

PLEASE KEEP CONFIDENTIAL

30-015-37701



Murchison Oil & Gas

Eddy County (NAD27)

Ogden State

#9H

OH

Survey: MWD #1

Pathfinder X & Y Survey Report

04 January, 2011

PATHFINDER
A Schlumberger Company

Pathfinder
Pathfinder X & Y Survey Report



Company: Murchison Oil & Gas
Project: Eddy County (NAD27)
Site: Ogden State
Well: #9H
Wellbore: OH
Design: OH

Local Co-ordinate Reference: Site Ogden State
TVD Reference: WELL @ 3399.00usft (Original Well Elev)
MD Reference: WELL @ 3399.00usft (Original Well Elev)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Database: EDM 5000.1 Single User Db

Project	Eddy County (NAD27)		
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	Ogden State		
Site Position:		Northing:	421,054.000 usft
From:	Map	Easting:	520,896.700 usft
Position Uncertainty:	0.00 usft	Slot Radius:	13-3/16 "
		Latitude:	32° 9' 27.275 N
		Longitude:	104° 15' 56.908 W
		Grid Convergence:	0.04 °

Well	#9H		
Well Position	+N/-S	0.00 usft	Northing: 421,054.000 usft
	+E/-W	0.00 usft	Easting: 520,896.700 usft
Position Uncertainty	0.00 usft	Wellhead Elevation:	usft
		Latitude:	32° 9' 27.275 N
		Longitude:	104° 15' 56.908 W
		Ground Level:	3,381.00 usft

Wellbore	OH		
Magnetics	Model Name	Sample Date	Declination
	IGRF2010	12/21/10	(°)
			7.95
		Dip Angle	(°)
		60.01	
		Field Strength	(nT)
		48,546	

Design	OH		
Audit Notes:			
Version:	1.0	Phase:	ACTUAL
		Tie On Depth:	0.00
Vertical Section:	Depth From (TVD)	+N/-S	+E/-W
	(usft)	(usft)	(usft)
	0.00	0.00	0.00
		Direction	(°)
		178.77	

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Survey Program		Date	01/04/11		
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description	
100.00	2,553.00	GYRO (OH)	CB-GYRO-MS	Camera based gyro multishot	
2,686.00	4,756.00	MWD #1 (OH)	MWD	MWD - Standard	

MD (usft)	Inc (°)	Azi (°)	TVD (usft)	TVDSS (usft)	N/S (usft)	E/W (usft)	V. Sec (usft)	DLeg (°/100usft)	Northing (usft)	Easting (usft)
2,553.00	0.50	192.98	2,551.95	847.05	-3.98	32.54	4.67	0.00	421,050.02	520,929.24
2,686.00	0.62	197.57	2,684.94	714.06	-5.23	32.19	5.92	0.10	421,048.77	520,928.89
2,718.00	2.90	185.04	2,716.93	682.07	-6.20	32.07	6.89	7.18	421,047.80	520,928.77
2,750.00	8.35	185.96	2,748.76	650.24	-9.32	31.76	10.00	17.03	421,044.68	520,928.46
2,782.00	13.72	187.51	2,780.16	618.84	-15.40	31.02	16.06	16.81	421,038.60	520,927.72
2,813.00	18.64	187.01	2,809.92	589.08	-23.96	29.93	24.60	15.88	421,030.04	520,926.63
2,845.00	24.01	185.54	2,839.72	559.28	-35.53	28.68	36.13	16.86	421,018.47	520,925.38
2,877.00	30.07	183.98	2,868.21	530.79	-50.02	27.50	50.60	19.07	421,003.98	520,924.20
2,909.00	36.67	182.19	2,894.92	504.08	-67.58	26.57	68.14	20.85	420,986.42	520,923.27
2,941.00	43.26	180.53	2,919.43	479.57	-88.12	26.11	88.66	20.86	420,965.88	520,922.81
2,973.00	48.28	180.48	2,941.74	457.26	-111.04	25.90	111.57	15.69	420,942.96	520,922.60
3,005.00	51.27	180.41	2,962.41	436.59	-135.47	25.71	135.99	9.35	420,918.53	520,922.41
3,035.00	55.31	179.26	2,980.34	418.66	-159.51	25.79	160.03	13.81	420,894.49	520,922.49
3,066.00	60.85	178.60	2,996.72	402.28	-185.81	26.29	186.33	17.96	420,868.19	520,922.99
3,098.00	67.18	178.32	3,010.74	388.26	-214.55	27.06	215.08	19.80	420,839.45	520,923.76
3,130.00	72.98	179.25	3,021.63	377.37	-244.62	27.69	245.16	18.33	420,809.38	520,924.39
3,162.00	78.79	181.33	3,029.43	369.57	-275.64	27.53	276.16	19.22	420,778.36	520,924.23
3,194.00	84.68	182.47	3,034.03	364.97	-307.27	26.48	307.77	18.74	420,746.73	520,923.18
3,225.00	88.55	183.09	3,035.86	363.14	-338.17	24.98	338.63	12.64	420,715.83	520,921.68
3,289.00	88.11	180.89	3,037.73	361.27	-402.10	22.76	402.50	3.50	420,651.90	520,919.46
3,353.00	89.87	180.10	3,038.86	360.14	-466.09	22.20	466.46	3.01	420,587.91	520,918.90

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Survey										
MD (usft)	Inc (°)	Azi (°)	TVD (usft)	TVDSS (usft)	N/S (usft)	E/W (usft)	V. Sec (usft)	DLeg (°/100usft)	Northing (usft)	Easting (usft)
3,416.00	90.04	180.10	3,038.91	360.09	-529.09	22.09	529.44	0.27	420,524.91	520,918.79
3,480.00	90.13	180.19	3,038.81	360.19	-593.09	21.93	593.42	0.20	420,460.91	520,918.63
3,543.00	89.78	179.57	3,038.86	360.14	-656.09	22.06	656.41	1.13	420,397.91	520,918.76
3,607.00	90.04	180.01	3,038.96	360.04	-720.09	22.30	720.40	0.80	420,333.91	520,919.00
3,671.00	89.78	180.19	3,039.06	359.94	-784.09	22.19	784.38	0.49	420,269.91	520,918.89
3,735.00	90.22	180.45	3,039.06	359.94	-848.09	21.83	848.36	0.80	420,205.91	520,918.53
3,799.00	90.13	179.57	3,038.87	360.13	-912.09	21.82	912.34	1.38	420,141.91	520,918.52
3,863.00	90.22	180.27	3,038.67	360.33	-976.08	21.91	976.33	1.10	420,077.92	520,918.61
3,926.00	90.31	180.10	3,038.38	360.62	-1,039.08	21.70	1,039.31	0.31	420,014.92	520,918.40
3,990.00	90.48	180.62	3,037.94	361.06	-1,103.08	21.30	1,103.28	0.85	419,950.92	520,918.00
4,054.00	89.96	180.45	3,037.69	361.31	-1,167.08	20.70	1,167.25	0.85	419,886.92	520,917.40
4,118.00	90.40	180.98	3,037.49	361.51	-1,231.07	19.90	1,231.22	1.08	419,822.93	520,916.60
4,181.00	90.48	181.42	3,037.01	361.99	-1,294.06	18.58	1,294.16	0.71	419,759.94	520,915.28
4,245.00	90.13	181.33	3,036.67	362.33	-1,358.04	17.05	1,358.09	0.56	419,695.96	520,913.75
4,308.00	90.31	181.86	3,036.42	362.58	-1,421.01	15.30	1,421.01	0.89	419,632.99	520,912.00
4,382.00	90.22	181.68	3,036.08	362.92	-1,494.97	13.01	1,494.91	0.27	419,559.03	520,909.71
4,436.00	90.40	181.77	3,035.79	363.21	-1,548.95	11.38	1,548.84	0.37	419,505.05	520,908.08
4,500.00	90.40	181.86	3,035.34	363.66	-1,612.92	9.36	1,612.75	0.14	419,441.08	520,906.06
4,564.00	88.64	181.68	3,035.88	363.12	-1,676.88	7.38	1,676.65	2.76	419,377.12	520,904.08
4,627.00	88.55	181.42	3,037.42	361.58	-1,739.84	5.68	1,739.56	0.44	419,314.16	520,902.38
4,707.00	88.81	182.12	3,039.27	359.73	-1,819.78	3.21	1,819.43	0.93	419,234.22	520,899.91
4,756.00	88.81	182.12	3,040.28	358.72	-1,868.73	1.39	1,868.33	0.00	419,185.27	520,898.09
BHL-4756.00°MD,88.81°INC,182.12°AZI, 3040.28°TVD, 1868.33°VS, -1868.73°N, 1.39°E - PBHL(OS#9)										

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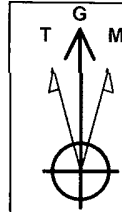
Survey Annotations

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
4,756.00	3,040.28	-1,868.73	1.39	BHL-4756.00'MD,88.81°INC,182.12°AZI, 3040.28'TVD, 1868.33'VS, -1868.73'N

Checked By: _____ Approved By: _____ Date: _____

Murchison Oil & Gas

Project: Eddy County (NAD27)
Site: Ogden State
Well: #9H
Wellbore: OH
Plan: Plan #4 (#9H/OH)



Azimuths to Grid North
True North: -0.04°
Magnetic North: 7.92°

Magnetic Field
Strength: 48545.6nT
Dip Angle: 60.01°
Date: 12/21/2010
Model: IGRF2010

PATHFINDER

A Schlumberger Company

WELL DETAILS: #9H

Ground Elevation: 3381.00
RKB Elevation: WELL @ 3399.00usft (Original Well Elev)
Rig Name: Original Well Elev

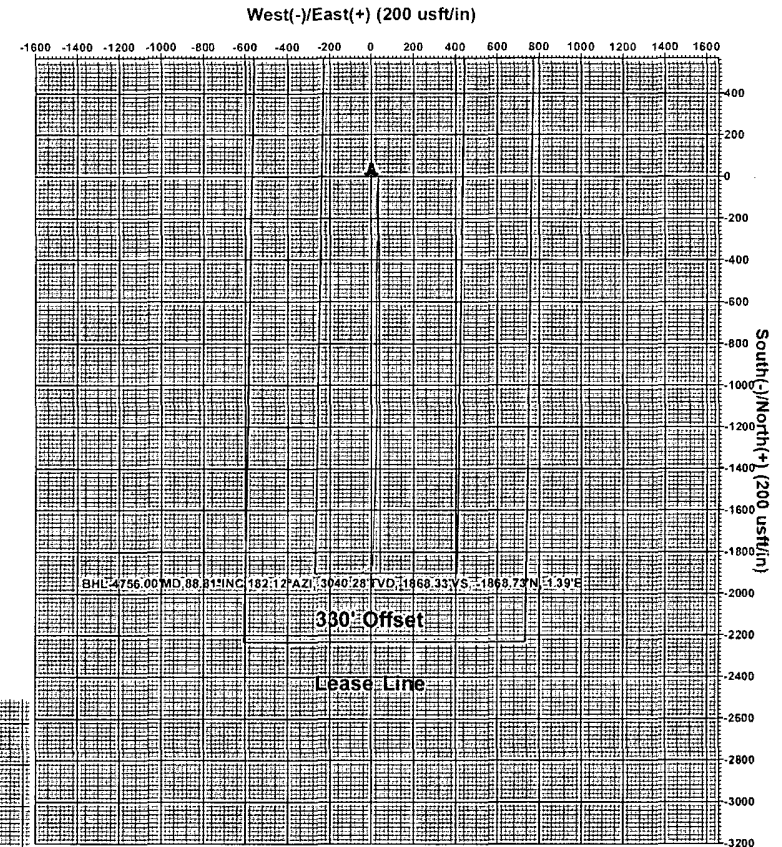
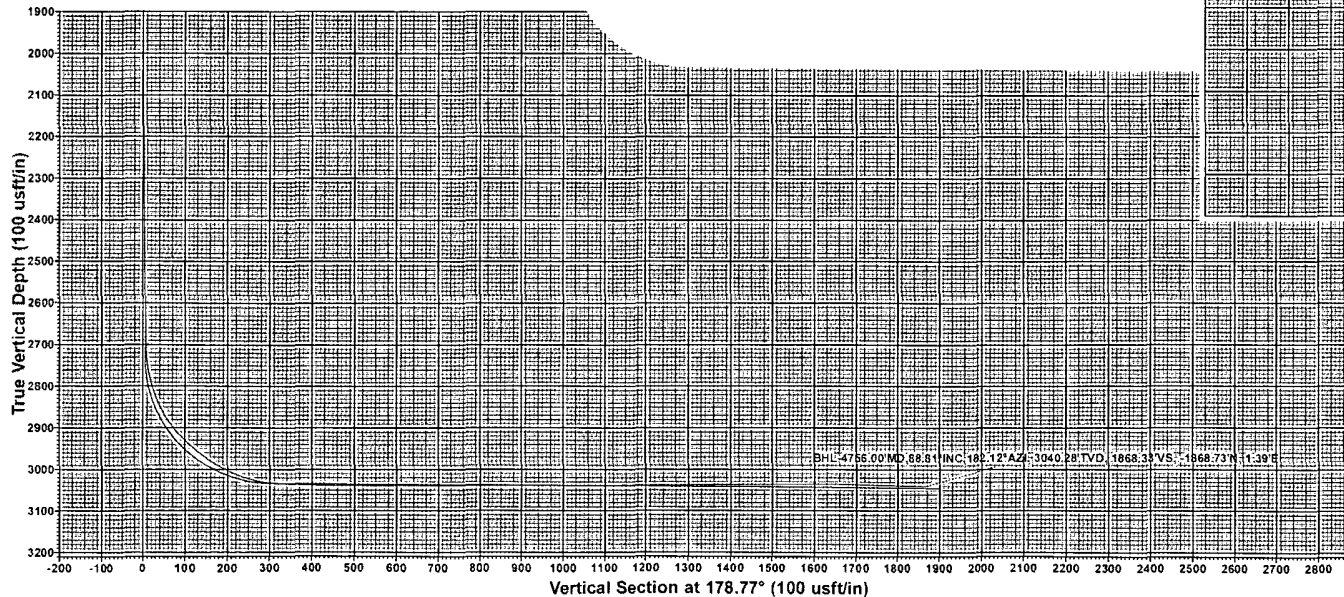
+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
0.00	0.00	421054.000	520896.700	32° 9' 27.275 N	104° 15' 56.908 W

SECTION DETAILS

MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSect	Target
2553.00	0.50	192.98	2551.95	-3.98	32.54	0.00	0.00	4.67	
2586.33	0.00	0.00	2585.28	-4.12	32.51	1.50	180.00	4.81	
2733.53	0.00	0.00	2732.48	-4.12	32.51	0.00	0.00	4.81	
3205.11	89.61	179.75	3034.00	-303.59	33.82	19.00	179.75	304.24	
54800.98	89.61	179.75	3044.86	-1899.40	40.78	0.00	0.00	1899.84	PBHL(OS#9)

WELLBORE TARGET DETAILS (MAP CO-ORDINATES)

Name	TVD	+N/-S	+E/-W	Northing	Easting	Shape
PBHL(OS#9)	3044.00	-1899.40	40.90	419154.600	520937.600	Point



PROJECT DETAILS: Eddy County (NAD27)
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
Local North: Grid

Plan: Plan #4 (#9H/OH)

Created By: Nate Bingham Date: 11:03, January 04 2011



Certified Article Number

7196 9008 9040 0161 3859

SENDERS RECORD

VIA CERTIFIED MAIL

March 28, 2010

State of New Mexico
Oil Conservation Division
District II
1301 W. Grand Ave.
Artesia, New Mexico 88210

**RE: Ogden State #9H
API # 30-015-37701
Eddy County, NM**

Date Compl. 2/23/2011
Conf. Ends 5/23/2011

To Whom It May Concern:

Please find the following enclosed:

- Form C-105 – Well Completion Report (original & 1 copy)
- Directional Survey (original & 1 copy)
- Inclination Survey (original & 1 copy)
- Deviation Report (original & 1 copy)
- Compensated Neutron / GR
- Form C-104 – Request for Allowable (original & 5 copies)

RECEIVED

MAR 31 2011

NMOCD ARTESIA

We hereby request that the enclosed logs and directional survey be kept confidential until May 24, 2011 (90 days from completion on February 23, 2011).

If you need additional information, please contact me at ccottrell@jdmii.com or 972-931-0700 ext. 109.

Very truly yours,

Cindy Cottrell
Regulatory Coordinator

Enclosures