

HOBBS OCD

MAY 22 2013

RECEIVED

CHEVRON

Vacuum Grayburg San Andres
Lea County, NM
Central Vacuum Unit #273
VH - Job #32K11121369

Survey: Gyro

SDI Standard Survey Report

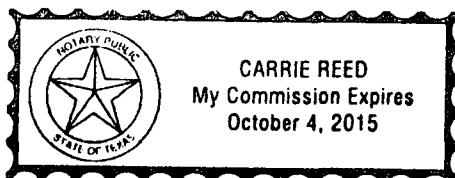
This survey is correct to the best of my knowledge and is supported by actual field data.

[Signature]

Notarized this date 5th of December, 2012.

[Signature]

Notary Signature
County of Midland
State of Texas



OCT 07 2013

Scientific Drilling International, Inc.
SDI Standard Survey Report



Company:	CHEVRON	Local Co-ordinate Reference:	Well Central Vacuum Unit #273
Project:	Vacuum Grayburg San Andres	TVD Reference:	WELL @ 0.00usft (Original Well Elev)
Site:	Lea County, NM	MD Reference:	WELL @ 0.00usft (Original Well Elev)
Well:	Central Vacuum Unit #273	North Reference:	True
Wellbore:	VH - Job #32K11121369	Survey Calculation Method:	Minimum Curvature
Design:	VH - Job #32K11121369	Database:	EDM-Regulatory

Project	Vacuum Grayburg San Andres		
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	Lea County, NM		
Site Position:		Northing:	656,116.37 usft
From:	Lat/Long	Easting:	755,139.93 usft
Position Uncertainty:	0.00 usft	Slot Radius:	0"
		Latitude:	32° 48' 3.600 N
		Longitude:	103° 30' 10.800 W
		Grid Convergence:	0.45 °

Well	Central Vacuum Unit #273, Vertical		
Well Position	+N/-S	0.00 usft	Northing: 652,921.69 usft
	+E/-W	0.00 usft	Easting: 754,098.26 usft
Position Uncertainty	0.00 usft	Wellhead Elevation:	usft
		Latitude:	32° 47' 32.071 N
		Longitude:	103° 30' 23.296 W
		Ground Level:	0.00 usft

Wellbore	VH - Job #32K11121369				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	11/06/12	7.43	60.69	48,852

Design	VH - Job #32K11121369			
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	353.14

Survey Program	Date	11/25/12			
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description	
124.33	3,133.16	Gyro (VH - Job #32K11121369)	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
124.33	0.19	322.28	124.33	0.16	-0.13	322.28	0.21
216.18	0.32	245.50	216.18	0.18	-0.45	291.37	0.49
309.37	0.59	237.72	309.37	-0.19	-1.10	260.31	1.11
399.09	0.50	251.56	399.08	-0.56	-1.86	253.29	1.94
495.03	0.61	256.87	495.02	-0.81	-2.75	253.67	2.87
585.64	0.58	251.48	585.62	-1.06	-3.66	253.81	3.81
677.60	0.62	245.97	677.58	-1.41	-4.55	252.77	4.77
769.56	0.64	238.67	769.53	-1.88	-5.44	250.94	5.76
861.36	0.55	244.14	861.33	-2.34	-6.28	249.56	6.70
967.72	0.54	262.42	967.68	-2.63	-7.24	250.03	7.70
1,057.94	0.72	267.51	1,057.90	-2.71	-8.22	251.76	8.66

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Site:	Lea County, NM	MD Reference:	WELL @ 0.00usft (Original Well Elev)
Well:	Central Vacuum Unit #273	North Reference:	True
Wellbore:	VH - Job #32K11121369	Survey Calculation Method:	Minimum Curvature
Design:	VH - Job #32K11121369	Database:	EDM-Regulatory

Survey							
Measured Depth (usft)	Inclination (°)	Azimuth (°)	True Vertical Depth	North/South (usft)	East/West (usft)	Closure Azimuth (°)	Closure Distance (usft)
1,148.16	0.65	262.49	1,148.11	-2.80	-9.30	253.23	9.71
1,238.38	0.68	255.53	1,238.32	-3.00	-10.32	253.79	10.75
1,328.60	0.58	259.39	1,328.54	-3.22	-11.29	254.08	11.74
1,418.82	0.35	257.83	1,418.76	-3.36	-12.01	254.36	12.47
1,509.04	0.38	277.82	1,508.97	-3.38	-12.57	254.96	13.02
1,599.26	0.32	303.37	1,599.19	-3.20	-13.08	256.25	13.47
1,689.80	0.23	280.45	1,689.73	-3.03	-13.47	257.33	13.81
1,779.98	0.06	235.77	1,779.91	-3.02	-13.69	257.55	14.02
1,870.16	0.08	199.38	1,870.09	-3.11	-13.75	257.26	14.09
1,960.34	0.06	55.79	1,960.27	-3.14	-13.73	257.12	14.08
2,050.52	0.32	36.59	2,050.45	-2.91	-13.54	257.86	13.85
2,140.70	0.40	49.64	2,140.63	-2.51	-13.15	259.21	13.39
2,230.96	0.57	47.36	2,230.89	-2.00	-12.58	260.98	12.74
2,321.24	0.90	41.61	2,321.16	-1.16	-11.78	264.36	11.84
2,411.43	1.05	45.04	2,411.33	-0.05	-10.72	269.74	10.72
2,501.62	1.25	41.53	2,501.51	1.27	-9.49	277.63	9.57
2,591.81	1.58	42.24	2,591.67	2.93	-8.00	290.10	8.52
2,681.87	1.48	42.13	2,681.70	4.71	-6.38	306.42	7.93
2,772.09	1.27	45.02	2,771.89	6.28	-4.89	322.07	7.96
2,862.31	0.98	50.25	2,862.09	7.48	-3.59	334.33	8.30
2,952.65	0.73	54.84	2,952.42	8.31	-2.53	343.06	8.68
3,042.90	0.56	46.61	3,042.67	8.94	-1.74	348.99	9.11
3,133.16	0.44	54.56	3,132.92	9.44	-1.14	353.14	9.51

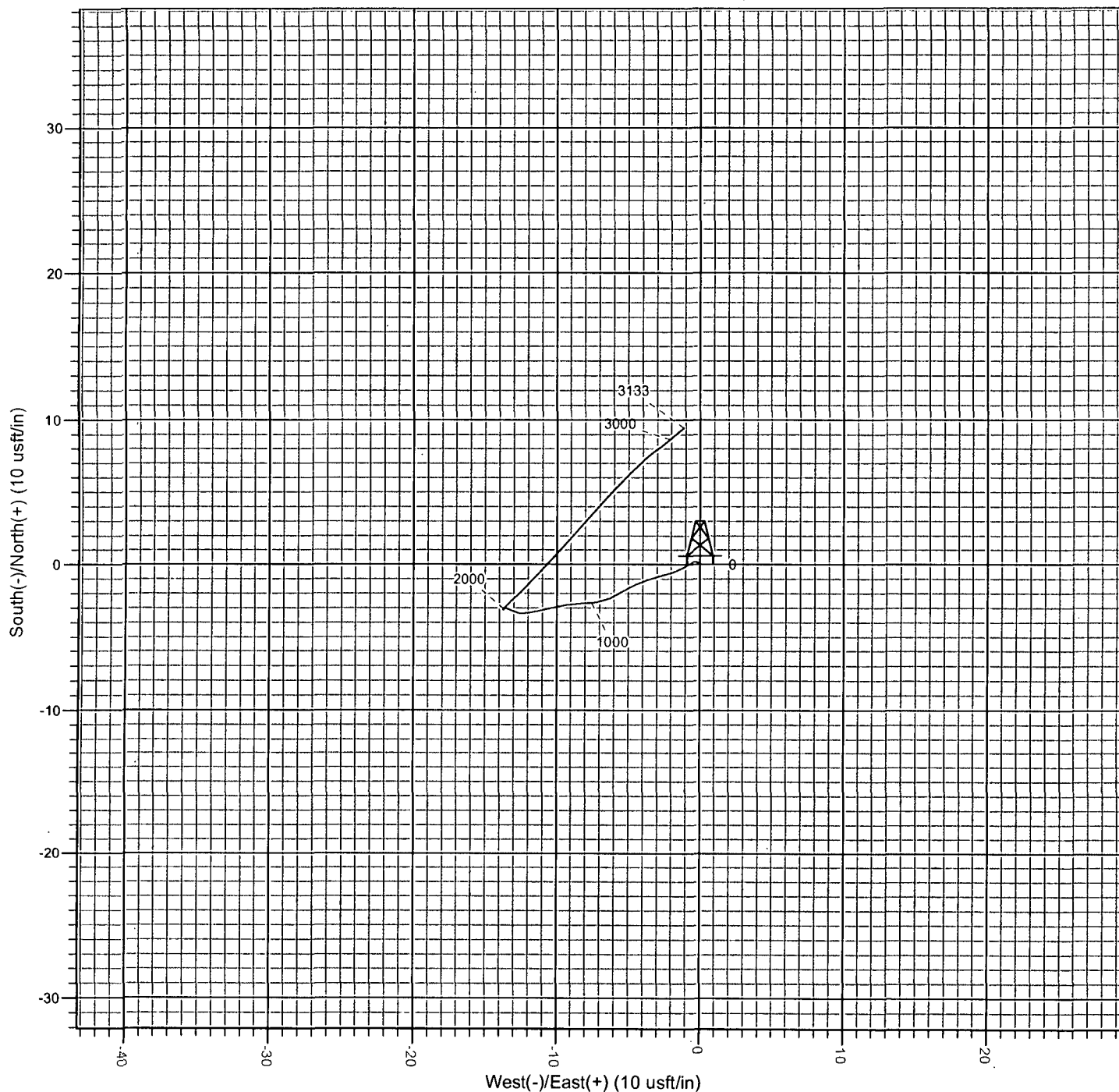


Scientific Drilling

Project: Vacuum Grayburg San Andres
Lea County, NM
Well: Central Vacuum Unit #273
Wellbore: VH - Job #32K11121369
Design: VH - Job #32K11121369

WELL DETAILS: Central Vacuum Unit #273
WELL @ 0.00usft (Original Well Elev)
Ground Level: 0.00

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Slot
0.00	0.00	652921.69	754098.26	32° 47' 32.071 N	103° 30' 23.296 W	



PROJECT DETAILS: Vacuum Grayburg San Andres	SITE DETAILS: Lea County, NM
Geodetic System: US State Plane 1927 (Exact solution)	Site Centre Latitude: 32° 48' 3.600 N
Datum: NAD 1927 (NADCON CONUS)	Longitude: 103° 30' 10.800 W
Ellipsoid: Clarke 1866	Positional Uncertainty: 0.00
Zone: New Mexico East 3001	Convergence: 0.45
System Datum: Mean Sea Level	Local North: True