

HOBBS OCD
AUG 10 2013
RECEIVED

CHEVRON

Vacuum Grayburg San Andres
Lea County, NM
Central Vacuum Unit #366
VH - Job #32K12121559

30-025-40470

Survey: Gyro

SDI Standard Survey Report

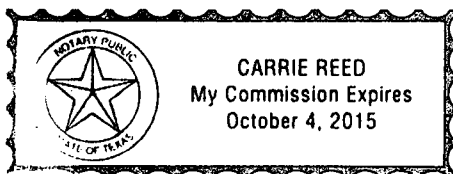
This survey is correct to the best of my knowledge and is supported by actual field data.

[Signature]

Notarized this date 15th of January, 2013.

[Signature]

Notary Signature
County of Midland
State of Texas



SEP 09 2013

Scientific Drilling International, Inc.
SDI Standard Survey Report



Company:	CHEVRON	Local Co-ordinate Reference:	Well Central Vacuum Unit #366
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 #366	North Reference:	True
Wellbore:	VH - Job #32K12121559	Survey Calculation Method:	Minimum Curvature
Design:	VH - Job #32K12121559	Database:	EDM-Regulatory

AUG 10 2013

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		

RECEIVED

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 #366, Directional (SDI)		
Well Position	+N/-S	0.00 usft	Northing: 653,407.36 usft
	+E/-W	0.00 usft	Easting: 753,718.30 usft
Position Uncertainty	0.00 usft	Wellhead Elevation:	usft
		Latitude:	32° 47' 36.906 N
		Longitude:	103° 30' 27.702 W
		Ground Level:	0.00 usft

Wellbore	VH - Job #32K12121559		
Magnetics	Model Name	Sample Date	Declination (°)
	IGRF2010	12/29/12	7.41
			Dip Angle (°)
			60.69
			Field Strength (nT)
			48,838

Design	VH - Job #32K12121559		
Audit Notes:			
Version:	1.0	Phase:	ACTUAL
		Tie On Depth:	0.00
Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)
	0.00	0.00	0.00
		Direction (°)	135.98

Survey Program	Date 01/13/13		
From (usft)	To (usft)	Survey (Wellbore)	Tool Name
103.06	3,150.00	Gyro (VH - Job #32K12121559)	Keeper
			Description
			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	0.00
103.06	0.26	250.85	103.06	-0.08	-0.22	250.85	0.23	
193.28	0.30	245.30	193.28	-0.24	-0.63	248.91	0.67	
283.50	0.26	255.54	283.50	-0.39	-1.04	249.36	1.11	
373.72	0.31	265.82	373.72	-0.46	-1.48	252.73	1.55	
463.94	0.35	246.11	463.93	-0.59	-1.98	253.38	2.06	
554.16	0.40	235.67	554.15	-0.88	-2.49	250.54	2.64	
644.38	0.33	211.13	644.37	-1.28	-2.89	246.08	3.16	
734.60	0.28	167.14	734.59	-1.72	-2.97	239.97	3.43	
824.82	0.38	169.45	824.81	-2.23	-2.87	232.17	3.63	
915.04	0.57	173.28	915.03	-2.97	-2.76	222.93	4.05	
1,005.26	0.60	186.20	1,005.24	-3.88	-2.76	215.39	4.76	

Scientific Drilling International, Inc.
SDI Standard Survey Report



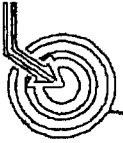
Company:	CHEVRON	Local Co-ordinate Reference:	Well Central Vacuum Unit #366
Project:	Vacuum Grayburg San Andres	TVD Reference:	WELL @ 0.00usft (Original Well Elev)
Site:	Lea County, NM	MD Reference:	WELL @ 0.00usft (Original Well Elev)
Well:	Central Vacuum Unit #366	North Reference:	True
Wellbore:	VH - Job #32K12121559	Survey Calculation Method:	Minimum Curvature
Design:	VH - Job #32K12121559	Database:	EDM-Regulatory

Survey							
Measured Depth (usft)	Inclination (°)	Azimuth (°)	True Vertical Depth	North/South (usft)	East/West (usft)	Closure Azimuth (°)	Closure Distance (usft)
1,095.48	0.76	193.26	1,095.45	-4.93	-2.95	210.84	5.75
1,185.70	0.69	203.17	1,185.67	-6.02	-3.30	208.73	6.86
1,275.92	0.63	199.91	1,275.88	-6.98	-3.68	207.79	7.89
1,366.14	0.54	220.05	1,366.10	-7.77	-4.12	207.94	8.80
1,456.36	0.57	208.23	1,456.31	-8.49	-4.61	208.48	9.66
1,546.58	0.64	221.19	1,546.53	-9.27	-5.15	209.07	10.60
1,636.80	0.48	216.79	1,636.74	-9.95	-5.71	209.85	11.47
1,727.02	0.54	231.92	1,726.96	-10.51	-6.27	210.81	12.24
1,817.24	0.23	212.92	1,817.18	-10.93	-6.70	211.53	12.82
1,907.46	0.12	181.16	1,907.40	-11.18	-6.80	211.34	13.08
1,997.68	0.09	133.33	1,997.62	-11.32	-6.75	210.83	13.18
2,087.90	0.11	109.79	2,087.84	-11.40	-6.62	210.16	13.18
2,178.12	0.25	74.53	2,178.06	-11.37	-6.35	209.18	13.03
2,268.34	0.33	96.20	2,268.28	-11.35	-5.90	207.48	12.79
2,358.56	0.35	102.92	2,358.49	-11.44	-5.38	205.17	12.64
2,448.78	0.49	58.79	2,448.71	-11.30	-4.78	202.92	12.27
2,539.00	0.89	52.62	2,538.92	-10.67	-3.89	200.02	11.36
2,629.22	1.25	59.00	2,629.13	-9.74	-2.49	194.34	10.06
2,719.44	1.27	45.75	2,719.33	-8.54	-0.93	186.22	8.59
2,809.00	1.06	43.63	2,808.87	-7.25	0.35	177.22	7.25
2,900.06	0.89	43.33	2,899.92	-6.12	1.42	166.95	6.28
2,990.13	0.71	39.46	2,989.98	-5.18	2.25	156.50	5.65
3,080.20	0.61	34.77	3,080.04	-4.36	2.88	146.53	5.22
3,150.00	0.54	20.68	3,149.84	-3.74	3.21	139.40	4.93

HOBBS OCD

AUG 10 2013

RECEIVED



Scientific Drilling

Project: Vacuum Grayburg San Andres
Lea County, NM
Well: Central Vacuum Unit #366
Wellbore: VH - Job #32K12121559
Design: VH - Job #32K12121559

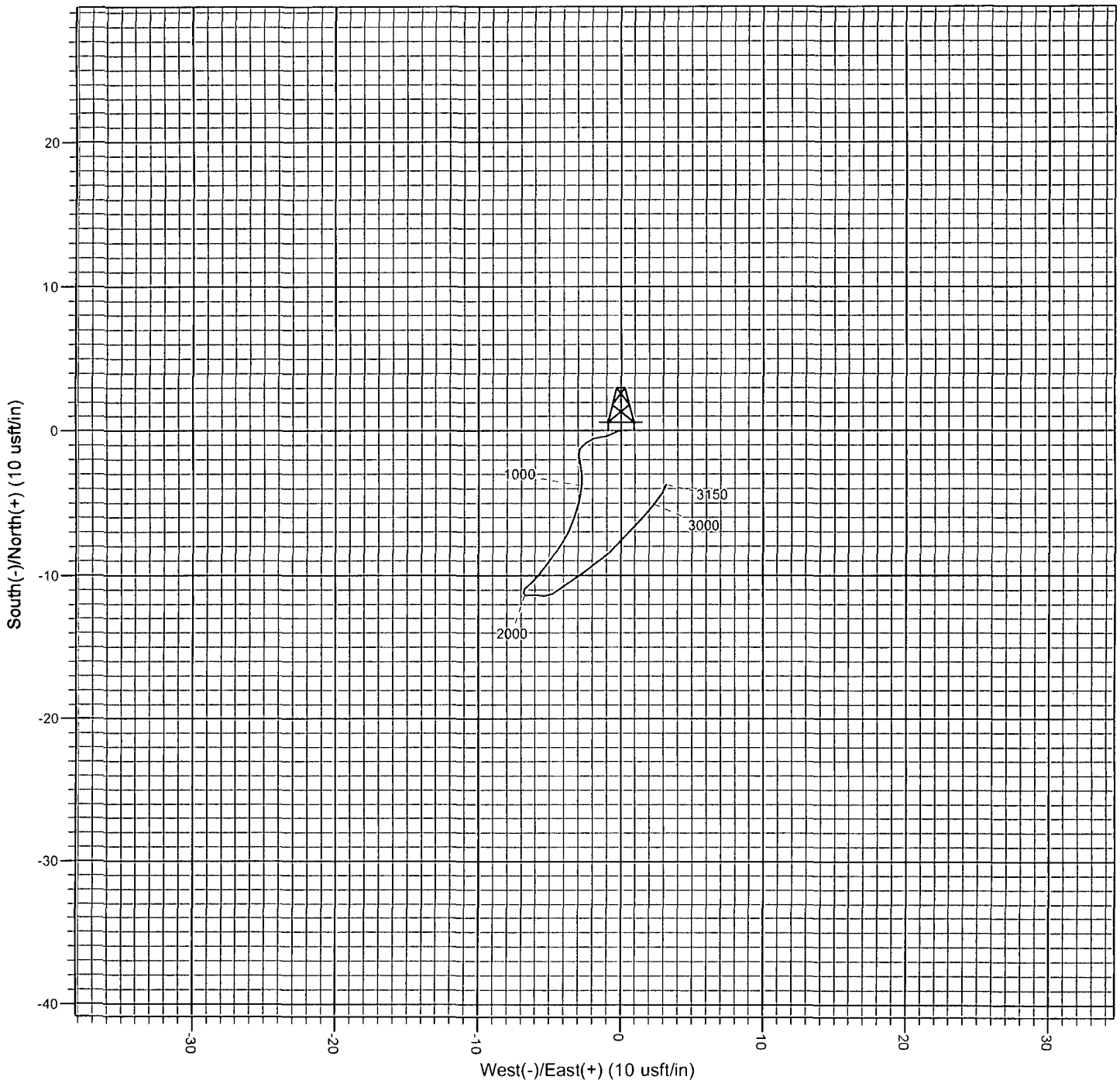
HOBBS OCD

AUG 1 0 2013

WELL DETAILS: Central Vacuum Unit #366
WELL @ 0.00usft (Original Well Elev)

RECEIVED

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Slot
0.00	0.00	653407.36	753718.30	32° 47' 36.906 N	103° 30' 27.702 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