



An Operating Unit of Smith International, Inc.

Surf-1983

DIRECTIONAL SURVEY REPORT

MR

OXY PETROLEUM

MOBIL FEDERAL #10

EDDY COUNTY, NEW MEXICO

PREPARED BY: FRANCISCO SINISTERRA

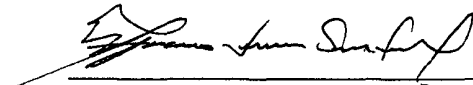
Pathfinder Energy Services, Inc.
6213 W. Interstate 20 • Midland, TX • 79706
(432) 681-6000

DIRECTIONAL SURVEY COMPANY REPORT:

1. NAME OF SURVEYING COMPANY: PATHFINDER ENERGY SERVICES
2. NAME OF PERSON(S) PERFORMING SURVEY:
A) MATT SHIPP
3. POSITION OF SAID PERSON(S): (A-F) SURVEYORS (FIELD ENGINEERS)
4. DATE(S) ON WHICH SURVEY WAS PERFORMED: 03-15-10 TO 03-17-10
5. STATE IN WHICH SURVEY WAS PERFORMED: NEW MEXICO
6. LOCATION OF WELL: EDDY COUNTY, NM
7. TYPE OF SURVEY(S) PERFORMED: MWD
8. COMPLETE IDENTIFICATION OF WELL:

OXY PETROLEUM
MOBIL FEDERAL #10
EDDY COUNTY, NM
RIG: H & P 340
9. INCLINATION ONLY SURVEY CERTIFIED FROM: 200 TO 400 FEET
MEASURED DEPTH.
SURVEY CERTIFIED FROM: 453 TO 3983 FEET MEASURED DEPTH.

THIS IS TO VERIFY THAT ATTACHED DOCUMENTS SHOWING THE WELL TO BE
DISPLACED AT 32.12 FEET ON A BEARING OF 150.47 DEGREES FROM THE
CENTER OF THE ROTARY TABLE AT A PROJECTED BIT DEPTH OF 4061 FEET,
ARE TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE.


FRANCISCO SINISTERRA
M/LWD SERVICE COORDINATOR

PathFinder Energy Services, Inc.

BHL Report

Page 01/01
Tie-in Date: 03/15/2010
Date Completed: 03/17/2010

OXY PETROLEUM
MOBIL FEDERAL #10
EDDY COUNTY, NEW MEXICO
Rig:H&P 340
PathFinder Office Supervisor: FRANCISCO SINISTERRA
PathFinder Field Engineers:M. SHIPP

Survey Horiz. Reference:WELLHEAD
Ref Coordinates: LAT:32.16.45.9341 N LON:103.55.56.9660 W
GRID Reference:NAD83 new mexico east Transverse Mercator
Ref GRID Coord: X: 665216.1000 Y: 465619.5000
North Aligned To:GRID NORTH
Total Magnetic Correction: 7.56° EAST TO GRID
Vertical Section Plane: 0.00
Survey Vert. Reference: 16.50' Kelly Bushing To Ground
Altitude:3341.90' Ground To MSL

Measured Depth	4061.00	(feet)
Inclination	0.26	(deg)
Azimuth	337.76	(deg)
True Vertical Depth	4060.54	(feet)
Vertical Section	-27.95	(feet)
Survey X cord	665231.93	(feet)
Survey Y cord	465591.55	(feet)
Survey Lat	32.27934914 N	(deg)
Survey Lon	103.93243967 W	(deg)
Rectangular Corr. N/S	27.95 S	(feet)
Rectangular Corr. E/W	15.83 E	(feet)
Closure Distance	32.12	(feet)
Direction of Closure	150.47	(deg)
Dogleg Severity	0.00	(deg/100ft)

PathFinder Energy Services, Inc.

Survey Report

OXY PETROLEUM
MOBIL FEDERAL #10
EDDY COUNTY, NEW MEXICO
Rig:H&P 340
PathFinder Office Supervisor: FRANCISCO SINISTERRA
PathFinder Field Engineers: M. SHIPP

Page 01/02
Tie-in Date: 03/15/2010
Date Completed: 03/17/2010

Survey Horiz. Reference:WELLHEAD
Ref Coordinates: LAT:32.16.45.9341 N LON:103.55.56.9660 W
GRID Reference:NAD83 new mexico east Transverse Mercator
Ref GRID Coor: X: 665216.1000 Y: 465619.5000
North Aligned To:GRID NORTH
Total Magnetic Correction: 7.56° EAST TO GRID
Vertical Section Plane: 0.00
Survey Vert. Reference: 16.50' Kelly Bushing To Ground
Altitude:3341.90' Ground To MSL

Survey Calculations by RX5 V6.02B using Minimum Curvature

Measured Depth (ft)	Incl (deg)	Drift Dir. (deg)	TVD (ft)	Subsea Depth (ft)	Vertical Section (ft)	TOTAL Rectangular Offsets (ft) (ft)		Closure Dist Dir (ft) (deg)		DLS (dg/100ft)	TEMP (F)
TIE-IN AT SURFACE.											
0.00	0.00	0.00	0.00	-16.50	0.00	0.00	0.00	0.00@	0.00	0.00	0.00
THE FOLLOWING ARE INCLINATION ONLY SURVEYS.											
200.00	0.26	0.00	200.00	183.50	0.45	0.45 N	0.00	0.45@	0.00	0.13	61.27
400.00	0.44	0.00	400.00	383.50	1.68	1.68 N	0.00	1.68@	0.00	0.09	64.88
THE FOLLOWING ARE PATHFINDER MWD SURVEYS.											
453.00	0.79	90.10	452.99	436.49	1.88	1.88 N	0.37 E	1.91@	11.01	1.71	68.50
638.00	0.62	103.81	637.98	621.48	1.64	1.64 N	2.61 E	3.08@	57.93	0.13	79.34
822.00	0.53	125.72	821.97	805.47	0.90	0.90 N	4.27 E	4.36@	78.06	0.13	86.57
1003.00	0.70	133.39	1002.96	988.46	-0.35	0.35 S	5.75 E	5.76@	93.44	0.10	93.80
1183.00	0.88	134.70	1182.94	1166.44	-2.07	2.07 S	7.54 E	7.82@	105.38	0.10	101.02
1364.00	0.97	146.17	1363.92	1347.42	-4.32	4.32 S	9.38 E	10.32@	114.76	0.11	104.64
1544.00	1.23	152.90	1543.89	1527.39	-7.31	7.31 S	11.10 E	13.29@	123.35	0.16	108.25
1725.00	1.58	163.94	1724.83	1708.33	-11.44	11.44 S	12.68 E	17.08@	132.05	0.24	104.64
1905.00	0.62	180.17	1904.80	1888.30	-14.79	14.79 S	13.36 E	19.94@	137.91	0.56	111.87
2085.00	1.14	204.50	2084.78	2068.28	-17.40	17.40 S	12.62 E	21.49@	144.05	0.35	111.87
2266.00	1.49	220.59	2265.73	2249.23	-20.82	20.82 S	10.34 E	23.25@	153.59	0.28	115.48
2446.00	0.62	350.34	2445.71	2429.21	-21.64	21.64 S	8.65 E	23.31@	158.20	1.08	119.09
2627.00	1.67	47.38	2626.68	2610.18	-18.89	18.89 S	10.43 E	21.58@	151.09	0.79	122.71
2807.00	0.26	217.52	2806.65	2790.15	-17.44	17.44 S	12.11 E	21.23@	145.22	1.07	129.94
2987.00	0.62	214.37	2986.65	2970.15	-18.56	18.56 S	11.31 E	21.74@	148.64	0.20	126.32
3168.00	0.53	215.05	3167.64	3151.14	-20.06	20.06 S	10.28 E	22.54@	152.87	0.05	122.71
3348.00	0.79	150.95	3347.63	3331.13	-21.82	21.82 S	10.40 E	24.18@	154.51	0.41	122.71
3529.00	1.58	133.54	3528.59	3512.09	-24.63	24.63 S	12.82 E	27.77@	152.51	0.48	119.09
3709.00	0.79	155.76	3708.55	3692.05	-27.48	27.48 S	15.13 E	31.36@	151.16	0.50	119.09
3890.00	0.18	70.63	3889.54	3873.04	-28.52	28.52 S	15.91 E	32.66@	150.85	0.44	122.71

PathFinder Energy Services, Inc.

Survey Report

OXY PETROLEUM
MOBIL FEDERAL #10
EDDY COUNTY, NEW MEXICO
RIG:H&P 340

Page 02/02

Measured Depth (ft)	Incl (deg)	Drift Dir. (deg)	TVD (ft)	Subsea Depth (ft)	Vertical Section (ft)	TOTAL Rectangular Offsets		Closure Dist Dir		DLS (dg/100ft)	TEMP (F)
						(ft)	(ft)	(ft)	(deg)		
3983.00	0.26	337.76	3982.54	3966.04	-28.28	28.28 S	15.97 E	32.47@	150.55	0.35	126.32
STRAIGHT LINE PROJECTION TO BIT @ 4061' MD.											
4061.00	0.26	337.76	4060.54	4044.04	-27.95	27.95 S	15.83 E	32.12@	150.47	0.00	126.30