

30-015-38527

OCCIDENTAL PERMIAN LTD.

SWD

Eddy County, NM

Sundance 4 Federal #32✓

VH - Job #32K0211172

Survey: Actual

SDI Standard Survey Report

20 March, 2011

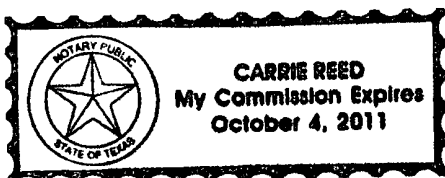
This survey is correct to the best of my knowledge and is supported by actual field data.

Richards

Notarized this date 21st of March, 2011.

Carrie Reed

Notary Signature
County of Midland
State of Texas



Scientific Drilling
Directional Drilling Operations

Scientific Drilling International, Inc.
SDI Standard Survey Report



Company:	OCCIDENTAL PERMIAN LTD	Local Co-ordinate Reference:	Well Sundance 4 Federal #32
Project:	SWD	TVD Reference:	WELL @ 0 0usft (Original Well Elev)
Site:	Eddy County, NM	MD Reference:	WELL @ 0 0usft (Original Well Elev)
Well:	Sundance 4 Federal #32	North Reference:	Grid
Wellbore:	VH - Job #32K0211172	Survey Calculation Method:	Minimum Curvature
Design:	VH - Job #32K0211172	Database:	EDM-Regulatory

Project		SWD	
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:	455,721 04 usft	Latitude:	32° 15' 6 202 N
From:	Lat/Long	Easting:	668,182 50 usft	Longitude:	103° 47' 21.523 W
Position Uncertainty:	0 0 usft	Slot Radius:	13-3/16"	Grid Convergence:	0 29 °

Well	Sundance 4 Federal #32, Vertical					
Well Position	+N/-S	0 0 usft	Northing:	455,721 04 usft	Latitude:	32° 15' 6 202 N
	+E/-W	0 0 usft	Easting:	668,182 50 usft	Longitude:	103° 47' 21 523 W
Position Uncertainty		0.0 usft	Wellhead Elevation:	usft	Ground Level:	0 0 usft

Wellbore						VH - Job #32K0211172					
Magnetics		Model Name		Sample Date		Declination (°)		Dip Angle (°)		Field Strength (nT)	
		BGGM2010		2/25/2011		7 78		60 19		48,698	

Design					VH - Job #32K0211172							
Audit Notes:												
Version:		1 0		Phase:		ACTUAL		Tie On Depth:		0 0		
Vertical Section:		Depth From (TVD)			+N/-S			+E/-W			Direction	
		(usft)			(usft)			(usft)			(°)	
		0 0			0.0			0 0			269.42	

Survey Program		Date 3/1/2011		
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description
83.0	472.7	Actual (VH - Job #32K0211172)	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
83 0	0.39	269.23	83 0	0 0	-0.3	269.23	0.3
142.4	0.43	264.52	142.4	0 0	-0.7	267.75	0.7
234.9	0.38	261.11	234.9	-0.1	-1.4	265.43	1.4
323.7	0.40	271.36	323.7	-0.1	-2.0	265.72	2.0
413.9	0.38	278.03	413.9	-0.1	-2.6	267.83	2.6
472.7	0.41	281.02	472.7	0 0	-3.0	269.42	3.0



Scientific Drilling
Directional Drilling Operations

Project: SWD
Eddy County, NM
Well: Sundance 4 Federal #32
Wellbore: VH - Job #32K0211172
Design: VH - Job #32K0211172

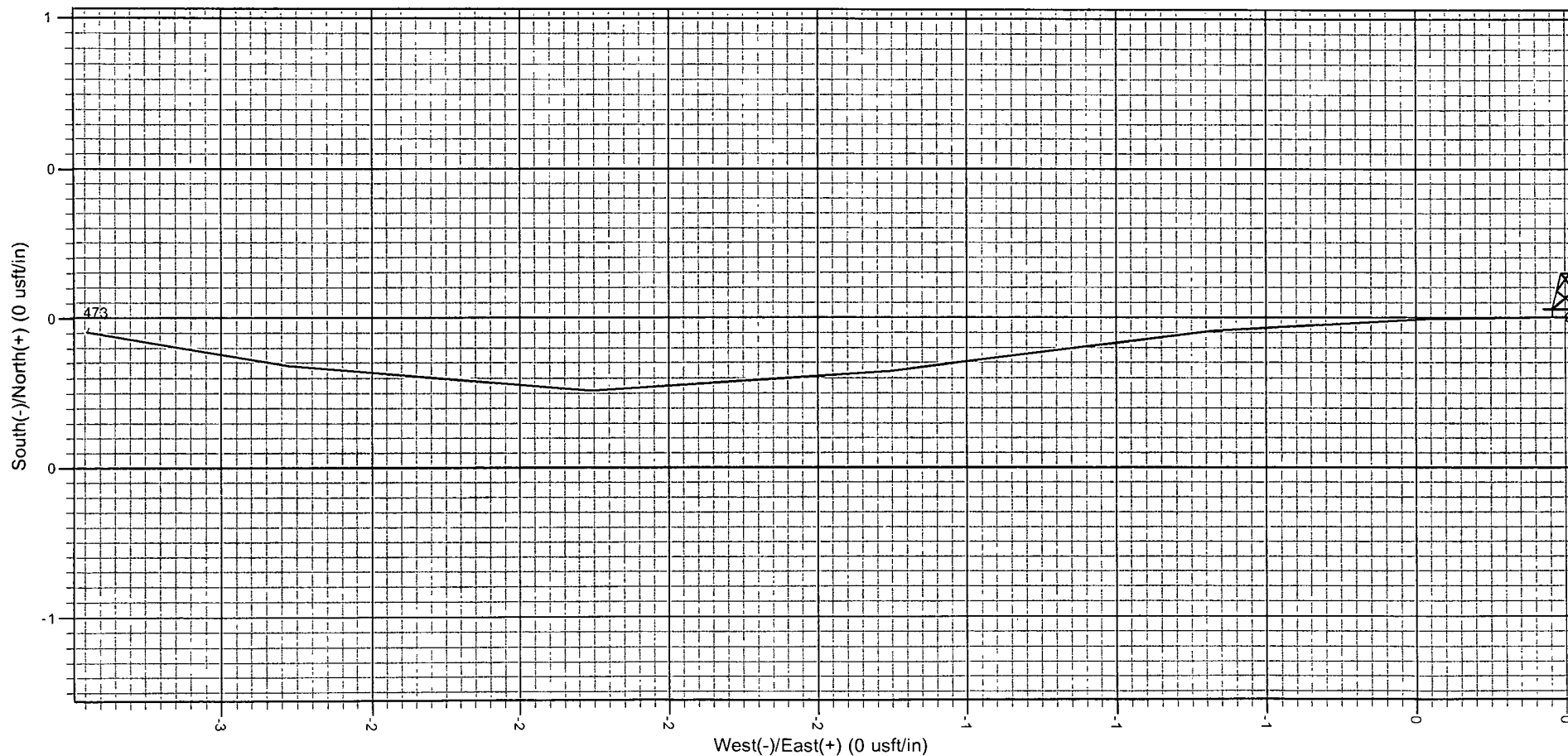


Azimuths to Grid North
True North -0 29°
Magnetic North: 7 49°

Magnetic Field
Strength: 48698.1snT
Dip Angle: 60.19°
Date: 2/25/2011
Model: BGGM2010

WELL DETAILS: Sundance 4 Federal #32
WELL @ 0.0usft (Original Well Elev)
Ground Level: 0.0

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Slot
0.0	0.0	455721.04	668182.50	32° 15' 6.202 N	103° 47' 21.523 W	



PROJECT DETAILS: SWD
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° 15' 6.202 N
Longitude: 103° 47' 21.523 W
Positional Uncertainty: 0.0
Convergence: 0.29
Local North: Grid



Weatherford®

Evaluation, Drilling & Intervention
10000 West County Rd. 116
P.O. Box 61028
Midland, TX USA 79711
Tel. (432) 561-8892 Fax (432) 561-8895

Occidental Permian Ltd.
5 Greenway Plaza Suite 110
Houston, TX 77046

Date: October 20, 2011

Attention: Camilo Arias

30-015-38527

Re: Occidental Permian Ltd.
Well: Sundance 4 #32Y
Eddy County, New Mexico

Enclosed, please find the original survey performed on the referenced well by Precision Energy Services, Inc. (P-5 No. 676004), a Weatherford company. Other information required by your office is as follows:

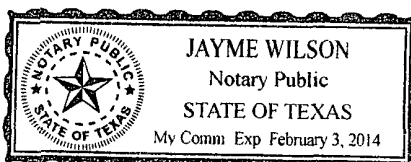
<u>Name & Title Of Surveyor</u>	<u>Well Number</u>	<u>Surveyed Depths</u>	<u>Dates Performed</u>	<u>Type of Survey</u>
Jesse Koves	4 #32Y	560' MD	2/26/2011	Measurement
MWD Supervisor		6268' MD	3/21/2011	While Drilling

A notarized survey report is attached. If any other information is required, please contact the undersigned at the letterhead address and phone number.

Jesse Aguilar
Area Manager

On this, the 20th day of October, 2011, before me a notary public, the undersigned officer, personally appeared Jesse Aguilar, known to me (or satisfactorily proven) to be the person whose name is subscribed to the within instrument, and acknowledged that he executed the same for the purposes therein contained.

In witness hereof, I hereunto set my hand and official seal.

Notary Public



Weatherford

SURVEY REPORT

Report Date: 3/16/2011

Customer: Oxy

Job Name: 4021939

Well Name: Sundance 4 # 02

Field: Lost Tank Federal

Rig: H&P 345

Rig Loc: Eddy County, NM

Survey Calculation Method: Minimum Curvature						
Magnetic Reference	Target Direction	Total Magnetic Field	Magnetic Dip Angle	Magnetic Declination	Grid Convergence	Total Correction
Grid North	0.00 deg	48934 nT	60.60 deg	8.09 deg	-0.08 deg	8.17 deg
Survey Tie-On	Depth	INC	AZ	TVD	NS	EW
	445.00 ft	0.19 deg	292.68 deg	445.00 ft	0.32 ft	-1.84 ft

Depth (ft)	Inc (deg)	Azm (deg)	TVD (ft)	Well Head		VSect (ft)	Dogleg (deg/100ft)
				NS (ft)	EW (ft)		
560.00	0.42	276.72	560.00	0.44	-2.43	0.44	0.21
650.00	0.44	276.30	650.00	0.52	-3.10	0.52	0.02
741.00	0.63	273.05	740.99	0.58	-3.94	0.58	0.21
831.00	0.69	284.30	830.99	0.74	-4.96	0.74	0.16
966.00	0.75	289.55	965.98	1.24	-6.58	1.24	0.07
1101.00	0.88	306.17	1100.96	2.14	-8.24	2.14	0.20
1236.00	0.94	308.42	1235.94	3.44	-9.94	3.44	0.05
1326.00	0.94	307.55	1325.93	4.34	-11.10	4.34	0.02
1417.00	0.94	306.55	1416.92	5.24	-12.29	5.24	0.02
1506.00	0.88	309.05	1505.91	6.10	-13.40	6.10	0.08
1597.00	0.88	304.80	1596.90	6.94	-14.51	6.94	0.07
1687.00	0.81	301.92	1686.89	7.67	-15.62	7.67	0.08
1776.00	0.63	309.80	1775.88	8.31	-16.52	8.31	0.24
1866.00	0.56	310.80	1865.88	8.91	-17.24	8.91	0.07
1956.00	0.56	305.05	1955.87	9.46	-17.93	9.46	0.06
2181.00	0.75	296.42	2180.86	10.74	-20.16	10.74	0.09
2406.00	1.13	297.55	2405.83	12.42	-23.43	12.42	0.17
2631.00	1.28	306.61	2630.78	14.94	-27.40	14.94	0.11
2856.00	1.00	301.17	2855.73	17.45	-31.09	17.45	0.13
3171.00	0.19	300.80	3170.71	19.13	-33.89	19.13	0.26
3261.00	0.09	244.55	3260.71	19.18	-34.08	19.18	0.17
3306.00	0.06	214.20	3305.71	19.14	-34.12	19.14	0.11
3394.00	0.06	339.39	3393.71	19.15	-34.16	19.15	0.11
3565.00	2.15	96.75	3564.67	18.85	-31.00	18.85	1.27
3620.00	4.00	91.70	3619.59	18.67	-28.06	18.67	3.40
3787.00	5.00	90.17	3786.07	18.48	-14.95	18.48	0.60
3889.00	5.69	90.30	3887.63	18.44	-5.45	18.44	0.67
3934.00	5.69	89.30	3932.41	18.45	-0.99	18.45	0.22
4024.00	5.81	88.92	4021.96	18.59	8.02	18.59	0.15
4070.00	5.75	90.80	4067.72	18.61	12.65	18.61	0.43
4114.00	5.75	89.67	4111.50	18.59	17.06	18.59	0.26
4205.00	5.69	92.05	4202.05	18.45	26.13	18.45	0.27
4250.00	5.64	91.62	4246.83	18.31	30.56	18.31	0.14



Weatherford

Client : OXY Permian
Well : Sundance 4 #32 Y
Location : Eddy County, NM
License :
Comment : J. Vinson

Page: 1
Date : 3/21/2011
File : 4021939 S

UWI #:

Vertical Section Calculated Along Azimuth 90.00°

KB Elevation = 3414.70ft GR. Elevation = 3395.20ft

	MD	Inc	Azi	TVD	North	East	V'Sect	D'Leg	Build	Turn
	ft	deg	deg	ft	ft	ft	ft	%100	%100	%100
0	4250.00	5.64	91.62	4246.83	18.31	30.56	30.56	0.00	0.00	0.00
1	4374.00	4.48	96.78	4370.35	17.57	41.46	41.46	1.00	-0.94	4.16
2	4419.00	3.97	95.86	4415.22	17.20	44.76	44.76	1.14	-1.13	-2.04
3	4554.00	3.39	102.09	4549.94	15.89	53.31	53.31	0.52	-0.43	4.61
4	4690.00	2.49	103.60	4685.76	14.35	60.11	60.11	0.66	-0.66	1.11
5	4825.00	2.54	100.14	4820.63	13.13	65.91	65.91	0.12	0.04	-2.56
6	4960.00	2.04	103.06	4955.53	12.06	71.19	71.19	0.38	-0.37	2.16
7	5095.00	1.57	104.80	5090.46	11.05	75.32	75.32	0.35	-0.35	1.29
8	5230.00	1.24	107.75	5225.42	10.13	78.50	78.50	0.25	-0.24	2.19
9	5365.00	1.26	111.07	5360.39	9.15	81.27	81.27	0.06	0.01	2.46
10	5500.00	1.19	113.81	5495.35	8.05	83.94	83.94	0.07	-0.05	2.03
11	5635.00	1.29	112.79	5630.32	6.90	86.63	86.63	0.08	0.07	-0.76
12	5770.00	1.20	113.29	5765.29	5.75	89.33	89.33	0.07	-0.07	0.37
13	5904.00	1.19	115.01	5899.26	4.61	91.88	91.88	0.03	-0.01	1.28
14	6038.00	1.03	126.69	6033.24	3.30	94.10	94.10	0.21	-0.12	8.72
15	6173.00	1.14	119.81	6168.21	1.91	96.24	96.24	0.13	0.08	-5.10
16	6268.00	1.22	129.23	6263.19	0.80	97.84	97.84	0.22	0.08	9.92
Straightline Projection to Bit @ TD										
EXT	6330.00	1.22	129.23	6325.18	-0.04	98.87	98.87	0.00	0.00	0.00

Bottom Hole Closure 98.87ft Along Azimuth 90.02°