

Results of Directional Survey

API number:	30-025-41546		
OGRID:		Operator:	CHEVRON U S A INC
		Property:	RED HILLS 2 25 33 # 1H

surface	ULSTR:	P	02	T	25S	R	33E
				330	FSL	340	FEL

BH Loc	ULSTR:	A	02	T	25S	R	33E
13941	MD	9491.3	TVD	404	FNL	375	FEL
4876 FSL							

Top Perf/OH	ULSTR:	P	02	T	25S	R	33E
9560	MD	9475.4	TVD	508	FSL	389	FEL

Bot Perf/OH	ULSTR:	A	02	T	25S	R	33E
13690	MD	9498.1	TVD	655	FNL	367	FEL
4625 FSL							

	MD	N/S	E/W	VD
	9523	146.52	-43.38	9456.41
TOP PERFS/OH	9560	177.78	-48.68	9475.44
	9568	184.54	-49.83	9479.55
	13639	4244.36	-24.94	9498.24
BOT PERFS/OH	13690	4295.32	-26.92	9498.14
	13729	4334.29	-28.44	9498.07

NEXT TO LAST	13891	4496.13	-33.70	9496.13
LAST READING	13942	4547.06	-35.41	9491.21
TD	13941	4546.06	-35.38	9491.31

Surface Location	330	FS	340	FE
Projected BHL	4876	FS	375	FE
Location of				
Top Perfs/OH	508	FS	389	FE
Bottom Perfs/OH	4625	FS	367	FE

SUMMARY of Subsurface Locations

Surface Location	P-02-25S-33E	330	FS	340	FE	Vert. Depth
Top Perfs/OH	P-02-25S-33E	508	FS	389	FE	9475.44
Bottom Perfs/OH	A-02-25S-33E	4625	FS	367	FE	9498.14
Projected TD	A-02-25S-33E	4876	FS	375	FE	9491.31



Directional Survey

Well Name RED HILLS 2-25-33 001H		Lease RED HILLS 2-25-33		Field Name RED HILLS		Business Unit Mid-Continent	
Ground Elevation (ft) 3,424.00	Original RKB (ft) 3,449.00	Current RKB Elevation 3,449.00, 4/10/2014				Mud Line Elevation (ft) 0.00	Water Depth (ft) 0.00

Wellbore Name Original Hole		Parent Wellbore Original Hole		Kick Off Depth (ftKB) 9,020		Vertical Section Direction (°) 359.70	
UTM Northing (Y) (ft)			UTM Easting (X) (ft)			UTM Grid Zone	
Date		Definitive? Y		Description MWD		Planned? N	
MD Tie In (ftKB)	TVD Tie In (ftKB)		Inclination Tie In (°)	Azimuth Tie In (°)		NSTie In (ft)	EWTie In (ft)

Survey Data													
MD (ftKB)	Incl (°)	Azm (°)	TVD (ftKB)	NS (ft)	EW (ft)	VS (ft)	DLS (°/100ft)	Method	Survey Company	Build (°/100ft)	Depart (ft)	Turn (°/100ft)	Unuse d data
41	0.28	258.89	41.00	-0.02	-0.10	-0.02	0.68	Gyro MS	Multi-Shot	0.68	0.10	631.44	N
131	0.82	234.18	131.00	-0.44	-0.84	-0.43	0.64	Gyro MS	Multi-Shot	0.60	0.94	-27.46	N
221	0.82	234.18	220.99	-1.19	-1.88	-1.18	0.00	Gyro MS	Multi-Shot	0.00	2.23	0.00	N
311	0.86	224.76	310.98	-2.05	-2.88	-2.03	0.16	Gyro MS	Multi-Shot	0.04	3.53	-10.47	N
401	0.76	226.99	400.97	-2.94	-3.79	-2.92	0.12	Gyro MS	Multi-Shot	-0.11	4.79	2.48	N
491	0.82	235.26	490.96	-3.71	-4.76	-3.68	0.14	Gyro MS	Multi-Shot	0.07	6.03	9.19	N
581	0.87	239.39	580.95	-4.42	-5.87	-4.39	0.09	Gyro MS	Multi-Shot	0.06	7.35	4.59	N
671	1.05	243.45	670.94	-5.14	-7.20	-5.10	0.21	Gyro MS	Multi-Shot	0.20	8.85	4.51	N
761	1.06	244.26	760.92	-5.87	-8.69	-5.83	0.02	Gyro MS	Multi-Shot	0.01	10.48	0.90	N
851	1.00	241.59	850.91	-6.61	-10.13	-6.55	0.09	Gyro MS	Multi-Shot	-0.07	12.09	-2.97	N
941	1.10	229.20	940.89	-7.54	-11.47	-7.48	0.27	Gyro MS	Multi-Shot	0.11	13.73	-13.77	N
1,031	0.94	220.85	1,030.88	-8.67	-12.61	-8.60	0.24	Gyro MS	Multi-Shot	-0.18	15.30	-9.28	N
1,121	0.84	226.07	1,120.87	-9.68	-13.57	-9.61	0.14	Gyro MS	Multi-Shot	-0.11	16.67	5.80	N
1,211	0.77	235.02	1,210.86	-10.49	-14.54	-10.41	0.16	Gyro MS	Multi-Shot	-0.08	17.93	9.94	N
1,383	0.53	266.07	1,382.85	-11.21	-16.28	-11.12	0.24	Magn MWD	Phoenix Directional	-0.14	19.76	18.05	N
1,562	0.63	247.65	1,561.84	-11.64	-18.01	-11.54	0.12	Magn MWD	Phoenix Directional	0.06	21.45	-10.29	N
1,741	0.73	261.59	1,740.83	-12.18	-20.05	-12.07	0.11	Magn MWD	Phoenix Directional	0.06	23.46	7.79	N
1,919	0.68	263.26	1,918.81	-12.47	-22.22	-12.35	0.03	Magn MWD	Phoenix Directional	-0.03	25.48	0.94	N
2,098	0.73	270.26	2,097.80	-12.59	-24.42	-12.46	0.06	Magn MWD	Phoenix Directional	0.03	27.47	3.91	N
2,278	1.01	265.82	2,277.78	-12.70	-27.15	-12.55	0.16	Magn MWD	Phoenix Directional	0.16	29.97	-2.47	N
2,457	0.90	259.64	2,456.75	-13.06	-30.10	-12.91	0.08	Magn MWD	Phoenix Directional	-0.06	32.82	-3.45	N
2,635	1.22	274.62	2,634.72	-13.16	-33.37	-12.99	0.24	Magn MWD	Phoenix Directional	0.18	35.87	8.42	N
2,814	1.43	272.22	2,813.67	-12.92	-37.50	-12.73	0.12	Magn MWD	Phoenix Directional	0.12	39.66	-1.34	N
2,993	0.90	252.84	2,992.64	-13.25	-41.07	-13.04	0.36	Magn MWD	Phoenix Directional	-0.30	43.16	-10.83	N
3,172	1.34	172.89	3,171.61	-15.74	-42.16	-15.52	0.83	Magn MWD	Phoenix Directional	0.25	45.00	-44.66	N
3,351	2.04	84.87	3,350.56	-17.54	-38.73	-17.33	1.34	Magn MWD	Phoenix Directional	0.39	42.51	-49.17	N
3,530	1.07	25.13	3,529.50	-15.74	-34.84	-15.55	0.98	Magn MWD	Phoenix Directional	-0.54	38.23	-33.37	N
3,709	1.28	334.73	3,708.47	-12.42	-34.99	-12.23	0.57	Magn MWD	Phoenix Directional	0.12	37.12	172.96	N
3,888	1.35	334.68	3,887.42	-8.70	-36.74	-8.51	0.04	Magn MWD	Phoenix Directional	0.04	37.76	-0.03	N
4,067	1.41	333.37	4,066.37	-4.83	-38.63	-4.63	0.04	Magn MWD	Phoenix Directional	0.03	38.93	-0.73	N
4,246	1.66	333.62	4,245.30	-0.54	-40.77	-0.32	0.14	Magn MWD	Phoenix Directional	0.14	40.77	0.14	N
4,425	1.15	88.20	4,424.27	1.84	-40.13	2.05	1.33	Magn MWD	Phoenix Directional	-0.28	40.17	137.11	N



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Survey Data

MD (ftKB)	Incl (°)	Azm (°)	TVD (ftKB)	NS (ft)	EW (ft)	VS (ft)	DLS (°/100ft)	Method	Survey Company	Build (°/100ft)	Depart (ft)	Turn (°/100ft)	Unused data
4,605	2.30	81.26	4,604.19	2.45	-34.75	2.63	0.65	Magn MWD	Phoenix Directional	0.64	34.84	-3.86	N
4,784	1.85	31.88	4,783.08	5.45	-29.67	5.60	0.99	Magn MWD	Phoenix Directional	-0.25	30.17	-27.59	N
4,978	1.87	18.71	4,976.98	11.11	-27.00	11.25	0.22	Magn MWD	Phoenix Directional	0.01	29.20	-6.79	N
5,147	0.34	10.05	5,145.95	14.21	-26.03	14.35	0.91	Magn MWD	Phoenix Directional	-0.91	29.66	-5.12	N
5,326	0.33	324.67	5,324.94	15.15	-26.24	15.29	0.14	Magn MWD	Phoenix Directional	-0.01	30.30	175.77	N
5,506	0.31	317.52	5,504.94	15.94	-26.87	16.08	0.02	Magn MWD	Phoenix Directional	-0.01	31.24	-3.97	N
5,684	0.33	312.60	5,682.94	16.64	-27.57	16.78	0.02	Magn MWD	Phoenix Directional	0.01	32.20	-2.76	N
5,863	0.40	325.43	5,861.93	17.50	-28.30	17.65	0.06	Magn MWD	Phoenix Directional	0.04	33.28	7.17	N
6,042	0.36	305.25	6,040.93	18.34	-29.12	18.49	0.08	Magn MWD	Phoenix Directional	-0.02	34.41	-11.27	N
6,221	0.42	296.94	6,219.93	18.96	-30.16	19.12	0.05	Magn MWD	Phoenix Directional	0.03	35.63	-4.64	N
6,400	0.36	311.12	6,398.92	19.63	-31.17	19.79	0.06	Magn MWD	Phoenix Directional	-0.03	36.84	7.92	N
6,579	0.53	287.18	6,577.92	20.24	-32.38	20.41	0.14	Magn MWD	Phoenix Directional	0.09	38.19	-13.37	N
6,758	0.43	282.38	6,756.91	20.63	-33.83	20.81	0.06	Magn MWD	Phoenix Directional	-0.06	39.63	-2.68	N
6,937	0.81	172.45	6,935.90	19.52	-34.32	19.70	0.58	Magn MWD	Phoenix Directional	0.21	39.48	-61.41	N
7,117	1.26	171.89	7,115.87	16.30	-33.87	16.48	0.25	Magn MWD	Phoenix Directional	0.25	37.59	-0.31	N
7,295	2.12	139.18	7,293.80	11.87	-31.45	12.04	0.71	Magn MWD	Phoenix Directional	0.48	33.61	-18.38	N
7,474	2.24	137.56	7,472.67	6.79	-26.92	6.93	0.08	Magn MWD	Phoenix Directional	0.07	27.76	-0.91	N
7,653	2.55	141.97	7,651.51	1.07	-22.11	1.18	0.20	Magn MWD	Phoenix Directional	0.17	22.13	2.46	N
7,832	1.74	135.88	7,830.39	-4.02	-17.76	-3.93	0.47	Magn MWD	Phoenix Directional	-0.45	18.21	-3.40	N
8,011	0.19	258.73	8,009.36	-6.03	-16.16	-5.94	1.03	Magn MWD	Phoenix Directional	-0.87	17.25	68.63	N
8,190	0.46	178.97	8,188.36	-6.81	-16.44	-6.72	0.26	Magn MWD	Phoenix Directional	0.15	17.79	-44.56	N
8,368	0.34	159.40	8,366.35	-8.01	-16.24	-7.93	0.10	Magn MWD	Phoenix Directional	-0.07	18.11	-10.99	N
8,547	0.39	166.04	8,545.35	-9.10	-15.91	-9.02	0.04	Magn MWD	Phoenix Directional	0.03	18.33	3.71	N
8,726	0.48	145.45	8,724.34	-10.31	-15.33	-10.23	0.10	Magn MWD	Phoenix Directional	0.05	18.48	-11.50	N
8,905	0.64	137.24	8,903.34	-11.66	-14.23	-11.59	0.10	Magn MWD	Phoenix Directional	0.09	18.40	-4.59	N
9,084	0.56	142.13	9,082.33	-13.09	-13.01	-13.02	0.05	Magn MWD	Phoenix Directional	-0.04	18.46	2.73	N
9,263	0.09	156.56	9,261.32	-13.91	-12.42	-13.84	0.26	Magn MWD	Phoenix Directional	-0.26	18.65	8.06	N
9,299	32.21	346.67	9,295.46	-4.34	-14.68	-4.27	89.72	Magn MWD	Phoenix Directional	89.22	15.31	528.08	N
9,344	36.80	349.03	9,332.54	20.57	-20.02	20.68	10.62	Magn MWD	Phoenix Directional	10.20	28.70	5.24	N



Directional Survey

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Survey Data													
MD (ftKB)	Incl (°)	Azm (°)	TVD (ftKB)	NS (ft)	EW (ft)	VS (ft)	DLS (°/100ft)	Method	Survey Company	Build (°/100ft)	Depart (ft)	Turn (°/100ft)	Unuse d data
9,389	41.43	350.09	9,367.44	48.49	-25.15	48.62	10.40	Magn MWD	Phoenix Directional	10.29	54.62	2.36	N
9,434	45.60	349.65	9,400.07	78.98	-30.60	79.14	9.29	Magn MWD	Phoenix Directional	9.27	84.70	-0.98	N
9,478	50.46	349.00	9,429.48	111.12	-36.66	111.31	11.10	Magn MWD	Phoenix Directional	11.05	117.01	-1.48	N
9,523	56.01	349.49	9,456.41	146.52	-43.38	146.75	12.36	Magn MWD	Phoenix Directional	12.33	152.81	1.09	N
9,568	62.06	351.21	9,479.55	184.54	-49.83	184.80	13.84	Magn MWD	Phoenix Directional	13.44	191.15	3.82	N
9,613	68.52	353.34	9,498.35	225.03	-55.30	225.32	14.98	Magn MWD	Phoenix Directional	14.36	231.73	4.73	N
9,658	74.11	357.13	9,512.77	267.49	-58.82	267.79	14.76	Magn MWD	Phoenix Directional	12.42	273.88	8.42	N
9,702	80.17	0.32	9,522.56	310.35	-59.76	310.66	15.48	Magn MWD	Phoenix Directional	13.77	316.05	-	N
9,722	83.41	0.97	9,525.42	330.14	-59.53	330.45	16.52	Magn MWD	Phoenix Directional	16.20	335.46	810.93	N
9,773	91.50	1.50	9,527.68	381.03	-58.44	381.33	15.90	Magn MWD	Phoenix Directional	15.86	385.49	1.04	N
9,789	89.97	1.12	9,527.47	397.03	-58.07	397.33	9.85	Magn MWD	Phoenix Directional	-9.56	401.25	-2.38	N
9,879	91.68	2.03	9,526.18	486.98	-55.60	487.26	2.15	Magn MWD	Phoenix Directional	1.90	490.14	1.01	N
9,969	93.36	2.52	9,522.22	576.82	-52.03	577.08	1.94	Magn MWD	Phoenix Directional	1.87	579.16	0.54	N
10,058	92.07	2.90	9,518.01	665.62	-47.82	665.86	1.51	Magn MWD	Phoenix Directional	-1.45	667.33	0.43	N
10,148	90.87	3.32	9,515.70	755.45	-42.94	755.67	1.41	Magn MWD	Phoenix Directional	-1.33	756.67	0.47	N
10,237	88.07	1.90	9,516.52	844.35	-38.89	844.54	3.53	Magn MWD	Phoenix Directional	-3.15	845.24	-1.60	N
10,327	88.24	2.13	9,519.42	934.24	-35.73	934.42	0.32	Magn MWD	Phoenix Directional	0.19	934.93	0.26	N
10,416	87.65	0.81	9,522.61	1,023.16	-33.45	1,023.32	1.62	Magn MWD	Phoenix Directional	-0.66	1,023. 70	-1.48	N
10,506	90.48	2.88	9,524.08	1,113.08	-30.55	1,113.23	3.90	Magn MWD	Phoenix Directional	3.14	1,113. 50	2.30	N
10,595	90.73	2.54	9,523.14	1,201.98	-26.34	1,202.10	0.47	Magn MWD	Phoenix Directional	0.28	1,202. 27	-0.38	N
10,685	90.59	1.39	9,522.10	1,291.92	-23.26	1,292.02	1.29	Magn MWD	Phoenix Directional	-0.16	1,292. 13	-1.28	N
10,775	90.56	0.61	9,521.20	1,381.90	-21.68	1,381.99	0.87	Magn MWD	Phoenix Directional	-0.03	1,382. 07	-0.87	N
10,864	91.43	0.52	9,519.65	1,470.88	-20.81	1,470.97	0.98	Magn MWD	Phoenix Directional	0.98	1,471. 03	-0.10	N
11,043	92.10	1.10	9,514.14	1,649.78	-18.28	1,649.85	0.49	Magn MWD	Phoenix Directional	0.37	1,649. 88	0.32	N
11,133	90.28	0.62	9,512.27	1,739.74	-16.93	1,739.81	2.09	Magn MWD	Phoenix Directional	-2.02	1,739. 82	-0.53	N
11,222	90.64	0.73	9,511.56	1,828.73	-15.88	1,828.79	0.42	Magn MWD	Phoenix Directional	0.40	1,828. 80	0.12	N
11,311	90.87	359.71	9,510.38	1,917.72	-15.54	1,917.78	1.17	Magn MWD	Phoenix Directional	0.26	1,917. 79	403.35	N
11,401	91.82	359.51	9,508.27	2,007.69	-16.15	2,007.75	1.08	Magn MWD	Phoenix Directional	1.06	2,007. 76	-0.22	N
11,490	91.99	358.03	9,505.31	2,096.62	-18.06	2,096.69	1.67	Magn MWD	Phoenix Directional	0.19	2,096. 70	-1.66	N



Directional Survey

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RED HILLS 2-25-33 001H		RED HILLS 2-25-33		RED HILLS		Mid-Continent	
Ground Elevation (ft)	Original RKB (ft)	Current RKB Elevation				Mud Line Elevation (ft)	Water Depth (ft)
3,424.00	3,449.00	3,449.00, 4/10/2014				0.00	0.00

Survey Data

MD (ftKB)	Incl (°)	Azm (°)	TVD (ftKB)	NS (ft)	EW (ft)	VS (ft)	DLS (°/100ft)	Method	Survey Company	Build (°/100ft)	Depart (ft)	Turn (°/100ft)	Unused data
11,580	90.78	358.22	9,503.14	2,186.55	-21.00	2,186.63	1.36	Magn MWD	Phoenix Directional	-1.34	2,186.65	0.21	N
11,669	90.14	357.14	9,502.42	2,275.47	-24.61	2,275.57	1.41	Magn MWD	Phoenix Directional	-0.72	2,275.60	-1.21	N
11,759	89.83	357.67	9,502.45	2,365.38	-28.68	2,365.49	0.68	Magn MWD	Phoenix Directional	-0.34	2,365.55	0.59	N
11,849	88.49	357.17	9,503.77	2,455.27	-32.73	2,455.41	1.59	Magn MWD	Phoenix Directional	-1.49	2,455.49	-0.56	N
11,938	88.52	358.35	9,506.09	2,544.17	-36.21	2,544.33	1.33	Magn MWD	Phoenix Directional	0.03	2,544.43	1.33	N
12,027	89.30	359.70	9,507.78	2,633.14	-37.72	2,633.30	1.75	Magn MWD	Phoenix Directional	0.88	2,633.41	1.52	N
12,206	89.90	1.98	9,509.03	2,812.11	-35.10	2,812.25	1.32	Magn MWD	Phoenix Directional	0.34	2,812.32	199.84	N
12,296	90.40	2.10	9,508.79	2,902.05	-31.89	2,902.17	0.57	Magn MWD	Phoenix Directional	0.56	2,902.22	0.13	N
12,386	91.20	1.78	9,507.54	2,991.99	-28.85	2,992.10	0.96	Magn MWD	Phoenix Directional	0.89	2,992.13	-0.36	N
12,475	90.80	1.83	9,505.98	3,080.93	-26.05	3,081.02	0.45	Magn MWD	Phoenix Directional	-0.45	3,081.04	0.06	N
12,565	90.80	1.94	9,504.73	3,170.87	-23.09	3,170.95	0.12	Magn MWD	Phoenix Directional	0.00	3,170.96	0.12	N
12,651	90.70	2.10	9,503.60	3,256.81	-20.05	3,256.87	0.22	Magn MWD	Phoenix Directional	-0.12	3,256.87	0.19	N
12,745	91.20	1.92	9,502.04	3,350.74	-16.76	3,350.78	0.57	Magn MWD	Phoenix Directional	0.53	3,350.78	-0.19	N
12,835	91.40	1.00	9,500.00	3,440.69	-14.47	3,440.71	1.05	Magn MWD	Phoenix Directional	0.22	3,440.72	-1.02	N
12,924	89.69	1.69	9,499.16	3,529.65	-12.38	3,529.67	2.07	Magn MWD	Phoenix Directional	-1.92	3,529.68	0.78	N
13,013	89.33	0.54	9,499.92	3,618.63	-10.64	3,618.64	1.35	Magn MWD	Phoenix Directional	-0.40	3,618.65	-1.29	N
13,103	89.66	359.78	9,500.71	3,708.63	-10.39	3,708.63	0.92	Magn MWD	Phoenix Directional	0.37	3,708.64	399.16	N
13,192	90.17	359.13	9,500.84	3,797.62	-11.24	3,797.63	0.93	Magn MWD	Phoenix Directional	0.57	3,797.64	-0.73	N
13,282	90.45	358.46	9,500.35	3,887.60	-13.13	3,887.62	0.81	Magn MWD	Phoenix Directional	0.31	3,887.62	-0.74	N
13,371	90.64	358.23	9,499.51	3,976.56	-15.70	3,976.59	0.34	Magn MWD	Phoenix Directional	0.21	3,976.59	-0.26	N
13,461	91.62	357.96	9,497.73	4,066.49	-18.69	4,066.53	1.13	Magn MWD	Phoenix Directional	1.09	4,066.53	-0.30	N
13,550	89.27	358.22	9,497.04	4,155.43	-21.66	4,155.49	2.66	Magn MWD	Phoenix Directional	-2.64	4,155.49	0.29	N
13,639	89.19	357.56	9,498.24	4,244.36	-24.94	4,244.44	0.75	Magn MWD	Phoenix Directional	-0.09	4,244.44	-0.74	N
13,729	91.03	357.98	9,498.07	4,334.29	-28.44	4,334.38	2.10	Magn MWD	Phoenix Directional	2.04	4,334.38	0.47	N
13,818	91.96	358.25	9,495.74	4,423.21	-31.36	4,423.31	1.09	Magn MWD	Phoenix Directional	1.04	4,423.32	0.30	N
13,891	92.15	358.08	9,493.13	4,496.13	-33.70	4,496.24	0.35	Magn MWD	Phoenix Directional	0.26	4,496.25	-0.23	N
13,942	92.15	358.08	9,491.21	4,547.06	-35.41	4,547.19	0.00	Magn MWD	Phoenix Directional	0.00	4,547.20	0.00	N