

HOBBS OCD

NOV 16 2012

30-015-40166 RECEIVED

CHEVRON

Culebra Bluff, S.
Eddy County, NM
Heritage 2 15 #1H
VH - Job #32K0612738

RECEIVED

NOV 19 2012

NMOCD ARTESIA

Survey: Gyro

SDI Standard Survey Report

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

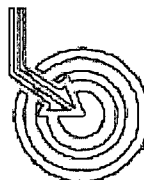
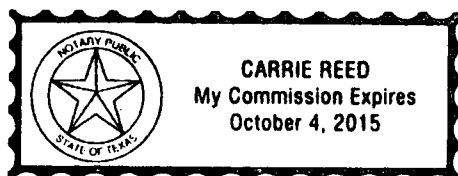
Richard

Notarized this date 18th of July, 2012.

Carrie Reed

Notary Signature
County of Midland
State of Texas

→ Provide tie-in survey to
75' 12332'



Scientific Drilling

Scientific Drilling International, Inc.
SDI Standard Survey Report



Company:	CHEVRON	Local Co-ordinate Reference:	Well Heritage 2 15 #1H
Project:	Culebra Bluff, S.	TVD Reference:	WELL @ 0.00usft (Original Well Elev)
Site:	Eddy County, NM	MD Reference:	WELL @ 0.00usft (Original Well Elev)
Well:	Heritage 2 15 #1H	North Reference:	Grid
Wellbore:	VH - Job #32K0612738	Survey Calculation Method:	Minimum Curvature
Design:	VH - Job #32K0612738	Database:	EDM-Regulatory

Project	Culebra Bluff, S.		
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		Eddy County, NM			
Site Position:		Northing:	464,597.68 usft	Latitude:	32° 16' 37.200 N
From:	Lat/Long	Easting:	584,476.30 usft	Longitude:	104° 3' 36.000 W
Position Uncertainty:	0.00 usft	Slot Radius:	13-3/16"	Grid Convergence:	0.15 °

Well	Heritage 2 15 #1H, Directional (Pathfinder)					
Well Position	+N/-S	0.00 usft	Northing:	472,587.75 usft	Latitude:	32° 17' 56.400 N
	+E/-W	0.00 usft	Easting:	579,203.15 usft	Longitude:	104° 4' 37.200 W
Position Uncertainty		0.00 usft	Wellhead Elevation:	usft	Ground Level:	0.00 usft

Wellbore	VH - Job #32K0612738				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	06/16/12	7.70	60.14	48,531

Design	VH - Job #32K0612738			
Audit Notes:				
Version:	1.0	Phase:	ACTUAL	Tie On Depth: 0.00
Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)
	0.00	0.00	0.00	114.37

Survey Program		Date	07/21/12		
From (usft)	To (usft)	Survey (Wellbore)		Tool Name	Description
100.42	8,448.17	Gyro (VH - Job #32K0612738)		Keeper	Keeper Gyro

Survey							
Measured Depth (usft)	Inclination (°)	Azimuth (°)	True Vertical Depth	North/South (usft)	East/West (usft)	Closure Azimuth (°)	Closure Distance (usft)
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
100.42	0.19	107.20	100.42	-0.05	0.16	107.20	0.17
170.45	0.25	93.60	170.45	-0.09	0.42	102.44	0.43
265.48	0.16	95.55	265.48	-0.12	0.76	98.88	0.77
360.51	0.45	127.82	360.51	-0.36	1.19	106.88	1.24
455.54	0.54	157.53	455.53	-1.00	1.65	121.24	1.93
550.57	0.78	188.29	550.56	-2.06	1.73	139.90	2.69
645.60	1.15	198.30	645.57	-3.60	1.34	159.61	3.84
740.63	1.22	211.98	740.58	-5.37	0.50	174.63	5.39
835.66	1.22	212.13	835.59	-7.08	-0.57	184.60	7.10
930.69	1.05	221.29	930.60	-8.59	-1.68	191.08	8.76
1,025.72	0.91	228.60	1,025.62	-9.75	-2.82	196.15	10.15

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Wellbore:	VH - Job #32K0612738	Survey Calculation Method:	Minimum Curvature
Design:	VH - Job #32K0612738	Database:	EDM-Regulatory

Survey							
Measured Depth (usft)	Inclination (°)	Azimuth (°)	True Vertical Depth	North/South (usft)	East/West (usft)	Closure Azimuth (°)	Closure Distance (usft)
1,119.75	0.75	258.13	1,119.64	-10.37	-3.99	201.03	11.11
1,214.78	1.13	305.70	1,214.66	-9.95	-5.35	208.30	11.30
1,308.81	1.27	309.65	1,308.67	-8.74	-6.91	218.33	11.14
1,403.84	1.16	312.44	1,403.68	-7.42	-8.43	228.65	11.23
1,498.87	1.04	320.86	1,498.69	-6.10	-9.69	237.79	11.45
1,592.90	1.12	338.29	1,592.70	-4.59	-10.56	246.53	11.52
1,687.93	0.98	349.86	1,687.72	-2.92	-11.05	255.18	11.43
1,782.96	0.57	346.56	1,782.74	-1.66	-11.30	261.63	11.42
1,876.99	1.37	105.72	1,876.76	-1.51	-10.33	261.67	10.44
1,971.02	2.74	113.07	1,970.73	-2.70	-7.18	249.40	7.67
2,066.05	2.71	113.14	2,065.65	-4.47	-3.02	214.07	5.40
2,160.08	2.86	111.24	2,159.57	-6.19	1.21	168.98	6.31
2,255.11	3.09	111.03	2,254.47	-7.97	5.81	143.93	9.86
2,350.14	3.24	109.33	2,349.36	-9.78	10.73	132.35	14.52
2,444.17	3.14	107.14	2,443.24	-11.42	15.70	126.03	19.41
2,539.20	2.51	104.22	2,538.15	-12.70	20.20	122.15	23.86
2,634.23	1.76	103.62	2,633.12	-13.55	23.64	119.83	27.25
2,729.26	1.22	110.27	2,728.11	-14.25	26.01	118.71	29.65
2,824.29	1.18	105.69	2,823.12	-14.86	27.90	118.04	31.61
2,919.32	1.09	109.53	2,918.14	-15.43	29.69	117.46	33.46
3,014.35	0.96	115.12	3,013.15	-16.07	31.26	117.20	35.15
3,108.38	0.75	115.36	3,107.17	-16.67	32.53	117.13	36.55
3,203.41	0.64	112.49	3,202.19	-17.14	33.59	117.03	37.70
3,298.44	0.56	112.20	3,297.22	-17.51	34.51	116.91	38.70
3,392.53	0.60	124.21	3,391.30	-17.97	35.34	116.95	39.64
3,487.62	0.42	136.26	3,486.39	-18.50	35.99	117.20	40.47
3,581.71	0.28	139.55	3,580.48	-18.92	36.38	117.48	41.01
3,675.80	0.21	169.00	3,674.57	-19.27	36.56	117.79	41.33
3,769.89	0.13	209.26	3,768.66	-19.53	36.54	118.12	41.43
3,863.98	0.33	257.78	3,862.75	-19.68	36.23	118.51	41.23
3,957.07	0.37	251.16	3,955.83	-19.83	35.68	119.07	40.82
4,050.16	0.53	241.14	4,048.92	-20.14	35.02	119.90	40.39
4,145.25	0.58	225.24	4,144.01	-20.69	34.29	121.10	40.05
4,240.34	0.52	213.05	4,239.09	-21.39	33.71	122.39	39.93
4,334.43	0.52	219.74	4,333.18	-22.07	33.21	123.61	39.88
4,428.52	0.52	212.95	4,427.26	-22.76	32.70	124.84	39.84
4,523.61	0.59	197.77	4,522.35	-23.59	32.32	126.13	40.01
4,617.70	0.52	194.10	4,616.44	-24.46	32.07	127.34	40.33
4,711.79	0.63	195.83	4,710.52	-25.38	31.82	128.57	40.70
4,805.88	0.43	197.75	4,804.61	-26.21	31.57	129.70	41.03
4,899.97	0.40	167.14	4,898.69	-26.87	31.54	130.43	41.43
4,992.06	0.53	154.31	4,990.78	-27.56	31.79	130.92	42.08
5,086.15	0.55	141.14	5,084.87	-28.31	32.27	131.26	42.92
5,180.24	0.61	138.53	5,178.95	-29.03	32.88	131.45	43.87

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Wellbore:	VH - Job #32K0612738	Survey Calculation Method:	Minimum Curvature
Design:	VH - Job #32K0612738	Database:	EDM-Regulatory

Survey							
Measured Depth (usft)	Inclination (°)	Azimuth (°)	True Vertical Depth	North/South (usft)	East/West (usft)	Closure Azimuth (°)	Closure Distance (usft)
5,274.33	0.65	149.77	5,273.04	-29.87	33.48	131.74	44.87
5,367.42	0.79	142.23	5,366.12	-30.83	34.14	132.09	46.00
5,461.51	0.81	140.93	5,460.20	-31.86	34.96	132.35	47.30
5,555.60	0.84	151.34	5,554.28	-32.99	35.71	132.73	48.61
5,648.66	0.87	159.97	5,647.33	-34.25	36.28	133.35	49.89
5,742.72	0.84	156.71	5,741.38	-35.55	36.79	134.02	51.16
5,836.78	0.86	163.99	5,835.43	-36.86	37.26	134.69	52.41
5,930.84	0.97	164.11	5,929.48	-38.31	37.67	135.48	53.73
6,025.90	1.14	159.45	6,024.52	-39.97	38.23	136.28	55.30
6,118.96	1.32	154.30	6,117.56	-41.80	39.02	136.97	57.18
6,214.02	1.41	148.49	6,212.59	-43.78	40.10	137.51	59.37
6,309.08	1.36	141.66	6,307.62	-45.67	41.41	137.80	61.65
6,403.14	1.05	138.41	6,401.66	-47.19	42.68	137.87	63.62
6,497.20	1.12	128.62	6,495.71	-48.40	43.97	137.75	65.39
6,592.26	1.45	106.17	6,590.74	-49.32	45.85	137.09	67.34
6,686.32	2.21	89.84	6,684.76	-49.65	48.81	135.49	69.62
6,780.38	2.19	73.72	6,778.75	-49.14	52.34	133.19	71.79
6,874.44	3.44	68.64	6,872.69	-47.60	56.70	130.02	74.03
6,969.50	3.45	76.86	6,967.58	-45.92	62.14	126.46	77.26
7,063.56	3.16	94.05	7,061.49	-45.46	67.48	123.96	81.36
7,157.62	3.73	96.92	7,155.38	-46.01	73.10	122.18	86.38
7,250.68	3.34	98.44	7,248.26	-46.77	78.79	120.69	91.63
7,343.74	2.70	100.87	7,341.19	-47.58	83.62	119.64	96.21
7,437.80	1.84	96.11	7,435.17	-48.16	87.30	118.88	99.70
7,530.86	1.78	84.66	7,528.19	-48.18	90.23	118.10	102.29
7,623.92	2.22	84.04	7,621.19	-47.86	93.46	117.12	105.00
7,716.98	2.33	95.05	7,714.18	-47.84	97.14	116.22	108.28
7,812.04	1.43	94.54	7,809.19	-48.11	100.24	115.64	111.19
7,907.10	1.04	103.45	7,904.22	-48.40	102.26	115.33	113.14
8,001.16	1.52	91.41	7,998.26	-48.63	104.34	114.99	115.12
8,095.22	1.95	107.15	8,092.28	-49.13	107.12	114.64	117.85
8,189.28	1.56	101.27	8,186.29	-49.85	109.90	114.40	120.68
8,283.34	0.87	111.33	8,280.33	-50.36	111.82	114.25	122.64
8,377.40	0.35	298.25	8,374.39	-50.49	112.24	114.22	123.07
8,448.17	0.57	218.56	8,445.16	-50.66	111.83	114.37	122.77

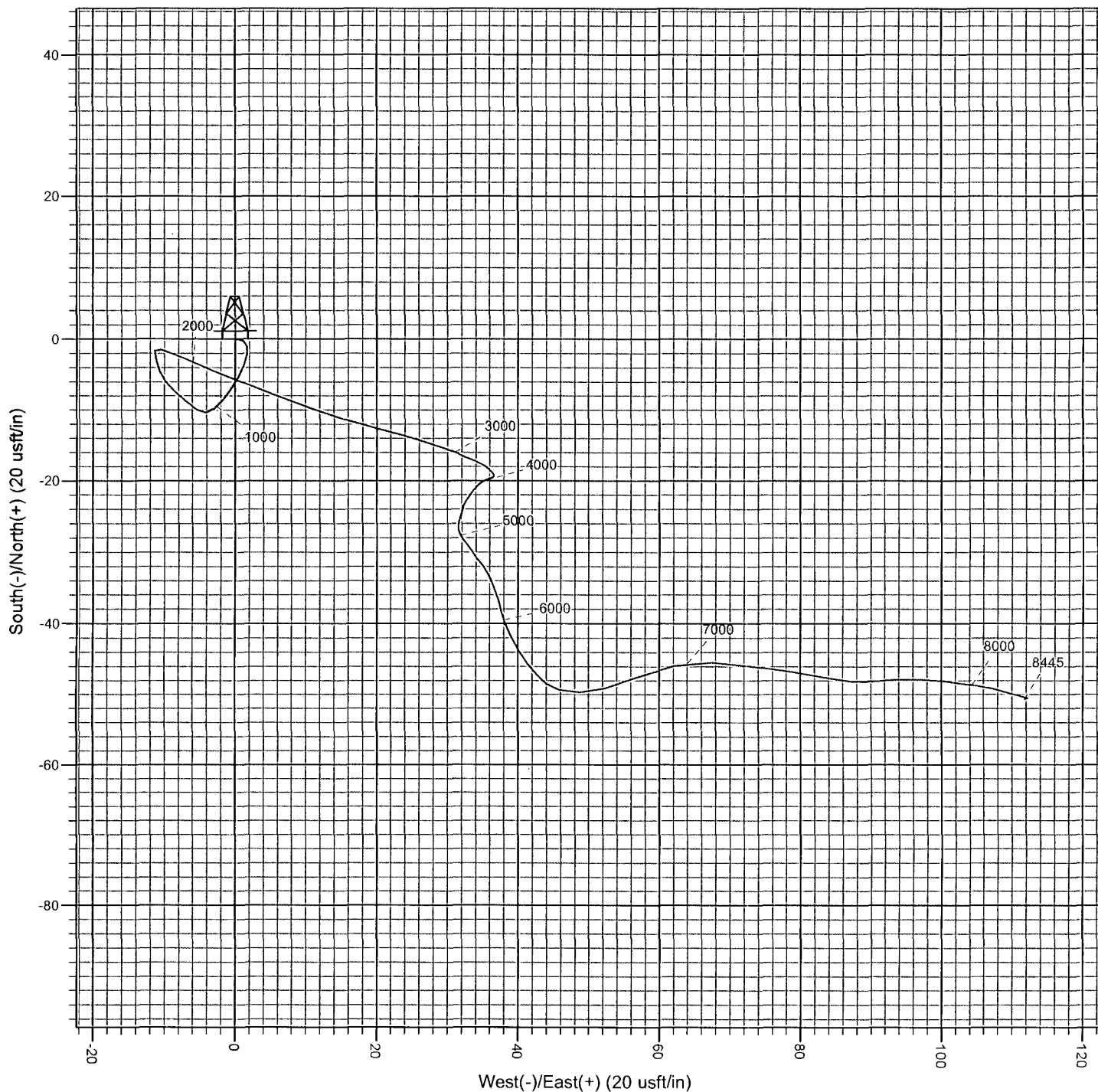


Scientific Drilling

Project: Culebra Bluff, S.
Eddy County, NM
Well: Heritage 2 15 #1H
Wellbore: VH - Job #32K0612738
Design: VH - Job #32K0612738

WELL DETAILS: Heritage 2 15 #1H
WELL @ 0.00usft (Original Well Elev)
Ground Level: 0.00

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Slot
0.00	0.00	472587.75	579203.15	32° 17' 56.400 N	104° 4' 37.200 W	



PROJECT DETAILS: Culebra Bluff, S.	SITE DETAILS: Eddy County, NM
Geodetic System: US State Plane 1927 (Exact solution)	Site Centre Latitude: 32° 16' 37.200 N
Datum: NAD 1927 (NADCON CONUS)	Longitude: 104° 3' 36.000 W
Ellipsoid: Clarke 1866	Positional Uncertainty: 0.00
Zone: New Mexico East 3001	Convergence: 0.15
System Datum: Mean Sea Level	Local North: Grid