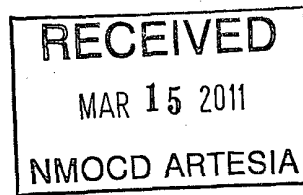


MURCHISON OIL & GAS

Empire
Eddy County, NM
Frosty Federal Com #1
VH - Job #32K1110928



Survey: Actual

SDI Standard Survey Report

16 December, 2010

30-015-37003

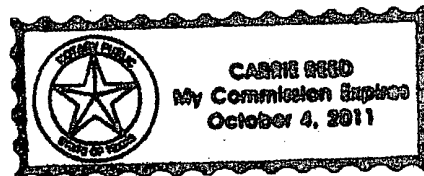
This survey is correct to the best of my knowledge and is supported by actual field data.

[Signature]

Notorized this date 17th of December, 2010.

[Signature]

Notary Signature
County of Midland
State of Texas



Scientific Drilling International, Inc.
SDI Standard Survey Report

Company:	MURCHISON OIL & GAS	Local Co-ordinate Reference:	Well Frosty Federal Com #1
Project:	Empire	TVD Reference:	WELL @ 0.0usft (Original Well Elev)
Site:	Eddy County, NM	MD Reference:	WELL @ 0.0usft (Original Well Elev)
Well:	Frosty Federal Com #1	North Reference:	Grid
Wellbore:	VH - Job #32K1110928	Survey Calculation Method:	Minimum Curvature
Design:	VH - Job #32K1110928	Database:	EDM-Regulatory

Project:	Empire	System Datum:	Mean Sea Level
Map System:	US State Plane 1927 (Exact solution)		
Geo Datum:	NAD 1927 (NADCON CONUS)		
Map Zone:	New Mexico East 3001		

Site:	Eddy County, NM				
Site Position:		Northing:	689,077.06 usft	Latitude:	32° 53' 39.548 N
From:	Lat/Long	Easting:	528,173.96 usft	Longitude:	104° 14' 29.566 W
Position Uncertainty:	0.0 usft	Slot Radius:	13-3/16"	Grid Convergence:	0.05 °

Well:	Frosty Federal Com #1, Directional (Pathfinder)					
Well Position	+N/-S	0.0 usft	Northing:	689,077.08 usft	Latitude:	32° 53' 39.548 N
	+E/-W	0.0 usft	Easting:	528,173.96 usft	Longitude:	104° 14' 29.566 W
Position Uncertainty		0.0 usft	Wellhead Elevation:	usft	Ground Level:	0.0 usft

Wellbore:	VH - Job #32K1110928				
Magnetics	Model Name	Sample Date	Declination	Dip Angle	Field Strength
	BGGM2010	11/25/2010	(°)	(°)	(nT)
			8.08	60.71	49,058

Design:	VH - Job #32K1110928				
Audit Notes:					
Version:	1.0	Phase:	ACTUAL	Tie On Depth:	0.0
Vertical Section:	Depth From (TVD)	+N/-S	+E/-W	Direction	
	(usft)	(usft)	(usft)	(°)	
	0.0	0.0	0.0	270.19	

Survey Program:	Date	12/18/2010		
From	To	Survey (Wellbore)	Tool Name	Description
(usft)	(usft)			
100.0	5,931.0	Actual (VH - Job #32K1110928)	Keeper	Keeper Gyro

Survey:								
Measured Depth	Inclination	Azimuth	True Vertical	North/South	East/West	Closure Azimuth	Closure Distance	
(usft)	(°)	(°)	Depth	(usft)	(usft)	(°)	(usft)	
0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.0	
100.0	0.88	115.54	100.0	-0.3	0.7	115.54	0.8	
200.0	0.73	104.76	200.0	-0.8	2.0	112.39	2.2	
300.0	0.77	103.06	300.0	-1.1	3.3	109.19	3.5	
400.0	0.57	82.99	400.0	-1.2	4.4	105.55	4.6	
500.0	0.68	60.09	500.0	-0.9	5.4	99.14	5.5	
600.0	0.55	55.09	600.0	-0.3	6.3	92.73	6.3	
700.0	0.55	77.71	700.0	0.1	7.2	89.41	7.2	
800.0	0.46	79.66	800.0	0.2	8.1	88.23	8.1	
900.0	0.36	54.10	899.9	0.5	8.7	86.68	8.7	
1,000.0	0.20	72.39	999.9	0.7	9.1	85.36	9.2	
1,100.0	0.13	73.49	1,099.9	0.8	9.4	84.98	9.4	

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Company:	MURCHISON OIL & GAS	Local Co-ordinate Reference:	Well Frosty Federal Com #1
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Site:	Eddy County, NM	MD Reference:	WELL @ 0.0usft (Original Well Elev)
Well:	Frosty Federal Com #1	North Reference:	Grid
Wellbore:	VH - Job #32K1110928	Survey Calculation Method:	Minimum Curvature
Design:	VH - Job #32K1110928	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	0.07	167.42	1,199.9	0.8	9.5	85.21	9.6		
1,300.0	0.28	267.87	1,299.9	0.7	9.3	85.51	9.3		
1,400.0	0.25	285.65	1,399.9	0.8	8.8	84.96	8.9		
1,500.0	0.28	300.38	1,499.9	1.0	8.4	83.48	8.5		
1,600.0	0.29	335.11	1,599.9	1.3	8.1	80.78	8.2		
1,700.0	0.33	355.67	1,699.9	1.8	8.0	77.06	8.2		
1,800.0	0.29	6.36	1,799.9	2.4	8.0	73.46	8.3		
1,900.0	0.47	346.13	1,899.9	3.0	7.9	69.11	8.5		
2,000.0	0.36	352.29	1,999.9	3.7	7.8	64.37	8.6		
2,100.0	0.30	8.27	2,099.9	4.3	7.8	61.03	8.9		
2,200.0	0.23	350.21	2,199.9	4.8	7.8	58.53	9.1		
2,300.0	0.18	344.20	2,299.9	5.1	7.7	56.43	9.2		
2,400.0	0.14	330.99	2,399.9	5.4	7.6	54.76	9.3		
2,500.0	0.26	291.55	2,499.9	5.6	7.3	52.82	9.2		
2,600.0	0.36	300.32	2,599.9	5.8	6.8	49.73	9.0		
2,700.0	0.31	293.51	2,699.9	6.1	6.3	46.20	8.8		
2,800.0	0.30	283.63	2,799.9	6.2	5.8	43.04	8.5		
2,900.0	0.02	51.17	2,899.9	6.3	5.6	41.50	8.4		
3,000.0	0.19	95.46	2,999.9	6.3	5.8	42.42	8.5		
3,100.0	0.29	96.64	3,099.9	6.3	6.2	44.63	8.8		
3,200.0	0.23	111.55	3,199.9	6.2	6.6	47.06	9.0		
3,300.0	0.24	104.44	3,299.9	6.0	7.0	49.28	9.2		
3,400.0	0.21	111.03	3,399.9	5.9	7.4	51.30	9.5		
3,500.0	0.19	84.07	3,499.9	5.9	7.7	52.77	9.7		
3,600.0	0.12	44.71	3,599.9	6.0	8.0	53.18	9.9		
3,700.0	0.05	174.27	3,699.9	6.0	8.0	53.31	10.0		
3,800.0	0.16	244.92	3,799.9	5.9	7.9	53.36	9.9		
3,900.0	0.17	239.81	3,899.9	5.7	7.7	53.09	9.6		
4,000.0	0.23	233.11	3,999.9	5.6	7.4	52.99	9.2		
4,100.0	0.52	218.65	4,099.9	5.1	6.9	53.73	8.6		
4,200.0	0.51	232.29	4,199.9	4.4	6.3	54.69	7.7		
4,300.0	0.48	234.22	4,299.9	3.9	5.6	54.88	6.8		
4,400.0	0.43	263.00	4,399.9	3.6	4.9	53.26	6.1		
4,500.0	0.44	293.24	4,499.9	3.7	4.2	47.94	5.6		
4,600.0	0.48	294.41	4,599.9	4.1	3.4	40.02	5.3		
4,700.0	0.35	294.55	4,699.9	4.4	2.8	32.27	5.2		
4,800.0	0.33	305.91	4,799.9	4.7	2.2	25.73	5.2		
4,900.0	0.12	278.23	4,899.9	4.9	1.9	21.51	5.2		
5,000.0	0.44	116.22	4,999.9	4.7	2.2	24.63	5.2		
5,100.0	0.61	124.65	5,099.9	4.2	2.9	34.79	5.1		
5,200.0	0.66	121.16	5,199.9	3.6	3.9	46.85	5.3		
5,300.0	0.72	128.24	5,299.9	2.9	4.9	58.81	5.7		
5,400.0	0.67	121.11	5,399.9	2.2	5.8	68.98	6.3		
5,500.0	0.88	104.18	5,499.9	1.8	7.1	76.09	7.3		

Scientific Drilling International, Inc.

SDI Standard Survey Report

Company:	MURCHISON OIL & GAS	Local Co-ordinate Reference:	Well Frosty Federal Com #1
Project:	Empire	TVD Reference:	WELL @ 0.0usft (Original Well Elev)
Site:	Eddy County, NM	MD Reference:	WELL @ 0.0usft (Original Well Elev)
Well:	Frosty Federal Com #1	North Reference:	Grid
Wellbore:	VH - Job #32K1110928	Survey Calculation Method:	Minimum Curvature
Design:	VH - Job #32K1110928	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	1.21	95.05	5,599.8	1.5	8.9	80.57	9.0		
5,700.0	1.62	89.91	5,699.8	1.4	11.4	83.05	11.4		
5,800.0	1.95	87.16	5,799.8	1.5	14.5	84.19	14.5		
5,900.0	1.80	91.50	5,899.7	1.5	17.7	85.12	17.8		
5,931.0	1.72	92.07	5,930.7	1.5	18.7	85.46	18.7		



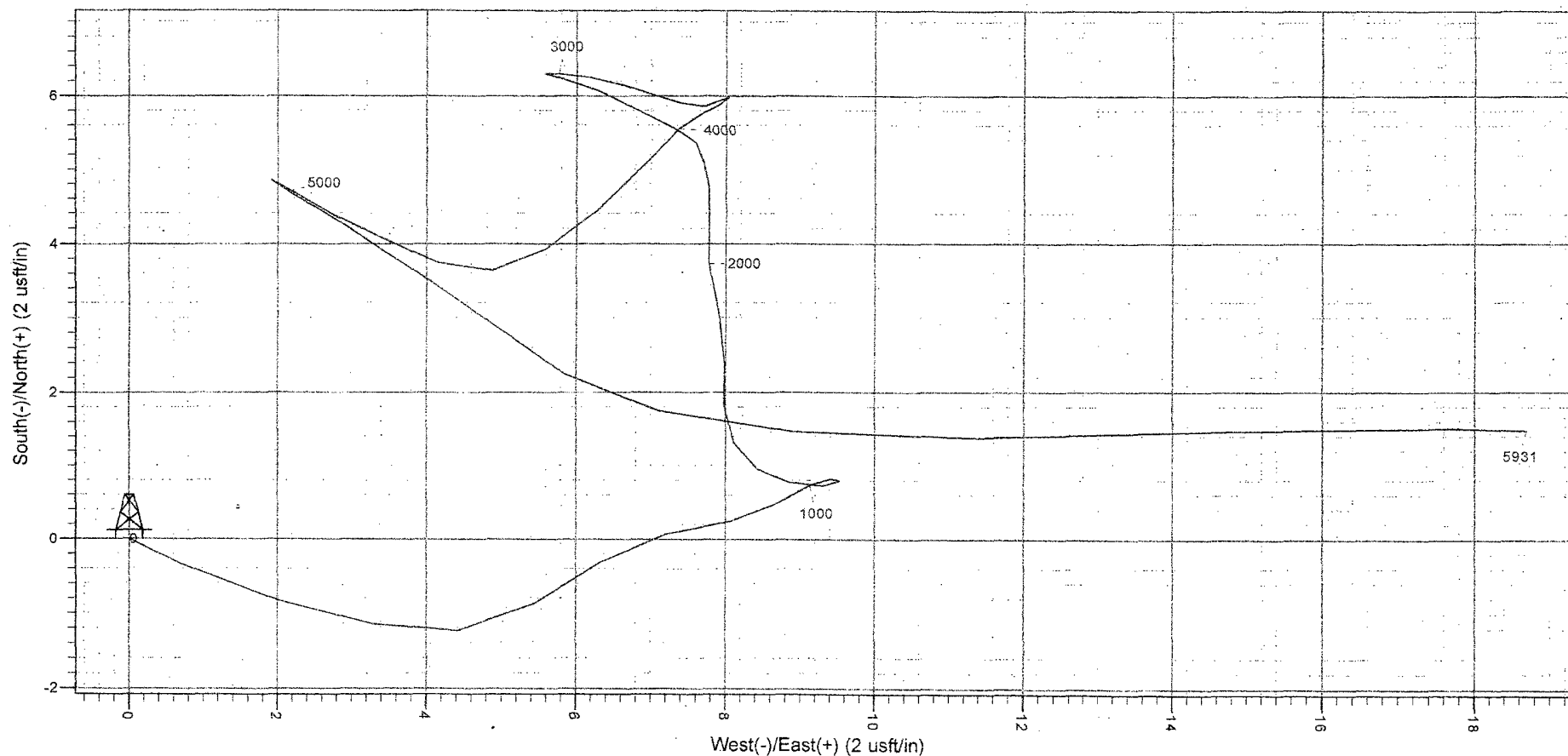
Project: Empire
Eddy County, NM
Well: Frosty Federal Com #1
Wellbore: VH - Job #32K1110928
Design: VH - Job #32K1110928



Azimuths to Grid North
True North: -0.05°
Magnetic North: 8.03°
Magnetic Field
Strength: 49058.2nT
Dip Angle: 60.71°
Date: 11/25/2010
Model: BGGM2010

WELL DETAILS: Frosty Federal Com #1
WELL @ 0.0usft (Original Well Elev)
Ground Level: 0.0

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Slot
0.0	0.0	689077.06	528173.96	32° 53' 39.548 N	104° 14' 29.566 W	



PROJECT DETAILS: Empire
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

SITE DETAILS: Eddy County, NM
Site Centre Latitude: 32° 53' 39.548 N
Longitude: 104° 14' 29.566 W
Positional Uncertainty: 0.0
Convergence: 0.05
Local North: Grid