

30-015-38555

OCCIDENTAL PERMIAN LTD.

San Dunes Delaware, West
Eddy County, NM
Pure Gold B Federal #16
DH - Job #32D12111218

Survey: MWD

SDI Standard Survey Report

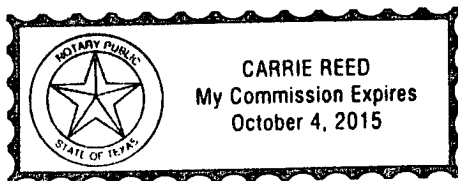
This survey is correct to the best of my knowledge and is supported by actual field data.

[Signature]

Notarized this date 31st of December, 2011.

[Signature]

Notary Signature
County of Midland
State of Texas



Scientific Drilling International, Inc.
SDI Standard Survey Report



Company:	OCCIDENTAL PERMIAN LTD	Local Co-ordinate Reference:	Well Pure Gold B Federal #16
Project:	San Dunes Delaware, West	TVD Reference:	WELL @ 0.0usft (Original Well Elev)
Site:	Eddy County, NM	MD Reference:	WELL @ 0.0usft (Original Well Elev)
Well:	Pure Gold B Federal #16	North Reference:	Grid
Wellbore:	VH - Job #32K12111211	Survey Calculation Method:	Minimum Curvature
Design:	VH - Job #32K12111211	Database:	EDM-Regulatory

Project	San Dunes Delaware, West		
Map System:	US State Plane 1927 (Exact solution)	System Datum:	Mean Sea Level
Geo Datum:	NAD 1927 (NADCON CONUS)		
Map Zone:	New Mexico East 3001		

Site:		Eddy County, NM			
Site Position:		Northing:	461,972.78 usft	Latitude:	32° 16' 8.261 N
From:	Lat/Long	Easting:	664,293.31 usft	Longitude:	103° 48' 6.450 W
Position Uncertainty:	0.0 usft	Slot Radius:	0"	Grid Convergence:	0.28 °

Well	Pure Gold B Federal #16, Directional					
Well Position	+N/-S	0.0 usft	Northing:	470,505.73 usft	Latitude:	32° 17' 32.708 N
	+E/-W	0.0 usft	Easting:	664,183.97 usft	Longitude:	103° 48' 7.231 W
Position Uncertainty		0.0 usft	Wellhead Elevation:	usft	Ground Level:	0.0 usft

Wellbore		VH - Job #32K12111211			
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	12/13/2011	7.64	60.20	48,608

Design		VH - Job #32K12111211			
Audit Notes:					
Version:		1 0	Phase:	ACTUAL	Tie On Depth: 0.0
Vertical Section:		Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)
		0.0	0.0	0.0	252.37

Survey Program		Date	1/22/2012		
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description	
100.7	427.3	Gyro (VH - Job #32K12111211)	Keeper	Keeper Surface Readout	

Survey							
Measured Depth (usft)	Inclination (°)	Azimuth (°)	True Vertical Depth	North/South (usft)	East/West (usft)	Closure Azimuth (°)	Closure Distance (usft)
0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.0
100.7	0.86	247.76	100.7	-0.3	-0.7	247.76	0.8
161.9	0.94	244.59	161.9	-0.7	-1.6	246.83	1.7
250.4	0.94	241.09	250.4	-1.3	-2.9	245.00	3.2
338.8	0.97	239.03	338.8	-2.1	-4.1	243.43	4.6
427.3	0.99	234.56	427.3	-2.9	-5.4	241.79	6.1

Scientific Drilling International, Inc.

SDI Standard Survey Report



Company:	OCCIDENTAL PERMIAN LTD.	Local Co-ordinate Reference:	Well Pure Gold B Federal #16
Project:	San Dunes Delaware, West	TVD Reference:	WELL @ 0.0usft (Original Well Elev)
Site:	Eddy County, NM	MD Reference:	WELL @ 0.0usft (Original Well Elev)
Well:	Pure Gold B Federal #16	North Reference:	Grid
Wellbore:	DH - Job #32D12111218	Survey Calculation Method:	Minimum Curvature
Design:	DH - Job #32D12111218	Database:	EDM-Regulatory

Project	San Dunes Delaware, West		
Map System:	US State Plane 1927 (Exact solution)	System Datum:	Mean Sea Level
Geo Datum:	NAD 1927 (NADCON CONUS)		
Map Zone:	New Mexico East 3001		

Site		Eddy County, NM			
Site Position:		Northing:	461,972.78 usft	Latitude:	32° 16' 8.261 N
From:	Lat/Long	Easting:	664,293.31 usft	Longitude:	103° 48' 6.450 W
Position Uncertainty:	0.0 usft	Slot Radius:	0"	Grid Convergence:	0.28 °

Well#	Pure Gold B Federal #16, Directional					
Well Position	+N/-S	0.0 usft	Northing:	470,505.73 usft	Latitude:	32° 17' 32.708 N
	+E/-W	0.0 usft	Easting:	664,183.97 usft	Longitude:	103° 48' 7.231 W
Position Uncertainty	0.0 usft	Wellhead Elevation:	usft	Ground Level:	0.0 usft	

Wellbore		DH - Job #32D12111218			
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	12/15/2011	7 64	60 20	48,608

Design: DH - Job #32D12111218				
Audit Notes:				
Version: 1.0		Phase: ACTUAL	Tie On Depth: 427.3	
Vertical Section:	Depth From (TVD)	+N/-S	+E/-W	Direction
	(usft)	(usft)	(usft)	(°)
	0.0	0.0	0.0	252.37

Survey Program		Date	1/22/2012		
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description	
100 7	427 3	Gyro (VH - Job #32K12111211)	Keeper	Keeper Surface Readout	
525 0	8,241 0	MWD (DH - Job #32D12111218)	MWD	MWD	

Survey								
Measured Depth	Inclination	Azimuth	True Vertical	North/South	East/West	Closure Azimuth	Closure Distance	
(usft)	(°)	(°)	Depth	(usft)	(usft)	(°)	(usft)	
427.3	0.99	234.56	427.3	-2.9	-5.4	241.79	6.1	
525.0	1.14	234.75	524.9	-4.0	-6.9	240.17	7.9	
644.0	1.13	227.30	643.9	-5.4	-8.7	238.09	10.3	
762.0	0.98	233.30	761.9	-6.8	-10.4	236.69	12.4	
891.0	0.98	236.89	890.9	-8.1	-12.2	236.45	14.6	
1,026.0	0.98	233.44	1,025.9	-9.4	-14.1	236.28	16.9	
1,161.0	1.10	234.78	1,160.8	-10.8	-16.1	236.01	19.4	
1,296.0	1.12	233.96	1,295.8	-12.4	-18.2	235.81	22.0	
1,422.0	1.14	232.12	1,421.8	-13.9	-20.2	235.53	24.5	
1,557.0	0.95	228.49	1,556.8	-15.4	-22.1	235.07	26.9	
1,692.0	0.77	222.83	1,691.7	-16.8	-23.5	234.43	28.9	

Scientific Drilling International, Inc.

SDI Standard Survey Report



Company:	OCCIDENTAL PERMIAN LTD.	Local Co-ordinate Reference:	Well Pure Gold B Federal #16
Project:	San Dunes Delaware, West	TVD Reference:	WELL @ 0.0usft (Original Well Elev)
Site:	Eddy County, NM	MD Reference:	WELL @ 0.0usft (Original Well Elev)
Well:	Pure Gold B Federal #16	North Reference:	Grid
Wellbore:	DH - Job #32D12111218	Survey Calculation Method:	Minimum Curvature
Design:	DH - Job #32D12111218	Database:	EDM-Regulatory

Survey							
Measured Depth (usft)	Inclination (°)	Azimuth (°)	True Vertical Depth	North/South (usft)	East/West (usft)	Closure Azimuth (°)	Closure Distance (usft)
1,827.0	0.69	219.50	1,826.7	-18.1	-24.7	233.70	30.6
1,963.0	0.55	207.24	1,962.7	-19.3	-25.5	232.82	32.0
2,097.0	0.50	200.62	2,096.7	-20.5	-26.0	231.80	33.1
2,233.0	0.34	193.24	2,232.7	-21.4	-26.3	230.86	33.9
2,368.0	0.21	178.88	2,367.7	-22.0	-26.4	230.12	34.4
2,503.0	0.11	147.21	2,502.7	-22.4	-26.3	229.59	34.5
2,638.0	0.17	141.43	2,637.7	-22.7	-26.1	229.04	34.6
2,773.0	0.17	143.01	2,772.7	-23.0	-25.9	228.38	34.6
2,908.0	0.30	145.30	2,907.7	-23.4	-25.5	227.47	34.7
3,043.0	0.24	180.01	3,042.7	-24.0	-25.3	226.56	34.9
3,178.0	0.29	239.11	3,177.7	-24.5	-25.6	226.34	35.4
3,313.0	0.50	173.13	3,312.7	-25.2	-25.9	225.72	36.1
3,449.0	1.21	152.21	3,448.7	-27.1	-25.1	222.85	36.9
3,584.0	1.78	147.22	3,583.6	-30.1	-23.3	217.76	38.1
3,719.0	2.57	150.38	3,718.5	-34.5	-20.7	210.95	40.2
3,854.0	2.11	155.29	3,853.4	-39.4	-18.2	204.74	43.4
3,971.0	1.15	206.43	3,970.4	-42.4	-17.8	202.75	46.0
4,097.0	1.23	220.44	4,096.4	-44.6	-19.2	203.33	48.5
4,232.0	1.06	220.43	4,231.3	-46.6	-21.0	204.22	51.1
4,322.0	1.78	228.81	4,321.3	-48.2	-22.6	205.09	53.2
4,412.0	2.59	246.63	4,411.2	-49.9	-25.5	207.05	56.0
4,502.0	3.17	264.59	4,501.1	-50.9	-29.8	210.35	59.0
4,592.0	4.09	259.50	4,590.9	-51.8	-35.5	214.41	62.7
4,682.0	5.34	259.33	4,680.6	-53.1	-42.7	218.81	68.2
4,772.0	6.44	257.31	4,770.2	-55.0	-51.8	223.27	75.5
4,862.0	7.60	253.45	4,859.5	-57.8	-62.4	227.19	85.1
4,952.0	8.58	259.62	4,948.6	-60.7	-74.7	230.90	96.3
5,042.0	9.60	255.70	5,037.5	-63.8	-88.6	234.25	109.1
5,132.0	10.69	256.63	5,126.1	-67.6	-104.0	236.99	124.0
5,222.0	12.97	255.68	5,214.1	-72.0	-121.9	239.43	141.5
5,312.0	14.01	255.78	5,301.7	-77.2	-142.2	241.52	161.8
5,402.0	15.83	253.38	5,388.6	-83.3	-164.6	243.14	184.5
5,492.0	16.72	253.60	5,475.0	-90.5	-188.7	244.38	209.3
5,627.0	17.82	252.90	5,603.9	-102.1	-227.1	245.80	249.0
5,762.0	16.48	253.55	5,732.9	-113.6	-265.2	246.82	288.5
5,852.0	17.45	254.76	5,819.0	-120.7	-290.5	247.43	314.6
5,987.0	17.27	254.48	5,947.8	-131.4	-329.3	248.25	354.6
6,123.0	17.97	254.73	6,077.5	-142.3	-369.0	248.91	395.5
6,257.0	18.98	255.09	6,204.6	-153.4	-410.0	249.49	437.8
6,392.0	17.80	254.91	6,332.7	-164.4	-451.1	249.98	480.2
6,527.0	15.00	255.16	6,462.2	-174.3	-488.0	250.35	518.1
6,662.0	15.84	255.27	6,592.3	-183.4	-522.7	250.66	553.9
6,797.0	14.58	255.67	6,722.6	-192.3	-557.0	250.95	589.2
6,932.0	15.72	256.86	6,852.9	-200.7	-591.2	251.25	624.4

Scientific Drilling International, Inc.

SDI Standard Survey Report



Company:	OCCIDENTAL PERMIAN LTD.	Local Co-ordinate Reference:	Well Pure Gold B Federal #16
Project:	San Dunes Delaware, West	TVD Reference:	WELL @ 0.0 usft (Original Well Elev)
Site:	Eddy County, NM	MD Reference:	WELL @ 0.0 usft (Original Well Elev)
Well:	Pure Gold B Federal #16	North Reference:	Grid
Wellbore:	DH - Job #32D12111218	Survey Calculation Method:	Minimum Curvature
Design:	DH - Job #32D12111218	Database:	EDM-Regulatory

Survey								
Measured Depth (usft)	Inclination (°)	Azimuth (°)	True Vertical Depth	North/South (usft)	East/West (usft)	Closure Azimuth (°)	Closure Distance (usft)	
7,067.0	16.51	254.73	6,982.6	-209.9	-627.5	251.51	661.7	
7,202.0	18.29	253.37	7,111.4	-221.0	-666.4	251.65	702.0	
7,336.0	17.90	251.69	7,238.8	-233.5	-706.0	251.70	743.7	
7,471.0	18.54	252.61	7,367.0	-246.4	-746.2	251.73	785.9	
7,606.0	16.39	252.02	7,495.8	-258.7	-784.8	251.76	826.4	
7,741.0	16.77	249.62	7,625.1	-271.4	-821.2	251.71	864.9	
7,876.0	17.40	249.45	7,754.2	-285.2	-858.4	251.62	904.5	
8,056.0	16.47	251.75	7,926.4	-302.7	-907.8	251.56	956.9	
8,179.0	10.45	253.36	8,046.0	-311.3	-935.1	251.58	985.5	
8,241.0	10.45	253.36	8,106.9	-314.6	-945.8	251.60	996.8	
Projection to Bit								

Survey Annotations				
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
8,241.0	8,106.9	-314.6	-945.8	Projection to Bit



Scientific Drilling
Directional Drilling Operations

Project: San Dunes Delaware, West
Eddy County, NM
Well Pure Gold B Federal #16
Wellbore: DH - Job #32D12111218
Design: DH - Job #32D12111218



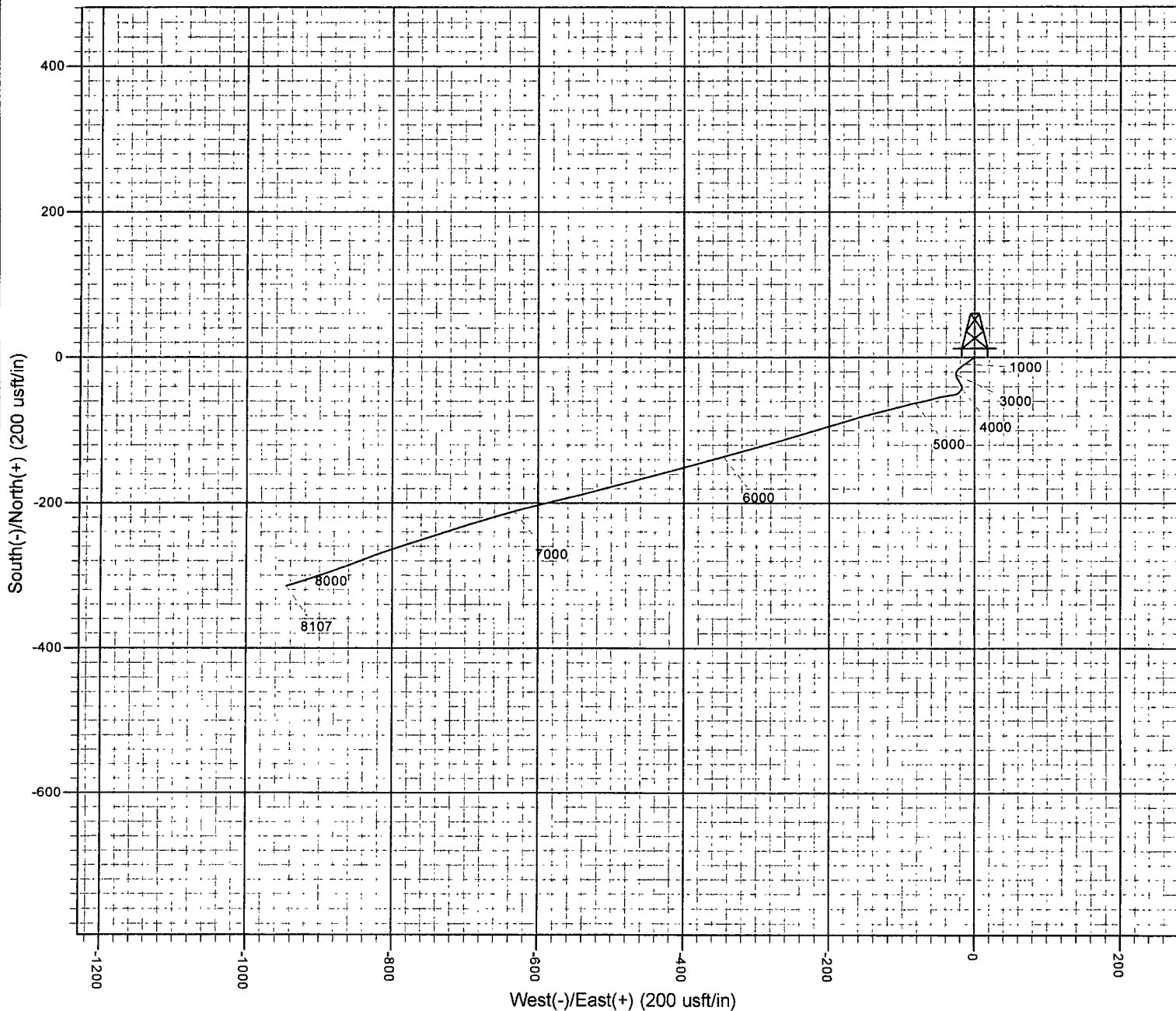
Azimuths to Grid North
True North: -0.28°
Magnetic North: 7.35°

Magnetic Field
Strength 48607.8snT
Dip Angle 60.20°
Date: 12/15/2011
Model IGRF2010

WELL DETAILS: Pure Gold B Federal #16
WELL @ 0.0usft (Original Well Elev)

Ground Level: 0.0

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Slot
0.0	0.0	470505.73	664183.97	32° 17' 32.708 N	103° 48' 7.231 W	



PROJECT DETAILS: San Dunes Delaware, West
Geodetic System: US State Plane 1927 (Exact solution)
Datum: NAD 1927 (NADCON CONUS)
Ellipsoid: Clarke 1866
Zone: New Mexico East 3001
System Datum: Mean Sea Level

SITE DETAILS: Eddy County, NM
Site Centre Latitude: 32° 16' 8.261 N
Longitude: 103° 48' 6.450 W
Positional Uncertainty: 0.0
Convergence: 0.28
Local North: Grid