

Results of Directional Survey

API number:	30-025-24062		
OGRID:		Operator:	CHEVRON U S A INC
		Property:	NORTH VACUUM ABO WEST UNIT # 10H

surface	ULSTR:	N	21	T 17S	R 34E
				660 FSL	2180 FWL

BH Loc	ULSTR:	O	21	T 17S	R 34E
10450	MD	8848.7	TVD	1211 FSL	1544 FEL
					3736 FWL

Top Perf/OH	ULSTR:	N	21	T 17S	R 34E
8603	MD	8602.3	TVD	673 FSL	2178 FEL

Bot Perf/OH	ULSTR:	O	21	T 17S	R 34E
10450	MD	8848.7	TVD	1211 FSL	1544 FEL
					3736 FWL

	MD	N/S	E/W	VD
	8600	12.70	0.22	8599.3
TOP PERFS/OH	8603	13.13	2.20	8602.26
	8648	19.60	31.87	8646.70
	10408	522.10	1525.80	8850.10
BOT PERFS/OH	10450	551.40	1555.90	8848.70
	10450	551.40	1555.90	8848.70

NEXT TO LAST	10408	522.10	1525.80	8850.10
LAST READING	10450	551.40	1555.90	8848.70
TD	10450	551.40	1555.90	8848.70

Surface Location	660	FS	2180	FW
Projected BHL	1211	FS	3736	FW
Location of				
Top Perfs/OH	673	FS	2182	FW
Bottom Perfs/OH	1211	FS	3736	FW

SUMMARY of Subsurface Locations

Surface Location	N-21-17S-34E	660	FS	2180	FW	Vert. Depth
Top Perfs/OH	N-21-17S-34E	673	FS	2182	FW	8602.26
Bottom Perfs/OH	O-21-17S-34E	1211	FS	3736	FW	8848.70
Projected TD	O-21-17S-34E	1211	FS	3736	FW	8848.70

HOBBS OCD

JUL 29 2011

RECEIVED

CHEVRON

Vacuum Abo, North

Lea County, NM

North Vacuum Abo West Unit #10

VH - Job #32K0111040

Survey: Actual

SUR: N-21-17s-34e, 660/S & 2180/W
BHL: @ O-21-17s-34e, 1211/S & 3736/W
API # 30-025-24062

SDI Standard Survey Report

23 January, 2011

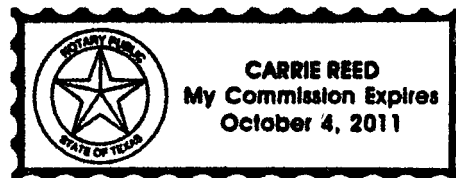
This survey is correct to the best of my knowledge and is supported by actual field data.

Richard

Notarized this date 23rd of January, 2011.

Carrie Reed

Notary Signature
County of Midland
State of Texas



Scientific Drilling International, Inc.
SDI Standard Survey Report

Company:	CHEVRON	Local Co-ordinate Reference:	Well North Vacuum Abo West Unit #10
Project:	Vacuum Abo, North	TVD Reference:	WELL @ 0.0usft (Original Well Elev)
Site:	Lea County, NM	MD Reference:	WELL @ 0.0usft (Original Well Elev)
Well:	North Vacuum Abo West Unit #10	North Reference:	Grd
Wellbore:	VH - Job #32K0111040	Survey Calculation Method:	Minimum Curvature
Design:	VH - Job #32K0111040	Database:	EDM-Regulatory

Project	Vacuum Abo, North		
Map System:	US State Plane 1927 (Exact solution)	System Datum:	Mean Sea Level
Geo Datum:	NAD 1927 (NADCON CONUS)		
Map Zone:	New Mexico Central 3002		

Site	Lea County, NM				
Site Position:		Northing:	666,796.49 usft	Latitude:	32° 48' 14.400 N
From:	Lat/Long	Easting:	1,329,720.38 usft	Longitude:	103° 33' 0.000 W
Position Uncertainty:	0.0 usft	Slot Radius:	13-3/16"	Grid Convergence:	1.46 °

Well	North Vacuum Abo West Unit #10, Vertical					
Well Position	+N-S	0.0 usft	Northing:	670,667.02 usft	Latitude:	32° 48' 54.000 N
	+E-W	0.0 usft	Easting:	1,324,392.97 usft	Longitude:	103° 34' 1.200 W
Position Uncertainty		0.0 usft	Wellhead Elevation:	usft	Ground Level:	0.0 usft

Wellbore	VH - Job #32K0111040				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	BGGM2010	1/15/2011	7.73	60.76	49,081

Design	VH - Job #32K0111040				
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	36.16	

Survey Program	Date	1/23/2011			
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description	
100.0	8,700.0	Actual (VH - Job #32K0111040)	Keeper	Keeper Gyro	

Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	True Vertical Depth	North/South (usft)	East/West (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	0.53	319.74	100.0	0.4	-0.3	319.74	0.5		
200.0	0.40	307.30	200.0	0.9	-0.9	316.34	1.3		
300.0	0.33	315.30	300.0	1.3	-1.4	314.53	1.9		
400.0	0.32	285.02	400.0	1.6	-1.8	311.38	2.4		
500.0	0.29	270.25	500.0	1.7	-2.4	305.62	2.9		
600.0	0.27	237.82	600.0	1.6	-2.8	299.09	3.2		
700.0	0.33	228.99	700.0	1.2	-3.2	291.14	3.5		
800.0	0.32	221.01	800.0	0.8	-3.6	283.15	3.7		
900.0	0.31	206.49	900.0	0.4	-3.9	275.72	3.9		
1,000.0	0.32	205.89	1,000.0	-0.1	-4.2	268.62	4.2		
1,100.0	0.27	207.28	1,100.0	-0.6	-4.4	262.73	4.4		

Scientific Drilling International, Inc.
SDI Standard Survey Report

Company:	CHEVRON	Local Co-ordinate Reference:	Well North Vacuum Abo West Unit #10
Project:	Vacuum Abo, North	TVD Reference:	WELL @ 0.0usft (Original Well Elev)
Site:	Lea County, NM	MD Reference:	WELL @ 0.0usft (Original Well Elev)
Well:	North Vacuum Abo West Unit #10	North Reference:	Grid
Wellbore:	VH - Job #32K0111040	Survey Calculation Method:	Minimum Curvature
Design:	VH - Job #32K0111040	Database:	EDM-Regulatory

Survey							
Measured Depth (usft)	Inclination (°)	Azimuth (°)	True Vertical Depth	North/South (usft)	East/West (usft)	Closure Azimuth (°)	Closure Distance (usft)
1,200.0	0.36	192.57	1,200.0	-1.1	-4.6	256.75	4.7
1,300.0	0.36	190.22	1,300.0	-1.7	-4.7	250.18	5.0
1,400.0	0.40	191.70	1,400.0	-2.3	-4.8	244.08	5.4
1,500.0	0.48	187.35	1,500.0	-3.1	-4.9	237.92	5.8
1,600.0	0.62	180.07	1,600.0	-4.1	-5.0	230.95	6.4
1,700.0	0.75	175.73	1,700.0	-5.3	-5.0	223.33	7.2
1,800.0	0.69	179.62	1,800.0	-6.5	-4.9	216.99	8.1
1,900.0	0.71	177.81	1,899.9	-7.7	-4.9	212.24	9.1
2,000.0	0.78	174.39	1,999.9	-9.0	-4.8	207.93	10.2
2,100.0	0.81	173.60	2,099.9	-10.4	-4.6	204.03	11.4
2,200.0	0.87	164.47	2,199.9	-11.8	-4.4	200.20	12.6
2,300.0	0.88	169.90	2,299.9	-13.3	-4.0	196.78	13.9
2,400.0	0.84	162.57	2,399.9	-14.8	-3.7	193.92	15.2
2,500.0	0.84	164.05	2,499.9	-16.2	-3.2	191.33	16.5
2,600.0	0.98	112.56	2,599.9	-17.2	-2.3	187.45	17.4
2,700.0	1.30	95.73	2,699.9	-17.7	-0.3	181.08	17.7
2,800.0	1.43	81.42	2,799.8	-17.6	2.0	173.42	17.7
2,900.0	1.57	80.44	2,899.8	-17.2	4.6	164.96	17.8
3,000.0	1.51	77.96	2,999.8	-16.7	7.3	156.49	18.2
3,100.0	1.36	76.15	3,099.7	-16.1	9.7	148.97	18.8
3,200.0	1.23	75.90	3,199.7	-15.6	11.9	142.63	19.6
3,300.0	1.18	72.28	3,299.7	-15.0	13.9	137.14	20.4
3,400.0	1.05	74.84	3,399.7	-14.4	15.8	132.47	21.4
3,500.0	0.90	70.03	3,499.6	-13.9	17.4	128.69	22.3
3,600.0	0.74	74.27	3,599.6	-13.5	18.8	125.72	23.1
3,700.0	0.69	67.09	3,699.6	-13.1	19.9	123.27	23.8
3,800.0	0.66	62.89	3,799.6	-12.6	21.0	120.92	24.5
3,900.0	0.64	52.29	3,899.6	-12.0	22.0	118.61	25.0
4,000.0	0.68	51.18	3,999.6	-11.3	22.9	116.23	25.5
4,100.0	0.69	48.82	4,099.6	-10.5	23.8	113.82	26.0
4,200.0	0.70	49.53	4,199.6	-9.7	24.7	111.45	26.5
4,300.0	0.62	47.91	4,299.6	-8.9	25.6	109.28	27.1
4,400.0	0.47	50.37	4,399.6	-8.3	26.3	107.57	27.6
4,500.0	0.55	48.42	4,499.6	-7.7	27.0	106.02	28.0
4,600.0	0.56	42.65	4,599.6	-7.1	27.6	104.33	28.5
4,700.0	0.59	46.42	4,699.6	-6.3	28.3	102.62	29.0
4,800.0	0.47	70.39	4,799.6	-5.9	29.1	101.37	29.7
4,900.0	0.42	76.10	4,899.6	-5.6	29.8	100.68	30.4
5,000.0	0.34	27.54	4,999.6	-5.3	30.3	99.87	30.8
5,100.0	0.47	22.47	5,099.6	-4.6	30.6	98.60	31.0
5,200.0	0.51	19.05	5,199.5	-3.8	30.9	97.07	31.2
5,300.0	0.46	17.56	5,299.5	-3.0	31.2	95.55	31.3
5,400.0	0.44	343.64	5,399.5	-2.3	31.2	94.18	31.3
5,500.0	0.46	326.13	5,499.5	-1.6	30.9	92.92	30.9

Scientific Drilling International, Inc.
SDI Standard Survey Report

Company:	CHEVRON	Local Co-ordinate Reference:	Well North Vacuum Abo West Unit #10
Project:	Vacuum Abo, North	TVD Reference:	WELL @ 0 0usft (Original Well Elev)
Site:	Lea County, NM	MD Reference:	WELL @ 0 0usft (Original Well Elev)
Well:	North Vacuum Abo West Unit #10	North Reference:	Grid
Wellbore:	VH - Job #32K0111040	Survey Calculation Method:	Minimum Curvature
Design:	VH - Job #32K0111040	Database:	EDM-Regulatory

Survey							
Measured Depth (usft)	Inclination (°)	Azimuth (°)	True Vertical Depth	North/South (usft)	East/West (usft)	Closure Azimuth (°)	Closure Distance (usft)
5,600.0	0.68	311.58	5,599.5	-0.9	30.2	91.61	30.2
5,700.0	0.70	317.26	5,699.5	0.0	29.4	90.02	29.4
5,800.0	0.68	306.32	5,799.5	0.8	28.5	88.41	28.5
5,900.0	0.72	301.74	5,899.5	1.5	27.5	86.93	27.5
6,000.0	0.70	308.68	5,999.5	2.2	26.4	85.27	26.5
6,100.0	0.80	301.65	6,099.5	2.9	25.4	83.40	25.5
6,200.0	0.77	308.82	6,199.5	3.7	24.3	81.28	24.5
6,300.0	0.89	319.87	6,299.5	4.7	23.2	78.47	23.7
6,400.0	0.98	320.30	6,399.5	6.0	22.2	74.89	23.0
6,500.0	1.07	327.62	6,499.4	7.4	21.1	70.62	22.4
6,600.0	1.10	329.12	6,599.4	9.0	20.1	65.81	22.1
6,700.0	1.15	326.27	6,699.4	10.7	19.1	60.72	21.9
6,800.0	1.04	323.50	6,799.4	12.3	18.0	55.71	21.8
6,900.0	1.08	323.58	6,899.4	13.8	16.9	50.84	21.8
7,000.0	1.05	325.82	6,999.4	15.3	15.8	46.01	22.0
7,100.0	0.57	332.04	7,099.3	16.5	15.1	42.46	22.3
7,200.0	0.45	337.09	7,199.3	17.3	14.7	40.37	22.7
7,300.0	0.36	321.57	7,299.3	17.9	14.3	38.73	22.9
7,400.0	0.36	308.40	7,399.3	18.3	13.9	37.18	23.0
7,500.0	0.27	309.12	7,499.3	18.7	13.5	35.81	23.0
7,600.0	0.34	290.92	7,599.3	18.9	13.0	34.51	23.0
7,700.0	0.32	274.37	7,699.3	19.0	12.5	33.18	22.8
7,800.0	0.24	263.77	7,799.3	19.0	12.0	32.14	22.5
7,900.0	0.25	265.26	7,899.3	19.0	11.5	31.27	22.2
8,000.0	0.12	283.10	7,999.3	19.0	11.2	30.55	22.1
8,100.0	0.08	291.92	8,099.3	19.1	11.1	30.11	22.0
8,200.0	0.03	299.10	8,199.3	19.1	11.0	29.86	22.0
8,300.0	0.16	51.13	8,299.3	19.2	11.1	29.93	22.2
8,400.0	0.28	72.77	8,399.3	19.4	11.4	30.48	22.5
8,500.0	0.39	115.33	8,499.3	19.3	11.9	31.75	22.7
8,600.0	0.59	103.78	8,599.3	19.0	12.7	33.82	22.9
8,700.0	0.53	116.05	8,699.3	18.7	13.7	36.16	23.2



Scientific Drilling
Directional Drilling Operations

Project: Vacuum Abo, North
Lea County, NM
Well: North Vacuum Abo West Unit #10
Wellbore: VH - Job #32K0111040
Design: VH - Job #32K0111040

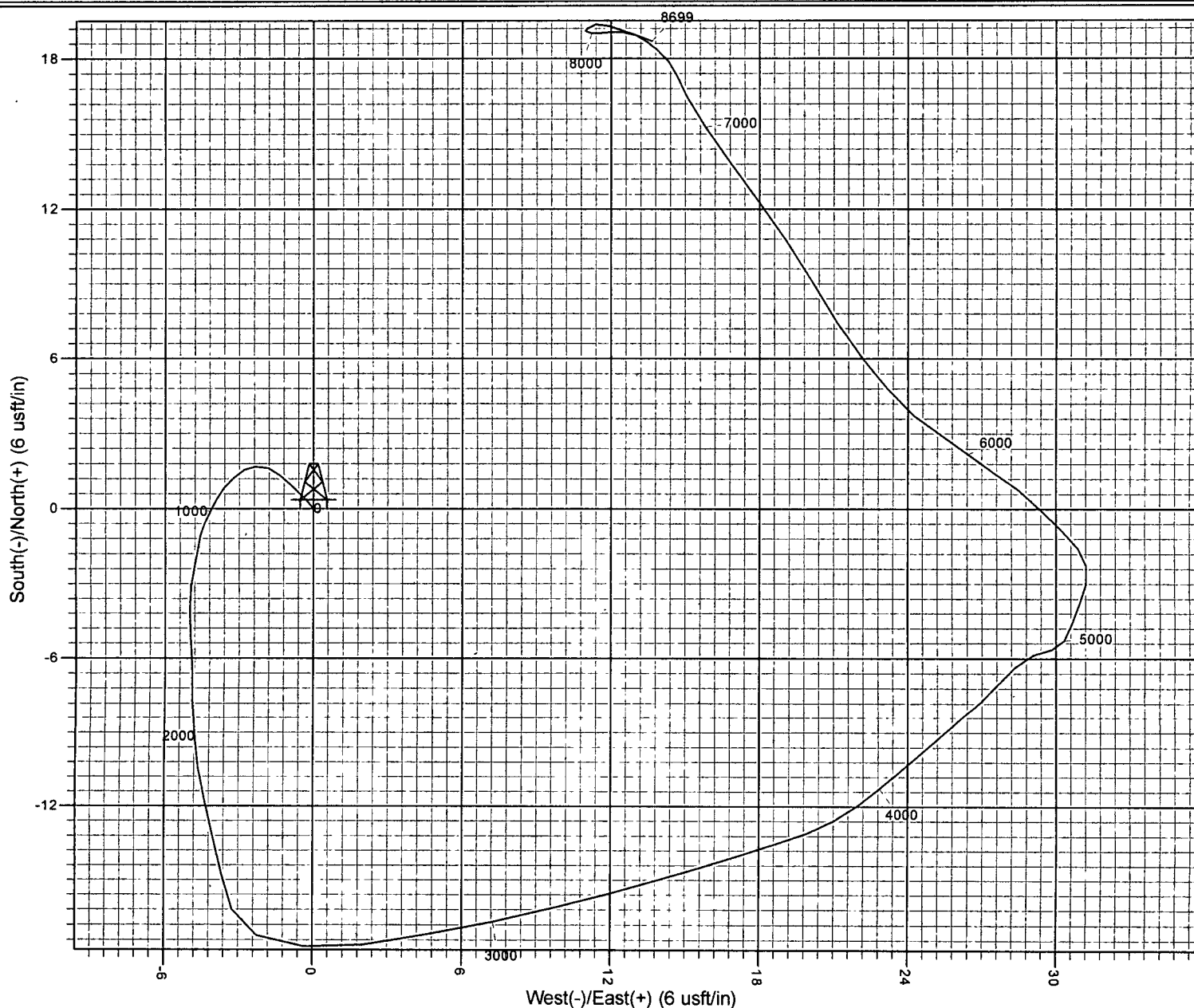


Azimuths to Grid North
True North: -1.46°
Magnetic North: 6.28°

Magnetic Field
Strength: 49081 1snT
Dip Angle: 60.76°
Date: 1/15/2011
Model: BGGM2010

WELL DETAILS: North Vacuum Abo West Unit #10
WELL @ 0.0usft (Original Well Elev)
Ground Level: 0.0

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Slot
0.0	0.0	670667.02	1324392.97	32° 48' 54.000 N	103° 34' 1.200 W	



PROJECT DETAILS: Vacuum Abo, North
Geodetic System: US State Plane 1927 (Exact solution)
Datum: NAD 1927 (NADCON CONUS)
Ellipsoid: Clarke 1866
Zone: New Mexico Central 3002
System Datum: Mean Sea Level

SITE DETAILS: Lea County, NM
Site Centre Latitude: 32° 48' 14.400 N
Longitude: 103° 33' 0.000 W
Positional Uncertainty: 0.0
Convergence: 1.46
Local North: Grid



Scientific Drilling

HOBBS OCD

JUL 29 2011

RECEIVED

Chevron

Lea County, New Mexico
NVAWU (10)
Well #10H-ENE
Lateral

Design: Actual

Final Survey Report

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

Carrie Reed

Notarized this date 31st of May, 2011.

Carrie Reed

Notary Signature
County of Midland
State of Texas



Project		Lea County, New Mexico	
Map System:		US State Plane 1983	
Geo Datum:		North American Datum 1983	
Map Zone:		New Mexico Eastern Zone	
		System Datum: Mean Sea Level	

Site		NVAWU (10)	
Site Position:			
From:	Map	Northing: 661,030.00 usft Easting: 776,969.00 usft Slot Radius: 0"	Latitude: 32° 48' 53.462 N Longitude: 103° 33' 58.865 W Grid Convergence: 0.42°
Position Uncertainty:		0.0 usft	

Well		Well #10H-ENE	
Well Position			
+N/-S	0.0 usft	Northing: 661,030.00 usft	Latitude: 32° 48' 53.462 N
+E/-W	0.0 usft	Easting: 776,969.00 usft	Longitude: 103° 33' 58.865 W
Position Uncertainty		0.0 usft	
		Wellhead Elevation:	Ground Level: 4,063.0 usft

Wellbore		Lateral	
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Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	4/19/2011	7.65	60.74	48,985

Design		Actual	
Audit Notes:			
Version:	1.0	Phase:	ACTUAL
		Tie On Depth:	0.0
Vertical Section:			
	Depth From (TVD) (usft)	+N/-S (usft)	Direction (°)
	0.0	0.0	55.29

Survey Program		Date 5/16/2011	
From (usft)	To (usft)	Survey (Wellbore)	Description
100.0	8,600.0	Survey #1 (Lateral)	Gyroscopic Survey
8,648.0	10,450.0	Survey #2 (Lateral)	MWD - Standard

Survey			
MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)
0.0	0.00	0.00	0.0
100.0	0.53	319.74	100.0
200.0	0.40	307.30	200.0
300.0	0.33	315.30	300.0
400.0	0.32	285.02	400.0

	N/S (usft)	E/W (usft)	DLeg (°/100usft)	Closure Distance (usft)	Closure Azimuth (°)	Northing (usft)	Easting (usft)
	0.0	0.0	0.0	0.0	0.00	661,030.00	776,969.00
	0.4	-0.3	0.53	0.5	319.74	661,030.35	776,968.70
	0.9	-0.9	0.16	1.3	316.34	661,030.92	776,968.12
	1.3	-1.4	0.09	1.9	314.53	661,031.33	776,967.64
	1.6	-1.8	0.17	2.4	311.38	661,031.61	776,967.17

Survey										
MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	N/S (usft)	E/W (usft)	DLeg (°/100usft)	Closure Distance (usft)	Closure Azimuth (°)	Northing (usft)	Easting (usft)
500.0	0.29	270.25	500.0	1.7	-2.4	0.08	2.9	305.82	661,031.68	776,966.65
600.0	0.27	237.82	600.0	1.6	-2.8	0.16	3.2	299.09	661,031.56	776,966.20
700.0	0.33	228.99	700.0	1.2	-3.2	0.08	3.5	291.14	661,031.25	776,965.78
800.0	0.32	221.01	800.0	0.8	-3.6	0.05	3.7	283.15	661,030.85	776,965.38
900.0	0.31	206.49	900.0	0.4	-3.9	0.08	3.9	275.72	661,030.39	776,965.08
1,000.0	0.32	205.89	1,000.0	-0.1	-4.2	0.01	4.2	268.62	661,029.90	776,964.83
1,100.0	0.27	207.28	1,100.0	-0.6	-4.4	0.05	4.4	262.73	661,029.44	776,964.60
1,200.0	0.36	192.57	1,200.0	-1.1	-4.6	0.12	4.7	256.75	661,028.92	776,964.43
1,300.0	0.36	190.22	1,300.0	-1.7	-4.7	0.01	5.0	250.18	661,028.31	776,964.30
1,400.0	0.40	191.70	1,400.0	-2.3	-4.8	0.04	5.4	244.08	661,027.66	776,964.18
1,500.0	0.48	187.35	1,500.0	-3.1	-4.9	0.09	5.8	237.92	661,026.90	776,964.05
1,600.0	0.62	180.07	1,600.0	-4.1	-5.0	0.16	6.4	230.95	661,025.94	776,964.00
1,700.0	0.75	175.73	1,700.0	-5.3	-5.0	0.14	7.2	223.33	661,024.75	776,964.05
1,800.0	0.69	179.62	1,800.0	-6.5	-4.9	0.08	8.1	216.99	661,023.49	776,964.10
1,900.0	0.71	177.81	1,899.9	-7.7	-4.9	0.03	9.1	212.24	661,022.27	776,964.13
2,000.0	0.78	174.39	1,999.9	-9.0	-4.8	0.08	10.2	207.93	661,020.98	776,964.22
2,100.0	0.81	173.60	2,099.9	-10.4	-4.6	0.03	11.4	204.03	661,019.60	776,964.36
2,200.0	0.87	164.47	2,199.9	-11.8	-4.4	0.15	12.6	200.20	661,018.16	776,964.64
2,300.0	0.88	169.90	2,299.9	-13.3	-4.0	0.08	13.9	196.78	661,016.67	776,964.98
2,400.0	0.84	162.57	2,399.9	-14.8	-3.7	0.12	15.2	193.92	661,015.22	776,965.34
2,500.0	0.84	164.05	2,499.9	-16.2	-3.2	0.02	16.5	191.33	661,013.82	776,965.76
2,600.0	0.98	112.56	2,599.9	-17.2	-2.3	0.80	17.4	187.45	661,012.78	776,966.75
2,700.0	1.30	95.73	2,699.9	-17.7	-0.3	0.46	17.7	181.08	661,012.34	776,968.67
2,800.0	1.43	81.42	2,799.8	-17.6	2.0	0.36	17.7	173.42	661,012.41	776,971.03
2,900.0	1.57	80.44	2,899.8	-17.2	4.6	0.14	17.8	164.96	661,012.83	776,973.61
3,000.0	1.51	77.96	2,999.8	-16.7	7.3	0.09	18.2	156.49	661,013.33	776,976.25
3,100.0	1.36	76.15	3,099.7	-16.1	9.7	0.16	18.8	148.97	661,013.89	776,978.69
3,200.0	1.23	75.90	3,199.7	-15.6	11.9	0.13	19.6	142.63	661,014.43	776,980.89
3,300.0	1.18	72.28	3,299.7	-15.0	13.9	0.09	20.4	137.14	661,015.01	776,982.91
3,400.0	1.05	74.84	3,399.7	-14.4	15.8	0.14	21.4	132.47	661,015.56	776,984.77
3,500.0	0.90	70.03	3,499.6	-13.9	17.4	0.17	22.3	128.69	661,016.07	776,986.40
3,600.0	0.74	74.27	3,599.6	-13.5	18.8	0.17	23.1	125.72	661,016.51	776,987.76
3,700.0	0.69	67.09	3,699.6	-13.1	19.9	0.10	23.8	123.27	661,016.92	776,988.93
3,800.0	0.66	62.89	3,799.6	-12.6	21.0	0.06	24.5	120.92	661,017.42	776,990.00
3,900.0	0.64	52.29	3,899.6	-12.0	22.0	0.12	25.0	118.61	661,018.02	776,990.95

Survey									
MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	N/S (usft)	EW (usft)	DLeg (°/100usft)	Closure Distance (usft)	Closure Azimuth (°)	Northing (usft) Easting (usft)
4,000.0	0.68	51.18	3,999.6	-11.3			0.04	25.5	661,018.74 776,991.86
4,100.0	0.69	48.82	4,099.6	-10.5			0.03	26.0	661,019.51 776,992.77
4,200.0	0.70	49.53	4,199.6	-9.7			0.01	26.5	661,020.30 776,993.69
4,300.0	0.62	47.91	4,299.6	-8.9			0.08	27.1	661,021.06 776,994.56
4,400.0	0.47	50.37	4,399.6	-8.3			0.15	27.6	661,021.68 776,995.28
4,500.0	0.55	48.42	4,499.6	-7.7			0.08	28.0	661,022.26 776,995.95
4,600.0	0.56	42.65	4,599.6	-7.1			0.06	28.5	661,022.94 776,996.64
4,700.0	0.59	46.42	4,699.6	-6.3			0.05	29.0	661,023.65 776,997.34
4,800.0	0.47	70.39	4,799.6	-5.9			0.25	29.7	661,024.15 776,998.10
4,900.0	0.42	76.10	4,899.6	-5.6			0.07	30.4	661,024.37 776,998.85
5,000.0	0.34	27.54	4,999.6	-5.3			0.32	30.8	661,024.72 776,999.34
5,100.0	0.47	22.47	5,099.6	-4.6			0.13	31.0	661,025.37 776,999.63
5,200.0	0.51	19.05	5,199.5	-3.8			0.05	31.2	661,026.17 776,999.93
5,300.0	0.46	17.56	5,299.5	-3.0			0.05	31.3	661,026.97 777,000.20
5,400.0	0.44	343.64	5,399.5	-2.3			0.26	31.3	661,027.72 777,000.21
5,500.0	0.46	326.13	5,499.5	-1.6			0.14	30.9	661,028.42 776,999.88
5,600.0	0.68	311.58	5,599.5	-0.9			0.26	30.2	661,029.15 776,999.21
5,700.0	0.70	317.26	5,699.5	0.0			0.07	29.4	661,029.99 776,998.36
5,800.0	0.68	306.32	5,799.5	0.8			0.13	28.5	661,030.79 776,997.46
5,900.0	0.72	301.74	5,899.5	1.5			0.07	27.5	661,031.47 776,996.45
6,000.0	0.70	308.68	5,999.5	2.2			0.09	26.5	661,032.19 776,995.44
6,100.0	0.80	301.65	6,099.5	2.9			0.14	25.5	661,032.93 776,994.37
6,200.0	0.77	308.82	6,199.5	3.7			0.10	24.5	661,033.72 776,993.25
6,300.0	0.89	319.87	6,299.5	4.7			0.20	23.7	661,034.74 776,992.23
6,400.0	0.98	320.30	6,399.5	6.0			0.09	23.0	661,035.99 776,991.18
6,500.0	1.07	327.62	6,499.4	7.4			0.16	22.4	661,037.44 776,990.13
6,600.0	1.10	329.12	6,599.4	9.0			0.04	22.1	661,039.05 776,989.14
6,700.0	1.15	326.27	6,699.4	10.7			0.08	21.9	661,040.71 776,988.09
6,800.0	1.04	323.50	6,799.4	12.3			0.12	21.8	661,042.27 776,986.99
6,900.0	1.08	323.58	6,899.4	13.8			0.04	21.8	661,043.76 776,985.89
7,000.0	1.05	325.82	6,999.4	15.3			0.05	22.0	661,045.27 776,984.82
7,100.0	0.57	332.04	7,099.3	16.5			0.49	22.3	661,046.47 776,984.07
7,200.0	0.45	337.09	7,199.3	17.3			0.13	22.7	661,047.27 776,983.69
7,300.0	0.36	321.57	7,299.3	17.9			0.14	22.9	661,047.88 776,983.34
7,400.0	0.36	308.40	7,399.3	18.3			0.08	23.0	661,048.32 776,982.90

Survey										
MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	N/S (usft)	E/W (usft)	DLeg (°/100usft)	Closure Distance (usft)	Closure Azimuth (°)	Northing (usft)	Easting (usft)
7,500.0	0.27	309.12	7,499.3	18.7	13.5	0.09	23.0	35.81	661,048.67	776,982.47
7,600.0	0.34	290.92	7,599.3	18.9	13.0	0.12	23.0	34.51	661,048.92	776,982.01
7,700.0	0.32	274.37	7,699.3	19.0	12.5	0.10	22.8	33.18	661,049.05	776,981.45
7,800.0	0.24	263.77	7,799.3	19.0	12.0	0.09	22.5	32.14	661,049.05	776,980.97
7,900.0	0.25	265.26	7,899.3	19.0	11.5	0.01	22.2	31.27	661,049.00	776,980.54
8,000.0	0.12	283.10	7,999.3	19.0	11.2	0.14	22.1	30.55	661,049.01	776,980.22
8,100.0	0.08	291.92	8,099.3	19.1	11.1	0.04	22.0	30.11	661,049.06	776,980.05
8,200.0	0.03	299.10	8,199.3	19.1	11.0	0.05	22.0	29.86	661,049.10	776,979.97
8,300.0	0.16	51.13	8,299.3	19.2	11.1	0.17	22.2	29.93	661,049.20	776,980.05
8,400.0	0.28	72.77	8,399.3	19.4	11.4	0.14	22.5	30.48	661,049.36	776,980.39
8,500.0	0.39	115.33	8,499.3	19.3	11.9	0.26	22.7	31.75	661,049.29	776,980.94
8,600.0	0.59	103.78	8,599.3	19.0	12.7	0.22	22.9	33.82	661,049.02	776,981.74
8,648.0	15.87	90.03	8,646.7	19.0	19.6	31.87	27.3	45.94	661,048.96	776,988.59
8,680.0	24.59	91.03	8,676.7	18.8	30.6	27.27	36.0	58.42	661,048.83	776,999.64
8,711.0	30.36	95.17	8,704.2	18.0	44.9	19.60	48.4	68.15	661,048.01	777,013.90
8,744.0	37.29	99.11	8,731.6	15.7	63.1	22.02	65.0	76.05	661,045.67	777,032.11
8,775.0	43.48	98.56	8,755.2	12.6	82.9	20.00	83.9	81.37	661,042.60	777,051.94
8,807.0	49.38	97.68	8,777.2	9.3	105.9	18.54	106.3	84.96	661,039.33	777,074.89
8,838.0	55.62	97.15	8,796.1	6.2	130.3	20.17	130.4	87.29	661,036.16	777,099.26
8,870.0	62.09	95.28	8,812.6	3.2	157.5	20.83	157.5	88.83	661,033.22	777,126.48
8,902.0	69.41	92.52	8,825.8	1.3	186.6	24.19	186.6	89.82	661,031.25	777,155.56
8,934.0	76.08	90.45	8,835.3	0.5	217.1	21.74	217.1	89.88	661,030.47	777,186.09
8,966.0	81.77	89.35	8,841.4	0.5	248.5	18.10	248.5	89.88	661,030.53	777,217.48
8,997.0	85.34	89.11	8,844.9	0.9	279.3	11.54	279.3	89.81	661,030.94	777,248.28
9,029.0	86.33	88.98	8,847.2	1.5	311.2	3.12	311.2	89.73	661,031.48	777,280.19
9,061.0	87.44	88.41	8,848.9	2.2	343.1	3.90	343.1	89.63	661,032.20	777,312.13
9,092.0	88.25	88.57	8,850.1	3.0	374.1	2.66	374.1	89.54	661,033.02	777,343.10
9,124.0	88.26	88.57	8,851.1	3.8	406.1	0.03	406.1	89.46	661,033.82	777,375.08
9,156.0	87.99	87.02	8,852.1	5.0	438.0	4.91	438.1	89.34	661,035.05	777,407.03
9,188.0	87.88	84.96	8,853.3	7.3	469.9	6.44	470.0	89.11	661,037.28	777,438.93
9,219.0	86.96	82.52	8,854.7	10.7	500.7	8.40	500.8	88.78	661,040.66	777,469.71
9,251.0	87.42	82.69	8,856.3	14.8	532.4	1.53	532.6	88.41	661,044.77	777,501.41
9,283.0	86.91	82.03	8,857.8	19.0	564.1	2.60	564.4	88.07	661,049.02	777,533.09
9,315.0	86.96	82.11	8,859.5	23.4	595.7	0.29	596.2	87.75	661,053.43	777,564.74
9,346.0	86.81	81.52	8,861.2	27.8	626.4	1.96	627.0	87.46	661,057.84	777,595.37

Survey										
MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	N/S (usft)	EW (usft)	DLeg (°/100usft)	Closure Distance (usft)	Closure Azimuth (°)	Northing (usft)	Easting (usft)
9,378.0	86.14	81.25	8,863.2	32.6	658.0	2.26	658.8	87.16	661,062.62	777,626.95
9,409.0	88.16	81.71	8,864.7	37.2	688.6	6.68	689.6	86.91	661,067.21	777,657.57
9,441.0	88.15	81.82	8,865.8	41.8	720.2	0.34	721.4	86.68	661,071.79	777,689.23
9,472.0	87.79	81.67	8,866.9	46.2	750.9	1.26	752.3	86.48	661,076.24	777,719.88
9,504.0	86.99	80.75	8,868.3	51.1	782.5	3.81	784.1	86.26	661,081.12	777,751.48
9,535.0	87.83	79.25	8,869.7	56.5	813.0	5.54	814.9	86.02	661,086.50	777,781.97
9,567.0	90.00	76.86	8,870.3	63.1	844.3	10.09	846.6	85.72	661,093.12	777,813.27
9,599.0	91.31	77.09	8,870.0	70.3	875.4	4.16	878.3	85.41	661,100.33	777,844.44
9,631.0	90.90	77.65	8,869.3	77.3	906.7	2.17	910.0	85.13	661,107.33	777,875.66
9,662.0	89.40	75.06	8,869.3	84.6	936.8	9.65	940.6	84.84	661,114.64	777,905.78
9,694.0	88.86	73.30	8,869.8	93.4	967.6	5.75	972.1	84.49	661,123.36	777,936.57
9,726.0	88.99	70.26	8,870.4	103.4	998.0	9.51	1,003.3	84.09	661,133.37	777,966.95
9,757.0	89.46	66.78	8,870.8	114.7	1,026.8	11.33	1,033.2	83.63	661,144.72	777,995.79
9,789.0	90.44	63.99	8,870.8	128.0	1,055.9	9.24	1,063.6	83.09	661,158.04	778,024.88
9,821.0	91.08	61.46	8,870.4	142.7	1,084.3	8.15	1,093.7	82.50	661,172.70	778,053.32
9,853.0	91.38	61.37	8,869.7	158.0	1,112.4	0.98	1,123.6	81.92	661,188.01	778,081.41
9,885.0	92.31	60.70	8,868.7	173.5	1,140.4	3.58	1,153.5	81.35	661,203.50	778,109.40
9,917.0	92.79	59.34	8,867.2	189.5	1,168.1	4.50	1,183.4	80.79	661,219.47	778,137.09
9,948.0	91.99	57.64	8,865.9	205.7	1,194.5	6.06	1,212.1	80.23	661,235.66	778,163.49
9,980.0	91.91	55.57	8,864.9	223.3	1,221.2	6.47	1,241.4	79.64	661,253.26	778,190.19
10,012.0	92.82	52.64	8,863.5	242.0	1,247.1	9.58	1,270.4	79.02	661,272.01	778,216.09
10,043.0	93.19	50.52	8,861.9	261.2	1,271.3	6.93	1,297.9	78.39	661,291.24	778,240.34
10,076.0	92.72	48.07	8,860.2	282.7	1,296.3	7.55	1,326.8	77.70	661,312.73	778,265.32
10,108.0	92.65	45.74	8,858.7	304.6	1,319.7	7.28	1,354.4	77.00	661,334.57	778,288.66
10,139.0	93.14	43.60	8,857.1	326.6	1,341.4	7.07	1,380.6	76.32	661,356.59	778,310.43
10,170.0	92.61	41.74	8,855.6	349.4	1,362.4	6.23	1,406.5	75.62	661,379.35	778,331.41
10,202.0	90.57	41.37	8,854.7	373.3	1,383.6	6.48	1,433.1	74.90	661,403.29	778,352.63
10,234.0	89.83	41.01	8,854.6	397.4	1,404.7	2.57	1,459.8	74.20	661,427.37	778,373.70
10,265.0	90.40	43.10	8,854.5	420.4	1,425.5	6.99	1,486.2	73.57	661,450.38	778,394.47
10,297.0	90.70	42.59	8,854.2	443.8	1,447.2	1.85	1,513.8	72.95	661,473.84	778,416.22
10,328.0	91.79	45.49	8,853.5	466.1	1,468.8	9.99	1,541.0	72.39	661,496.12	778,437.77
10,360.0	92.50	45.66	8,852.3	488.5	1,491.6	2.28	1,569.6	71.87	661,518.50	778,460.60
10,392.0	93.01	45.28	8,850.8	510.9	1,514.4	1.99	1,598.3	71.36	661,540.92	778,483.39
10,408.0	91.92	45.84	8,850.1	522.1	1,525.8	7.66	1,612.7	71.11	661,552.11	778,494.80
10,450.0	91.92	45.84	8,848.7	551.4	1,555.9	0.00	1,650.7	70.49	661,581.36	778,524.92
Projected Depth										

Project: Lea County, New Mexico
 Site: NVAWU (10)
 Well: Well #10H-ENE
 Wellbore: Lateral
 Design: Actual vs Plan #2
 Rig: Key 555



Scientific Drilling

