

Results of Directional Survey

API number:	30-025-40711		
OGRID:		Operator:	CHEVRON U S A INC
		Property:	CROSS BONES 1-29 # 2H

surface	ULSTR:	L	29	T	18S	R	32E
				1980	FSL	990	FWL

BH Loc	ULSTR:	I	29	T	18S	R	32E
12041	MD	8463.3	TVD	1669	FSL	322	FEL
						4958	FWL

Top Perf/OH	ULSTR:	L	29	T	18S	R	32E
8748	MD	8349.2	TVD	1958	FSL	1681	FWL

Bot Perf/OH	ULSTR:	I	29	T	18S	R	32E
11366	MD	8423.9	TVD	1731	FSL	993	FEL
						4287	FWL

	MD	N/S	E/W	VD
	8730	-20.63	673.06	8348.45
TOP PERFS/OH	8748	-21.99	690.99	8349.22
	8794	-25.47	736.82	8351.20
	11340	-247.36	3270.92	8422.35
BOT PERFS/OH	11366	-249.40	3296.80	8423.87
	11434	-254.74	3364.47	8427.83

NEXT TO LAST	12017	-308.24	3943.99	8461.85
LAST READING	12041	-310.72	3967.82	8463.25
TD	12041	-310.72	3967.82	8463.25

Surface Location	1980	FS	990	FW
Projected BHL	1669	FS	4958	FW
Location of				
Top Perfs/OH	1958	FS	1681	FW
Bottom Perfs/OH	1731	FS	4287	FW

SUMMARY of Subsurface Locations

Surface Location	L-29-18S-32E	1980	FS	990	FW	Vert. Depth
Top Perfs/OH	L-29-18S-32E	1958	FS	1681	FW	8349.22
Bottom Perfs/OH	I-29-18S-32E	1731	FS	4287	FW	8423.87
Projected TD	I-29-18S-32E	1669	FS	4958	FW	8463.25

RECEIVED

Attached
to electronic 3160-4

Schlumberger



Chevron Cross Bones 1 29 2H Final Survey Report (Non-Def Survey)

Report Date: November 07, 2012 - 09 13 PM
Client: Chevron
Field: Lusk, Bone Spring North
Structure / Slot: Chevron Cross Bones 1 29 2H / Chevron Cross Bones 1 29 2H
Well: Chevron Cross Bones 1 29 2H
Borehole: Original Hole
UWI / API#: 30-025-40711
Survey Name: Chevron Cross Bones 1 29 2H Final Survey Report
Survey Date: October 30, 2012
Tort / AHD / DOI / ERD Ratio: 126 141' / 4077.115 ft / 5 864 / 0 482
Coordinate Reference System: NAD27 New Mexico State Plane, Eastern Zone, US Feet
Location Lat / Long: N 32° 42' 58 80932", W 103° 47' 36 11576"
Location Grid N/E Y/X: N 624830 000 IUS, E 666073.300 IUS
CRS Grid Convergence Angle: 0.2919
Grid Scale Factor: 0.99994058

Survey / DLS Computation: Minimum Curvature / Lubinski
Vertical Section Azimuth: 94.599 ° (Gnd North)
Vertical Section Origin: 0 000 ft, 0 000 ft
TVD Reference Datum: RKB
TVD Reference Elevation: 3724 000 ft above
Seabed / Ground Elevation: 3699.000 ft above
Magnetic Declination: 7 662 °
Total Gravity Field Strength: 999 1769 mgn (9.8 based)
Total Magnetic Field Strength: 48736 445 nT
Magnetic Dip Angle: 60 537 °
Declination Date: October 30, 2012
Magnetic Declination Model: BGGM 2012
North Reference: Grid North
Grid Convergence Used: 0.2919 °
Total Corr Mag North->Gnd North: 7.3699 °
Local Coord Referenced To: Structure Reference Point

Comments	MD (ft)	Incl (°)	Azimuth (°)	TVD (ft)	VSEC (ft)	NS (N/S ft)	EW (E/W ft)	Closure (ft)	Closure Azimuth (°)	DLS (ft/100ft)	TF (°)
SHL	0 00	0 00	0 00	0 00	0 00	N 0 00	E 0 00	0 00	0 00	N/A	190 78M
	119 64	0 14	190 78	119 64	-0 02	S 0 14	W 0 03	0 15	190 78	0 12	198 98M
	150 89	0 23	198 98	150 89	-0 04	S 0 24	W 0 05	0 25	192 86	0 30	196 04M
	245 49	0 26	196 04	245 49	-0 13	S 0 63	W 0 18	0 65	195 69	0 03	175 61M
	340 09	0 22	175 51	340 09	-0 14	S 1 01	W 0 22	1 04	192 30	0 10	195 63M
	434 69	0 34	195 63	434 69	-0 16	S 1 46	W 0 28	1 49	190 91	0 16	195 4M
	529 29	0 26	195 40	529 29	-0 26	S 1 94	W 0 42	1 99	192 06	0 08	232 08M
	623 89	0 14	232 08	623 89	-0 38	S 2 22	W 0 56	2 29	194 24	0 18	300 57M
	718 49	0 24	300 57	718 49	-0 65	S 2 19	W 0 82	2 34	200 64	0 24	315 04M
	813 09	0 37	315 04	813 09	-1 06	S 1 67	W 1 21	2 23	212 89	0 16	322 88M
	907 69	0 52	322 88	907 69	-1 58	S 1 32	W 1 69	2 14	232 05	0 17	326 91M
	1002 29	0 62	326 91	1002 29	-2 17	S 0 54	W 2 22	2 29	256 26	0 11	284 84M
	1096 89	0 63	284 84	1096 89	-3 00	N 0 02	W 3 01	3 01	270 34	0 47	275 49M
	1191 49	0 16	275 49	1191 49	-3 64	N 0 16	W 3 64	3 64	272 58	0 50	335 98M
	1286 09	0 04	335 98	1286 09	-3 79	N 0 21	W 3 79	3 79	273 12	0 15	0 49M
	1380 69	0 18	0 49	1380 69	-3 82	N 0 39	W 3 80	3 82	275 79	0 15	357 52M
	1475 29	0 25	357 52	1475 29	-3 85	N 0 74	W 3 81	3 88	281 01	0 07	349 01M
	1569 89	0 20	349 01	1569 89	-3 92	N 1 11	W 3 85	4 00	286 08	0 06	335 09M
	1664 49	0 21	335 09	1664 49	-4 05	N 1 43	W 3 95	4 20	289 87	0 05	352 6M
	1759 09	0 05	352 60	1759 09	-4 15	N 1 63	W 4 03	4 34	291 98	0 17	2 5M
	1853 69	0 12	2 50	1853 67	-4 16	N 1 77	W 4 03	4 40	293 66	0 08	8 24M
	1948 29	0 30	8 24	1948 26	-4 15	N 2 11	W 3 99	4 51	297 87	0 19	4 14M
	2042 89	0 48	4 14	2042 86	-4 13	N 2 75	W 3 93	4 79	305 01	0 19	345 29M
	2137 49	0 50	345 29	2137 46	-4 27	N 3 54	W 4 00	5 35	311 53	0 17	331 65M
	2232 09	0 26	331 65	2232 06	-4 53	N 4 13	W 4 21	5 90	314 48	0 27	12 1M
	2326 69	0 44	12 10	2326 66	-4 60	N 4 68	W 4 23	6 31	317 84	0 31	1 91M
	2421 29	0 38	1 91	2421 25	-4 56	N 5 35	W 4 15	6 77	322 19	0 10	336 19M
	2515 89	0 23	336 19	2515 85	-4 67	N 5 83	W 4 21	7 20	324 15	0 21	335 89M
	2610 49	0 40	335 89	2610 45	-4 92	N 6 31	W 4 43	7 71	324 94	0 18	337 42M
	2705 09	0 46	337 42	2705 05	-5 25	N 6 96	W 4 71	8 40	325 93	0 06	324 6M
	2799 69	0 43	324 60	2799 64	-5 65	N 7 60	W 5 06	9 13	326 35	0 11	322M
	2894 29	0 46	322 00	2894 24	-6 14	N 8 19	W 5 50	9 86	326 12	0 04	349 56M
	2988 89	0 29	348 56	2988 84	-6 46	N 8 72	W 5 77	10 46	326 50	0 26	17 59M
	3083 49	0 56	17 59	3083 44	-6 41	N 9 40	W 5 68	10 98	328 86	0 35	14 24M
	3178 09	0 56	14 24	3178 03	-6 23	N 10 29	W 5 43	11 63	332 20	0 03	17 72M
	3272 69	0 62	17 72	3272 63	-6 04	N 11 22	W 5 16	12 35	335 33	0 07	15 88M
	3367 29	0 68	15 88	3367 22	-5 81	N 12 25	W 4 85	13 18	338 42	0 07	5 63M
	3461 89	0 84	5 63	3461 81	-5 69	N 13 48	W 4 62	14 25	341 07	0 22	2 04M
	3556 49	0 90	2 04	3556 40	-5 71	N 14 81	W 4 53	15 59	343 10	0 09	359 65M
	3651 09	0 80	359 65	3650 99	-5 81	N 16 40	W 4 51	17 01	344 63	0 04	333 17M
	3745 69	0 63	333 17	3745 58	-6 23	N 17 75	W 4 82	18 40	344 80	0 42	1 13M
	3840 29	0 74	1 13	3840 17	-6 62	N 18 98	W 5 12	19 55	344 90	0 41	351 92M
	3934 89	0 70	351 92	3934 76	-6 79	N 20 16	W 5 19	20 82	345 57	0 13	351 79M
	4029 49	0 65	351 79	4029 36	-7 03	N 21 26	W 5 35	21 92	345 89	0 05	344 17M
	4124 09	0 61	344 17	4123 95	-7 33	N 22 28	W 5 56	22 96	345 98	0 10	350 40M
	4218 69	0 53	350 48	4218 55	-7 61	N 23 19	W 5 77	23 90	346 03	0 11	338 96M
	4313 29	0 48	338 96	4313 14	-7 89	N 23 99	W 5 98	24 73	346 00	0 12	347 27M
	4407 89	0 46	347 27	4407 74	-8 17	N 24 74	W 6 21	25 50	345 91	0 08	338 56M
	4502 49	0 42	338 56	4502 34	-8 44	N 25 43	W 6 42	26 23	345 83	0 08	330 41M
	4597 09	0 40	330 41	4596 94	-8 78	N 26 04	W 6 71	26 89	345 55	0 07	321 2M
	4691 69	0 46	321 20	4691 53	-9 22	N 26 82	W 7 11	27 55	345 04	0 10	319 1M
	4786 29	0 66	319 10	4786 13	-9 87	N 27 33	W 7 71	28 39	344 25	0 21	298 18M
	4880 89	0 65	298 18	4880 72	-10 75	N 27 99	W 8 54	29 27	347 04	0 25	287 54M
	4975 49	0 67	287 54	4975 32	-11 78	N 28 41	W 9 54	29 97	341 45	0 13	284 21M
	5070 09	0 72	284 21	5069 91	-12 91	N 28 73	W 10 54	30 63	339 58	0 07	287 08M
	5164 69	0 89	287 08	5164 50	-14 21	N 29 09	W 11 92	31 44	337 72	0 18	290 13M
	5259 29	1 16	290 13	5259 08	-15 85	N 29 63	W 13 52	32 57	335 48	0 29	291 53M
	5353 89	1 12	291 53	5353 87	-17 66	N 30 30	W 15 28	33 94	333 24	0 05	292 23M
	5448 49	1 03	292 23	5448 25	-19 35	N 30 96	W 16 93	35 29	331 34	0 10	285 84M
	5543 09	0 89	285 84	5542 84	-20 89	N 31 49	W 18 42	36 48	329 67	0 19	294 1M
	5637 69	0 84	294 10	5637 42	-22 26	N 31 97	W 19 76	37 58	328 28	0 14	296 37M
	5732 29	0 79	296 37	5732 02	-23 52	N 32 54	W 20 98	38 72	327 19	0 06	295 22M
	5826 89	0 78	295 22	5826 61	-24 73	N 33 11	W 22 14	39 63	326 22	0 02	294 72M
	5921 49	0 66	294 72	5921 20	-25 84	N 33 61	W 23 22	40 85	325 36	0 13	304 89M
	6016 09	0 61	304 89	6015 79	-26 79	N 34 12	W 24 13	41 79	324 74	0 13	309 18M
	6110 69	0 54	309 18	6110 39	-27 59	N 34 69	W 24 89	42 70	324 35	0 09	313 55M
	6205 29	0 49	313 55	6204 98	-28 27	N 35 25	W 25 53	43 53	324 09	0 07	318 07M
	6299 89	0 62	318 07	6299 58	-28 96	N 35 91	W 26 16	44 43	323 93	0 14	325 21M
	6394 49	0 59	325 21	6394 17	-29 64	N 36 69	W 26 78	45 43	323 68	0 09	327 82M
	6489 09	0 59	322 82	6488 77	-30 27	N 37 48	W 27 35	46 40	323 88	0 03	333 63M
	6583 69	0 37	333 63	6583 37	-30 75	N 38 14	W 27 78	47 19	323 93	0 25	340 55M

Comments	MD (ft)	Incl (°)	Adj. Grid (°)	TVD (ft)	VSFC (ft)	N5 (N/S ft)	EW (E/W ft)	Closure (ft)	Closure Azimuth (°)	D.S. (7100ft)	T F
	6678.29	0.36	340.55	6677.96	-31.04	N 38.71	W 28.02	47.79	324.10	0.05	344.50F
	6772.89	0.47	344.80	6772.56	-31.30	N 39.58	W 28.23	48.46	324.67	0.10	349.37F
	6867.49	0.28	340.37	6867.16	-31.40	N 39.96	W 28.37	49.03	324.84	0.20	354.27F
	6962.09	0.11	344.27	6961.76	-31.51	N 40.31	W 28.50	49.57	324.93	0.23	359.35F
	7056.69	0.07	161.49	7056.36	-31.43	N 39.59	W 28.50	49.25	324.85	0.17	364.43F
	7151.29	0.32	161.23	7150.96	-31.43	N 39.96	W 28.21	49.80	324.91	0.17	369.51F
	7245.89	0.28	210.38	7245.56	-31.85	N 39.37	W 28.79	48.36	325.82	0.30	374.59F
	7340.49	0.36	250.93	7340.16	-31.85	N 39.37	W 28.79	48.36	325.82	0.30	379.67F
	7435.09	0.28	215.36	7434.76	-32.17	N 39.11	W 29.14	48.76	323.82	0.16	384.75F
	7529.69	0.31	197.95	7529.36	-32.35	N 38.60	W 29.34	48.54	322.82	0.16	389.83F
	7624.12	0.23	203.00	7623.79	-32.36	N 38.54	W 29.37	48.46	322.67	0.10	394.91F
	7718.12	0.52	163.15	7717.80	-32.35	N 38.55	W 29.37	48.46	322.55	0.27	399.99F
	7812.60	2.31	116.40	7812.27	-31.72	N 37.94	W 29.97	46.31	322.82	1.25	405.07F
	7907.20	4.65	109.59	7906.87	-28.66	N 37.94	W 29.97	45.86	324.09	7.44	410.15F
	8001.80	6.86	98.84	8001.47	-28.56	N 35.51	W 24.02	43.62	326.56	6.72	415.23F
	8096.40	8.86	98.84	8096.07	-28.56	N 35.51	W 24.02	43.62	326.56	6.72	420.31F
	8191.00	11.27	96.93	8190.67	-17.16	N 34.06	W 19.76	40.72	330.94	7.11	425.39F
	8285.60	13.89	96.93	8285.27	-10.20	N 34.06	W 19.76	40.72	330.94	7.11	430.47F
	8380.20	16.60	96.74	8379.87	-2.05	N 33.10	W 14.41	34.86	347.59	8.19	435.55F
	8474.80	19.22	95.98	8474.47	7.78	N 32.02	E 10.38	33.66	1.05	8.74	1.39F
	8569.40	19.22	95.98	8569.07	19.01	N 30.95	E 21.56	37.72	34.86	8.22	5.66F
	8664.00	21.85	95.00	8663.67	31.22	N 30.05	E 33.74	45.18	50.05	8.96	12.95F
	8758.60	24.57	92.16	8758.27	44.63	N 28.89	E 47.14	55.55	50.05	7.18	4.48F
	8853.20	26.72	91.86	8852.87	59.46	N 28.23	E 61.97	68.37	65.02	5.77	13.72F
	8947.80	30.81	94.03	8947.47	74.80	N 27.11	E 77.31	82.30	69.94	7.46	21.48F
	9042.40	33.10	94.03	9042.07	91.75	N 25.52	E 94.23	98.05	73.95	7.95	29.25F
	9137.00	35.53	96.74	9136.67	105.24	N 23.40	E 111.65	114.53	77.13	7.81	37.02F
	9231.60	38.00	96.74	9231.27	128.50	N 20.97	E 130.80	132.67	79.86	9.50	44.79F
	9326.20	40.34	96.38	9325.87	149.05	N 18.57	E 151.21	152.66	82.10	8.21	52.56F
	9420.80	42.67	96.15	9420.47	169.56	N 16.12	E 172.08	173.08	83.94	7.66	60.33F
	9515.40	44.99	95.86	9515.07	190.04	N 13.60	E 194.48	195.14	86.36	5.74	68.10F
	9610.00	47.49	95.86	9609.67	210.57	N 11.09	E 216.97	217.31	88.78	5.98	75.87F
	9704.60	49.82	95.47	9704.27	231.02	N 9.55	E 240.72	241.01	91.23	6.43	83.64F
	9800.00	51.43	95.47	9799.67	251.57	N 7.92	E 265.56	266.14	93.65	7.13	91.41F
	9895.60	53.83	95.47	9895.27	272.02	N 5.34	E 289.95	290.18	96.07	8.09	99.18F
	9991.20	55.99	95.47	9990.87	292.57	N 2.76	E 314.34	314.37	98.49	9.24	106.95F
	10086.80	58.42	95.47	10086.47	313.02	N 0.18	E 338.73	338.76	100.91	10.40	114.72F
	10182.40	60.85	94.26	10182.07	333.57	N 0.18	E 363.12	363.15	103.33	11.55	122.49F
	10278.00	63.28	94.26	10277.67	354.02	S 2.72	E 387.51	387.54	105.75	12.70	130.26F
	10373.60	65.71	94.26	10373.27	374.47	S 5.28	E 411.90	411.93	108.17	13.85	138.03F
	10469.20	68.14	94.26	10468.87	394.92	S 7.83	E 436.29	436.32	110.59	14.99	145.80F
	10564.80	70.57	94.26	10564.47	415.37	S 10.38	E 460.68	460.71	113.01	16.14	153.57F
	10660.40	73.00	94.26	10660.07	435.82	S 12.93	E 485.07	485.10	115.43	17.29	161.34F
	10756.00	75.43	94.26	10755.67	456.27	S 15.48	E 509.46	509.49	117.85	18.44	169.11F
	10851.60	77.86	94.26	10851.27	476.72	S 18.03	E 533.85	533.88	120.27	19.59	176.88F
	10947.20	80.29	94.26	10946.87	497.17	S 20.58	E 558.24	558.27	122.69	20.74	184.65F
	11042.80	82.72	94.26	11042.47	517.62	S 23.13	E 582.63	582.66	125.11	21.89	192.42F
	11138.40	85.15	94.26	11138.07	538.07	S 25.68	E 607.02	607.05	127.53	23.04	200.19F
	11234.00	87.58	94.26	11233.67	558.52	S 28.23	E 631.41	631.44	130.00	24.19	207.96F
	11329.60	90.01	94.26	11329.27	578.97	S 30.78	E 655.80	655.83	132.42	25.34	215.73F
	11425.20	92.44	94.26	11424.87	599.42	S 33.33	E 680.19	680.22	134.84	26.49	223.50F
	11520.80	94.87	94.26	11520.47	619.87	S 35.88	E 704.58	704.61	137.26	27.64	231.27F
	11616.40	97.30	94.26	11616.07	640.32	S 38.43	E 728.97	729.00	139.68	28.79	239.04F
	11712.00	99.73	94.26	11711.67	660.77	S 40.98	E 753.36	753.39	142.10	29.94	246.81F
	11807.60	102.16	94.26	11807.27	681.22	S 43.53	E 777.75	777.78	144.52	31.09	254.58F
	11903.20	104.59	94.26	11902.87	701.67	S 46.08	E 802.14	802.17	146.94	32.24	262.35F
	12000.00	107.02	94.26	11999.67	722.12	S 48.63	E 826.53	826.56	149.36	33.39	270.12F
	12095.60	109.45	94.26	12095.27	742.57	S 51.18	E 850.92	850.95	151.78	34.54	277.89F
	12191.20	111.88	94.26	12190.87	763.02	S 53.73	E 875.31	875.34	154.20	35.69	285.66F
	12286.80	114.31	94.26	12286.47	783.47	S 56.28	E 899.70	899.73	156.62	36.84	293.43F
	12382.40	116.74	94.26	12382.07	803.92	S 58.83	E 924.09	924.12	159.04	37.99	301.20F
	12478.00	119.17	94.26	12477.67	824.37	S 61.38	E 948.48	948.51	161.46	39.14	308.97F
	12573.60	121.60	94.26	12573.27	844.82	S 63.93	E 972.87	972.90	163.88	40.29	316.74F
	12669.20	124.03	94.26	12668.87	865.27	S 66.48	E 997.26	997.29	166.30	41.44	324.51F
	12764.80	126.46	94.26	12764.47	885.72	S 69.03	E 1021.65	1021.68	168.72	42.59	332.28F
	12860.40	128.89	94.26	12860.07	906.17	S 71.58	E 1046.04	1046.07	171.14	43.74	340.05F
	12956.00	131.32	94.26	12955.67	926.62	S 74.13	E 1070.43	1070.46	173.56	44.89	347.82F
	13051.60	133.75	94.26	13051.27	947.07	S 76.68	E 1094.82	1094.85	175.98	46.04	355.59F
	13147.20	136.18	94.26	13146.87	967.52	S 79.23	E 1119.21	1119.24	178.40	47.19	363.36F
	13242.80	138.61	94.26	13242.47	987.97	S 81.78	E 1143.60	1143.63	180.82	48.34	371.13F
	13338.40	141.04	94.26	13338.07	1008.42	S 84.33	E 1167.99	1168.02	183.24	49.49	378.90F
	13434.00	143.47	94.26	13433.67	1028.87	S 86.88	E 1192.38	1192.41	185.66	50.64	386.67F
	13529.60	145.90	94.26	13529.27	1049.32	S 89.43	E 1216.77	1216.80	188.08	51.79	394.44F
	13625.20	148.33	94.26	13624.87	1069.77	S 91.98	E 1241.16	1241.19	190.50	52.94	402.21F
	13720.80	150.76	94.26	13720.47	1090.22	S 94.53	E 1265.55	1265.58	192.92	54.09	409.98F
	13816.40	153.19	94.26	13816.07	1110.67	S 97.08	E 1289.94	1289.97	195.34	55.24	417.75F
	13912.00	155.62	94.26	13911.67	1131.12	S 99.63	E 1314.33	1314.36	197.76	56.39	425.52F
	14007.60	158.05	94.26	14007.27	1151.57	S 102.18	E 1338.72	1338.75	200.18	57.54	433.29F
	14103.20	160.48	94.26	14102.87	1172.02	S 104.73	E 1363.11	1363.14	202.60	58.69	441.06F
	14198.80	162.91	94.26	14198.47	1192.47	S 107.28	E 1387.50	1387.53	205.02	59.84	448.83F
	14294.40	165.34	94.26	14294.07	1212.92	S 109.83	E 1411.89	1411.92	207.44	60.99	456.60F
	14390.00	167.77	94.26	14389.67	1233.37	S 112.38	E 1436.28	1436.31	209.86	62.14	464.37F
	14485.60	170.20	94.26	14485.27	1253.82	S 114.93	E 1460.67	1460.70	212.28	63.29	472.14F
	14581.20	172.63	94.26	14580.87	1274.27	S 117.48	E 1485.06	1485.09	214.70	64.44	479.91F
	14676.80	175.06	94.26	14676.47	1294.72	S 120.03	E 1509.45	1509.48	217.12	65.59	487.68F
	14772.40	177.49	94.26	14772.07	1315.17	S 122.58	E 1533.84	1533.87	219.54	66.74	495.45F
	14868.00	179.92	94.26	14867.67	1335.62	S 125.13	E 1558.23	1558.26	221.96	67.89	503.22F
	14963.60	182.35	94.26	14963.27	1356.07	S 127.68	E 1582.62	1582.65	224.38	69.04	510.99F
	15059.20	184.78	94.26	15058.87	1376.52	S 130.23	E 1607.01	1607.04	226.80	70.19	518.76F
	15154.80	187.21	94.26	15154.47	1396.97	S 132.78	E 1631.40	1631.43	229.22	71.34	526.53F
	15250.40	189.64	94.26	15250.07	1417.42	S 135.33	E 1655.79	1655.82	231.64	72.49	534.30F
	15346.00	192.07	94.26	15345.67	1437.87	S 137.88	E 1680.18	1680.21	234.06	73.64	542.07F
	15441.60	194.50	94.26	15441.27	1458.32	S 1					

Comments	MD (ft)	Incl (°)	Azim Grid (°)	TVD (ft)	VSEC (ft)	NS (N/S ft)	EW (E/W ft)	Closure (ft)	Closure Azimuth (°)	DLS (°/100ft)	TF (°)
	0 000		25 000		Act Sins	30 000	30 000	SLB_NSG+MSHOT-Depth Only		Original Hole / Chevron Cross Bones 1 29 2H Gyro+MWD from 0ft to Update	
	25 000		7561.120		Act Sins	30 000	30 000	SLB_NSG+MSHOT		Original Hole / Chevron Cross Bones 1 29 2H Gyro+MWD from Original Hole / Chevron Cross	
	7561 120		7622 000		Act Sins	30 000	30 000	SLB_MWD-STD		Bones 1 29 2H Gyro+MWD from Original Hole / Chevron Cross	
	7622 000		8730 000		Act Sins	30 000	30 000	SLB_MWD+DMAG		Bones 1 29 2H Gyro+MWD from Original Hole / Chevron Cross	
	8730 000		12041 000		Act Sins	30 000	30 000	SLB_MWD-STD		Bones 1 29 2H Gyro+MWD from Original Hole / Chevron Cross	

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APR 30 2013
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CHEVRON

Lusk
Lea County, NM
Cross Bones 1 29 #2H
VH - Job #32K10121339

Survey: Gyro

SDI Standard Survey Report

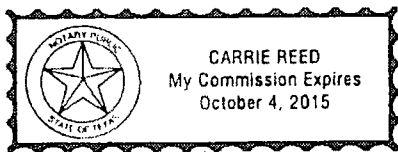
This survey is correct to the best of my knowledge and is supported by actual field data.

K. Lusk

Notarized this date 5th of November, 2012.

Carrie Reed

Notary Signature
County of Midland
State of Texas



Scientific Drilling

Scientific Drilling International, Inc.

SDI Standard Survey Report



Company:	CHEVRON	Local Co-ordinate Reference:	Well Cross Bones 1 29 #2H
Project:	Lusk	TVD Reference:	WELL @ 0.00usft (Original Well Elev)
Site:	Lea County, NM	MD Reference:	WELL @ 0.00usft (Original Well Elev)
Well:	Cross Bones 1 29 #2H	North Reference:	Grid
Wellbore:	VH - Job #32K10121339	Survey Calculation Method:	Minimum Curvature
Design:	VH - Job #32K10121339	Database:	EDM-Regulatory

Project:	Lusk	System Datum:	Mean Sea Level
Map System:	US State Plane 1927 (Exact solution)		
Geo Datum:	NAD 1927 (NADCON CONUS)		
Map Zone:	New Mexico East 3001		

Site:	Lea County, NM				
Site Position:		Northing:	623,417.24 usft	Latitude:	32° 42' 45.767 N
From:	Lat/Long	Easting:	665,752.18 usft	Longitude:	103° 47' 39.959 W
Position Uncertainty:	0.00 usft	Slot Radius:	13-3/16"	Grid Convergence:	0.29°

Well	Cross Bones 1 29 #2H, Directional (Unknown)					
Well Position	+N-S	0.00 usft	Northing:	624,838.11 usft	Latitude:	32° 42' 59.810
	+E-W	0.00 usft	Easting:	666,073.14 usft	Longitude:	103° 47' 36.118
Position Uncertainty	0.00 usft	Wellhead Elevation:	_____ usft	Ground Level:	0.00 usft	

Wellbore:	VH - Job #32K10121339				
Magnetics	Model Name	Sample Date	Declination	Dip Angle	Field Strength
			(°)	(°)	(nT)
	IGRF2010	10/29/12	7.56	60.57	48.777

Design:	VH - Job #32K10121339				
Audit Notes:					
Version:	1.0	Phase:	ACTUAL	Tie On Depth:	0.00
Vertical Section:	Depth From (TVD)	+N-S	+E-W	Direction	
	(usft)	(usft)	(usft)	(°)	
	0.00	0.00	0.00	322.67	

Survey Program	Date	11/15/12			
From	To	Survey (Wellbore)	Tool Name	Description	
(usft)	(usft)				
119.64	7,561.12	Gyro (VH - Job #32K10121339)	Keeper	Keeper Gyro	

Survey								
Measured Depth	Inclination	Azimuth	True Vertical	North/South	East/West	Closure Azimuth	Closure Distance	
(usft)	(°)	(°)	Depth	(usft)	(usft)	(°)	(usft)	
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
119.64	0.14	190.78	119.64	-0.14	-0.03	190.78	0.15	
150.89	0.23	198.98	150.89	-0.24	-0.05	192.86	0.25	
245.49	0.26	196.04	245.49	-0.63	-0.18	195.69	0.65	
340.09	0.22	175.51	340.09	-1.01	-0.22	192.30	1.04	
434.69	0.34	195.63	434.69	-1.46	-0.28	190.91	1.49	
529.29	0.26	195.40	529.29	-1.94	-0.42	192.06	1.99	
623.89	0.14	232.08	623.89	-2.22	-0.56	194.24	2.29	
718.49	0.24	300.57	718.48	-2.19	-0.82	200.64	2.34	
813.09	0.37	315.04	813.08	-1.87	-1.21	212.89	2.23	
907.69	0.52	322.88	907.68	-1.32	-1.69	232.05	2.14	
1,002.29	0.62	326.91	1,002.28	-0.54	-2.22	256.26	2.29	

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SDI Standard Survey Report



Company:	CHEVRON	Local Co-ordinate Reference:	Well Cross Bones 1 29 #2H
Project:	Lusk	TVD Reference:	WELL @ 0.00usft (Original Well Elev)
Site:	Lea County, NM	MD Reference:	WELL @ 0.00usft (Original Well Elev)
Well:	Cross Bones 1 29 #2H	North Reference:	Grid
Wellbore:	VH - Job #32K10121339	Survey Calculation Method:	Minimum Curvature
Design:	VH - Job #32K10121339	Database:	EDM-Regulatory

Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	True Vertical Depth	North/South (usft)	East/West (usft)	Closure Azimuth (°)	Closure Distance (usft)
1,096.89	0.63	284.84	1,096.87	0.02	-3.01	270.34	3.01
1,191.49	0.16	275.49	1,191.47	0.16	-3.64	272.58	3.64
1,286.09	0.04	335.98	1,286.07	0.21	-3.79	273.12	3.79
1,380.69	0.18	0.49	1,380.67	0.39	-3.80	275.79	3.82
1,475.29	0.25	357.52	1,475.27	0.74	-3.81	281.01	3.88
1,569.89	0.20	349.01	1,569.87	1.11	-3.85	286.08	4.00
1,664.49	0.21	335.09	1,664.47	1.43	-3.95	289.87	4.20
1,759.09	0.05	352.60	1,759.07	1.63	-4.03	291.98	4.34
1,853.69	0.12	2.50	1,853.67	1.77	-4.03	293.66	4.40
1,948.29	0.30	8.24	1,948.26	2.11	-3.99	297.87	4.51
2,042.89	0.48	4.14	2,042.86	2.75	-3.93	305.01	4.79
2,137.49	0.50	345.29	2,137.46	3.54	-4.00	311.53	5.35
2,232.09	0.26	331.65	2,232.06	4.13	-4.21	314.48	5.90
2,326.69	0.44	12.10	2,326.66	4.68	-4.23	317.84	6.31
2,421.29	0.38	1.91	2,421.25	5.35	-4.15	322.19	6.77
2,515.89	0.23	336.19	2,515.85	5.83	-4.21	324.15	7.20
2,610.49	0.40	335.89	2,610.45	6.31	-4.43	324.94	7.71
2,705.09	0.46	337.42	2,705.05	6.96	-4.71	325.93	8.40
2,799.69	0.43	324.60	2,799.64	7.60	-5.06	326.35	9.13
2,894.29	0.46	322.00	2,894.24	8.19	-5.50	326.12	9.86
2,988.89	0.29	349.56	2,988.84	8.72	-5.77	326.50	10.46
3,083.49	0.56	17.59	3,083.44	9.40	-5.68	328.86	10.98
3,178.09	0.56	14.24	3,178.03	10.29	-5.43	332.20	11.63
3,272.69	0.62	17.72	3,272.63	11.22	-5.16	335.33	12.35
3,367.29	0.68	15.88	3,367.22	12.25	-4.85	338.42	13.18
3,461.89	0.84	5.63	3,461.81	13.48	-4.62	341.07	14.25
3,556.49	0.90	2.04	3,556.40	14.91	-4.53	343.10	15.59
3,651.09	0.90	359.65	3,650.99	16.40	-4.51	344.63	17.01
3,745.69	0.83	333.17	3,745.58	17.75	-4.82	344.80	18.40
3,840.29	0.74	1.13	3,840.17	18.98	-5.12	344.90	19.65
3,934.89	0.70	351.92	3,934.76	20.16	-5.19	345.57	20.82
4,029.49	0.65	351.79	4,029.36	21.26	-5.35	345.89	21.92
4,124.09	0.61	344.17	4,123.95	22.28	-5.56	345.99	22.96
4,218.69	0.53	350.48	4,218.55	23.19	-5.77	346.03	23.90
4,313.29	0.48	338.96	4,313.14	23.99	-5.98	346.00	24.73
4,407.89	0.46	347.27	4,407.74	24.74	-6.21	345.91	25.50
4,502.49	0.42	338.56	4,502.34	25.43	-6.42	345.83	26.23
4,597.09	0.40	330.41	4,596.94	26.04	-6.71	345.55	26.89
4,691.69	0.46	321.20	4,691.53	26.62	-7.11	345.04	27.55
4,786.29	0.66	319.10	4,786.13	27.33	-7.71	344.25	28.39
4,880.89	0.65	298.18	4,880.72	27.99	-8.54	343.04	29.27
4,975.49	0.67	287.54	4,975.32	28.41	-9.54	341.45	29.97
5,070.09	0.72	284.21	5,069.91	28.73	-10.64	339.68	30.63
5,164.69	0.89	287.08	5,164.50	29.09	-11.92	337.72	31.44

Scientific Drilling International, Inc.
SDI Standard Survey Report



Company:	CHEVRON	Local Co-ordinate Reference:	Well Cross Bones 1 29 #2H
Project:	Lusk	TVD Reference:	WELL @ 0.00usft (Original Well Elev)
Site:	Lea County, NM	MD Reference:	WELL @ 0.00usft (Original Well Elev)
Well:	Cross Bones 1 29 #2H	North Reference:	Grid
Wellbore:	VH - Job #32K10121339	Survey Calculation Method:	Minimum Curvature
Design:	VH - Job #32K10121339	Database:	EDM-Regulatory

Survey							
Measured Depth (usft)	Inclination (°)	Azimuth (°)	True Vertical Depth	North/South (usft)	East/West (usft)	Closure Azimuth (°)	Closure Distance (usft)
5,259.29	1.16	290.13	5,259.08	29.63	-13.52	335.48	32.57
5,353.89	1.12	291.53	5,353.67	30.30	-15.28	333.24	33.94
5,448.49	1.03	292.23	5,448.25	30.96	-16.93	331.34	35.29
5,543.09	0.89	285.84	5,542.84	31.49	-18.42	329.67	36.48
5,637.69	0.84	294.10	5,637.42	31.97	-19.76	328.28	37.58
5,732.29	0.79	296.37	5,732.02	32.54	-20.98	327.19	38.72
5,826.89	0.78	295.22	5,826.61	33.11	-22.14	326.22	39.83
5,921.49	0.66	294.72	5,921.20	33.61	-23.22	325.36	40.85
6,016.09	0.61	304.89	6,015.79	34.12	-24.13	324.74	41.79
6,110.69	0.54	309.18	6,110.39	34.69	-24.89	324.35	42.70
6,205.29	0.49	313.55	6,204.98	35.25	-25.53	324.09	43.53
6,299.89	0.62	318.07	6,299.58	35.91	-26.16	323.93	44.43
6,394.49	0.59	325.21	6,394.17	36.69	-26.78	323.88	45.43
6,489.09	0.59	322.82	6,488.77	37.48	-27.35	323.88	46.40
6,583.69	0.37	333.63	6,583.37	38.14	-27.78	323.93	47.19
6,678.29	0.38	340.55	6,677.96	38.71	-28.02	324.10	47.79
6,772.89	0.47	344.80	6,772.56	39.38	-28.23	324.37	48.46
6,867.49	0.28	349.37	6,867.16	39.99	-28.37	324.64	49.03
6,962.09	0.11	34.27	6,961.76	40.29	-28.37	324.85	49.27
7,056.69	0.07	161.45	7,056.36	40.31	-28.30	324.93	49.25
7,151.29	0.32	187.25	7,150.96	39.99	-28.31	324.70	49.00
7,245.89	0.23	219.46	7,245.56	39.58	-28.47	324.28	48.76
7,340.49	0.26	250.93	7,340.16	39.37	-28.79	323.82	48.77
7,435.09	0.28	215.36	7,434.76	39.11	-29.13	323.32	48.76
7,529.69	0.31	197.95	7,529.35	38.68	-29.34	322.82	48.54
7,561.12	0.23	203.00	7,560.78	38.54	-29.39	322.67	48.46

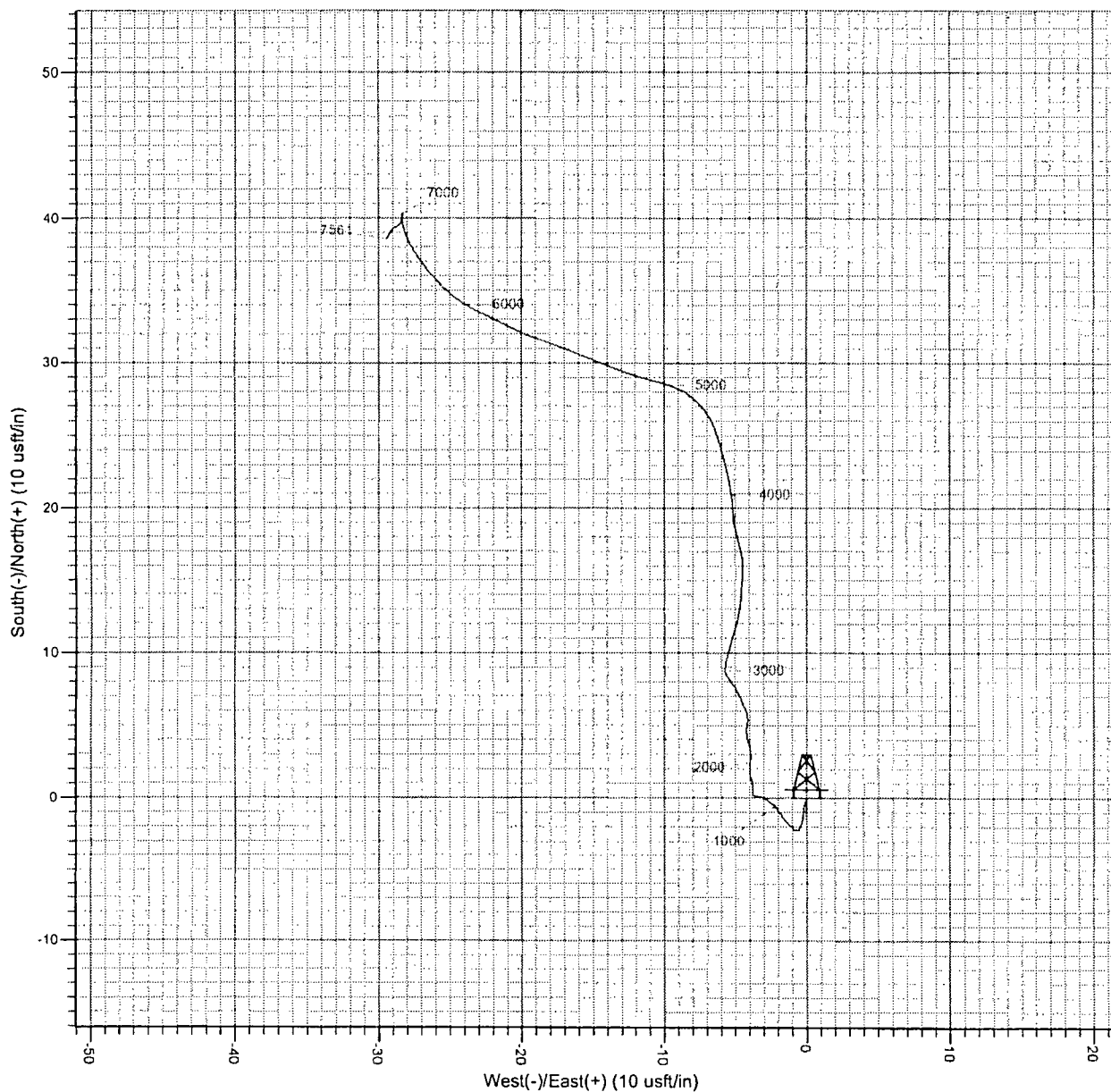


Scientific Drilling

Project: Lusk
Lea County, NM
Well: Cross Bones 1 29 #2H
Wellbore: VH - Job #32K10121339
Design: VH - Job #32K10121339

WELL DETAILS: Cross Bones 1 29 #2H
WELL @ 0.00usft (Original Well Elev)

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Slot
0.00	0.00	624838.11	666073.14	32° 42' 59.810 N	103° 47' 36.118 W	



PROJECT DETAILS: Lusk	SITE DETAILS: Lea County, NM
Geodetic System: US State Plane 1927 (Exact solution)	Site Centre Latitude: 32° 42' 45.767 N
Datum: NAD 1927 (NADCON CONUS)	Longitude: 103° 47' 39.959 W
Ellipsoid: Clarke 1866	Positional Uncertainty: 0.00
Zone: New Mexico East 3001	Convergence: 0.29
System Datum: Mean Sea Level	Local North: Grid