

30-025-40828

MANZANO OIL CORP.

Salt Lake
Lea County, NM
Green Frog Cafe Federal #1H
VH - Job #320113-KW-001

HOBBS OCD

OCT 03 2013

RECEIVED

Survey: Gyro

SDI Standard Survey Report

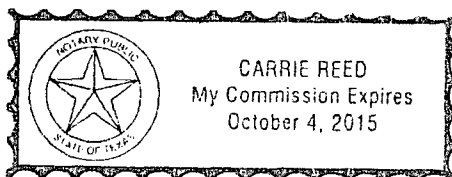
This survey is correct to the best of my knowledge and is supported by actual field data.

[Signature]

Notarized this date 11/11 of February, 2013.

[Signature]

Notary Signature
County of Midland
State of Texas



Scientific Drilling

MAR 06 2014

Scientific Drilling International, Inc.

SDI Standard Survey Report



Company:	MANZANO OIL CORP.	Local Co-ordinate Reference:	Well Green Frog Cafe Federal #1H
Project:	Salt Lake	TVD Reference:	WELL @ 0.00usft (Original Well Elev)
Site:	Lea County, NM	MD Reference:	WELL @ 0.00usft (Original Well Elev)
Well:	Green Frog Cafe Federal #1H	North Reference:	Grid
Wellbore:	VH - Job #320113-KW-001	Survey Calculation Method:	Minimum Curvature
Design:	VH - Job #320113-KW-001	Database:	EDM-Regulatory

Project	Salt Lake		
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:	570,303.08 usft	Latitude:	32° 33' 59.340 N	
From:	Lat/Long	Easting:	681,902.63 usft	Longitude:	103° 44' 34.390 W
Position Uncertainty:	0.00 usft	Slot Radius:	13-3/16"	Grid Convergence:	0.32 °

Well	Green Frog Cafe Federal #1H, Directional (Weatherford)					
Well Position	+N/-S	0.00 usft	Northing:	574,633.71 usft	Latitude:	32° 34' 41.470 N
	+E/-W	0.00 usft	Easting:	694,620.79 usft	Longitude:	103° 42' 5.480 W
Position Uncertainty	0.00 usft	Wellhead Elevation:	usft	Ground Level:	0.00 usft	

Wellbore	VH - Job #320113-KW-001				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	01/01/13	7.48	60.45	48,686

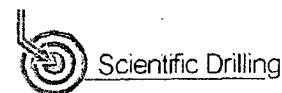
Design:	VH - Job #320113-KW-001				
Audit Notes:					
Version:	1.0	Phase:	ACTUAL	Tie On Depth:	0.00
Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)	
	0.00	0.00	0.00	89.77	

Survey Program	Date 02/12/13				
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description	
100.00	9,491.00	Gyro (VH - Job #320113-KW-001)	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
	100.00	0.20	230.88	100.00	-0.11	-0.14	230.88	0.17
	200.00	0.19	211.36	200.00	-0.36	-0.36	224.62	0.51
	300.00	0.15	204.08	300.00	-0.62	-0.50	218.57	0.80
	400.00	0.24	227.51	400.00	-0.88	-0.70	218.56	1.13
	500.00	0.36	188.85	500.00	-1.34	-0.91	214.19	1.61
	600.00	0.39	184.63	599.99	-1.99	-0.98	206.35	2.22
	700.00	0.36	171.47	699.99	-2.64	-0.96	200.09	2.81
	800.00	0.33	174.07	799.99	-3.23	-0.89	195.36	3.35
	900.00	0.26	172.31	899.99	-3.74	-0.83	192.47	3.83
	1,000.00	0.42	180.31	999.99	-4.34	-0.80	190.45	4.41
	1,100.00	0.38	177.66	1,099.99	-5.03	-0.79	188.90	5.09

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 Project: Salt Lake
 Site: Lea County, NM
 Well: Green Frog Cafe Federal #1H
 Wellbore: VH - Job #320113-KW-001
 Design: VH - Job #320113-KW-001

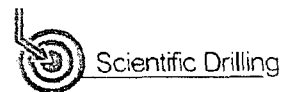
Local Co-ordinate Reference: Well Green Frog Cafe Federal #1H
 TVD Reference: WELL @ 0.00usft (Original Well Elev)
 MD Reference: WELL @ 0.00usft (Original Well Elev)
 North Reference: Grid
 Survey Calculation Method: Minimum Curvature
 Database: EDM-Regulatory

Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	True Vertical Depth	North/South (usft)	East/West (usft)	Closure Azimuth (°)	Closure Distance (usft)
1,200.00	0.24	144.77	1,199.98	-5.54	-0.65	186.73	5.57
1,300.00	0.71	78.79	1,299.98	-5.59	0.08	179.23	5.59
1,400.00	0.75	76.40	1,399.97	-5.31	1.32	166.05	5.47
1,500.00	0.77	73.99	1,499.96	-4.97	2.60	152.39	5.61
1,600.00	0.69	79.50	1,599.96	-4.68	3.84	140.62	6.05
1,700.00	0.40	66.14	1,699.95	-4.43	4.75	132.98	6.49
1,800.00	0.36	55.90	1,799.95	-4.11	5.33	127.63	6.73
1,900.00	0.40	48.56	1,899.95	-3.70	5.85	122.32	6.92
2,000.00	0.46	58.79	1,999.94	-3.26	6.46	116.81	7.23
2,100.00	0.41	48.34	2,099.94	-2.82	7.07	111.73	7.61
2,200.00	0.78	48.74	2,199.94	-2.13	7.85	105.19	8.13
2,300.00	1.72	45.75	2,299.91	-0.63	9.43	93.85	9.45
2,400.00	2.45	45.79	2,399.84	1.90	12.04	81.02	12.19
2,500.00	3.39	48.73	2,499.71	5.34	15.79	71.31	16.67
2,600.00	4.00	52.43	2,599.50	9.42	20.78	65.61	22.82
2,700.00	3.86	53.81	2,699.27	13.53	26.26	62.73	29.54
2,800.00	2.78	57.13	2,799.10	16.84	31.02	61.50	35.29
2,900.00	1.90	60.31	2,899.02	18.98	34.49	61.18	39.37
3,000.00	1.27	64.26	2,998.98	20.28	36.93	61.23	42.13
3,100.00	0.86	67.22	3,098.96	21.05	38.62	61.41	43.99
3,200.00	0.79	76.82	3,198.95	21.50	39.98	61.73	45.40
3,300.00	0.65	79.47	3,298.94	21.76	41.21	62.17	46.60
3,400.00	0.65	78.16	3,398.93	21.98	42.33	62.56	47.69
3,500.00	0.45	62.41	3,498.93	22.28	43.23	62.74	48.63
3,600.00	0.46	64.97	3,598.93	22.63	43.94	62.75	49.43
3,700.00	0.42	46.83	3,698.92	23.05	44.57	62.66	50.18
3,800.00	0.26	51.37	3,798.92	23.44	45.02	62.49	50.75
3,900.00	0.35	38.67	3,898.92	23.82	45.38	62.31	51.26
4,000.00	0.36	57.32	3,998.92	24.23	45.84	62.14	51.85
4,100.00	0.37	75.47	4,098.92	24.48	46.42	62.19	52.48
4,200.00	0.62	107.87	4,198.91	24.40	47.24	62.69	53.17
4,300.00	0.61	107.71	4,298.91	24.07	48.27	63.50	53.93
4,400.00	0.57	122.37	4,398.90	23.64	49.19	64.33	54.58
4,500.00	0.52	120.08	4,498.90	23.15	50.01	65.16	55.10
4,600.00	0.30	120.48	4,598.90	22.79	50.62	65.77	55.52
4,700.00	0.15	115.56	4,698.89	22.60	50.97	66.09	55.75
4,800.00	0.13	284.39	4,798.89	22.57	50.98	66.12	55.75
4,900.00	0.12	278.70	4,898.89	22.61	50.76	65.99	55.57
5,000.00	0.06	252.13	4,998.89	22.61	50.61	65.93	55.43
5,100.00	0.08	271.10	5,098.89	22.60	50.49	65.89	55.32
5,200.00	0.25	200.45	5,198.89	22.39	50.34	66.02	55.10
5,300.00	0.47	216.16	5,298.89	21.86	50.03	66.40	54.59
5,400.00	0.48	189.31	5,398.89	21.11	49.72	66.99	54.01
5,500.00	0.50	182.12	5,498.88	20.26	49.63	67.79	53.61

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 Wellbore: VH - Job #320113-KW-001
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Local Co-ordinate Reference: Well Green Frog Cafe Federal #1H
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 North Reference: Grid
 Survey Calculation Method: Minimum Curvature
 Database: EDM-Regulatory

Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	True Vertical Depth	North/South (usft)	East/West (usft)	Closure Azimuth (°)	Closure Distance (usft)		
5,600.00	0.45	178.29	5,598.88	19.44	-49.63	68.61	53.30		
5,700.00	0.63	195.23	5,698.88	18.51	49.50	69.49	52.84		
5,800.00	0.61	183.18	5,798.87	17.45	49.32	70.51	52.32		
5,900.00	0.63	187.04	5,898.87	16.37	49.22	71.60	51.88		
6,000.00	0.80	189.04	5,998.86	15.14	49.05	72.85	51.33		
6,100.00	0.80	195.83	6,098.85	13.78	48.75	74.22	50.66		
6,200.00	0.79	195.04	6,198.84	12.44	48.38	75.58	49.95		
6,300.00	0.82	202.73	6,298.83	11.11	47.92	76.94	49.19		
6,400.00	0.73	228.79	6,398.82	10.03	47.17	77.99	48.22		
6,500.00	0.76	235.09	6,498.81	9.24	46.14	78.68	47.06		
6,600.00	0.72	236.37	6,598.80	8.51	45.08	79.31	45.87		
6,700.00	0.72	244.41	6,698.79	7.89	43.99	79.83	44.69		
6,800.00	0.78	251.35	6,798.79	7.40	42.78	80.19	43.41		
6,900.00	0.79	271.81	6,898.78	7.20	41.44	80.14	42.06		
7,000.00	0.70	278.64	6,998.77	7.32	40.15	79.67	40.81		
7,100.00	0.78	277.96	7,098.76	7.50	38.87	79.07	39.59		
7,200.00	0.81	280.54	7,198.75	7.73	37.50	78.36	38.29		
7,300.00	1.25	258.08	7,298.73	7.63	35.74	77.95	36.54		
7,400.00	3.20	265.59	7,398.65	7.19	31.89	77.29	32.69		
7,500.00	2.83	265.54	7,498.52	6.78	26.64	75.71	27.49		
7,600.00	2.46	266.98	7,598.41	6.48	22.04	73.62	22.97		
7,700.00	2.10	268.63	7,698.33	6.32	18.07	70.71	19.14		
7,800.00	1.67	271.34	7,798.28	6.31	14.78	66.87	16.07		
7,900.00	1.55	269.08	7,898.24	6.33	11.97	62.14	13.54		
8,000.00	1.47	265.92	7,998.20	6.21	9.34	56.36	11.21		
8,100.00	1.40	265.67	8,098.17	6.03	6.84	48.60	9.12		
8,200.00	1.36	271.49	8,198.14	5.97	4.43	36.62	7.43		
8,300.00	1.16	258.54	8,298.12	5.80	2.26	21.26	6.22		
8,400.00	1.13	254.17	8,398.10	5.33	0.32	3.39	5.34		
8,500.00	1.23	244.60	8,498.08	4.60	-1.60	340.78	4.87		
8,600.00	1.05	243.70	8,598.06	3.73	-3.39	317.71	5.04		
8,700.00	0.78	192.97	8,698.04	2.66	-4.37	301.36	5.12		
8,800.00	1.27	189.52	8,798.03	0.91	-4.70	280.90	4.79		
8,900.00	1.55	179.98	8,898.00	-1.54	-4.89	252.51	5.12		
9,000.00	1.36	198.54	8,997.97	-4.02	-5.26	232.65	6.62		
9,100.00	0.50	154.75	9,097.95	-5.54	-5.46	224.57	7.77		
9,200.00	0.46	98.88	9,197.95	-5.99	-4.87	219.11	7.72		
9,300.00	0.43	83.93	9,297.95	-6.02	-4.10	214.29	7.28		
9,400.00	0.38	110.32	9,397.94	-6.09	-3.42	209.30	6.98		
9,491.00	0.87	206.06	9,488.94	-6.82	-3.44	206.77	7.64		

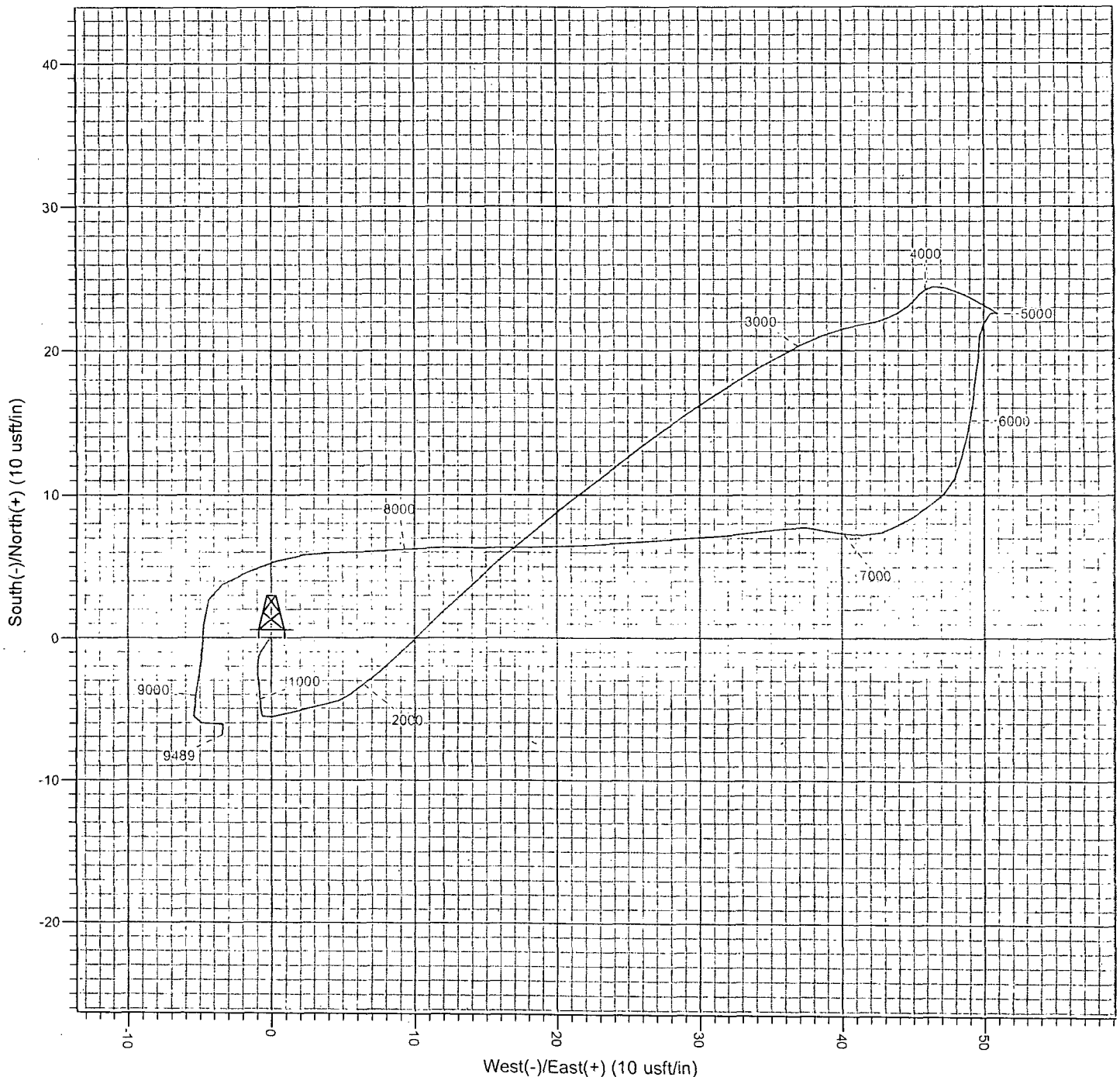


Scientific Drilling

Project: Salt Lake
Lea County, NM
Well: Green Frog Cafe Federal #1H
Wellbore: VH - Job #320113-KW-001
Design: VH - Job #320113-KW-001

WELL DETAILS: Green Frog Cafe Federal #1H
WELL @ 0.00usft (Original Well Elev)
Ground Level: 0.00

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Slot
0.00	0.00	574633.71	694620.79	32° 34' 41.470 N	103° 42' 5.480 W	



PROJECT DETAILS: Salt Lake	SITE DETAILS: Lea County, NM
Geodetic System: US State Plane 1927 (Exact solution)	Site Centre Latitude: 32° 33' 59.340 N
Datum: NAD 1927 (NADCON CONUS)	Longitude: 103° 44' 34.390 W
Ellipsoid: Clarke 1866	Positional Uncertainty: 0.00
Zone: New Mexico East 3001	Convergence: 0.32
System Datum: Mean Sea Level	Local North: Grid