

Results of Directional Survey

API number:	30-025-41356	DD
OGRID:		Operator: CHEVRON U S A INC
	Property:	CENTRAL VACUUM UNIT # 211

surface	ULSTR:	L	06	T 18S	R 35E
				1930 FSL	645 FWL

BH Loc	ULSTR:	L	06	T 18S	R 35E
5226	MD	5085.2	TVD	2243 FSL	1169 FWL

Top Perf/OH	ULSTR:	L	06	T 18S	R 35E
4386	MD	4268.7	TVD	2156 FSL	1035 FWL

Bot Perf/OH	ULSTR:	L	06	T 18S	R 35E
4870	MD	4730.0	TVD	2227 FSL	1157 FWL

	MD	N/S	E/W	VD
	4373	223.40	385.60	4256.7
TOP PERFS/OH	4386	226.00	389.83	4268.72
	4463	241.40	414.90	4339.90
	4843	295.10	508.80	4703.30
BOT PERFS/OH	4870	297.02	512.22	4730.00
	4888	298.30	514.50	4747.80

NEXT TO LAST	5113	308.90	522.70	4972.30
LAST READING	5226	313.00	524.40	5085.20
TD	5226	313.00	524.40	5085.20

Surface Location	1930	FS	645	FW
Projected BHL	2243	FS	1169	FW
Location of				
Top Perfs/OH	2156	FS	1035	FW
Bottom Perfs/OH	2227	FS	1157	FW

SUMMARY of Subsurface Locations

Surface Location	L-06-18S-35E	1930	FS	645	FW	Vert. Depth
Top Perfs/OH	L-06-18S-35E	2156	FS	1035	FW	4268.72
Bottom Perfs/OH	L-06-18S-35E	2227	FS	1157	FW	4730.00
Projected TD	L-06-18S-35E	2243	FS	1169	FW	5085.20

DEC 30 2013

HOBBS OCD

DEC 23 2013

RECEIVED

CHEVRON

Vacuum Grayburg San Andres
Lea County, NM (Grid North)
CVU #211
VH - Job #321013-K-1097

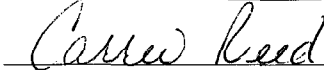
Survey: drop Gyro

SDI Survey Report

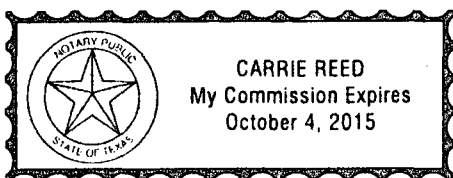
This survey is correct to the best of my knowledge and is supported by actual field data.



Notarized this date 28th of October, 2013.



Notary Signature
County of Midland
State of Texas



SDI
SDI Survey Report

Company:	CHEVRON	Local Co-ordinate Reference:	Well CVU #211
Project:	Vacuum Grayburg San Andres	TVD Reference:	WELL @ 0.0usft (Original Well Elev)
Site:	Lea County, NM (Grid North)	MD Reference:	WELL @ 0.0usft (Original Well Elev)
Well:	CVU #211	North Reference:	True
Wellbore:	VH - Job #321013-K-1097	Survey Calculation Method:	Minimum Curvature
Design:	VH - Job #321013-K-1097	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 (Grid North)		
Site Position:		Northing:	656,116.35 usft
From:	Lat/Long	Easting:	755,139.93 usft
Position Uncertainty:	0.0 usft	Slot Radius:	0"
		Latitude:	32° 48' 3.600 N
		Longitude:	103° 30' 10.800 W
		Grid Convergence:	0.45 °

Well	CVU #211, Directional		
Well Position	+N-S'	0.0 usft	Northing: 646,616.19 usft
	+E-W	0.0 usft	Easting: 755,286.42 usft
Position Uncertainty	0.0 usft	Wellhead Elevation:	usft
		Latitude:	32° 46' 29.590 N
		Longitude:	103° 30' 9.958 W
		Ground Level:	0.0 usft

Wellbore	VH - Job #321013-K-1097				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	10/16/2013	7.31	60.65	48,747

Design	VH - Job #321013-K-1097			
Audit Notes:				
Version:	1.0	Phase:	ACTUAL	Tie On Depth: 0.0
Vertical Section:	Depth From (TVD)	+N-S (usft)	+E-W (usft)	Direction (°)
	0.0	0.0	0.0	59.75

Survey Program	Date	10/27/2013		
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description
100.0	3,024.0	drop Gyro (VH - Job #321013-K-1097)	Keeper	Keeper Gyro

Survey								
MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	N/S (usft)	E/W (usft)	Closure Azimuth (°)	Closure Distance (usft)	
0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.0	
100.0	0.20	142.40	100.0	-0.1	0.1	142.40	0.2	
200.0	0.19	155.18	200.0	-0.4	0.3	146.51	0.5	
300.0	0.45	193.32	300.0	-1.0	0.3	164.75	1.0	
400.0	0.61	211.14	400.0	-1.8	-0.1	183.31	1.8	
500.0	0.81	206.73	500.0	-2.9	-0.7	193.59	3.0	
600.0	1.15	205.05	600.0	-4.4	-1.4	198.03	4.7	
700.0	1.94	207.87	699.9	-6.8	-2.7	201.25	7.3	
800.0	2.95	205.78	799.8	-10.6	-4.6	203.22	11.6	
900.0	3.99	204.82	899.7	-16.1	-7.1	203.91	17.6	
1,000.0	4.89	206.00	999.4	-23.1	-10.5	204.39	25.4	
1,100.0	4.39	206.04	1,099.0	-30.4	-14.0	204.78	33.5	

SDI
SDI Survey Report

Company:	CHEVRON	Local Co-ordinate Reference:	Well CVU #211
Project:	Vacuum Grayburg San Andres	TVD Reference:	WELL @ 0.0usft (Original Well Elev)
Site:	Lea County, NM (Grid North)	MD Reference:	WELL @ 0.0usft (Original Well Elev)
Well:	CVU #211	North Reference:	True
Wellbore:	VH - Job #321013-K-1097	Survey Calculation Method:	Minimum Curvature
Design:	VH - Job #321013-K-1097	Database:	EDM-Regulatory

Survey								
MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	N/S (usft)	E/W (usft)	Closure Azimuth (°)	Closure Distance (usft)	
1,200.0	4.00	208.67	1,198.8	-36.9	-17.4	205.23	40.8	
1,300.0	3.31	207.28	1,298.6	-42.5	-20.4	205.61	47.1	
1,400.0	2.78	209.35	1,398.4	-47.2	-22.9	205.88	52.4	
1,500.0	2.42	207.21	1,498.3	-51.2	-25.0	206.07	57.0	
1,600.0	1.79	206.68	1,598.2	-54.4	-26.7	206.13	60.6	
1,700.0	1.41	209.52	1,698.2	-56.9	-28.0	206.21	63.4	
1,800.0	0.95	202.94	1,798.2	-58.7	-28.9	206.23	65.5	
1,900.0	1.01	194.86	1,898.2	-60.4	-29.5	206.04	67.2	
2,000.0	0.86	190.65	1,998.2	-62.0	-29.9	205.73	68.8	
2,100.0	0.76	186.81	2,098.1	-63.3	-30.1	205.40	70.1	
2,200.0	0.46	175.11	2,198.1	-64.4	-30.1	205.06	71.1	
2,300.0	0.66	107.77	2,298.1	-65.0	-29.5	204.44	71.4	
2,400.0	0.98	93.96	2,398.1	-65.2	-28.1	203.34	71.0	
2,500.0	1.23	74.66	2,498.1	-65.0	-26.2	201.99	70.1	
2,600.0	1.66	65.70	2,598.1	-64.1	-23.9	200.44	68.4	
2,700.0	1.75	60.01	2,698.0	-62.8	-21.2	198.71	66.3	
2,800.0	1.57	60.32	2,798.0	-61.3	-18.7	196.99	64.1	
2,900.0	1.53	57.09	2,898.0	-59.9	-16.4	195.33	62.1	
3,000.0	1.56	54.26	2,997.9	-58.4	-14.2	193.67	60.1	
3,024.0	1.31	40.58	3,021.9	-58.0	-13.8	193.34	59.6	

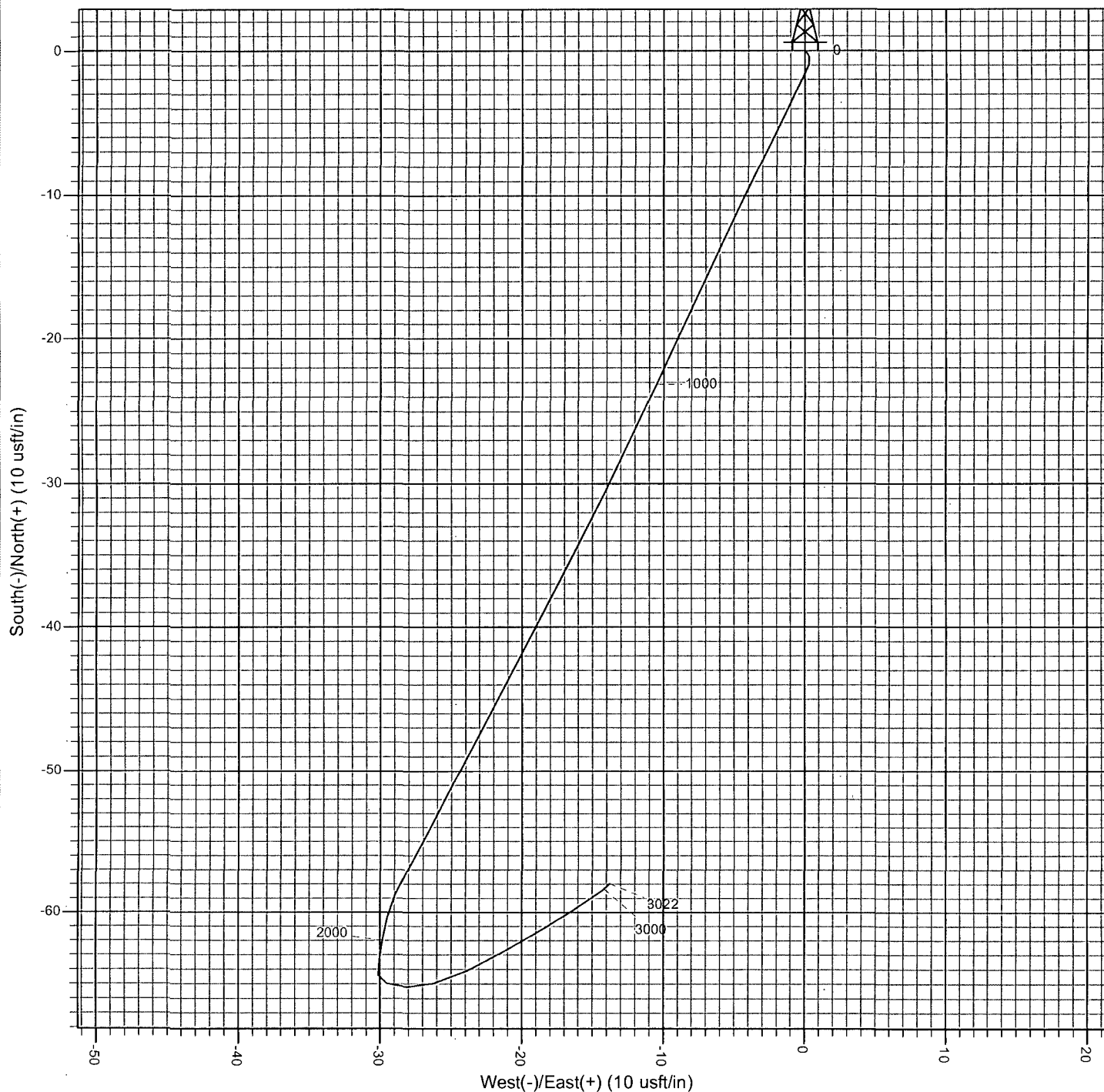


Scientific Drilling

Project: Vacuum Grayburg San Andres
Lea County, NM (Grid North)
Well: CVU #211
Wellbore: VH - Job #321013-K-1097
Design: VH - Job #321013-K-1097

WELL DETAILS: CVU #211
WELL @ 0.0usft (Original Well Elev)
Ground Level: 0.0

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Slot
0.0	0.0	646616.19	755286.42	32° 46' 29.590 N	103° 30' 9.958 W	



PROJECT DETAILS: Vacuum Grayburg San Andres	SITE DETAILS: Lea County, NM (Grid North)
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: 0.0
Zone: New Mexico East 3001	Convergence: 0.45
System Datum: Mean Sea Level	Local North: True

Chevron

Lea County, NM (NAD27 NME)

Central Vacuum Unit

CVU #211

OH

Design: OH - Job #321013-MPD-1063

SDI Survey Report

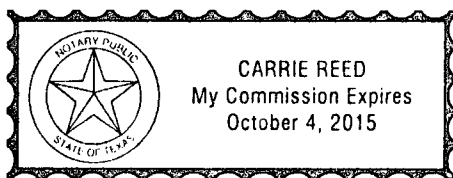
This survey is correct to the best of my knowledge and is supported by actual field data.

Robert

Notarized this date 31st of October, 2013.

Carrie Reed

Notary Signature
County of Midland
State of Texas



SDI
SDI Survey Report

Company:	Chevron	Local Co-ordinate Reference:	Well CVU #211
Project:	Lea County, NM (NAD27 NME)	TVD Reference:	KB=18' @ 4003.0usft (H&P #356)
Site:	Central Vacuum Unit	MD Reference:	KB=18' @ 4003.0usft (H&P #356)
Well:	CVU #211	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH - Job #321013-MPD-1063	Database:	EDM-Regulatory

Project	Lea County, NM (NAD27 NME), Lea County, New Mexico		
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	Central Vacuum Unit		
Site Position:		Northing:	653,747.80 usft
From:	Map	Easting:	751,278.80 usft
Position Uncertainty:	0.0 usft	Slot Radius:	13-3/16"
		Latitude:	32° 47' 40.462 N
		Longitude:	103° 30' 56.247 W
		Grid Convergence:	0.44 °

Well	CVU #211		
Well Position	+N/-S	0.0 usft	Northing: 646,616.10 usft
	+E/-W	0.0 usft	Easting: 755,286.50 usft
Position Uncertainty	0.0 usft	Wellhead Elevation:	0.0 usft
		Ground Level:	3,985.0 usft

Wellbore	OH		
Magnetics	Model Name	Sample Date	Declination (°)
	BGGM2012	9/5/2013	
			Dip Angle (°)
			Field Strength (nT)

Design	OH - Job #321013-MPD-1063		
Audit Notes:			
Version:	1.0	Phase:	ACTUAL
		Tie On Depth:	0.0
Vertical Section:	Depth From (TVD)	+N/-S	+E/-W
	(usft)	(usft)	(usft)
	0.0	0.0	0.0
			Direction (°)
			59.75

Survey Program	Date	11/7/2013		
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description
100.0	3,024.0	SDI Gyro #1 (OH)	SDI Gyro	Gyroscopic Survey
3,157.0	5,226.0	SDI MWD (OH)	SDI-MWD	MWD - Scientific Drilling

Survey									
MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	N/S (usft)	E/W (usft)	Closure Azimuth (°)	Closure Distance (usft)		
0.0	0.00	0.00	0.0	0.0	0.0	0.0	0.00	0.0	
100.0	0.20	142.40	100.0	-0.1	0.1	142.40	0.2		
200.0	0.19	155.18	200.0	-0.4	0.3	146.51	0.5		
300.0	0.45	193.32	300.0	-1.0	0.3	164.75	1.0		
400.0	0.61	211.14	400.0	-1.8	-0.1	183.31	1.8		
500.0	0.81	206.73	500.0	-2.9	-0.7	193.59	3.0		
600.0	1.15	205.05	600.0	-4.4	-1.4	198.03	4.7		
700.0	1.94	207.87	699.9	-6.8	-2.7	201.25	7.3		
800.0	2.95	205.78	799.8	-10.6	-4.6	203.22	11.6		
900.0	3.99	204.82	899.7	-16.1	-7.1	203.91	17.6		
1,000.0	4.89	206.00	999.4	-23.1	-10.5	204.39	25.4		

SDI

SDI Survey Report

Company:	Chevron	Local Co-ordinate Reference:	Well CVU #211
Project:	Lea County, NM (NAD27 NME)	TVD Reference:	KB=18' @ 4003.0usft (H&P #356)
Site:	Central Vacuum Unit	MD Reference:	KB=18' @ 4003.0usft (H&P #356)
Well:	CVU #211	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH - Job #321013-MPD-1063	Database:	EDM-Regulatory

Survey								
MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	N/S (usft)	E/W (usft)	Closure Azimuth (°)	Closure Distance (usft)	
1,100.0	4.39	206.04	1,099.0	-30.4	-14.0	204.78	33.5	
1,200.0	4.00	208.67	1,198.8	-36.9	-17.4	205.23	40.8	
1,300.0	3.31	207.28	1,298.6	-42.5	-20.4	205.61	47.1	
1,400.0	2.78	209.35	1,398.4	-47.2	-22.9	205.88	52.4	
1,500.0	2.42	207.21	1,498.3	-51.2	-25.0	206.07	57.0	
1,600.0	1.79	206.68	1,598.2	-54.4	-26.7	206.13	60.6	
1,700.0	1.41	209.52	1,698.2	-56.9	-28.0	206.21	63.4	
1,800.0	0.95	202.94	1,798.2	-58.7	-28.9	206.23	65.5	
1,900.0	1.01	194.86	1,898.2	-60.4	-29.5	206.04	67.2	
2,000.0	0.86	190.65	1,998.2	-62.0	-29.9	205.73	68.8	
2,100.0	0.76	186.81	2,098.1	-63.3	-30.1	205.40	70.1	
2,200.0	0.46	175.11	2,198.1	-64.4	-30.1	205.06	71.1	
2,300.0	0.66	107.77	2,298.1	-65.0	-29.5	204.44	71.4	
2,400.0	0.98	93.96	2,398.1	-65.2	-28.1	203.34	71.0	
2,500.0	1.23	74.66	2,498.1	-65.0	-26.2	201.99	70.1	
2,600.0	1.66	65.70	2,598.1	-64.1	-23.9	200.44	68.4	
2,700.0	1.75	60.01	2,698.0	-62.8	-21.2	198.71	66.3	
2,800.0	1.57	60.32	2,798.0	-61.3	-18.7	196.99	64.1	
2,900.0	1.53	57.09	2,898.0	-59.9	-16.4	195.33	62.1	
3,000.0	1.56	54.26	2,997.9	-58.4	-14.2	193.67	60.1	
3,024.0	1.31	40.58	3,021.9	-58.0	-13.8	193.34	59.6	
3,157.0	1.93	46.09	3,154.9	-55.3	-11.2	191.41	56.4	
3,202.0	2.37	46.55	3,199.8	-54.1	-9.9	190.40	55.0	
3,247.0	5.80	56.55	3,244.7	-52.2	-7.4	188.02	52.7	
3,292.0	9.50	53.91	3,289.3	-48.8	-2.5	182.89	48.8	
3,337.0	13.37	50.92	3,333.4	-43.3	4.6	173.96	43.6	
3,382.0	17.32	52.33	3,376.8	-35.9	13.9	158.81	38.5	
3,428.0	21.28	53.30	3,420.2	-26.8	26.0	135.77	37.3	
3,473.0	24.62	51.98	3,461.6	-16.1	40.0	111.93	43.1	
3,518.0	27.26	51.89	3,502.1	-4.0	55.5	94.09	55.6	
3,563.0	26.82	51.45	3,542.2	8.7	71.5	83.05	72.1	
3,608.0	25.68	50.92	3,582.5	21.2	87.0	76.31	89.6	
3,653.0	26.03	51.27	3,623.0	33.5	102.3	71.86	107.7	
3,698.0	26.47	53.91	3,663.4	45.6	118.1	68.89	126.6	
3,743.0	28.49	54.35	3,703.3	57.8	134.9	66.82	146.8	
3,788.0	28.67	54.17	3,742.8	70.3	152.4	65.22	167.9	
3,833.0	30.16	55.14	3,782.0	83.1	170.4	64.00	189.6	
3,878.0	29.63	55.14	3,821.0	95.9	188.8	63.07	211.8	
3,923.0	29.55	54.79	3,860.2	108.7	207.0	62.30	233.8	
3,968.0	29.99	54.61	3,899.2	121.6	225.3	61.64	256.0	
4,013.0	29.46	54.44	3,938.3	134.6	243.4	61.07	278.2	
4,058.0	29.02	54.97	3,977.6	147.3	261.4	60.60	300.0	
4,103.0	29.02	56.90	4,016.9	159.5	279.5	60.29	321.8	
4,193.0	28.14	59.71	4,095.9	182.1	316.1	60.05	364.8	

SDI

SDI Survey Report

Company:	Chevron	Local Co-ordinate Reference:	Well CVU #211
Project:	Lea County, NM (NAD27 NME)	TVD Reference:	KB=18' @ 4003.0usft (H&P #356)
Site:	Central Vacuum Unit	MD Reference:	KB=18' @ 4003.0usft (H&P #356)
Well:	CVU #211	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH - Job #321013-MPD-1063	Database:	EDM-Regulatory

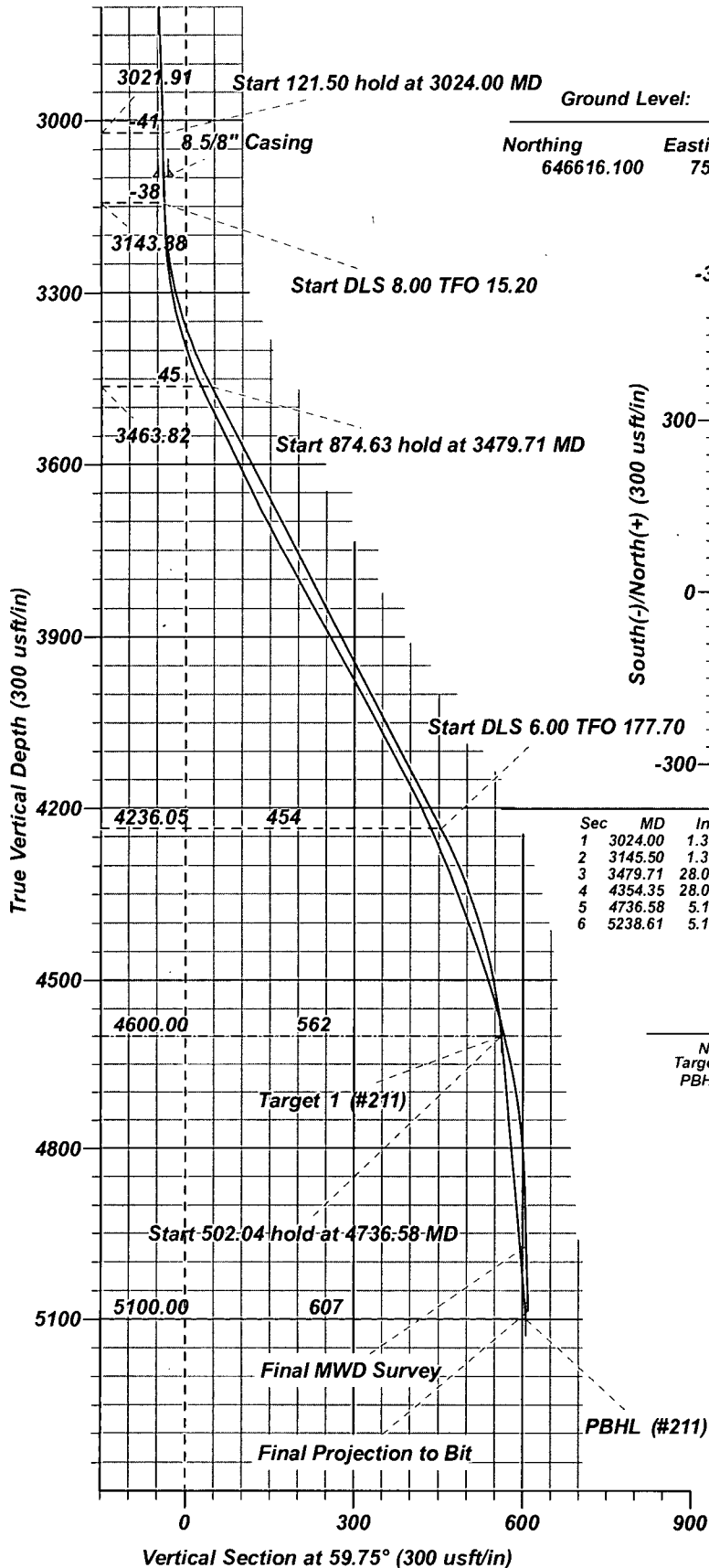
Survey								
MD (usft)	Inc (°)	Azi (azimuth) (°)		TVD (usft)	N/S (usft)	E/W (usft)	Closure Azimuth (°)	Closure Distance (usft)
4,283.0	27.52	59.62		4,175.5	203.3	352.3	60.01	406.8
4,373.0	23.65	57.95		4,256.7	223.4	385.6	59.91	445.7
4,463.0	21.19	59.10		4,339.9	241.4	414.9	59.81	480.0
4,553.0	20.40	60.41		4,424.0	257.5	442.5	59.80	511.9
4,573.0	19.87	58.83		4,442.8	261.0	448.4	59.80	518.8
4,618.0	18.47	56.02		4,485.3	268.9	460.9	59.74	533.6
4,664.0	16.88	54.97		4,529.1	276.8	472.4	59.63	547.5
4,708.0	14.77	60.77		4,571.5	283.2	482.5	59.59	559.5
4,753.0	13.45	67.18		4,615.1	288.0	492.3	59.67	570.4
4,798.0	11.61	67.62		4,659.0	291.8	501.3	59.80	580.1
4,843.0	9.41	64.63		4,703.3	295.1	508.8	59.89	588.2
4,888.0	7.12	54.97		4,747.8	298.3	514.5	59.90	594.7
4,933.0	4.75	44.51		4,792.6	301.2	518.0	59.83	599.2
5,023.0	2.29	21.39		4,882.4	305.5	521.3	59.63	604.3
5,113.0	2.29	22.80		4,972.3	308.9	522.7	59.42	607.1
Final MWD Survey								
5,226.0	2.29	22.80		5,085.2	313.0	524.4	59.17	610.7
Final Projection to Bit								

Design Annotations				
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
5,113.0	4,972.3	308.9	522.7	Final MWD Survey
5,226.0	5,085.2	313.0	524.4	Final Projection to Bit



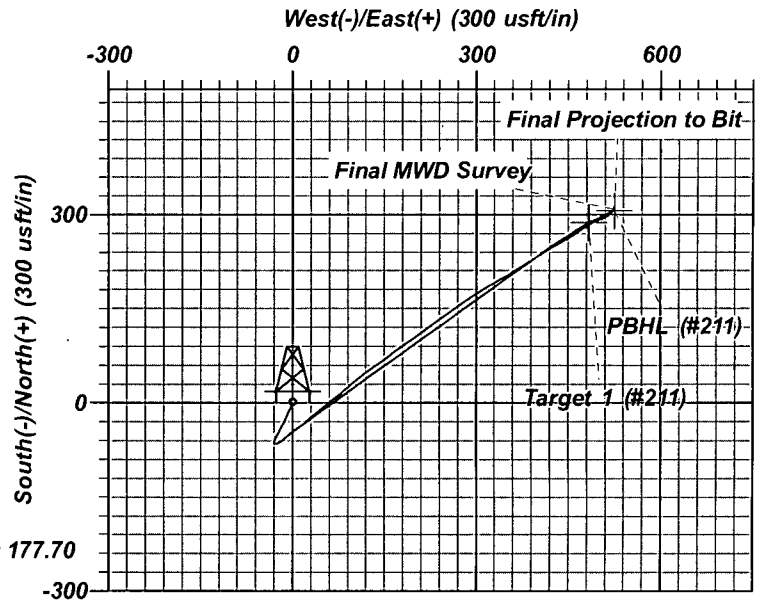
Scientific Drilling

Lea County, NM (NAD27 NME)
Central Vacuum Unit CVU #211
Plan #6
H&P #356



Ground Level: 3985.00 KB=18' @ 4003.00usft (H&P #356)

Northing 646616.100 Easting 755286.500 Latitude 32° 46' 29.589 N Longitude 103° 30' 9.957 W

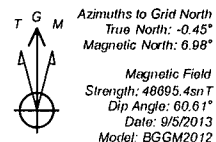


SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VFace	Target
1	3024.00	1.31	40.58	3021.91	-57.99	-13.76	0.00	0.00	-41.10	
2	3145.50	1.31	40.58	3143.38	-55.88	-11.95	0.00	0.00	-38.47	
3	3479.71	28.00	55.13	3463.82	-7.23	56.15	8.00	15.20	44.86	
4	4354.35	28.00	55.13	4236.05	227.57	393.06	0.00	0.00	454.18	
5	4736.58	5.16	65.14	4600.00	286.90	483.50	6.00	177.70	562.20	Target 1 (#211)
6	5238.61	5.16	65.14	5100.00	305.90	524.50	0.00	0.00	607.19	PBHL (#211)

DESIGN TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Northing	Easting
Target 1 (#211)	4600.00	286.90	483.50	646903.000	755770.000
PBHL (#211)	5100.00	305.90	524.50	646922.000	755811.000



James Dunn
9:29, October 21 2013
Well Planner
Scientific Drilling Midland District