

HOBBS OGD



SEP 06 2016

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OCCIDENTAL PERMIAN LTD

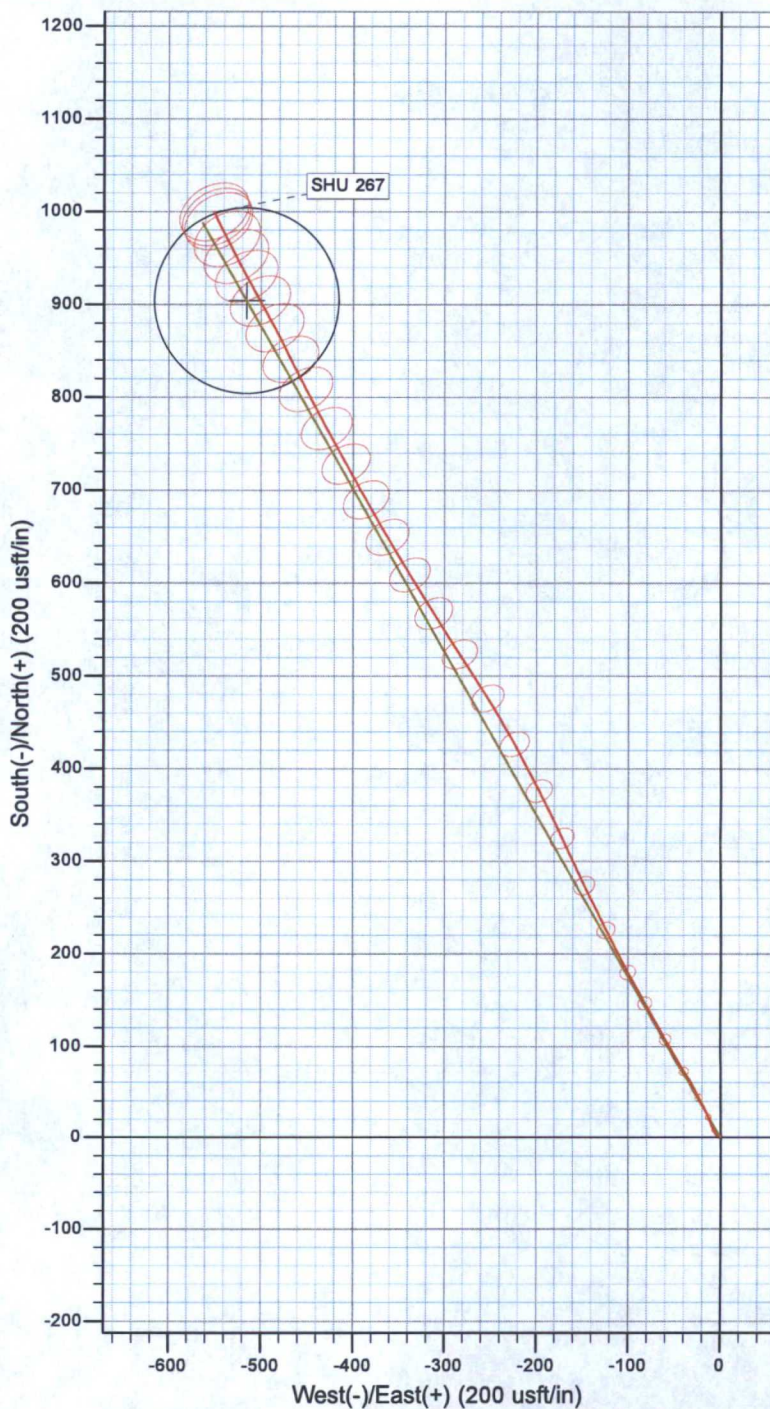
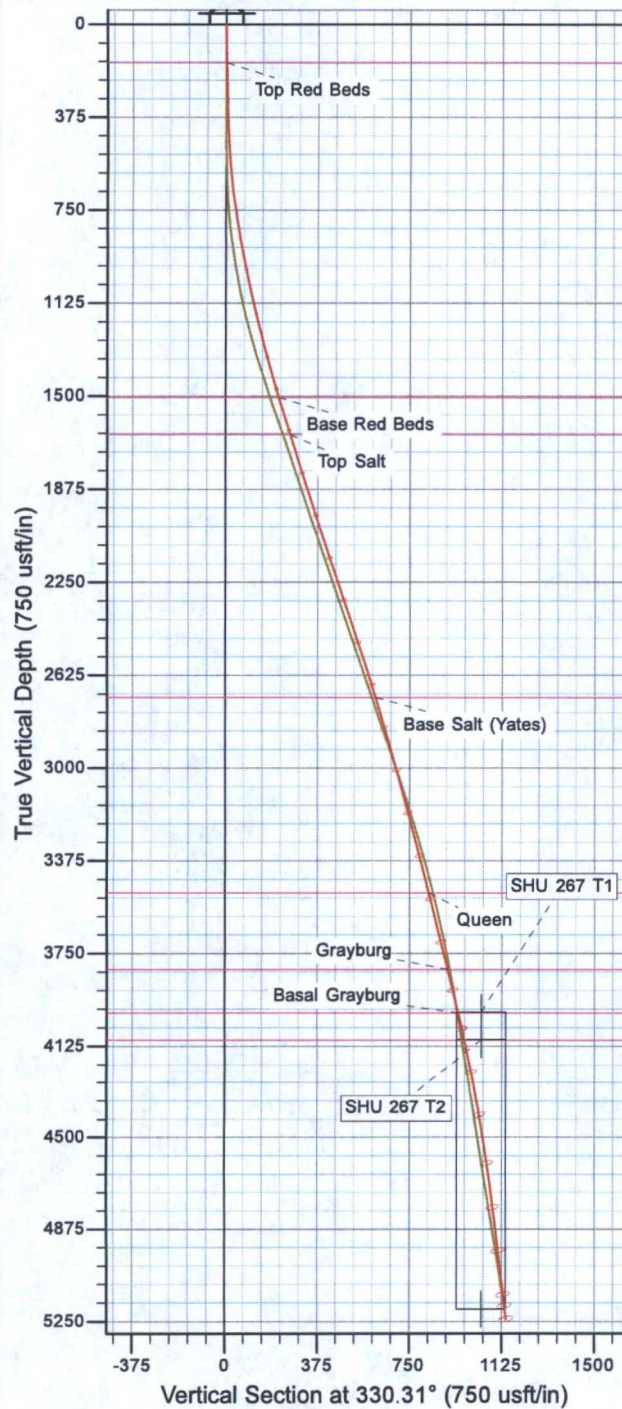
Project: SOUTH HOBBS UNIT
 Site: SEC. 9, T19S, R38E
 Well: SHU 267
 Wellpath: SHU 267
 Design: SHU 267



Azimuths to Grid North
 True North: -0.63°
 Magnetic North: 6.29°
 Magnetic Field
 Strength: 48381.8snT
 Dip Angle: 60.57°
 Date: 3/16/2016
 Model: IGRF2015



GEOGUIDANCE
 DRILLING SERVICES, INC.



LEGEND

- △ SHU 267, SHU 267, 031616 V1 V0
- SHU 267
- Surveys SHU 267

SECTION DETAILS

No plan data is available



HOBBS OCD

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SOUTH HOBBS UNIT

SEC. 9, T19S, R38E

SHU 267

SHU 267

Survey: Surveys SHU 267

Standard Survey Report

04 May, 2016



GEOGUIDANCE
DRILLING SERVICES, INC.



GEOGUIDANCE DRILLING

Survey Report



Company:	OCCIDENTAL PERMIAN LTD	Local Co-ordinate Reference:	Well SHU 267
Project:	SOUTH HOBBS UNIT	TVD Reference:	SHU 267 @ 3617.2usft (H&P 340)
Site:	SEC. 9, T19S, R38E	MD Reference:	SHU 267 @ 3617.2usft (H&P 340)
Well:	SHU 267	North Reference:	Grid
Wellbore:	SHU 267	Survey Calculation Method:	Minimum Curvature
Design:	SHU 267	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. 9, T19S, R38E		
Site Position:		Northing:	612,000.00 usft
From:	Map	Easting:	863,000.00 usft
Position Uncertainty:	0.0 usft	Slot Radius:	13-3/16 "
		Latitude:	32° 40' 36.987 N
		Longitude:	103° 9' 13.072 W
		Grid Convergence:	0.64 °

Well	SHU 267, SUR. N 613648.17 E 861218.43		
Well Position	+N/-S	0.0 usft	Northing:
	+E/-W	0.0 usft	Easting:
Position Uncertainty	0.0 usft	Wellhead Elevation:	3,617.2 usft
		Latitude:	32° 40' 53.489 N
		Longitude:	103° 9' 33.698 W
		Ground Level:	3,600.7 usft

Wellbore	SHU 267		
Magnetics	Model Name	Sample Date	Declination
	IGRF2015	3/16/2016	6.93
			Dip Angle
			60.57
			Field Strength
			48,382

Design	SHU 267		
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
			330.31

Survey Program	Date 5/4/2016		
From	To	Survey (Wellbore)	Tool Name
(usft)	(usft)		
102.0	5,385.0	Surveys SHU 267 (SHU 267)	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
102.0	1.14	293.78	102.0	0.4	-0.9	0.8	1.12	1.12	0.00
285.0	1.37	312.23	284.9	2.6	-4.2	4.4	0.25	0.13	10.08
469.0	2.70	338.80	468.8	8.1	-7.4	10.7	0.87	0.72	14.44
650.0	7.00	337.20	649.1	22.3	-13.2	25.9	2.38	2.38	-0.88
817.0	9.50	332.50	814.4	43.9	-23.5	49.8	1.55	1.50	-2.81
997.0	12.10	330.20	991.2	73.4	-39.8	83.5	1.46	1.44	-1.28
1,177.0	13.30	330.10	1,166.8	107.8	-59.5	123.1	0.67	0.67	-0.06
1,357.0	15.50	330.70	1,341.1	146.7	-81.6	167.8	1.23	1.22	0.33
1,492.0	17.49	331.44	1,470.6	180.2	-100.1	206.2	1.48	1.47	0.55



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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)
1,667.0	16.57	333.51	1,637.9	225.7	-123.8	257.4	0.63	-0.53	1.18
1,847.0	18.15	334.30	1,809.7	273.9	-147.4	311.0	0.89	0.88	0.44
2,027.0	18.28	335.26	1,980.7	324.8	-171.4	367.1	0.18	0.07	0.53
2,207.0	18.81	332.36	2,151.3	376.2	-196.7	424.2	0.59	0.29	-1.61
2,386.0	18.54	331.35	2,320.9	426.7	-223.7	481.5	0.24	-0.15	-0.56
2,566.0	18.72	327.44	2,491.5	476.2	-253.0	538.9	0.70	0.10	-2.17
2,746.0	17.67	327.35	2,662.5	523.5	-283.2	595.1	0.58	-0.58	-0.05
2,926.0	16.13	327.13	2,834.7	567.5	-311.5	647.3	0.86	-0.86	-0.12
3,106.0	15.47	328.32	3,007.9	608.9	-337.7	696.3	0.41	-0.37	0.66
3,285.0	15.25	329.29	3,180.5	649.5	-362.3	743.7	0.19	-0.12	0.54
3,465.0	14.68	330.39	3,354.4	689.7	-385.6	790.2	0.35	-0.32	0.61
3,645.0	13.89	330.69	3,528.8	728.4	-407.5	834.6	0.44	-0.44	0.17
3,825.0	14.19	331.27	3,703.5	766.5	-428.7	878.2	0.18	0.17	0.32
4,025.0	13.49	332.54	3,897.6	808.7	-451.2	926.0	0.38	-0.35	0.64
4,185.0	12.74	333.59	4,053.5	841.1	-467.7	962.3	0.49	-0.47	0.66
4,365.0	11.69	332.45	4,229.4	875.0	-484.9	1,000.3	0.60	-0.58	-0.63
4,545.0	9.36	329.68	4,406.4	903.8	-500.8	1,033.2	1.32	-1.29	-1.54
4,745.0	8.18	332.10	4,604.0	930.5	-515.6	1,063.7	0.62	-0.59	1.21
4,926.0	6.99	331.84	4,783.4	951.6	-526.8	1,087.6	0.66	-0.66	-0.14
5,106.0	6.77	333.16	4,962.1	970.7	-536.8	1,109.1	0.15	-0.12	0.73
5,286.0	6.59	334.12	5,140.9	989.4	-546.1	1,130.0	0.12	-0.10	0.53
5,331.0	6.51	335.88	5,185.6	994.1	-548.3	1,135.1	0.48	-0.18	3.91
5,385.0	6.51	335.88	5,239.3	999.7	-550.8	1,141.2	0.00	0.00	0.00
Projected to TD									

Formations

Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)
155.0	155.0	Top Red Beds		0.00	
1,528.1	1,505.0	Base Red Beds		0.00	
1,684.9	1,655.0	Top Salt		0.00	
2,801.1	2,715.0	Base Salt (Yates)		0.00	
3,620.4	3,505.0	Queen		0.00	
3,940.0	3,815.0	Grayburg		0.00	
4,119.9	3,990.0	Basal Grayburg		0.00	
4,232.7	4,100.0	San Andres		0.00	

Survey Annotations

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates	Comment
		+N/-S (usft)	+E/-W (usft)
5,385.0	5,239.3	999.7	-550.8
Projected to TD			



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Checked By: _____ Approved By: _____ Date: _____