



A Schlumberger Company

DIRECTIONAL SURVEY REPORT

30-015-38386

YATES PETROLEUM

DOMINO "AOJ" FEDERAL COM #12H - SHC

EDDY COUNTY, NEW MEXICO

PREPARED BY: FRANCISCO SINISTERRA

Pathfinder

6213 WCR 112
Midland, Texas 79706
Tel (432)687-1647
Fax (432)687-1544



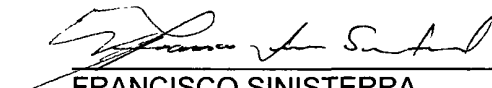
DIRECTIONAL SURVEY COMPANY REPORT:

1. NAME OF SURVEYING COMPANY: PATHFINDER ENERGY SERVICES
2. NAME OF PERSON(S) PERFORMING SURVEY:
A) JEREMY HOLMES
3. POSITION OF SAID PERSON(S): (A-F) SURVEYORS (FIELD ENGINEERS)
4. DATE(S) ON WHICH SURVEY WAS PERFORMED: 06-29-11 TO 07-04-11
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:

YATES PETROLEUM
DOMINO "AOJ" FEDERAL COM #12H - SHC
EDDY COUNTY, NM
RIG: SILVER OAK 10

9. SURVEY CERTIFIED FROM: 608 TO 3243 FEET MEASURED DEPTH.

THIS IS TO VERIFY THAT ATTACHED DOCUMENTS SHOWING THE WELL TO BE
DISPLACED AT 17.32 FEET ON A BEARING OF 329.3 DEGREES FROM THE
CENTER OF THE ROTARY TABLE AT A PROJECTED BIT DEPTH OF 3335 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: 06/29/2011
Date Completed: 07/10/2011

YATES PETROLEUM
DOMINO "AQJ" FEDERAL COM #12H
EDDY COUNTY COUNTY, NM
Rig:SILVER OAK 10
PathFinder Office Supervisor: FRANCISCO SINISTERRA
PathFinder Field Engineers:JEREMY HOLMES
RYAN MILLER

Survey Horiz. Reference:WELLHEAD
Ref Coordinates: LAT:32.40.49.2998 N LON:103.53.56.5741 W
GRID Reference:NAD83 new mexico east Transverse Mercator
Ref GRID Coord: X: 674957.6310 Y: 611519.9320
North Aligned To:GRID NORTH
Total Magnetic Correction: 7.53° EAST TO GRID
Vertical Section Plane: 89.62
Survey Vert. Reference: 18.00' Kelly Bushing To Ground
Altitude:3505.00' Ground To MSL

Measured Depth	3335.00	(feet)
Inclination	0.62	(deg)
Azimuth	0.00	(deg)
True Vertical Depth	3334.54	(feet)
Vertical Section	-8.75	(feet)
Survey X cord	674948.79	(feet)
Survey Y cord	611534.83	(feet)
Survey Lat	32.68040210 N	(deg)
Survey Lon	103.89907691 W	(deg)
Rectangular Corr. N/S	14.90 N	(feet)
Rectangular Corr. E/W	8.85 W	(feet)
Closure Distance	17.32	(feet)
Direction of Closure	329.30	(deg)
Dogleg Severity	1.26	(deg/100ft)

PathFinder Energy Services, Inc.

Survey Report

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DOMINO "AQJ" FEDERAL COM #12H
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Rig:SILVER OAK 10
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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)
TIE IN ASSUMING VERTICAL DEPTH @ 508' MD.										
508.00	0.00	0.00	508.00	0.00	0.00	0.00	0.00	0.00@	0.00	0.00
THE FOLOWING ARE PATHFINDER MWD SURVEYS.										
608.00	0.53	318.93	608.00	100.00	-0.30	0.35 N	0.30 W	0.46@	318.93	0.53
699.00	0.79	330.53	698.99	91.00	-0.88	1.21 N	0.89 W	1.50@	323.74	0.32
790.00	0.97	322.35	789.98	91.00	-1.65	2.37 N	1.67 W	2.90@	324.84	0.24
881.00	0.97	327.89	880.97	91.00	-2.52	3.63 N	2.55 W	4.44@	324.94	0.10
975.00	0.97	328.33	974.96	94.00	-3.36	4.98 N	3.39 W	6.02@	325.77	0.01
1062.00	1.14	329.65	1061.94	87.00	-4.17	6.36 N	4.21 W	7.62@	326.46	0.20
1153.00	1.85	331.06	1152.91	91.00	-5.32	8.42 N	5.38 W	9.99@	327.42	0.78
1244.00	0.62	354.96	1243.89	91.00	-6.07	10.20 N	6.13 W	11.90@	328.97	1.44
1399.00	0.70	33.28	1398.88	155.00	-5.61	11.82 N	5.69 W	13.12@	334.31	0.28
1434.00	1.41	43.57	1433.87	35.00	-5.19	12.32 N	5.27 W	13.40@	336.81	2.09
1529.00	1.93	25.99	1528.83	95.00	-3.67	14.60 N	3.77 W	15.08@	345.53	0.76
1624.00	1.67	28.80	1623.78	95.00	-2.29	17.25 N	2.40 W	17.42@	352.08	0.29
1721.00	1.32	31.35	1720.75	97.00	-1.01	19.44 N	1.14 W	19.48@	356.65	0.37
1815.00	0.53	84.70	1814.74	94.00	-0.01	20.41 N	0.14 W	20.41@	359.60	1.16
1910.00	0.79	90.50	1909.73	95.00	1.09	20.44 N	0.95 E	20.47@	2.66	0.28
2005.00	1.49	97.44	2004.71	95.00	2.96	20.28 N	2.83 E	20.47@	7.95	0.75
2100.00	1.14	81.09	2099.69	95.00	5.12	20.26 N	4.99 E	20.87@	13.83	0.54
2195.00	0.18	350.65	2194.68	95.00	6.03	20.56 N	5.90 E	21.39@	16.01	1.22
2290.00	0.62	252.83	2289.68	95.00	5.52	20.55 N	5.38 E	21.25@	14.67	0.70
2384.00	1.06	266.89	2383.67	94.00	4.16	20.36 N	4.03 E	20.75@	11.19	0.51
2482.00	1.23	266.37	2481.65	98.00	2.21	20.24 N	2.07 E	20.35@	5.85	0.17
2577.00	1.58	249.93	2576.62	95.00	-0.04	19.73 N	0.17 W	19.73@	359.49	0.56
2672.00	1.14	246.88	2671.60	95.00	-2.15	18.91 N	2.27 W	19.04@	353.14	0.47

PathFinder Energy Services, Inc.

Survey Report

YATES PETROLEUM
DOMINO "AQJ" FEDERAL COM #12H
EDDY COUNTY COUNTY, NM
RIG:SILVER OAK 10

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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)
2767.00	1.06	227.09	2766.58	95.00	-3.67	17.94 N	3.79 W	18.33@	348.08	0.41
2862.00	0.88	246.95	2861.56	95.00	-4.99	17.05 N	5.10 W	17.80@	343.35	0.40
2957.00	0.79	244.65	2956.55	95.00	-6.25	16.49 N	6.36 W	17.67@	338.89	0.10
3052.00	0.79	231.37	3051.55	95.00	-7.36	15.80 N	7.47 W	17.47@	334.70	0.19
3147.00	0.18	215.96	3146.54	95.00	-7.97	15.27 N	8.07 W	17.27@	332.15	0.65
3243.00	0.62	222.72	3242.54	96.00	-8.41	14.76 N	8.51 W	17.04@	330.05	0.46
STRAIGHT LINE PROJECTION TO BIT @ 3335' MD.										
3335.00	0.62	0.00	3334.54	92.00	-8.75	14.90 N	8.85 W	17.32@	329.30	1.26



A Schlumberger Company

TIE-IN SURVEY INFORMATION SHEET

CLIENT INFORMATION

CLIENT:	YATES PETROLEUM		
LEASE / WELL No.:	DOMINO AQJ FEDERAL COM	12H	
WELL LOCATION:	EDDY COUNTY, NM		
COUNTY / STATE / COUNTRY:	EDDY	NM	USA
RIG:	SILVER OAK 10		
API WELL No:	30-015-38386		
JOB No:	700002935 WT-WT		
P.O. / AFE No.	102650		
DIRECTIONAL COMPANY:	PATHFINDER		

WELL SITE INFORMATION

TOTAL MAGNETIC CORRECTION (TMC):			
On Wall Plat:	7.54	LWD Calculated:	7.53
		Agreed Upon:	7.53
X =	674957 631000	Feet	Y = 611519 932000
			Feet
SITE LATITUDE:	32.680361	SITE LONGITUDE:	103.899048
GRID SYSTEM:	TRUE ☐ UTM ☒ LAMBERT ☐	ZONE:	NEW MEXICO EAST
PROPOSED DRIFT DIRECTION:	89.62		
KELLY BUSHING ELEVATION:	18		
ALTITUDE:	3505	Feet	WATER DEPTH:
			Feet

TIE-IN SURVEY

MEASURED DEPTH:	508		
DRIFT ANGLE:	0		
DRIFT DIRECTION:	89.62		
TRUE VERTICAL DEPTH:	508		
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):	PATHFINDER		
COPY OF TIE-IN SURVEY REPORT	☐ YES ☒ NO		

WELL PLAN

KICKOFF DEPTH:	8292	TOTAL DEPTH:	13185
KICKOFF ANGLE:	89.17	MAX ANGLE:	89.17

PES Engineers: JEREMY HOLMES
RYAN MILLER

**Signature of both field engineers required if applicable

Directional Driller: RICHARD

DATE: _____

PathFinder Energy Services, Inc.

Magnetic & Grid Calculations

YATES PETROLEUM
DOMINO AQUEDUCT FEDERAL COM #12H
EDDY COUNTY, NEW MEXICO
Rig: SILVER CAK 10

Tue Jun 28 16:03:17 2011

Coordinates

Latitude: 32.680361 N (32 deg. 40 min. 49.2998 sec.)
Longitude: 103.899048 W (-103 deg. 53 min. 56.5741 sec.)
Elevation: 3523.00 feet.
Calculation Date: Jun/28/2011

Magnetic Calculations

Model: IGRF2010
Dip Angle: 60.5520 degrees
Total Magnetic Field: 0.48851 gauss
Magnetic Declination: 7.766910 degrees
Horizontal Intensity: 0.240167 gauss
To Convert Magnetic Dir. to a TRUE North Dir. Add 7.766910 Degr

Transverse Mercator Grid Calculations NAD83

Grid System: Transverse Mercator: new mexico east
Ellipsoid: GRS80
X: 674957.6310 feet
Y: 611519.9320 feet
True to Grid (convergence) -0.234496 degrees
Magnetic to Grid: 7.532414 degrees
To Convert Magnetic Dir. to a GRID dir. Add 7.532414 Degr.