Results of Directional Survey

API number:	30-025-21675			
OGRID:		Operator:	CHEVRON U S A INC	
		Property:	VACUUM GLORIETA WEST UNIT	# 23H

surface	ULSTR:	F	25	T	17S	R	34E
				2310	FNL	1860	FWL
BH Loc	ULSTR:	C	25	T	17S	R	34E
7480 MD		9413.9 TVD		530	FNL	2604	FWL
				530	FNL	2604	FWL
Top Perf/OH	ULSTR:	F	25	T	17S	R	34E
0 MD		0.0 TVD		2310	FNL	1860	FWL
Bot Perf/OH	ULSTR:	C	25	T	17S	R	34E
0 MD		0.0 TVD		2310	FNL	1860	FWL
				2310	FNL	1860	FWL

	MD	N/S	E/W	VD
TOP PERFS/OH				
BOT PERFS/OH				

NEXT TO LAST	13782	-4516.88	512.74	9491.06
LAST READING	13840	-4574.83	510.61	9491.77
TD	**7480**	1779.69	744.18	9413.91

Surface Location	2310	FN	1860	FW
Projected BHL	530	FN	2604	FW
Location of				
Top Perfs/OH	2310	FN	1860	FW
Bottom Perfs/OH	2310	FN	1860	FW

SUMMARY of Subsurface Locations

Surface Location	F-25-17S-34E	2310	FN	1860	FW	Vert. Depth
Top Perfs/OH	F-25-17S-34E	2310	FN	1860	FW	0.00
Bottom Perfs/OH	C-25-17S-34E	2310	FN	1860	FW	0.00
Projected TD	C-25-17S-34E	530	FN	2604	FW	9413.91

SEP 25 2014

Directional Survey

Well Name	Lease	Field Name	Business Unit
VACUUM GLORIETA WEST UNIT 023	Vacuum Glorieta West Unit	Vacuum	Mid-Continent

Ground Elevation (ft)	Original RKB (ft)	Current RKB Elevation	Mud Line Elevation (ft)	Water Depth (ft)
4,004.00	4,016.00			

Wellbore Name	Parent Wellbore	Kick Off Depth (ftKB)	Vertical Section Direction (°)
Original Hole	Original Hole		0.00

UTM Northing (Y) (ft)	UTM Easting (X) (ft)	UTM Grid Zone

Date	Definitive?	Description	Planned?
3/25/1998	N		N

MD Tie In (ftKB)	TVDTie In (ftKB)	Inclination Tie In (°)	Azimuth Tie In (°)	NSTie In (ft)	EWTie In (ft)
0.00	0.00	0.00	0.00	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
5,750	1.60	150.50	5,749.25	-69.87	39.53	-69.87	0.03			0.03	80.28	2.62	N
5,808	4.50	359.80	5,807.20	-68.30	39.92	-68.30	10.25			5.00	79.11	360.86	N
5,841	13.60	337.10	5,839.77	-63.42	38.41	-63.42	29.10			27.58	74.14	-68.79	N
5,904	31.30	345.40	5,897.77	-40.57	31.34	-40.57	28.48			28.10	51.27	13.17	N
5,967	48.80	353.50	5,945.84	-0.85	24.47	-0.85	28.93			27.78	24.49	12.86	N
6,030	67.70	353.40	5,978.85	52.13	18.39	52.13	30.00			30.00	55.28	-0.16	N
6,089	81.60	353.40	5,994.43	108.51	11.86	108.51	23.56			23.56	109.15	0.00	N
6,153	86.60	352.90	6,001.00	171.69	4.27	171.69	7.85			7.81	171.75	-0.78	N
6,216	91.10	356.30	6,002.27	234.38	-1.65	234.38	8.95			7.14	234.38	5.40	N
6,279	91.00	0.10	6,001.11	297.32	-3.63	297.32	6.03			-0.16	297.35	-565.40	N
6,342	91.10	0.70	5,999.96	360.31	-3.19	360.31	0.97			0.16	360.33	0.95	N
6,405	91.10	2.10	5,998.75	423.28	-1.65	423.28	2.22			0.00	423.28	2.22	N
6,468	90.40	3.60	5,997.92	486.19	1.48	486.19	2.63			-1.11	486.20	2.38	N
6,531	89.70	14.10	5,997.87	548.36	11.16	548.36	16.70			-1.11	548.47	16.67	N
6,595	87.10	19.10	5,999.66	609.64	29.43	609.64	8.80			-4.06	610.35	7.81	N
6,626	87.10	19.30	6,001.22	638.88	39.61	638.88	0.64			0.00	640.11	0.65	N
6,689	87.50	23.20	6,004.19	697.52	62.41	697.52	6.22			0.63	700.31	6.19	N
6,752	86.80	24.20	6,007.33	755.13	87.70	755.13	1.94			-1.11	760.21	1.59	N
6,816	86.50	24.00	6,011.07	813.45	113.79	813.45	0.56			-0.47	821.37	-0.31	N
6,879	86.50	24.80	6,014.91	870.72	139.77	870.72	1.27			0.00	881.87	1.27	N
6,941	87.00	20.50	6,018.43	927.83	163.60	927.83	6.97			0.81	942.15	-6.94	N
7,004	86.20	20.60	6,022.16	986.72	185.68	986.72	1.28			-1.27	1,004.04	0.16	N
7,088	86.40	19.80	6,027.59	1,065.39	214.62	1,065.39	0.98			0.24	1,086.79	-0.95	N
7,131	87.20	21.10	6,029.99	1,105.61	229.62	1,105.61	3.55			1.86	1,129.21	3.02	N
7,195	85.10	19.00	6,034.28	1,165.59	251.51	1,165.59	4.64			-3.28	1,192.42	-3.28	N
7,226	85.40	18.90	6,036.85	1,194.81	261.54	1,194.81	1.02			0.97	1,223.10	-0.32	N
7,289	86.50	15.60	6,041.30	1,254.82	280.17	1,254.82	5.51			1.75	1,285.72	-5.24	N
7,353	91.20	20.30	6,042.59	1,315.66	299.89	1,315.66	10.38			7.34	1,349.40	7.34	N
7,415	89.50	20.00	6,042.21	1,373.86	321.24	1,373.86	2.78			-2.74	1,410.92	-0.48	N
7,480	89.10	20.20	6,043.00	1,434.89	343.58	1,434.89	0.69			-0.62	1,475.46	0.31	N

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