

Results of Directional Survey

API number:	30-025-41154	DD
OGRID:		Operator: CHEVRON U S A INC
		Property: CENTRAL VACUUM UNIT # 256

surface	ULSTR:	F	36	T	17S	R	34E
				1480	FNL	1990	FWL

BH Loc	ULSTR:	B	36	T	17S	R	34E
5284	MD	5057.3	TVD	1236	FNL	2600	FEL
						2680	FWL

Top Perf/OH	ULSTR:	F	36	T	17S	R	34E
4452	MD	4374.3	TVD	1398	FNL	2233	FWL

Bot Perf/OH	ULSTR:	C	36	T	17S	R	34E
4956	MD	4789.0	TVD	1300	FNL	2502	FWL

	MD	N/S	E/W	VD
	4387	70.10	210.60	4319.4
TOP PERFS/OH	4452	82.02	243.32	4374.29
	4477	86.60	255.90	4395.40
	4927	174.70	496.60	4765.20
BOT PERFS/OH	4956	180.34	512.26	4788.98
	5017	192.20	545.20	4839.00

NEXT TO LAST	5235	234.40	663.20	5017.30
LAST READING	5284	244.00	689.80	5057.30
TD	5284	244.00	689.80	5057.30

Surface Location	1480	FN	1990	FW
Projected BHL	1236	FN	2680	FW
Location of				
Top Perfs/OH	1398	FN	2233	FW
Bottom Perfs/OH	1300	FN	2502	FW

SUMMARY of Subsurface Locations

Surface Location	F-36-17S-34E	1480	FN	1990	FW	Vert. Depth
Top Perfs/OH	F-36-17S-34E	1398	FN	2233	FW	4374.29
Bottom Perfs/OH	C-36-17S-34E	1300	FN	2502	FW	4788.98
Projected TD	B-36-17S-34E	1236	FN	2680	FW	5057.30

MAR 03 2014

HOBBS OCD

DEC 26 2013

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Chevron

Lea County, NM (NAD27 NME)

CVU

#256

OH

Design: OH - Job #320913-MPD-977

SDI Survey Report

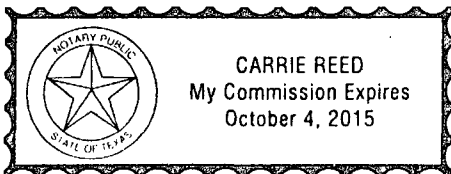
This survey is correct to the best of my knowledge and is supported by actual field data.

Richard

Notarized this date 1st of October, 2013.

Carrie Reed

Notary Signature
County of Midland
State of Texas



SDI
SDI Survey Report

Company:	Chevron	Local Co-ordinate Reference:	Well #256
Project:	Lea County, NM (NAD27 NME)	TVD Reference:	KB= 18' @ 4023.0usft (H&P 356)
Site:	CVU	MD Reference:	KB= 18' @ 4023.0usft (H&P 356)
Well:	#256	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH - Job #320913-MPD-977	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	CVU		
Site Position:		Northing:	655,800.09 usft
From:	Lat/Long	Easting:	751,451.30 usft
Position Uncertainty:	0.0 usft	Slot Radius:	0"
		Latitude:	32° 48' 0.755 N
		Longitude:	103° 30' 54.041 W
		Grid Convergence:	0.44 °

Well	#256		
Well Position	+N/-S	0.0 usft	Northing: 653,747.80 usft
	+E/-W	0.0 usft	Easting: 751,278.80 usft
Position Uncertainty	0.0 usft	Wellhead Elevation:	usft
		Latitude:	32° 47' 40.462 N
		Longitude:	103° 30' 56.247 W
		Ground Level:	4,005.0 usft

Wellbore	OH		
Magnetics	Model Name	Sample Date	Declination
	BGGM2012	6/18/2013	(°)
			Dip Angle
			(°)
			Field Strength
			(nT)

Design	OH - Job #320913-MPD-977		
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
			(°)
			243.11

Survey Program	Date 10/7/2013		
From	To	Survey (Wellbore)	Tool Name
(usft)	(usft)		
126.2	3,134.0	SDI Gyro #1 (OH)	Keeper
3,305.0	5,284.0	SDI MWD #1 (OH)	SDI-MWD
			Description
			Keeper Standard Rate Gyro
			MWD - Scientific Drilling

Survey								
MD	Inc	Azi (azimuth)	TVD	N/S	E/W	Closure Azimuth	Closure Distance	
(usft)	(°)	(°)	(usft)	(usft)	(usft)	(°)	(usft)	
0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.0	
126.2	0.17	229.26	126.2	-0.1	-0.1	229.26	0.2	
156.6	0.23	260.21	156.6	-0.2	-0.2	235.55	0.3	
250.3	0.29	244.36	250.3	-0.3	-0.6	244.97	0.7	
342.3	0.27	238.90	342.3	-0.5	-1.0	243.70	1.1	
432.9	0.35	235.83	432.9	-0.8	-1.4	241.75	1.6	
522.6	0.65	240.34	522.6	-1.2	-2.1	240.78	2.4	
612.9	1.00	245.68	612.9	-1.8	-3.3	241.76	3.7	
706.6	1.60	241.83	706.5	-2.7	-5.2	242.32	5.8	
796.6	3.38	248.72	796.5	-4.3	-8.8	244.00	9.7	
886.7	4.30	244.76	886.3	-6.7	-14.3	244.96	15.8	

SDI
SDI Survey Report

Company:	Chevron	Local Co-ordinate Reference:	Well #256
Project:	Lea County, NM (NAD27 NME)	TVD Reference:	KB= 18' @ 4023.0usft (H&P 356)
Site:	CVU	MD Reference:	KB= 18' @ 4023.0usft (H&P 356)
Well:	#256	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH - Job #320913-MPD-977	Database:	EDM-Regulatory

Survey							
MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	N/S (usft)	E/W (usft)	Closure Azimuth (°)	Closure Distance (usft)
976.7	4.36	243.10	976.2	-9.7	-20.4	244.65	22.6
1,067.0	4.43	241.78	1,066.1	-12.9	-26.5	244.13	29.5
1,157.1	4.63	244.00	1,155.9	-16.1	-32.9	243.89	36.6
1,247.3	4.23	243.50	1,245.9	-19.2	-39.1	243.87	43.6
1,337.2	3.85	241.65	1,335.6	-22.1	-44.7	243.71	49.9
1,427.1	3.96	240.02	1,425.2	-25.1	-50.1	243.40	56.0
1,516.8	3.67	238.24	1,514.8	-28.1	-55.2	242.99	62.0
1,606.8	3.20	237.49	1,604.6	-31.0	-59.8	242.58	67.3
1,697.0	2.90	242.04	1,694.7	-33.4	-63.9	242.39	72.1
1,787.2	2.63	248.69	1,784.8	-35.3	-67.8	242.55	76.5
1,877.6	2.27	252.22	1,875.1	-36.5	-71.5	242.92	80.3
1,967.5	2.12	256.33	1,965.0	-37.5	-74.8	243.38	83.7
2,057.5	1.66	250.02	2,054.9	-38.3	-77.6	243.73	86.6
2,147.3	1.64	246.68	2,144.6	-39.3	-80.0	243.86	89.2
2,237.6	1.22	235.85	2,234.9	-40.3	-82.0	243.82	91.4
2,327.8	1.03	229.59	2,325.1	-41.4	-83.4	243.61	93.1
2,418.1	0.66	253.10	2,415.3	-42.1	-84.5	243.55	94.4
2,507.1	0.07	252.85	2,504.3	-42.2	-85.1	243.60	95.0
2,598.1	0.28	68.62	2,595.4	-42.2	-84.9	243.60	94.8
2,688.1	0.56	63.96	2,685.4	-41.9	-84.3	243.58	94.2
2,778.3	0.79	64.02	2,775.5	-41.4	-83.4	243.58	93.1
2,868.2	0.81	71.57	2,865.5	-41.0	-82.2	243.52	91.9
2,958.2	0.90	73.19	2,955.5	-40.6	-80.9	243.39	90.5
3,048.3	0.75	77.51	3,045.6	-40.2	-79.7	243.22	89.3
3,134.0	0.80	66.04	3,131.2	-39.9	-78.6	243.11	88.1
3,305.0	1.23	47.60	3,302.2	-38.1	-76.1	243.40	85.2
3,395.0	2.98	73.86	3,392.1	-36.8	-73.2	243.28	81.9
3,485.0	5.01	76.16	3,481.9	-35.2	-67.1	242.30	75.8
3,575.0	6.07	54.10	3,571.5	-31.5	-59.5	242.07	67.3
3,665.0	7.83	57.00	3,660.8	-25.4	-50.5	243.29	56.5
3,756.0	11.52	65.79	3,750.5	-18.3	-37.0	243.69	41.2
3,846.0	15.92	68.43	3,837.9	-10.1	-17.3	239.82	20.0
3,936.0	19.70	68.96	3,923.6	-0.1	8.4	90.43	8.4
4,026.0	24.27	66.14	4,007.1	12.9	39.5	71.93	41.5
4,116.0	29.81	72.12	4,087.2	27.2	77.7	70.68	82.3
4,206.0	29.99	71.86	4,165.2	41.1	120.4	71.14	127.2
4,297.0	32.18	72.38	4,243.1	55.5	165.1	71.41	174.2
4,387.0	31.93	72.04	4,319.4	70.1	210.6	71.58	221.9
4,477.0	32.98	68.08	4,395.4	86.6	255.9	71.30	270.2
4,567.0	35.31	70.33	4,469.9	104.5	303.2	70.98	320.7
4,657.0	35.09	70.19	4,543.4	122.0	352.0	70.88	372.5
4,747.0	34.91	69.75	4,617.1	139.7	400.5	70.77	424.2
4,837.0	34.38	70.01	4,691.2	157.3	448.5	70.67	475.3
4,927.0	34.91	70.19	4,765.2	174.7	496.6	70.62	526.5

SDI
SDI Survey Report

Company:	Chevron	Local Co-ordinate Reference:	Well #256
Project:	Lea County, NM (NAD27 NME)	TVD Reference:	KB= 18' @ 4023.0usft (H&P 356)
Site:	CVU	MD Reference:	KB= 18' @ 4023.0usft (H&P 356)
Well:	#256	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH - Job #320913-MPD-977	Database:	EDM-Regulatory

Survey							
MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	N/S (usft)	E/W (usft)	Closure Azimuth (°)	Closure Distance (usft)
5,017.0	35.00	70.27	4,839.0	192.2	545.2	70.58	578.0
5,107.0	35.00	70.45	4,912.7	209.5	593.8	70.56	629.7
5,198.0	35.26	70.10	4,987.1	227.2	643.1	70.54	682.0
5,235.0	35.26	70.19	5,017.3	234.4	663.2	70.53	703.4
Final MWD Survey							
5,284.0	35.26	70.19	5,057.3	244.0	689.8	70.52	731.7
Final Projection to Bit							

Design Annotations				
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
5,235.0	5,017.3	234.4	663.2	Final MWD Survey
5,284.0	5,057.3	244.0	689.8	Final Projection to Bit



Central Vacuum Unit
Lea County, NM (NAD27 NME)
Northing (Y) 653747.800
Easting (X) 751278.800
Plan #4



Azimuth to Grid North
True North: 0.44°
Magnetic North: 7.02°
Magnetic Field
Strength: 48733.5 nT
Dip Angle: 60.64°
Date: 6/18/2013
Model: BGGM2012

WELL DETAILS: Central Vacuum Unit

+N-S	+E-W	Northing	Ground Level: Easting	Latitude	Longitude	Slot
0.00	0.00	653747.800	751278.800	32° 47' 40.462 N	103° 30' 56.247 W	

PROJECT DETAILS: Lea County, NM (NAD27 NME)

Geodetic System: US State Plane 1927 (Exact solution)
Datum: NAD 1927 (NADCON CONUS)
Ellipsoid: Clarke 1866
Zone: New Mexico East 3001
System Datum: Mean Sea Level

SECTION DETAILS

Sec	MD	Inc	Asl	TVD	+N-S	+E-W	Dleg	TFace	VSec	Target
1	3134.00	0.80	66.04	3131.20	-38.86	-78.50	0.00	0.00	-87.28	
2	3302.78	0.80	66.04	3300.60	-38.90	-78.44	0.00	0.00	-84.91	
3	4033.13	30.01	70.34	3996.50	26.64	104.15	4.00	4.40	106.07	
4	4961.04	30.01	70.34	4800.00	182.20	541.20	0.00	0.00	571.04	Target 1 Start (CVU #256w)
5	5307.49	30.01	70.34	5100.00	240.51	704.38	0.00	0.00	744.31	

SITE DETAILS: Central Vacuum Unit

Site Centre Northing: 653747.800
Easting: 751278.800

Map System: US State Plane 1927 (Exact solution)
Datum: NAD 1927 (NADCON CONUS)
Ellipsoid: Clarke 1866
Zone Name: New Mexico East 3001

Local Origin: Well CVU #256w, Grid North

Latitude: 32° 47' 40.462 N
Longitude: 103° 30' 56.247 W

Grid East: 751278.800
Grid North: 653747.800
Scale Factor: 1.000

Geomagnetic Model: BGGM2012
Sample Date: 18-Jun-13
Magnetic Declination: 7.48°
Dip Angle from Horizontal: 60.64°
Magnetic Field Strength: 48734

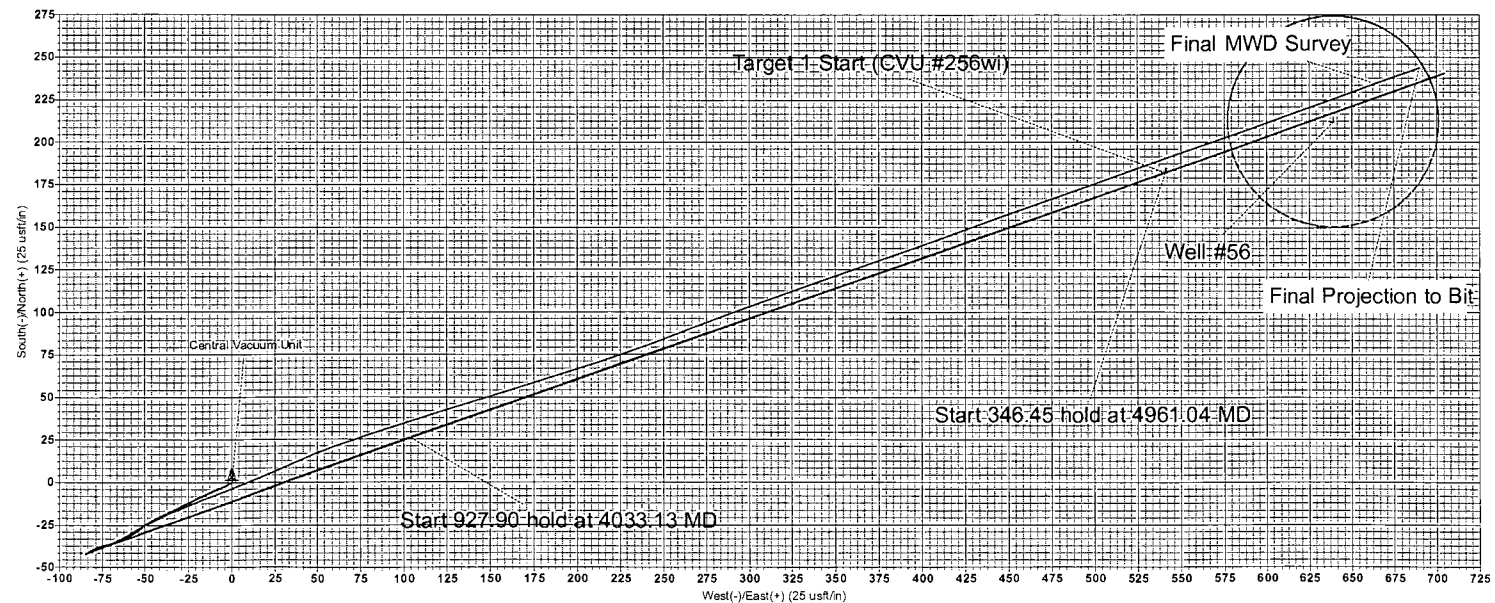
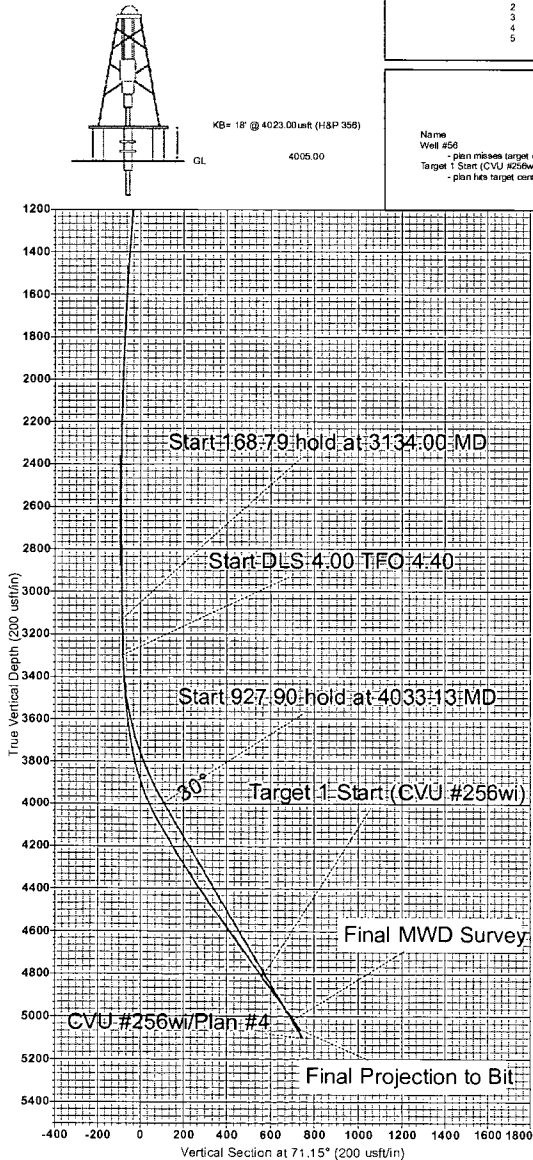
To convert Magnetic North to Grid, Add 7.02°
To convert Magnetic North to True, Add 7.46° East
To convert True North to Grid, Subtract 0.44°

DESIGN TARGET DETAILS

Name	TVD	+N-S	+E-W	Northing	Easting	Latitude	Longitude	Shape
Well #56	0.00	212.20	638.10	653860.000	751917.900	32° 47' 42.513 N	103° 30' 48.742 W	Circle (Radius: 62.00)
- plan misses target center by 673.4 feet at 0.00m MD (0.00 TVD, 0.00 N, 0.00 E)								
Target 1 Start (CVU #256w)	4800.00	182.20	541.20	653930.000	751820.000	32° 47' 42.223 N	103° 30' 49.891 W	Point
- plan hits target center								

LEGEND

CVU #256w, OH, OH V0
Plan #4



James Dunn
Scientific Drilling
2034 Trade Drive
Midland, TX 79703