

State of New Mexico
Energy, Minerals and Natural Resources

5
Form C-105
Revised March 25, 1999

OIL CONSERVATION DIVISION
2040 South Pacheco
Santa Fe, NM 87505

Submit To Appropriate District Office
State Lease - 6 copies
Fee Lease - 5 copies
District I
1625 N. French Dr., Hobbs, NM 88240
District II
811 South First, Artesia, NM 88210
District III
1000 Rio Brazos Rd., Aztec, NM 87410
District IV
2040 South Pacheco, Santa Fe, NM 87505

WELL API NO. 30-015-32914

5. Indicate Type of Lease
STATE FEE

State Oil & Gas Lease No.

WELL COMPLETION OR RECOMPLETION REPORT AND LOG

1a. Type of Well:
OIL WELL GAS WELL DRY OTHER Directional_Horizontal

b. Type of Completion:
NEW WORK PLUG DIFF.
WELL OVER DEEPEN BACK RESVR. OTHER

2. Name of Operator
Southwestern Energy Production Company

3. Address of Operator
2350 N. Sam Houston Parkway East, Suite 300 - Houston, TX 77032

7. Lease Name or Unit Agreement Name
Shrike 10-H RECEIVED
JAN 1 2 2004

8. Well No.
1 OCD-ARTESIA

9. Pool name or Wildcat
Willow Lake, Delaware, Southwest

4. Well Location
Unit Letter L : 1964 Feet From The S Line and 1189 Feet From The W Line
Section 10 Township 25S Range 28E NMPM Eddy County

10. Date Spudded 11/22/03 11. Date T.D. Reached 12/07/03 12. Date Compl. (Ready to Prod.) 01/01/04 13. Elevations (DF& RKB, RT, GR, etc.) 2,927' GR 14. Elev. Casinghead 18'

15. Total Depth 7,051' 16. Plug Back T.D. 7,051' 17. If Multiple Compl. How Many Zones? 0-7,051' 18. Intervals Drilled By Rotary Tools Cable Tools

19. Producing Interval(s), of this completion - Top, Bottom, Name
5,175-7,051' MD Delaware - Horizontal Open Hole 20. Was Directional Survey Made Yes

21. Type Electric and Other Logs Run
Mud Log 21. Was Well Cored No

23. CASING RECORD (Report all strings set in well)

CASING SIZE	WEIGHT LB./FT.	DEPTH SET	HOLE SIZE	CEMENTING RECORD	AMOUNT PULLED
16"	Conductor	40'		9 sx ready mix	
9-5/8"	36#	550'	12-1/4"	270 sx	
7"	23#	5,175'	8 3/4"	300 sx	

24. LINER RECORD				25. TUBING RECORD			
SIZE	TOP	BOTTOM	SACKS CEMENT	SCREEN	SIZE	DEPTH SET	PACKER SET
					2-7/8"	4317	

27. ACID, SHOT, FRACTURE, CEMENT, SQUEEZE, ETC.	
DEPTH INTERVAL	AMOUNT AND KIND MATERIAL USED
5,220-6,950'	120,700# 20/40 Super LC

28. PRODUCTION

Date First Production 01/01/04 Production Method (*Flowing, gas lift, pumping - Size and type pump*) Pumping - 1-3/4" Pump Well Status (*Prod. or Shut-in*) Prod.

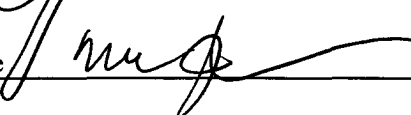
Date of Test 01/0704 Hours Tested 24 Choke Size Open Prod'n For Test Period 80 Oil - Bbl 80 Gas - MCF 49 Water - Bbl. 174 Gas - Oil Ratio 613

Flow Tubing Press. 60 Casing Pressure 42 psi Calculated 24-Hour Rate 80 Oil - Bbl. 80 Gas - MCF 49 Water - Bbl. 174 Oil Gravity - API - (*Corr.*) 37

29. Disposition of Gas (*Sold, used for fuel, vented, etc.*) Sold Test Witnessed By Bruce Drummond

30. List Attachments
Gyrodata Directional Survey, PathFinder Directional Survey & Mud Log

31. I hereby certify that the information shown on both sides of this form as true and complete to the best of my knowledge and belief

Signature  Printed Name Vonnie J. Cermin Title Drilling/Production Technician Date 1/8/04

INSTRUCTIONS

This form is to be filed with the appropriate District Office of the Division not later than 20 days after the completion of any newly-drilled or deepened well. It shall be accompanied by one copy of all electrical and radio-activity logs run on the well and a summary of all special tests conducted, including drill stem tests. All depths reported shall be measured depths. In the case of directionally drilled wells, true vertical depths shall also be reported. For multiple completions, items 25 through 29 shall be reported for each zone. The form is to be filed in quintuplicate except on state land, where six copies are required. See Rule 1105.

INDICATE FORMATION TOPS IN CONFORMANCE WITH GEOGRAPHICAL SECTION OF STATE

Southeastern New Mexico

- T. Anhy _____
- T. Salt _____
- B. Salt _____
- T. Yates _____
- T. 7 Rivers _____
- T. Queen _____
- T. Grayburg _____
- T. San Andres _____
- T. Glorieta _____
- T. Paddock _____
- T. Blinebry _____
- T. Tubb _____
- T. Drinkard _____
- T. Abo _____
- T. Wolfcamp _____
- T. Penn _____
- T. Cisco (Bough C) _____
- T. Canyon _____
- T. Strawn _____
- T. Atoka _____
- T. Miss _____
- T. Devonian _____
- T. Silurian _____
- T. Montoya _____
- T. Simpson _____
- T. McKee _____
- T. Ellenburger _____
- T. Gr. Wash _____
- T. Delaware Sand 2480 _____
- T. Bone Springs _____
- T. Bell Canyon _____
- T. Cherry Canyon 3428 _____
- T. Cherry Canyon 6 _____
- T. _____

Northwestern New Mexico

- T. Ojo Alamo _____
- T. Kirtland-Fruitland _____
- T. Pictured Cliffs _____
- T. Cliff House _____
- T. Menefee _____
- T. Point Lookout _____
- T. Mancos _____
- T. Gallup _____
- Base Greenhorn _____
- T. Dakota _____
- T. Morrison _____
- T. Todilto _____
- T. Entrada _____
- T. Wingate _____
- T. Chinle _____
- T. Permian _____
- T. Penn "A" _____
- T. Penn. "B" _____
- T. Penn. "C" _____
- T. Penn. "D" _____
- T. Leadville _____
- T. Madison _____
- T. Elbert _____
- T. McCracken _____
- T. Ignacio Otzte _____
- T. Granite _____
- T. Cherry Canyon 5 4792 MD _____
- T. Cherry Canyon 5 4700 TVD _____
- T. Cherry Canyon 6 5070 MD _____
- T. Cherry Canyon 6 4792 TVD _____
- T. _____
- T. _____
- T. _____
- T. _____

Did not start mud log until 2159'

OIL OR GAS SANDS OR ZONES

- No. 1, from 5070 MD 4792 TVD..to 7051 MD 4825 TVD.....
- No. 2, from.....to.....
- No. 3, from.....to.....
- No. 4, from.....to.....

IMPORTANT WATER SANDS

Include data on rate of water inflow and elevation to which water rose in hole.

- No. 1, from.....to.....feet.....
- No. 2, from.....to.....feet.....
- No. 3, from.....to.....feet.....

LITHOLOGY RECORD (Attach additional sheet if necessary)

From	To	Thickness In Feet	Lithology
2400	2570		Anhydrite, Limestone & Shale
2570	3500		Limestone, Sandstone & Shale
3500	3570		Dolomite, Sandstone & Shale
3570	4620		Sandstone & Shale
4620	4680		Limestone, Sandstone & Shale
4680	4980		Sandstone & Shale
4980	5150		Sandstone, Shale & Siltstone
5150	7050		Sandstone & Shale

District I
1625 N. French Dr., Hobbs, NM 88240
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1301 W. Grand Ave., Artesia, NM 88210
District III
1000 Rio Brazos Rd., Aztec, NM 87410
District IV
1220 S. St Francis Dr., Santa Fe, NM 87505

State of New Mexico
Energy, Minerals and Natural Resources

Form C-102

Oil Conservation Division
1220 S. St Francis Dr.
Santa Fe, NM 87505

WELL LOCATION AND ACREAGE DEDICATION PLAT

API Number 30-15-32914	Pool Name WILLOW LAKE; DELAWARE, SW	Pool Code 96855
Property Code 32656	Property Name Shrike 10H Com	Well No. 001
OGRID No. 148111	Operator Name Southwestern Energy Production Company	Elevation 2927

Surface Location

UL or Lot L	Section 10	Township 25S	Range 28E	Lot Idn	Feet From 1964	N/S Line S	Feet From 1189	E/W Line W	County Eddy
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Bottom Hole Location If Different From Surface

UL or Lot J	Section 10	Township 25S	Range 28E	Lot Idn	Feet From 1964	N/S Line S	Feet From 1662	E/W Line E	County Eddy
Dedicated Acres 80	Joint or Infill	Consolidation Code	Order No.						

	●		

OPERATOR CERTIFICATION

I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief.

Electronically Signed By: Vonnie Cermin
Title: Production/Drilling Analyst
Date: 7/29/2003

SURVEYOR CERTIFICATION

I hereby certify that the well location shown on this plat was plotted from field notes of actual surveys made by me or under my supervision, and that the same is true and correct to the best of my belief.

Electronically Signed By: Ronald Edison
Date of Survey: 6/2/2003
Certificate Number: 3239

PathFinder

Survey Report - Geographic

Company: SOUTHWESTERN ENERGY & PRODUCTS	Date: 1/8/2004	Time: 15:07:36	Page: 1
Field: Eddy County, New Mexico	Co-ordinate(NE) Reference: Well: Shrike Federal 10 #1-H, Grid North		
Site: Shrike Federal 10 #1-H	Vertical (TVD) Reference: SITE 0.0		
Well: Shrike Federal 10 #1-H	Section (VS) Reference: Well (0.00N,0.00E,90.00Azi)		
Wellpath: Horizontal Plan	Survey Calculation Method: Minimum Curvature	Db: Sybase	

Field: Eddy County, New Mexico
Section 10 T-25-S & R28-E
USA

Map System: US State Plane Coordinate System 1927
Geo Datum: NAD27 (Clarke 1866)
Sys Datum: Mean Sea Level

Map Zone: New Mexico, Eastern Zone
Coordinate System: Well Centre
Geomagnetic Model: igrf2000

Site: Shrike Federal 10 #1-H
Sec.10 T25S & R28E
Eddy County, New Mexico

Site Position:
From: Map
Position Uncertainty: 0.00 ft
Ground Level: 0.00 ft

Northing: 415685.40 ft
Easting: 578588.40 ft

Latitude: 32 8 33.292 N
Longitude: 104 4 45.929 W

North Reference: Grid
Grid Convergence: 0.14 deg

Well: Shrike Federal 10 #1-H
Slot Name:

Well Position: +N/-S 0.00 ft
+E/-W 0.00 ft
Position Uncertainty: 0.00 ft

Northing: 415685.40 ft
Easting: 578588.40 ft

Latitude: 32 8 33.292 N
Longitude: 104 4 45.929 W

Wellpath: Horizontal Plan

Current Datum: SITE
Magnetic Data: 10/15/2003
Field Strength: 49428 nT
Vertical Section: Depth From (TVD) ft

Height: 0.00 ft

Drilled From: Surface
Tie-on Depth: 0.00 ft
Above System Datum: Mean Sea Level
Declination: 8.87 deg
Mag Dip Angle: 60.27 deg

+N/-S: ft
+E/-W: ft
Direction: deg

0.00 0.00 0.00 90.00

Survey Program for Definitive Wellpath
Date: 12/8/2003
Actual From: ft
To: ft

Validated: No
Survey:

Version: 9
Toolcode:
Tool Name:

0.00	4167.00	Gyro Data Survey (100.00-4167.00)
4209.00	7051.00	PathFinder MWD Survey (4209.00-7051.00)

Survey

MD ft	Incl deg	Azim deg	TVD ft	+N/-S ft	+E/-W ft	Map Northing ft	Map Easting ft	← Latitude →			← Longitude →				
								Deg	Min	Sec	Deg	Min	Sec		
0.00	0.00	0.00	0.00	0.00	0.00	415685.40	578588.40	32	8	33.292	N	104	4	45.929	W
100.00	0.06	152.96	100.00	-0.05	0.02	415685.35	578588.42	32	8	33.292	N	104	4	45.929	W
200.00	0.28	173.62	200.00	-0.34	0.07	415685.06	578588.47	32	8	33.289	N	104	4	45.928	W
300.00	0.83	187.36	299.99	-1.30	0.01	415684.10	578588.41	32	8	33.279	N	104	4	45.929	W
400.00	0.99	186.31	399.98	-2.87	-0.18	415682.53	578588.22	32	8	33.264	N	104	4	45.931	W
500.00	0.79	165.18	499.97	-4.40	-0.10	415681.00	578588.30	32	8	33.249	N	104	4	45.930	W
600.00	0.74	146.08	599.96	-5.60	0.44	415679.80	578588.84	32	8	33.237	N	104	4	45.924	W
700.00	0.79	143.46	699.95	-6.69	1.21	415678.71	578589.61	32	8	33.226	N	104	4	45.915	W
800.00	0.77	143.03	799.94	-7.78	2.02	415677.62	578590.42	32	8	33.215	N	104	4	45.906	W
900.00	0.62	163.89	899.94	-8.84	2.58	415676.56	578590.98	32	8	33.205	N	104	4	45.899	W
1000.00	0.73	192.49	999.93	-9.98	2.59	415675.42	578590.99	32	8	33.193	N	104	4	45.899	W
1100.00	2.74	190.65	1099.88	-12.95	2.01	415672.45	578590.41	32	8	33.164	N	104	4	45.906	W
1200.00	3.16	188.19	1199.75	-18.03	1.18	415667.37	578589.58	32	8	33.114	N	104	4	45.916	W
1300.00	2.70	176.24	1299.62	-23.11	0.94	415662.29	578589.34	32	8	33.064	N	104	4	45.919	W
1400.00	1.86	173.87	1399.54	-27.07	1.27	415658.33	578589.67	32	8	33.024	N	104	4	45.915	W
1500.00	1.23	182.01	1499.50	-29.76	1.40	415655.64	578589.80	32	8	32.998	N	104	4	45.913	W
1600.00	1.10	195.86	1599.48	-31.75	1.10	415653.65	578589.50	32	8	32.978	N	104	4	45.917	W
1700.00	1.18	199.34	1699.46	-33.65	0.50	415651.75	578588.90	32	8	32.959	N	104	4	45.924	W
1800.00	0.73	176.39	1799.44	-35.26	0.20	415650.14	578588.60	32	8	32.943	N	104	4	45.928	W
1900.00	0.92	130.37	1899.44	-36.41	0.85	415648.99	578589.25	32	8	32.932	N	104	4	45.920	W
2000.00	0.82	108.25	1999.42	-37.16	2.14	415648.24	578590.54	32	8	32.924	N	104	4	45.905	W

PathFinder

Survey Report - Geographic

Company: SOUTHWESTERN ENERGY & PRODUCTS	Date: 1/8/2004	Time: 15:07:36	Page: 2
Field: Eddy County, New Mexico	Co-ordinate(NE) Reference: Well: Shrike Federal 10 #1-H, Grid North		
Site: Shrike Federal 10 #1-H	Vertical (TVD) Reference: SITE 0.0		
Well: Shrike Federal 10 #1-H	Section (VS) Reference: Well (0.00N,0.00E,90.00Azi)		
Wellpath: Horizontal Plan	Survey Calculation Method: Minimum Curvature	Db: Sybase	

Survey

MD ft	Incl deg	Azim deg	TVD ft	+N/-S ft	+E/-W ft	Map Northing ft	Map Easting ft	← Latitude →			← Longitude →		
								Deg	Min	Sec	Deg	Min	Sec
2100.00	1.49	103.78	2099.40	-37.69	4.08	415647.71	578592.48	32	8	32.919 N	104	4	45.882 W
2200.00	2.91	104.77	2199.33	-38.65	7.80	415646.75	578596.20	32	8	32.910 N	104	4	45.839 W
2300.00	2.95	99.20	2299.20	-39.70	12.80	415645.70	578601.20	32	8	32.899 N	104	4	45.781 W
2400.00	1.01	119.42	2399.13	-40.55	16.10	415644.85	578604.50	32	8	32.891 N	104	4	45.743 W
2500.00	0.45	127.10	2499.12	-41.22	17.18	415644.18	578605.58	32	8	32.884 N	104	4	45.730 W
2600.00	0.33	123.92	2599.12	-41.62	17.74	415643.78	578606.14	32	8	32.880 N	104	4	45.724 W
2700.00	0.29	134.93	2699.12	-41.96	18.16	415643.44	578606.56	32	8	32.877 N	104	4	45.719 W
2800.00	0.29	141.45	2799.12	-42.33	18.49	415643.07	578606.89	32	8	32.873 N	104	4	45.715 W
2900.00	0.23	174.68	2899.12	-42.73	18.67	415642.67	578607.07	32	8	32.869 N	104	4	45.713 W
3000.00	0.22	158.99	2999.12	-43.11	18.76	415642.29	578607.16	32	8	32.865 N	104	4	45.712 W
3100.00	0.11	199.58	3099.12	-43.38	18.79	415642.02	578607.19	32	8	32.863 N	104	4	45.711 W
3200.00	0.12	160.62	3199.12	-43.57	18.80	415641.83	578607.20	32	8	32.861 N	104	4	45.711 W
3300.00	0.09	221.64	3299.12	-43.73	18.78	415641.67	578607.18	32	8	32.859 N	104	4	45.712 W
3400.00	0.26	292.39	3399.12	-43.70	18.52	415641.70	578606.92	32	8	32.859 N	104	4	45.715 W
3500.00	0.21	307.76	3499.12	-43.50	18.16	415641.90	578606.56	32	8	32.861 N	104	4	45.719 W
3600.00	0.35	298.47	3599.11	-43.24	17.75	415642.16	578606.15	32	8	32.864 N	104	4	45.724 W
3700.00	0.41	312.77	3699.11	-42.85	17.22	415642.55	578605.62	32	8	32.868 N	104	4	45.730 W
3800.00	0.57	301.44	3799.11	-42.35	16.53	415643.05	578604.93	32	8	32.873 N	104	4	45.738 W
3900.00	0.75	299.51	3899.10	-41.77	15.54	415643.63	578603.94	32	8	32.879 N	104	4	45.749 W
4000.00	0.69	290.50	3999.09	-41.24	14.40	415644.16	578602.80	32	8	32.884 N	104	4	45.763 W
4100.00	0.86	283.67	4099.08	-40.85	13.11	415644.55	578601.51	32	8	32.888 N	104	4	45.778 W
4167.00	0.90	283.73	4166.08	-40.60	12.11	415644.80	578600.51	32	8	32.890 N	104	4	45.789 W
4209.00	0.97	277.59	4208.07	-40.48	11.44	415644.92	578599.84	32	8	32.891 N	104	4	45.797 W
4240.00	0.88	276.09	4239.07	-40.42	10.94	415644.98	578599.34	32	8	32.892 N	104	4	45.803 W
4271.00	0.79	70.43	4270.07	-40.32	10.90	415645.08	578599.30	32	8	32.893 N	104	4	45.803 W
4301.00	3.52	76.85	4300.04	-40.04	12.00	415645.36	578600.40	32	8	32.896 N	104	4	45.790 W
4332.00	6.77	79.39	4330.91	-39.49	14.72	415645.91	578603.12	32	8	32.901 N	104	4	45.759 W
4364.00	10.38	81.06	4362.55	-38.69	19.42	415646.71	578607.82	32	8	32.909 N	104	4	45.704 W
4395.00	13.98	81.50	4392.85	-37.71	25.89	415647.69	578614.29	32	8	32.918 N	104	4	45.629 W
4427.00	17.76	81.15	4423.62	-36.38	34.54	415649.02	578622.94	32	8	32.931 N	104	4	45.528 W
4459.00	21.63	81.24	4453.74	-34.73	45.19	415650.67	578633.59	32	8	32.947 N	104	4	45.404 W
4490.00	25.50	81.42	4482.15	-32.87	57.44	415652.53	578645.84	32	8	32.966 N	104	4	45.262 W
4522.00	29.37	81.77	4510.55	-30.72	72.02	415654.68	578660.42	32	8	32.987 N	104	4	45.092 W
4553.00	33.24	82.65	4537.03	-28.54	87.98	415656.86	578676.38	32	8	33.008 N	104	4	44.906 W
4585.00	37.20	84.32	4563.17	-26.46	106.31	415658.94	578694.71	32	8	33.028 N	104	4	44.693 W
4616.00	40.63	85.90	4587.29	-24.81	125.71	415660.59	578714.11	32	8	33.044 N	104	4	44.467 W
4648.00	43.62	87.66	4611.02	-23.61	147.14	415661.79	578735.54	32	8	33.055 N	104	4	44.218 W
4679.00	46.60	88.71	4632.89	-22.92	169.09	415662.48	578757.49	32	8	33.061 N	104	4	43.963 W
4711.00	50.12	88.53	4654.15	-22.35	192.99	415663.05	578781.39	32	8	33.067 N	104	4	43.685 W
4742.00	54.08	87.83	4673.19	-21.57	217.43	415663.83	578805.83	32	8	33.074 N	104	4	43.401 W
4774.00	57.60	87.13	4691.16	-20.40	243.88	415665.00	578832.28	32	8	33.085 N	104	4	43.093 W
4805.00	60.50	86.95	4707.10	-19.03	270.43	415666.37	578858.83	32	8	33.098 N	104	4	42.784 W
4837.00	63.31	87.66	4722.17	-17.70	298.63	415667.70	578887.03	32	8	33.110 N	104	4	42.456 W
4868.00	67.09	88.80	4735.17	-16.84	326.75	415668.56	578915.15	32	8	33.118 N	104	4	42.129 W
4900.00	69.64	90.12	4746.97	-16.56	356.49	415668.84	578944.89	32	8	33.120 N	104	4	41.783 W
4932.00	72.46	90.56	4757.36	-16.74	386.75	415668.66	578975.15	32	8	33.118 N	104	4	41.431 W
4963.00	73.42	90.56	4766.45	-17.03	416.38	415668.37	579004.78	32	8	33.114 N	104	4	41.086 W
4994.00	76.50	90.91	4774.50	-17.41	446.32	415667.99	579034.72	32	8	33.109 N	104	4	40.738 W
5026.00	76.77	90.38	4781.89	-17.76	477.45	415667.64	579065.85	32	8	33.105 N	104	4	40.376 W
5057.00	76.50	89.85	4789.06	-17.82	507.61	415667.58	579096.01	32	8	33.104 N	104	4	40.025 W
5089.00	78.44	89.41	4796.00	-17.62	538.84	415667.78	579127.24	32	8	33.105 N	104	4	39.662 W
5104.00	80.28	89.50	4798.77	-17.48	553.58	415667.92	579141.98	32	8	33.106 N	104	4	39.491 W
5149.00	82.31	88.00	4805.58	-16.51	598.05	415668.89	579186.45	32	8	33.115 N	104	4	38.973 W

PathFinder

Survey Report - Geographic

Company: SOUTHWESTERN ENERGY & PRODUCT	Date: 1/8/2004	Time: 15:07:36	Page: 3
Field: Eddy County, New Mexico	Co-ordinate(NE) Reference: Well, Shrike Federal 10 #1-H, Grid North	SITE 0.0	
Site: Shrike Federal 10 #1-H	Vertical (TVD) Reference: Well (0.00N,0.00E,90.00Azi)		
Well: Shrike Federal 10 #1-H	Section (VS) Reference: Minimum Curvature		
Wellpath: Horizontal Plan	Survey Calculation Method: Minimum Curvature	Db: Sybase	

Survey

MD ft	Incl deg	Azim deg	TVD ft	+N-S ft	+E-W ft	Map Northing ft	Map Easting ft	← Latitude →			← Longitude →				
								Deg	Min	Sec	Deg	Min	Sec		
5181.00	83.89	87.00	4809.42	-15.12	629.79	415670.28	579218.19	32	8	33.128	N	104	4	38.604	W
5212.00	85.47	86.25	4812.30	-13.31	660.60	415672.09	579249.00	32	8	33.145	N	104	4	38.246	W
5244.00	85.56	86.07	4814.80	-11.17	692.43	415674.23	579280.83	32	8	33.165	N	104	4	37.876	W
5275.00	85.65	85.90	4817.18	-9.01	723.26	415676.39	579311.66	32	8	33.186	N	104	4	37.517	W
5306.00	85.82	85.46	4819.48	-6.68	754.09	415678.72	579342.49	32	8	33.208	N	104	4	37.158	W
5338.00	86.88	84.23	4821.52	-3.81	785.89	415681.59	579374.29	32	8	33.236	N	104	4	36.788	W
5370.00	87.23	83.88	4823.16	-0.50	817.68	415684.90	579406.08	32	8	33.268	N	104	4	36.418	W
5401.00	88.11	83.61	4824.42	2.88	848.47	415688.28	579436.87	32	8	33.301	N	104	4	36.060	W
5433.00	88.99	83.09	4825.23	6.58	880.24	415691.98	579468.64	32	8	33.337	N	104	4	35.691	W
5463.00	89.43	83.79	4825.65	10.01	910.04	415695.41	579498.44	32	8	33.370	N	104	4	35.344	W
5494.00	90.04	84.05	4825.79	13.29	940.87	415698.69	579529.27	32	8	33.402	N	104	4	34.985	W
5526.00	90.92	84.49	4825.52	16.49	972.71	415701.89	579561.11	32	8	33.433	N	104	4	34.615	W
5557.00	91.19	85.19	4824.95	19.27	1003.58	415704.67	579591.98	32	8	33.459	N	104	4	34.256	W
5588.00	91.19	85.11	4824.31	21.89	1034.46	415707.29	579622.86	32	8	33.485	N	104	4	33.896	W
5620.00	91.28	84.76	4823.62	24.72	1066.33	415710.12	579654.73	32	8	33.512	N	104	4	33.526	W
5651.00	91.19	85.19	4822.95	27.43	1097.20	415712.83	579685.60	32	8	33.538	N	104	4	33.167	W
5683.00	91.19	85.19	4822.29	30.12	1129.08	415715.52	579717.48	32	8	33.564	N	104	4	32.796	W
5714.00	90.92	85.57	4821.71	32.61	1159.98	415718.01	579748.38	32	8	33.588	N	104	4	32.436	W
5746.00	90.75	85.02	4821.25	35.24	1191.86	415720.64	579780.26	32	8	33.613	N	104	4	32.065	W
5778.00	90.04	85.11	4821.03	37.99	1223.74	415723.39	579812.14	32	8	33.639	N	104	4	31.694	W
5809.00	89.60	84.93	4821.12	40.68	1254.63	415726.08	579843.03	32	8	33.665	N	104	4	31.335	W
5841.00	90.31	85.02	4821.15	43.48	1286.50	415728.88	579874.90	32	8	33.692	N	104	4	30.964	W
5873.00	91.19	84.40	4820.73	46.43	1318.36	415731.83	579906.76	32	8	33.721	N	104	4	30.594	W
5904.00	91.71	84.05	4819.95	49.55	1349.20	415734.95	579937.60	32	8	33.751	N	104	4	30.235	W
5934.00	91.54	83.96	4819.10	52.68	1379.02	415738.08	579967.42	32	8	33.781	N	104	4	29.888	W
5966.00	91.28	84.14	4818.31	56.00	1410.84	415741.40	579999.24	32	8	33.813	N	104	4	29.518	W
5997.00	90.75	83.79	4817.76	59.26	1441.66	415744.66	580030.06	32	8	33.845	N	104	4	29.159	W
6029.00	90.75	83.44	4817.34	62.82	1473.46	415748.22	580061.86	32	8	33.879	N	104	4	28.789	W
6060.00	90.66	83.35	4816.96	66.38	1504.25	415751.78	580092.65	32	8	33.914	N	104	4	28.431	W
6092.00	90.57	83.52	4816.62	70.04	1536.04	415755.44	580124.44	32	8	33.949	N	104	4	28.061	W
6123.00	90.31	83.35	4816.38	73.59	1566.84	415758.99	580155.24	32	8	33.984	N	104	4	27.703	W
6155.00	90.40	83.79	4816.18	77.17	1598.63	415762.57	580187.03	32	8	34.018	N	104	4	27.333	W
6186.00	89.52	83.35	4816.20	80.64	1629.44	415766.04	580217.84	32	8	34.052	N	104	4	26.975	W
6218.00	88.37	82.47	4816.79	84.59	1661.19	415769.99	580249.59	32	8	34.090	N	104	4	26.605	W
6249.00	88.64	82.21	4817.60	88.72	1691.90	415774.12	580280.30	32	8	34.130	N	104	4	26.248	W
6281.00	88.72	82.73	4818.34	92.91	1723.62	415778.31	580312.02	32	8	34.171	N	104	4	25.879	W
6312.00	88.81	82.38	4819.00	96.93	1754.35	415782.33	580342.75	32	8	34.210	N	104	4	25.521	W
6344.00	88.81	82.65	4819.67	101.10	1786.07	415786.50	580374.47	32	8	34.251	N	104	4	25.152	W
6376.00	88.99	82.73	4820.28	105.17	1817.80	415790.57	580406.20	32	8	34.290	N	104	4	24.783	W
6408.00	88.37	82.73	4821.02	109.22	1849.54	415794.62	580437.94	32	8	34.329	N	104	4	24.414	W
6439.00	88.46	82.29	4821.88	113.25	1880.26	415798.65	580468.66	32	8	34.369	N	104	4	24.056	W
6471.00	88.37	82.65	4822.76	117.45	1911.97	415802.85	580500.37	32	8	34.409	N	104	4	23.687	W
6502.00	88.46	82.82	4823.62	121.37	1942.71	415806.77	580531.11	32	8	34.447	N	104	4	23.330	W
6533.00	89.69	85.28	4824.12	124.58	1973.54	415809.98	580561.94	32	8	34.478	N	104	4	22.971	W
6565.00	90.04	85.28	4824.20	127.21	2005.43	415812.61	580593.83	32	8	34.504	N	104	4	22.600	W
6597.00	89.96	85.81	4824.20	129.70	2037.33	415815.10	580625.73	32	8	34.528	N	104	4	22.229	W
6628.00	90.13	85.99	4824.17	131.91	2068.25	415817.31	580656.65	32	8	34.549	N	104	4	21.869	W
6691.00	89.96	86.16	4824.12	136.23	2131.11	415821.63	580719.51	32	8	34.590	N	104	4	21.138	W
6722.00	89.78	85.90	4824.19	138.37	2162.03	415823.77	580750.43	32	8	34.610	N	104	4	20.778	W
6785.00	89.87	85.90	4824.39	142.88	2224.87	415828.28	580813.27	32	8	34.654	N	104	4	20.047	W
6880.00	89.78	86.25	4824.68	149.38	2319.65	415834.78	580908.05	32	8	34.716	N	104	4	18.945	W
6943.00	89.78	86.43	4824.92	153.40	2382.52	415838.80	580970.92	32	8	34.754	N	104	4	18.213	W

PathFinder

Survey Report - Geographic

Company: SOUTHWESTERN ENERGY & PRODUCTI	Date: 1/8/2004	Time: 15:07:36	Page: 4
Field: Eddy County, New Mexico	Co-ordinate(NE) Reference:	Well: Shrike Federal 10 #1-H, Grid North	
Site: Shrike Federal 10 #1-H	Vertical (TVD) Reference:	SITE 0.0	
Well: Shrike Federal 10 #1-H	Section (VS) Reference:	Well (0.00N,0.00E,90.00Azi)	
Wellpath: Horizontal Plan	Survey Calculation Method:	Minimum Curvature	Db: Sybase

Survey

MD ft	Incl deg	Azim deg	TVD ft	+N-S ft	+E-W ft	Map Northing ft	Map Easting ft	← Latitude →			← Longitude →				
								Deg	Min	Sec	Deg	Min	Sec		
6986.00	89.96	86.25	4825.01	156.15	2425.43	415841.55	581013.83	32	8	34.780	N	104	4	17.714	W
7051.00	89.96	86.25	4825.06	160.40	2490.29	415845.80	581078.69	32	8	34.821	N	104	4	16.960	W

A Gyrodata Directional Survey

Southwestern Energy

Well: SHRIKE 10 #1-H, 4" DRILLPIPE

Location: PATTERSON #141, EDDY COUNTY, NEW MEXICO

Job Number: MD1103GW315

MEASURED DEPTH	INCLINATION		SEVERITY	DEPTH	AZIMUTH		HORIZONTAL COORDINATES	
feet	deg.	deg.	deg./ 100 ft.	feet	feet	deg.	feet	feet
0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.00 N	0.00 E

0'-4167' RATE GYROSCOPIC MULTISHOT SURVEY RUN INSIDE 4" DRILLPIPE								
ALL MEASURED DEPTHS AND COORDINATES REFERENCED TO PATTERSON #141 R.K.B.								

100.00	0.06	152.96	0.06	100.00	0.1	153.0	0.05 S	0.02 E
200.00	0.28	173.62	0.22	200.00	0.3	167.2	0.34 S	0.08 E
300.00	0.83	187.36	0.57	299.99	1.3	179.5	1.30 S	0.01 E
400.00	0.99	186.31	0.16	399.98	2.9	183.5	2.87 S	0.18 W
500.00	0.79	165.18	0.38	499.97	4.4	181.2	4.40 S	0.09 W
600.00	0.74	146.08	0.26	599.96	5.6	175.5	5.61 S	0.44 E
700.00	0.79	143.46	0.06	699.95	6.8	169.7	6.70 S	1.22 E
800.00	0.77	143.03	0.03	799.94	8.1	165.4	7.79 S	2.03 E
900.00	0.62	163.89	0.29	899.94	9.2	163.7	8.84 S	2.59 E
1000.00	0.73	192.49	0.35	999.93	10.3	165.4	9.98 S	2.60 E
1100.00	2.74	190.65	2.01	1099.88	13.1	171.2	12.96 S	2.02 E
1200.00	3.16	188.19	0.44	1199.74	18.1	176.3	18.04 S	1.18 E
1300.00	2.70	176.24	0.76	1299.61	23.1	177.7	23.13 S	0.94 E
1400.00	1.86	173.87	0.85	1399.53	27.1	177.3	27.09 S	1.27 E
1500.00	1.23	182.01	0.66	1499.50	29.8	177.3	29.78 S	1.41 E
1600.00	1.10	195.86	0.31	1599.48	31.8	178.0	31.78 S	1.11 E
1700.00	1.18	199.34	0.10	1699.46	33.7	179.1	33.67 S	0.50 E
1800.00	0.73	176.39	0.58	1799.44	35.3	179.7	35.28 S	0.20 E
1900.00	0.92	130.37	0.67	1899.43	36.4	178.7	36.44 S	0.86 E
2000.00	0.82	108.25	0.35	1999.42	37.2	176.7	37.18 S	2.15 E
2100.00	1.49	103.78	0.68	2099.40	37.9	173.8	37.72 S	4.10 E
2200.00	2.91	104.77	1.41	2199.33	39.5	168.6	38.67 S	7.82 E
2300.00	2.95	99.20	0.29	2299.20	41.7	162.1	39.73 S	12.81 E
2400.00	1.01	119.42	2.03	2399.13	43.7	158.3	40.58 S	16.12 E
2500.00	0.45	127.10	0.57	2499.12	44.7	157.4	41.25 S	17.21 E
2600.00	0.33	123.92	0.12	2599.12	45.3	156.9	41.65 S	17.76 E
2700.00	0.29	134.93	0.07	2699.12	45.8	156.6	41.99 S	18.18 E
2800.00	0.29	141.45	0.03	2799.12	46.2	156.4	42.37 S	18.52 E
2900.00	0.23	174.68	0.16	2899.12	46.7	156.4	42.76 S	18.69 E
3000.00	0.22	158.99	0.06	2999.12	47.0	156.5	43.14 S	18.78 E
3100.00	0.11	199.58	0.15	3099.12	47.3	156.6	43.40 S	18.82 E

A Gyrodata Directional Survey

for

SOUTHWESTERN ENERGY

Location: PATTERSON #141, EDDY COUNTY, NEW MEXICO

Well: SHRIKE 10 #1-H, 4" DRILLPIPE

Job Number: MD1103GW315

Run Date: 11/27/2003 10:34:42 AM

Surveyor: Mike Martinez

Calculation Method: MINIMUM CURVATURE

Survey Latitude: 32.142944 deg. N Longitude: 104.079417 deg. W

Azimuth Correction:

Gyro: Bearings are Relative to True North

Vertical Section Calculated from Well Head Location

Closure Calculated from Well Head Location

Horizontal Coordinates Calculated from Well Head Location

A Gyrodata Directional Survey

Southwestern Energy

Well: SHRIKE 10 #1-H, 4" DRILLPIPE

Location: PATTERSON #141, EDDY COUNTY, NEW MEXICO

Job Number: MD1103GW315

MEASURED IN C LAZIMUTH DOGLEG VERTICAL CLOSURE							HORIZONTAL	
DEPTH	SEVERITY			DEPTH	DIST.	AZIMUTH	COORDINATES	
feet	deg.	deg.	deg./ 100 ft.	feet	feet	deg.	feet	
3200.00	0.12	160.62	0.08	3199.12	47.5	156.6	43.59 S	18.82 E
3300.00	0.09	221.64	0.11	3299.12	47.6	156.7	43.75 S	18.80 E
3400.00	0.26	292.39	0.24	3399.11	47.5	157.0	43.72 S	18.54 E
3500.00	0.21	307.76	0.08	3499.11	47.2	157.3	43.52 S	18.19 E
3600.00	0.35	298.47	0.14	3599.11	46.8	157.7	43.26 S	17.77 E
3700.00	0.41	312.77	0.11	3699.11	46.2	158.1	42.87 S	17.24 E
3800.00	0.57	301.44	0.19	3799.11	45.5	158.7	42.37 S	16.55 E
3900.00	0.75	299.51	0.18	3899.10	44.6	159.6	41.79 S	15.56 E
4000.00	0.69	290.50	0.13	3999.09	43.7	160.7	41.25 S	14.42 E
4100.00	0.86	283.67	0.19	4099.08	42.9	162.2	40.87 S	13.13 E
4167.00	0.90	283.73	0.07	4166.08	42.4	163.4	40.62 S	12.13 E

Final Station Closure: Distance: 42.40 ft Az: 163.37 deg.

PathFinder Energy Services

Survey Report

Page 1
 Job No: J-WT-0311-0078
 Date: 12/6/2003
 Time: 11:39 am
 Wellpath ID: original
 Date Created: 11/27/2003
 Last Revision: 12/6/2003

Calculated using the Minimum Curvature Method
 Computed using PDS VER2.2.6
 Vertical Section Plane: 90.00 deg.

Survey Reference: WELLHEAD
 Vertical Section Reference: WELLHEAD
 Closure Reference: WELLHEAD
 TVD Reference: WELLHEAD

Southwest Energy & Prod
 Eddy Cnty. NM
 Patterson 141
 Shrike Federal 10 #1-H
 ORIGINAL

Measured Depth (ft)	Incl (deg.)	Drift Dir. (deg.)	TVD (ft)	Course Length (ft)	Vertical Section (ft)	T O T A L		Closure Dist. Dir. (ft) (deg.)	Build Rate (dg/100ft)	DLS (dg/100ft)
						Rectangular (ft)	Offsets (ft)			
Gyro Data Tie-in										
4167.00	0.90	283.73	4166.08	0.00	12.13	40.62 S	12.13 E	42.39@163.37	0.00	0.00
The following are Pathfinder MWD Surveys.										
4209.00	0.97	277.59	4208.07	42.00	11.46	40.49 S	11.46 E	42.08@164.20	0.17	0.29
4240.00	0.88	276.09	4239.07	31.00	10.96	40.43 S	10.96 E	41.85@164.83	-0.29	0.30
4271.00	0.79	70.43	4270.07	31.00	10.93	40.34 S	10.93 E	41.79@164.85	-0.29	5.25
4301.00	3.52	76.85	4300.05	30.00	12.02	40.06 S	12.02 E	41.82@163.30	9.10	9.12
4332.00	6.77	79.39	4330.92	31.00	14.74	39.51 S	14.74 E	42.17@159.54	10.48	10.51
4364.00	10.38	81.06	4362.55	32.00	19.44	38.71 S	19.44 E	43.32@153.33	11.28	11.31
4395.00	13.98	81.50	4392.85	31.00	25.91	37.72 S	25.91 E	45.76@145.52	11.61	11.62
4427.00	17.76	81.15	4423.63	32.00	34.56	36.40 S	34.56 E	50.19@136.49	11.81	11.82
4459.00	21.63	81.24	4453.75	32.00	45.21	34.75 S	45.21 E	57.02@127.55	12.09	12.09
4490.00	25.50	81.42	4482.16	31.00	57.46	32.88 S	57.46 E	66.21@119.78	12.48	12.49
4522.00	29.37	81.77	4510.55	32.00	72.04	30.73 S	72.04 E	78.33@113.10	12.09	12.10
4553.00	33.24	82.65	4537.04	31.00	88.00	28.56 S	88.00 E	92.52@107.98	12.48	12.57
4585.00	37.20	84.32	4563.17	32.00	106.33	26.48 S	106.33 E	109.58@103.98	12.37	12.73
4616.00	40.63	85.90	4587.29	31.00	125.73	24.83 S	125.73 E	128.16@101.17	11.06	11.52
4648.00	43.62	87.66	4611.02	32.00	147.16	23.63 S	147.16 E	149.04@ 99.12	9.34	10.04
4679.00	46.60	88.71	4632.90	31.00	169.11	22.94 S	169.11 E	170.66@ 97.73	9.61	9.91
4711.00	50.12	88.53	4654.16	32.00	193.01	22.36 S	193.01 E	194.30@ 96.61	11.00	11.01
4742.00	54.08	87.83	4673.20	31.00	217.45	21.58 S	217.45 E	218.52@ 95.67	12.77	12.90
4774.00	57.60	87.13	4691.16	32.00	243.90	20.42 S	243.90 E	244.76@ 94.78	11.00	11.15
4805.00	60.50	86.95	4707.10	31.00	270.45	19.04 S	270.45 E	271.12@ 94.03	9.35	9.37
4837.00	63.31	87.66	4722.17	32.00	298.65	17.72 S	298.65 E	299.17@ 93.40	8.78	9.00
4868.00	67.09	88.80	4735.17	31.00	326.77	16.85 S	326.77 E	327.20@ 92.95	12.19	12.64
4900.00	69.64	90.12	4746.97	32.00	356.51	16.57 S	356.51 E	356.85@ 92.66	7.97	8.84
4932.00	72.46	90.56	4757.36	32.00	386.77	16.76 S	386.77 E	387.13@ 92.48	8.81	8.91
4963.00	73.42	90.56	4766.46	31.00	416.41	17.04 S	416.41 E	416.75@ 92.34	3.10	3.10
4994.00	76.50	90.91	4774.50	31.00	446.34	17.43 S	446.34 E	446.68@ 92.24	9.94	10.00
5026.00	76.77	90.38	4781.90	32.00	477.47	17.78 S	477.47 E	477.80@ 92.13	0.84	1.82
5057.00	76.50	89.85	4789.06	31.00	507.63	17.84 S	507.63 E	507.94@ 92.01	-0.87	1.88
5089.00	78.44	89.41	4796.00	32.00	538.86	17.64 S	538.86 E	539.15@ 91.87	6.06	6.21
5104.00	80.28	89.50	4798.77	15.00	553.61	17.50 S	553.61 E	553.88@ 91.81	12.27	12.28
Interpolated Azimuth due to Magnetic Interference.										
5149.00	82.31	88.00	4805.58	45.00	598.07	16.53 S	598.07 E	598.30@ 91.58	4.51	5.59
Interpolated Azimuth due to Magnetic Interference.										

PathFinder Energy Services

Survey Report

Page 2
Date: 12/6/2003
Wellpath ID: original

Measured Depth (ft)	Incl (deg.)	Drift Dir. (deg.)	TVD (ft)	Course Length (ft)	Vertical Section (ft)	T O T A L		Closure		Build Rate (dg/100ft)	DLS (dg/100ft)
						Rectangular (ft)	Offsets (ft)	Dist. (ft)	Dir. (deg.)		
5181.00	83.89	87.00	4809.43	32.00	629.81	15.14 S	629.81 E	629.99@	91.38	4.94	5.83
5212.00	85.47	86.25	4812.30	31.00	660.62	13.32 S	660.62 E	660.76@	91.16	5.10	5.64
5244.00	85.56	86.07	4814.80	32.00	692.45	11.19 S	692.45 E	692.54@	90.93	0.28	0.63
5275.00	85.65	85.90	4817.18	31.00	723.28	9.02 S	723.28 E	723.34@	90.71	0.29	0.62
5306.00	85.82	85.46	4819.49	31.00	754.11	6.69 S	754.11 E	754.14@	90.51	0.55	1.52
5338.00	86.88	84.23	4821.52	32.00	785.92	3.82 S	785.92 E	785.92@	90.28	3.31	5.07
5370.00	87.23	83.88	4823.17	32.00	817.70	0.51 S	817.70 E	817.70@	90.04	1.09	1.55
5401.00	88.11	83.61	4824.43	31.00	848.49	2.86 N	848.49 E	848.50@	89.81	2.84	2.97
5433.00	88.99	83.09	4825.24	32.00	880.26	6.57 N	880.26 E	880.29@	89.57	2.75	3.19
5463.00	89.43	83.79	4825.65	30.00	910.07	9.99 N	910.07 E	910.12@	89.37	1.47	2.76
5494.00	90.04	84.05	4825.79	31.00	940.89	13.28 N	940.89 E	940.98@	89.19	1.97	2.14
5526.00	90.92	84.49	4825.53	32.00	972.73	16.47 N	972.73 E	972.87@	89.03	2.75	3.07
5557.00	91.19	85.19	4824.95	31.00	1003.60	19.26 N	1003.60 E	1003.78@	88.90	0.87	2.42
5588.00	91.19	85.11	4824.31	31.00	1034.48	21.88 N	1034.48 E	1034.71@	88.79	0.00	0.26
5620.00	91.28	84.76	4823.62	32.00	1066.35	24.70 N	1066.35 E	1066.63@	88.67	0.28	1.13
5651.00	91.19	85.19	4822.95	31.00	1097.22	27.42 N	1097.22 E	1097.56@	88.57	-0.29	1.42
5683.00	91.19	85.19	4822.29	32.00	1129.10	30.10 N	1129.10 E	1129.50@	88.47	0.00	0.00
5714.00	90.92	85.57	4821.72	31.00	1160.00	32.60 N	1160.00 E	1160.45@	88.39	-0.87	1.50
5746.00	90.75	85.02	4821.25	32.00	1191.88	35.22 N	1191.88 E	1192.40@	88.31	-0.53	1.80
5778.00	90.04	85.11	4821.03	32.00	1223.76	37.97 N	1223.76 E	1224.35@	88.22	-2.22	2.24
5809.00	89.60	84.93	4821.13	31.00	1254.65	40.66 N	1254.65 E	1255.31@	88.14	-1.42	1.53
5841.00	90.31	85.02	4821.15	32.00	1286.52	43.47 N	1286.52 E	1287.26@	88.06	2.22	2.24
5873.00	91.19	84.40	4820.73	32.00	1318.38	46.42 N	1318.38 E	1319.20@	87.98	2.75	3.36
5904.00	91.71	84.05	4819.95	31.00	1349.22	49.54 N	1349.22 E	1350.13@	87.90	1.68	2.02
5934.00	91.54	83.96	4819.10	30.00	1379.04	52.67 N	1379.04 E	1380.05@	87.81	-0.57	0.64
5966.00	91.28	84.14	4818.31	32.00	1410.86	55.98 N	1410.86 E	1411.97@	87.73	-0.81	0.99
5997.00	90.75	83.79	4817.76	31.00	1441.68	59.24 N	1441.68 E	1442.90@	87.65	-1.71	2.05
6029.00	90.75	83.44	4817.34	32.00	1473.48	62.80 N	1473.48 E	1474.82@	87.56	0.00	1.09
6060.00	90.66	83.35	4816.96	31.00	1504.27	66.37 N	1504.27 E	1505.74@	87.47	-0.29	0.41
6092.00	90.57	83.52	4816.62	32.00	1536.06	70.02 N	1536.06 E	1537.66@	87.39	-0.28	0.60
6123.00	90.31	83.35	4816.38	31.00	1566.86	73.57 N	1566.86 E	1568.58@	87.31	-0.84	1.00
6155.00	90.40	83.79	4816.18	32.00	1598.66	77.15 N	1598.66 E	1600.52@	87.24	0.28	1.40
6186.00	89.52	83.35	4816.20	31.00	1629.46	80.62 N	1629.46 E	1631.45@	87.17	-2.84	3.17
6218.00	88.37	82.47	4816.79	32.00	1661.21	84.57 N	1661.21 E	1663.36@	87.09	-3.59	4.52
6249.00	88.64	82.21	4817.60	31.00	1691.92	88.70 N	1691.92 E	1694.25@	87.00	0.87	1.21
6281.00	88.72	82.73	4818.34	32.00	1723.64	92.90 N	1723.64 E	1726.14@	86.92	0.25	1.64
6312.00	88.81	82.38	4819.01	31.00	1754.37	96.91 N	1754.37 E	1757.04@	86.84	0.29	1.17
6344.00	88.81	82.65	4819.67	32.00	1786.09	101.08 N	1786.09 E	1788.95@	86.76	0.00	0.84
6376.00	88.99	82.73	4820.28	32.00	1817.82	105.15 N	1817.82 E	1820.86@	86.69	0.56	0.62
6408.00	88.37	82.73	4821.02	32.00	1849.56	109.20 N	1849.56 E	1852.78@	86.62	-1.94	1.94
6439.00	88.46	82.29	4821.88	31.00	1880.28	113.24 N	1880.28 E	1883.65@	86.55	0.29	1.45
6471.00	88.37	82.65	4822.76	32.00	1911.99	117.43 N	1911.99 E	1915.60@	86.49	-0.28	1.16
6502.00	88.46	82.82	4823.62	31.00	1942.73	121.35 N	1942.73 E	1946.52@	86.43	0.29	0.62
6533.00	89.69	85.28	4824.12	31.00	1973.56	124.56 N	1973.56 E	1977.45@	86.39	3.97	8.87
6565.00	90.04	85.28	4824.20	32.00	2005.45	127.19 N	2005.45 E	2009.48@	86.37	1.09	1.09
6597.00	89.96	85.81	4824.20	32.00	2037.35	129.68 N	2037.35 E	2041.48@	86.36	-0.25	1.68
6628.00	90.13	85.99	4824.17	31.00	2068.27	131.90 N	2068.27 E	2072.47@	86.35	0.55	0.80
6691.00	89.96	86.16	4824.12	63.00	2131.13	136.21 N	2131.13 E	2135.47@	86.34	-0.27	0.38

PathFinder Energy Services

Survey Report

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Wellpath ID: original

Measured Depth (ft)	Incl (deg.)	Drift Dir. (deg.)	TVD (ft)	Course Length (ft)	Vertical Section (ft)	T O T A L		Closure		Build Rate (dg/100ft)	DLS (dg/100ft)
						Rectangular (ft)	Offsets (ft)	Dist. (ft)	Dir. (deg.)		
6722.00	89.78	85.90	4824.19	31.00	2162.05	138.36 N	2162.05 E	2166.47@	86.34	-0.58	1.02
6785.00	89.87	85.90	4824.39	63.00	2224.89	142.86 N	2224.89 E	2229.47@	86.33	0.14	0.14
6880.00	89.78	86.25	4824.68	95.00	2319.67	149.36 N	2319.67 E	2324.47@	86.32	-0.09	0.38
6943.00	89.78	86.43	4824.92	63.00	2382.54	153.38 N	2382.54 E	2387.47@	86.32	0.00	0.29
6986.00	89.96	86.25	4825.02	43.00	2425.45	156.13 N	2425.45 E	2430.47@	86.32	0.42	0.59
Projection @ TD											
7051.00	89.96	86.25	4825.06	65.00	2490.31	160.38 N	2490.31 E	2495.47@	86.32	0.00	0.00