

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

OCD-ARTESIA

FORM APPROVED
OMB NO 1004-0137
Expires: July 31, 2010

WELL COMPLETION OR RECOMPLETION REPORT AND LOG

1a Type of Well ☐ Oil Well ☒ Gas Well ☐ Dry ☐ Other
b Type of Completion ☒ New Well ☐ Work Over ☐ Deepen ☐ Plug Back ☐ Diff Resvr,
Other: _____

2. Name of Operator
Yates Petroleum Corporation

3 Address 3a Phone No (include area code)
105 S. 4th Str., Artesia, NM 88210 575-748-1471

4. Location of Well (Report location clearly and in accordance with Federal requirements)*

At Surface 660'FSL & 990'FEL (Unit P, SESE)

At top prod. interval reported below

At total depth

OCT 17 2008

OCD-ARTESIA

5 Lease Serial No.

NM-98801

6 If Indian, Allottee or Tribe Name

7. Unit or CA Agreement Name and No.

8 Lease Name and Well No
Grange BII Federal #1

9 API Well No
30-015-35802

10. Field and Pool or Exploratory
Wildcat; Wolfcamp

11 Sec., T, R., M., on Block and
Survey or Area
Section 29-T25S-R25E

12 County or Parish 13 State
Eddy New Mexico

14. Date Spudded 15 Date T.D. Reached 16 Date Completed 8/7/08
RH 9/30/07 RT 10/8/07 12/3/07 ☐ D & A ☒ Ready to Prod
17 Elevations (DF, RKB, RT, GL)*
3632'GL 3651'KB
18 Total Depth MD 12,050' 19. Plug Back T.D. MD 9690' 20. Depth Bridge Plug Set MD 11,740', 10,834' & 10,342'
TVD NA TVD NA RBP's at 11,120' & 9690'

21. Type Electric & Other Mechanical Logs Run (Submit copy of each)

CNL, Hi-Res Laterolog Array, CBL

22 Was Well cored? ☒ No ☐ Yes (Submit analysis)
Was DST run? ☒ No ☐ Yes (Submit report)
Directional Survey? ☐ No ☒ Yes (Submit copy) (Attached)

23 Casing and Liner Record (Report all strings set in well)

Hole Size	Size/Grade	Wt (#/ft)	Top (MD)	Bottom(MD)	State Cementer Depth	No. of Sks & Type of Cement	Slurry Vol (BBL)	Cement Top*	Amount Pulled
36"	30"	Cond.	Surface	40'		Redi-mix		Surface	
26"	20"	94#	Surface	454'		1020 sx		Surface	
12-1/4"	9-5/8"	36#	Surface	1575'		1050 sx		Surface	
8-3/4"	7"	23#, 26#	Surface	8350'		1100 sx		Surface	
6-1/8"	4-1/2"	13.5#	Surface	12,050'		900 sx		Surface	

24 Tubing Record

Size	Depth Set (MD)	Packer Depth (MD)	Size	Depth Set (MD)	Packer Depth (MD)	Size	Depth Set (MD)	Packer Depth (MD)
2-3/8"	9280'	9280'						

25 Producing Intervals

Formation	Top	Bottom	Perforated Interval	Size	No Holes	Perf. Status
A) Wolfcamp	9358'	9638'				
B)						
C)						
D)						

26 Perforation Record

27 Acid, Fracture, Treatment, Cement Squeeze, Etc

Depth Interval	Amount and Type of Material

SEE ATTACHED SHEET

28 Production - Interval A

Date First Produced	Test Date	Hours Tested	Test Production	Oil BBL	Gas MCF	Water BBL	Oil Gravity Corr API	Gas Gravity	Production Method
8/6/08	9/10/08	24	→	0	190	3	NA	NA	Flowing
Choke Size	Tbg Press Flwg	Csg Press	24 Hr Rate	Oil BBL	Gas MCF	Water BBL	Gas/Oil Ratio	Well Status	
16/64"	110 psi	640 psi	→	0	190	3	NA		

28a Production-Interval B

Date First Produced	Test Date	Hours Tested	Test Production	Oil BBL	Gas MCF	Water BBL	Oil Gravity Corr API	Gas Gravity	Production Method
			→						
Choke Size	Tbg Press Flwg	Csg Press	24 Hr Rate	Oil BBL	Gas MCF	Water BBL	Gas/Oil Ratio	Well Status	
			→						

ACCEPTED FOR RECORD
Producing
OCT 15 2008
JERRY FANT
PETROLEUM GEOLOGIST

* (See instructions and spaces for additional data on page 2)

Accepted for record - NMOCB

28b Production - Interval C

Date First Produced	Test Date	Hours Tested	Test Production →	Oil BBL	Gas MCF	Water BBL	Oil Gravity Corr. API	Gas Gravity	Production Method
Choke Size	Tbg Press Flwg	Csg Press	24 Hr Rate →	Oil BBL	Gas MCF	Water BBL	Gas/Oil Ratio	Well Status	

28c Production - Interval D

Date First Produced	Test Date	Hours Tested	Test Production →	Oil BBL	Gas MCF	Water BBL	Oil Gravity Corr. API	Gas Gravity	Production Method
Choke Size	Tbg Press Flwg	Csg Press	24 Hr Rate →	Oil BBL	Gas MCF	Water BBL	Gas/Oil Ratio	Well Status	

29 Disposition of Gas (Sold, used for fuel, vented, etc.)

Sold

30 Summary of Porous Zones (Include Aquifers).

Show all important zones of porosity and contents thereof. Cored intervals and all drill-stem tests, including depth interval tested, cushion used, time tool open, flowing and shut-in pressures and recoveries

31. Formation (Log) Markers

Formation	Top	Bottom	Description, Contents, etc	Name	Top
					Meas Depth
				Lamar	1530'
				Bell Canyon	1598'
				Cherry Canyon	2714'
				Brushy Canyon	3640'
				Bone Spring	4976'
				Wolfcamp	8009'
				Strawn	10,090'
				Atoka	10,570'
				Morrow	10,810'

32 Additional remarks (include plugging procedure)

33 Indicate which items have been attached by placing a check in the appropriate boxes

- ☒ Electrical/Mechanical Logs (1 full set req'd)
 ☐ Geologic Report
 ☐ DST Report
 ☒ Directional Survey
 ☐ Sundry Notice for plugging and cement verification
 ☐ Core Analysis
 ☒ Other Deviation Survey

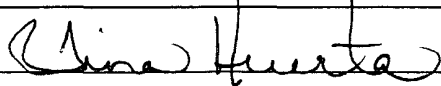
34 I hereby certify that the foregoing and attached information is complete and correct as determined from all available records (see attached instructions)*

Name (please print)

Tina Huerta

Title Regulatory Compliance Supervisor

Signature



Date September 23, 2008

Title 18 U.S.C. Section 1001 and Title 43 U.S.C. Section 1212, make it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction.

(Continued on page 3)

(Form 3160-4, page2)

Form 3160-4 continued:

26. Perforation Record

Perforated Interval	Size	No. Holes	Perf. Status
11,790'-11,810'		121	Under CIBP
11,250'-11,256'		37	Under RBP
11,260'-11,268'		49	Under RBP
11,276'-11,284'		49	Under RBP
11,160'-11,170'		60	Under RBP
10,992'-11,016'		145	Under CIBP
10,884'-10,888'		24	Under CIBP
10,896'-10,916'		120	Under CIBP
10,920'-10,930'		60	Under CIBP
10,392'-10,404'		13	Under CIBP
10,496'-10,508'		13	Under CIBP
10,090'-10,104'		15	Under RBP
10,120'-10,130'		11	Under RBP
10,140'-10,150'		11	Under RBP
9358'-9368'		11	Producing
9414'-9422'		9	Producing
9498'-9514'		17	Producing
9560'-9576'		17	Producing
9626'-9638'		13	Producing

27. Acid, Fracture, Treatment, Cement Squeeze, Etc.

Depth Interval	Amount and Type of Material
11,790'-11,810'	Acidized w/1000g 7-1/2% MCA acid w/150 ball sealers, pumped 1500g 15% NEFE acid ahead of frac. Frac w/a water frac, 3267 bbls fluid, 3300# of 100# mesh sand
11,250'-11,284'	Acidized w/1500g 7-1/2% IC HCL Morrow acid w/200 ball sealers
11,160'-11,170'	Acidized w/800g 7-1/2% Morrow acid
10,884'-11,016'	Acidized w/1500g 7-1/2% IC HCL MSA acid w/200 ball sealers
10,392'-10,508'	Acidized w/2000g 10% IC HCL Morrow acid w/39 ball sealers
10,090'-10,150'	Acidized w/13000g 20% IC HCL w/80 ball sealers
9358'-9638'	Acidized w/5000g 20% IC HCL gelled acid w/140 ball sealers


 Regulatory Compliance Supervisor
 September 23, 2008

OPERATOR
WELL/LEASE
COUNTY

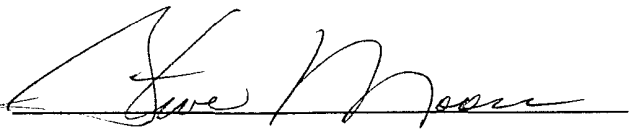
YATES PETROLEUM CORP.
GRANGE B11 FEDERAL #1
EDDY

RIG: 511

STATE OF NEW MEXICO
DEVIATION REPORT

144	0.75	5,595	1.00
230	0.50	5,858	0.40
287	0.50	6,063	3.75
405	0.50	6,157	3.00
563	0.80	6,252	1.50
572	0.25	6,379	2.00
706	0.80	6,505	2.00
865	0.40	6,633	2.50
1,055	0.70	6,759	1.75
1,182	0.90	6,918	1.25
1,309	0.90	7,076	0.75
1,433	0.90	7,235	0.75
1,541	0.50	7,520	0.75
1,691	1.80	7,677	1.75
1,977	1.50	7,900	1.50
2,103	1.80	8,153	1.00
2,230	1.70	8,350	1.75
2,356	1.30		
2,514	1.90		
2,643	1.60		
2,770	1.60		
2,897	1.70		
3,024	1.10		
3,179	1.50		
3,310	0.25		
3,434	0.90		
3,562	1.30		
3,688	1.50		
3,831	0.75		
4,100	1.30		
4,196	1.90		
4,260	1.20		
4,355	2.00		
4,484	1.50		
4,608	0.70		
4,880	2.80		
4,911	1.50		
5,119	1.70		
5,238	0.75		
5,396	1.00		

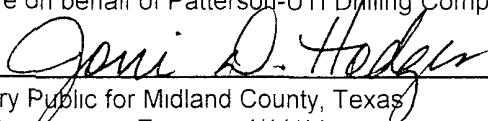
BY



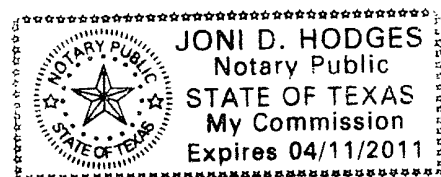
STATE OF TEXAS

COUNTY OF MIDLAND

The foregoing instrument was acknowledged before me on
Moore on behalf of Patterson-UTI Drilling Company LLC


Notary Public for Midland County, Texas
My Commission Expires: 4/11/11

December 10, 2007, by Steve





DIRECTIONAL SURVEY REPORT

YATES PETROLEUM
GRANGE BII FEDERAL #1
EDDY COUNTY, NEW MEXICO

PREPARED BY: CODY MEBANE

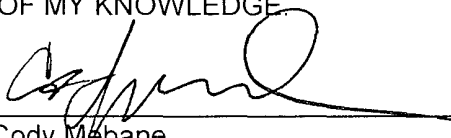
Pathfinder Energy Services, Inc.
6213 W. County Road 112 • Midland, TX • 79706
(432)681-6000

DIRECTIONAL SURVEY COMPANY REPORT:

1. NAME OF SURVEYING COMPANY: PATHFINDER ENERGY SERVICES
2. NAME OF PERSON(S) PERFORMING SURVEY:
A) JESUS GARCIA
B) JEFF FAULKNER
3. POSITION OF SAID PERSON(S): (A-F) SURVEYORS (FIELD ENGINEERS)
4. DATE(S) ON WHICH SURVEY WAS PERFORMED: 11/9/07 TO 11/15/07
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
GRANGE BII FEDERAL #1
EDDY COUNTY, NM
RIG: PATTERSON 511
9. SURVEY CERTIFIED FROM: 8703 TO 10059 FEET MEASURED DEPTH.

THIS IS TO VERIFY THAT ATTACHED DOCUMENTS SHOWING THE WELL TO BE
DISPLACED AT 36.88 FEET ON A BEARING OF 262.91 DEGREES FROM THE
CENTER OF THE ROTARY TABLE AT A PROJECTED BIT DEPTH OF 10108 FEET,
ARE TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE.


Cody Mebane
M/LWD SERVICE COORDINATOR

PathFinder Energy Services, Inc.

BHL Report

Page 01/01
Tie-in Date: 11/09/2007
Date Completed: 11/14/2007

YATES PETROLEUM CORPORATION
Grange BII FED #1
EDDY COUNTY COUNTY, NEW MEXICO
Rig:PATTERSON # 511
PathFinder Office Supervisor: FRANCISCO SINESTERRA
PathFinder Field Engineers:JESUS GARCIA
JEFF FAULKNER

Survey Horiz. Reference:WELLHEAD
Ref Coordinates: LAT:32.6.37.7000 N LON:104.24.23.4200 W
GRID Reference:NAD27 new mexico east Transverse Mercator
Ref GRID Coord: X: 477344.2355 Y: 403920.3763
North Aligned To:GRID NORTH
Total Magnetic Correction: 8.40° EAST TO GRID
Vertical Section Plane: 0.00
Survey Vert. Reference: 25.00' Kelly Bushing To Ground
Altitude:3632.00' Ground To MSL

Measured Depth	10108.00	(feet)
Inclination	2.20	(deg)
Azimuth	308.02	(deg)
True Vertical Depth	10107.26	(feet)
Vertical Section	-4.55	(feet)
Survey X cord	477307.64	(feet)
Survey Y cord	403915.82	(feet)
Survey Lat	32.11045964 N	(deg)
Survey Lon	104.40662375 W	(deg)
Rectangular Corr. N/S	4.55 S	(feet)
Rectangular Corr. E/W	36.60 W	(feet)
Closure Distance	36.88	(feet)
Direction of Closure	262.91	(deg)
Dogleg Severity	0.00	(deg/100ft)

PathFinder Energy Services, Inc.

Survey Report

YATES PETROLEUM CORPORATION

Grange BII FED #1

EDDY COUNTY COUNTY, NEW MEXICO

Rig:PATTERSON # 511

PathFinder Office Supervisor: FRANCISCO SINESTERRA

PathFinder Field Engineers: JESUS GARCIA

JEFF FAULKNER

Survey Horiz. Reference:WELLHEAD

Ref Coordinates: LAT:32.6.37.7000 N LON:104.24.23.4200 W

Reference:NAD27 new mexico east Transverse Mercator

Ref GRID Coord: X: 477344.2355 Y: 403920.3763

North Aligned To:GRID NORTH

Total Magnetic Correction: 8.40° EAST TO GRID

Vertical Section Plane: 0.00

Survey Vert. Reference: 25.00' Kelly Bushing To Ground

Altitude:3632.00' Ground To MSL

Survey Calculations by PathCalc v1.97 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 @ 8643' MD ASSUMING VERTICAL.										
8643.00	0.00	0.00	8643.00	0.00	0.00	0.00	0.00	0.00@	0.00	0.00
THE FOLLOWING ARE PATHFINDER MWD SURVEYS										
8703.00	3.43	231.99	8702.96	60.00	-1.11	1.11 S	1.41 W	1.80@	231.99	5.72
8735.00	2.90	223.91	8734.92	32.00	-2.28	2.28 S	2.73 W	3.56@	230.16	2.16
8767.00	2.37	217.76	8766.88	32.00	-3.38	3.38 S	3.70 W	5.01@	227.52	1.87
8830.00	2.20	231.82	8829.83	63.00	-5.16	5.16 S	5.45 W	7.50@	226.53	0.93
8893.00	2.11	236.56	8892.79	63.00	-6.55	6.55 S	7.36 W	9.85@	228.35	0.32
8955.00	2.11	237.27	8954.74	62.00	-7.79	7.79 S	9.28 W	12.12@	229.96	0.04
9019.00	1.58	247.11	9018.71	64.00	-8.77	8.77 S	11.08 W	14.13@	231.62	0.96
9082.00	1.76	245.09	9081.69	63.00	-9.52	9.52 S	12.76 W	15.92@	233.27	0.30
9113.00	2.02	240.96	9112.67	31.00	-9.99	9.99 S	13.67 W	16.93@	233.85	0.95
9176.00	1.32	246.58	9175.64	63.00	-10.81	10.81 S	15.30 W	18.74@	234.76	1.14
9238.00	1.76	236.48	9237.62	62.00	-11.62	11.62 S	16.75 W	20.39@	235.25	0.83
9302.00	0.88	208.79	9301.60	64.00	-12.60	12.60 S	17.81 W	21.81@	234.73	1.66
9365.00	1.32	222.33	9364.59	63.00	-13.56	13.56 S	18.53 W	22.96@	233.81	0.81
9427.00	1.49	240.25	9426.57	62.00	-14.48	14.48 S	19.71 W	24.46@	233.69	0.76
9491.00	1.32	308.37	9490.56	64.00	-14.44	14.44 S	21.01 W	25.50@	235.50	2.47
9554.00	1.67	324.10	9553.53	63.00	-13.25	13.25 S	22.12 W	25.78@	239.08	0.85
9585.00	1.85	330.17	9584.52	31.00	-12.45	12.45 S	22.63 W	25.83@	241.19	0.84
9649.00	1.23	309.43	9648.50	64.00	-11.11	11.11 S	23.68 W	26.16@	244.86	1.29
9712.00	1.58	291.67	9711.48	63.00	-10.36	10.36 S	25.01 W	27.07@	247.49	0.88
9775.00	1.93	289.47	9774.45	63.00	-9.69	9.69 S	26.81 W	28.51@	250.13	0.57
9807.00	1.85	292.55	9806.43	32.00	-9.31	9.31 S	27.80 W	29.32@	251.48	0.40

PathFinder Energy Services, Inc.

Survey Report

YATES PETROLEUM CORPORATION
Grange BII FED #1
EDDY COUNTY COUNTY, NEW MEXICO
RIG:PATTERSON # 511

Page 02/02

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)
9838.00	2.02	298.26	9837.41	31.00	-8.86	8.86 S	28.74 W	30.08@	252.87	0.83
9901.00	1.67	286.49	9900.38	63.00	-8.07	8.07 S	30.60 W	31.65@	255.22	0.82
9996.00	1.85	298.70	9995.34	95.00	-6.95	6.95 S	33.27 W	33.99@	258.21	0.44
10059.00	2.20	308.02	10058.30	63.00	-5.71	5.71 S	35.12 W	35.58@	260.76	0.76
STRAIGHT LINE PROJECTION TO BIT @ 10108'										
10108.00	2.20	308.02	10107.26	49.00	-4.55	4.55 S	36.60 W	36.88@	262.91	0.00

PathFinder Energy Services, Inc.

Magnetic & Grid Calculations

YATES PETROLEUM
Grange BII FED #1
EDDY COUNTY, NM
Rig: PATTERSON # 511

Fri Nov 09 17:08:54 2007

Coordinates

Latitude: 32.110472 N (32 deg. 6 min. 37.7000 sec.)
Longitude: 104.406506 W (-104 deg. 24 min. 23.4200 sec.)
Elevation: 3632.00 feet.
Calculation Date: Nov/09/2007

Magnetic Calculations

Model: IGRF2005
Dip Angle: 60.0268 degrees
Total Magnetic Field: 0.48830 gauss
Magnetic Declination: 8.366739 degrees
Horizontal Intensity: 0.243953 gauss
To Convert a Magnetic Dir. to a TRUE North Dir. Add 8.366739 Degr

Transverse Mercator Grid Calculations NAD27

Grid System: Transverse Mercator: new mexico east
Ellipsoid: Clarke 1866
X: 477344.2355 feet
Y: 403920.3763 feet
True to Grid: (convergence) 0.038895 degrees
Magnetic to Grid: 8.405634 degrees
To Convert a Magnetic Dir. to a GRID dir. Add 8.405634 Degr.



DIRECTIONAL SURVEY REPORT

YATES PETROLEUM

GRANGE BII FEDERAL #1

EDDY COUNTY, NEW MEXICO

PREPARED BY: CODY MEBANE

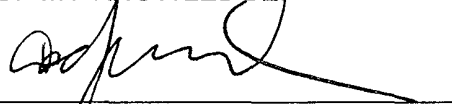
Pathfinder Energy Services, Inc.
6213 W. County Road 112 • Midland, TX • 79706
(432)681-6000

DIRECTIONAL SURVEY COMPANY REPORT:

1. NAME OF SURVEYING COMPANY: PATHFINDER ENERGY SERVICES
2. NAME OF PERSON(S) PERFORMING SURVEY:
A) JESUS GARCIA
B) JEFF FAULKNER
3. POSITION OF SAID PERSON(S): (A-F) SURVEYORS (FIELD ENGINEERS)
4. DATE(S) ON WHICH SURVEY WAS PERFORMED: 11/19/07 TO 11/27/07
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
GRANGE BII FEDERAL #1
EDDY COUNTY, NM
RIG: PATTERSON 511
9. SURVEY CERTIFIED FROM: 10759 TO 11533 FEET MEASURED DEPTH.

THIS IS TO VERIFY THAT ATTACHED DOCUMENTS SHOWING THE WELL TO BE
DISPLACED AT 90.85 FEET ON A BEARING OF 283.93 DEGREES FROM THE
CENTER OF THE ROTARY TABLE AT A PROJECTED BIT DEPTH OF 11577 FEET,
ARE TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE



Cody Mebane
M/LWD SERVICE COORDINATOR

PathFinder Energy Services, Inc.

BHL Report

Page 01/01
Tie-in Date: 11/19/2007
Date Completed: 11/27/2007

YATES PETROLEUM
GRANGE BII FEDERAL #1
EDDY COUNTY, NEW MEXICO
Rig:PATTERSON 511
PathFinder Office Supervisor: CODY MEBANE
PathFinder Field Engineers:JAY FULTON

Survey Horiz. Reference:WELLHEAD
Ref Coordinates: LAT:32.6.37.6992 N LON:104.24.23.4216 W
GRID Reference:NAD27 new mexico east Transverse Mercator
Ref GRID Coord: X: 477344.0978 Y: 403920.2955
North Aligned To:GRID NORTH
Total Magnetic Correction: 8.41° EAST TO GRID
Vertical Section Plane: 0.00
Survey Vert. Reference: 25.00' Rotary Table To Ground
Altitude:3632.00' Ground To MSL

Measured Depth	11577.00	(feet)
Inclination	1.49	(deg)
Azimuth	259.51	(deg)
True Vertical Depth	11574.68	(feet)
Vertical Section	21.87	(feet)
Survey X cord	477255.92	(feet)
Survey Y cord	403942.17	(feet)
Survey Lat	32.11053197 N	(deg)
Survey Lon	104.40679085 W	(deg)
Rectangular Corr. N/S	21.87 N	(feet)
Rectangular Corr. E/W	88.18 W	(feet)
Closure Distance	90.85	(feet)
Direction of Closure	283.93	(deg)
Dogleg Severity	0.00	(deg/100ft)

PathFinder Energy Services, Inc.

Survey Report

YATES PETROLEUM
GRANGE BII FEDERAL #1
EDDY COUNTY, NEW MEXICO
Rig:PATTERSON 511
PathFinder Office Supervisor: CODY MEBANE
PathFinder Field Engineers: JAY FULTON

Survey Horiz. Reference:WELLHEAD
Ref Coordinates: LAT:32.6.37.6992 N LON:104.24.23.4216 W
Reference:NAD27 new mexico east Transverse Mercator
Ref GRID Coord: X: 477344.0978 Y: 403920.2955
North Aligned To:GRID NORTH
Total Magnetic Correction: 8.41° EAST TO GRID
Vertical Section Plane: 0.00
Survey Vert. Reference: 25.00' Rotary Table To Ground
Altitude:3632.00' Ground To MSL

Survey Calculations by PathCalc v1.97 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 TO PATHFINDER MWD SURVEY @ 10108' MD.										
10108.00	2.20	308.02	10107.26	0.00	-4.55	4.55 S	36.60 W	36.88@	262.91	0.02
THE FOLLOWING ARE PATHFINDER MWD SURVEYS.										
10759.00	4.22	309.35	10757.21	651.00	18.34	18.34 N	64.97 W	67.51@	285.76	0.31
10825.00	3.61	293.18	10823.05	66.00	20.69	20.69 N	68.76 W	71.80@	286.75	1.90
10856.00	3.34	291.07	10854.00	31.00	21.40	21.40 N	70.50 W	73.67@	286.89	0.96
10888.00	2.99	284.12	10885.95	32.00	21.94	21.94 N	72.18 W	75.44@	286.91	1.62
10952.00	2.20	289.05	10949.88	64.00	22.75	22.75 N	74.96 W	78.33@	286.88	1.28
11015.00	2.37	284.12	11012.83	63.00	23.46	23.46 N	77.36 W	80.84@	286.87	0.41
11077.00	2.20	268.39	11074.78	62.00	23.74	23.74 N	79.79 W	83.25@	286.57	1.04
11109.00	2.02	262.50	11106.76	32.00	23.65	23.65 N	80.97 W	84.35@	286.28	0.88
11141.00	0.97	264.88	11138.75	32.00	23.55	23.55 N	81.80 W	85.12@	286.06	3.29
11204.00	0.35	232.35	11201.74	63.00	23.39	23.39 N	82.48 W	85.73@	285.83	1.11
11267.00	0.18	209.42	11264.74	63.00	23.18	23.18 N	82.68 W	85.87@	285.66	0.31
11331.00	0.62	251.34	11328.74	64.00	22.99	22.99 N	83.06 W	86.18@	285.47	0.78
11393.00	1.06	256.52	11390.74	62.00	22.74	22.74 N	83.93 W	86.96@	285.16	0.72
11457.00	1.32	257.67	11454.72	64.00	22.45	22.45 N	85.23 W	88.14@	284.76	0.41
11533.00	1.49	259.51	11530.70	76.00	22.08	22.08 N	87.06 W	89.81@	284.23	0.23
STRAIGHT LINE PROJECTION TO BIT.										
11577.00	1.49	259.51	11574.68	44.00	21.87	21.87 N	88.18 W	90.85@	283.93	0.00