

Results of Directional Survey

API number:	30-025-40461	DD
OGRID:		Operator: CHEVRON U S A INC
		Property: CENTRAL VACUUM UNIT # 249

surface	ULSTR:	C	31	T	17S	R	35E
				1019	FNL	1414	FWL

BH Loc	ULSTR:	C	31	T	17S	R	35E
5197	MD	5070.1	TVD	475	FNL	1835	FWL

Top Perf/OH	ULSTR:	C	31	T	17S	R	35E
4820	MD	4739.2	TVD	655	FNL	1654	FWL

Bot Perf/OH	ULSTR:	C	31	T	17S	R	35E
5066	MD	4955.2	TVD	537	FNL	1784	FWL

	MD	N/S	E/W	VD
	4778	344.06	260.15	4702.25
TOP PERFS/OH	4820	364.01	239.57	4739.20
	4823	365.43	238.10	4741.84
	5049	473.59	363.66	4940.21
BOT PERFS/OH	5066	481.67	370.17	4955.16
	5094	494.99	380.88	4979.78

NEXT TO LAST	5094	494.99	380.88	4979.78
LAST READING	5139	516.55	398.33	5019.25
TD	5197	544.34	420.82	5070.12

Surface Location	1019	FN	1414	FW
Projected BHL	475	FN	1835	FW
Location of				
Top Perfs/OH	655	FN	1654	FW
Bottom Perfs/OH	537	FN	1784	FW

SUMMARY of Subsurface Locations

Surface Location	C-31-17S-35E	1019	FN	1414	FW	Vert. Depth
Top Perfs/OH	C-31-17S-35E	655	FN	1654	FW	4739.20
Bottom Perfs/OH	C-31-17S-35E	537	FN	1784	FW	4955.16
Projected TD	C-31-17S-35E	475	FN	1835	FW	5070.12

FEB 27 2014

Chevron
CVU # 249

HOBBS OCD

HOBBS OCD

DEC 18 2013

DEC 18 2013

MD	INC	AZI	TVD	VSEC	NS	EW	DL/100'
0.00	0.00	0.00	0.00	0.00	RECEIVED	0.00	RECEIVED
119.21	0.10	195.54	119.21	-0.09	-0.10	-0.03	0.08
182.09	0.43	178.73	182.09	-0.32	-0.39	-0.04	0.53
273.33	0.62	196.31	273.33	-1.03	-1.21	-0.17	0.27
364.57	0.79	198.60	364.56	-2.07	-2.27	-0.51	0.19
454.89	1.01	199.16	454.87	-3.40	-3.62	-0.97	0.24
550.40	1.09	196.73	550.36	-5.02	-5.28	-1.51	0.10
641.97	1.23	194.68	641.91	-6.72	-7.07	-2.01	0.16
733.63	1.33	195.70	733.55	-8.58	-9.04	-2.54	0.11
825.58	1.48	195.92	825.47	-10.64	-11.21	-3.16	0.16
917.53	1.68	198.33	917.39	-12.98	-13.63	-3.91	0.23
1007.72	1.72	198.22	1007.54	-15.47	-16.17	-4.75	0.04
1098.00	1.94	198.71	1097.77	-18.16	-18.91	-5.66	0.24
1188.21	2.13	200.83	1187.92	-21.17	-21.92	-6.75	0.23
1278.49	2.24	204.64	1278.14	-24.46	-25.09	-8.08	0.20
1368.40	2.04	206.23	1367.99	-27.71	-28.13	-9.52	0.23
1458.81	2.13	209.94	1458.34	-30.93	-31.03	-11.07	0.18
1549.22	2.30	210.47	1548.68	-34.38	-34.04	-12.83	0.19
1639.40	2.26	210.64	1638.79	-37.92	-37.13	-14.65	0.04
1729.60	1.85	213.27	1728.93	-41.12	-39.88	-16.35	0.47
1819.81	1.81	215.99	1819.09	-43.99	-42.25	-17.99	0.11
1910.14	1.41	216.87	1909.39	-46.52	-44.30	-19.50	0.44
2000.47	1.22	212.84	1999.69	-48.59	-45.99	-20.68	0.23
2090.70	0.86	192.16	2089.91	-50.14	-47.46	-21.35	0.57
2180.95	0.63	184.41	2180.15	-51.15	-48.62	-21.53	0.28
2271.17	0.59	176.06	2270.37	-51.89	-49.58	-21.53	0.11
2361.30	0.46	167.93	2360.49	-52.44	-50.39	-21.43	0.17
2451.59	0.69	170.15	2450.78	-53.02	-51.28	-21.26	0.26
2541.88	0.70	161.08	2541.06	-53.66	-52.34	-20.99	0.12
2632.17	0.70	153.48	2631.34	-54.17	-53.36	-20.56	0.10
2722.40	0.65	129.81	2721.57	-54.39	-54.18	-19.92	0.31
2812.59	0.65	126.32	2811.75	-54.36	-54.81	-19.12	0.04
2902.81	0.62	130.32	2901.97	-54.34	-55.43	-18.33	0.06
2993.07	0.40	139.78	2992.22	-54.40	-55.98	-17.76	0.26
3083.33	0.37	147.17	3082.48	-54.54	-56.47	-17.39	0.06
3167.62	0.37	148.66	3166.77	-54.71	-56.93	-17.11	0.01
3244.00	0.34	163.69	3243.15	-54.91	-57.36	-16.91	0.13
3289.00	0.54	116.24	3288.15	-54.94	-57.58	-16.69	0.89
3334.00	0.89	88.08	3333.14	-54.66	-57.66	-16.15	1.08
3379.00	1.78	60.02	3378.13	-53.77	-57.30	-15.19	2.40
3424.00	2.61	50.89	3423.10	-52.11	-56.30	-13.79	2.00
3469.00	3.24	41.17	3468.04	-49.83	-54.70	-12.16	1.78
3515.00	3.89	40.78	3513.95	-46.97	-52.54	-10.28	1.41
3560.00	4.83	35.56	3558.82	-43.56	-49.84	-8.19	2.27
3605.00	5.82	28.88	3603.62	-39.43	-46.30	-5.98	2.59
3650.00	6.99	26.54	3648.34	-34.52	-41.86	-3.66	2.66

3695.00	7.72	30.37	3692.97	-28.87	-36.80	-0.90	1.95
3740.00	8.62	32.70	3737.52	-22.54	-31.35	2.45	2.13
3785.00	10.17	35.67	3781.91	-15.23	-25.29	6.58	3.61
3830.00	11.64	37.66	3826.10	-6.73	-18.47	11.67	3.37
3875.00	12.95	38.06	3870.06	2.85	-10.90	17.56	2.92
3921.00	13.80	38.22	3914.82	13.48	-2.53	24.13	1.85
3966.00	14.89	37.71	3958.41	24.63	6.26	30.99	2.44
4011.00	15.56	37.87	4001.83	36.44	15.60	38.23	1.49
4056.00	16.41	38.00	4045.09	48.82	25.37	45.85	1.89
4101.00	17.39	37.78	4088.15	61.90	35.69	53.88	2.18
4146.00	18.64	38.82	4130.94	75.81	46.61	62.51	2.87
4191.00	19.87	38.93	4173.42	90.65	58.16	71.82	2.73
4236.00	21.29	39.50	4215.55	106.46	70.42	81.82	3.19
4282.00	22.41	38.23	4258.25	123.58	83.75	92.56	2.64
4327.00	23.92	37.89	4299.62	141.27	97.69	103.47	3.37
4372.00	25.14	37.44	4340.55	159.94	112.48	114.89	2.74
4417.00	26.40	37.01	4381.08	179.49	128.06	126.72	2.83
4462.00	26.94	36.66	4421.29	199.66	144.22	138.83	1.25
4507.00	27.75	36.57	4461.26	220.30	160.82	151.16	1.80
4552.00	26.99	36.45	4501.22	240.95	177.44	163.47	1.69
4598.00	26.62	36.41	4542.28	261.66	194.13	175.79	0.81
4643.00	26.93	36.74	4582.46	281.90	210.41	187.87	0.76
4688.00	27.24	37.03	4622.52	302.37	226.80	200.16	0.75
4733.00	27.57	36.98	4662.47	323.06	243.34	212.63	0.74
4778.00	28.15	36.89	4702.25	344.06	260.15	225.27	1.29
4823.00	28.63	36.81	4741.84	365.43	277.27	238.10	1.07
4868.00	29.07	37.00	4781.26	387.11	294.63	251.14	1.00
4913.00	29.14	37.11	4820.58	408.98	312.10	264.33	0.20
4959.00	28.17	37.29	4860.94	431.01	329.67	277.66	2.12
5004.00	28.26	37.10	4900.59	452.27	346.62	290.52	0.28
5049.00	28.38	36.96	4940.21	473.59	363.66	303.38	0.30
5094.00	28.50	36.17	4979.78	494.99	380.88	316.15	0.88
5139.00	28.87	36.05	5019.25	516.55	398.33	328.88	0.83

BLD/100'	TURN
0.00	0.00
0.08	0.00
0.52	-26.73
0.21	19.27
0.19	2.51
0.24	0.62
0.08	-2.54
0.15	-2.24
0.11	1.11
0.16	0.24
0.22	2.62
0.04	-0.12
0.24	0.54
0.21	2.35
0.12	4.22
-0.22	1.77
0.10	4.10
0.19	0.59
-0.04	0.19
-0.45	2.92
-0.04	3.02
-0.44	0.97
-0.21	-4.46
-0.40	-22.92
-0.25	-8.59
-0.04	-9.26
-0.14	-9.02
0.25	2.46
0.01	-10.05
0.00	-8.42
-0.06	-26.23
0.00	-3.87
-0.03	4.43
-0.24	10.48
-0.03	8.19
0.00	1.77
-0.04	19.68
0.44	-105.44
0.78	-62.58
1.98	-62.36
1.84	-20.29
1.40	-21.60
1.41	-0.85
2.09	-11.60
2.20	-14.84
2.60	-5.20

1.62	8.51
2.00	5.18
3.44	6.60
3.27	4.42
2.91	0.89
1.85	0.35
2.42	-1.13
1.49	0.36
1.89	0.29
2.18	-0.49
2.78	2.31
2.73	0.24
3.16	1.27
2.43	-2.76
3.36	-0.76
2.71	-1.00
2.80	-0.96
1.20	-0.78
1.80	-0.20
-1.69	-0.27
-0.80	-0.09
0.69	0.73
0.69	0.64
0.73	-0.11
1.29	-0.20
1.07	-0.18
0.98	0.42
0.16	0.24
-2.11	0.39
0.20	-0.42
0.27	-0.31
0.27	-1.76
0.82	-0.27

CHEVRON

Vacuum Grayburg San Andres
Lea County, NM
Central Vacuum Unit #249
VH - Job #320113-K-109

Survey: drop Gyro

SDI Standard Survey Report

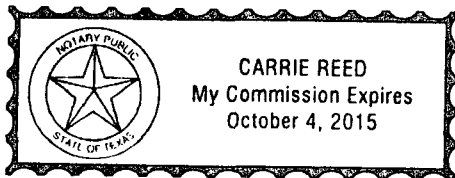
This survey is correct to the best of my knowledge and is supported by actual field data.

K. Wharton

Notarized this date 11th of February, 2013.

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 Central Vacuum Unit #249
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 #249	North Reference:	True
Wellbore:	VH - Job #320113-K-109	Survey Calculation Method:	Minimum Curvature
Design:	VH - Job #320113-K-109	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	Latitude:	32° 48' 3.600 N
From:	Lat/Long	Easting:	755,139.93 usft	Longitude:	103° 30' 10.800 W
Position Uncertainty:	0.00 usft	Slot Radius:	0"	Grid Convergence:	0.45 °

Well	Central Vacuum Unit #249, Directional (SDI)					
Well Position	+N/-S	0.00 usft	Northing:	654,260.09 usft	Latitude:	32° 47' 45.168 N
	+E/-W	0.00 usft	Easting:	755,977.81 usft	Longitude:	103° 30' 1.156 W
Position Uncertainty		0.00 usft	Wellhead Elevation:	usft	Ground Level:	0.00 usft

Wellbore	VH - Job #320113-K-109				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	01/29/13	7.40	60.69	48,831

Design	VH - Job #320113-K-109			
Audit Notes:				
Version:	1.0	Phase:	ACTUAL	Tie On Depth: 0.00
Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)
	0.00	0.00	0.00	39.76

Survey Program	Date	02/12/13			
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description	
119.21	3,167.62	drop Gyro (VH - Job #320113-K-109)	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	0.00
119.21	0.10	195.54	119.21	-0.10	-0.03	195.54	0.10	
182.09	0.43	178.73	182.09	-0.39	-0.04	185.48	0.39	
273.33	0.62	196.31	273.33	-1.21	-0.17	187.95	1.22	
364.57	0.79	198.60	364.56	-2.27	-0.51	192.58	2.33	
454.89	1.01	199.16	454.87	-3.62	-0.97	194.98	3.74	
550.40	1.09	196.73	550.36	-5.28	-1.51	195.91	5.49	
641.97	1.23	194.68	641.91	-7.07	-2.01	195.84	7.35	
733.63	1.33	195.70	733.55	-9.04	-2.54	195.70	9.39	
825.58	1.48	195.92	825.47	-11.21	-3.16	195.72	11.65	
917.53	1.68	198.33	917.39	-13.63	-3.91	195.99	14.18	
1,007.72	1.72	198.22	1,007.54	-16.17	-4.75	196.35	16.86	

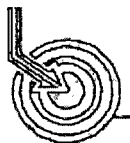
Scientific Drilling International, Inc.

SDI Standard Survey Report



Company:	CHEVRON	Local Co-ordinate Reference:	Well Central Vacuum Unit #249
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 #249	North Reference:	True
Wellbore:	VH - Job #320113-K-109	Survey Calculation Method:	Minimum Curvature
Design:	VH - Job #320113-K-109	Database:	EDM-Regulatory

Survey							
Measured Depth (usft)	Inclination (°)	Azimuth (°)	True Vertical Depth	North/South (usft)	East/West (usft)	Closure Azimuth (°)	Closure Distance (usft)
1,098.00	1.94	198.71	1,097.77	-18.91	-5.66	196.66	19.74
1,188.21	2.13	200.83	1,187.92	-21.92	-6.75	197.10	22.94
1,278.49	2.24	204.64	1,278.14	-25.09	-8.08	197.84	26.36
1,368.40	2.04	206.23	1,367.99	-28.13	-9.52	198.69	29.69
1,458.81	2.13	209.94	1,458.34	-31.03	-11.07	199.63	32.94
1,549.22	2.30	210.47	1,548.68	-34.04	-12.83	200.64	36.38
1,639.40	2.26	210.64	1,638.79	-37.13	-14.65	201.53	39.92
1,729.60	1.85	213.27	1,728.93	-39.88	-16.35	202.30	43.10
1,819.81	1.81	215.99	1,819.09	-42.25	-17.99	203.06	45.92
1,910.14	1.41	216.87	1,909.39	-44.30	-19.50	203.76	48.40
2,000.47	1.22	212.84	1,999.69	-45.99	-20.68	204.21	50.43
2,090.70	0.86	192.16	2,089.91	-47.46	-21.35	204.22	52.04
2,180.95	0.63	184.41	2,180.15	-48.62	-21.53	203.88	53.17
2,271.17	0.59	176.06	2,270.37	-49.58	-21.53	203.48	54.05
2,361.30	0.46	167.93	2,360.49	-50.39	-21.43	203.03	54.76
2,451.59	0.69	170.15	2,450.78	-51.28	-21.26	202.52	55.51
2,541.88	0.70	161.08	2,541.06	-52.34	-20.99	201.85	56.39
2,632.17	0.70	153.48	2,631.34	-53.36	-20.56	201.07	57.18
2,722.40	0.65	129.81	2,721.57	-54.18	-19.92	200.19	57.72
2,812.59	0.65	126.32	2,811.75	-54.81	-19.12	199.23	58.05
2,902.81	0.62	130.32	2,901.97	-55.43	-18.33	198.30	58.38
2,993.07	0.40	139.78	2,992.22	-55.98	-17.76	197.60	58.73
3,083.33	0.37	147.17	3,082.48	-56.47	-17.39	197.12	59.09
3,167.62	0.37	148.66	3,166.77	-56.93	-17.11	196.72	59.44

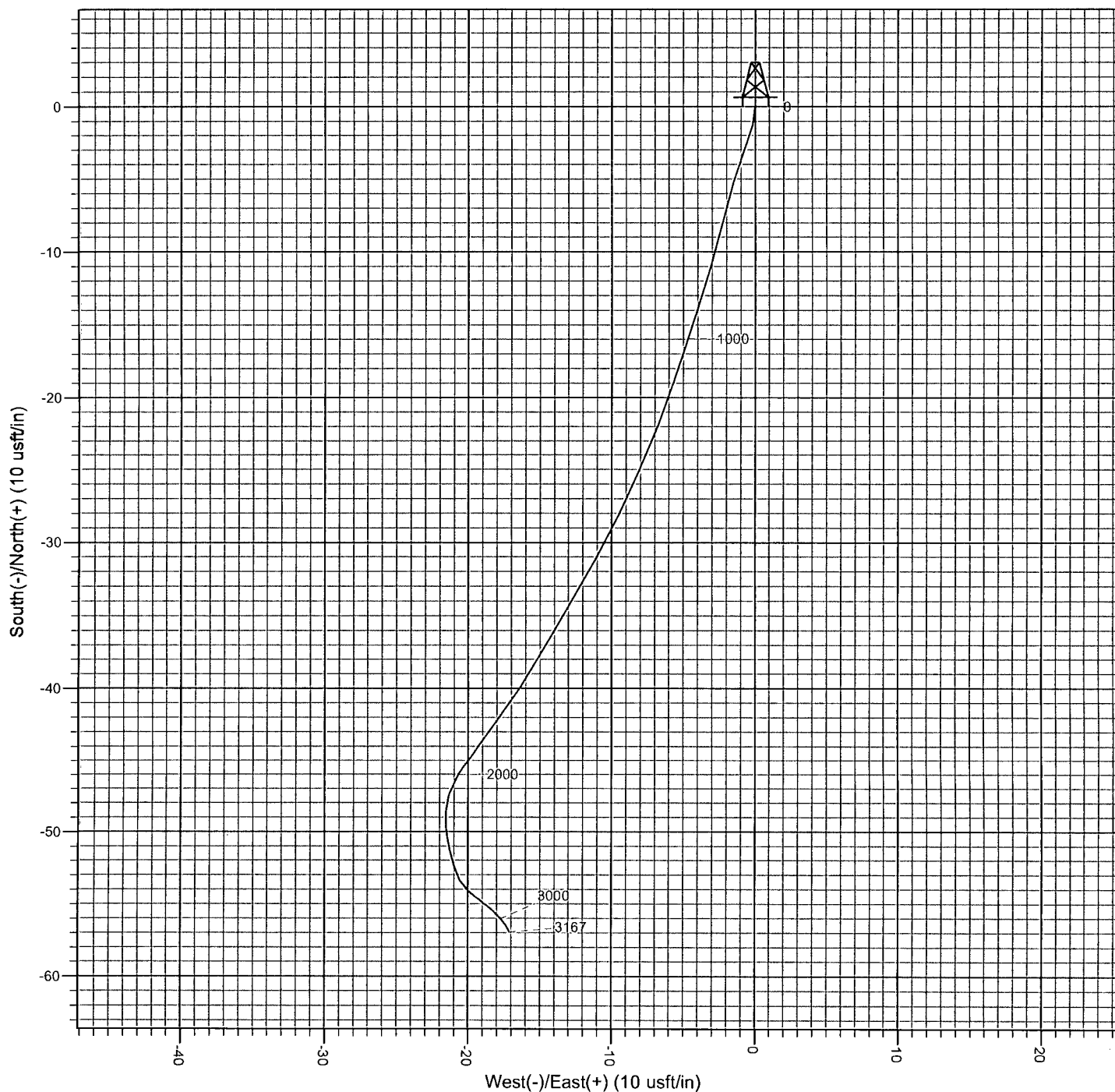


Scientific Drilling

Project: Vacuum Grayburg San Andres
Lea County, NM
Well: Central Vacuum Unit #249
Wellbore: VH - Job #320113-K-109
Design: VH - Job #320113-K-109

WELL DETAILS: Central Vacuum Unit #249
WELL @ 0.00usft (Original Well Elev)

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Slot
0.00	0.00	654260.09	755977.81	32° 47' 45.168 N	103° 30' 1.156 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