

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 30-039-24283		² Pool Code 71629		³ Pool Name Basin Fruitland Coal	
⁴ Property Code 35652		⁵ Property Name Carracas 13A			⁶ Well Number 15
⁷ OGRID No 162928		⁸ Operator Name Energen Resources Corporation			⁹ Elevation 7360'

¹⁰ Surface Location

UL or lot no O	Section 13	Township 32N	Range 05W	Lot Idn	Feet from the 810	North/South line South	Feet from the 1700	East/West line East	County Rio Arriba
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¹¹ Bottom Hole Location If Different From Surface

UL or lot no J	Section 13	Township 32N	Range 05W	Lot Idn	Feet from the 2530	North/South line South	Feet from the 1872	East/West line East	County Rio Arriba
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¹² Dedicated Acres 320 E/2	¹³ Joint or Infill	¹⁴ Consolidation Code	¹⁵ Order No.
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RCUD OCT 7 '08
OIL CON. 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

				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: Vicki Donaghey Date: 10/03/08 Printed Name: Vicki Donaghey	
				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 Date of Survey: 06/06/1988 Signature and Seal of Professional Surveyer: original survey conducted and recorded by: Neale C. Edwards Certificate Number: 6857	



RCVD OCT 7 '08
OIL CONS. DIV.
DIST. 3

Energen Resources

Carson Nat'l Forest - SE S13, T32N, R5W
Carracas Mesa
Carracas 13 A #15 ST
ST1

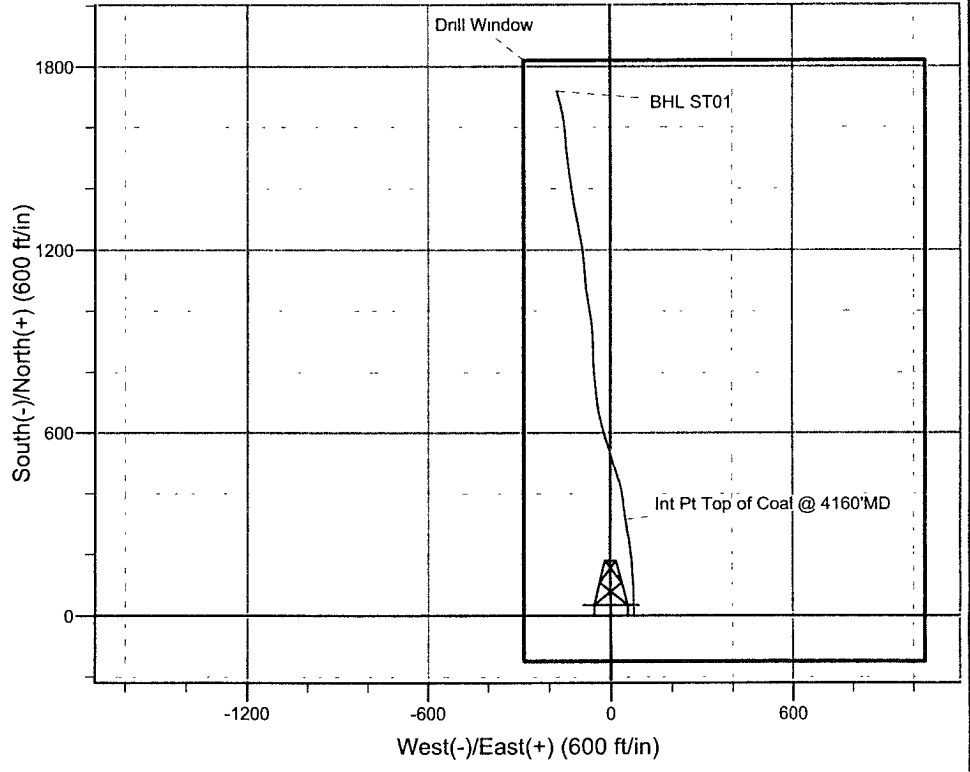
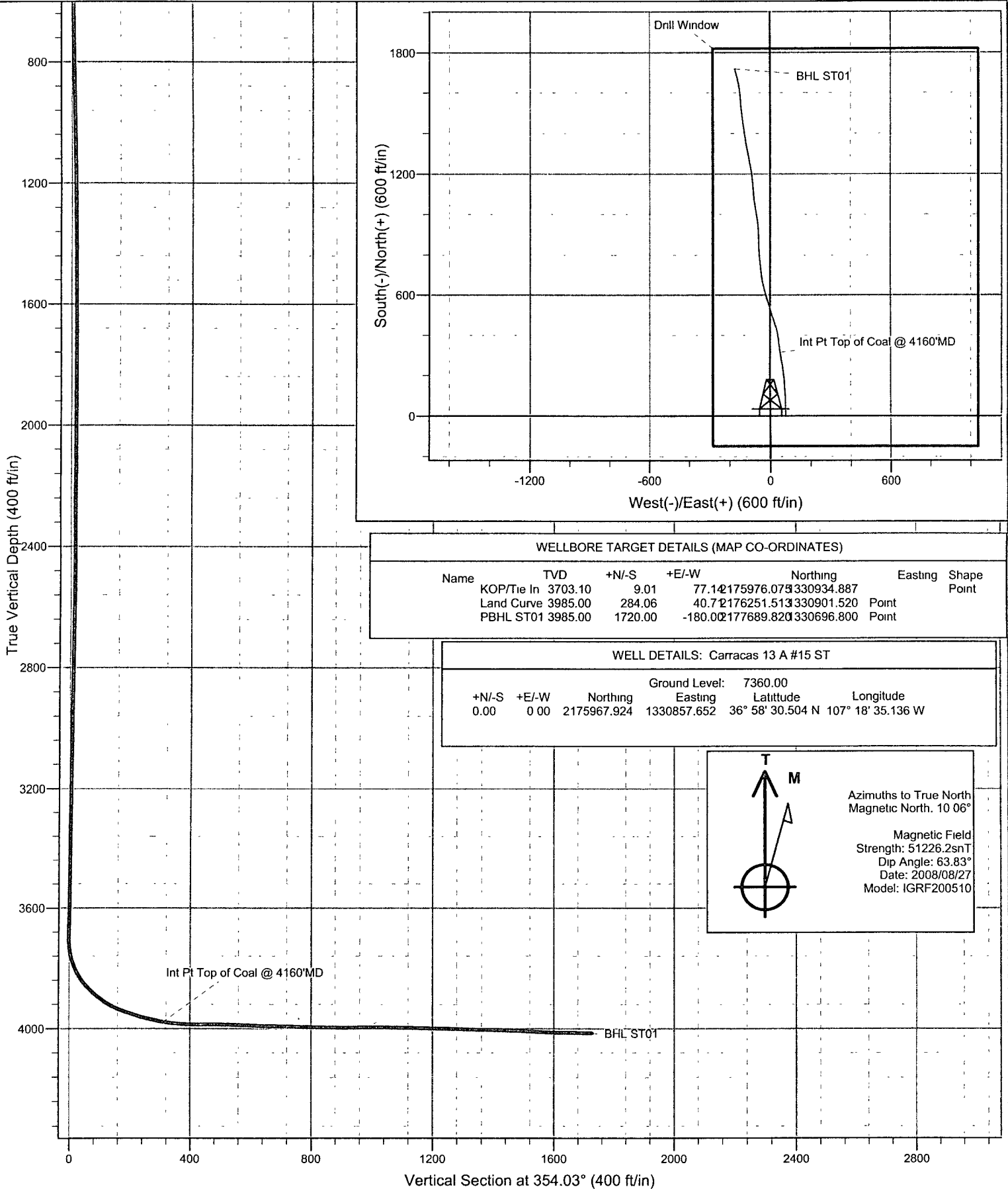
Survey: MWD #1

End of Well Survey

03 September, 2008



Survey: MWD #1 (Carracas 13 A #15 ST/ST1)

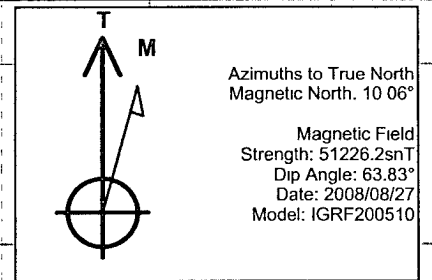


WELLBORE TARGET DETAILS (MAP CO-ORDINATES)

Name	TVD	+N/-S	+E/-W	Northing	Easting	Shape Point
KOP/Tie In	3703.10	9.01	77.14	175976.07	330934.887	
Land Curve	3985.00	284.06	40.72	176251.51	330901.520	Point
PBHL ST01	3985.00	1720.00	-180.02	177689.82	330696.800	Point

WELL DETAILS: Carracas 13 A #15 ST

+N/-S	+E/-W	Northing	Easting	Ground Level:	Latitude	Longitude
0.00	0.00	2175967.924	1330857.652	7360.00	36° 58' 30.504 N	107° 18' 35.136 W



Vertical Section at 354.03° (400 ft/in)

Company: Energen Resources
Project: Carson Nat'l Forest - SE S13, T32N, R5W
Site: Carracas Mesa
Well: Carracas 13 A #15 ST
Wellbore: ST1
Design: ST1

Local Co-ordinate Reference: Well Carracas 13 A #15 ST
TVD Reference: WELL @ 7372.00ft (Original Well Elev)
MD Reference: WELL @ 7372.00ft (Original Well Elev)
North Reference: True
Survey Calculation Method: Minimum Curvature
Database: EDM 2003.16 Single User Db

Project	Carson Nat'l Forest - SE S13, 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:	2,175,967.924 ft	Latitude:	36° 58' 30.504 N
From:	Lat/Long	Easting:	1,330,857.652 ft	Longitude:	107° 18' 35.136 W
Position Uncertainty:	0.00 ft	Slot Radius:	"	Grid Convergence:	-0.64 °

Well	Carracas 13 A #15 ST					
Well Position	+N/-S	0.00 ft	Northing:	2,175,967.924 ft	Latitude:	36° 58' 30.504 N
	+E/-W	0.00 ft	Easting:	1,330,857.652 ft	Longitude:	107° 18' 35.136 W
Position Uncertainty	0.00 ft	Wellhead Elevation:	ft	Ground Level:	7,360.00 ft	

Wellbore	ST1				
Magnetics	Model Name	Sample Date	Declination	Dip Angle	Field Strength
			(°)	(°)	(nT)
	IGRF200510	2008/08/27	10.06	63.83	51,226

Design	ST1				
Audit Notes:					
Version:	1.0	Phase:	ACTUAL	Tie On Depth:	0.00
Vertical Section:	Depth From (TVD)	+N/-S	+E/-W	Direction	
	(ft)	(ft)	(ft)	(°)	
	0.00	0.00	0.00	354.03	

Survey Program	Date 2008/09/03				
From	To	Survey (Wellbore)	Tool Name	Description	
(ft)	(ft)				
103.00	3,703.00	GYRO (ST1)	UNKNOWN	Unknown survey	
3,800.60	5,587.00	MWD #1 (ST1)	UNKNOWN	Unknown survey	

Survey								
MD	Inc	Azi	TVD	N/S	E/W	DLeg	V. Sec	
(ft)	(°)	(°)	(ft)	(ft)	(ft)	(°/100ft)	(ft)	
3,703.00	1.69	127.59	3,701.52	9.02	77.14	0.00	0.94	
3,800.60	21.37	357.13	3,796.97	26.12	77.39	23.06	17.93	
3,831.90	29.90	358.41	3,825.17	39.64	76.89	27.31	31.43	
3,863.40	38.08	1.60	3,851.26	57.23	76.94	26.57	48.91	
3,894.70	45.81	359.71	3,874.53	78.13	77.16	25.02	69.68	
3,926.30	51.00	355.91	3,895.50	101.73	76.22	18.72	93.25	
3,957.30	55.57	356.88	3,914.03	126.52	74.67	14.95	118.07	
3,988.70	63.93	357.73	3,929.84	153.59	73.40	26.73	145.12	
4,019.90	69.82	355.07	3,942.09	182.21	71.59	20.44	173.78	
4,051.50	72.02	352.26	3,952.42	211.89	68.29	10.91	203.64	
4,076.00	72.63	351.63	3,959.85	235.00	65.01	3.49	226.96	

Company: Energen Resources
Project: Carson Nat'l Forest - SE S13, T32N, R5W
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Wellbore: ST1
Design: ST1

Local Co-ordinate Reference: Well Carracas 13 A #15 ST
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MD Reference: WELL @ 7372.00ft (Original Well Elev)
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)
4,106.00	77.21	349.57	3,967.66	263.57	60.28	16.64	255.87
4,138.00	77.12	349.57	3,974.77	294.25	54.63	0.28	286.97
4,160.00	79.55	350.86	3,979.21	315.48	50.97	12.45	308.47
Int Pt Top of Coal @ 4160 MD							
4,169.00	80.55	351.38	3,984.7	324.24	49.60	12.48	317.32
4,201.00	85.43	353.35	3,984.67	355.71	45.39	16.43	349.06
4,232.00	85.92	353.86	3,987.01	386.43	41.94	2.28	379.97
4,263.00	89.11	347.21	3,988.36	416.96	36.85	23.77	410.86
4,295.00	91.23	342.02	3,988.26	447.80	28.37	17.52	442.42
4,326.00	90.40	341.43	3,987.82	477.23	18.65	3.28	472.70
4,358.00	88.46	343.98	3,988.14	507.78	9.14	10.01	504.07
4,390.00	87.85	341.44	3,989.17	538.31	-0.37	8.16	535.43
4,421.00	88.46	343.45	3,990.17	567.85	-9.71	6.77	565.78
4,453.00	87.93	344.57	3,991.18	598.60	-18.52	3.87	597.28
4,484.00	86.88	345.13	3,992.58	628.49	-26.62	3.84	627.85
4,516.00	89.34	348.03	3,993.64	659.59	-34.04	11.88	659.56
4,547.00	89.69	352.45	3,993.90	690.14	-39.29	14.30	690.48
4,579.00	88.72	353.99	3,994.34	721.91	-43.07	5.69	722.47
4,611.00	87.41	352.82	3,995.42	753.68	-46.74	5.49	754.45
4,642.00	88.64	355.09	3,996.49	784.48	-50.01	8.32	785.43
4,673.00	89.96	356.64	3,996.87	815.40	-52.24	6.57	816.41
4,704.00	88.55	358.14	3,997.27	846.36	-53.65	6.64	847.35
4,735.00	89.25	359.34	3,997.87	877.35	-54.33	4.48	878.24
4,766.00	90.04	357.64	3,998.06	908.34	-55.15	6.05	909.15
4,797.00	91.45	354.13	3,997.66	939.25	-57.37	12.20	940.12
4,829.00	90.57	352.54	3,997.09	971.03	-61.09	5.68	972.11
4,860.00	90.22	350.28	3,996.88	1,001.68	-65.72	7.38	1,003.08
4,892.00	89.52	350.90	3,996.95	1,033.24	-70.95	2.92	1,035.02
4,923.00	88.81	352.33	3,997.40	1,063.91	-75.47	5.15	1,065.99
4,955.00	88.99	354.91	3,998.02	1,095.70	-79.02	8.08	1,097.98
4,986.00	89.08	356.71	3,998.54	1,126.61	-81.29	5.81	1,128.96
5,017.00	88.11	354.14	3,999.30	1,157.50	-83.76	8.86	1,159.94
5,049.00	88.02	353.04	4,000.38	1,189.28	-87.33	3.45	1,191.92
5,080.00	89.52	349.80	4,001.05	1,219.92	-91.95	11.51	1,222.87
5,111.00	89.43	349.63	4,001.33	1,250.43	-97.49	0.62	1,253.78
5,143.00	87.23	349.68	4,002.26	1,281.89	-103.23	6.88	1,285.67
5,174.00	87.85	348.73	4,003.59	1,312.31	-109.03	3.66	1,316.54
5,206.00	88.90	348.51	4,004.50	1,343.67	-115.34	3.35	1,348.38
5,237.00	89.25	351.71	4,005.00	1,374.20	-120.67	10.38	1,379.30
5,268.00	87.58	352.15	4,005.86	1,404.88	-125.02	5.57	1,410.27
5,300.00	87.67	352.16	4,007.19	1,436.56	-129.38	0.28	1,442.22
5,331.00	89.08	352.89	4,008.06	1,467.28	-133.41	5.12	1,473.20
5,362.00	86.70	352.17	4,009.21	1,497.99	-137.44	8.02	1,504.16
5,393.00	86.26	354.91	4,011.11	1,528.73	-140.92	8.94	1,535.10
5,425.00	87.85	356.43	4,012.75	1,560.60	-143.33	6.87	1,567.04

Company: Energen Resources
Project: Carson Nat'l Forest - SE S13, T32N, R5W
Site: Carracas Mesa
Well: Carracas 13 A #15 ST
Wellbore: ST1
Design: ST1

Local Co-ordinate Reference: Well Carracas 13 A #15 ST
TVD Reference: WELL @ 7372.00ft (Original Well Elev)
MD Reference: WELL @ 7372.00ft (Original Well Elev)
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)
5,456.00	88.02	353.92	4,013.87	1,591.47	-145.94	8.11	1,598.01
5,487.00	89.52	352.35	4,014.54	1,622.24	-149.64	7.00	1,629.00
5,518.00	89.87	347.59	4,014.70	1,652.75	-155.04	15.40	1,659.91
5,535.00	88.55	345.90	4,014.94	1,669.30	-158.94	12.61	1,676.77
5,587.00	88.55	345.90	4,016.25	1,719.71	-171.60	0.00	1,728.23

BHL ST01
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									
KOP/Tie In	0.00	0.00	3,703.10	9.01	77.14	2,175,976.075	1,330,934.887	36° 58' 30.593 N	107° 18' 34.185 W
- survey hits target									
- Point									
Land Curve	0.00	0.00	3,985.00	284.06	40.71	2,176,251.513	1,330,901.520	36° 58' 33.313 N	107° 18' 34.634 W
- survey misses by 19.42ft at 4132 96ft MD (3973.64 TVD, 289.42 N, 55.52 E)									
- Point									
PBHL ST01	0.00	0.00	3,985.00	1,720.00	-180.00	2,177,689.820	1,330,696.800	36° 58' 47.510 N	107° 18' 37.354 W
- survey misses by 32.36ft at 5587.00ft MD (4016.25 TVD, 1719.71 N, -171.60 E)									
- Point									

Survey Annotations

Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates +N/-S (ft)	+E/-W (ft)	Comment
4,160.00	3,979.21	315.48	50.97	Int Pt Top of Coal @ 4160' MD
5,587.00	4,016.25	1,719.71	-171.60	BHL ST01

Checked By: _____ Approved By: _____ Date: _____