

Results of Directional Survey

API number:	30-025-41848		
OGRID:		Operator:	CHEVRON MIDCONTINENT, L.P.
		Property:	RED HILLS 11 25 33 FEDERAL COM # 1H

surface	ULSTR:	A	11	T	25S	R	33E
				430	FNL	340	FEL

BH Loc	ULSTR:	P	11	T	25S	R	33E
13806	MD	9529.2	TVD	332	FSL	323	FEL
4948 FNL							

Top Perf/OH	ULSTR:	A	11	T	25S	R	33E
9815	MD	9512.3	TVD	959	FNL	354	FEL

Bot Perf/OH	ULSTR:	P	11	T	25S	R	33E
13567	MD	9522.7	TVD	570	FSL	340	FEL
4710 FNL							

	MD	N/S	E/W	VD
	9767	-481.06	-14.49	9510.14
TOP PERFS/OH	9815	-529.00	-14.23	9512.25
	9885	-598.91	-13.84	9515.33
	13553	-4265.58	-1.18	9522.21
BOT PERFS/OH	13567	-4279.54	-0.26	9522.67
	13642	-4354.34	4.66	9525.12

NEXT TO LAST	13755	-4466.99	13.02	9528.08
LAST READING	13806	-4517.81	17.22	9529.16
TD	13806	-4517.81	17.22	9529.16

Surface Location	430	FN	340	FE
Projected BHL	4948	FN	323	FE
Location of				
Top Perfs/OH	959	FN	354	FE
Bottom Perfs/OH	4710	FN	340	FE

SUMMARY of Subsurface Locations

Surface Location	A-11-25S-33E	430	FN	340	FE	Vert. Depth
Top Perfs/OH	A-11-25S-33E	959	FN	354	FE	9512.25
Bottom Perfs/OH	P-11-25S-33E	4710	FN	340	FE	9522.67
Projected TD	P-11-25S-33E	4948	FN	323	FE	9529.16

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Directional Survey

HOBBS OGD

OCT 07 2014

Well Name RED HILLS 11-25-33 001H		Lease Red Hills 11-25-33		Field Name RED HILLS		Business Unit Mid-Continent	
Ground Elevation (ft) 3,415.00	Original RKB (ft) 3,439.50	Current RKB Elevation 3,439.50, 5/8/2014		Mud Line Elevation (ft) 0.00		Water Depth (ft) 0.00	

Wellbore Name Original Hole		Parent Wellbore Original Hole		Kick Off Depth (ftKB) 8,600		Vertical Section Direction (°) 179.56	
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
50	0.30	82.80	50.00	0.02	0.13	-0.02	0.60	Gyro MS	Multi-Shot	0.60	0.13	165.60	N
139	0.62	126.32	139.00	-0.24	0.75	0.25	0.51	Gyro MS	Multi-Shot	0.36	0.79	48.90	N
229	0.63	125.40	228.99	-0.81	1.54	0.83	0.02	Gyro MS	Multi-Shot	0.01	1.75	-1.02	N
318	0.76	133.39	317.99	-1.50	2.37	1.52	0.18	Gyro MS	Multi-Shot	0.15	2.81	8.98	N
407	0.61	129.61	406.98	-2.21	3.17	2.24	0.18	Gyro MS	Multi-Shot	-0.17	3.86	-4.25	N
497	0.51	123.69	496.97	-2.74	3.87	2.77	0.13	Gyro MS	Multi-Shot	-0.11	4.74	-6.58	N
586	0.48	105.31	585.97	-3.06	4.56	3.09	0.18	Gyro MS	Multi-Shot	-0.03	5.49	-20.65	N
676	0.43	82.41	675.97	-3.11	5.26	3.15	0.21	Gyro MS	Multi-Shot	-0.06	6.11	-25.44	N
765	0.21	85.11	764.97	-3.05	5.75	3.10	0.25	Gyro MS	Multi-Shot	-0.25	6.51	3.03	N
854	0.15	77.27	853.97	-3.01	6.03	3.06	0.07	Gyro MS	Multi-Shot	-0.07	6.74	-8.81	N
944	0.04	254.79	943.97	-3.00	6.11	3.04	0.21	Gyro MS	Multi-Shot	-0.12	6.81	197.24	N
1,033	0.10	294.33	1,032.97	-2.97	6.01	3.02	0.08	Gyro MS	Multi-Shot	0.07	6.70	44.43	N
1,122	0.15	96.75	1,121.97	-2.95	6.05	3.00	0.28	Gyro MS	Multi-Shot	0.06	6.74	-	N
												222.00	
1,212	0.30	102.51	1,211.97	-3.02	6.40	3.07	0.17	Gyro MS	Multi-Shot	0.17	7.08	6.40	N
1,285	0.36	169.75	1,284.96	-3.29	6.63	3.34	0.51	Magn MWD	Phoenix Directional	0.08	7.40	92.11	N
1,462	0.44	166.01	1,461.96	-4.49	6.89	4.55	0.05	Magn MWD	Phoenix Directional	0.05	8.23	-2.11	N
1,643	0.59	175.16	1,642.95	-6.10	7.14	6.15	0.09	Magn MWD	Phoenix Directional	0.08	9.39	5.06	N
1,822	0.63	166.51	1,821.94	-7.97	7.45	8.03	0.06	Magn MWD	Phoenix Directional	0.02	10.91	-4.83	N
2,000	1.65	10.13	1,999.92	-6.40	8.13	6.46	1.26	Magn MWD	Phoenix Directional	0.57	10.34	-87.85	N
2,358	1.94	7.18	2,357.75	4.69	9.79	-4.61	0.08	Magn MWD	Phoenix Directional	0.08	10.85	-0.82	N
2,537	2.41	9.51	2,536.62	11.40	10.79	-11.32	0.27	Magn MWD	Phoenix Directional	0.26	15.70	1.30	N
2,716	2.32	326.36	2,715.48	18.13	9.40	-18.06	0.97	Magn MWD	Phoenix Directional	-0.05	20.43	177.01	N
2,895	1.20	290.86	2,894.40	21.82	5.65	-21.77	0.85	Magn MWD	Phoenix Directional	-0.63	22.54	-19.83	N
3,074	1.15	292.65	3,073.36	23.18	2.24	-23.16	0.03	Magn MWD	Phoenix Directional	-0.03	23.28	1.00	N
3,253	0.95	305.24	3,252.33	24.72	-0.63	-24.73	0.17	Magn MWD	Phoenix Directional	-0.11	24.73	7.03	N
3,433	0.98	339.64	3,432.30	27.03	-2.39	-27.05	0.32	Magn MWD	Phoenix Directional	0.02	27.13	19.11	N
3,611	1.12	341.89	3,610.27	30.11	-3.46	-30.13	0.08	Magn MWD	Phoenix Directional	0.08	30.31	1.26	N
3,790	1.61	348.99	3,789.22	34.24	-4.48	-34.27	0.29	Magn MWD	Phoenix Directional	0.27	34.53	3.97	N
3,969	1.99	351.40	3,968.14	39.78	-5.43	-39.82	0.22	Magn MWD	Phoenix Directional	0.21	40.15	1.35	N
4,168	2.53	358.47	4,166.98	47.59	-6.06	-47.63	0.30	Magn MWD	Phoenix Directional	0.27	47.97	3.55	N
4,326	1.88	337.82	4,324.86	53.47	-7.13	-53.53	0.64	Magn MWD	Phoenix Directional	-0.41	53.95	-13.07	N
4,505	1.79	7.62	4,503.78	58.96	-7.87	-59.02	0.53	Magn MWD	Phoenix Directional	-0.05	59.49	-	N
												184.47	



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
4,684	2.02	23.21	4,682.68	64.63	-6.26	-64.68	0.32	Magn MWD	Phoenix Directional	0.13	64.94	8.71	N
4,863	2.14	56.68	4,861.57	69.37	-2.22	-69.38	0.67	Magn MWD	Phoenix Directional	0.07	69.41	18.70	N
4,987	2.04	61.03	4,985.49	71.71	1.65	-71.70	0.15	Magn MWD	Phoenix Directional	-0.08	71.73	3.51	N
5,146	1.55	59.11	5,144.41	74.19	5.97	-74.14	0.31	Magn MWD	Phoenix Directional	-0.31	74.42	-1.21	N
5,325	1.65	65.07	5,323.34	76.51	10.38	-76.43	0.11	Magn MWD	Phoenix Directional	0.06	77.22	3.33	N
5,504	1.62	86.55	5,502.27	77.75	15.24	-77.63	0.34	Magn MWD	Phoenix Directional	-0.02	79.23	12.00	N
5,682	0.32	194.02	5,680.24	77.42	17.64	-77.28	0.98	Magn MWD	Phoenix Directional	-0.73	79.40	60.38	N
5,861	0.06	181.43	5,859.24	76.84	17.51	-76.71	0.15	Magn MWD	Phoenix Directional	-0.15	78.81	-7.03	N
6,041	1.42	266.43	6,039.22	76.61	15.28	-76.49	0.79	Magn MWD	Phoenix Directional	0.76	78.12	47.22	N
6,220	1.37	253.36	6,218.17	75.86	11.02	-75.77	0.18	Magn MWD	Phoenix Directional	-0.03	76.66	-7.30	N
6,399	1.29	260.38	6,397.12	74.91	6.98	-74.85	0.10	Magn MWD	Phoenix Directional	-0.04	75.23	3.92	N
6,578	1.33	255.04	6,576.08	74.04	2.99	-74.01	0.07	Magn MWD	Phoenix Directional	0.02	74.10	-2.98	N
6,757	1.46	256.35	6,755.02	72.96	-1.23	-72.97	0.07	Magn MWD	Phoenix Directional	0.07	72.97	0.73	N
6,936	1.29	250.04	6,933.97	71.74	-5.34	-71.78	0.13	Magn MWD	Phoenix Directional	-0.09	71.94	-3.53	N
7,115	1.23	257.10	7,112.93	70.62	-9.11	-70.69	0.09	Magn MWD	Phoenix Directional	-0.03	71.20	3.94	N
7,293	1.87	232.15	7,290.86	68.41	-13.27	-68.51	0.51	Magn MWD	Phoenix Directional	0.36	69.69	-14.02	N
7,473	2.15	225.03	7,470.75	64.22	-17.97	-64.36	0.21	Magn MWD	Phoenix Directional	0.16	66.69	-3.96	N
7,652	2.06	221.82	7,649.63	59.45	-22.49	-59.62	0.08	Magn MWD	Phoenix Directional	-0.05	63.57	-1.79	N
7,831	2.15	215.55	7,828.51	54.32	-26.59	-54.53	0.14	Magn MWD	Phoenix Directional	0.05	60.48	-3.50	N
8,009	1.84	224.22	8,006.40	49.56	-30.53	-49.79	0.24	Magn MWD	Phoenix Directional	-0.17	58.21	4.87	N
8,189	1.72	216.90	8,186.32	45.33	-34.16	-45.59	0.14	Magn MWD	Phoenix Directional	-0.07	56.76	-4.07	N
8,367	1.61	214.73	8,364.24	41.14	-37.19	-41.42	0.07	Magn MWD	Phoenix Directional	-0.06	55.46	-1.22	N
8,546	1.51	210.72	8,543.18	37.04	-39.83	-37.35	0.08	Magn MWD	Phoenix Directional	-0.06	54.39	-2.24	N
8,895	1.19	182.50	8,892.08	29.47	-42.34	-29.79	0.21	Magn MWD	Phoenix Directional	-0.09	51.58	-8.09	N
8,985	6.56	163.48	8,981.85	23.60	-40.91	-23.91	6.05	Magn MWD	Phoenix Directional	5.97	47.23	-21.13	N
9,030	13.01	164.68	9,026.17	16.24	-38.84	-16.54	14.34	Magn MWD	Phoenix Directional	14.33	42.10	2.67	N
9,119	23.23	172.90	9,110.65	-10.91	-34.01	10.65	11.81	Magn MWD	Phoenix Directional	11.48	35.72	9.24	N
9,164	26.53	175.23	9,151.47	-29.74	-32.08	29.49	7.65	Magn MWD	Phoenix Directional	7.33	43.74	5.18	N
9,209	29.95	179.66	9,191.12	-51.00	-31.18	50.75	8.91	Magn MWD	Phoenix Directional	7.60	59.77	9.84	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
9,254	34.19	182.22	9,229.24	-74.87	-31.60	74.63	9.89	Magn MWD	Phoenix Directional	9.42	81.27	5.69	N
9,299	36.79	181.73	9,265.88	-100.98	-32.50	100.73	5.81	Magn MWD	Phoenix Directional	5.78	106.08	-1.09	N
9,343	39.48	178.01	9,300.49	-128.14	-32.41	127.89	8.04	Magn MWD	Phoenix Directional	6.11	132.17	-8.45	N
9,388	41.98	175.56	9,334.59	-157.45	-30.75	157.21	6.59	Magn MWD	Phoenix Directional	5.56	160.42	-5.44	N
9,433	44.64	176.49	9,367.33	-188.24	-28.61	188.01	6.08	Magn MWD	Phoenix Directional	5.91	190.40	2.07	N
9,477	48.12	176.62	9,397.68	-220.03	-26.70	219.82	7.91	Magn MWD	Phoenix Directional	7.91	221.64	0.30	N
9,522	52.60	176.47	9,426.38	-254.61	-24.61	254.41	9.96	Magn MWD	Phoenix Directional	9.96	255.80	-0.33	N
9,567	59.21	176.71	9,451.59	-291.79	-22.40	291.61	14.70	Magn MWD	Phoenix Directional	14.69	292.65	0.53	N
9,612	65.67	175.84	9,472.40	-331.58	-19.80	331.41	14.46	Magn MWD	Phoenix Directional	14.36	332.17	-1.93	N
9,657	72.27	176.97	9,488.54	-373.47	-17.18	373.33	14.85	Magn MWD	Phoenix Directional	14.67	373.87	2.51	N
9,701	77.52	178.42	9,500.01	-415.90	-15.48	415.77	12.35	Magn MWD	Phoenix Directional	11.93	416.19	3.30	N
9,746	82.43	179.53	9,507.84	-460.19	-14.69	460.07	11.18	Magn MWD	Phoenix Directional	10.91	460.43	2.47	N
9,767	84.96	179.37	9,510.14	-481.06	-14.49	480.94	12.07	Magn MWD	Phoenix Directional	12.05	481.28	-0.76	N
9,885	90.00	180.00	9,515.33	-598.91	-13.84	598.78	4.30	Magn MWD	Phoenix Directional	4.27	599.07	0.53	N
9,974	91.00	181.00	9,514.55	-687.90	-14.62	687.77	1.59	Magn MWD	Phoenix Directional	1.12	688.05	1.12	N
10,064	91.60	181.60	9,512.51	-777.85	-16.66	777.70	0.94	Magn MWD	Phoenix Directional	0.67	778.03	0.67	N
10,243	90.68	180.54	9,508.95	-956.78	-20.00	956.60	0.78	Magn MWD	Phoenix Directional	-0.51	956.99	-0.59	N
10,333	89.93	179.66	9,508.47	-1,046.78	-20.16	1,046.59	1.28	Magn MWD	Phoenix Directional	-0.83	1,046. 97	-0.98	N
10,422	90.37	179.31	9,508.24	-1,135.77	-19.36	1,135.59	0.63	Magn MWD	Phoenix Directional	0.49	1,135. 94	-0.39	N
10,512	90.68	179.13	9,507.41	-1,225.76	-18.13	1,225.59	0.40	Magn MWD	Phoenix Directional	0.34	1,225. 90	-0.20	N
10,601	89.45	179.66	9,507.31	-1,314.75	-17.19	1,314.58	1.50	Magn MWD	Phoenix Directional	-1.38	1,314. 87	0.60	N
10,690	88.92	179.57	9,508.58	-1,403.74	-16.59	1,403.57	0.60	Magn MWD	Phoenix Directional	-0.60	1,403. 84	-0.10	N
10,780	88.22	178.52	9,510.82	-1,493.70	-15.09	1,493.54	1.40	Magn MWD	Phoenix Directional	-0.78	1,493. 78	-1.17	N
10,869	88.44	178.78	9,513.42	-1,582.64	-13.00	1,582.49	0.38	Magn MWD	Phoenix Directional	0.25	1,582. 69	0.29	N
10,959	88.48	178.17	9,515.84	-1,672.57	-10.60	1,672.44	0.68	Magn MWD	Phoenix Directional	0.04	1,672. 61	-0.68	N
11,048	88.53	177.38	9,518.16	-1,761.48	-7.15	1,761.37	0.89	Magn MWD	Phoenix Directional	0.06	1,761. 49	-0.89	N
11,138	89.32	179.22	9,519.85	-1,851.42	-4.48	1,851.33	2.22	Magn MWD	Phoenix Directional	0.88	1,851. 42	2.04	N
11,227	89.05	179.40	9,521.11	-1,940.40	-3.41	1,940.32	0.36	Magn MWD	Phoenix Directional	-0.30	1,940. 40	0.20	N
11,316	87.91	178.78	9,523.47	-2,029.36	-2.00	2,029.28	1.46	Magn MWD	Phoenix Directional	-1.28	2,029. 36	-0.70	N



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Survey Data

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11,406	89.76	179.75	9,525.30	-2,119.32	-0.84	2,119.26	2.32	Magn MWD	Phoenix Directional	2.06	2,119. 32	1.08	N
11,495	90.42	179.49	9,525.16	-2,208.32	-0.25	2,208.26	0.80	Magn MWD	Phoenix Directional	0.74	2,208. 32	-0.29	N
11,585	90.46	179.13	9,524.47	-2,298.31	0.83	2,298.25	0.40	Magn MWD	Phoenix Directional	0.04	2,298. 31	-0.40	N
11,674	89.67	178.25	9,524.37	-2,387.29	2.87	2,387.24	1.33	Magn MWD	Phoenix Directional	-0.89	2,387. 29	-0.99	N
11,764	90.02	180.63	9,524.61	-2,477.28	3.75	2,477.23	2.67	Magn MWD	Phoenix Directional	0.39	2,477. 28	2.64	N
11,853	89.98	181.33	9,524.61	-2,566.26	2.22	2,566.20	0.79	Magn MWD	Phoenix Directional	-0.04	2,566. 26	0.79	N
11,943	91.16	180.63	9,523.72	-2,656.24	0.69	2,656.17	1.52	Magn MWD	Phoenix Directional	1.31	2,656. 24	-0.78	N
12,032	90.86	179.31	9,522.15	-2,745.23	0.73	2,745.15	1.52	Magn MWD	Phoenix Directional	-0.34	2,745. 23	-1.48	N
12,121	91.69	179.66	9,520.17	-2,834.20	1.53	2,834.13	1.01	Magn MWD	Phoenix Directional	0.93	2,834. 20	0.39	N
12,211	92.31	179.40	9,517.03	-2,924.14	2.27	2,924.07	0.75	Magn MWD	Phoenix Directional	0.69	2,924. 14	-0.29	N
12,300	91.65	180.10	9,513.95	-3,013.09	2.66	3,013.02	1.08	Magn MWD	Phoenix Directional	-0.74	3,013. 09	0.79	N
12,390	92.31	179.92	9,510.84	-3,103.03	2.64	3,102.96	0.76	Magn MWD	Phoenix Directional	0.73	3,103. 03	-0.20	N
12,479	91.12	181.07	9,508.18	-3,191.99	1.87	3,191.91	1.86	Magn MWD	Phoenix Directional	-1.34	3,191. 99	1.29	N
12,569	89.01	181.15	9,508.08	-3,281.96	0.13	3,281.87	2.35	Magn MWD	Phoenix Directional	-2.34	3,281. 96	0.09	N
12,658	88.40	180.72	9,510.09	-3,370.93	-1.32	3,370.82	0.84	Magn MWD	Phoenix Directional	-0.69	3,370. 93	-0.48	N
12,748	89.05	181.33	9,512.09	-3,460.89	-2.93	3,460.77	0.99	Magn MWD	Phoenix Directional	0.72	3,460. 89	0.68	N
12,837	88.35	180.98	9,514.11	-3,549.85	-4.73	3,549.71	0.88	Magn MWD	Phoenix Directional	-0.79	3,549. 85	-0.39	N
12,927	88.92	180.80	9,516.26	-3,639.81	-6.12	3,639.66	0.66	Magn MWD	Phoenix Directional	0.63	3,639. 82	-0.20	N
13,016	89.32	180.72	9,517.62	-3,728.80	-7.30	3,728.63	0.46	Magn MWD	Phoenix Directional	0.45	3,728. 80	-0.09	N
13,106	88.84	180.63	9,519.07	-3,818.78	-8.36	3,818.60	0.54	Magn MWD	Phoenix Directional	-0.53	3,818. 79	-0.10	N
13,195	89.19	180.80	9,520.60	-3,907.76	-9.47	3,907.57	0.44	Magn MWD	Phoenix Directional	0.39	3,907. 77	0.19	N
13,285	89.76	179.31	9,521.42	-3,997.75	-9.56	3,997.56	1.77	Magn MWD	Phoenix Directional	0.63	3,997. 76	-1.66	N
13,374	90.07	178.34	9,521.55	-4,086.73	-7.74	4,086.55	1.14	Magn MWD	Phoenix Directional	0.35	4,086. 74	-1.09	N
13,463	90.64	178.43	9,521.00	-4,175.69	-5.23	4,175.53	0.65	Magn MWD	Phoenix Directional	0.64	4,175. 70	0.10	N
13,553	87.82	176.41	9,522.21	-4,265.58	-1.18	4,265.44	3.85	Magn MWD	Phoenix Directional	-3.13	4,265. 58	-2.24	N
13,642	88.44	176.06	9,525.12	-4,354.34	4.66	4,354.25	0.80	Magn MWD	Phoenix Directional	0.70	4,354. 34	-0.39	N
13,732	88.48	175.62	9,527.54	-4,444.07	11.19	4,444.02	0.49	Magn MWD	Phoenix Directional	0.04	4,444. 08	-0.49	N
13,755	88.79	175.27	9,528.08	-4,466.99	13.02	4,466.96	2.03	Magn MWD	Phoenix Directional	1.35	4,467. 01	-1.52	N
13,806	88.79	175.27	9,529.16	-4,517.81	17.22	4,517.80	0.00	Magn MWD	Phoenix Directional	0.00	4,517. 84	0.00	N