0.00	0.00
19,900.00	90.00	359.63	10,599.96	9,284.48	-325.23	9,290.15	0.00	0.00	0.00
20,000.00	90.00	359.63	10,599.96	9,384.47	-325.88	9,390.11	0.00	0.00	0.00
20,100.00	90.00	359.63	10,599.96	9,484.47	-326.53	9,490.08	0.00	0.00	0.00
20,200.00	90.00	359.63	10,599.96	9,584.47	-327.17	9,590.04	0.00	0.00	0.00
20,300.00	90.00	359.63	10,599.96	9,684.47	-327.82	9,690.01	0.00	0.00	0.00
20,400.00	90.00	359.63	10,599.96	9,784.47	-328.47	9,789.97	0.00	0.00	0.00
20,500.00	90.00	359.63	10,599.96	9,884.46	-329.11	9,889.94	0.00	0.00	0.00

Oxy Planning Report

Database:	HOPSPP	Local Co-ordinate Reference:	Well Mesa Verde 17-8 Fed Com 5H
Company:	OXY	TVD Reference:	WELL @ 3587.00ft (Original Well Elev)
Project:	NM DIRECTIONAL PLANS (NAD 1983)	MD Reference:	WELL @ 3587.00ft (Original Well Elev)
Site:	Mesa Verde 17-8 Fed Com	North Reference:	Grid
Well:	Mesa Verde 17-8 Fed Com 5H	Survey Calculation Method:	Minimum Curvature
Wellbore:	WB00		
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)
20,600.00	90.00	359.63	10,599.96	9,984.46	-329.76	9,989.91	0.00	0.00	0.00
20,700.00	90.00	359.63	10,599.96	10,084.46	-330.41	10,089.87	0.00	0.00	0.00
20,716.92	90.00	359.63	10,599.96	10,101.38	-330.52	10,106.78	0.00	0.00	0.00
TD at 20716.92 MD									

Formations

Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)
942.00	942.00	Rustler			
1,028.00	1,028.00	Salado			
3,336.00	3,336.00	Castile			
4,651.00	4,651.00	Delaware			
4,666.00	4,666.00	Bell Canyon			
5,518.00	5,518.00	Cherry Canyon			
6,935.00	6,935.00	Brushy Canyon			
8,512.87	8,503.00	Bone Spring			
9,966.23	9,938.00	2nd Bone Spring		0.00	

Plan Annotations

Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates		Comment
		+N/-S (ft)	+E/-W (ft)	
0.00	0.00	0.00	0.00	SHL
7,530.00	7,530.00	0.00	0.00	Step out DLS 2.00
8,030.01	8,027.48	-28.82	-32.61	Hold 10° Inclination
9,555.23	9,529.52	-204.22	-231.07	Drop back to vertical DLS 2.00
10,055.24	10,027.00	-233.04	-263.68	Build Curve 10°/100'
10,955.24	10,599.96	339.90	-267.39	Landing Point
20,716.92	10,599.96	10,101.38	-330.52	TD at 20716.92 MD