

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENTOCD-ARTESIA
JAN 27 2009FORM 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						5 Lease Serial No NM-81953			
b Type of Completion ☒ New Well ☐ Work Over ☐ Deepen ☐ Plug Back ☐ Diff Resrv						6 If Indian, Allottee or Tribe Name			
Other: _____									
2 Name of Operator Yates Petroleum Corporation						7 Unit or CA Agreement Name and No.			
3 Address 105 S. 4th Str., Artesia, NM 88210				3a. Phone No (include area code) 575-748-1471		8. Lease Name and Well No. Glow Worm ALX Federal #15H			
4. Location of Well (Report location clearly and in accordance with Federal requirements)* At Surface 200'FNL & 1830'FEL (Unit B, NWNE) At top prod. Interval reported below BHL 343'FSL & 2154'FEL (Unit O, SWSE)						9. API Well No 30-015-36368			
						10. Field and Pool or Exploratory Los Medanos; Delaware			
						11 Sec., T., R., M., on Block and Survey or Area Section 4-T23S-R31E			
						12 County or Parish Eddy	13. State New Mexico		
14. Date Spudded RH 6/13/08 RT 6/20/08		15. Date T.D. Reached 7/15/08		16. Date Completed ☐ D & A ☒ Ready to Prod 11/1/08		17. Elevations (DF, RKB, RT, GL)* 3385'GL 3403'KB			
18. Total Depth: MD 12,402' TVD 7996'		19. Plug Back T.D.: MD 12,143' TVD NA		20. Depth Bridge Plug Set: MD NA TVD NA					
21. Type Electric & Other Mechanical Logs Run (Submit copy of each) Iso Scanner Bond Log, CBL/Gamma Ray CCL (Sent to Wesley Ingram-Carlsbad BLM)				22 Was Well cored? ☒ No ☐ Yes (Submit analysis) Was DST run? ☒ No ☐ Yes (Submit report) Directional Survey? ☐ No ☒ Yes (Submit copy)					
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 Sk & Type of Cement	Slurry Vol. (BBL)	Cement Top*	Amount Pulled
20"	Cond.	48#	Surface	40'		Redi-mix		Surface	
17-1/2"	13-3/8"	48#	Surface	563'		465 sx		Surface	
12-1/4"	9-5/8"	36#, 40#	Surface	4068'		1275 sx		Surface	
8-3/4"	5-1/2"	17#, 20#	Surface	12,188'		1700 sx			
24. Tubing Record									
Size	Depth Set (MD)	Packer Depth (MD)	Size	Depth Set (MD)	Packer Depth (MD)	Size	Depth Set (MD)	Packer Depth (MD)	
2-7/8"	7319'								
25 Producing Intervals					26. Perforation Record				
Formation		Top		Bottom	Perforated Interval	Size	No Holes	Perf. Status	
A) Delaware		8391'		12,058'					
B)									
C)									
D)									
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
11/1/08	11/15/08	24	→	831	806	1279	NA	NA	Pumping
Choke Size	Tbg. Press. Flwg.	Csg. Press	24 Hr. Rate	Oil BBL	Gas MCF	Water BBL	Gas/Oil Ratio	Well Status	
NA	375 psi	350 psi	→	831	806	1279	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	
			→						

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

Accepted for record - NMOC

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
				Rustler	500'
				BOS	3940'
				Brushy Canyon	7760'

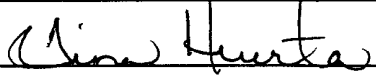
32. Additional remarks (include plugging procedure):

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 December 5, 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

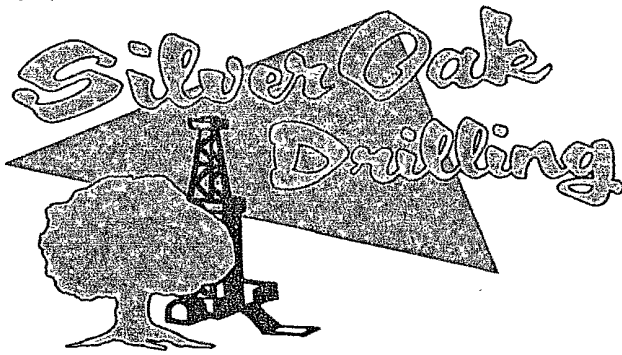
Form 3160-4 continued:

26. Perforation Record			
Perforated Interval	Size	No. Holes	Perf. Status
12,058'			Producing
11,865'			Producing
11,672'			Producing
11,479'			Producing
11,286'			Producing
11,093'			Producing
10,900'			Producing
10,707'			Producing
10,514'			Producing
10,321'			Producing

26. Perforation Record			
Perforated Interval	Size	No. Holes	Perf. Status
10,128'			Producing
9935'			Producing
9742'			Producing
9549'			Producing
9356'			Producing
9163'			Producing
8970'			Producing
8777'			Producing
8584'			Producing
8391'			Producing

27. Acid, Fracture, Treatment, Cement Squeeze, Etc.	
Depth Interval	Amount and Type of Material
12,145'-12,402' OH	Frac w/129,000g YF125ST and 120,000# 20/40 Jordan and 800,000# Super LC
11,672'-12,058'	Pumped 250g 15% HCL
11,479'	Frac w/129,000g YF125ST and 120,000# 20/40 Jordan and 80,000# Super LC
10,707'-11,286'	Frac w/129,000g YF125ST and 120,000# 20/40 Jordan and 80,000# Super LC
9935'-10,514'	Pumped 250g 15% acid, Frac w/129,000g YF125ST and 120,000# 20/40 Jordan and 80,000# Super LC
9163'-9742'	Frac w/129,000g YF125ST and 120,000# 20/40 Jordan and 80,000# Super LC, Spotted 2500g 15% HCL
8391'-8970'	Frac w/129,000g YF125ST and 120,000# 20/40 Jordan and 70,000# Super LC


Regulatory Compliance Supervisor
December 5, 2008



PO Box 1370
Artesia, NM 88211-1370
(505) 748-1288

July 31, 2008

Yates Petroleum Corporation
105 S. 4th
Artesia, NM 88211-1395

RE: Glow Worm ALX Federal #15H
200' FNL & 1830' FEL
Sec. 4, T23S, R31E
Eddy County, New Mexico

Dear Sir,

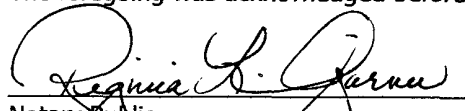
The attached is the Deviation Survey for the above captioned well.

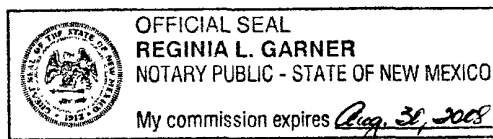
Very truly yours,


Eddie LaRue
Operations Manager

State of New Mexico }
County of Eddy }

The foregoing was acknowledged before me this 31st day of July, 2008.

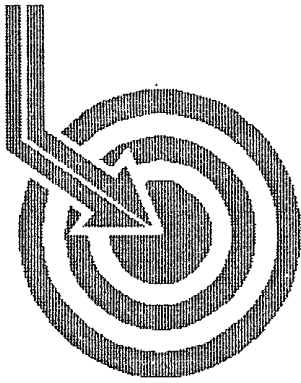

Notary Public



Date	Depth	Dev	Dir	TVD
06/23/2008	238.00	0.50		
06/23/2008	389.00	0.75		
06/23/2008	515.00	1.00		
06/23/2008	719.00	1.32	209.10	
06/23/2008	750.00	1.06	191.63	
06/23/2008	846.00	0.88	187.30	
06/23/2008	941.00	0.79	226.51	
06/23/2008	1036.00	1.14	195.65	
06/23/2008	1131.00	1.14	197.87	
06/23/2008	1229.00	1.23	197.08	
06/23/2008	1322.00	1.23	201.23	
06/23/2008	1417.00	1.23	196.58	
06/23/2008	1512.00	0.88	183.63	
06/23/2008	1607.00	0.79	199.14	
06/24/2008	1702.00	0.88	211.97	
06/24/2008	1797.00	0.62	193.21	
06/24/2008	1924.00	0.79	176.88	
06/24/2008	2051.00	0.70	218.30	
06/24/2008	2177.00	0.62	226.90	
06/24/2008	2304.00	1.06	214.74	
06/24/2008	2399.00	0.76	217.74	
06/24/2008	2495.00	0.88	216.35	
06/24/2008	2590.00	1.14	197.83	
06/25/2008	2685.00	1.14	199.98	
06/25/2008	2780.00	0.70	198.43	
06/25/2008	2875.00	0.53	183.04	
06/25/2008	2970.00	0.70	186.63	
06/25/2008	3065.00	0.53	201.09	
06/25/2008	3160.00	0.79	221.78	
06/25/2008	3255.00	0.35	193.51	
06/25/2008	3350.00	0.53	154.85	
06/25/2008	3445.00	1.49	141.67	
06/26/2008	3540.00	1.85	138.26	
06/26/2008	3604.00	1.58	141.44	
06/26/2008	3731.00	2.11	147.11	
06/26/2008	3794.00	2.20	152.30	
06/26/2008	3858.00	2.02	155.33	
06/26/2008	3953.00	1.23	175.76	
06/26/2008	4024.00	0.70	175.78	
06/29/2008	4141.00	0.97	203.97	
06/29/2008	4236.00	0.79	210.59	
06/29/2008	4331.00	0.79	211.69	
06/29/2008	4426.00	0.88	213.47	
06/30/2008	4616.00	0.70	204.77	
06/30/2008	4711.00	0.88	214.80	
06/30/2008	4806.00	0.97	214.40	
06/30/2008	4902.00	0.97	219.86	
06/30/2008	4997.00	0.97	223.18	
06/30/2008	5092.00	0.70	225.72	
06/30/2008	5187.00	0.88	216.91	
06/30/2008	5282.00	0.97	209.92	
06/30/2008	5409.00	0.88	216.91	
06/30/2008	5536.00	1.14	216.14	
06/30/2008	5563.00	1.14	215.43	
06/30/2008	5758.00	0.88	215.40	
07/01/2008	5884.00	1.06	214.47	
07/01/2008	6011.00	1.23	214.59	
07/01/2008	6138.00	1.32	216.16	
07/01/2008	6265.00	1.49	212.13	
07/01/2008	6329.00	1.01	215.16	

Date	Depth	Dev	Dir	TVD
07/01/2008	6424.00	0.62	219.57	
07/01/2008	6551.00	0.44	199.99	
07/01/2008	6678.00	0.53	197.69	
07/02/2008	6805.00	0.88	214.46	
07/02/2008	6931.00	0.53	214.12	
07/02/2008	7059.00	0.53	218.46	
07/02/2008	7185.00	0.88	240.66	
07/02/2008	7312.00	0.79	251.48	
07/02/2008	7439.00	0.97	230.90	
07/03/2008	7479.00	1.32	231.07	
07/03/2008	7511.00	3.61	202.06	
07/03/2008	7542.00	7.30	199.55	
07/03/2008	7574.00	12.05	198.69	
07/04/2008	7638.00	21.98	193.87	7633.00
07/04/2008	7670.00	26.38	192.65	
07/04/2008	7701.00	29.90	191.74	
07/04/2008	7733.00	33.59	190.80	
07/04/2008	7765.00	36.49	189.57	
07/04/2008	7796.00	38.25	188.22	
07/05/2008	7860.00	41.24	187.31	7816.00
07/05/2008	7892.00	43.88	185.63	7840.00
07/05/2008	7923.00	46.52	184.69	7862.00
07/05/2008	7955.00	49.59	184.19	7883.00
07/05/2008	7987.00	53.64	184.18	
07/05/2008	8019.00	58.12	184.79	7921.00
07/06/2008	8051.00	60.76	184.90	7937.00
07/06/2008	8083.00	64.19	184.90	7952.00
07/06/2008	8114.00	68.59	184.52	7964.00
07/06/2008	8146.00	72.46	183.14	7975.00
07/06/2008	8178.00	75.71	182.99	7984.00
07/06/2008	8210.00	78.08	183.19	7991.00
07/07/2008	8241.00	79.93	183.10	7997.00
07/07/2008	8273.00	81.95	183.31	8002.00
07/07/2008	8305.00	84.59	183.37	8006.00
07/08/2008	8367.00	88.72	183.52	8009.00
07/08/2008	8399.00	90.66	182.79	8009.00
07/08/2008	8431.00	92.33	182.86	8009.00
07/08/2008	8463.00	92.59	182.56	8009.00
07/08/2008	8494.00	92.51	182.69	8006.00
07/08/2008	8526.00	91.36	182.24	8005.00
07/08/2008	8558.00	91.19	182.60	8004.00
07/08/2008	8653.00	89.96	182.79	8003.00
07/08/2008	8716.00	88.99	181.67	8003.00
07/08/2008	8780.00	89.69	182.09	8004.00
07/08/2008	8875.00	90.13	183.10	8004.00
07/09/2008	8970.00	89.78	184.12	8005.00
07/09/2008	9065.00	89.60	184.52	8005.00
07/09/2008	9161.00	90.31	185.87	8005.00
07/09/2008	9256.00	89.25	184.11	8005.00
07/09/2008	9351.00	89.34	184.45	8006.00
07/09/2008	9446.00	88.46	184.61	8008.00
07/09/2008	9541.00	88.29	184.51	
07/10/2008	9605.00	88.55	184.42	8013.39
07/10/2008	9668.00	89.52	184.13	8014.46
07/10/2008	9731.00	90.31	183.87	8015.00
07/10/2008	9795.00	91.63	184.54	8014.00
07/10/2008	9856.00	90.48	183.95	8012.00
07/10/2008	9922.00	89.69	183.03	8013.00
07/10/2008	9985.00	90.31	182.97	8012.00
07/10/2008	10051.00	90.48	183.06	8011.79

Date	Depth	Dev	Dir	TVD
07/10/2008	10112.00	90.97	182.76	8011.00
07/11/2008	10175.00	90.84	182.83	8010.00
07/11/2008	10270.00	90.31	182.13	8009.00
07/11/2008	10365.00	89.52	180.93	8009.00
07/11/2008	10460.00	89.52	181.36	8010.00
07/11/2008	10556.00	89.52	183.06	8010.00
07/11/2008	10683.00	90.04	184.20	8011.55
07/12/2008	10776.00	91.19	183.72	8010.55
07/12/2008	10873.00	89.87	182.72	8009.65
07/12/2008	10937.00	89.96	183.33	8009.00
07/12/2008	11000.00	89.87	183.03	8009.00
07/12/2008	11063.00	89.96	183.00	8009.00
07/12/2008	11127.00	90.31	183.86	8009.00
07/12/2008	11285.00	90.66	83.53	8009.22
07/12/2008	11380.00	91.19	183.60	8007.69
07/12/2008	11476.00	90.22	183.24	8006.00
07/12/2008	11571.00	90.04	182.72	8006.00
07/12/2008	11666.00	91.89	183.40	8004.00
07/14/2008	11760.00	90.57	182.32	8002.67
07/14/2008	11855.00	91.01	182.74	8002.00
07/14/2008	11950.00	90.73	182.73	8000.00
07/14/2008	12045.00	90.40	182.31	7999.68
07/15/2008	12140.00	90.13	182.81	7999.00
07/15/2008	12236.00	90.60	182.58	7998.00
07/15/2008	12331.00	90.92	182.30	7996.00
07/15/2008	12356.00	90.66	182.04	7996.00



Scientific Drilling

YATES PETROLEUM

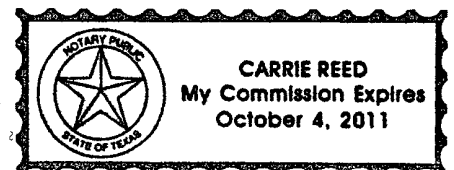
Field: Los Medanos
Site: Eddy County, NM
Well: Glow Worm ALX Federal #15H
Wellpath: VH - Job #32K0608488
Survey: 06/28/08

This survey is correct to the best of my knowledge
and is supported by actual field data.

.....*L. Wharton*.....Company Representative

Notorized this date 4th of August, 2008.

Carrie Reed
Notary Signature
County of Midland
State of Texas





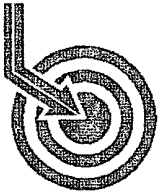
Scientific Drilling International Survey Report

Company: YATES PETROLEUM	Date: 07/31/2008	Time: 21:17:31	Page: 1
Field: Los Medanos	Co-ordinate(NE) Reference:	Site: Eddy County, NM, Grid North	
Site: Eddy County, NM	Vertical (TVD) Reference:	SITE 0.0	
Well: Glow Worm ALX Federal #15H	Section (VS) Reference:	Well (0.00N,0.00E,175.76Azi)	
Wellpath: VH - Job #32K0608488	Survey Calculation Method:	Minimum Curvature	Db: Sybase

Survey: 06/28/08	Start Date: 06/28/2008
Company: Scientific Drilling International	Engineer: Garza w/
Tool: Keeper;Keeper Gyro	Tied-to: From Surface

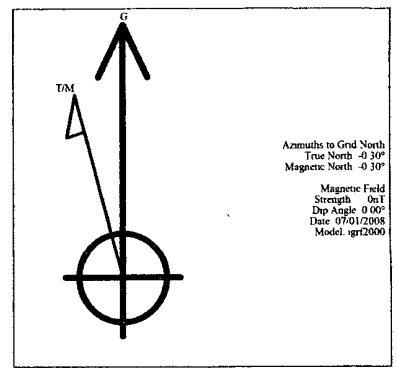
Survey

MD ft	Incl deg	Azim deg	TVD ft	VS ft	N/S ft	E/W ft	DLS deg/100ft	ClsD ft	ClsA deg
0.00	0.00	359.70	0.00	0.00	0.00	0.00	0.00	0.00	0.00
100.00	0.40	90.56	100.00	0.03	0.00	0.35	0.40	0.35	90.56
200.00	0.36	97.80	200.00	0.12	-0.05	1.01	0.06	1.01	92.81
300.00	0.30	78.38	300.00	0.16	-0.04	1.58	0.13	1.58	91.43
400.00	0.32	94.95	399.99	0.17	-0.01	2.11	0.09	2.11	90.29
500.00	0.13	57.95	499.99	0.16	0.03	2.49	0.23	2.49	89.42
600.00	0.14	236.31	599.99	0.17	0.02	2.48	0.27	2.48	89.59
700.00	0.77	212.75	699.99	0.76	-0.62	2.02	0.64	2.11	106.97
800.00	0.98	208.31	799.98	2.02	-1.93	1.25	0.22	2.30	147.19
900.00	1.20	203.20	899.96	3.67	-3.65	0.43	0.24	3.67	173.31
1000.00	1.36	199.25	999.93	5.69	-5.73	-0.38	0.18	5.74	183.75
1100.00	1.38	203.58	1099.91	7.84	-7.96	-1.25	0.11	8.05	188.92
1200.00	1.43	210.23	1199.88	9.93	-10.14	-2.36	0.17	10.41	193.10
1300.00	1.48	206.16	1299.84	12.08	-12.37	-3.56	0.11	12.87	196.03
1400.00	1.26	203.12	1399.82	14.17	-14.54	-4.56	0.23	15.24	197.40
1500.00	1.36	196.30	1499.79	16.26	-16.69	-5.32	0.19	17.52	197.68
1600.00	1.40	194.01	1599.76	18.53	-19.02	-5.95	0.07	19.93	197.37
1700.00	1.47	199.24	1699.73	20.86	-21.42	-6.67	0.15	22.43	197.30
1800.00	1.32	199.21	1799.70	23.10	-23.71	-7.47	0.15	24.86	197.49
1900.00	1.16	195.44	1899.68	25.11	-25.78	-8.12	0.18	27.03	197.48
2000.00	1.16	190.99	1999.66	27.04	-27.75	-8.58	0.09	29.04	197.19
2100.00	1.19	194.62	2099.63	29.00	-29.75	-9.04	0.08	31.09	196.90
2200.00	1.31	203.80	2199.61	30.99	-31.80	-9.76	0.23	33.26	197.06
2300.00	1.03	203.59	2299.59	32.79	-33.67	-10.58	0.28	35.29	197.45
2400.00	1.22	198.65	2399.57	34.57	-35.50	-11.28	0.21	37.25	197.63
2500.00	1.35	206.26	2499.55	36.56	-37.56	-12.14	0.21	39.48	197.91
2600.00	1.38	210.87	2599.52	38.56	-39.65	-13.28	0.11	41.82	198.52
2700.00	1.18	210.16	2699.49	40.40	-41.58	-14.42	0.20	44.01	199.12
2800.00	1.29	204.68	2799.47	42.23	-43.49	-15.40	0.16	46.14	199.50
2900.00	1.30	204.87	2899.44	44.21	-45.54	-16.35	0.01	48.39	199.75
3000.00	1.26	202.63	2999.42	46.18	-47.59	-17.25	0.06	50.62	199.93
3100.00	1.29	207.46	3099.39	48.12	-49.60	-18.19	0.11	52.83	200.14
3200.00	1.08	206.75	3199.37	49.88	-51.44	-19.14	0.21	54.88	200.41
3300.00	0.75	198.34	3299.36	51.30	-52.90	-19.77	0.36	56.47	200.49
3400.00	1.03	148.29	3399.35	52.70	-54.29	-19.50	0.79	57.68	199.76
3500.00	1.82	140.78	3499.32	54.80	-56.28	-18.02	0.81	59.10	197.76
3600.00	1.97	142.22	3599.26	57.53	-58.87	-15.97	0.16	61.00	195.17
3700.00	2.36	142.58	3699.19	60.69	-61.87	-13.66	0.39	63.36	192.45
3785.00	2.52	146.82	3784.11	63.79	-64.82	-11.58	0.28	65.85	190.13

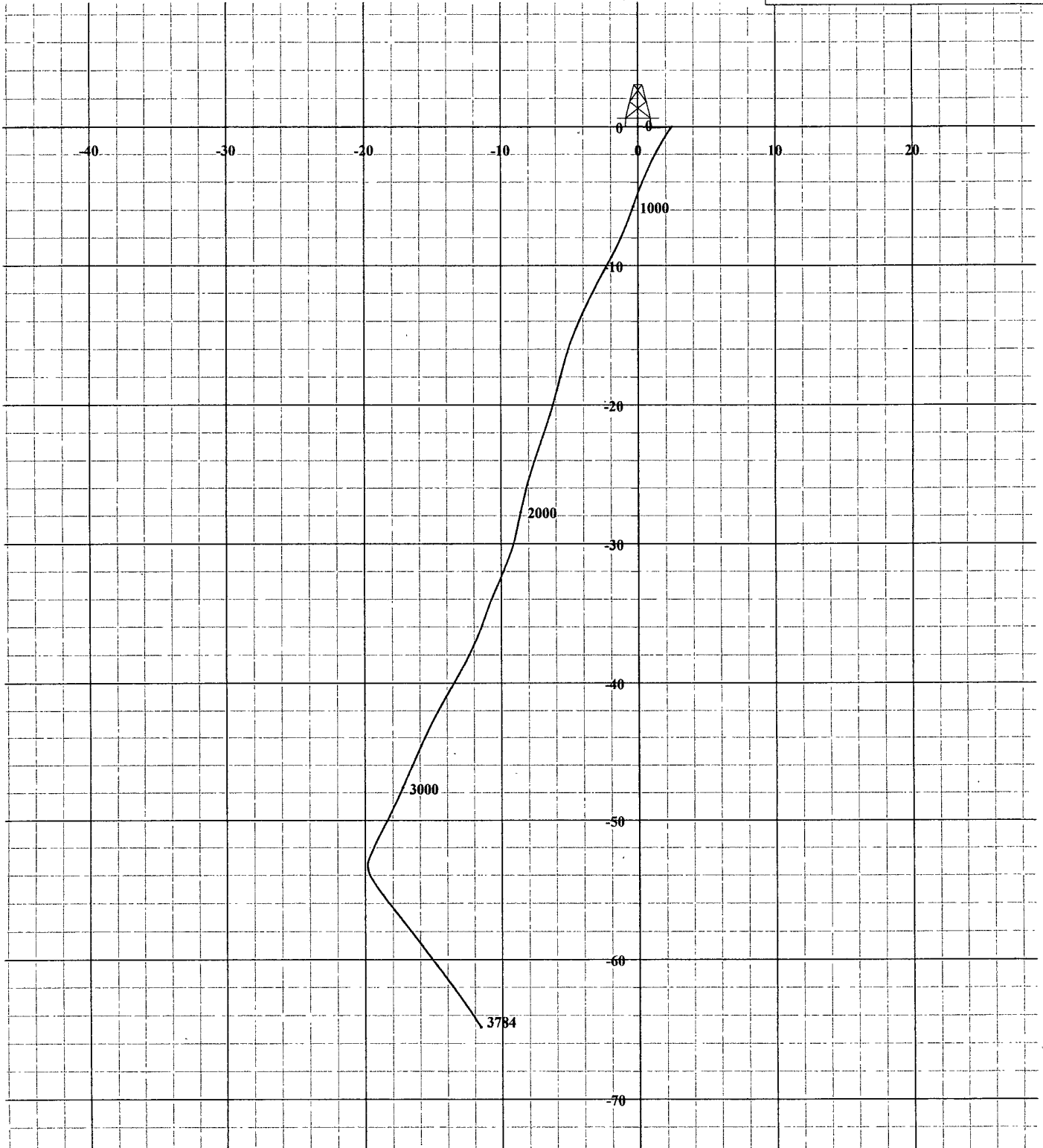


Scientific
Drilling

Field: Los Medanos
Site: Eddy County, NM
Well: Glow Worm ALX Federal #15H
Wellpath: VH - Job #32K0608488
Survey: 06/28/08



South(-)/North(+) [10ft/in]



West(-)/East(+) [10ft/in]



DIRECTIONAL SURVEY REPORT

YATES PETROLEUM
GLOW WORM ALX FEDERAL #15H
EDDY COUNTY, NEW MEXICO

PREPARED BY: FRANCISCO SINISTERRA

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) CHUCK HARPER
3. POSITION OF SAID PERSON(S): (A-F) SURVEYORS (FIELD ENGINEERS)
4. DATE(S) ON WHICH SURVEY WAS PERFORMED: 6/26/08 TO 7/15/08
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
GLOW WORM ALX FEDERAL #15H
EDDY COUNTY, NM
RIG: SILVER OAK
9. SURVEY CERTIFIED FROM: 3794 TO 12356 FEET MEASURED DEPTH.

THIS IS TO VERIFY THAT ATTACHED DOCUMENTS SHOWING THE WELL TO BE DISPLACED AT 4749.76 FEET ON A BEARING OF 183.91 DEGREES FROM THE CENTER OF THE ROTARY TABLE AT A PROJECTED BIT DEPTH OF 12402 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: 06/23/2008
Date Completed: 07/15/2008

YATES PETROLEUM
GLOW WORM ALX FEDERAL # 15H
Eddy COUNTY, NM
Rig:Silver Oak #9
PathFinder Office Supervisor: Francisco Sinisterra
PathFinder Field Engineers:Chuck Harper

Survey Horiz. Reference:WELLHEAD
Ref Coordinates: LAT:32.20.24.7642 N LON:103.46.48.6604 W
GRID Reference:NAD83 new mexico east Transverse Mercator
Ref GRID Coord: X: 712172.3410 Y: 487942.3750
North Aligned To:GRID NORTH
Total Magnetic Correction: 7.74° EAST TO GRID
Vertical Section Plane: 185.17
Survey Vert. Reference: 17.00' Kelly Bushing To Ground
Altitude:3385.00' Ground To MSL

Measured Depth	12402.00	(feet)
Inclination	90.66	(deg)
Azimuth	182.04	(deg)
True Vertical Depth	7996.39	(feet)
Vertical Section	4748.61	(feet)
Survey X cord	711848.28	(feet)
Survey Y cord	483203.69	(feet)
Survey Lat	32.32719150 N	(deg)
Survey Lon	103.78131175 W	(deg)
Rectangular Corr. N/S	4738.69 S	(feet)
Rectangular Corr. E/W	324.06 W	(feet)
Closure Distance	4749.76	(feet)
Direction of Closure	183.91	(deg)
Dogleg Severity	0.00	(deg/100ft)

PathFinder Energy Services, Inc.

Survey Report

YATES PETROLEUM

GLOW WORM ALX FEDERAL # 15H

Eddy COUNTY, NM

Rig: Silver Oak #9

PathFinder Office Supervisor: Francisco Sinisterra

PathFinder Field Engineers: Chuck Harper

Survey Horiz. Reference: WELLHEAD

Ref Coordinates: LAT: 32.20.24.7642 N LON: 103.46.48.6604 W

Reference: NAD83 new mexico east Transverse Mercator

Ref GRID Coord: X: 712172.3410 Y: 487942.3750

North Aligned To: GRID NORTH

Total Magnetic Correction: 7.74° EAST TO GRID

Vertical Section Plane: 185.17

Survey Vert. Reference: 17.00' Kelly Bushing To Ground

Altitude: 3385.00' Ground To MSL

Survey Calculations by RX5 V5.11i 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 INTO SCIENTIFIC SURVEY @ 3785'MD.										
3785.00	2.52	146.82	3784.11	0.00	65.60	64.82 S	11.58 W	65.85@ 190.13	0.00	
THE FOLLOWING ARE PATHFINDER MWD SURVEYS										
3794.00	2.20	152.30	3793.10	9.00	65.90	65.14 S	11.39 W	66.13@ 189.92	4.35	
3858.00	2.02	155.33	3857.06	64.00	67.91	67.25 S	10.35 W	68.04@ 188.75	0.33	
3953.00	1.23	175.76	3952.02	95.00	70.37	69.79 S	9.58 W	70.44@ 187.81	1.02	
4024.00	0.70	179.78	4023.01	71.00	71.55	70.98 S	9.52 W	71.62@ 187.64	0.75	
4141.00	0.97	203.97	4140.00	117.00	73.20	72.60 S	9.92 W	73.28@ 187.78	0.38	
4236.00	0.79	210.59	4234.99	95.00	74.55	73.90 S	10.58 W	74.65@ 188.14	0.22	
4331.00	0.79	211.69	4329.98	95.00	75.73	75.02 S	11.25 W	75.86@ 188.53	0.02	
4426.00	0.88	213.47	4424.97	95.00	76.96	76.19 S	12.00 W	77.13@ 188.95	0.10	
4521.00	0.70	224.58	4519.96	95.00	78.05	77.21 S	12.81 W	78.27@ 189.42	0.25	
4616.00	0.70	204.77	4614.95	95.00	79.05	78.15 S	13.46 W	79.30@ 189.77	0.25	
4711.00	0.88	214.80	4709.94	95.00	80.23	79.28 S	14.12 W	80.52@ 190.10	0.24	
4806.00	0.97	214.40	4804.93	95.00	81.56	80.54 S	14.99 W	81.92@ 190.54	0.09	
4902.00	0.97	219.86	4900.92	96.00	82.94	81.83 S	15.97 W	83.38@ 191.04	0.10	
4997.00	0.97	223.18	4995.90	95.00	84.23	83.04 S	17.04 W	84.77@ 191.59	0.06	
5092.00	0.70	225.72	5090.89	95.00	85.31	84.03 S	18.00 W	85.93@ 192.09	0.29	
5187.00	0.88	211.36	5185.88	95.00	86.40	85.06 S	18.80 W	87.11@ 192.46	0.28	
5282.00	0.97	209.92	5280.87	95.00	87.79	86.38 S	19.58 W	88.57@ 192.77	0.10	
5409.00	0.88	216.91	5407.86	127.00	89.59	88.09 S	20.70 W	90.49@ 193.22	0.11	
5536.00	1.14	216.14	5534.84	127.00	91.51	89.89 S	22.03 W	92.55@ 193.77	0.20	
5663.00	1.14	215.43	5661.81	127.00	93.68	91.94 S	23.51 W	94.90@ 194.34	0.01	
5758.00	0.88	215.40	5756.80	95.00	95.13	93.30 S	24.48 W	96.46@ 194.70	0.27	

PathFinder Energy Services, Inc.

Survey Report

YATES PETROLEUM
GLOW WORM ALX FEDERAL # 15H
Eddy COUNTY, NM
RIG: Silver Oak #9

Page 02/05

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)
5884.00	1.06	214.47	5882.78	126.00	96.98	95.05 S	25.70 W	98.46@	195.13	0.14
6011.00	1.23	214.59	6009.75	127.00	99.19	97.14 S	27.14 W	100.86@	195.61	0.13
6138.00	1.32	216.16	6136.72	127.00	101.63	99.45 S	28.77 W	103.52@	196.14	0.08
6265.00	1.49	212.13	6263.68	127.00	104.36	102.02 S	30.52 W	106.49@	196.65	0.16
6329.00	1.06	215.16	6327.67	64.00	105.61	103.21 S	31.30 W	107.85@	196.87	0.68
6424.00	0.62	219.57	6422.66	95.00	106.80	104.33 S	32.13 W	109.16@	197.12	0.47
6551.00	0.44	199.99	6549.65	127.00	107.84	105.32 S	32.74 W	110.29@	197.27	0.20
6678.00	0.53	197.69	6676.65	127.00	108.88	106.33 S	33.08 W	111.36@	197.28	0.07
6805.00	0.88	214.46	6803.64	127.00	110.31	107.70 S	33.81 W	112.88@	197.43	0.32
6931.00	0.53	217.12	6929.63	126.00	111.64	108.96 S	34.71 W	114.36@	197.67	0.28
7059.00	0.53	218.46	7057.62	128.00	112.64	109.90 S	35.44 W	115.47@	197.87	0.01
7185.00	0.88	240.66	7183.61	126.00	113.68	110.83 S	36.64 W	116.73@	198.30	0.35
7312.00	0.79	251.48	7310.60	127.00	114.58	111.58 S	38.32 W	117.98@	198.96	0.14
7439.00	0.97	230.90	7437.58	127.00	115.68	112.54 S	39.99 W	119.43@	199.56	0.28
7479.00	1.32	231.07	7477.58	40.00	116.24	113.04 S	40.61 W	120.11@	199.76	0.87
7511.00	3.61	202.06	7509.54	32.00	117.46	114.21 S	41.27 W	121.44@	199.87	7.93
7542.00	7.30	199.55	7540.40	31.00	120.30	116.97 S	42.30 W	124.38@	199.88	11.93
7574.00	12.05	198.69	7571.94	32.00	125.52	122.05 S	44.05 W	129.76@	199.85	14.85
7606.00	17.15	195.85	7602.89	32.00	133.41	129.76 S	46.41 W	137.81@	199.68	16.09
7638.00	21.98	193.87	7633.04	32.00	143.98	140.12 S	49.14 W	148.48@	199.33	15.23
7670.00	26.38	192.64	7662.22	32.00	156.95	152.87 S	52.13 W	161.52@	198.83	13.84
7701.00	29.90	191.74	7689.55	31.00	171.46	167.16 S	55.21 W	176.05@	198.28	11.44
7733.00	33.59	190.80	7716.76	32.00	188.20	183.67 S	58.49 W	192.76@	197.66	11.63
7765.00	36.49	189.57	7742.96	32.00	206.50	201.76 S	61.73 W	210.99@	197.01	9.33
7796.00	38.25	188.22	7767.59	31.00	225.27	220.34 S	64.64 W	229.63@	196.35	6.26
7828.00	39.48	188.16	7792.51	32.00	245.32	240.22 S	67.50 W	249.52@	195.69	3.85
7860.00	41.24	187.31	7816.89	32.00	266.03	260.75 S	70.29 W	270.06@	195.09	5.76

PathFinder Energy Services, Inc.

Survey Report

YATES PETROLEUM
GLOW WORM ALX FEDERAL # 15H
Eddy COUNTY, NM
RIG:Silver Oak #9

Page 03/05

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)
7892.00	43.88	185.63	7840.46	32.00	287.66	282.26 S	72.72 W	291.47@	194.45	8.98
7923.00	46.52	184.69	7862.30	31.00	309.65	304.16 S	74.69 W	313.20@	193.80	8.78
7955.00	49.59	184.19	7883.69	32.00	333.45	327.89 S	76.53 W	336.70@	193.14	9.66
7987.00	53.64	184.18	7903.56	32.00	358.52	352.90 S	78.36 W	361.49@	192.52	12.66
8019.00	58.12	184.79	7921.50	32.00	385.01	379.30 S	80.44 W	387.74@	191.97	14.09
8051.00	60.76	184.90	7937.77	32.00	412.56	406.76 S	82.76 W	415.09@	191.50	8.26
8083.00	64.19	184.90	7952.56	32.00	440.93	435.03 S	85.19 W	443.29@	191.08	10.72
8114.00	68.59	184.52	7964.97	31.00	469.33	463.33 S	87.52 W	471.52@	190.70	14.24
8146.00	72.46	183.14	7975.64	32.00	499.48	493.42 S	89.53 W	501.48@	190.28	12.76
8178.00	75.71	182.99	7984.41	32.00	530.23	524.15 S	91.17 W	532.02@	189.87	10.17
8210.00	78.08	183.19	7991.67	32.00	561.38	555.27 S	92.85 W	562.98@	189.49	7.43
8241.00	79.93	183.10	7997.58	31.00	591.79	585.65 S	94.52 W	593.23@	189.17	5.97
8273.00	81.95	183.31	8002.62	32.00	623.37	617.20 S	96.29 W	624.67@	188.87	6.35
8305.00	84.59	183.37	8006.37	32.00	655.13	648.92 S	98.14 W	656.30@	188.60	8.25
8337.00	87.41	183.32	8008.60	32.00	687.03	680.79 S	100.00 W	688.10@	188.36	8.81
8367.00	88.72	183.52	8009.61	30.00	717.00	710.72 S	101.79 W	717.97@	188.15	4.42
8399.00	90.66	182.79	8009.78	32.00	748.98	742.67 S	103.55 W	749.85@	187.94	6.48
8431.00	92.33	182.86	8008.95	32.00	780.94	774.62 S	105.13 W	781.72@	187.73	5.22
8463.00	92.59	182.96	8007.58	32.00	812.88	806.55 S	106.75 W	813.58@	187.54	0.87
8494.00	92.51	182.69	8006.20	31.00	843.83	837.48 S	108.28 W	844.45@	187.37	0.91
8526.00	91.36	182.24	8005.12	32.00	875.77	869.43 S	109.65 W	876.32@	187.19	3.86
8558.00	91.19	182.60	8004.40	32.00	907.73	901.39 S	111.00 W	908.20@	187.02	1.24
8653.00	89.96	182.79	8003.45	95.00	1002.63	996.28 S	115.47 W	1002.95@	186.61	1.31
8716.00	88.99	181.67	8004.03	63.00	1065.55	1059.23 S	117.92 W	1065.77@	186.35	2.35
8780.00	89.69	182.09	8004.77	64.00	1129.44	1123.19 S	120.02 W	1129.58@	186.10	1.27
8875.00	90.13	183.10	8004.91	95.00	1224.34	1218.09 S	124.32 W	1224.42@	185.83	1.16
8970.00	89.78	184.12	8004.99	95.00	1319.30	1312.90 S	130.30 W	1319.35@	185.67	1.14

PathFinder Energy Services, Inc.

Survey Report

YATES PETROLEUM
GLOW WORM ALX FEDERAL # 15H
Eddy COUNTY, NM
RIG: Silver Oak #9

Page 04/05

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)
9065.00	89.60	184.52	8005.50	95.00	1414.29	1407.63 S	137.46 W	1414.32@	185.58	0.46
9161.00	90.31	185.87	8005.58	96.00	1510.29	1503.23 S	146.15 W	1510.32@	185.55	1.59
9256.00	89.25	184.11	8005.94	95.00	1605.28	1597.87 S	154.41 W	1605.31@	185.52	2.16
9351.00	89.34	184.45	8007.11	95.00	1700.26	1692.59 S	161.50 W	1700.28@	185.45	0.37
9446.00	88.46	184.61	8008.94	95.00	1795.24	1787.28 S	169.01 W	1795.25@	185.40	0.94
9541.00	88.29	184.51	8011.63	95.00	1890.19	1881.94 S	176.56 W	1890.20@	185.36	0.21
9605.00	88.55	184.42	8013.39	64.00	1954.16	1945.72 S	181.54 W	1954.17@	185.33	0.43
9668.00	89.52	184.13	8014.46	63.00	2017.15	2008.54 S	186.23 W	2017.15@	185.30	1.61
9731.00	90.31	183.87	8014.55	63.00	2080.13	2071.38 S	190.63 W	2080.14@	185.26	1.32
9795.00	91.63	184.54	8013.47	64.00	2144.11	2135.20 S	195.32 W	2144.11@	185.23	2.31
9856.00	90.48	183.95	8012.34	61.00	2205.09	2196.02 S	199.83 W	2205.09@	185.20	2.12
9922.00	89.69	183.04	8012.24	66.00	2271.06	2261.90 S	203.86 W	2271.06@	185.15	1.83
9985.00	90.31	182.92	8012.24	63.00	2334.02	2324.81 S	207.13 W	2334.02@	185.09	1.00
10051.00	90.48	183.06	8011.79	66.00	2399.97	2390.72 S	210.57 W	2399.97@	185.03	0.33
10112.00	90.92	182.76	8011.04	61.00	2460.92	2451.64 S	213.67 W	2460.93@	184.98	0.87
10175.00	90.84	182.83	8010.08	63.00	2523.85	2514.55 S	216.74 W	2523.88@	184.93	0.17
10270.00	90.31	182.13	8009.12	95.00	2618.74	2609.46 S	220.85 W	2618.79@	184.84	0.92
10365.00	89.52	180.93	8009.26	95.00	2713.55	2704.42 S	223.39 W	2713.63@	184.72	1.51
10460.00	89.52	181.36	8010.06	95.00	2808.31	2799.40 S	225.29 W	2808.45@	184.60	0.45
10556.00	89.52	183.06	8010.86	96.00	2904.18	2895.32 S	228.99 W	2904.36@	184.52	1.77
10619.00	89.60	183.42	8011.35	63.00	2967.14	2958.22 S	232.55 W	2967.34@	184.49	0.59
10683.00	90.04	184.20	8011.55	64.00	3031.12	3022.08 S	236.80 W	3031.34@	184.48	1.40
10776.00	91.19	183.72	8010.55	93.00	3124.09	3114.85 S	243.22 W	3124.33@	184.46	1.34
10873.00	89.87	182.72	8009.65	97.00	3221.03	3211.69 S	248.67 W	3221.30@	184.43	1.71
10937.00	89.96	183.33	8009.75	64.00	3284.98	3275.60 S	252.05 W	3285.28@	184.40	0.96
11000.00	89.87	183.08	8009.84	63.00	3347.95	3338.50 S	255.57 W	3348.27@	184.38	0.42
11063.00	89.96	183.00	8009.94	63.00	3410.90	3401.41 S	258.91 W	3411.25@	184.35	0.19

PathFinder Energy Services, Inc.

Survey Report

YATES PETROLEUM
GLOW WORM ALX FEDERAL # 15H
Eddy COUNTY, NM
RIG:Silver Oak #9

Page 05/05

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)
11127.00	90.31	182.86	8009.78	64.00	3474.85	3465.33 S	262.18 W	3475.23@	184.33	0.59
11222.00	89.96	182.14	8009.56	95.00	3569.75	3560.23 S	266.33 W	3570.18@	184.28	0.84
11285.00	90.66	183.53	8009.22	63.00	3632.69	3623.15 S	269.44 W	3633.16@	184.25	2.47
11380.00	91.19	183.60	8007.69	95.00	3727.64	3717.96 S	275.35 W	3728.14@	184.24	0.56
11476.00	90.22	183.24	8006.51	96.00	3823.59	3813.78 S	281.08 W	3824.12@	184.22	1.08
11571.00	90.04	182.72	8006.29	95.00	3918.52	3908.65 S	286.02 W	3919.10@	184.19	0.58
11666.00	91.89	183.40	8004.69	95.00	4013.44	4003.50 S	291.09 W	4014.06@	184.16	2.07
11760.00	90.57	182.32	8002.67	94.00	4107.34	4097.35 S	295.77 W	4108.01@	184.13	1.81
11855.00	91.01	182.74	8001.36	95.00	4202.23	4192.25 S	299.97 W	4202.97@	184.09	0.64
11950.00	90.31	182.73	8000.27	95.00	4297.13	4287.14 S	304.50 W	4297.94@	184.06	0.74
12045.00	90.40	182.31	7999.68	95.00	4392.03	4382.04 S	308.68 W	4392.90@	184.03	0.45
12140.00	90.13	182.81	7999.24	95.00	4486.93	4476.95 S	312.92 W	4487.87@	184.00	0.60
12236.00	90.66	182.58	7998.58	96.00	4582.84	4572.84 S	317.43 W	4583.84@	183.97	0.60
12331.00	90.92	182.30	7997.27	95.00	4677.72	4667.74 S	321.48 W	4678.80@	183.94	0.40
12356.00	90.66	182.04	7996.92	25.00	4702.68	4692.72 S	322.42 W	4703.78@	183.93	1.47
STRAIGHT LINE PROJECTION TO BIT @ 12402' MD.										
12402.00	90.66	182.04	7996.39	46.00	4748.61	4738.69 S	324.06 W	4749.76@	183.91	0.00

PathFinder Energy Services, Inc.

Magnetic & Grid Calculations

YATES PETROLEUM CORPORATION
GLOW WORM FEDERAL # 15H
EDDY COUNTY, NEW MEXICO
Rig: SILVEROAK 9

Sat Jun 21 17:39:29 2008

Coordinates

Latitude: 32.340212 N (32 deg. 20 min. 24.7642 sec.)
Longitude: 103.780183 W (-103 deg. 46 min. 48.6604 sec.)
Elevation: 3385.00 feet.
Calculation Date: Jun/21/2008

Magnetic Calculations

Model: IGRF2005
Dip Angle: 60.3450 degrees
Total Magnetic Field: 0.48987 gauss
Magnetic Declination: 8.035366 degrees
Horizontal Intensity: 0.242377 gauss
To Convert a Magnetic Dir. to a TRUE North Dir. Add 8.035366 Degr

Transverse Mercator Grid Calculations NAD83

Grid System: Transverse Mercator: new mexico east
Ellipsoid: GRS80
X: 712172.3410 feet
Y: 487942.3750 feet
True to Grid: (convergence) -0.295912 degrees
Magnetic to Grid: 7.739454 degrees
To Convert a Magnetic Dir. to a GRID dir. Add 7.739454 Degr.

Scientific Drilling International Survey Report

Company: YATES PETROLEUM
Field: Los Medanos
Site: Eddy County, NM
Well: Glow Worm ALX Federal #15H
Wellpath: VH - Job #32K0608488

Date: 07/01/2008 Time: 14:53:14 Page: 1
Co-ordinate(N/E) Reference: Site: Eddy County, NM, Grid North
Vertical (TVD) Reference: SITE 0.0
Section (VS) Reference: Well (0.00N,0.00E,175 76Azi)
Survey Calculation Method: Minimum Curvature Db: Sybase

Survey: 06/28/08
KSRG 0'-3785'

Start Date: 06/28/2008

Company: Scientific Drilling Internatio
Tool: Keeper, Keeper Gyro

Engineer: Garza w/
Tied-to: From Surface

Survey

MD ft	Incl deg	Azim deg	TVD ft	VS ft	N/S ft	E/W ft	DLS deg/100ft	ClsD ft	ClsA deg
0.00	0.00	359.70	0.00	0.00	0.00	0.00	0.00	0.00	0.00
100.00	0.40	90.56	100.00	0.03	0.00	0.35	0.40	0.35	90.56
200.00	0.36	97.80	200.00	0.12	-0.05	1.01	0.06	1.01	92.81
300.00	0.30	78.38	300.00	0.16	-0.04	1.58	0.13	1.58	91.43
400.00	0.32	94.95	399.99	0.17	-0.01	2.11	0.09	2.11	90.29
500.00	0.13	57.95	499.99	0.16	0.03	2.49	0.23	2.49	89.42
600.00	0.14	236.31	599.99	0.17	0.02	2.48	0.27	2.48	89.59
700.00	0.77	212.75	699.99	0.76	-0.62	2.02	0.64	2.11	106.97
800.00	0.98	208.31	799.98	2.02	-1.93	1.25	0.22	2.30	147.19
900.00	1.20	203.20	899.96	3.67	-3.65	0.43	0.24	3.67	173.31
1000.00	1.36	199.25	999.93	5.69	-5.73	-0.38	0.18	5.74	183.75
1100.00	1.38	203.58	1099.91	7.84	-7.96	-1.25	0.11	8.05	188.92
1200.00	1.43	210.23	1199.88	9.93	-10.14	-2.36	0.17	10.41	193.10
1300.00	1.48	206.16	1299.84	12.08	-12.37	-3.56	0.11	12.87	196.03
1400.00	1.26	203.12	1399.82	14.17	-14.54	-4.56	0.23	15.24	197.40
1500.00	1.36	196.30	1499.79	16.26	-16.69	-5.32	0.19	17.52	197.68
1600.00	1.40	194.01	1599.76	18.53	-19.02	-5.95	0.07	19.93	197.37
1700.00	1.47	199.24	1699.73	20.86	-21.42	-6.67	0.15	22.43	197.30
1800.00	1.32	199.21	1799.70	23.10	-23.71	-7.47	0.15	24.86	197.49
1900.00	1.16	195.44	1899.68	25.11	-25.78	-8.12	0.18	27.03	197.48
2000.00	1.16	190.99	1999.66	27.04	-27.75	-8.58	0.09	29.04	197.19
2100.00	1.19	194.62	2099.63	29.00	-29.75	-9.04	0.08	31.09	196.90
2200.00	1.31	203.80	2199.61	30.99	-31.80	-9.76	0.23	33.26	197.06
2300.00	1.03	203.59	2299.59	32.79	-33.67	-10.58	0.28	35.29	197.45
2400.00	1.22	198.65	2399.57	34.57	-35.50	-11.28	0.21	37.25	197.63
2500.00	1.35	206.26	2499.55	36.56	-37.56	-12.14	0.21	39.48	197.91
2600.00	1.38	210.87	2599.52	38.56	-39.65	-13.28	0.11	41.82	198.52
2700.00	1.18	210.16	2699.49	40.40	-41.58	-14.42	0.20	44.01	199.12
2800.00	1.29	204.68	2799.47	42.23	-43.49	-15.40	0.16	46.14	199.50
2900.00	1.30	204.87	2899.44	44.21	-45.54	-16.35	0.01	48.39	199.75
3000.00	1.26	202.63	2999.42	46.18	-47.59	-17.25	0.06	50.62	199.93
3100.00	1.29	207.46	3099.39	48.12	-49.60	-18.19	0.11	52.83	200.14
3200.00	1.08	206.75	3199.37	49.88	-51.44	-19.14	0.21	54.88	200.41
3300.00	0.75	198.34	3299.36	51.30	-52.90	-19.77	0.36	56.47	200.49
3400.00	1.03	148.29	3399.35	52.70	-54.29	-19.50	0.79	57.68	199.76
3500.00	1.82	140.78	3499.32	54.80	-56.28	-18.02	0.81	59.10	197.76
3600.00	1.97	142.22	3599.26	57.53	-58.87	-15.97	0.16	61.00	195.17
3700.00	2.36	142.58	3699.19	60.69	-61.87	-13.66	0.39	63.36	192.45
3785.00	2.52	146.82	3784.11	63.79	-64.82	-11.58	0.28	65.85	190.13

Yates Petroleum Corporation

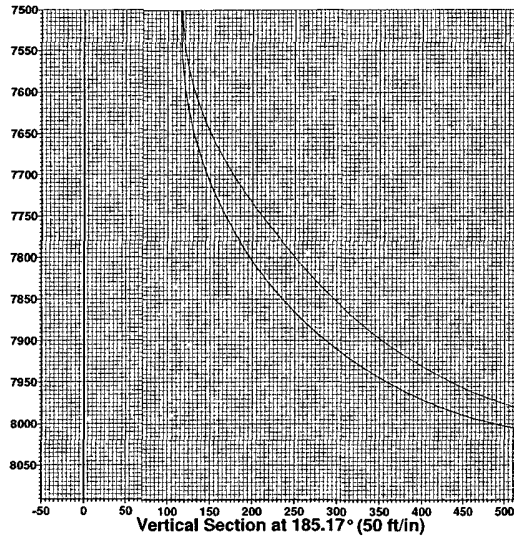


Azimuths to Grid North
True North: -0.30°
Magnetic North: -0.30°

Magnetic Field
Strength: 0.05nT
Dip Angle: 0.00°
Date: 2008/05/16
Model: USER DEFINED

PATHFINDER ENERGY SERVICES

West(-)/East(+) (200 ft/in) **EOW**



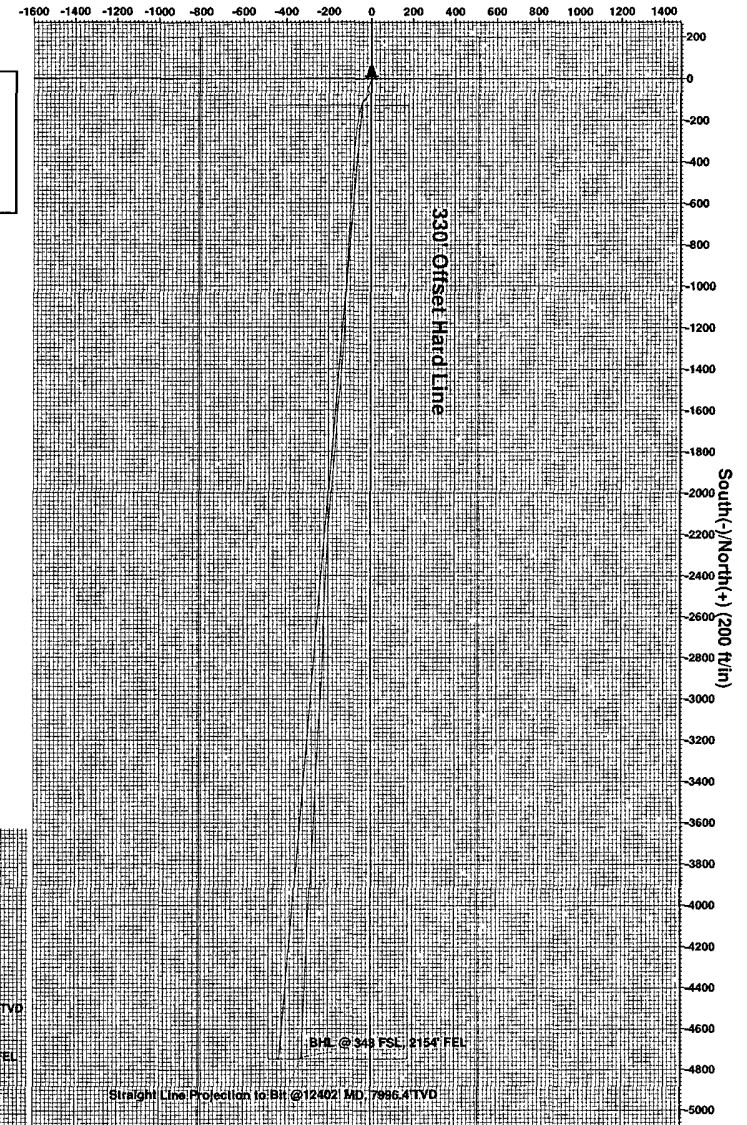
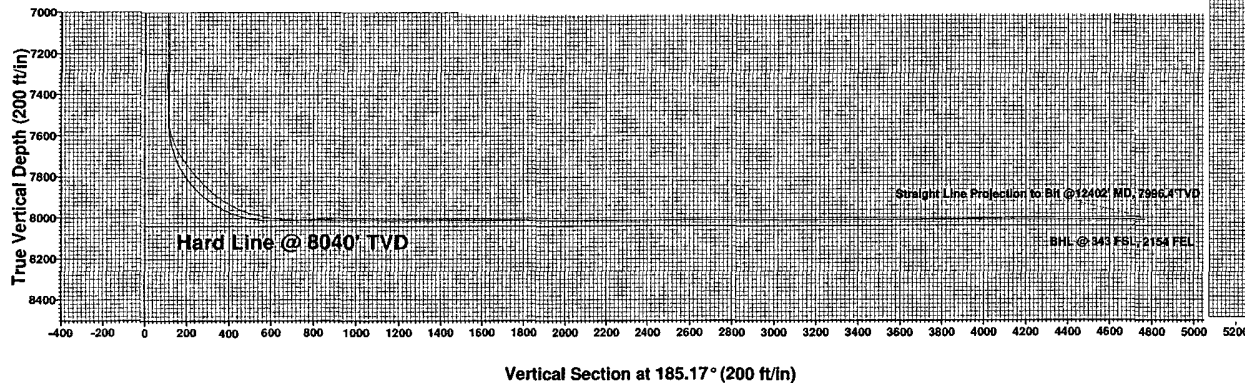
WELL DETAILS: Glow Worm ALX Federal #15H						
Ground Elevation: 0.00						
RKB Elevation: WELL @ 0.00ft (Original Well Elev)						
Rig Name: Original Well Elev						
+N-S	+E-W	Northing	Easting	Latitude	Longitude	Spot
0.00	0.00	467925.807	670838.554	32° 20' 24.760 N	103° 46' 48.660 W	

SECTION DETAILS										
Sec	MD	Inc	Azi	TVD	+N-S	+E-W	DLeg	TFace	VSec	Target
1	6424.00	0.62	219.57	6422.66	-104.33	-32.13	0.00	0.00	106.80	
2	7540.11	0.62	219.57	7538.70	-113.64	-39.62	0.00	0.00	116.75	
3	9286.25	90.03	184.77	8012.00	-589.52	-32.47	12.00	-34.80	594.56	
4	12461.22	90.02	184.78	8010.00	-4750.00	-436.00	0.00	117.34	4769.42	PBHL

WELLBORE TARGET DETAILS (MAP CO-ORDINATES)					
Name	TVD	+N-S	+E-W	Northing	Easting
PBHL	8010.00	-4750.00	-430.00	463175.807	670406.554
Hard Line	8040.00	0.00	0.00	467925.807	670838.554
Shape					
Point					

PROJECT DETAILS: Glow Worm ALX Federal #15H
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

Project: Glow Worm ALX Federal #15H
Site: Glow Worm ALX Federal #15H
Well: Glow Worm ALX Federal #15H
Wellbore: Original Hole
Plan: Plan #2 (Glow Worm ALX Federal #15H/Original Hole)



Plan #2 (Glow Worm ALX Federal #15H/Original Hole)
Created By: Nate Bingham Date: 15 07, November 03 2008
Checked: _____ Date: _____



Yates Petroleum Corp.

Glow Worm ALX Federal #15H

Glow Worm ALX Federal #15H

Glow Worm ALX Federal #15H

Original Hole

Survey: MWD #1

Pathfinder X & Y Survey Report

03 November, 2008

PATHFINDER
ENERGY SERVICES



Pathfinder Energy Services
Pathfinder X & Y Survey Report

PATHFINDER
ENERGY SERVICES

Company:	Yates Petroleum Corp.	Local Co-ordinate Reference:	Well Glow Worm ALX Federal #15H
Project:	Glow Worm ALX Federal #15H	TVD Reference:	WELL @ 0.00ft (Original Well Elev)
Site:	Glow Worm ALX Federal #15H	MD Reference:	WELL @ 0.00ft (Original Well Elev)
Well:	Glow Worm ALX Federal #15H	North Reference:	Grid
Wellbore:	Original Hole	Survey Calculation Method:	Minimum Curvature
Design:	Original Hole	Database:	EDM 2003.16 Single User Db

Project	Glow Worm ALX Federal #15H		
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	Glow Worm ALX Federal #15H		
Site Position:		Northing:	487,925.807 ft
From:	Lat/Long	Easting:	670,838.554 ft
Position Uncertainty:	0.00 ft	Slot Radius:	"
		Latitude:	32° 20' 24.760 N
		Longitude:	103° 46' 48.660 W
		Grid Convergence:	0.30 °

Well	Glow Worm ALX Federal #15H		
Well Position	+N/-S	0.00 ft	Northing: 487,925.807 ft
	+E/-W	0.00 ft	Easting: 670,838.554 ft
Position Uncertainty		0.00 ft	Wellhead Elevation: ft
			Latitude: 32° 20' 24.760 N
			Longitude: 103° 46' 48.660 W
			Ground Level: 0.00 ft

Wellbore	Original Hole		
Magnetics	Model Name	Sample Date	Declination
	User Defined	2008/05/16	(°)
			0.00
			Dip Angle
			(°)
			0.00
			Field Strength
			(nT)
			0

Design	Original Hole		
Audit Notes:			
Version:	1.0	Phase:	ACTUAL
		Tie On Depth:	0.00
Vertical Section:	Depth From (TVD)	+N/-S	+E/-W
	(ft)	(ft)	(ft)
	0.00	0.00	0.00
			Direction
			(°)
			185.17



Pathfinder Energy Services
Pathfinder X & Y Survey Report



Company:	Yates Petroleum Corp.	Local Co-ordinate Reference:	Well Glow Worm ALX Federal #15H
Project:	Glow Worm ALX Federal #15H	TVD Reference:	WELL @ 0.00ft (Original Well Elev)
Site:	Glow Worm ALX Federal #15H	MD Reference:	WELL @ 0.00ft (Original Well Elev)
Well:	Glow Worm ALX Federal #15H	North Reference:	Grid
Wellbore:	Original Hole	Survey Calculation Method:	Minimum Curvature
Design:	Original Hole	Database:	EDM 2003.16 Single User Db

Survey Program:		Date 2008/11/03	
From (ft)	To (ft)	Survey (Wellbore)	Tool Name
100.00	3,785.00	Gyro Survey (Original Hole)	
3,794.00	12,402.00	MWD #1 (Original Hole)	

MD (ft)	Inc (°)	Azi (°)	TVD (ft)	TVDSS (ft)	N/S (ft)	E/W (ft)	V. Sec (ft)	DLeg (°/100ft)	Northing (ft)	Easting (ft)
3,785.00	2.52	146.82	3,784.11	3,784.11	-64.82	-11.58	65.60	0.00	487,860.99	670,826.98
3,794.00	2.20	152.30	3,793.11	3,793.11	-65.14	-11.39	65.90	4.35	487,860.67	670,827.17
3,858.00	2.02	155.33	3,857.06	3,857.06	-67.25	-10.35	67.91	0.33	487,858.56	670,828.21
3,953.00	1.23	175.76	3,952.02	3,952.02	-69.79	-9.57	70.37	1.02	487,856.02	670,828.98
4,024.00	0.70	179.78	4,023.01	4,023.01	-70.98	-9.51	71.55	0.75	487,854.82	670,829.04
4,141.00	0.97	203.97	4,140.00	4,140.00	-72.60	-9.91	73.20	0.37	487,853.20	670,828.64
4,236.00	0.79	210.59	4,234.99	4,234.99	-73.90	-10.57	74.55	0.22	487,851.91	670,827.98
4,331.00	0.79	211.69	4,329.98	4,329.98	-75.02	-11.25	75.73	0.02	487,850.78	670,827.30
4,426.00	0.88	213.47	4,424.97	4,424.97	-76.19	-12.00	76.96	0.10	487,849.62	670,826.56
4,521.00	0.70	224.58	4,519.96	4,519.96	-77.21	-12.81	78.05	0.25	487,848.60	670,825.75
4,616.00	0.70	204.77	4,614.96	4,614.96	-78.15	-13.46	79.04	0.25	487,847.66	670,825.10
4,711.00	0.88	214.80	4,709.95	4,709.95	-79.28	-14.12	80.23	0.24	487,846.53	670,824.44
4,806.00	0.97	214.40	4,804.93	4,804.93	-80.54	-14.99	81.56	0.09	487,845.27	670,823.57
4,902.00	0.97	219.86	4,900.92	4,900.92	-81.83	-15.97	82.94	0.10	487,843.97	670,822.59
4,997.00	0.97	223.18	4,995.91	4,995.91	-83.04	-17.03	84.23	0.06	487,842.77	670,821.52
5,092.00	0.70	225.72	5,090.90	5,090.90	-84.03	-18.00	85.31	0.29	487,841.78	670,820.56
5,187.00	0.88	211.36	5,185.89	5,185.89	-85.06	-18.79	86.40	0.28	487,840.75	670,819.76
5,282.00	0.97	209.92	5,280.88	5,280.88	-86.38	-19.57	87.79	0.10	487,839.43	670,818.98
5,409.00	0.88	216.91	5,407.86	5,407.86	-88.09	-20.70	89.59	0.11	487,837.72	670,817.86
5,536.00	1.14	216.14	5,534.84	5,534.84	-89.89	-22.03	91.51	0.20	487,835.92	670,816.53
5,663.00	1.14	215.43	5,661.81	5,661.81	-91.94	-23.50	93.68	0.01	487,833.87	670,815.05



Pathfinder Energy Services
Pathfinder X & Y Survey Report



Company:	Yates Petroleum Corp.	Local Co-ordinate Reference:	Well Glow Worm ALX Federal #15H
Project:	Glow Worm ALX Federal #15H	TVD Reference:	WELL @ 0.00ft (Original Well Elev)
Site:	Glow Worm ALX Federal #15H	MD Reference:	WELL @ 0.00ft (Original Well Elev)
Well:	Glow Worm ALX Federal #15H	North Reference:	Grid
Wellbore:	Original Hole	Survey Calculation Method:	Minimum Curvature
Design:	Original Hole	Database:	EDM 2003.16 Single User Db

Survey											
MD (ft)	Inc (°)	Azi (°)	TVD (ft)	TVDSS (ft)	N/S (ft)	E/W (ft)	V. Sec (ft)	DLeg (°/100ft)	Northing (ft)	Easting (ft)	
5,758.00	0.88	215.40	5,756.80	5,756.80	-93.30	-24.48	95.13	0.27	487,832.50	670,814.08	
5,884.00	1.06	214.47	5,882.78	5,882.78	-95.05	-25.70	96.98	0.14	487,830.76	670,812.86	
6,011.00	1.23	214.59	6,009.76	6,009.76	-97.14	-27.13	99.19	0.13	487,828.66	670,811.42	
6,138.00	1.32	216.16	6,136.72	6,136.72	-99.45	-28.77	101.63	0.08	487,826.36	670,809.78	
6,265.00	1.49	212.13	6,263.69	6,263.69	-102.02	-30.51	104.36	0.15	487,823.78	670,808.04	
6,329.00	1.06	215.16	6,327.67	6,327.67	-103.21	-31.30	105.61	0.68	487,822.59	670,807.26	
6,424.00	0.62	219.57	6,422.66	6,422.66	-104.33	-32.13	106.80	0.47	487,821.48	670,806.43	
6,551.00	0.44	199.99	6,549.65	6,549.65	-105.32	-32.73	107.84	0.20	487,820.49	670,805.82	
6,678.00	0.53	197.69	6,676.65	6,676.65	-106.33	-33.08	108.88	0.07	487,819.47	670,805.48	
6,805.00	0.88	214.46	6,803.64	6,803.64	-107.70	-33.81	110.31	0.32	487,818.11	670,804.75	
6,931.00	0.53	217.12	6,929.63	6,929.63	-108.96	-34.71	111.64	0.28	487,816.85	670,803.85	
7,059.00	0.53	218.46	7,057.62	7,057.62	-109.90	-35.43	112.64	0.01	487,815.91	670,803.12	
7,185.00	0.88	240.66	7,183.61	7,183.61	-110.83	-36.64	113.68	0.35	487,814.98	670,801.91	
7,312.00	-0.79	251.48	7,310.60	7,310.60	-111.58	-38.32	114.58	0.14	487,814.23	670,800.23	
7,439.00	0.97	230.90	7,437.59	7,437.59	-112.54	-39.98	115.68	0.28	487,813.27	670,798.57	
7,479.00	1.32	231.07	7,477.58	7,477.58	-113.04	-40.61	116.24	0.88	487,812.77	670,797.95	
7,511.00	3.61	202.06	7,509.55	7,509.55	-114.21	-41.27	117.46	7.93	487,811.60	670,797.28	
7,542.00	7.30	199.55	7,540.40	7,540.40	-116.97	-42.30	120.30	11.93	487,808.84	670,796.26	
7,574.00	12.05	198.69	7,571.94	7,571.94	-122.05	-44.05	125.52	14.85	487,803.76	670,794.51	
7,606.00	17.15	195.85	7,602.89	7,602.89	-129.76	-46.41	133.41	16.09	487,796.05	670,792.15	
7,638.00	21.98	193.87	7,633.04	7,633.04	-140.12	-49.13	143.97	15.23	487,785.69	670,789.42	
7,670.00	26.38	192.64	7,662.22	7,662.22	-152.87	-52.13	156.95	13.84	487,772.93	670,786.43	
7,701.00	29.90	191.74	7,689.56	7,689.56	-167.16	-55.21	171.46	11.44	487,758.64	670,783.35	
7,733.00	33.59	190.80	7,716.76	7,716.76	-183.67	-58.49	188.20	11.63	487,742.13	670,780.06	
7,765.00	36.49	189.57	7,742.96	7,742.96	-201.76	-61.73	206.50	9.33	487,724.05	670,776.82	
7,796.00	38.25	188.22	7,767.60	7,767.60	-220.34	-64.64	225.27	6.26	487,705.46	670,773.92	
7,828.00	39.48	188.16	7,792.51	7,792.51	-240.22	-67.50	245.32	3.85	487,685.59	670,771.06	



Pathfinder Energy Services Pathfinder X & Y Survey Report



Company:	Yates Petroleum Corp.	Local Co-ordinate Reference:	Well Glow Worm ALX Federal #15H
Project:	Glow Worm ALX Federal #15H	TVD Reference:	WELL @ 0.00ft (Original Well Elev)
Site:	Glow Worm ALX Federal #15H	MD Reference:	WELL @ 0.00ft (Original Well Elev)
Well:	Glow Worm ALX Federal #15H	North Reference:	Grid
Wellbore:	Original Hole	Survey Calculation Method:	Minimum Curvature
Design:	Original Hole	Database:	EDM 2003.16 Single User Db

Survey											
MD (ft)	Inc (°)	Azi (°)	TVD (ft)	TVDSS (ft)	N/S (ft)	E/W (ft)	V. Sec (ft)	DLeg (°/100ft)	Northing (ft)	Easting (ft)	
7,860.00	41.24	187.31	7,816.90	7,816.90	-260.75	-70.28	266.02	5.76	487,665.05	670,768.27	
7,892.00	43.88	185.63	7,840.46	7,840.46	-282.25	-72.71	287.66	8.98	487,643.55	670,765.84	
7,923.00	46.52	184.69	7,862.31	7,862.31	-304.16	-74.69	309.65	8.78	487,621.65	670,763.87	
7,955.00	49.59	184.19	7,883.69	7,883.69	-327.89	-76.53	333.45	9.66	487,597.92	670,762.03	
7,987.00	53.64	184.18	7,903.56	7,903.56	-352.90	-78.36	358.52	12.66	487,572.91	670,760.20	
8,019.00	58.12	184.79	7,921.51	7,921.51	-379.30	-80.43	385.01	14.09	487,546.50	670,758.12	
8,051.00	60.76	184.90	7,937.77	7,937.77	-406.76	-82.76	412.56	8.26	487,519.05	670,755.80	
8,083.00	64.19	184.90	7,952.56	7,952.56	-435.03	-85.18	440.93	10.72	487,490.78	670,753.37	
8,114.00	68.59	184.52	7,964.97	7,964.97	-463.33	-87.51	469.33	14.24	487,462.48	670,751.04	
8,146.00	72.46	183.14	7,975.64	7,975.64	-493.42	-89.52	499.48	12.76	487,432.38	670,749.03	
8,178.00	75.71	182.99	7,984.41	7,984.41	-524.15	-91.17	530.23	10.17	487,401.66	670,747.39	
8,210.00	78.08	183.19	7,991.67	7,991.67	-555.27	-92.85	561.38	7.43	487,370.54	670,745.71	
8,241.00	79.93	183.10	7,997.58	7,997.58	-585.65	-94.52	591.79	5.97	487,340.15	670,744.04	
8,273.00	81.95	183.31	8,002.62	8,002.62	-617.20	-96.28	623.37	6.35	487,308.60	670,742.27	
8,305.00	84.59	183.37	8,006.37	8,006.37	-648.92	-98.14	655.13	8.25	487,276.88	670,740.42	
8,337.00	87.41	183.32	8,008.60	8,008.60	-680.79	-100.00	687.03	8.81	487,245.02	670,738.56	
8,367.00	88.72	183.52	8,009.61	8,009.61	-710.72	-101.79	717.00	4.42	487,215.09	670,736.77	
8,399.00	90.66	182.79	8,009.79	8,009.79	-742.67	-103.55	748.98	6.48	487,183.14	670,735.01	
8,431.00	92.33	182.86	8,008.95	8,008.95	-774.62	-105.12	780.94	5.22	487,151.19	670,733.43	
8,463.00	92.59	182.96	8,007.58	8,007.58	-806.55	-106.75	812.88	0.87	487,119.26	670,731.81	
8,494.00	92.51	182.69	8,006.20	8,006.20	-837.48	-108.27	843.83	0.91	487,088.33	670,730.28	
8,526.00	91.36	182.24	8,005.12	8,005.12	-869.43	-109.65	875.77	3.86	487,056.38	670,728.90	
8,558.00	91.19	182.60	8,004.41	8,004.41	-901.39	-111.00	907.73	1.24	487,024.41	670,727.55	
8,653.00	89.96	182.79	8,003.45	8,003.45	-996.28	-115.47	1,002.63	1.31	486,929.53	670,723.09	
8,716.00	88.99	181.67	8,004.03	8,004.03	-1,059.23	-117.92	1,065.54	2.35	486,866.58	670,720.64	
8,780.00	89.69	182.09	8,004.77	8,004.77	-1,123.19	-120.02	1,129.43	1.28	486,802.62	670,718.54	
8,875.00	90.13	183.10	8,004.92	8,004.92	-1,218.09	-124.32	1,224.34	1.16	486,707.72	670,714.24	



Pathfinder Energy Services
Pathfinder X & Y Survey Report



Company: Yates Petroleum Corp.
Project: Glow Worm ALX Federal #15H
Site: Glow Worm ALX Federal #15H
Well: Glow Worm ALX Federal #15H
Wellbore: Original Hole
Design: Original Hole

Local Co-ordinate Reference: Well Glow Worm ALX Federal #15H
TVD Reference: WELL @ 0.00ft (Original Well Elev)
MD Reference: WELL @ 0.00ft (Original Well Elev)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Database: EDM 2003.16 Single User Db

Survey										
MD (ft)	Inc (°)	Azi (°)	TVD (ft)	TVDSS (ft)	N/S (ft)	E/W (ft)	V. Sec (ft)	DLeg (°/100ft)	Northing (ft)	Easting (ft)
8,970.00	89.78	184.12	8,004.99	8,004.99	-1,312.90	-130.30	1,319.30	1.14	486,612.91	670,708.25
9,065.00	89.60	184.52	8,005.51	8,005.51	-1,407.63	-137.46	1,414.29	0.46	486,518.18	670,701.10
9,161.00	90.31	185.87	8,005.58	8,005.58	-1,503.23	-146.15	1,510.29	1.59	486,422.58	670,692.41
9,256.00	89.25	184.11	8,005.95	8,005.95	-1,597.87	-154.41	1,605.28	2.16	486,327.94	670,684.14
9,351.00	89.34	184.45	8,007.12	8,007.12	-1,692.59	-161.50	1,700.26	0.37	486,233.21	670,677.05
9,446.00	88.46	184.61	8,008.94	8,008.94	-1,787.28	-169.00	1,795.24	0.94	486,138.53	670,669.55
9,541.00	88.29	184.51	8,011.63	8,011.63	-1,881.94	-176.55	1,890.19	0.21	486,043.87	670,662.00
9,605.00	88.55	184.42	8,013.40	8,013.40	-1,945.72	-181.53	1,954.16	0.43	485,980.09	670,657.02
9,668.00	89.52	184.13	8,014.46	8,014.46	-2,008.54	-186.23	2,017.15	1.61	485,917.27	670,652.33
9,731.00	90.31	183.87	8,014.55	8,014.55	-2,071.38	-190.62	2,080.13	1.32	485,854.43	670,647.93
9,795.00	91.63	184.54	8,013.47	8,013.47	-2,135.20	-195.31	2,144.11	2.31	485,790.61	670,643.24
9,856.00	90.48	183.95	8,012.35	8,012.35	-2,196.02	-199.83	2,205.09	2.12	485,729.79	670,638.73
9,922.00	89.69	183.04	8,012.25	8,012.25	-2,261.90	-203.85	2,271.06	1.83	485,663.91	670,634.70
9,985.00	90.31	182.92	8,012.25	8,012.25	-2,324.81	-207.13	2,334.02	1.00	485,601.00	670,631.43
10,051.00	90.48	183.06	8,011.79	8,011.79	-2,390.72	-210.57	2,399.97	0.33	485,535.09	670,627.98
10,112.00	90.92	182.76	8,011.05	8,011.05	-2,451.63	-213.67	2,460.91	0.87	485,474.17	670,624.89
10,175.00	90.84	182.83	8,010.08	8,010.08	-2,514.55	-216.74	2,523.85	0.17	485,411.25	670,621.82
10,270.00	90.31	182.13	8,009.13	8,009.13	-2,609.46	-220.85	2,618.74	0.92	485,316.35	670,617.71
10,365.00	89.52	180.93	8,009.27	8,009.27	-2,704.42	-223.39	2,713.55	1.51	485,221.39	670,615.17
10,460.00	89.52	181.36	8,010.06	8,010.06	-2,799.40	-225.28	2,808.31	0.45	485,126.41	670,613.27
10,556.00	89.52	183.06	8,010.87	8,010.87	-2,895.32	-228.99	2,904.18	1.77	485,030.49	670,609.57
10,619.00	89.60	183.42	8,011.35	8,011.35	-2,958.22	-232.55	2,967.14	0.59	484,967.59	670,606.01
10,683.00	90.04	184.20	8,011.55	8,011.55	-3,022.08	-236.80	3,031.12	1.40	484,903.73	670,601.76
10,776.00	91.19	183.72	8,010.55	8,010.55	-3,114.85	-243.22	3,124.09	1.34	484,810.96	670,595.33
10,873.00	89.87	182.72	8,009.66	8,009.66	-3,211.69	-248.67	3,221.03	1.71	484,714.12	670,589.89
10,937.00	89.96	183.33	8,009.75	8,009.75	-3,275.60	-252.05	3,284.98	0.96	484,650.21	670,586.51
11,000.00	89.87	183.08	8,009.85	8,009.85	-3,338.50	-255.57	3,347.95	0.42	484,587.31	670,582.99



Pathfinder Energy Services Pathfinder X & Y Survey Report



Company:	Yates Petroleum Corp.	Local Co-ordinate Reference:	Well Glow Worm ALX Federal #15H
Project:	Glow Worm ALX Federal #15H	TVD Reference:	WELL @ 0.00ft (Original Well Elev)
Site:	Glow Worm ALX Federal #15H	MD Reference:	WELL @ 0.00ft (Original Well Elev)
Well:	Glow Worm ALX Federal #15H	North Reference:	Grid
Wellbore:	Original Hole	Survey Calculation Method:	Minimum Curvature
Design:	Original Hole	Database:	EDM 2003.16 Single User Db

Survey										
MD (ft)	Inc (°)	Azi (°)	TVD (ft)	TVDSS (ft)	N/S (ft)	E/W (ft)	V. Sec (ft)	DLeg (°/100ft)	Northing (ft)	Easting (ft)
11,063.00	89.96	183.00	8,009.94	8,009.94	-3,401.41	-258.91	3,410.90	0.19	484,524.40	670,579.64
11,127.00	90.31	182.86	8,009.79	8,009.79	-3,465.32	-262.18	3,474.85	0.59	484,460.48	670,576.37
11,222.00	89.96	182.14	8,009.56	8,009.56	-3,560.23	-266.32	3,569.75	0.84	484,365.57	670,572.23
11,285.00	90.66	183.53	8,009.22	8,009.22	-3,623.15	-269.44	3,632.69	2.47	484,302.65	670,569.11
11,380.00	91.19	183.60	8,007.69	8,007.69	-3,717.96	-275.35	3,727.64	0.56	484,207.85	670,563.21
11,476.00	90.22	183.24	8,006.51	8,006.51	-3,813.78	-281.07	3,823.59	1.08	484,112.03	670,557.48
11,571.00	90.04	182.72	8,006.29	8,006.29	-3,908.65	-286.01	3,918.52	0.58	484,017.16	670,552.54
11,666.00	91.89	183.40	8,004.69	8,004.69	-4,003.49	-291.08	4,013.44	2.07	483,922.31	670,547.47
11,760.00	90.57	182.32	8,002.68	8,002.68	-4,097.35	-295.77	4,107.34	1.81	483,828.45	670,542.78
11,855.00	91.01	182.74	8,001.37	8,001.37	-4,192.25	-299.96	4,202.23	0.64	483,733.56	670,538.59
11,950.00	90.31	182.73	8,000.27	8,000.27	-4,287.14	-304.50	4,297.13	0.74	483,638.67	670,534.06
12,045.00	90.40	182.31	7,999.68	7,999.68	-4,382.04	-308.67	4,392.03	0.45	483,543.77	670,529.88
12,140.00	90.13	182.81	7,999.24	7,999.24	-4,476.95	-312.92	4,486.93	0.60	483,448.86	670,525.64
12,236.00	90.66	182.58	7,998.58	7,998.58	-4,572.84	-317.43	4,582.84	0.60	483,352.97	670,521.12
12,331.00	90.92	182.30	7,997.27	7,997.27	-4,667.74	-321.47	4,677.72	0.40	483,258.07	670,517.08
12,356.00	90.66	182.04	7,996.93	7,996.93	-4,692.72	-322.42	4,702.68	1.47	483,233.09	670,516.13
12,402.00	90.66	182.04	7,996.40	7,996.40	-4,738.69	-324.06	4,748.61	0.00	483,187.12	670,514.50

BHL @ 343 FSL, 2154 FEL - Straight Line Projection to Bit @12402' MD, 7996.4'TVD



Pathfinder Energy Services
Pathfinder X & Y Survey Report



Company: Yates Petroleum Corp.
Project: Glow Worm ALX Federal #15H
Site: Glow Worm ALX Federal #15H
Well: Glow Worm ALX Federal #15H
Wellbore: Original Hole
Design: Original Hole

Local Co-ordinate Reference: Well Glow Worm ALX Federal #15H
TVD Reference: WELL @ 0.00ft (Original Well Elev)
MD Reference: WELL @ 0.00ft (Original Well Elev)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Database: EDM 2003.16 Single User Db

Targets									
Target Name	hit/miss target	Dip Angle	Dip Dir.	TVD	+N/-S	+E/-W	Northing	Easting	Latitude
- Shape		(°)	(°)	(ft)	(ft)	(ft)	(ft)	(ft)	Longitude
PBHL		0.00	0.00	8,010.00	-4,750.00	-430.00	483,175.807	670,408.554	32° 19' 37.777 N 103° 46' 53.957 W
- survey misses by 107.41ft at 12402.00ft MD (7996.40 TVD, -4738.69 N, -324.06 E)									
- Point									
Hard Line		0.00	0.00	8,040.00	0.00	0.00	487,925.807	670,838.554	32° 20' 24.760 N 103° 46' 48.660 W
- survey misses by 350.23ft at 7856.56ft MD (7814.31 TVD, -258.51 N, -69.99 E)									
- Point									

Survey Annotations				
Measured Depth	Vertical Depth	Local Coordinates		Comment
(ft)	(ft)	+N/-S	+E/-W	
		(ft)	(ft)	
12,402.00	7,996.40	-4,738.69	-324.06	BHL @ 343 FSL, 2154 FEL
12,402.00	7,996.40	-4,738.69	-324.06	Straight Line Projection to Bit @12402' MD, 7996.4'TVD

Checked By: _____ Approved By: _____ Date: _____