



Energen Resources

SJ BR, S14, T32N, R6W

Eul Canyon

San Juan 32-5 Unit Com #114

Motherbore

Survey: OH

30-039-29790

RCVD OCT 11 '07

OIL CONS. DIV.

DIST. 3

End of Well Survey

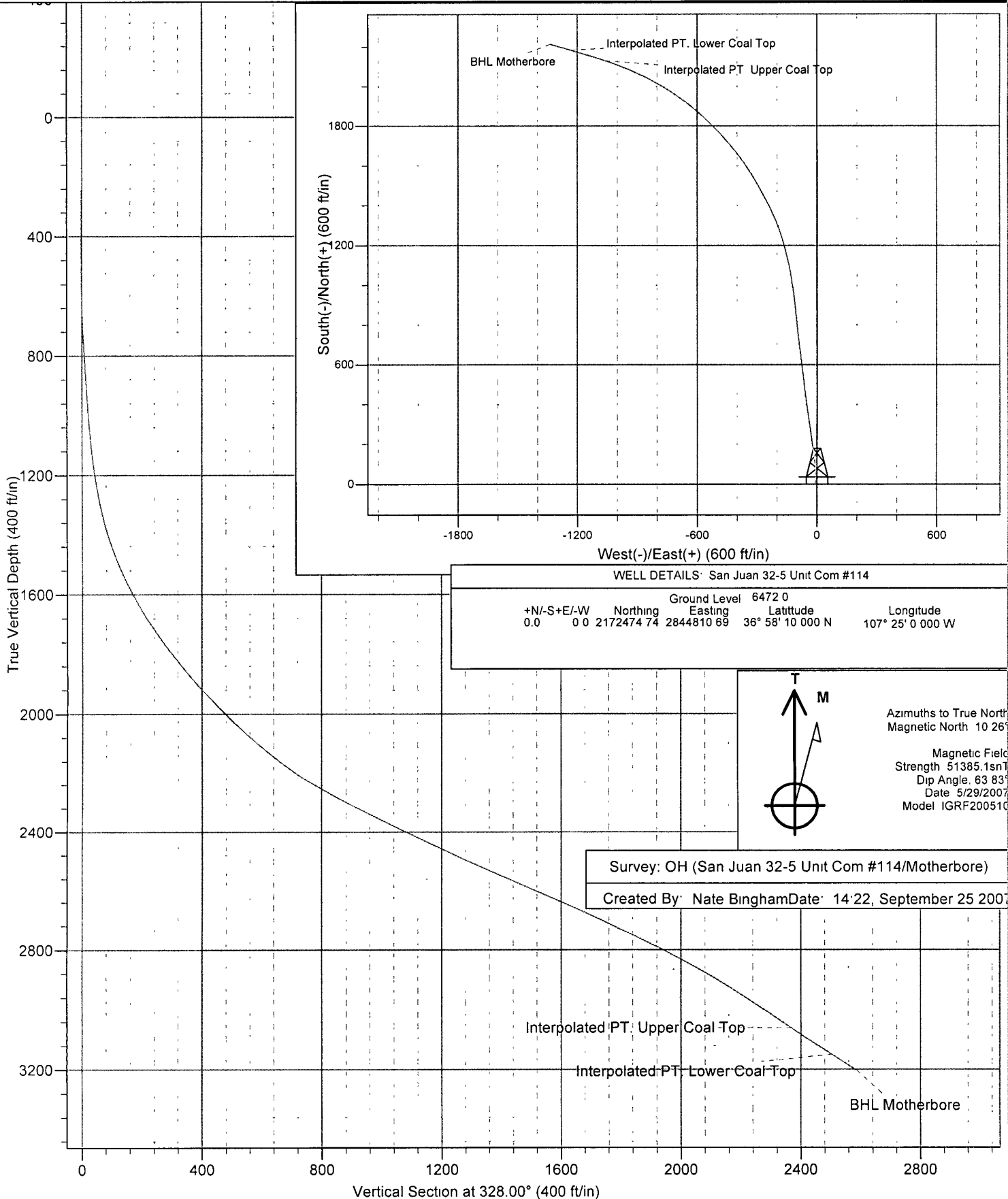
25 September, 2007

Surface 1345/N 225/W Sec 24 32N 6W
BITL 864/5 1111/E Sec 6 " "

MD 4773 TVL 3202

PATHFINDER
ENERGY SERVICES

Survey: OH (San Juan 32-5 Unit Com #114/Motherbore)





Company:	Energen Resources	Local Co-ordinate Reference:	Well San Juan 32-5 Unit Com #114
Project:	SJ BR, S14, T32N, R6W	TVD Reference:	KB @ 6487.0ft (AWS 222)
Site:	Eul Canyon	MD Reference:	KB @ 6487.0ft (AWS 222)
Well:	San Juan 32-5 Unit Com #114	North Reference:	True
Wellbore:	Motherbore	Survey Calculation Method:	Minimum Curvature
Design:	Motherbore	Database:	EDM 2003 16 Single User Db

Project:	SJ BR, S14, T32N, R6W		
Map System:	US State Plane 1983	System Datum:	Mean Sea Level
Geo Datum:	North American Datum 1983		
Map Zone:	New Mexico Western Zone		

Site:	Eul Canyon						
Site Position:			Northing:	2,172,474.74	ft	Latitude:	36° 58' 10.000 N
From:	Lat/Long		Easting:	2,844,810.69	ft	Longitude:	107° 25' 0.000 W
Position Uncertainty:	0 0	ft	Slot Radius:		"	Grid Convergence:	0 25

Well:	San Juan 32-5 Unit Com #114							
Well Position	+N/-S	0.0	ft	Northing:	2,172,474.74	ft	Latitude:	36° 58' 10.000 N
	+E/-W	0.0	ft	Easting:	2,844,810.69	ft	Longitude:	107° 25' 0.000 W
Position Uncertainty	0 0	ft	Wellhead Elevation:	6,472.0	ft	Ground Level:	6,472.0	ft

Wellbore	Motherbore				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF200510	5/29/2007	10 26	63 83	51,385

Design	Motherbore				
Audit Notes:					
Version:	1 0	Phase:	ACTUAL	Tie On Depth:	0 0
Vertical Section:	Depth From (TVD) (ft)	+N/-S (ft)	+E/-W (ft)	Direction (°)	
	0 0	0 0	0 0	328 00	

Survey Program		Date 9/25/2007		
From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description
325 0	4,773 0	OH (Motherbore)	Pathfinder	Pathfinder MWD

Survey							
MD (ft)	Inc (°)	Azi (°)	TVD (ft)	N/S (ft)	E/W (ft)	DLeg (°/100ft)	V. Sec (ft)
0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.0
325.0	0.97	217.50	325.0	-2.2	-1.7	0.30	-1.0
386.0	0.62	238.33	386.0	-2.8	-2.3	0.74	-1.1
446.0	0.62	234.37	446.0	-3.1	-2.8	0.07	-1.2
506.0	0.88	245.80	506.0	-3.5	-3.5	0.50	-1.1
566.0	0.79	246.59	566.0	-3.9	-4.3	0.15	-1.0
627.0	1.93	284.64	626.9	-3.8	-5.7	2.29	-0.2
687.0	3.34	329.73	686.9	-2.0	-7.5	4.01	2.3
749.0	3.87	353.46	748.8	1.6	-8.7	2.53	6.0
808.0	4.31	7.35	807.6	5.8	-8.6	1.83	9.5
868.0	4.31	8.76	867.4	10.3	-8.0	0.18	13.0
929.0	4.13	6.12	928.3	14.7	-7.4	0.43	16.4



Company: Energen Resources
 Project: SJ BR, S14, T32N, R6W
 Site: Eul Canyon
 Well: San Juan 32-5 Unit Com #114
 Wellbore: Motherbore
 Design: Motherbore

Local Co-ordinate Reference: Well San Juan 32-5 Unit Com #114
 TVD Reference: KB @ 6487.0ft (AWS 222)
 MD Reference: KB @ 6487.0ft (AWS 222)
 North Reference: True
 Survey Calculation Method: Minimum Curvature
 Database: EDM 2003.16 Single User Db

Survey							
MD (ft)	Inc (°)	Azi (°)	TVD (ft)	N/S (ft)	E/W (ft)	DLeg (°/100ft)	V. Sec (ft)
959.0	4.40	5.42	958.2	17.0	-7.2	0.92	18.2
1,019.0	5.36	3.13	1,018.0	22.0	-6.8	1.63	22.3
1,080.0	6.33	358.21	1,078.7	28.2	-6.8	1.79	27.5
1,141.0	8.00	356.89	1,139.2	35.8	-7.1	2.75	34.2
1,202.0	9.94	0.58	1,199.4	45.4	-7.3	3.32	42.3
1,263.0	12.13	0.85	1,259.3	57.0	-7.1	3.59	52.1
1,323.0	14.25	359.44	1,317.7	70.7	-7.1	3.57	63.7
1,385.0	17.41	353.99	1,377.4	87.6	-8.2	5.63	78.6
1,445.0	20.58	352.23	1,434.1	107.0	-10.5	5.37	96.3
1,504.0	24.18	351.88	1,488.6	129.2	-13.6	6.11	116.8
1,565.0	27.26	352.14	1,543.6	155.4	-17.3	5.05	141.0
1,628.0	30.42	351.97	1,598.8	185.5	-21.5	5.02	168.7
1,691.0	32.89	351.62	1,652.4	218.2	-26.2	3.93	199.0
1,753.0	35.79	351.79	1,703.6	252.8	-31.3	4.68	231.0
1,816.0	38.34	351.79	1,753.8	290.4	-36.7	4.05	265.7
1,877.0	40.89	351.88	1,800.8	328.9	-42.2	4.18	301.3
1,939.0	42.30	352.58	1,847.2	369.7	-47.8	2.39	338.8
2,002.0	43.88	352.50	1,893.2	412.4	-53.4	2.51	378.0
2,065.0	45.55	353.29	1,938.0	456.3	-58.8	2.79	418.2
2,128.0	47.40	352.35	1,981.4	501.7	-64.6	3.13	459.6
2,190.0	48.98	352.45	2,022.7	547.5	-70.7	2.55	501.7
2,254.0	50.30	352.75	2,064.1	595.8	-76.9	2.09	546.1
2,314.0	51.70	353.26	2,101.9	642.1	-82.6	2.43	588.3
2,376.0	54.17	353.24	2,139.3	691.2	-88.4	3.98	633.1
2,439.0	56.81	353.55	2,174.9	742.8	-94.4	4.21	680.0
2,502.0	58.48	353.80	2,208.7	795.7	-100.3	2.67	727.9
2,564.0	61.20	354.57	2,239.8	849.0	-105.7	4.52	776.0
2,626.0	63.05	353.32	2,268.8	903.5	-111.5	3.48	825.3
2,688.0	64.46	354.15	2,296.2	958.8	-117.5	2.57	875.4
2,751.0	64.63	350.81	2,323.3	1,015.2	-125.0	4.79	927.2
2,844.0	65.25	347.78	2,362.7	1,097.9	-140.6	3.03	1,005.6
2,907.0	64.81	345.95	2,389.3	1,153.6	-153.6	2.72	1,059.7
2,969.0	64.72	344.50	2,415.7	1,207.8	-167.9	2.12	1,113.2
3,031.0	64.90	341.29	2,442.1	1,261.4	-184.4	4.69	1,167.4
3,092.0	64.90	338.92	2,468.0	1,313.3	-203.2	3.52	1,221.4
3,154.0	65.42	335.58	2,494.0	1,365.2	-225.0	4.96	1,277.0
3,216.0	66.13	331.69	2,519.5	1,415.8	-250.1	5.83	1,333.2
3,279.0	66.39	331.84	2,544.9	1,466.6	-277.4	0.47	1,390.8
3,341.0	66.04	330.20	2,569.9	1,516.3	-304.8	2.49	1,447.4
3,405.0	65.95	328.25	2,595.9	1,566.5	-334.8	2.79	1,505.9
3,468.0	66.65	325.54	2,621.2	1,614.8	-366.3	4.09	1,563.5
3,530.0	66.04	321.91	2,646.1	1,660.6	-399.9	5.45	1,620.2
3,593.0	65.51	319.85	2,672.0	1,705.2	-436.1	3.10	1,677.2
3,656.0	64.72	318.15	2,698.5	1,748.3	-473.6	2.75	1,733.6



Company:	Energen Resources	Local Co-ordinate Reference:	Well San Juan 32-5 Unit Com #114
Project:	SJ BR, S14, T32N, R6W	TVD Reference:	KB @ 6487.0ft (AWS 222)
Site:	Eul Canyon	MD Reference:	KB @ 6487.0ft (AWS 222)
Well:	San Juan 32-5 Unit Com #114	North Reference:	True
Wellbore:	Motherbore	Survey Calculation Method:	Minimum Curvature
Design:	Motherbore	Database:	EDM 2003 16 Single User Db

Survey							
MD (ft)	Inc (°)	Azi (°)	TVD (ft)	N/S (ft)	E/W (ft)	DLeg (°/100ft)	V. Sec (ft)
3,718.0	64.89	315.48	2,724.9	1,789.2	-512.0	3.91	1,788.6
3,782.0	64.81	313.55	2,752.1	1,829.8	-553.3	2.73	1,845.0
3,844.0	64.46	311.58	2,778.6	1,867.7	-594.5	2.93	1,899.0
3,906.0	63.40	308.82	2,805.9	1,903.7	-637.1	4.35	1,952.0
3,969.0	63.05	306.73	2,834.3	1,938.1	-681.5	3.01	2,004.8
4,030.0	63.05	303.80	2,861.9	1,969.5	-725.9	4.28	2,054.9
4,093.0	62.43	300.87	2,890.8	1,999.4	-773.2	4.25	2,105.4
4,156.0	61.47	297.96	2,920.4	2,026.8	-821.6	4.35	2,154.2
4,219.0	60.85	295.37	2,950.8	2,051.5	-871.0	3.73	2,201.3
4,281.0	61.64	293.36	2,980.6	2,073.9	-920.5	3.11	2,246.6
4,344.0	62.26	292.45	3,010.3	2,095.6	-971.7	1.61	2,292.1
4,405.0	61.91	290.42	3,038.8	2,115.3	-1,021.8	3.00	2,335.4
4,452.0	62.10	288.85	3,060.9	2,129.2	-1,060.9	2.98	2,367.9
Interpolated PT. Upper Coal Top							
4,467.0	62.17	288.35	3,067.9	2,133.4	-1,073.5	2.98	2,378.1
4,530.0	63.22	287.48	3,096.8	2,150.7	-1,126.8	2.07	2,421.0
4,592.0	64.54	287.48	3,124.1	2,167.4	-1,179.9	2.13	2,463.3
4,652.0	63.96	286.54	3,150.2	2,183.2	-1,231.5	1.71	2,504.1
Interpolated PT. Lower Coal Top							
4,655.0	63.93	286.49	3,151.5	2,184.0	-1,234.1	1.71	2,506.1
4,717.0	64.28	286.49	3,178.5	2,199.8	-1,287.6	0.56	2,547.9
4,773.0	64.28	286.49	3,202.9	2,214.1	-1,336.0	0.00	2,585.6



Company:	Energen Resources	Local Co-ordinate Reference:	Well San Juan 32-5 Unit Com #114
Project:	SJ BR, S14, T32N, R6W	TVD Reference:	KB @ 6487.0ft (AWS 222)
Site:	Eul Canyon	MD Reference:	KB @ 6487 0ft (AWS 222)
Well:	San Juan 32-5 Unit Com #114	North Reference:	True
Wellbore:	Motherbore	Survey Calculation Method:	Minimum Curvature
Design:	Motherbore	Database:	EDM 2003.16 Single User Db

Targets

Target Name	- hit/miss target	- Shape	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (ft)	Easting (ft)	Latitude	Longitude
KOP			0 00	0 00	662 0	0 0	0.0	2,172,474 74	2,844,810 69	36° 58' 10.000 N	107° 25' 0 000 W
	- survey misses by 7 4ft at 662 0ft MD (661.9 TVD, -3 0 N, -6 8 E)										
	- Point										
TD			0 00	0 00	3,190 0	2,201 1	-1,375.7	2,174,669 84	2,843,425 34	36° 58' 31 765 N	107° 25' 16.955 W
	- survey misses by 43.7ft at 4773 0ft MD (3202 9 TVD, 2214 1 N, -1336.0 E)										
	- Point										
TD Lower Lateral			0 00	0 00	3,164 5	3,193 2	-4,809 8	2,175,646.87	2,839,986.97	36° 58' 41 571 N	107° 25' 59 279 W
	- survey misses by 3609 4ft at 4773 0ft MD (3202 9 TVD, 2214.1 N, -1336 0 E)										
	- Point										
Drill Window			0 00	0 00	3,082 0	0 0	0 0	2,172,474 74	2,844,810 69	36° 58' 10 000 N	107° 25' 0 000 W
	- survey misses by 1172 3ft at 2376.0ft MD (2139 3 TVD, 691 2 N, -88.4 E)										
	- Rectangle (sides W1,304 0 H3,980 0 D0 0)										
Build Section			0 00	0 00	2,670 1	936.4	-128 3	2,173,410 57	2,844,678 29	36° 58' 19.259 N	107° 25' 1 581 W
	- survey misses by 347 1ft at 2828 4ft MD (2356 1 TVD, 1084.1 N, -137 7 E)										
	- Point										
Enter Upper Coal			0 00	0 00	3,082 0	2,130.9	-1,131 5	2,174,600 67	2,843,669 88	36° 58' 31 070 N	107° 25' 13 945 W
	- survey misses by 23 8ft at 4521 8ft MD (3093 1 TVD, 2148 5 N, -1119 8 E)										
	- Point										

Survey Annotations

Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates +N/-S (ft)	+E/-W (ft)	Comment
4,452 0	3,060 9	2,129 2	-1,060 9	Interpolated PT Upper Coal Top
4,652 0	3,150 2	2,183.2	-1,231 5	Interpolated PT. Lower Coal Top
4,773 0	3,202 9	2,214 1	-1,336 0	BHL Motherbore

Checked By: _____ Approved By: _____ Date: _____



Energen Resources

SJ BR, S14, T32N, R6W

Eul Canyon

San Juan 32-5 Unit Com #114

Upper Lateral

Survey: EOW Upper Lat

30-039-29790

RCVD OCT 11 '07

OIL CONS. DIV.

DIST. 8

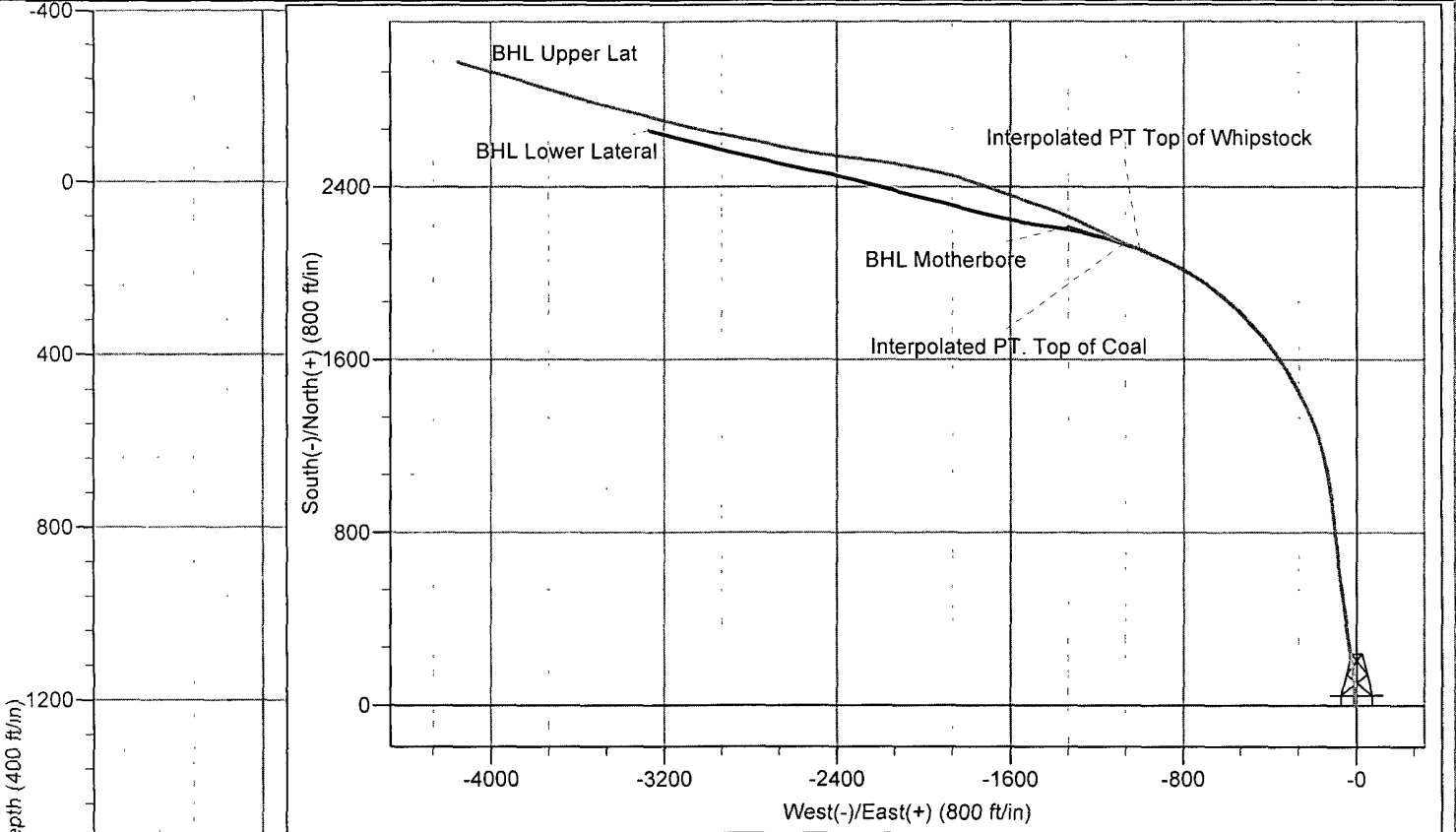
End of Well Survey

25 September, 2007

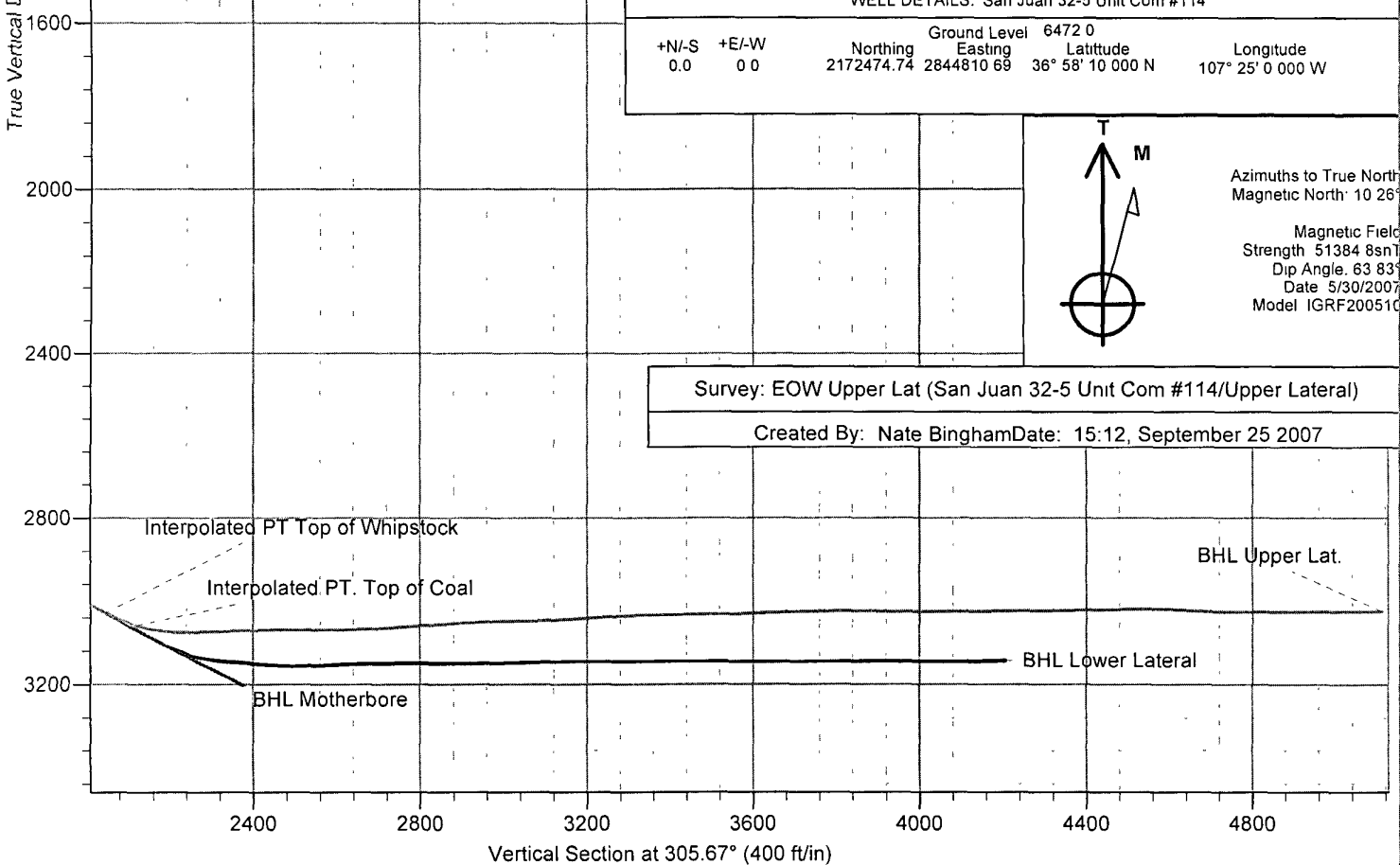
Surface 1345/N 225/W Sec 24 32N 6W
m14468 Tvd 3060 origin of lateral 793/S 853/E Sec 14
m17672 Tvd 3024 BHL 1636/S 1373/W "

PATHFINDER
ENERGY SERVICES

Survey: EOW Upper Lat (San Juan 32-5 Unit Com #114/Upper Lateral)

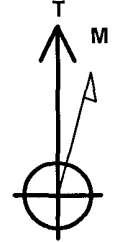


True Vertical Depth (400 ft/in)



WELL DETAILS. San Juan 32-5 Unit Com #114

+N/-S	+E/-W	Ground Level	6472 0
0.0	0.0	2172474.74	2844810.69
North	East	Latitude	Longitude
2172474.74	2844810.69	36° 58' 10.000 N	107° 25' 0.000 W



Azimuths to True North
Magnetic North: 10 26°
Magnetic Field
Strength 51384.8nT
Dip Angle 63.83°
Date 5/30/2007
Model IGRF200510

Survey: EOW Upper Lat (San Juan 32-5 Unit Com #114/Upper Lateral)
Created By: Nate Bingham Date: 15:12, September 25 2007



Pathfinder Energy Services
End of Well Survey



Company:	Energen Resources	Local Co-ordinate Reference:	Well San Juan 32-5 Unit Com #114
Project:	SJ BR, S14, T32N, R6W	TVD Reference:	KB @ 6487.0ft (AWS 222)
Site:	Eul Canyon	MD Reference:	KB @ 6487 0ft (AWS 222)
Well:	San Juan 32-5 Unit Com #114	North Reference:	True
Wellbore:	Upper Lateral	Survey Calculation Method:	Minimum Curvature
Design:	Upper Lateral	Database:	EDM 2003 16 Single User Db

Project	SJ BR, S14, T32N, R6W		
Map System:	US State Plane 1983	System Datum:	Mean Sea Level
Geo Datum:	North American Datum 1983		
Map Zone:	New Mexico Western Zone		

Site	Eul Canyon		
Site Position:		Northing:	2,172,474 74 ft
From:	Lat/Long	Easting:	2,844,810 69 ft
Position Uncertainty:	0 0 ft	Slot Radius:	"
		Latitude:	36° 58' 10.000 N
		Longitude:	107° 25' 0 000 W
		Grid Convergence:	0 25 °

Well	San Juan 32-5 Unit Com #114		
Well Position	+N/-S	0 0 ft	Northing:
	+E/-W	0.0 ft	Easting:
Position Uncertainty	0 0 ft	Wellhead Elevation:	6,472.0 ft
		Ground Level:	6,472 0 ft

Wellbore	Upper Lateral		
Magnetics	Model Name	Sample Date	Declination
	IGRF200510	5/30/2007	10 26
			Dip Angle
			63 83
			Field Strength
			51,385

Design	Upper Lateral		
Audit Notes:			
Version:	1 0	Phase:	ACTUAL
		Tie On Depth:	0 0
Vertical Section:	Depth From (TVD)	+N/-S	+E/-W
	(ft)	(ft)	(ft)
	0.0	0.0	0 0
			Direction
			(°)
			305 67

Survey Program	Date 9/25/2007		
From	To	Survey (Wellbore)	Tool Name
(ft)	(ft)		
325 0	7,672 0	EOW Upper Lat (Upper Lateral)	Pathfinder
			Description
			Pathfinder MWD

Survey							
MD	Inc	Azi	TVD	N/S	E/W	DLeg	V. Sec
(ft)	(°)	(°)	(ft)	(ft)	(ft)	(°/100ft)	(ft)
0 0	0 00	0 00	0.0	0.0	0.0	0 00	0 0
325 0	0 97	217 50	325.0	-2.2	-1.7	0 30	0 1
386.0	0 62	238 33	386 0	-2.8	-2.3	0 74	0.2
446 0	0 62	234.37	446 0	-3.1	-2.8	0.07	0 5
506 0	0 88	245.80	506 0	-3 5	-3 5	0 50	0 8
566 0	0 79	246.59	566 0	-3 9	-4 3	0 15	1 2
627 0	1 93	284 64	626.9	-3 8	-5 7	2.29	2 4
687 0	3 34	329 73	686 9	-2.0	-7 5	4.01	5.0
749 0	3 87	353.46	748 8	1.6	-8 7	2 53	8 0
808 0	4.31	7 35	807.6	5.8	-8 6	1.83	10.4
868 0	4.31	8 76	867 4	10 3	-8.0	0.18	12 5
929 0	4 13	6 12	928 3	14.7	-7 4	0 43	14 6

Company: Energen Resources
Project: SJ BR, S14, T32N, R6W
Site: Eul Canyon
Well: San Juan 32-5 Unit Com #114
Wellbore: Upper Lateral
Design: Upper Lateral

Local Co-ordinate Reference: Well San Juan 32-5 Unit Com #114
TVD Reference: KB @ 6487.0ft (AWS 222)
MD Reference: KB @ 6487.0ft (AWS 222)
North Reference: True
Survey Calculation Method: Minimum Curvature
Database: EDM 2003.16 Single User Db

MD (ft)	Inc (°)	Azi (°)	TVD (ft)	N/S (ft)	E/W (ft)	DLeg (°/100ft)	V. Sec (ft)
959 0	4 40	5 42	958 2	17 0	-7.2	0 92	15.7
1,019 0	5 36	3.13	1,018 0	22 0	-6 8	1 63	18 4
1,080 0	6 33	358 21	1,078.7	28 2	-6.8	1 79	22.0
1,141 0	8 00	356 89	1,139.2	35.8	-7.1	2.75	26.7
1,202 0	9 94	0 58	1,199 4	45 4	-7 3	3 32	32 4
1,263 0	12 13	0 85	1,259 3	57 0	-7 1	3 59	39 0
1,323 0	14 25	359 44	1,317.7	70 7	-7 1	3 57	47 0
1,385 0	17 41	353 99	1,377 4	87 6	-8 2	5 63	57 7
1,445 0	20 58	352 23	1,434.1	107.0	-10.5	5 37	70 9
1,504 0	24 18	351 88	1,488.6	129.2	-13 6	6 11	86 4
1,565 0	27 26	352 14	1,543 6	155 4	-17 3	5.05	104 7
1,628 0	30 42	351.97	1,598 8	185 5	-21 5	5.02	125 7
1,691 0	32 89	351 62	1,652.4	218 2	-26.2	3.93	148 6
1,753 0	35 79	351 79	1,703.6	252 8	-31 3	4 68	172 8
1,816 0	38 34	351.79	1,753 8	290.4	-36.7	4.05	199 2
1,877 0	40 89	351 88	1,800 8	328 9	-42 2	4 18	226 1
1,939 0	42 30	352.58	1,847.2	369.7	-47 8	2 39	254 4
2,002 0	43.88	352 50	1,893 2	412 4	-53 4	2 51	283 8
2,065 0	45 55	353 29	1,938 0	456 3	-58 8	2 79	313 9
2,128 0	47 40	352 35	1,981.4	501.7	-64.6	3.13	345.0
2,190 0	48.98	352 45	2,022 7	547 5	-70 7	2 55	376 7
2,254 0	50 30	352 75	2,064.1	595 8	-76.9	2 09	410 0
2,314 0	51 70	353 26	2,101 9	642 1	-82 6	2.43	441 6
2,376 0	54 17	353 24	2,139 3	691.2	-88 4	3 98	474 9
2,439 0	56 81	353 55	2,174 9	742 8	-94 4	4.21	509 9
2,502 0	58 48	353.80	2,208 7	795.7	-100 3	2 67	545 5
2,564 0	61 20	354.57	2,239 8	849.0	-105 7	4.52	581 0
2,626 0	63 05	353.32	2,268.8	903.5	-111 5	3 48	617 5
2,688 0	64 46	354 15	2,296 2	958.8	-117.5	2 57	654 6
2,751 0	64 63	350 81	2,323 3	1,015 2	-125 0	4 79	693 6
2,844 0	65 25	347 78	2,362 7	1,097 9	-140 6	3 03	754 5
2,907 0	64 81	345.95	2,389.3	1,153 5	-153 6	2.72	797.5
2,969 0	64.72	344 50	2,415 7	1,207 8	-167 9	2 12	840 7
3,031 0	64 90	341 29	2,442 1	1,261.4	-184.4	4 69	885 4
3,092 0	64 90	338 92	2,468 0	1,313 3	-203 2	3.52	931 0
3,154 0	65 42	335 58	2,494 0	1,365.2	-225.0	4 96	978.9
3,216 0	66 13	331 69	2,519.5	1,415 8	-250 1	5 83	1,028 8
3,279 0	66 39	331 84	2,544 9	1,466.7	-277.4	0 47	1,080 6
3,341 0	66 04	330.20	2,569 9	1,516 3	-304 8	2 49	1,131 9
3,405 0	65 95	328 25	2,595 9	1,566.5	-334.8	2 79	1,185.5
3,468 0	66 65	325 54	2,621.2	1,614 8	-366 3	4.09	1,239 2
3,530 0	66 04	321.91	2,646 1	1,660 6	-399 9	5.45	1,293 2
3,593 0	65.51	319 85	2,672 0	1,705 2	-436.1	3.10	1,348 7
3,656 0	64 72	318.15	2,698.5	1,748.3	-473.6	2.75	1,404.3



Company:	Energen Resources	Local Co-ordinate Reference:	Well San Juan 32-5 Unit Com #114
Project:	SJ BR, S14, T32N, R6W	TVD Reference:	KB @ 6487.0ft (AWS 222)
Site:	Eul Canyon	MD Reference:	KB @ 6487.0ft (AWS 222)
Well:	San Juan 32-5 Unit Com #114	North Reference:	True
Wellbore:	Upper Lateral	Survey Calculation Method:	Minimum Curvature
Design:	Upper Lateral	Database:	EDM 2003.16 Single User Db

Survey							
MD (ft)	Inc (°)	Azi (°)	TVD (ft)	N/S (ft)	E/W (ft)	DLeg (°/100ft)	V. Sec (ft)
3,718.0	64.89	315.48	2,724.9	1,789.2	-512.0	3.91	1,459.3
3,782.0	64.81	313.55	2,752.1	1,829.8	-553.3	2.73	1,516.6
3,844.0	64.46	311.58	2,778.6	1,867.7	-594.5	2.93	1,572.2
3,906.0	63.40	308.82	2,805.9	1,903.7	-637.1	4.35	1,627.7
3,969.0	63.05	306.73	2,834.3	1,938.1	-681.5	3.01	1,683.9
4,030.0	63.05	303.80	2,861.9	1,969.5	-725.9	4.28	1,738.2
4,093.0	62.43	300.87	2,890.8	1,999.4	-773.2	4.25	1,794.1
4,156.0	61.47	297.96	2,920.4	2,026.8	-821.6	4.35	1,849.4
4,219.0	60.85	295.37	2,950.8	2,051.5	-871.0	3.73	1,903.9
4,281.0	61.64	293.36	2,980.6	2,073.9	-920.5	3.11	1,957.2
4,344.0	62.26	292.45	3,010.3	2,095.6	-971.7	1.61	2,011.4
4,384.0	62.03	291.12	3,029.0	2,108.7	-1,004.5	2.99	2,045.8
Interpolated PT Top of Whipstock							
4,466.0	73.77	294.10	3,059.8	2,137.9	-1,074.5	14.71	2,119.6
Interpolated PT. Top of Coal							
4,468.0	74.06	294.17	3,060.3	2,138.7	-1,076.2	14.71	2,121.5
4,529.0	82.83	296.14	3,072.5	2,164.1	-1,130.3	14.72	2,180.2
4,592.0	91.10	297.09	3,075.8	2,192.3	-1,186.5	13.21	2,242.3
4,656.0	91.80	296.30	3,074.2	2,221.0	-1,243.6	1.65	2,305.5
4,720.0	91.98	295.54	3,072.1	2,249.0	-1,301.2	1.22	2,368.5
4,783.0	90.57	292.05	3,070.7	2,274.4	-1,358.8	5.97	2,430.2
4,847.0	90.22	289.84	3,070.3	2,297.3	-1,418.5	3.50	2,492.0
4,910.0	90.57	289.05	3,069.8	2,318.2	-1,478.0	1.37	2,552.5
4,974.0	90.31	288.70	3,069.3	2,338.9	-1,538.5	0.68	2,613.8
5,036.0	92.95	290.08	3,067.6	2,359.5	-1,597.0	4.80	2,673.3
5,100.0	93.12	288.92	3,064.2	2,380.8	-1,657.2	1.83	2,734.7
5,164.0	94.09	290.00	3,060.2	2,402.1	-1,717.4	2.27	2,796.0
5,227.0	93.12	289.40	3,056.2	2,423.3	-1,776.6	1.81	2,856.4
5,291.0	93.47	285.72	3,052.5	2,442.6	-1,837.5	5.77	2,917.2
5,354.0	92.42	283.41	3,049.3	2,458.4	-1,898.4	4.02	2,975.8
5,418.0	90.04	282.35	3,047.9	2,472.7	-1,960.8	4.07	3,034.8
5,481.0	91.80	282.02	3,046.9	2,486.0	-2,022.4	2.84	3,092.6
5,544.0	93.39	279.61	3,044.1	2,497.8	-2,084.2	4.58	3,149.7
5,608.0	93.03	278.80	3,040.5	2,508.0	-2,147.2	1.38	3,206.9
5,671.0	93.12	278.03	3,037.1	2,517.2	-2,209.5	1.23	3,262.8
5,734.0	91.80	278.03	3,034.4	2,526.0	-2,271.8	2.10	3,318.6
5,799.0	90.75	276.98	3,032.9	2,534.5	-2,336.2	2.28	3,375.9
5,862.0	90.84	276.70	3,032.1	2,542.0	-2,398.8	0.47	3,431.0
5,926.0	89.87	278.28	3,031.7	2,550.3	-2,462.2	2.90	3,487.5
5,989.0	90.92	279.82	3,031.2	2,560.2	-2,524.4	2.96	3,543.8
6,053.0	92.07	281.47	3,029.6	2,572.1	-2,587.3	3.14	3,601.7
6,117.0	91.45	281.21	3,027.6	2,584.6	-2,650.0	1.05	3,660.0
6,203.0	92.15	283.19	3,024.9	2,602.8	-2,734.0	2.44	3,738.9
6,263.0	90.04	282.01	3,023.7	2,615.9	-2,792.6	4.03	3,794.0
6,322.0	89.43	281.37	3,024.0	2,627.8	-2,850.4	1.50	3,848.0



Pathfinder Energy Services
End of Well Survey



Company:	Energen Resources	Local Co-ordinate Reference:	Well San Juan 32-5 Unit Com #114
Project:	SJ BR, S14, T32N, R6W	TVD Reference:	KB @ 6487.0ft (AWS 222)
Site:	Eul Canyon	MD Reference:	KB @ 6487.0ft (AWS 222)
Well:	San Juan 32-5 Unit Com #114	North Reference:	True
Wellbore:	Upper Lateral	Survey Calculation Method:	Minimum Curvature
Design:	Upper Lateral	Database:	EDM 2003.16 Single User Db

Survey

MD (ft)	Inc (°)	Azi (°)	TVD (ft)	N/S (ft)	E/W (ft)	DLeg (°/100ft)	V. Sec (ft)
6,382.0	88.99	280.58	3,024.8	2,639.3	-2,909.2	1.51	3,902.5
6,445.0	90.13	281.36	3,025.3	2,651.2	-2,971.1	2.19	3,959.7
6,509.0	90.40	283.69	3,025.0	2,665.1	-3,033.6	3.66	4,018.5
6,572.0	90.48	282.92	3,024.6	2,679.6	-3,094.9	1.23	4,076.8
6,636.0	90.04	284.90	3,024.3	2,695.0	-3,157.0	3.17	4,136.2
6,700.0	90.57	284.53	3,023.9	2,711.3	-3,218.9	1.01	4,196.0
6,763.0	90.92	283.84	3,023.1	2,726.7	-3,280.0	1.23	4,254.6
6,826.0	90.31	283.84	3,022.4	2,741.8	-3,341.1	0.97	4,313.1
6,890.0	90.22	284.97	3,022.1	2,757.7	-3,403.1	1.77	4,372.7
6,954.0	91.45	285.37	3,021.2	2,774.4	-3,464.9	2.02	4,432.7
7,017.0	91.36	284.12	3,019.7	2,790.5	-3,525.8	1.99	4,491.5
7,080.0	91.36	287.12	3,018.2	2,807.4	-3,586.4	4.76	4,550.6
7,143.0	85.82	286.69	3,019.7	2,825.7	-3,646.7	8.82	4,610.2
7,206.0	86.97	287.71	3,023.7	2,844.3	-3,706.7	2.44	4,669.9
7,270.0	89.16	286.86	3,025.8	2,863.3	-3,767.8	3.67	4,730.6
7,334.0	90.31	288.41	3,026.1	2,882.7	-3,828.8	3.02	4,791.4
7,397.0	90.31	287.09	3,025.8	2,901.9	-3,888.8	2.10	4,851.4
7,460.0	89.96	286.44	3,025.6	2,920.1	-3,949.1	1.17	4,911.0
7,523.0	91.10	286.96	3,025.1	2,938.2	-4,009.4	1.99	4,970.5
7,587.0	90.13	286.51	3,024.4	2,956.6	-4,070.7	1.67	5,031.1
7,672.0	90.13	286.51	3,024.2	2,980.8	-4,152.2	0.00	5,111.4

Targets

Target Name	- hit/miss target	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (ft)	Easting (ft)	Latitude	Longitude
TD Upper Lateral	- Shape	0.00	0.00	3,068.0	3,192.6	-4,809.4	2,175,646.28	2,839,987.37	36° 58' 41.565 N	107° 25' 59.274 W
	- survey misses by 691.9ft at 7672.0ft MD (3024.2 TVD, 2980.8 N, -4152.2 E)									
	- Point									
Drilling Window	- Shape	0.00	0.00	3,061.0	0.0	0.0	2,172,474.74	2,844,810.69	36° 58' 10.000 N	107° 25' 0.000 W
	- survey misses by 1155.5ft at 2375.5ft MD (2139.0 TVD, 690.8 N, -88.4 E)									
	- Rectangle (sides W1,304.0 H3,980.0 D0.0)									
Land Upper Curve	- Shape	0.00	0.00	3,068.0	2,157.0	-1,150.7	2,174,626.69	2,843,650.56	36° 58' 31.328 N	107° 25' 14.182 W
	- survey misses by 16.6ft at 4543.8ft MD (3074.1 TVD, 2170.6 N, -1143.5 E)									
	- Point									

Survey Annotations

Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates	+N/-S (ft)	+E/-W (ft)	Comment
4,384.0	3,029.0	2,108.7	-1,004.5		Interpolated PT Top of Whipstock
4,466.0	3,059.8	2,137.9	-1,074.5		Interpolated PT. Top of Coal
7,672.0	3,024.2	2,980.8	-4,152.2		BHL Upper Lat

Checked By: _____ Approved By: _____ Date: _____



Energen Resources

SJ BR, S14, T32N, R6W

Eul Canyon

San Juan 32-5 Unit Com #114

Lower Lateral

Survey: EOW Lower Lateral

3d-039-29790

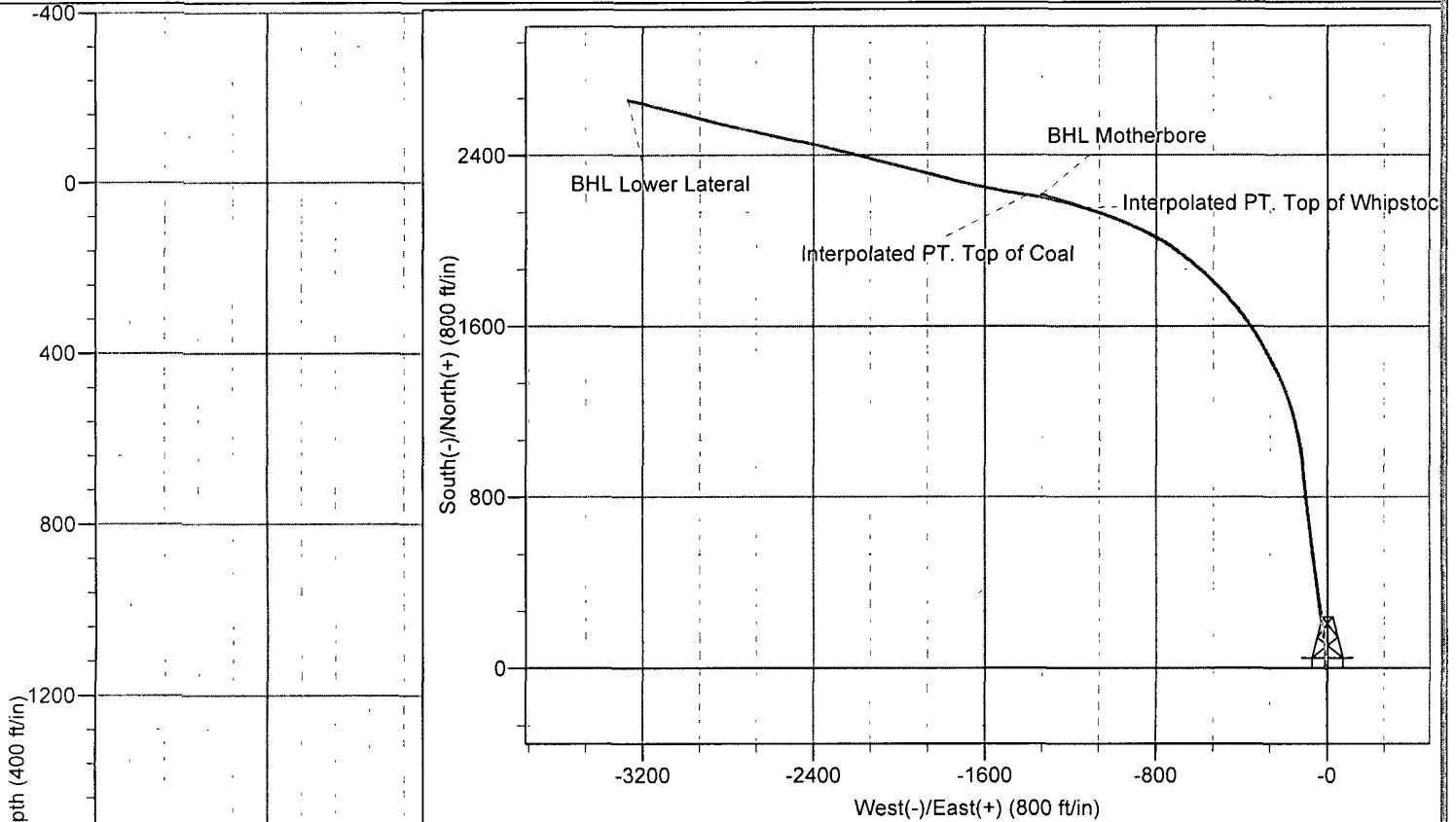
End of Well Survey

25 September, 2007

md 4844, TVD 3154 Surface 1345/N 225/W Sec 24
md 6741 TVD 3143 Lateral origin 872/S 1200/E Sec 14
BH L 1315/S 2257/W " OIL CONS. DIV.
DIST. 3

PATHFINDER
ENERGY SERVICES

Survey: EOW Lower Lateral (San Juan 32-5 Unit Com #114/Lower Lateral)



WELL DETAILS: San Juan 32-5 Unit Com #114

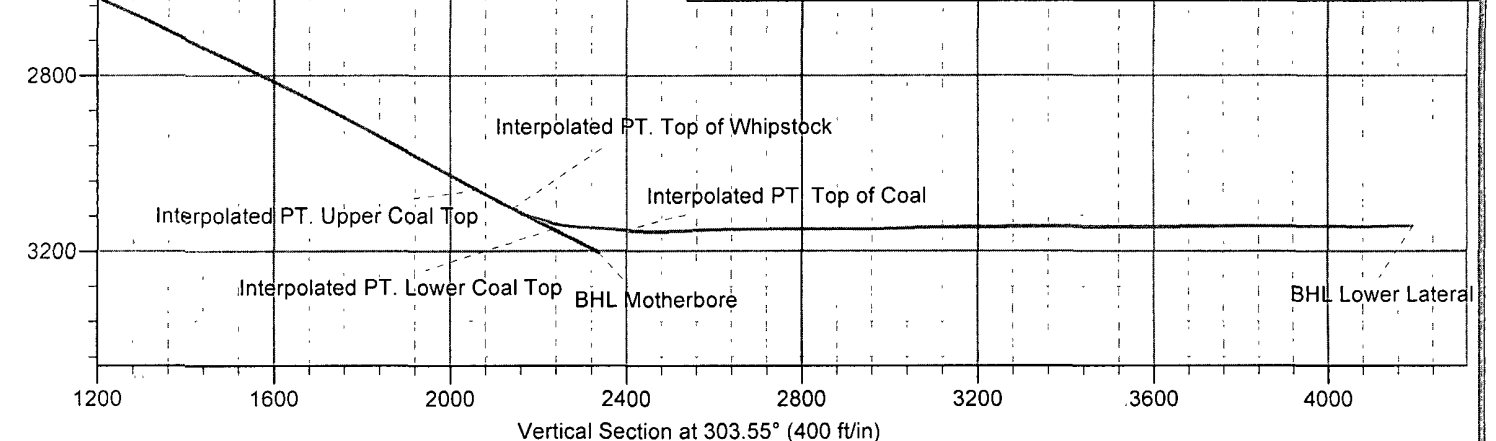
+N/-S	+E/-W	Ground Level	6472.0	North	East	Latitude	Longitude
0.0	0.0	2172474.74	2844810.69	36° 58' 10.000 N	107° 25' 0.000 W		



Azimuths to True North
Magnetic North. 10 26'
Magnetic Field
Strength 51384.8snT
Dip Angle 63 83'
Date 5/30/2007
Model IGRF200510

Survey: EOW Lower Lateral (San Juan 32-5 Unit Com #114/Lower Lateral)

Created By: Nate Bingham Date: 14.43, September 25 2007





Pathfinder Energy Services
End of Well Survey



Company:	Energen Resources	Local Co-ordinate Reference:	Well San Juan 32-5 Unit Com #114
Project:	SJ BR, S14, T32N, R6W	TVD Reference:	KB @ 6487.0ft (AWS 222)
Site:	Eul Canyon	MD Reference:	KB @ 6487.0ft (AWS 222)
Well:	San Juan 32-5 Unit Com #114	North Reference:	True
Wellbore:	Lower Lateral	Survey Calculation Method:	Minimum Curvature
Design:	Lower Lateral	Database:	EDM 2003.16 Single User Db

Project:	SJ BR, S14, T32N, R6W		
Map System:	US State Plane 1983	System Datum:	Mean Sea Level
Geo Datum:	North American Datum 1983		
Map Zone:	New Mexico Western Zone		

Site:	Eul Canyon						
Site Position:		Northing:	2,172,474.74	ft	Latitude:	36° 58' 10.000 N	
From:	Lat/Long	Easting:	2,844,810.69	ft	Longitude:	107° 25' 0.000 W	
Position Uncertainty:	0 0	Slot Radius:		"	Grid Convergence:	0.25	

Well:	San Juan 32-5 Unit Com #114							
Well Position	+N/-S	0 0	ft	Northing:	2,172,474.74	ft	Latitude:	36° 58' 10.000 N
	+E/-W	0 0	ft	Easting:	2,844,810.69	ft	Longitude:	107° 25' 0.000 W
Position Uncertainty	0 0	ft	Wellhead Elevation:	6,472.0	ft	Ground Level:	6,472.0	ft

Wellbore:	Lower Lateral					
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)	
	IGRF200510	5/30/2007	10 26	63 83	51,385	

Design:	Lower Lateral				
Audit Notes:					
Version:	1 0	Phase:	ACTUAL	Tie On Depth:	0 0
Vertical Section:	Depth From (TVD) (ft)	+N/-S (ft)	+E/-W (ft)	Direction (°)	
	0 0	0.0	0 0	303.55	

Survey Program	Date: 9/25/2007				
From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description	
325 0	6,741 0	EOW Lower Lateral (Lower Lateral)	Pathfinder	Pathfinder MWD	

MD (ft)	Inc (°)	Azi (°)	TVD (ft)	N/S (ft)	E/W (ft)	DLeg (°/100ft)	V: Sec (ft)
0 0	0 00	0.00	0 0	0.0	0 0	0 00	0.0
325 0	0 97	217 50	325 0	-2.2	-1.7	0.30	0.2
386 0	0 62	238 33	386.0	-2.8	-2.3	0.74	0.4
446 0	0 62	234 37	446.0	-3.1	-2.8	0.07	0.6
506 0	0 88	245 80	506 0	-3.5	-3.5	0.50	1.0
566 0	0 79	246.59	566 0	-3.9	-4.3	0.15	1.4
627 0	1 93	284.64	626.9	-3.8	-5.7	2.29	2.6
687 0	3 34	329 73	686.9	-2.0	-7.5	4.01	5.2
749 0	3 87	353 46	748.8	1.6	-8.7	2.53	8.1
808.0	4 31	7.35	807.6	5.8	-8.6	1.83	10.4
868 0	4.31	8.76	867.4	10.3	-8.0	0.18	12.3
929 0	4 13	6 12	928.3	14.7	-7.4	0.43	14.3



Company:	Energen Resources	Local Co-ordinate Reference:	Well San Juan 32-5 Unit Com #114
Project:	SJ BR, S14, T32N, R6W	TVD Reference:	KB @ 6487.0ft (AWS 222)
Site:	Eul Canyon	MD Reference:	KB @ 6487 0ft (AWS 222)
Well:	San Juan 32-5 Unit Com #114	North Reference:	True
Wellbore:	Lower Lateral	Survey Calculation Method:	Minimum Curvature
Design:	Lower Lateral	Database:	EDM 2003 16 Single User Db

Survey							
MD (ft)	Inc (°)	Azi (°)	TVD (ft)	N/S (ft)	E/W (ft)	DLeg (°/100ft)	V. Sec (ft)
959 0	4 40	5 42	958 2	17.0	-7.2	0 92	15.4
1,019 0	5 36	3 13	1,018 0	22 0	-6 8	1 63	17 9
1,080 0	6 33	358 21	1,078 7	28.2	-6 8	1 79	21 2
1,141 0	8 00	356 89	1,139.2	35 8	-7.1	2 75	25.7
1,202 0	9.94	0 58	1,199 4	45.4	-7 3	3 32	31.1
1,263 0	12 13	0 85	1,259 3	57 0	-7 1	3.59	37.5
1,323 0	14 25	359 44	1,317 7	70 7	-7 1	3.57	45 0
1,385 0	17 41	353 99	1,377 4	87.6	-8 2	5 63	55 2
1,445 0	20 58	352 23	1,434.1	107.0	-10.5	5.37	67 9
1,504 0	24.18	351 88	1,488 6	129 2	-13 6	6.11	82 8
1,565 0	27 26	352 14	1,543.6	155.4	-17 3	5.05	100 3
1,628 0	30.42	351 97	1,598.8	185.5	-21 5	5 02	120 4
1,691 0	32 89	351.62	1,652 4	218 2	-26.2	3 93	142.5
1,753 0	35 79	351 79	1,703.6	252 8	-31.3	4 68	165.8
1,816 0	38 34	351 79	1,753 8	290.4	-36 7	4 05	191.1
1,877 0	40 89	351 88	1,800 8	328 9	-42 2	4 18	217 0
1,939 0	42 30	352 58	1,847 2	369 7	-47 8	2 39	244 1
2,002 0	43 88	352 50	1,893 2	412.4	-53 4	2 51	272 4
2,065 0	45 55	353 29	1,938 0	456 3	-58.8	2.79	301 2
2,128 0	47 40	352 35	1,981 4	501.7	-64 6	3 13	331 1
2,190 0	48 98	352 45	2,022 7	547 5	-70.7	2 55	361.5
2,254 0	50 30	352 75	2,064.1	595 8	-76 9	2 09	393 4
2,314 0	51 70	353 26	2,101.9	642.1	-82.6	2.43	423 7
2,376 0	54 17	353 24	2,139 3	691 2	-88.4	3.98	455 7
2,439 0	56 81	353 55	2,174.9	742 8	-94.4	4 21	489 2
2,502 0	58.48	353 80	2,208 7	795 7	-100.3	2 67	523 3
2,564 0	61 20	354 57	2,239.8	849.0	-105 7	4 52	557.3
2,626 0	63 05	353.32	2,268.8	903 5	-111 5	3.48	592 2
2,688 0	64 46	354 15	2,296 2	958.8	-117 5	2 57	627.9
2,751 0	64.63	350 81	2,323 3	1,015 2	-125 0	4 79	665 2
2,844 0	65.25	347.78	2,362 7	1,097 9	-140.6	3.03	724 0
2,907 0	64 81	345 95	2,389 3	1,153 5	-153 6	2 72	765.6
2,969 0	64 72	344 50	2,415.7	1,207.8	-167.9	2 12	807 4
3,031 0	64 90	341 29	2,442.1	1,261 4	-184 4	4 69	850.8
3,092 0	64 90	338 92	2,468 0	1,313.3	-203 2	3 52	895 2
3,154 0	65.42	335.58	2,494 0	1,365 2	-225.0	4 96	942 0
3,216 0	66 13	331.69	2,519 5	1,415 8	-250 1	5 83	990 9
3,279 0	66 39	331 84	2,544.9	1,466 7	-277.4	0 47	1,041 7
3,341 0	66 04	330 20	2,569.9	1,516 3	-304.8	2.49	1,092 1
3,405 0	65 95	328 25	2,595 9	1,566.5	-334 8	2 79	1,144.7
3,468 0	66 65	325 54	2,621.2	1,614.8	-366.3	4 09	1,197.7
3,530 0	66 04	321.91	2,646.1	1,660 6	-399 9	5 45	1,251 0
3,593 0	65 51	319 85	2,672 0	1,705 2	-436 1	3.10	1,305.8
3,656 0	64 72	318 15	2,698.5	1,748 3	-473.6	2.75	1,360.9



Pathfinder Energy Services
End of Well Survey



Company:	Energen Resources	Local Co-ordinate Reference:	Well San Juan 32-5 Unit Com #114
Project:	SJ BR, S14, T32N, R6W	TVD Reference:	KB @ 6487.0ft (AWS 222)
Site:	Eul Canyon	MD Reference:	KB @ 6487.0ft (AWS 222)
Well:	San Juan 32-5 Unit Com #114	North Reference:	True
Wellbore:	Lower Lateral	Survey Calculation Method:	Minimum Curvature
Design:	Lower Lateral	Database:	EDM 2003 16 Single User Db

Survey:							
MD (ft)	Inc (°)	Azi (°)	TVD (ft)	N/S (ft)	E/W (ft)	DLeg (°/100ft)	V. Sec (ft)
3,718.0	64.89	315.48	2,724.9	1,789.2	-512.0	3.91	1,415.5
3,782.0	64.81	313.55	2,752.1	1,829.8	-553.3	2.73	1,472.4
3,844.0	64.46	311.58	2,778.6	1,867.7	-594.5	2.93	1,527.7
3,906.0	63.40	308.82	2,805.9	1,903.7	-637.1	4.35	1,583.0
3,969.0	63.05	306.73	2,834.3	1,938.1	-681.5	3.01	1,639.1
4,030.0	63.05	303.80	2,861.9	1,969.5	-725.9	4.28	1,693.5
4,093.0	62.43	300.87	2,890.8	1,999.4	-773.2	4.25	1,749.4
4,156.0	61.47	297.96	2,920.4	2,026.8	-821.6	4.35	1,804.9
4,219.0	60.85	295.37	2,950.8	2,051.5	-871.0	3.73	1,859.7
4,281.0	61.64	293.36	2,980.6	2,073.9	-920.5	3.11	1,913.3
4,344.0	62.26	292.45	3,010.3	2,095.6	-971.7	1.61	1,968.0
4,405.0	61.91	290.42	3,038.8	2,115.3	-1,021.8	3.00	2,020.7
4,467.0	62.17	288.35	3,067.9	2,133.5	-1,073.5	2.98	2,073.7
4,530.0	63.22	287.99	3,096.8	2,150.9	-1,126.7	1.74	2,127.7
4,545.0	63.54	287.87	3,103.5	2,155.0	-1,139.5	2.25	2,140.6
Interpolated PT. Top of Whipstock							
4,687.0	83.98	282.36	3,143.0	2,190.1	-1,270.4	14.86	2,269.1
4,717.0	85.91	279.37	3,145.7	2,195.7	-1,299.7	11.83	2,296.7
4,780.0	86.26	279.55	3,150.0	2,206.0	-1,361.7	0.62	2,354.1
4,823.0	86.20	279.57	3,152.8	2,213.1	-1,404.1	0.15	2,393.3
Interpolated PT. Top of Coal							
4,844.0	86.17	279.58	3,154.2	2,216.6	-1,424.7	0.15	2,412.4
4,908.0	90.66	278.87	3,156.0	2,226.9	-1,487.8	7.10	2,470.7
4,971.0	92.42	281.50	3,154.3	2,238.0	-1,549.8	5.02	2,528.5
5,035.0	91.89	281.88	3,151.9	2,251.0	-1,612.5	1.02	2,587.9
5,098.0	89.87	282.79	3,150.9	2,264.4	-1,674.0	3.52	2,646.6
5,162.0	91.36	284.61	3,150.2	2,279.6	-1,736.2	3.68	2,706.8
5,224.0	89.52	285.02	3,149.7	2,295.4	-1,796.1	3.04	2,765.5
5,288.0	90.31	284.98	3,149.8	2,312.0	-1,857.9	1.24	2,826.1
5,352.0	89.87	284.31	3,149.7	2,328.2	-1,919.8	1.25	2,886.7
5,415.0	89.60	284.13	3,150.0	2,343.7	-1,980.9	0.52	2,946.1
5,478.0	92.59	284.34	3,148.8	2,359.1	-2,041.9	4.76	3,005.6
5,541.0	91.63	284.68	3,146.5	2,374.9	-2,102.9	1.62	3,065.1
5,605.0	90.31	285.09	3,145.4	2,391.4	-2,164.7	2.16	3,125.7
5,669.0	89.78	285.08	3,145.4	2,408.0	-2,226.5	0.83	3,186.4
5,732.0	89.87	284.41	3,145.6	2,424.0	-2,287.5	1.07	3,246.1
5,796.0	90.57	283.77	3,145.3	2,439.6	-2,349.5	1.48	3,306.4
5,859.0	90.75	282.49	3,144.6	2,453.9	-2,410.9	2.05	3,365.4
5,927.0	89.25	280.39	3,144.6	2,467.4	-2,477.5	3.80	3,428.4
5,991.0	89.34	282.00	3,145.4	2,479.8	-2,540.3	2.52	3,487.6
6,054.0	90.66	282.99	3,145.4	2,493.5	-2,601.8	2.62	3,546.4
6,118.0	89.43	282.35	3,145.3	2,507.5	-2,664.2	2.17	3,606.2
6,182.0	90.92	282.81	3,145.1	2,521.4	-2,726.7	2.44	3,666.0
6,245.0	90.48	282.66	3,144.4	2,535.3	-2,788.1	0.74	3,724.8
6,309.0	90.13	283.85	3,144.0	2,550.0	-2,850.4	1.94	3,784.9



Company: Energen Resources
 Project: SJ BR, S14, T32N, R6W
 Site: Eul Canyon
 Well: San Juan 32-5 Unit Com #114
 Wellbore: Lower Lateral
 Design: Lower Lateral

Local Co-ordinate Reference: Well San Juan 32-5 Unit Com #114
 TVD Reference: KB @ 6487.0ft (AWS 222)
 MD Reference: KB @ 6487.0ft (AWS 222)
 North Reference: True
 Survey Calculation Method: Minimum Curvature
 Database: EDM 2003.16 Single User Db

Survey

MD (ft)	Inc (°)	Azi (°)	TVD (ft)	N/S (ft)	E/W (ft)	DLeg (°/100ft)	V. Sec (ft)
6,372.0	89.69	284.80	3,144.1	2,565.6	-2,911.5	1.66	3,844.4
6,435.0	90.22	285.91	3,144.2	2,582.3	-2,972.2	1.95	3,904.2
6,499.0	90.04	284.74	3,144.0	2,599.2	-3,034.0	1.85	3,965.0
6,563.0	88.81	284.10	3,144.7	2,615.1	-3,095.9	2.17	4,025.5
6,626.0	90.31	284.67	3,145.2	2,630.8	-3,157.0	2.55	4,085.0
6,656.0	91.19	284.50	3,144.8	2,638.3	-3,186.0	2.99	4,113.3
6,741.0	91.19	284.50	3,143.0	2,659.6	-3,268.3	0.00	4,193.7

Targets

Target Name - hit/miss target - Shape	Dip Angle (°)	Dip Dir (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (ft)	Easting (ft)	Latitude	Longitude
Land Lower Curve - survey misses by 13.1ft at 4808.0ft MD (3151.8 TVD, 2210.7 N, -1389.3 E) - Point	0.00	0.00	3,164.5	2,207.4	-1,389.0	2,174,676.05	2,843,412.05	36° 58' 31.827 N	107° 25' 17.118 W
Legal Window - survey misses by 1172.3ft at 2376.0ft MD (2139.3 TVD, 691.2 N, -88.4 E) - Rectangle (sides W1,304.0 H3,980.0 D0.0)	0.00	0.00	3,082.0	0.0	0.0	2,172,474.74	2,844,810.69	36° 58' 10.000 N	107° 25' 0.000 W
TD Lower Lateral - survey misses by 1631.4ft at 6741.0ft MD (3143.0 TVD, 2659.6 N, -3268.3 E) - Point	0.00	0.00	3,164.5	3,193.2	-4,809.8	2,175,646.87	2,839,986.97	36° 58' 41.571 N	107° 25' 59.279 W

Survey Annotations

Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates +N/-S (ft)	+E/-W (ft)	Comment
4,545.0	3,103.5	2,155.0	-1,139.5	Interpolated PT Top of Whipstock
4,823.0	3,152.8	2,213.1	-1,404.1	Interpolated PT Top of Coal
6,741.0	3,143.0	2,659.6	-3,268.3	BHL Lower Lateral

Checked By: _____

Approved By: _____

Date: _____