

HOBBS OCD

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OXY Permian
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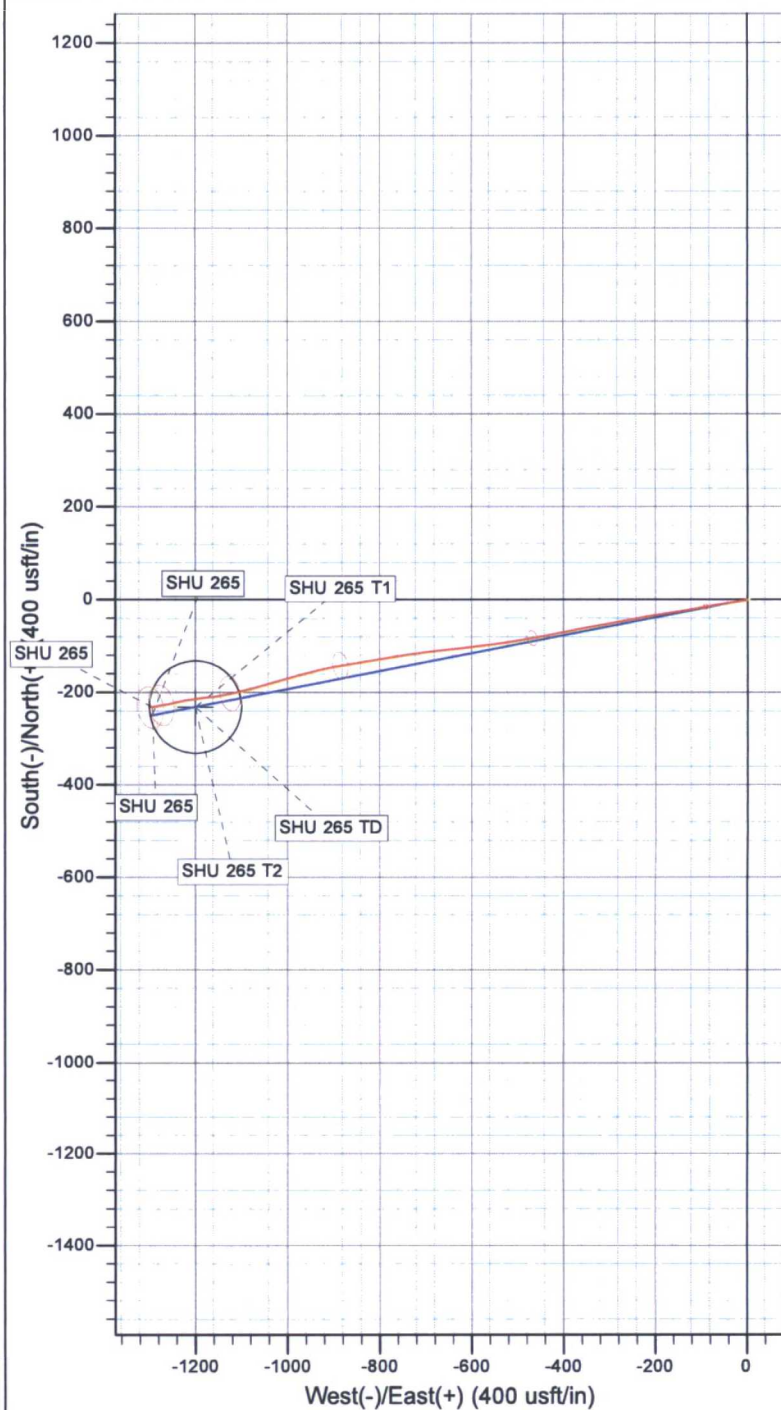
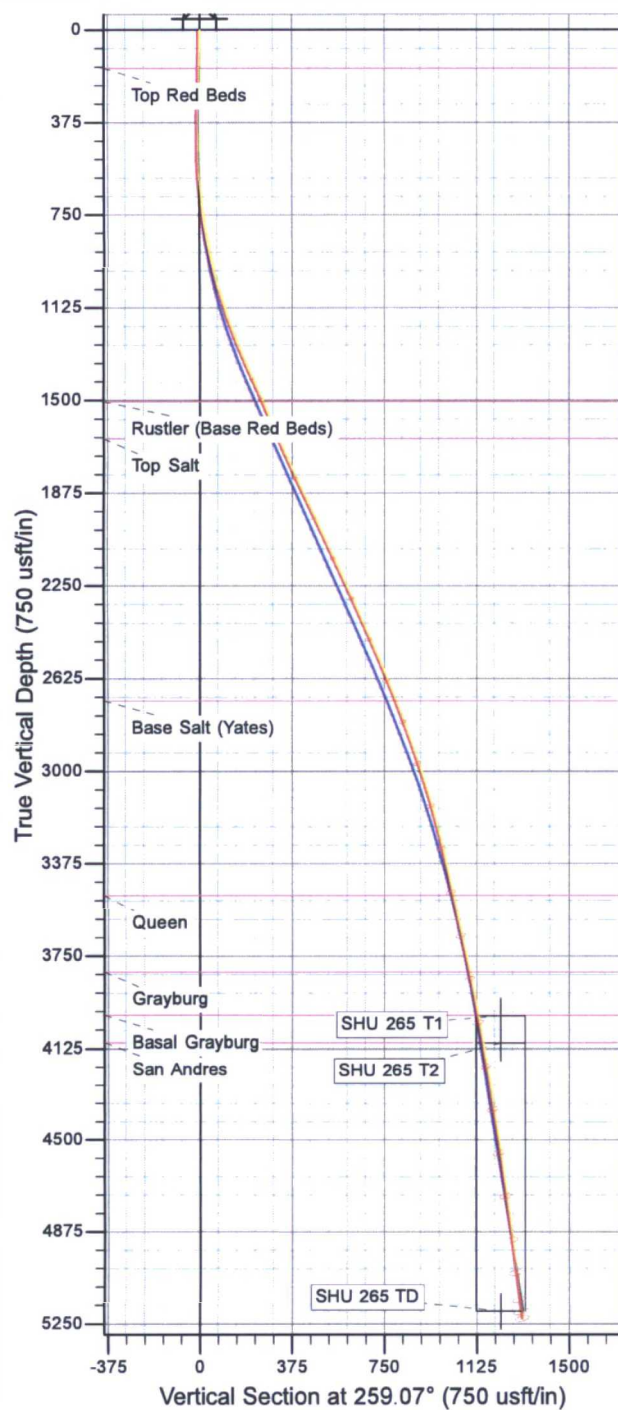
OCCIDENTAL PERMIAN LTD

Project: SOUTH HOBBS UNIT
Site: SEC. 4, T19S, R38E
Well: SHU 265
Wellpath: SHU 265
Design: SHU 265



Azimuths to Grid North
True North: -0.63°
Magnetic North: 6.29°

Magnetic Field
Strength: 48384.7snT
Dip Angle: 60.57°
Date: 3/17/2016
Model: IGRF2015



LEGEND

- SHU 265, SHU 265, 031716 V1 V0
- SHU 265
- SHU 265 MWD SURVEYS

SECTION DETAILS

No plan data is available



OCCIDENTAL PERMIAN LTD

**SOUTH HOBBS UNIT
SEC. 4, T19S, R38E
SHU 265**

SHU 265

Survey: SHU 265 MWD SURVEYS

Standard Survey Report

07 June, 2016

HOBBS OCD

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GEOGUIDANCE
DRILLING SERVICES, INC.



GEOGUIDANCE DRILLING

Survey Report



Company:	OCCIDENTAL PERMIAN LTD	Local Co-ordinate Reference:	Well SHU 265
Project:	SOUTH HOBBS UNIT	TVD Reference:	SHU 265 @ 3622.8usft (H&P 340)
Site:	SEC. 4, T19S, R38E	MD Reference:	SHU 265 @ 3622.8usft (H&P 340)
Well:	SHU 265	North Reference:	Grid
Wellbore:	SHU 265	Survey Calculation Method:	Minimum Curvature
Design:	SHU 265	Database:	EDM 5000.1 Single User Db

Project	SOUTH HOBBS UNIT		
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	SEC. 4, T19S, R38E		
Site Position:		Northing:	616,000.00 usft
From:	Map	Easting:	863,000.00 usft
Position Uncertainty:	0.0 usft	Slot Radius:	13-3/16 "
		Latitude:	32° 41' 16.562 N
		Longitude:	103° 9' 12.552 W
		Grid Convergence:	0.64 °

Well	SHU 265, SUR. N 615605.72 E 861372.59		
Well Position	+N/-S	0.0 usft	Northing:
	+E/-W	0.0 usft	Easting:
Position Uncertainty	0.0 usft	Wellhead Elevation:	3,622.8 usft
		Latitude:	32° 41' 12.839 N
		Longitude:	103° 9' 31.642 W
		Ground Level:	3,606.3 usft

Wellbore	SHU 265		
Magnetics	Model Name	Sample Date	Declination
			(°)
	IGRF2015	3/17/2016	6.93
			Dip Angle
			(°)
			60.57
			Field Strength
			(nT)
			48,385

Design	SHU 265		
Audit Notes:			
Version:	1.0	Phase:	ACTUAL
		Tie On Depth:	0.0
Vertical Section:	Depth From (TVD)	+N/-S	+E/-W
	(usft)	(usft)	(usft)
	0.0	0.0	0.0
			Direction
			(°)
			259.07

Survey Program	Date 6/7/2016		
From	To	Survey (Wellbore)	Tool Name
(usft)	(usft)		
168.0	5,445.0	SHU 265 MWD SURVEYS (SHU 265)	MWD+IGRF
			Description
			OWSG MWD + IGRF or WMM

Survey										
Measured	Inclination	Azimuth	Vertical	+N/-S	+E/-W	Vertical	Dogleg	Build	Turn	
Depth	(°)	(°)	Depth	(usft)	(usft)	Section	Rate	Rate	Rate	
(usft)			(usft)			(usft)	(°/100usft)	(°/100usft)	(°/100usft)	
0.0	0.00	0.00	0.0	0.0	0.0	0.0	0.00	0.00	0.00	
168.0	1.01	91.15	168.0	0.0	1.5	-1.4	0.60	0.60	0.00	
351.0	1.05	88.25	351.0	0.0	4.8	-4.7	0.04	0.02	-1.58	
532.0	2.10	258.10	531.9	-0.6	3.2	-3.0	1.73	0.58	93.84	
712.0	6.80	260.30	711.3	-3.1	-10.6	11.0	2.61	2.61	1.22	
909.0	12.00	262.80	905.6	-7.7	-42.4	43.1	2.65	2.64	1.27	
1,089.0	16.70	259.30	1,080.0	-14.8	-86.4	87.6	2.65	2.61	-1.94	
1,269.0	21.30	261.10	1,250.1	-24.7	-144.1	146.2	2.58	2.56	1.00	
1,449.0	25.40	260.60	1,415.3	-36.0	-214.6	217.5	2.28	2.28	-0.28	
1,535.0	23.82	259.11	1,493.5	-42.3	-249.8	253.3	1.97	-1.84	-1.73	



GEOGUIDANCE DRILLING

Survey Report



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Project: SOUTH HOBBS UNIT
Site: SEC. 4, T19S, R38E
Well: SHU 265
Wellbore: SHU 265
Design: SHU 265

Local Co-ordinate Reference: Well SHU 265
TVD Reference: SHU 265 @ 3622.8usft (H&P 340)
MD Reference: SHU 265 @ 3622.8usft (H&P 340)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Database: EDM 5000.1 Single User Db

Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
1,705.0	22.90	260.00	1,649.6	-54.6	-316.1	320.7	0.58	-0.54	0.52
1,885.0	25.18	258.45	1,814.0	-68.3	-388.1	394.0	1.31	1.27	-0.86
2,065.0	25.22	259.77	1,976.8	-82.8	-463.4	470.7	0.31	0.02	0.73
2,245.0	25.14	262.32	2,139.7	-94.7	-539.0	547.2	0.60	-0.04	1.42
2,424.0	24.35	263.85	2,302.3	-103.7	-613.4	621.9	0.57	-0.44	0.85
2,604.0	23.38	263.41	2,466.9	-111.8	-685.7	694.5	0.55	-0.54	-0.24
2,784.0	22.76	260.25	2,632.5	-121.8	-755.5	764.9	0.77	-0.34	-1.76
2,964.0	20.83	260.69	2,799.6	-132.9	-821.4	831.7	1.08	-1.07	0.24
3,143.0	18.07	260.95	2,968.4	-142.4	-880.3	891.3	1.54	-1.54	0.15
3,323.0	16.08	255.59	3,140.5	-153.0	-932.0	944.1	1.41	-1.11	-2.98
3,503.0	13.18	255.42	3,314.6	-164.4	-976.0	989.5	1.61	-1.61	-0.09
3,683.0	12.31	253.42	3,490.2	-175.0	-1,014.3	1,029.0	0.54	-0.48	-1.11
3,863.0	12.30	254.67	3,666.1	-185.6	-1,051.1	1,067.3	0.15	-0.01	0.69
4,043.0	11.19	256.73	3,842.3	-194.6	-1,086.6	1,103.8	0.66	-0.62	1.14
4,223.0	10.59	256.29	4,019.0	-202.6	-1,119.7	1,137.8	0.34	-0.33	-0.24
4,403.0	9.00	263.20	4,196.4	-208.2	-1,149.8	1,168.4	1.10	-0.88	3.84
4,583.0	8.90	262.30	4,374.2	-211.7	-1,177.5	1,196.3	0.10	-0.06	-0.50
4,763.0	8.30	263.41	4,552.2	-215.0	-1,204.2	1,223.2	0.35	-0.33	0.62
4,942.0	7.60	255.97	4,729.5	-219.4	-1,228.6	1,247.9	0.69	-0.39	-4.16
5,122.0	7.65	258.89	4,907.9	-224.6	-1,251.9	1,271.7	0.22	0.03	1.62
5,257.0	7.47	260.03	5,041.7	-227.8	-1,269.3	1,289.5	0.17	-0.13	0.84
5,368.0	7.34	260.34	5,151.8	-230.3	-1,283.4	1,303.8	0.12	-0.12	0.28
Last MWD Survey									
5,417.0	7.34	260.34	5,200.4	-231.3	-1,289.6	1,310.1	0.00	0.00	0.00
Target Landing @5200' TVD									
5,445.0	7.34	260.34	5,228.2	-231.9	-1,293.1	1,313.6	0.00	0.00	0.00
Official TD of Well									

Formations

Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)
155.0	155.0	Top Red Beds			
1,547.5	1,505.0	Rustler (Base Red Beds)			
1,710.9	1,655.0	Top Salt			
2,873.1	2,715.0	Base Salt (Yates)			
3,698.2	3,505.0	Queen			
4,015.2	3,815.0	Grayburg			
4,193.4	3,990.0	Basal Grayburg			
4,305.3	4,100.0	San Andres			



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Survey Report



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Well:	SHU 265	North Reference:	Grid
Wellbore:	SHU 265	Survey Calculation Method:	Minimum Curvature
Design:	SHU 265	Database:	EDM 5000.1 Single User Db

Survey Annotations				
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
5,368.0	5,151.8	-230.3	-1,283.4	Last MWD Survey
5,417.0	5,200.4	-231.3	-1,289.6	Target Landing @5200' TVD
5,445.0	5,228.2	-231.9	-1,293.1	Official TD of Well

Checked By: _____	Approved By: _____	Date: _____
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