

District I
1625 N French Dr , Hobbs, NM 88240
District II
1301 W Grand Avenue, 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 & Natural Resources

Form C-102
Revised October 12, 2005

OIL CONSERVATION DIVISION
1220 South St. Francis Dr.
Santa Fe, NM 87505

Submit to Appropriate District Office
State Lease - 4 Copies
Fee Lease - 3 Copies

☒ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

¹ API Number 30-039-26476	² Pool Code 71629	³ Pool Name Basin Fruitland Coal
⁴ Property Code 35034	⁵ Property Name Carracas 25A	⁶ Well Number 16
⁷ OGRID No 162928	⁸ Operator Name Energen Resources Corporation	⁹ Elevation 6976'

¹⁰ Surface Location

UL or lot no. P	Section 25	Township 32N	Range 05W	Lot. Idn	Feet from the 585	North/South line South	Feet from the 710	East/West line East	County Rio Arriba
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¹¹ Bottom Hole Location If Different From Surface

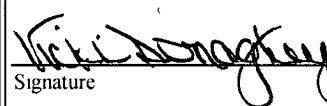
UL or lot no. I	Section 25	Township 32N	Range 05W	Lot. Idn	Feet from the 2526	North/South line South	Feet from the 833	East/West line East	County Rio Arriba
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¹² Dedicated Acres	¹³ Joint or Infill	¹⁴ Consolidation Code	¹⁵ Order No.
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RCVD OCT 7 '08
OIL CONS. DIV.

DIST. 3

NO ALLOWABLE WILL BE ASSIGNED TO THIS COMPLETION UNTIL ALL INTERESTS HAVE BEEN CONSOLIDATED OR A NON-STANDARD UNIT HAS BEEN APPROVED BY THE DIVISION

16				¹⁷ OPERATOR CERTIFICATION I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief, and that this organization either owns a working interest or unleased mineral interest in the land including the proposed bottom hole location or has a right to drill this well at this location pursuant to a contract with an owner of such a mineral or working interest, or to a voluntary pooling agreement or a compulsory pooling order heretofore entered by the division.  Signature 10/06/08 Date Vicki Donaghey Printed Name
				¹⁸ 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. 06/06/1988 Date of Survey Signature and Seal of Professional Surveyer Original survey conducted and recorded by: Neale C. Edwards 16857 Certificate Number

25

BHL

833'

585'

710'

721'

SHL



Energen Resources

**Carson Nat'l Forest - SE S25, T32N, R5W
Carracas Mesa
Carracas 25 A #16
OH**

Survey: EOW

RCVD OCT 7 '03

OIL CONS. DIV.

DIST. 3

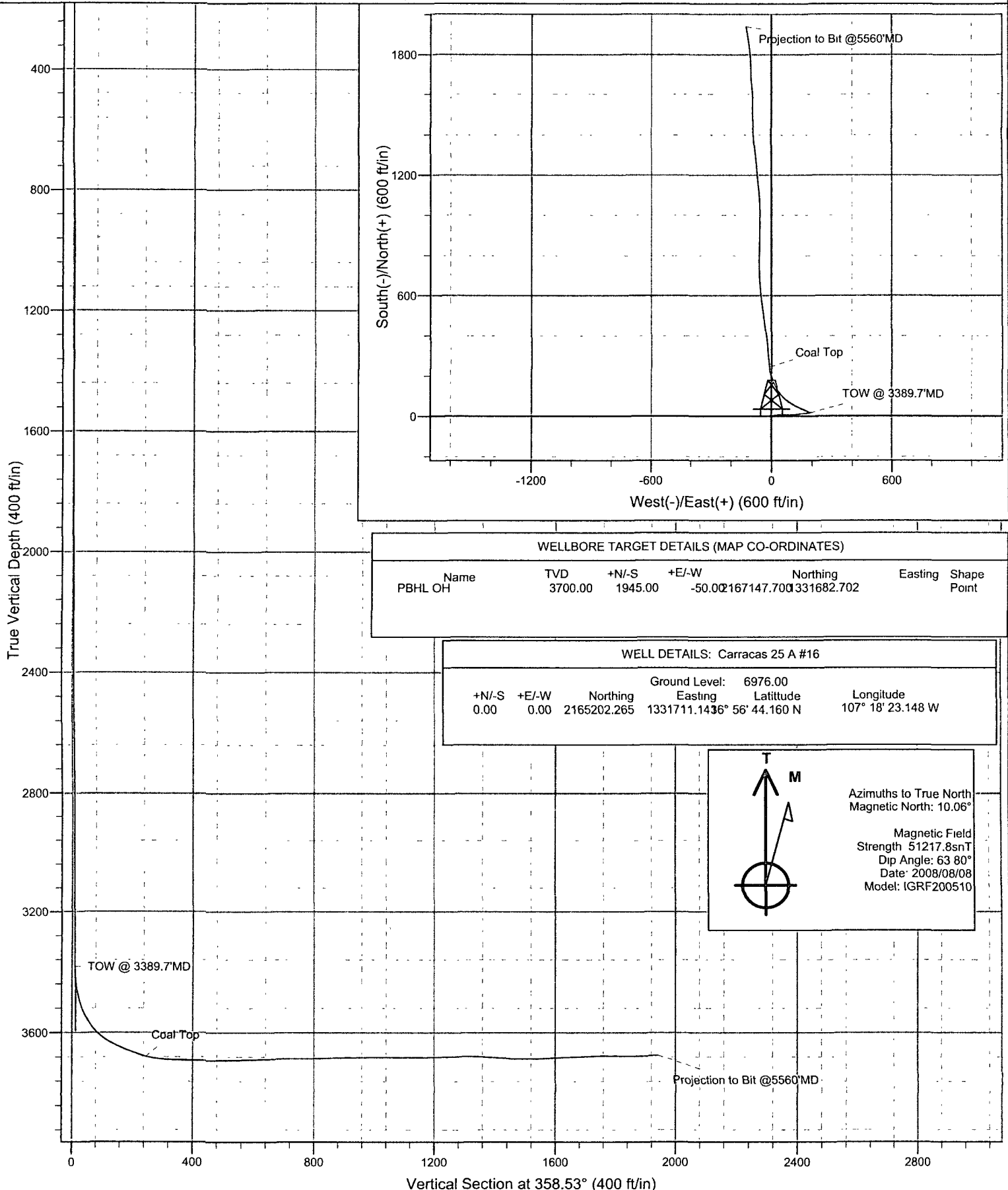
End of Well Survey

20 August, 2008

PATHFINDER
ENERGY SERVICES

Survey: EOW (Carracas 25 A #16/OH)

EOW



Company: Energen Resources
Project: Carson Nat'l Forest - SE S25, T32N, R5W
Site: Carracas Mesa
Well: Carracas 25 A #16
Wellbore: OH
Design: OH

Local Co-ordinate Reference: Well Carracas 25 A #16
TVD Reference: WELL @ 6991.00ft (AWS #289)
MD Reference: WELL @ 6991.00ft (AWS #289)
North Reference: True
Survey Calculation Method: Minimum Curvature
Database: EDM 2003.16 Single User Db

Project	Carson Nat'l Forest - SE S25, T32N, R5W		
Map System:	US State Plane 1983	System Datum:	Mean Sea Level
Geo Datum:	North American Datum 1983		
Map Zone:	New Mexico Central Zone		

Site	Carracas Mesa		
Site Position:		Northing:	2,165,202.265 ft
From:	Lat/Long	Easting:	1,331,711.141 ft
Position Uncertainty:	0.00 ft	Slot Radius:	"
		Latitude:	36° 56' 44.160 N
		Longitude:	107° 18' 23.148 W
		Grid Convergence:	-0.64 °

Well	Carracas 25 A #16		
Well Position	+N/-S	0.00 ft	Northing: 2,165,202.265 ft
	+E/-W	0.00 ft	Easting: 1,331,711.141 ft
Position Uncertainty	0.00 ft	Wellhead Elevation:	ft
		Latitude:	36° 56' 44.160 N
		Longitude:	107° 18' 23.148 W
		Ground Level:	6,976.00 ft

Wellbore	OH		
Magnetics	Model Name	Sample Date	Declination
	IGRF200510	2008/08/08	(°)
			10.06
		Dip Angle	(°)
		63.81	
		Field Strength	(nT)
			51,218

Design	OH		
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	(°)
			358.53

Survey Program	Date 2008/08/20		
From	To	Survey (Wellbore)	Tool Name
(ft)	(ft)		
101.00	3,601.00	Gyro (OH)	UNKNOWN
			Description
			Unknown survey

Survey								
MD	Inc	Azi	TVD	N/S	E/W	DLeg	V. Sec	
(ft)	(°)	(°)	(ft)	(ft)	(ft)	(°/100ft)	(ft)	
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
100.00	0.96	30.46	100.00	0.72	0.42	0.96	0.71	
200.00	0.54	84.64	199.99	1.49	1.32	0.78	1.45	
300.00	1.39	88.84	299.97	1.56	3.00	0.85	1.48	
400.00	1.81	83.83	399.93	1.75	5.78	0.44	1.60	
500.00	2.34	79.24	499.87	2.30	9.36	0.56	2.06	
600.00	2.45	74.54	599.78	3.25	13.42	0.23	2.91	
700.00	3.60	76.51	699.64	4.56	18.54	1.15	4.08	
800.00	4.59	79.59	799.38	6.01	25.53	1.01	5.35	
900.00	5.05	83.29	899.03	7.25	33.83	0.55	6.38	
1,000.00	5.50	88.33	998.61	7.90	42.99	0.65	6.80	
1,100.00	5.55	91.81	1,098.14	7.89	52.62	0.34	6.54	

Company: Energen Resources
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MD Reference: WELL @ 6991.00ft (AWS #289)
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)
1,200.00	5.51	90.79	1,197.68	7.67	62.25	0.11	6.07
1,300.00	5.36	92.53	1,297.23	7.40	71.72	0.22	5.55
1,400.00	5.14	91.92	1,396.81	7.04	80.86	0.23	4.96
1,500.00	5.05	91.04	1,496.41	6.81	89.74	0.12	4.51
1,600.00	4.74	88.66	1,596.05	6.83	98.27	0.37	4.30
1,700.00	4.54	87.10	1,695.72	7.12	106.35	0.24	4.39
1,800.00	4.22	86.76	1,795.43	7.53	113.98	0.32	4.61
1,900.00	4.06	85.96	1,895.17	7.99	121.18	0.17	4.88
2,000.00	3.96	81.73	1,994.92	8.74	128.13	0.31	5.45
2,100.00	3.65	82.80	2,094.70	9.63	134.71	0.32	6.17
2,200.00	3.63	82.39	2,194.50	10.45	141.00	0.03	6.83
2,300.00	3.45	82.34	2,294.31	11.27	147.12	0.18	7.49
2,400.00	3.34	84.20	2,394.13	11.97	153.00	0.16	8.04
2,500.00	2.87	85.49	2,493.99	12.46	158.40	0.48	8.39
2,600.00	2.80	84.60	2,593.86	12.88	163.32	0.08	8.69
2,700.00	2.49	84.36	2,693.76	13.33	167.92	0.31	9.02
2,800.00	2.44	82.24	2,793.66	13.83	172.19	0.10	9.41
2,900.00	2.29	85.21	2,893.58	14.28	176.29	0.19	9.76
3,000.00	1.89	83.60	2,993.51	14.63	179.92	0.40	10.01
3,100.00	1.81	79.45	3,093.46	15.11	183.11	0.16	10.40
3,200.00	1.81	72.26	3,193.41	15.88	186.17	0.23	11.10
3,300.00	1.61	76.75	3,293.37	16.68	189.04	0.24	11.82
3,389.70	1.37	68.70	3,383.04	17.36	191.26	0.35	12.45
TOW @ 3389.7'MD							
3,476.00	23.74	295.75	3,466.98	25.40	176.35	28.61	20.87
3,500.90	31.22	293.36	3,489.05	30.15	165.89	30.36	25.88
3,532.40	40.80	292.33	3,514.50	37.31	148.84	30.47	33.48
3,563.70	46.34	297.04	3,537.18	46.35	129.27	20.51	43.02
3,595.20	48.54	300.51	3,558.49	57.53	108.95	10.70	54.71
3,626.60	50.91	303.78	3,578.79	70.28	88.68	10.96	67.98
3,658.10	55.22	311.97	3,597.73	85.75	68.87	24.87	83.96
3,689.50	59.62	320.04	3,614.65	104.79	50.55	25.78	103.46
3,720.90	62.96	328.11	3,629.76	127.08	34.44	24.92	126.15
3,752.10	67.01	335.76	3,642.96	152.01	21.18	25.72	151.42
3,784.00	68.76	339.05	3,654.97	179.29	9.84	11.02	178.98
3,816.20	70.35	342.70	3,666.22	207.79	-0.04	11.71	207.73
3,847.00	73.16	350.31	3,675.88	236.21	-6.85	25.17	236.31
3,858.00	75.03	351.79	3,678.89	246.66	-8.49	21.33	246.80
Coal Top							
3,878.00	78.44	354.42	3,683.48	265.98	-10.82	21.33	266.17
3,910.00	83.98	355.74	3,688.37	297.48	-13.53	17.79	297.73
3,941.00	87.93	355.23	3,690.56	328.30	-15.97	12.85	328.60
3,972.00	89.08	354.91	3,691.37	359.17	-18.63	3.85	359.53
4,004.00	88.64	353.08	3,692.00	390.99	-21.98	5.88	391.43
4,035.00	89.34	351.92	3,692.55	421.72	-26.02	4.37	422.25

Company: Energen Resources
Project: Carson Nat'l Forest - SE S25, T32N, R5W
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Well: Carracas 25 A #16
Wellbore: OH
Design: OH

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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)
4,067.00	89.08	351.69	3,692.99	453.39	-30.58	1.08	454.03
4,097.00	91.80	353.38	3,692.76	483.13	-34.48	10.67	483.86
4,128.00	90.57	352.75	3,692.12	513.90	-38.22	4.46	514.71
4,159.00	90.84	352.26	3,691.74	544.63	-42.27	1.80	545.54
4,190.00	91.45	352.31	3,691.12	575.34	-46.43	1.97	576.34
4,222.00	91.71	354.22	3,690.24	607.11	-50.18	6.02	608.20
4,253.00	91.54	356.11	3,689.36	637.98	-52.79	6.12	639.13
4,285.00	92.51	355.93	3,688.23	669.89	-55.01	3.08	671.08
4,317.00	91.63	357.25	3,687.07	701.81	-56.91	4.96	703.04
4,348.00	89.96	359.08	3,686.64	732.79	-57.90	7.99	734.03
4,379.00	89.87	359.23	3,686.69	763.78	-58.36	0.56	765.03
4,411.00	91.01	1.09	3,686.44	795.78	-58.27	6.82	797.01
4,442.00	91.80	1.49	3,685.68	826.76	-57.57	2.86	827.97
4,473.00	91.54	1.95	3,684.78	857.74	-56.64	1.70	858.91
4,505.00	91.45	0.79	3,683.94	889.72	-55.88	3.63	890.86
4,536.00	90.84	0.55	3,683.32	920.71	-55.52	2.11	921.83
4,568.00	91.01	0.37	3,682.81	952.70	-55.26	0.77	953.81
4,599.00	91.28	1.22	3,682.19	983.69	-54.83	2.88	984.78
4,631.00	89.78	359.18	3,681.89	1,015.69	-54.72	7.91	1,016.76
4,662.00	89.69	358.02	3,682.03	1,046.68	-55.47	3.75	1,047.76
4,694.00	88.81	356.32	3,682.45	1,078.63	-57.05	5.98	1,079.74
4,725.00	89.25	354.47	3,682.98	1,109.53	-59.54	6.13	1,110.69
4,757.00	90.22	354.12	3,683.13	1,141.37	-62.72	3.22	1,142.60
4,788.00	91.63	355.18	3,682.63	1,172.23	-65.61	5.69	1,173.53
4,820.00	91.54	354.92	3,681.74	1,204.10	-68.37	0.86	1,205.46
4,852.00	91.98	355.21	3,680.76	1,235.96	-71.13	1.65	1,237.38
4,883.00	92.15	354.37	3,679.64	1,266.82	-73.94	2.76	1,268.30
4,915.00	91.10	354.08	3,678.73	1,298.64	-77.16	3.40	1,300.19
4,946.00	88.46	354.70	3,678.85	1,329.49	-80.19	8.75	1,331.11
4,977.00	86.88	354.76	3,680.11	1,360.33	-83.03	5.10	1,362.01
5,008.00	86.09	355.76	3,682.01	1,391.17	-85.59	4.11	1,392.90
5,040.00	85.38	356.22	3,684.39	1,423.00	-87.82	2.64	1,424.78
5,071.00	86.79	357.20	3,686.51	1,453.87	-89.60	5.53	1,455.69
5,103.00	89.52	358.43	3,687.54	1,485.83	-90.81	9.36	1,487.67
5,134.00	90.40	359.21	3,687.56	1,516.82	-91.45	3.79	1,518.67
5,166.00	92.68	1.32	3,686.70	1,548.81	-91.31	9.71	1,550.64
5,197.00	92.86	359.43	3,685.20	1,579.77	-91.10	6.12	1,581.59
5,229.00	93.03	355.43	3,683.56	1,611.69	-92.54	12.49	1,613.53
5,260.00	92.77	353.80	3,681.99	1,642.51	-95.44	5.32	1,644.42
5,292.00	92.24	356.03	3,680.59	1,674.35	-98.27	7.16	1,676.32
5,323.00	92.68	359.54	3,679.26	1,705.30	-99.47	11.40	1,707.29
5,355.00	92.33	358.13	3,677.86	1,737.26	-100.12	4.54	1,739.25
5,386.00	90.13	357.11	3,677.20	1,768.22	-101.41	7.82	1,770.24
5,418.00	88.99	355.41	3,677.44	1,800.15	-103.50	6.40	1,802.21

Company: Energen Resources
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Design: OH

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Survey

MD (ft)	Inc (°)	Azi (°)	TVD (ft)	N/S (ft)	E/W (ft)	DLeg (°/100ft)	V. Sec (ft)
5,449.00	89.52	352.86	3,677.84	1,830.98	-106.66	8.40	1,833.12
5,480.00	91.19	352.55	3,677.65	1,861.73	-110.60	5.48	1,863.96
5,507.00	92.24	350.73	3,676.84	1,888.43	-114.52	7.78	1,890.75
5,560.00	92.24	350.73	3,674.77	1,940.70	-123.05	0.00	1,943.22

Projection to Bit @5560'MD

Targets
Target Name

- hit/miss target	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (ft)	Easting (ft)	Latitude	Longitude
- Shape									
PBHL OH	0.00	0.00	3,700.00	1,945.00	-50.00	2,167,147.700	1,331,682.702	36° 57' 3.391 N	107° 18' 23.764 W
- survey misses by 76.94ft at 5551.50ft MD (3675.11 TVD, 1932.31 N, -121.68 E)									
- Point									

Survey Annotations

Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates		Comment
		+N/-S (ft)	+E/-W (ft)	
3,389.70	3,383.04	17.36	191.26	TOW @ 3389.7'MD
3,858.00	3,678.89	246.66	-8.49	Coal Top
5,560.00	3,674.77	1,940.70	-123.05	Projection to Bit @5560'MD

Checked By: _____ Approved By: _____ Date: _____