OCCIDENTAL PERMIAN LTD.

San Dunes Delaware, West
Eddy County, NM
Federal 29 #10
VH - Job #32K0211182

30-015-38230

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.

Notarized this date 21st of March, 2011.

Notary Signature
County of Midland
State of Texas

Scientific Drilling
Directional Drilling Operations

Scientific Drilling
Directional Drilling Operations

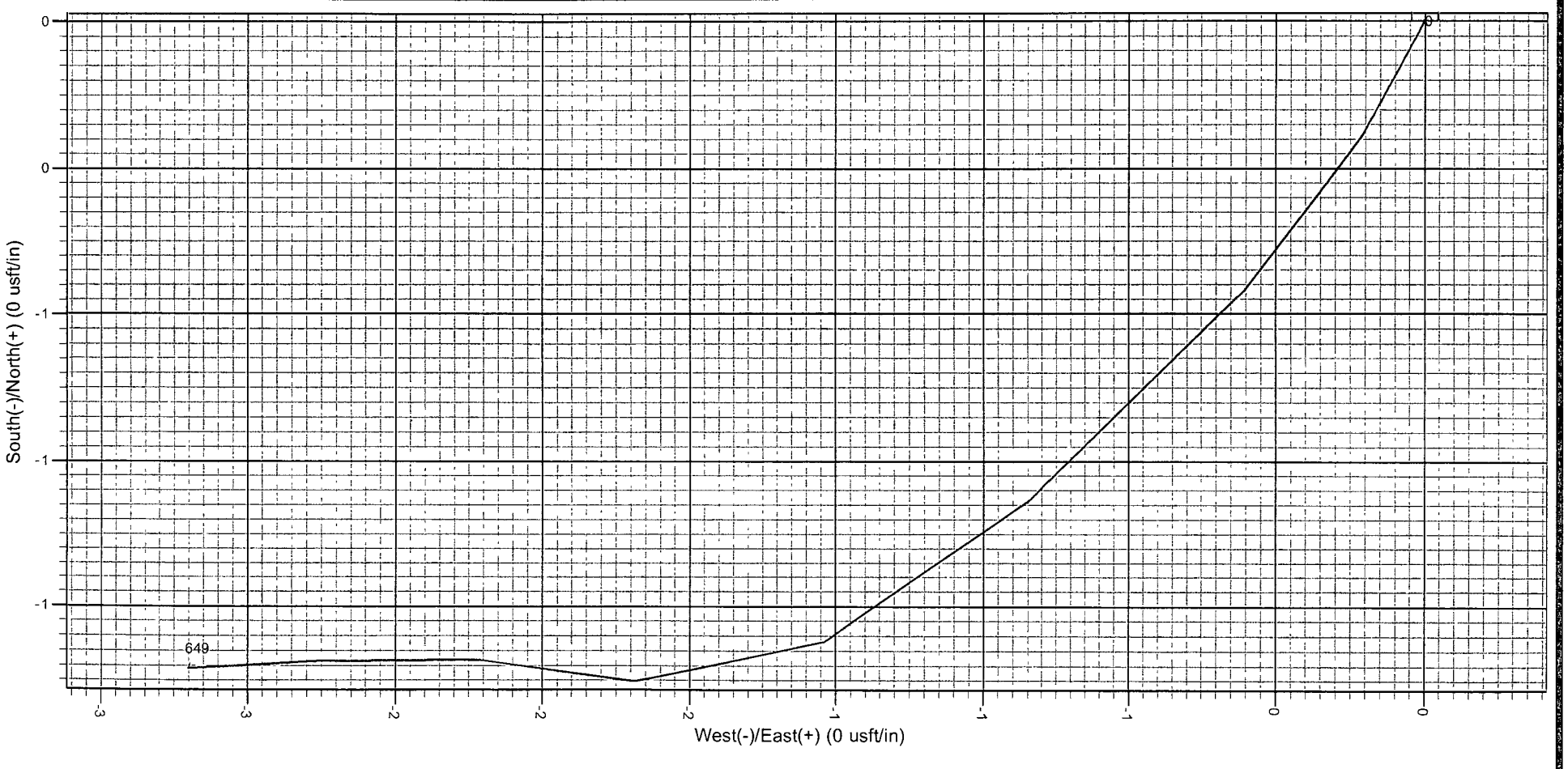
Project: San Dunes Delaware, West
Eddy County, NM
Well Federal 29 #10
Wellbore: VH - Job #32K0211182
Design: VH - Job #32K0211182

Azimuths to Grid North
True North: -0 28°
Magnetic North 7 45°

Magnetic Field
Strength: 48673 1snT
Dip Angle. 60 20°
Date 2/28/2011
Model IGRF2010

WELL DETAILS: Federal 29 #10
WELL @ 0.0usft (Original Well Elev)
Ground Level: 0.0

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Slot
0.0	0.0	461972 78	664293.31	32° 16' 8.261 N	103° 48' 6.450 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 Uncertainity: 0.0
Convergence: 0.28
Local North: Grid

Scientific Drilling International, Inc.

SDI Standard Survey Report

Scientific Drilling
Directional Drilling Operations

Company:	OCCIDENTAL PERMIAN LTD	**Local Co-ordinate Reference:**	Well Federal 29 #10
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:	Federal 29 #10	**North Reference:**	Grid
Wellbore:	VH - Job #32K0211182	**Survey Calculation Method:**	Minimum Curvature
Design:	VH - Job #32K0211182	**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 Federal 29 #10, Directional (Baker Inteq)

Well Position	**+N/-S**	0 0 usft	**Northing:**	461,972 78 usft	**Latitude:**	32° 16' 8 261 N
	+E/-W	0 0 usft	**Easting:**	664,293.31 usft	**Longitude:**	103° 48' 6 450 W
Position Uncertainty		0 0 usft	**Wellhead Elevation:**	usft	**Ground Level:**	0 0 usft

Wellbore VH - Job #32K0211182

Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	2/28/2011	7 73	60 20	48,673

Design VH - Job #32K0211182

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	4 05

Survey Program **Date** 3/20/2011

From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description
81 3	649 3	Actual (VH - Job #32K0211182)	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
81 3	0 43	208.48	81 3	-0 3	-0 1	208 48	0 3
142 7	0 45	224.09	142 7	-0 6	-0 4	213 31	0 8
234 7	0 45	228 08	234.7	-1 1	-0 9	219 49	1 5
319 0	0.36	243 59	319 0	-1 5	-1 4	223 88	2 1
408 9	0 26	278 70	408 9	-1 6	-1 9	230.00	2 5
498 9	0.21	276 99	498 9	-1 5	-2 2	235 79	2 7
588 9	0 29	264 04	588 9	-1 5	-2 6	239 86	3 0
649 3	0 29	269 86	649 3	-1 5	-2 9	242 26	3 3