

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT

FORM APPROVED  
OMB No. 1004-0137  
Expires: March 31, 2007

**SUNDRY NOTICES AND REPORTS ON WELLS**  
**Do not use this form for proposals to drill or to re-enter an abandoned well. Use Form 3160-3 (APD) for such proposals.**

**SUBMIT IN TRIPLICATE - Other Instructions on reverse side.**

1. Type of Well  
☐ Oil Well ☒ Gas Well ☐ Other

RECEIVED

2. Name of Operator  
Black Hills Gas Resources

SEP 14 2007

3a. Address  
3200 N 1st Street PO Box 249 Bloomfield, NM 87401-0249

4. Location of Well (Footage, Sec., T., R., M., or Survey Description)

Surface: 1,055' FSL 405' FEL SE/SE Unit P Sec 14 T30N R4W  
Bottom Hole: ±1270' FSL ±700' FEL SE/SE Unit P Sec 13 T30N R4W

5. Lease Serial No.  
NMSE79484A/079484A *NMNM 13376*

6. If Indian, Allottee, or Tribe Name

7. If Unit or CA. Agreement Name and/or No.

8. Well Name and No.  
*May*  
May Canyons 30-04-14 #144

9. API Well No.  
30-039-29958

10. Field and Pool, or Exploratory Area

E. Blanco/Pictured Cliffs

11. County or Parish, State  
Rio Arriba, New Mexico

CHECK APPROPRIATE BOX(S) TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA

TYPE OF SUBMISSION	TYPE OF ACTION				
<input checked="" type="checkbox"/> Notice of Intent	<input type="checkbox"/> Acidize	<input type="checkbox"/> Deepen	<input type="checkbox"/> Production (Start/Resume)	<input type="checkbox"/> Water Shut-off	
<input type="checkbox"/> Subsequent Report	<input type="checkbox"/> Altering Casing	<input type="checkbox"/> Fracture Treat	<input type="checkbox"/> Reclamation	<input type="checkbox"/> Well Integrity	
<input type="checkbox"/> Final Abandonment Notice	<input type="checkbox"/> Casing Repair	<input type="checkbox"/> New Construction	<input type="checkbox"/> Recomplete	<input checked="" type="checkbox"/> Other <u>Change</u>	
	<input type="checkbox"/> Change Plans	<input type="checkbox"/> Plug and abandon	<input type="checkbox"/> Temporarily Abandon	<u>Horizontal Drilling</u>	
	<input type="checkbox"/> Convert to Injection	<input type="checkbox"/> Plug back	<input type="checkbox"/> Water Disposal	<u>Direction</u>	

13. Describe Proposed or Completed Operation (clearly state all pertinent details including estimated starting date of any proposed work and approximate duration thereof. If the proposal is to deepen directionally or recompleat horizontally, give subsurface locations and measured and true vertical depths or pertinent markers and sands. Attach the Bond under which the work will be performed or provide the Bond No. on file with the BLM/ BIA. Required subsequent reports shall be filed within 30 days following completion of the involved operations. If the operation results in a multiple completion or recompleat in a new interval, a Form 3160-4 shall be filed once testing has been completed. Final Abandonment Notice shall be filed only after all requirements, including reclamantion, have been completed, and the operator has determined that the site is ready for final inspection.)

The APD for this well was approved on July 2, 2007 and given API number 30-039-29958. After evaluation of data from recently drilled wells in the immediate area, it has been determined that drilling from east to west is BHGRs preference. BHGR, therefore is submitting this sundry to change the directional drilling direction from west to east. BHGR will also update the Drilling Program, including an updated NEVIS report and is submitting a revised NM State Form C-102. BHGR also requests that if tests of the tertiary and PC formations are favorable that we will also complete these formations and submit comingle applications if needed.

The surface location of the well remains the same but the new bottom hole will be ±1270' FSL ±700' FEL / Unit P.

Surface disturbance will not change from the initial APD, therefore the Surface Use Plan will not be updated or modified.

*NMOC D approval is required for the Non-standard BHL.*  
*HOLD ON FOR Directional Survey*  
*Found that lateral origin is NSL*  
RCVD SEP 24 '07  
OIL CONS. DIV.

14. I hereby certify that the foregoing is true and correct.  
Name (Printed/ Typed)

Lynn H. Benally

Signature

*[Signature]*

Adhere to previously issued stipulations.

Title

Regulatory Specialist

Date

9/14/2007

THIS SPACE FOR FEDERAL OR STATE OFFICE USE

Approved by

*[Signature]*

Title

*Pct. Eng.*

Date

9-19-07

Conditions of approval, if any are attached. Approval of this notice does not warrant or certify that the applicant holds legal or equitable title to those rights in the subject lease which would entitle the applicant to conduct operations thereon.

Office

*FFO*

Title 18 U.S.C. Section 1001 AND Title 43 U.S.C. Section 1212, make it a crime for any person knowingly and willfully to make any department or agency of the United States any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction.

(Instructions on page 2)

NMOC D

DISTRICT I  
1625 N. French Dr., Hobbs, N.M. 88240

DISTRICT II  
1301 W. Grand Ave., Artesia, N.M. 88210

DISTRICT III  
1000 Rio Brazos Rd., Aztec, N.M. 87410

DISTRICT IV  
1220 South St. Francis Dr., Santa Fe, NM 87505

State of New Mexico  
Energy, Minerals & Natural Resources Department

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

Form C-102  
Revised October 12, 2005

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

☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

*API Number 30-039-29958	*Pool Code 72400	*Pool Name EAST BLANCO/PICTURED CLIFFS
*Property Code 36585	*Property Name MANY CANYONS 30-04-14	*Well Number 144
*OGRID No. 013925	*Operator Name BLACK HILLS GAS RESOURCES	*Elevation 7050

<sup>10</sup> Surface Location

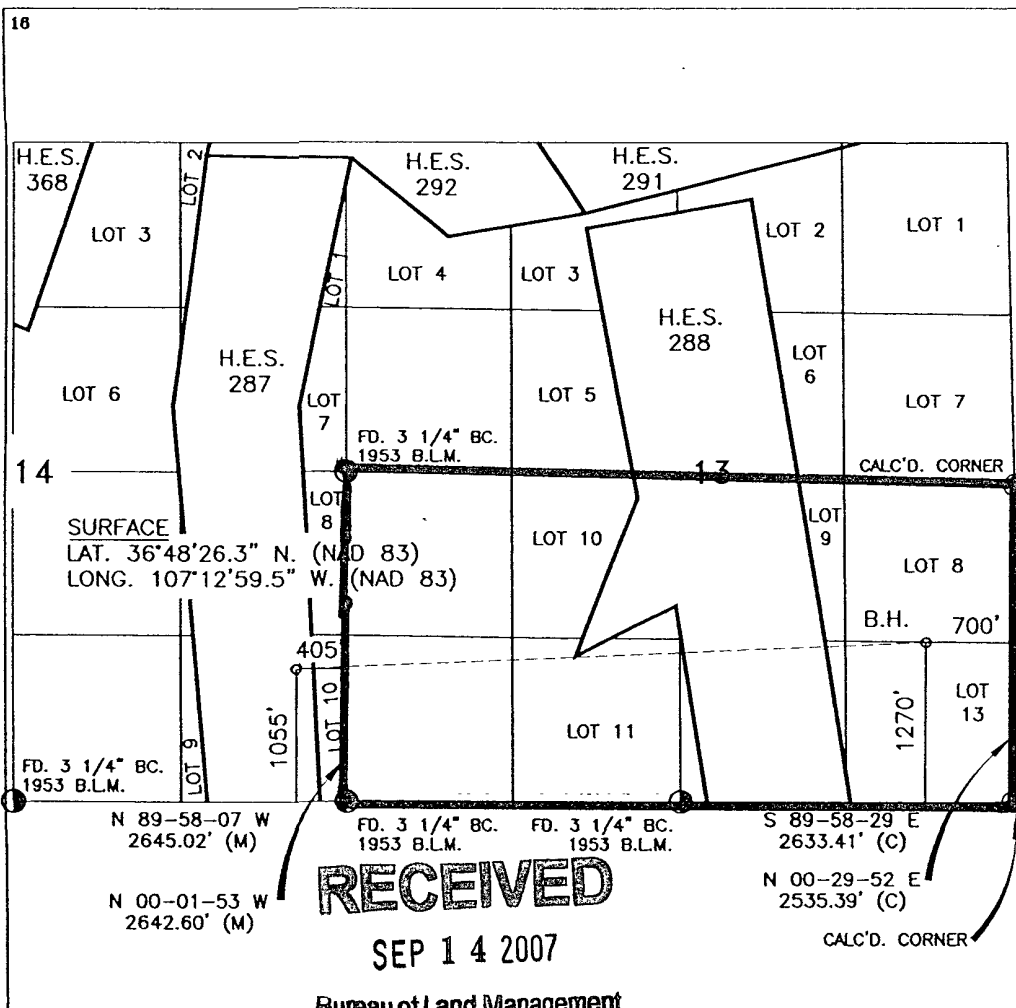
UL or lot no. P	Section 14	Township 30-N	Range 4-W	Lot Idn	Feet from the 1055	North/South line SOUTH	Feet from the 405	East/West line EAST	County RIO ARRIBA
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<sup>11</sup> Bottom Hole Location If Different From Surface

UL or lot no. P	Section 13	Township 30-N	Range 4-W	Lot Idn	Feet from the 1270	North/South line SOUTH	Feet from the 700	East/West line EAST	County RIO ARRIBA
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<sup>12</sup> Dedicated Acres 319.17 <sup>5</sup> / <sub>2</sub> Sec 13	<sup>13</sup> Joint or Infill	<sup>14</sup> Consolidation Code	<sup>15</sup> Order No.
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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





## Black Hills Gas Resources

Black Hills Gas Resources (BHGR)

**Many Canyons 30-04-14 #144**

Surface Location: 1055' FSL 405' FEL Unit P (SE/SE)

Sec.14 T30N R4W

Bottom Hole Location: ±1270' FSL ±700' FEL Unit P (SE/SE)

Sec.13 T30N R4W

Rio Arriba County, New Mexico

Lease: NMSF79484A/079484A

### DRILLING PROGRAM

(Per Rule 320)

This Application for Permit to Drill (APD) was initiated under the NOS process as stated in Onshore Order No. 1 and supporting Bureau of Land Management (BLM) documents. This APD process includes an onsite where concerns of Black Hills Gas Resources (BHGR) were discussed. The initial APD approved on July 2, 2007 was given API number 30-039-30100.

This well was originally permitted and approved as a directional PC well drilled to the west. This new drilling plan changes the un-drilled well direction from west to east.

SURFACE FORMATION – San Jose

GROUND ELEVATION – 7,050'

ESTIMATED FORMATION TOPS - (mineral-bearing formations)

San Jose	Surface	Sandstone, shales & siltstones
Nacimiento	2003'	Sandstone, shales & siltstones
Ojo Alamo	3201'	Sandstone, shales & siltstones
Kirtland	3460'	Sandstone, shales & siltstones
Fruitland	3948'	Sandstone, shales & siltstones
Pictured Cliffs	4150'	Sandstone, shales & siltstones

**TOTAL DEPTH      3,810'      TVD**

Estimated depths of anticipated fresh water, oil, or gas:

Tertiary

San Jose	surface	Gas
Nacimiento	2003'	Gas
Ojo Alamo	3201'	Gas
Fruitland	3948'	Gas
Pictured Cliffs	4150'	Gas

**HORIZONTAL DRILLING PROGRAM**Kick Off Point is estimated to be  $\pm 2978'$  TVD**CASING PROGRAM**

Depth	Hole Diameter	Casing Diameter	Casing Weight and Grade	Cement
0'–250'	12-1/4"	9-5/8"	36# J-55	To surface ( $\pm 175$ sxs Standard cement containing 2% $\text{CaCl}_2$ and 0.25lb/sx LCM)
250'–3806'	8-3/4"	7"	23# J-55 LT&C	TD to surface (Lead: $\pm 300$ sxs lite standard cement. Tail: 400 sxs 50:50 poz containing 0.25 lb/sx LCM)
3806'– 8340'	6-1/8"	Open hole**	Open hole	

\* Actual cement volume to be determined by caliper log.

\*\* If hole instability is encountered, a 4 1/2", 10.5#, J-55 uncemented liner may be run in the 6 1/8" open hole section

**Yields:**Surface: Standard cement yield =  $1.2 \text{ ft}^3/\text{sx}$  (mixed at 15.6 lb/gal)Production: Lite Standard Cement yield: =  $1.59 \text{ ft}^3/\text{sx}$  (mixed at 13.4 lb/gal)  
50:50 poz yield =  $1.27 \text{ ft}^3/\text{sx}$  (mixed at 14.15 lb/gal)

All fresh water and prospectively valuable minerals encountered during drilling will be recorded by depth and protected.

**PRESSURE CONTROL**

BOPs and choke manifold will be installed and pressure tested before drilling out under surface casing (subsequent pressure test will be performed whenever pressure seals are broken), and then will be checked daily as to mechanical operating conditions. BOP's will be pressure tested at least once every 30 days. Ram type preventors and related pressure control equipment will be pressure tested to 1,000 psi. Annular type preventor will be pressure tested to 50% of the rated working pressure, not to exceed 1,000 psi. All casing strings will be pressure tested to 0.22 psi/ft. or 1,000 psi, whichever is greater, not to exceed 70% of internal yield.

BOP to be either double gate rams or an annular preventor as per Onshore Order No. 2.

**Statement on Accumulator System and Location of Hydraulic Controls**

The drilling rig has not yet been selected for this well. Selection will take place after approval of this application. Manual and/or hydraulic controls will be in compliance with Onshore Order No. 2 for 2M systems.

A remote accumulator will be used. Pressures, capacities, location of remote hydraulic and manual controls will be identified at the time of the BLM supervised BOP test.

MUD PROGRAM

0'	-	250'	Fresh water – M.W. 8.5 ppg, Vis 30-33
250'	-	TD'	Clean Faze - Low solids non-dispersed
			M.W. 8.5 – 9.2 ppg
			Vis – 28 – 50 sec
			W.L. 15cc or less

Sufficient mud materials to maintain mud properties, control lost circulation and to contain “kick” will be available at well site.

AUXILIARY EQUIPMENT

- A) A Kelly cock will be kept in the drill string at all times
- B) Inside BOP or stab-in valve (available on rig floor)
- C) Mud monitoring will be visually observed

LOGGING, CORING, TESTING PROGRAM

- A) Logging: DIL- CNL-FDC-GR - TD - BSC (GR to surface)  
Sonic (BSC to TD)
- B) Coring: None
- C) Testing: Possible DST – None anticipated. Drill stem tests may be run on shows of interest

ABNORMAL CONDITIONS

- A) Pressures: No abnormal conditions are anticipated  
Bottom hole pressure gradient – 0.31 psi/ft
- B) Temperatures: No abnormal conditions are anticipated
- C) H<sub>2</sub>S: See attached H<sub>2</sub>S plan in event H<sub>2</sub>S is encountered.
- D) Estimated bottomhole pressure: 1,181 psi

ANTICIPATED START DATE

October 1, 2007

COMPLETION

The location pad will be of sufficient size to accommodate all completion activities and equipment. A string of 2-3/8” J-55 4.7#/ft tubing will be run for a flowing string. A Sundry Notice will be submitted with a revised completion program if warranted.



1724-B Townhurst Dr, Houston, Tx 77043  
(713) 827-8302  
www.nevisenergy.com

Job Number: 71xxx  
Company: Black Hills Gas Resources  
Lease/Well: Many Canyons 30-04-14 #144  
Location: Rio Arriba County, NM  
Rig Name: Patterson 744  
RKB: 13'  
G.L. or M.S.L.: 7050'

State/Country: NM/USA  
Declination: □  
Grid: □  
File name: Z:\BLACKH-1\NEWWEL-1\MC30-0-2\30414144.SVY  
Date/Time: 17-Jul-07 / 08:38  
Curve Name: MC 30-04-14 #144 plan 7-16-07

### MC 30-04-14 #144 plan 7-16-07

WINSERVE PROPOSAL REPORT  
Minimum Curvature Method  
Vertical Section Plane 86.61  
Vertical Section Referenced to Wellhead  
Rectangular Coordinates Referenced to Wellhead

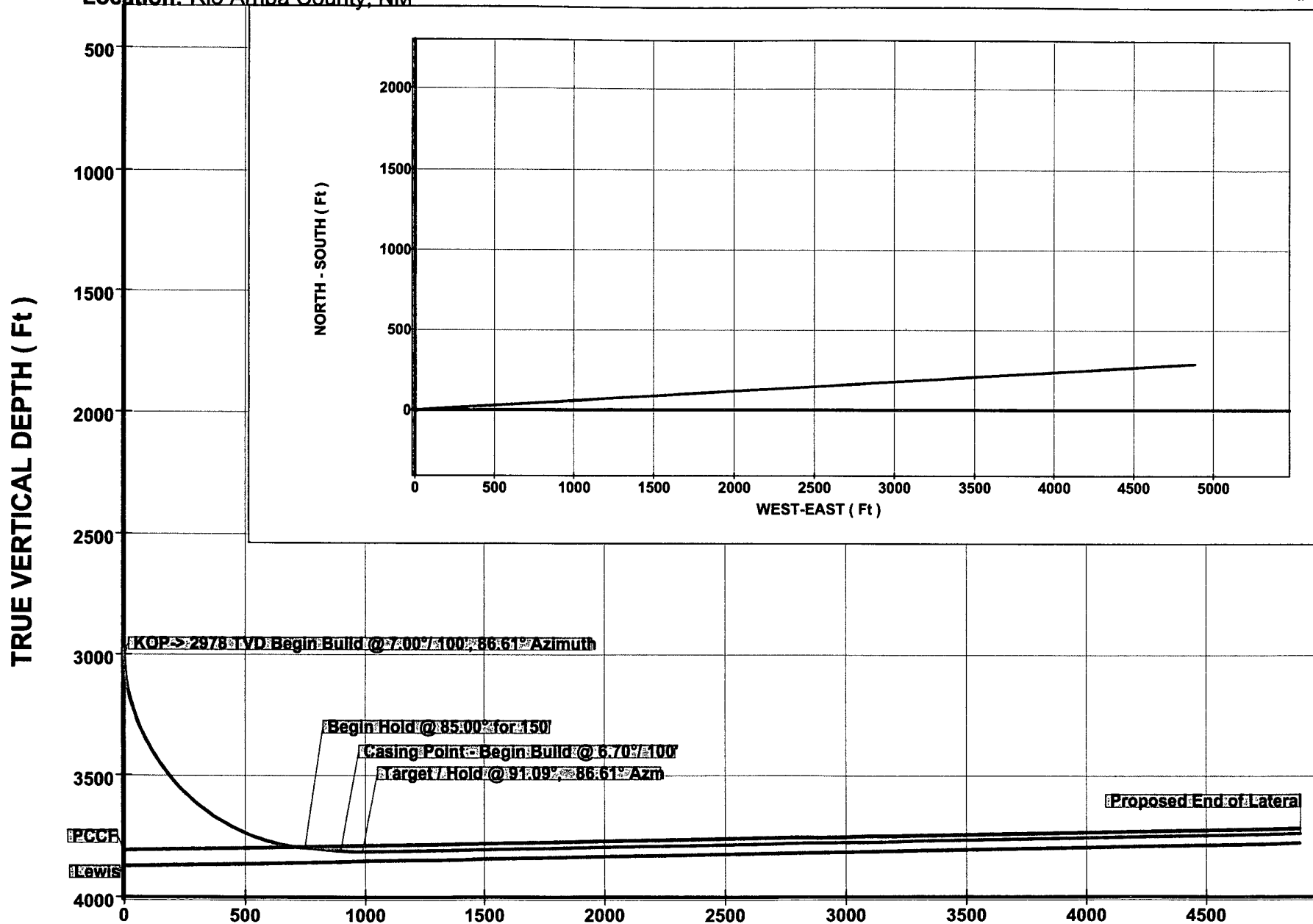
Measured Depth FT	Incl Angle Deg	Drift Direction Deg	True Vertical Depth	Vertical Section FT	N-S FT	E-W FT	C L O S U R E		Dogleg Severity Deg/100
Distance FT	Direction Deg								
KOP-> 2978 TVD Begin Build @ 7.00°/ 100', 86.61° Azimuth									
2978.00	.00	86.61	2978.00	.00	.00	.00	.00	.00	.00
3008.00	2.10	86.61	3007.99	.55	.03	.55	.55	86.61	7.00
3038.00	4.20	86.61	3037.95	2.20	.13	2.20	2.20	86.61	7.00
3068.00	6.30	86.61	3067.82	4.95	.29	4.94	4.95	86.61	7.00
3098.00	8.40	86.61	3097.57	8.78	.52	8.77	8.78	86.61	7.00
3128.00	10.51	86.61	3127.16	13.71	.81	13.69	13.71	86.61	7.00
3158.00	12.61	86.61	3156.55	19.72	1.17	19.69	19.72	86.61	7.00
3188.00	14.71	86.61	3185.70	26.80	1.58	26.76	26.80	86.61	7.00
3218.00	16.81	86.61	3214.57	34.95	2.06	34.89	34.95	86.61	7.00
3248.00	18.91	86.61	3243.13	44.15	2.61	44.07	44.15	86.61	7.00
3278.00	21.01	86.61	3271.32	54.39	3.21	54.30	54.39	86.61	7.00
3308.00	23.11	86.61	3299.12	65.66	3.88	65.54	65.66	86.61	7.00
3338.00	25.21	86.61	3326.49	77.94	4.60	77.80	77.94	86.61	7.00
3368.00	27.31	86.61	3353.40	91.21	5.39	91.05	91.21	86.61	7.00
3398.00	29.41	86.61	3379.79	105.46	6.23	105.28	105.46	86.61	7.00
3428.00	31.52	86.61	3405.65	120.67	7.13	120.46	120.67	86.61	7.00
3458.00	33.62	86.61	3430.93	136.82	8.08	136.58	136.82	86.61	7.00
3488.00	35.72	86.61	3455.60	153.88	9.09	153.61	153.88	86.61	7.00
3518.00	37.82	86.61	3479.63	171.84	10.15	171.54	171.84	86.61	7.00
3548.00	39.92	86.61	3502.99	190.66	11.26	190.33	190.66	86.61	7.00
3578.00	42.02	86.61	3525.64	210.33	12.43	209.96	210.33	86.61	7.00
3608.00	44.12	86.61	3547.56	230.82	13.64	230.41	230.82	86.61	7.00
3638.00	46.22	86.61	3568.70	252.09	14.89	251.65	252.09	86.61	7.00

Measured Depth FT	Incl Angle Deg	Drift Direction Deg	True Vertical Depth	Vertical Section FT	N-S FT	E-W FT	C L O S U R E		Dogleg Severity Deg/100
							Distance FT	Direction Deg	
3668.00	48.32	86.61	3589.06	274.13	16.19	273.65	274.13	86.61	7.00
3698.00	50.42	86.61	3608.59	296.90	17.54	296.38	296.90	86.61	7.00
3728.00	52.53	86.61	3627.27	320.37	18.93	319.81	320.37	86.61	7.00
3758.00	54.63	86.61	3645.09	344.50	20.35	343.90	344.50	86.61	7.00
3788.00	56.73	86.61	3662.00	369.28	21.82	368.63	369.28	86.61	7.00
3818.00	58.83	86.61	3678.00	394.66	23.31	393.97	394.66	86.61	7.00
3848.00	60.93	86.61	3693.05	420.61	24.85	419.87	420.61	86.61	7.00
3878.00	63.03	86.61	3707.14	447.09	26.41	446.31	447.09	86.61	7.00
3908.00	65.13	86.61	3720.26	474.07	28.01	473.24	474.07	86.61	7.00
3938.00	67.23	86.61	3732.37	501.51	29.63	500.64	501.51	86.61	7.00
3968.00	69.33	86.61	3743.47	529.38	31.27	528.46	529.38	86.61	7.00
3998.00	71.43	86.61	3753.54	557.64	32.94	556.66	557.64	86.61	7.00
4028.00	73.54	86.61	3762.57	586.25	34.63	585.22	586.25	86.61	7.00
4058.00	75.64	86.61	3770.54	615.17	36.34	614.09	615.17	86.61	7.00
4088.00	77.74	86.61	3777.45	644.36	38.07	643.23	644.36	86.61	7.00
4118.00	79.84	86.61	3783.28	673.78	39.80	672.61	673.78	86.61	7.00
4148.00	81.94	86.61	3788.03	703.40	41.55	702.17	703.40	86.61	7.00
4178.00	84.04	86.61	3791.69	733.18	43.31	731.90	733.18	86.61	7.00
Begin Hold @ 85.00° for 150'									
4191.70	85.00	86.61	3793.00	746.81	44.12	745.51	746.81	86.61	7.00
4291.70	85.00	86.61	3801.72	846.43	50.00	844.95	846.43	86.61	.00
Casing Point - Begin Build @ 6.70°/ 100'									
4341.70	85.00	86.61	3806.07	896.24	52.95	894.68	896.24	86.61	.00
4371.70	87.01	86.61	3808.16	926.17	54.71	924.55	926.17	86.61	6.70
4401.70	89.02	86.61	3809.20	956.15	56.48	954.48	956.15	86.61	6.70
4431.70	91.03	86.61	3809.19	986.15	58.26	984.43	986.15	86.61	6.70
Target / Hold @ 91.09°, 86.61° Azm									
4432.62	91.09	86.61	3809.17	987.07	58.31	985.34	987.07	86.61	6.70
4532.62	91.09	86.61	3807.27	1087.05	64.22	1085.15	1087.05	86.61	.00
4632.62	91.09	86.61	3805.37	1187.03	70.12	1184.96	1187.03	86.61	.00
4732.62	91.09	86.61	3803.47	1287.01	76.03	1284.76	1287.01	86.61	.00
4832.62	91.09	86.61	3801.57	1386.99	81.94	1384.57	1386.99	86.61	.00
4932.62	91.09	86.61	3799.66	1486.98	87.84	1484.38	1486.98	86.61	.00
5032.62	91.09	86.61	3797.76	1586.96	93.75	1584.19	1586.96	86.61	.00
5132.62	91.09	86.61	3795.86	1686.94	99.66	1683.99	1686.94	86.61	.00
5232.62	91.09	86.61	3793.96	1786.92	105.56	1783.80	1786.92	86.61	.00
5332.62	91.09	86.61	3792.06	1886.90	111.47	1883.61	1886.90	86.61	.00
5432.62	91.09	86.61	3790.15	1986.88	117.37	1983.41	1986.88	86.61	.00
5532.62	91.09	86.61	3788.25	2086.87	123.28	2083.22	2086.87	86.61	.00
5632.62	91.09	86.61	3786.35	2186.85	129.19	2183.03	2186.85	86.61	.00
5732.62	91.09	86.61	3784.45	2286.83	135.09	2282.84	2286.83	86.61	.00
5832.62	91.09	86.61	3782.54	2386.81	141.00	2382.64	2386.81	86.61	.00
5932.62	91.09	86.61	3780.64	2486.79	146.91	2482.45	2486.79	86.61	.00
6032.62	91.09	86.61	3778.74	2586.78	152.81	2582.26	2586.78	86.61	.00
6132.62	91.09	86.61	3776.84	2686.76	158.72	2682.07	2686.76	86.61	.00

Measured Depth FT	Incl Angle Deg	Drift Direction Deg	True Vertical Depth	Vertical Section FT	N-S FT	E-W FT	C L O S U R E		Dogleg Severity Deg/100
							Distance FT	Direction Deg	
6232.62	91.09	86.61	3774.94	2786.74	164.63	2781.87	2786.74	86.61	.00
6332.62	91.09	86.61	3773.03	2886.72	170.53	2881.68	2886.72	86.61	.00
6432.62	91.09	86.61	3771.13	2986.70	176.44	2981.49	2986.70	86.61	.00
6532.62	91.09	86.61	3769.23	3086.69	182.35	3081.30	3086.69	86.61	.00
6632.62	91.09	86.61	3767.33	3186.67	188.25	3181.10	3186.67	86.61	.00
6732.62	91.09	86.61	3765.43	3286.65	194.16	3280.91	3286.65	86.61	.00
6832.62	91.09	86.61	3763.52	3386.63	200.06	3380.72	3386.63	86.61	.00
6932.62	91.09	86.61	3761.62	3486.61	205.97	3480.52	3486.61	86.61	.00
7032.62	91.09	86.61	3759.72	3586.60	211.88	3580.33	3586.60	86.61	.00
7132.62	91.09	86.61	3757.82	3686.58	217.78	3680.14	3686.58	86.61	.00
7232.62	91.09	86.61	3755.92	3786.56	223.69	3779.95	3786.56	86.61	.00
7332.62	91.09	86.61	3754.01	3886.54	229.60	3879.75	3886.54	86.61	.00
7432.62	91.09	86.61	3752.11	3986.52	235.50	3979.56	3986.52	86.61	.00
7532.62	91.09	86.61	3750.21	4086.50	241.41	4079.37	4086.50	86.61	.00
7632.62	91.09	86.61	3748.31	4186.49	247.32	4179.18	4186.49	86.61	.00
7732.62	91.09	86.61	3746.40	4286.47	253.22	4278.98	4286.47	86.61	.00
7832.62	91.09	86.61	3744.50	4386.45	259.13	4378.79	4386.45	86.61	.00
7932.62	91.09	86.61	3742.60	4486.43	265.03	4478.60	4486.43	86.61	.00
8032.62	91.09	86.61	3740.70	4586.41	270.94	4578.40	4586.41	86.61	.00
8132.62	91.09	86.61	3738.80	4686.40	276.85	4678.21	4686.40	86.61	.00
8232.62	91.09	86.61	3736.89	4786.38	282.75	4778.02	4786.38	86.61	.00
8332.62	91.09	86.61	3734.99	4886.36	288.66	4877.83	4886.36	86.61	.00
Proposed End of Lateral									
8340.62	91.09	86.61	3734.84	4894.36	289.13	4885.81	4894.36	86.61	.00



Job Number: 71xxx  
 Company: Black Hills Gas Resources  
 Lease/Well: Many Canyons 30-04-14 #144  
 Location: Rio Arriba County, NM



VERTICAL SECTION ( Ft ) @ 86.61°