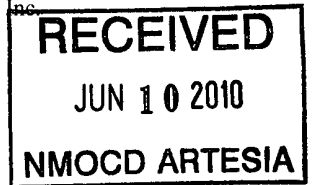




An Operating Unit of Smith International, Inc.



DIRECTIONAL SURVEY REPORT

YATES PETROLEUM

***BONBON BNN STATE COM #1H
(PILOT HOLE)***

EDDY COUNTY, NEW MEXICO

PREPARED BY: FRANCISCO SINISTERRA

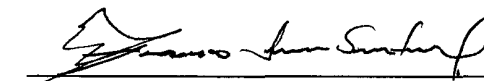
DIRECTIONAL SURVEY COMPANY REPORT:

1. NAME OF SURVEYING COMPANY: PATHFINDER ENERGY SERVICES
2. NAME OF PERSON(S) PERFORMING SURVEY:
A) BRYANT BLAKEMORE
3. POSITION OF SAID PERSON(S): (A-F) SURVEYORS (FIELD ENGINEERS)
4. DATE(S) ON WHICH SURVEY WAS PERFORMED: 02/22/10 TO 02/23/10
5. STATE IN WHICH SURVEY WAS PERFORMED: NEW MEXICO
6. LOCATION OF WELL: EDDY COUNTY
7. TYPE OF SURVEY(S) PERFORMED: MWD
8. COMPLETE IDENTIFICATION OF WELL:

YATES PETROLEUM
BONBON BNN STATE COM #1H
EDDY COUNTY, NM
RIG: PATRIOT #5

9. SURVEY CERTIFIED FROM: 529 TO 2335 FEET MEASURED DEPTH.

THIS IS TO VERIFY THAT ATTACHED DOCUMENTS SHOWING THE WELL TO BE DISPLACED AT 22.31 FEET ON A BEARING OF 115.22 DEGREES FROM THE CENTER OF THE ROTARY TABLE AT A PROJECTED BIT DEPTH OF 2400 FEET, ARE TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE.


FRANCISCO SINISTERRA
MWD COORDINATOR

PathFinder Energy Services, Inc.

BHL Report

Page 01/01
Tie-in Date: 02/21/2010
Date Completed: 02/23/2010

YATES PETROLEUM
BONBON BNN STATE COM #1H - PILOT HOLE
EDDY COUNTY, NEW MEXICO
Rig:PATRIOT #5
PathFinder Office Supervisor: FRANCISCO SINISTERRA
PathFinder Field Engineers:BRYANT BLAKEMORE

Survey Horiz. Reference:WELLHEAD
Ref Coordinates: LAT:32.542.8139 N LON:104.456.8695 W
GRID Reference:NAD83 new mexico east Transverse Mercator
Ref GRID Coord: X: 619023.7070 Y: 398470.3690
North Aligned To:GRID NORTH
Total Magnetic Correction: 7.84° EAST TO GRID
Vertical Section Plane: 89.53
Survey Vert. Reference: 28.00' Drill Floor To Ground
Altitude:2946.00' Ground To MSL

Measured Depth	2400.00	(feet)
Inclination	0.18	(deg)
Azimuth	141.58	(deg)
True Vertical Depth	2399.36	(feet)
Vertical Section	20.11	(feet)
Survey X cord	619043.89	(feet)
Survey Y cord	398460.86	(feet)
Survey Lat	32.09519983 N	(deg)
Survey Lon	104.08239863 W	(deg)
Rectangular Corr. N/S	9.51 S	(feet)
Rectangular Corr. E/W	20.18 E	(feet)
Closure Distance	22.31	(feet)
Direction of Closure	115.22	(deg)
Dogleg Severity	0.00	(deg/100ft)

PathFinder Energy Services, Inc.

Survey Report

YATES PETROLEUM

BONBON BNN STATE COM #1H - PILOT HOLE

EDDY COUNTY, NEW MEXICO

Rig:PATRIOT #5

PathFinder Office Supervisor: FRANCISCO SINISTERRA

PathFinder Field Engineers: BRYANT BLAKEMORE

Survey Horiz. Reference:WELLHEAD

Ref Coordinates: LAT:32.542.8139 N LON:104.456.8695 W

GRID Reference:NAD83 new mexico east Transverse Mercator

Ref GRID Coord: X: 619023.7070 Y: 398470.3690

North Aligned To:GRID NORTH

Total Magnetic Correction: 7.84° EAST TO GRID

Vertical Section Plane: 89.53

Survey Vert. Reference: 28.00' Drill Floor To Ground

Altitude:2946.00' Ground To MSL

Survey Calculations by PathCalc v2.00 using Minimum Curvature

Measured Depth (ft)	Incl (deg)	Drift Dir. (deg)	TVD (ft)	Course Length (ft)	Vertical Section (ft)	TOTAL Rectangular Offsets (ft) (ft)		Closure Dist Dir (ft) (deg)	DLS (dg/100ft)	
ASSUMING STRAIGHT HOLE @ 429' MD.										
429.00	0.00	0.00	429.00	0.00	0.00	0.00	0.00	0.00@ 0.00	0.00	
THE FOLLOWING ARE PATHFINDER MWD SURVEYS.										
529.00	0.97	174.47	529.00	100.00	0.07	0.84 S	0.08 E	0.85@ 174.47	0.97	
621.00	0.79	168.03	620.98	92.00	0.27	2.24 S	0.29 E	2.26@ 172.66	0.22	
776.00	1.14	166.09	775.96	155.00	0.84	4.78 S	0.88 E	4.86@ 169.56	0.23	
871.00	1.23	177.49	870.94	95.00	1.10	6.72 S	1.15 E	6.81@ 170.26	0.27	
966.00	0.26	224.45	965.93	95.00	0.98	7.89 S	1.05 E	7.96@ 172.45	1.13	
1061.00	0.44	225.62	1060.93	95.00	0.57	8.30 S	0.63 E	8.32@ 175.63	0.19	
1156.00	0.44	236.58	1155.93	95.00	-0.00	8.75 S	0.07 E	8.75@ 179.55	0.09	
1252.00	0.35	317.77	1251.93	96.00	-0.51	8.74 S	0.44 W	8.75@ 182.85	0.54	
1346.00	0.44	271.24	1345.93	94.00	-1.06	8.52 S	0.99 W	8.58@ 186.62	0.34	
1441.00	0.35	322.48	1440.92	95.00	-1.60	8.28 S	1.53 W	8.42@ 190.47	0.37	
1536.00	0.53	298.86	1535.92	95.00	-2.16	7.84 S	2.09 W	8.11@ 194.94	0.27	
1631.00	0.35	292.20	1630.92	95.00	-2.81	7.52 S	2.75 W	8.00@ 200.07	0.20	
1726.00	0.35	76.33	1725.92	95.00	-2.79	7.34 S	2.73 W	7.83@ 200.42	0.70	
1821.00	2.64	85.91	1820.88	95.00	-0.33	7.11 S	0.27 W	7.12@ 182.16	2.42	
1916.00	4.22	92.96	1915.71	95.00	5.35	7.14 S	5.41 E	8.95@ 142.87	1.72	
2011.00	2.81	91.33	2010.52	95.00	11.16	7.37 S	11.22 E	13.43@ 123.30	1.49	
2107.00	2.37	100.87	2106.43	96.00	15.46	7.80 S	15.53 E	17.38@ 116.68	0.64	
2202.00	1.23	119.83	2201.38	95.00	18.27	8.68 S	18.34 E	20.29@ 115.33	1.34	
2296.00	0.70	98.29	2295.37	94.00	19.71	9.26 S	19.78 E	21.85@ 115.09	0.67	
2335.00	0.18	141.58	2334.36	39.00	19.98	9.35 S	20.06 E	22.13@ 114.99	1.49	
STRAIGHT LINE PROJECTION TO BIT @ 2400' MD.										
2400.00	0.18	141.58	2399.36	65.00	20.11	9.51 S	20.18 E	22.31@ 115.22	0.00	



TIE-IN SURVEY INFORMATION SHEET

CLIENT INFORMATION

CLIENT:	YATES PETROLEUM		
LEASE / WELL No.:	BONBON BNN STATE COM	#1H	
WELL LOCATION:	EDDY COUNTY, NEW MEXICO		
COUNTY / STATE / COUNTRY:	EDDY	NEW MEXICO	USA
RIG:	PATRIOT #5		
API WELL No:	30-015-36913		
JOB No:	101009887 WT-WT		
P.O. / AFE No.	90190		
DIRECTIONAL COMPANY:	PATHFINDER ENERGY SERVICES		

WELL SITE INFORMATION

MAGNETIC DECLINATION:					
On Wall Plat:	7.84	LWD Calculated:	7.834183	Agreed Upon:	7.84
X =	619023.707000	Feet	Y =	398470.369000	Feet
SITE LATITUDE:	32.095226 N		SITE LONGITUDE:	104.082464 W	
GRID SYSTEM:	TRUE ☐	UTM ☒	LAMBERT ☐	ZONE:	new mexico east
PROPOSED DRIFT DIRECTION:	89.53				
KELLY BUSHING ELEVATION:	28'				
ALTITUDE:	2946	Feet	WATER DEPTH:	N/A	Feet

TIE-IN SURVEY

MEASURED DEPTH:	0		
DRIFT ANGLE:	0		
DRIFT DIRECTION:	0		
TRUE VERTICAL DEPTH:	0		
VERTICAL SECTION:	0		
RECTANGULAR COORDINATE (N / S):	0		
RECTANGULAR COORDINATE (E / W):	0		
CLOSURE DISTANCE / DIRECTION:	0	0	
SURVEY CALCULATION METHOD:	AA ☐	MC ☒	RC ☐ BT ☐
SOURCE OF TIE-IN DATA (COMPANY):			
COPY OF TIE-IN SURVEY REPORT	☐ YES		☒ NO

WELL PLAN

KICKOFF DEPTH:	400	TOTAL DEPTH:	2550
KICKOFF ANGLE:	0	MAX ANGLE:	0

PES Engineers:

BRYANT BLAKEMORE

**Signature of both field engineers required if applicable

Directional Driller: IRBY LeJEUNE

DATE: 22-Feb-2010

PathFinder Energy Services, Inc.

Magnetic & Grid Calculations

YATES PETROLEUM CORP.
BONBON "BNN" STATE COM
EDDY COUNTY, NEW MEXICO
Rig: PATRIOT 5

Fri Feb 19 14:19:14 2010

Coordinates

Latitude: 32.095226 N (32 deg. 5 min. 42.8139 sec.)
Longitude: 104.082464 W (-104 deg. 4 min. 56.8695 sec.)
Elevation: 2964.00 feet.
Calculation Date: Feb/19/2010

Magnetic Calculations

Model: IGRF2010
Dip Angle: 60.0082 degrees
Total Magnetic Field: 0.48615 gauss
Magnetic Declination: 7.968464 degrees
Horizontal Intensity: 0.243016 gauss
To Convert a Magnetic Dir. to a TRUE North Dir. Add 7.968464 Degs

Transverse Mercator Grid Calculations NAD83

Grid System: Transverse Mercator: new mexico east
Ellipsoid: GRS80
X: 619023.7070 feet
Y: 398470.3690 feet
True to Grid: (convergence) -0.133295 degrees
Magnetic to Grid: 7.835169 degrees
To Convert a Magnetic Dir. to a GRID dir. Add 7.835169 Degs.

PathFinder Energy Services, Inc.

Magnetic & Grid Calculations

**YATES PETROLEUM
BONBON BNN STATE COM #1H
EDDY COUNTY, NEW MEXICO
Rig:PATRIOT #5**

Mon Feb 22 04:43:06 2010

Coordinates

Latitude: 32.095226 N (32 deg. 5 min. 42.8139 sec.)
Longitude: 104.082464 W (-104 deg. 4 min. 56.8695 sec.)
Elevation: 2946.00 feet.
Calculation Date: Feb/22/2010

Magnetic Calculations

Model: IGRF2010
Dip Angle: 60.0080 degrees
Total Magnetic Field: 0.48615 gauss
Magnetic Declination: 7.967478 degrees
Horizontal Intensity: 0.243014 gauss
To Convert a Magnetic Dir. to a TRUE North Dir. Add 7.967478 Degr

Transverse Mercator Grid Calculations NAD83

Grid System: Transverse Mercator: new mexico east
Ellipsoid: GRS80
X: 619023.7070 feet
Y: 398470.3690 feet
True to Grid: (convergence) -0.133295 degrees
Magnetic to Grid: 7.834183 degrees
To Convert a Magnetic Dir. to a GRID dir. Add 7.834183 Degr.