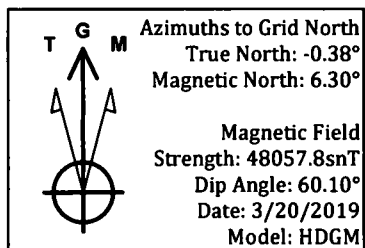




Project: PRD NM DIRECTIONAL PLANS (NAD 1983)
 Site: Avogato 30-31
 Well: AVOGATO 30.31 STATE COM 32H
 Wellbore: Wellbore #1
 Design: Permitting Plan

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

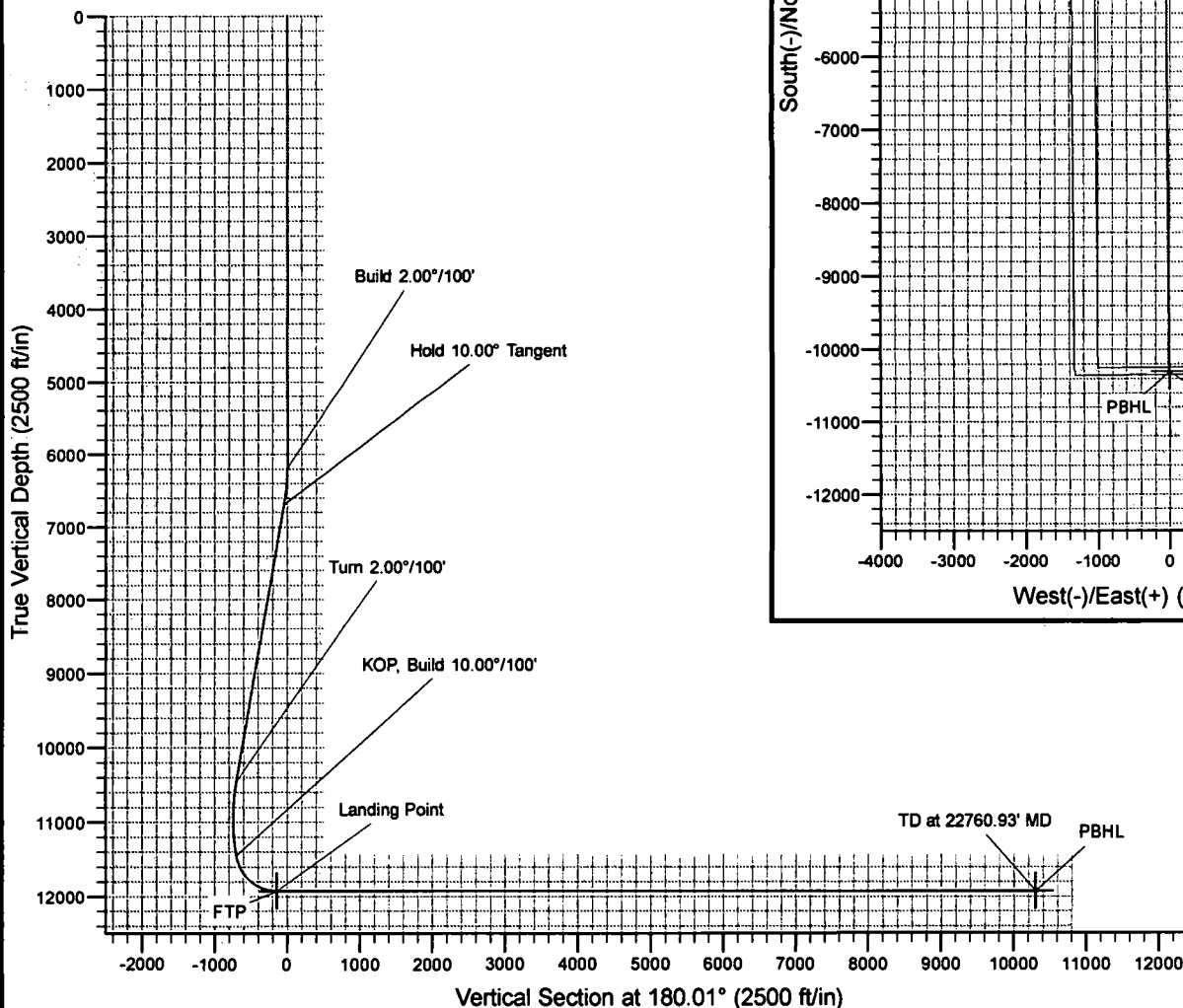
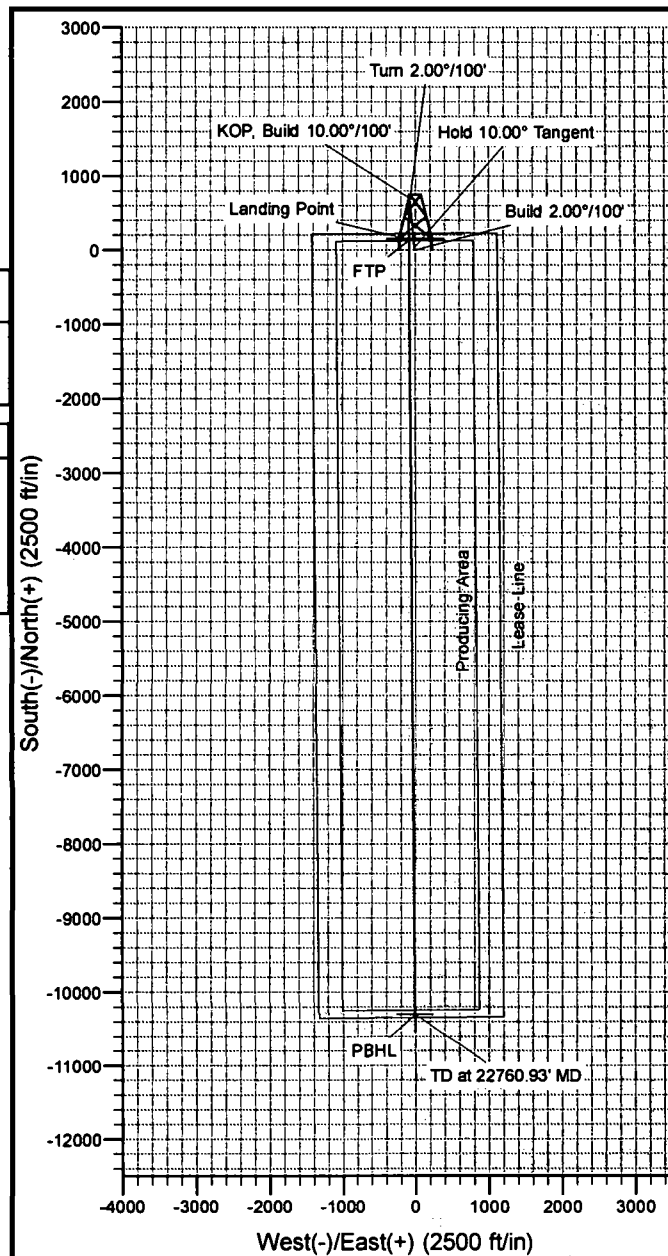


WELL DETAILS: AVOGATO 30.31 STATE COM 32H

+N-S	+E-W	Northing	Ground Level	3702.10	Latitude	Longitude
0.00	0.00	488874.74	Easting	763022.55	32° 22' 9.955388 N	103° 38' 55.104739 W

SECTION DETAILS

MD	Inc	Azi	TVD	+N-S	+E-W	Diag	TFace	VSeal	Annotation
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
6197.00	0.00	0.00	6197.00	0.00	0.00	0.00	0.00	0.00	Build 2.00°/100'
6697.00	10.00	354.15	6694.47	43.30	-4.44	2.00	354.15	-43.30	Hold 10.00° Tangent
10522.01	10.00	354.15	10481.36	704.04	-72.18	0.00	0.00	-704.03	Turn 2.00°/100'
11520.87	10.00	179.59	11455.14	703.58	-80.49	2.00	-177.24	-703.57	KOP, Build 10.00°/100'
12320.87	90.00	179.59	11928.60	139.35	-78.43	10.00	0.00	-139.33	Landing Point
22760.93	90.00	179.59	11928.60	-10300.45	-1.40	0.00	0.00	10300.45	TD at 22760.93' MD



OXY

PRD NM DIRECTIONAL PLANS (NAD 1983)

Avogato 30-31

AVOGATO 30_31 STATE COM 32H

Wellbore #1

Plan: Permitting Plan

Standard Planning Report

20 March, 2019

Oxy Planning Report

Database:	HOPSP	Local Co-ordinate Reference:	Well AVOGATO 30_31 STATE COM 32H
Company:	ENGINEERING DESIGNS	TVD Reference:	RKB=26.5' @ 3728.60ft
Project:	PRD NM DIRECTIONAL PLANS (NAD 1983)	MD Reference:	RKB=26.5' @ 3728.60ft
Site:	Avogato 30-31	North Reference:	Grid
Well:	AVOGATO 30_31 STATE COM 32H	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	Avogato 30-31			
Site Position:		Northing:	498,694.54 usft	Latitude: 32° 22' 8.174555 N
From:	Map	Easting:	762,988.53 usft	Longitude: 103° 36' 55.515488 W
Position Uncertainty:	2.00 ft	Slot Radius:	13.200 in	Grid Convergence: 0.38 °

Well	AVOGATO 30_31 STATE COM 32H			
Well Position	+N/-S	180.21 ft	Northing:	498,874.74 usft
	+E/-W	34.02 ft	Easting:	763,022.55 usft
Position Uncertainty	2.00 ft	Wellhead Elevation:	0.00 ft	Ground Level: 3,702.10 ft

Wellbore	Wellbore #1				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	HDGM	3/20/2019	6.68	60.10	48,058

Design	Permitting Plan			
Audit Notes:				
Version:	Phase:	PROTOTYPE	Tie On Depth:	0.00
Vertical Section:	Depth From (TVD) (ft)	+N/-S (ft)	+E/-W (ft)	Direction (°)
	0.00	0.00	0.00	180.01

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	
6,197.00	0.00	0.00	6,197.00	0.00	0.00	0.00	0.00	0.00	0.00	
6,697.00	10.00	354.15	6,694.47	43.30	-4.44	2.00	2.00	0.00	354.15	
10,522.01	10.00	354.15	10,461.36	704.04	-72.18	0.00	0.00	0.00	0.00	
11,520.87	10.00	179.59	11,455.14	703.58	-80.49	2.00	0.00	-17.48	-177.24	
12,320.87	90.00	179.59	11,928.60	139.35	-76.43	10.00	10.00	0.00	0.00	FTP (Avogato 30-31)
22,760.93	90.00	179.59	11,928.60	-10,300.45	-1.40	0.00	0.00	0.00	0.00	PBHL (Avogato)

Oxy Planning Report

Database:	HOPSPP	Local Co-ordinate Reference:	Well AVOGATO 30_31 STATE COM 32H
Company:	ENGINEERING DESIGNS	TVD Reference:	RKB=26.5' @ 3728.60ft
Project:	PRD NM DIRECTIONAL PLANS (NAD 1983)	MD Reference:	RKB=26.5' @ 3728.60ft
Site:	Avogato 30-31	North Reference:	Grid
Well:	AVOGATO 30_31 STATE COM 32H	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
2,900.00	0.00	0.00	2,900.00	0.00	0.00	0.00	0.00	0.00	0.00
3,000.00	0.00	0.00	3,000.00	0.00	0.00	0.00	0.00	0.00	0.00
3,100.00	0.00	0.00	3,100.00	0.00	0.00	0.00	0.00	0.00	0.00
3,200.00	0.00	0.00	3,200.00	0.00	0.00	0.00	0.00	0.00	0.00
3,300.00	0.00	0.00	3,300.00	0.00	0.00	0.00	0.00	0.00	0.00
3,400.00	0.00	0.00	3,400.00	0.00	0.00	0.00	0.00	0.00	0.00
3,500.00	0.00	0.00	3,500.00	0.00	0.00	0.00	0.00	0.00	0.00
3,600.00	0.00	0.00	3,600.00	0.00	0.00	0.00	0.00	0.00	0.00
3,700.00	0.00	0.00	3,700.00	0.00	0.00	0.00	0.00	0.00	0.00
3,800.00	0.00	0.00	3,800.00	0.00	0.00	0.00	0.00	0.00	0.00
3,900.00	0.00	0.00	3,900.00	0.00	0.00	0.00	0.00	0.00	0.00
4,000.00	0.00	0.00	4,000.00	0.00	0.00	0.00	0.00	0.00	0.00
4,100.00	0.00	0.00	4,100.00	0.00	0.00	0.00	0.00	0.00	0.00
4,200.00	0.00	0.00	4,200.00	0.00	0.00	0.00	0.00	0.00	0.00
4,300.00	0.00	0.00	4,300.00	0.00	0.00	0.00	0.00	0.00	0.00
4,400.00	0.00	0.00	4,400.00	0.00	0.00	0.00	0.00	0.00	0.00
4,500.00	0.00	0.00	4,500.00	0.00	0.00	0.00	0.00	0.00	0.00
4,600.00	0.00	0.00	4,600.00	0.00	0.00	0.00	0.00	0.00	0.00
4,700.00	0.00	0.00	4,700.00	0.00	0.00	0.00	0.00	0.00	0.00
4,800.00	0.00	0.00	4,800.00	0.00	0.00	0.00	0.00	0.00	0.00
4,900.00	0.00	0.00	4,900.00	0.00	0.00	0.00	0.00	0.00	0.00
5,000.00	0.00	0.00	5,000.00	0.00	0.00	0.00	0.00	0.00	0.00
5,100.00	0.00	0.00	5,100.00	0.00	0.00	0.00	0.00	0.00	0.00
5,200.00	0.00	0.00	5,200.00	0.00	0.00	0.00	0.00	0.00	0.00
5,300.00	0.00	0.00	5,300.00	0.00	0.00	0.00	0.00	0.00	0.00

Oxy Planning Report

Database:	HOPSPP	Local Co-ordinate Reference:	Well AVOGATO 30_31 STATE COM 32H
Company:	ENGINEERING DESIGNS	TVD Reference:	RKB=26.5' @ 3728.60ft
Project:	PRD NM DIRECTIONAL PLANS (NAD 1983)	MD Reference:	RKB=26.5' @ 3728.60ft
Site:	Avogato 30-31	North Reference:	Grid
Well:	AVOGATO 30_31 STATE COM 32H	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)
5,400.00	0.00	0.00	5,400.00	0.00	0.00	0.00	0.00	0.00	0.00
5,500.00	0.00	0.00	5,500.00	0.00	0.00	0.00	0.00	0.00	0.00
5,600.00	0.00	0.00	5,600.00	0.00	0.00	0.00	0.00	0.00	0.00
5,700.00	0.00	0.00	5,700.00	0.00	0.00	0.00	0.00	0.00	0.00
5,800.00	0.00	0.00	5,800.00	0.00	0.00	0.00	0.00	0.00	0.00
5,900.00	0.00	0.00	5,900.00	0.00	0.00	0.00	0.00	0.00	0.00
6,000.00	0.00	0.00	6,000.00	0.00	0.00	0.00	0.00	0.00	0.00
6,100.00	0.00	0.00	6,100.00	0.00	0.00	0.00	0.00	0.00	0.00
6,197.00	0.00	0.00	6,197.00	0.00	0.00	0.00	0.00	0.00	0.00
6,200.00	0.06	354.15	6,200.00	0.00	0.00	0.00	2.00	2.00	0.00
6,300.00	2.06	354.15	6,299.98	1.84	-0.19	-1.84	2.00	2.00	0.00
6,400.00	4.06	354.15	6,399.83	7.15	-0.73	-7.15	2.00	2.00	0.00
6,500.00	6.06	354.15	6,499.44	15.93	-1.63	-15.93	2.00	2.00	0.00
6,600.00	8.06	354.15	6,598.67	28.15	-2.89	-28.15	2.00	2.00	0.00
6,697.00	10.00	354.15	6,694.47	43.30	-4.44	-43.30	2.00	2.00	0.00
6,700.00	10.00	354.15	6,697.42	43.81	-4.49	-43.81	0.00	0.00	0.00
6,800.00	10.00	354.15	6,795.90	61.09	-6.26	-61.09	0.00	0.00	0.00
6,900.00	10.00	354.15	6,894.38	78.36	-8.03	-78.36	0.00	0.00	0.00
7,000.00	10.00	354.15	6,992.86	95.64	-9.81	-95.64	0.00	0.00	0.00
7,100.00	10.00	354.15	7,091.34	112.91	-11.58	-112.91	0.00	0.00	0.00
7,200.00	10.00	354.15	7,189.82	130.19	-13.35	-130.18	0.00	0.00	0.00
7,300.00	10.00	354.15	7,288.30	147.46	-15.12	-147.46	0.00	0.00	0.00
7,400.00	10.00	354.15	7,386.79	164.73	-16.89	-164.73	0.00	0.00	0.00
7,500.00	10.00	354.15	7,485.27	182.01	-18.66	-182.01	0.00	0.00	0.00
7,600.00	10.00	354.15	7,583.75	199.28	-20.43	-199.28	0.00	0.00	0.00
7,700.00	10.00	354.15	7,682.23	216.56	-22.20	-216.55	0.00	0.00	0.00
7,800.00	10.00	354.15	7,780.71	233.83	-23.97	-233.83	0.00	0.00	0.00
7,900.00	10.00	354.15	7,879.19	251.11	-25.74	-251.10	0.00	0.00	0.00
8,000.00	10.00	354.15	7,977.67	268.38	-27.52	-268.38	0.00	0.00	0.00
8,100.00	10.00	354.15	8,076.15	285.65	-29.29	-285.65	0.00	0.00	0.00
8,200.00	10.00	354.15	8,174.63	302.93	-31.06	-302.92	0.00	0.00	0.00
8,300.00	10.00	354.15	8,273.11	320.20	-32.83	-320.20	0.00	0.00	0.00
8,400.00	10.00	354.15	8,371.59	337.48	-34.60	-337.47	0.00	0.00	0.00
8,500.00	10.00	354.15	8,470.07	354.75	-36.37	-354.75	0.00	0.00	0.00
8,600.00	10.00	354.15	8,568.55	372.03	-38.14	-372.02	0.00	0.00	0.00
8,700.00	10.00	354.15	8,667.04	389.30	-39.91	-389.29	0.00	0.00	0.00
8,800.00	10.00	354.15	8,765.52	406.57	-41.68	-406.57	0.00	0.00	0.00
8,900.00	10.00	354.15	8,864.00	423.85	-43.46	-423.84	0.00	0.00	0.00
9,000.00	10.00	354.15	8,962.48	441.12	-45.23	-441.12	0.00	0.00	0.00
9,100.00	10.00	354.15	9,060.96	458.40	-47.00	-458.39	0.00	0.00	0.00
9,200.00	10.00	354.15	9,159.44	475.67	-48.77	-475.66	0.00	0.00	0.00
9,300.00	10.00	354.15	9,257.92	492.95	-50.54	-492.94	0.00	0.00	0.00
9,400.00	10.00	354.15	9,356.40	510.22	-52.31	-510.21	0.00	0.00	0.00
9,500.00	10.00	354.15	9,454.88	527.49	-54.08	-527.49	0.00	0.00	0.00
9,600.00	10.00	354.15	9,553.36	544.77	-55.85	-544.76	0.00	0.00	0.00
9,700.00	10.00	354.15	9,651.84	562.04	-57.62	-562.03	0.00	0.00	0.00
9,800.00	10.00	354.15	9,750.32	579.32	-59.39	-579.31	0.00	0.00	0.00
9,900.00	10.00	354.15	9,848.80	596.59	-61.17	-596.58	0.00	0.00	0.00
10,000.00	10.00	354.15	9,947.29	613.87	-62.94	-613.86	0.00	0.00	0.00
10,100.00	10.00	354.15	10,045.77	631.14	-64.71	-631.13	0.00	0.00	0.00
10,200.00	10.00	354.15	10,144.25	648.41	-66.48	-648.41	0.00	0.00	0.00
10,300.00	10.00	354.15	10,242.73	665.69	-68.25	-665.68	0.00	0.00	0.00
10,400.00	10.00	354.15	10,341.21	682.96	-70.02	-682.95	0.00	0.00	0.00
10,500.00	10.00	354.15	10,439.69	700.24	-71.79	-700.23	0.00	0.00	0.00

Oxy Planning Report

Database:	HOPSPP	Local Co-ordinate Reference:	Well AVOGATO 30_31 STATE COM 32H
Company:	ENGINEERING DESIGNS	TVD Reference:	RKB=26.5' @ 3728.60ft
Project:	PRD NM DIRECTIONAL PLANS (NAD 1983)	MD Reference:	RKB=26.5' @ 3728.60ft
Site:	Avogato 30-31	North Reference:	Grid
Well:	AVOGATO 30_31 STATE COM 32H	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)	
10,522.01	10.00	354.15	10,461.36	704.04	-72.18	-704.03	0.00	0.00	0.00	
10,600.00	8.44	353.63	10,538.34	716.47	-73.51	-716.46	2.00	-2.00	-0.66	
10,700.00	6.45	352.62	10,637.50	729.33	-75.04	-729.32	2.00	-2.00	-1.02	
10,800.00	4.45	350.70	10,737.04	738.73	-76.39	-738.72	2.00	-1.99	-1.92	
10,900.00	2.48	345.70	10,836.85	744.66	-77.55	-744.65	2.00	-1.98	-5.00	
11,000.00	0.64	308.66	10,936.81	747.10	-78.52	-747.09	2.00	-1.83	-37.04	
11,100.00	1.64	193.84	11,036.80	746.06	-79.31	-746.05	2.00	1.00	-114.83	
11,200.00	3.60	184.51	11,136.69	741.53	-79.90	-741.52	2.00	1.96	-9.33	
11,300.00	5.59	181.77	11,236.36	733.53	-80.29	-733.52	2.00	1.99	-2.73	
11,400.00	7.59	180.47	11,335.70	722.06	-80.50	-722.05	2.00	1.99	-1.30	
11,500.00	9.58	179.71	11,434.57	707.13	-80.51	-707.12	2.00	2.00	-0.76	
11,520.87	10.00	179.59	11,455.14	703.58	-80.49	-703.57	2.00	2.00	-0.58	
11,600.00	17.91	179.59	11,531.87	684.51	-80.35	-684.50	10.00	10.00	0.00	
11,700.00	27.91	179.59	11,623.86	645.63	-80.07	-645.62	10.00	10.00	0.00	
11,800.00	37.91	179.59	11,707.71	591.36	-79.68	-591.35	10.00	10.00	0.00	
11,900.00	47.91	179.59	11,780.85	523.36	-79.19	-523.35	10.00	10.00	0.00	
12,000.00	57.91	179.59	11,841.08	443.69	-78.62	-443.68	10.00	10.00	0.00	
12,100.00	67.91	179.59	11,886.55	354.78	-77.98	-354.77	10.00	10.00	0.00	
12,200.00	77.91	179.59	11,915.90	259.31	-77.30	-259.30	10.00	10.00	0.00	
12,300.00	87.91	179.59	11,928.22	160.21	-76.58	-160.20	10.00	10.00	0.00	
12,320.87	90.00	179.59	11,928.60	139.35	-76.43	-139.33	10.00	10.00	0.00	
12,400.00	90.00	179.59	11,928.60	60.21	-75.86	-60.20	0.00	0.00	0.00	
12,500.00	90.00	179.59	11,928.60	-39.78	-75.15	39.79	0.00	0.00	0.00	
12,600.00	90.00	179.59	11,928.60	-139.78	-74.43	139.79	0.00	0.00	0.00	
12,700.00	90.00	179.59	11,928.60	-239.78	-73.71	239.79	0.00	0.00	0.00	
12,800.00	90.00	179.59	11,928.60	-339.78	-72.99	339.79	0.00	0.00	0.00	
12,900.00	90.00	179.59	11,928.60	-439.77	-72.27	439.78	0.00	0.00	0.00	
13,000.00	90.00	179.59	11,928.60	-539.77	-71.55	539.78	0.00	0.00	0.00	
13,100.00	90.00	179.59	11,928.60	-639.77	-70.83	639.78	0.00	0.00	0.00	
13,200.00	90.00	179.59	11,928.60	-739.76	-70.11	739.77	0.00	0.00	0.00	
13,300.00	90.00	179.59	11,928.60	-839.76	-69.40	839.77	0.00	0.00	0.00	
13,400.00	90.00	179.59	11,928.60	-939.76	-68.68	939.77	0.00	0.00	0.00	
13,500.00	90.00	179.59	11,928.60	-1,039.76	-67.96	1,039.77	0.00	0.00	0.00	
13,600.00	90.00	179.59	11,928.60	-1,139.75	-67.24	1,139.76	0.00	0.00	0.00	
13,700.00	90.00	179.59	11,928.60	-1,239.75	-66.52	1,239.76	0.00	0.00	0.00	
13,800.00	90.00	179.59	11,928.60	-1,339.75	-65.80	1,339.76	0.00	0.00	0.00	
13,900.00	90.00	179.59	11,928.60	-1,439.75	-65.08	1,439.76	0.00	0.00	0.00	
14,000.00	90.00	179.59	11,928.60	-1,539.74	-64.36	1,539.75	0.00	0.00	0.00	
14,100.00	90.00	179.59	11,928.60	-1,639.74	-63.65	1,639.75	0.00	0.00	0.00	
14,200.00	90.00	179.59	11,928.60	-1,739.74	-62.93	1,739.75	0.00	0.00	0.00	
14,300.00	90.00	179.59	11,928.60	-1,839.74	-62.21	1,839.74	0.00	0.00	0.00	
14,400.00	90.00	179.59	11,928.60	-1,939.73	-61.49	1,939.74	0.00	0.00	0.00	
14,500.00	90.00	179.59	11,928.60	-2,039.73	-60.77	2,039.74	0.00	0.00	0.00	
14,600.00	90.00	179.59	11,928.60	-2,139.73	-60.05	2,139.74	0.00	0.00	0.00	
14,700.00	90.00	179.59	11,928.60	-2,239.73	-59.33	2,239.73	0.00	0.00	0.00	
14,800.00	90.00	179.59	11,928.60	-2,339.72	-58.62	2,339.73	0.00	0.00	0.00	
14,900.00	90.00	179.59	11,928.60	-2,439.72	-57.90	2,439.73	0.00	0.00	0.00	
15,000.00	90.00	179.59	11,928.60	-2,539.72	-57.18	2,539.73	0.00	0.00	0.00	
15,100.00	90.00	179.59	11,928.60	-2,639.72	-56.46	2,639.72	0.00	0.00	0.00	
15,200.00	90.00	179.59	11,928.60	-2,739.71	-55.74	2,739.72	0.00	0.00	0.00	
15,300.00	90.00	179.59	11,928.60	-2,839.71	-55.02	2,839.72	0.00	0.00	0.00	
15,400.00	90.00	179.59	11,928.60	-2,939.71	-54.30	2,939.72	0.00	0.00	0.00	
15,500.00	90.00	179.59	11,928.60	-3,039.71	-53.58	3,039.71	0.00	0.00	0.00	
15,600.00	90.00	179.59	11,928.60	-3,139.70	-52.87	3,139.71	0.00	0.00	0.00	

Oxy Planning Report

Database:	HOPSP	Local Co-ordinate Reference:	Well AVOGATO 30_31 STATE COM 32H
Company:	ENGINEERING DESIGNS	TVD Reference:	RKB=26.5' @ 3728.60ft
Project:	PRD NM DIRECTIONAL PLANS (NAD 1983)	MD Reference:	RKB=26.5' @ 3728.60ft
Site:	Avogato 30-31	North Reference:	Grid
Well:	AVOGATO 30_31 STATE COM 32H	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	90.00	179.59	11,928.60	-3,239.70	-52.15	3,239.71	0.00	0.00	0.00
15,800.00	90.00	179.59	11,928.60	-3,339.70	-51.43	3,339.70	0.00	0.00	0.00
15,900.00	90.00	179.59	11,928.60	-3,439.70	-50.71	3,439.70	0.00	0.00	0.00
16,000.00	90.00	179.59	11,928.60	-3,539.69	-49.99	3,539.70	0.00	0.00	0.00
16,100.00	90.00	179.59	11,928.60	-3,639.69	-49.27	3,639.70	0.00	0.00	0.00
16,200.00	90.00	179.59	11,928.60	-3,739.69	-48.55	3,739.69	0.00	0.00	0.00
16,300.00	90.00	179.59	11,928.60	-3,839.68	-47.83	3,839.69	0.00	0.00	0.00
16,400.00	90.00	179.59	11,928.60	-3,939.68	-47.12	3,939.69	0.00	0.00	0.00
16,500.00	90.00	179.59	11,928.60	-4,039.68	-46.40	4,039.69	0.00	0.00	0.00
16,600.00	90.00	179.59	11,928.60	-4,139.68	-45.68	4,139.68	0.00	0.00	0.00
16,700.00	90.00	179.59	11,928.60	-4,239.67	-44.96	4,239.68	0.00	0.00	0.00
16,800.00	90.00	179.59	11,928.60	-4,339.67	-44.24	4,339.68	0.00	0.00	0.00
16,900.00	90.00	179.59	11,928.60	-4,439.67	-43.52	4,439.68	0.00	0.00	0.00
17,000.00	90.00	179.59	11,928.60	-4,539.67	-42.80	4,539.67	0.00	0.00	0.00
17,100.00	90.00	179.59	11,928.60	-4,639.66	-42.09	4,639.67	0.00	0.00	0.00
17,200.00	90.00	179.59	11,928.60	-4,739.66	-41.37	4,739.67	0.00	0.00	0.00
17,300.00	90.00	179.59	11,928.60	-4,839.66	-40.65	4,839.66	0.00	0.00	0.00
17,400.00	90.00	179.59	11,928.60	-4,939.66	-39.93	4,939.66	0.00	0.00	0.00
17,500.00	90.00	179.59	11,928.60	-5,039.65	-39.21	5,039.66	0.00	0.00	0.00
17,600.00	90.00	179.59	11,928.60	-5,139.65	-38.49	5,139.66	0.00	0.00	0.00
17,700.00	90.00	179.59	11,928.60	-5,239.65	-37.77	5,239.65	0.00	0.00	0.00
17,800.00	90.00	179.59	11,928.60	-5,339.65	-37.05	5,339.65	0.00	0.00	0.00
17,900.00	90.00	179.59	11,928.60	-5,439.64	-36.34	5,439.65	0.00	0.00	0.00
18,000.00	90.00	179.59	11,928.60	-5,539.64	-35.62	5,539.65	0.00	0.00	0.00
18,100.00	90.00	179.59	11,928.60	-5,639.64	-34.90	5,639.64	0.00	0.00	0.00
18,200.00	90.00	179.59	11,928.60	-5,739.64	-34.18	5,739.64	0.00	0.00	0.00
18,300.00	90.00	179.59	11,928.60	-5,839.63	-33.46	5,839.64	0.00	0.00	0.00
18,400.00	90.00	179.59	11,928.60	-5,939.63	-32.74	5,939.64	0.00	0.00	0.00
18,500.00	90.00	179.59	11,928.60	-6,039.63	-32.02	6,039.63	0.00	0.00	0.00
18,600.00	90.00	179.59	11,928.60	-6,139.63	-31.30	6,139.63	0.00	0.00	0.00
18,700.00	90.00	179.59	11,928.60	-6,239.62	-30.59	6,239.63	0.00	0.00	0.00
18,800.00	90.00	179.59	11,928.60	-6,339.62	-29.87	6,339.62	0.00	0.00	0.00
18,900.00	90.00	179.59	11,928.60	-6,439.62	-29.15	6,439.62	0.00	0.00	0.00
19,000.00	90.00	179.59	11,928.60	-6,539.62	-28.43	6,539.62	0.00	0.00	0.00
19,100.00	90.00	179.59	11,928.60	-6,639.61	-27.71	6,639.62	0.00	0.00	0.00
19,200.00	90.00	179.59	11,928.60	-6,739.61	-26.99	6,739.61	0.00	0.00	0.00
19,300.00	90.00	179.59	11,928.60	-6,839.61	-26.27	6,839.61	0.00	0.00	0.00
19,400.00	90.00	179.59	11,928.60	-6,939.60	-25.56	6,939.61	0.00	0.00	0.00
19,500.00	90.00	179.59	11,928.60	-7,039.60	-24.84	7,039.61	0.00	0.00	0.00
19,600.00	90.00	179.59	11,928.60	-7,139.60	-24.12	7,139.60	0.00	0.00	0.00
19,700.00	90.00	179.59	11,928.60	-7,239.60	-23.40	7,239.60	0.00	0.00	0.00
19,800.00	90.00	179.59	11,928.60	-7,339.59	-22.68	7,339.60	0.00	0.00	0.00
19,900.00	90.00	179.59	11,928.60	-7,439.59	-21.96	7,439.59	0.00	0.00	0.00
20,000.00	90.00	179.59	11,928.60	-7,539.59	-21.24	7,539.59	0.00	0.00	0.00
20,100.00	90.00	179.59	11,928.60	-7,639.59	-20.52	7,639.59	0.00	0.00	0.00
20,200.00	90.00	179.59	11,928.60	-7,739.58	-19.81	7,739.59	0.00	0.00	0.00
20,300.00	90.00	179.59	11,928.60	-7,839.58	-19.09	7,839.58	0.00	0.00	0.00
20,400.00	90.00	179.59	11,928.60	-7,939.58	-18.37	7,939.58	0.00	0.00	0.00
20,500.00	90.00	179.59	11,928.60	-8,039.58	-17.65	8,039.58	0.00	0.00	0.00
20,600.00	90.00	179.59	11,928.60	-8,139.57	-16.93	8,139.58	0.00	0.00	0.00
20,700.00	90.00	179.59	11,928.60	-8,239.57	-16.21	8,239.57	0.00	0.00	0.00
20,800.00	90.00	179.59	11,928.60	-8,339.57	-15.49	8,339.57	0.00	0.00	0.00
20,900.00	90.00	179.59	11,928.60	-8,439.57	-14.77	8,439.57	0.00	0.00	0.00
21,000.00	90.00	179.59	11,928.60	-8,539.56	-14.06	8,539.57	0.00	0.00	0.00

Oxy Planning Report

Database:	HOPSPP	Local Co-ordinate Reference:	Well AVOGATO 30_31 STATE COM 32H
Company:	ENGINEERING DESIGNS	TVD Reference:	RKB=26.5' @ 3728.60ft
Project:	PRD NM DIRECTIONAL PLANS (NAD 1983)	MD Reference:	RKB=26.5' @ 3728.60ft
Site:	Avogato 30-31	North Reference:	Grid
Well:	AVOGATO 30_31 STATE COM 32H	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)
21,100.00	90.00	179.59	11,928.60	-8,639.56	-13.34	8,639.56	0.00	0.00	0.00
21,200.00	90.00	179.59	11,928.60	-8,739.56	-12.62	8,739.56	0.00	0.00	0.00
21,300.00	90.00	179.59	11,928.60	-8,839.56	-11.90	8,839.56	0.00	0.00	0.00
21,400.00	90.00	179.59	11,928.60	-8,939.55	-11.18	8,939.55	0.00	0.00	0.00
21,500.00	90.00	179.59	11,928.60	-9,039.55	-10.46	9,039.55	0.00	0.00	0.00
21,600.00	90.00	179.59	11,928.60	-9,139.55	-9.74	9,139.55	0.00	0.00	0.00
21,700.00	90.00	179.59	11,928.60	-9,239.55	-9.02	9,239.55	0.00	0.00	0.00
21,800.00	90.00	179.59	11,928.60	-9,339.54	-8.31	9,339.54	0.00	0.00	0.00
21,900.00	90.00	179.59	11,928.60	-9,439.54	-7.59	9,439.54	0.00	0.00	0.00
22,000.00	90.00	179.59	11,928.60	-9,539.54	-6.87	9,539.54	0.00	0.00	0.00
22,100.00	90.00	179.59	11,928.60	-9,639.54	-6.15	9,639.54	0.00	0.00	0.00
22,200.00	90.00	179.59	11,928.60	-9,739.53	-5.43	9,739.53	0.00	0.00	0.00
22,300.00	90.00	179.59	11,928.60	-9,839.53	-4.71	9,839.53	0.00	0.00	0.00
22,400.00	90.00	179.59	11,928.60	-9,939.53	-3.99	9,939.53	0.00	0.00	0.00
22,500.00	90.00	179.59	11,928.60	-10,039.52	-3.28	10,039.53	0.00	0.00	0.00
22,600.00	90.00	179.59	11,928.60	-10,139.52	-2.56	10,139.52	0.00	0.00	0.00
22,700.00	90.00	179.59	11,928.60	-10,239.52	-1.84	10,239.52	0.00	0.00	0.00
22,760.93	90.00	179.59	11,928.60	-10,300.45	-1.40	10,300.45	0.00	0.00	0.00

Design Targets									
Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (usft)	Easting (usft)	Latitude	Longitude
PBHL (Avogato 30-31 - hit/miss target - Shape - Point)	0.00	0.00	11,928.60	-10,300.45	-1.40	488,574.67	763,021.15	32° 20' 28.035466 N	103° 36' 55.926274
FTP (Avogato 30-31 - plan hits target center - Point)	0.00	0.00	11,928.60	139.35	-76.43	499,014.08	762,946.12	32° 22' 11.339237 N	103° 36' 55.984973

Plan Annotations				
Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates		Comment
		+N/-S (ft)	+E/-W (ft)	
6,197.00	6,197.00	0.00	0.00	Build 2.00°/100'
6,697.00	6,694.47	43.30	-4.44	Hold 10.00° Tangent
10,522.01	10,461.36	704.04	-72.18	Turn 2.00°/100'
11,520.87	11,455.14	703.58	-80.49	KOP, Build 10.00°/100'
12,320.87	11,928.60	139.35	-76.43	Landing Point
22,760.93	11,928.60	-10,300.45	-1.40	TD at 22760.93' MD