

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

FORM APPROVED
OMB No. 1004-0135
Expires: January 31, 2004

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.

5. Lease Serial No.

NMNM 13376

6. If Indian, Allottee or Tribe Name

207 MAR 28 PM 2:16

SUBMIT IN TRIPLICATE - Other instructions on reverse side

1. Type of Well

☐ Oil Well ☒ Gas Well ☐ Other

2. Name of Operator

Black Hills Gas Resources, Inc. Contact: Lynn H. Benally

3a. Address

3200 N 1st Street PO Box 249 Bloomfield, NM 87413

3b. Phone No. (include area code)

505-634-1111 ext 27

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

Surface: 590' FNL 1280' FWL (NW/NW) Unit D

Bottom Hole: 1000' FNL 660' FEL (NE/NE) Unit A

Sec. 13, Township 30 North, Range 4 West

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

210 FARMINGTON NM

8. Well Name and No.

Many Canyon 30-04-13 #11H

9. API Well No.

30-039-29969

10. Field and Pool, or Exploratory Area

East Blanco Pictured Cliffs

11. County or Parish, State

Rio Arriba, NM

12. CHECK APPROPRIATE BOX(ES) TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA

TYPE OF SUBMISSION

- ☒ Notice of Intent
☐ Subsequent Report
☐ Final Abandonment Notice

TYPE OF ACTION

- | | | | |
|---|---|--|--|
| ☐ Acidize | ☐ Deepen | ☐ Production (Start/Resume) | ☐ Water Shut-Off |
| ☐ Alter Casing | ☐ Fracture Treat | ☐ Reclamation | ☐ Well Integrity |
| ☐ Casing Repair | ☐ New Construction | ☐ Recomplete | ☒ Other <u>Change drilling</u> |
| ☐ Change Plans | ☐ Plug and Abandon | ☐ Temporarily Abandon | <u>angle</u> |
| ☐ Convert to Injection | ☐ Plug Back | ☐ Water Disposal | |

3. 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 of all pertinent markers and zones. Attach the Bond under which the work will be performed or provide the Bond No. on file with 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 Notices shall be filed only after all requirements, including reclamation, have been completed, and the operator has determined that the site is ready for final inspection.)

The initial APD to drill was approved on November 9, 2006. The well was given API number 30-039-29969. After evaluation from recently drilling, BHGR is submitting this Sundry and an updated drilling plan to change the drilling angle to 85 degrees, included is the updated Nevis Drilling Plan.

The surface and bottom hole footages will remain the same, therefore no update to the C-102 is needed.

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

KOP changed From 3648' → 2831'

HOLD C104 FOR directional survey
ROVD APR 07
OIL CONS. DIV.
DIST. 3

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

Lynn H. Benally

Title Regulatory Specialist

Signature

[Signature]

Date

3/28/2007

THIS SPACE FOR FEDERAL OR STATE OFFICE USE

Approved by (Signature)

[Signature]

Name

(Printed/Typed)

Troy L Salyers

Title

PE

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

FEO

Date

3/30/07

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 to any department or agency of the United States any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction.



Black Hills Gas Resources

Black Hills Gas Resources (BHGR)

Many Canyons 30-04-13 #11

Surface Location: 590' FNL 1280' FWL (NW/NW) Unit D

Bottom Hole Location: 1000' FNL 660' FEL (NE/NE) Unit A

Sec.13 T30 R4W

Rio Arriba County, New Mexico

NMNM 13376

DRILLING PROGRAM

(Per Rule 320)

The 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 meeting as determined by Bureau of Land Management (BLM) and Carson National Forest Service, at which time the specific concerns of Black Hills Gas Resources (BHGR) were discussed.

The APD for this well was permitted and approved on November 11, 2005. This new drilling plan addresses changing the drilling angle of the un-drilled well.

SURFACE FORMATION – San Jose

GROUND ELEVATION – 6,934'

ESTIMATED FORMATION TOPS - (Water, oil, gas and/or other mineral-bearing formations)

San Jose	Surface	Sandstone, shales & siltstones
Nacimiento	1,870'	Sandstone, shales & siltstones
Ojo Alamo	3,080'	Sandstone, shales & siltstones
Kirtland	3,300'	Sandstone, shales & siltstones
Fruitland Coal	3,440'	Sandstone, shales & siltstones
Pictured Cliffs	3,644'	Sandstone, shales & siltstones

TOTAL DEPTH	3,664'	TVD
	3,365'	Vertical Length of Bore

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

Tertiary		
San Jose	surface	Gas
Nacimiento	1,870'	Gas
Ojo Alamo	3,080'	Gas
Kirtland	3,300'	Gas
Fruitland Coal	3,440'	Gas
Pictured Cliffs	3,644'	Gas

HORIZONTAL DRILLING PROGRAMKick Off Point is estimated to be $\pm 2831'$ TVDCASING PROGRAM

Depth	Hole Diameter	Casing Diameter	Casing Weight and Grade	Cement
0-250' TVD	12-1/4"	8 5/8"	J-55 24# ST&C New	To surface (± 175 sxs Standard cement containing 2% CaCl_2 and 0.25lb/sx LCM) **
0-3665' TVD	7-7/8"	5 1/2"	J-55 15.5# LT&C New	TD to surface (Lead: ± 300 sxs lite standard cement. Tail: 400 sxs 50:50 poz containing 0.25 lb/sx LCM) * **
3665' TVD (KOP)- End of Lateral Bore	4-3/4"	2-7/8"	PH-6 Liner	None

* Actual cement volume to be determined by caliper log.

** Cement will be circulated to surface

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) H₂S: See attached H₂S plan in event H₂S is encountered.
- D) Estimated bottomhole pressure: 1,136 psi

ANTICIPATED START DATE

April 23, 2007

COMPLETION

The location pad will be of sufficient size to accommodate all completion activities and equipment. A string of 2-7/8” PH-6 tubing will be run for a flowing string. A Sundry Notice will be submitted with a revised completion program if warranted.

Many Canyons 30-04-13 #111

590' FNL 1280' FWL (NW /4 NW /4) Surface Location

1000' FNL 660' FEL (NE /4 NE /4) Bottom Of Directional Bore

Sec. 13 T. 30 R. 4

Rio Arriba County, New Mexico

NMNM 13376

SURFACE CASING AND CENTRALIZER DESIGN

Proposed Total Depth: 3,664 '
Proposed Depth of Surface Casing: 250 '
Estimated Pressure Gradient: 0.31 psi/ft
Bottom Hole Pressure at 3,664 '
 $0.31 \text{ psi/ft} \times 3,664' = 1,136 \text{ psi}$
Hydrostatic Head of gas/oil mud: 0.22 psi/ft
 $0.22 \text{ psi/ft} \times 3,664' = 806 \text{ psi}$

Maximum Design Surface Pressure

Bottom Hole Pressure – Hydrostatic Head =
 $(0.31 \text{ psi/ft} \times 3,664') - (0.22 \text{ psi/ft} \times 3,664') =$
 $1,136 \text{ psi} - 806 \text{ psi} = 330 \text{ psi}$

Casing Strengths 8 5/8 J-55 24# ST&C

<u>Wt.</u>	<u>Tension (lbs)</u>	<u>Burst (psi)</u>	<u>Collapse (psi)</u>
24 #	244,000	2,950	1,370
32 #	372,000	3,930	2,530

Safety Factors

Tension (Dry): 1.8 Burst: 1.0 Collapse: 1.125

Tension (Dry): $24 \text{ # / ft} \times 250' = 6,000 \text{ #}$
Safety Factor = $\frac{244,000}{6,000} = 40.67$ ok

Burst: Safety Factor = $\frac{2,950 \text{ psi}}{330 \text{ psi}} = 8.95$ ok

Collapse: Hydrostatic = $0.052 \times 9.0 \text{ ppg} \times 250' = 117 \text{ psi}$
Safety Factor = $\frac{1,370 \text{ psi}}{117 \text{ psi}} = 11.71$ ok

Use 250' 8 5/8 J-55 24# ST&C

Use 2,000 psi minimum casinghead and BOP's but will test to 1,000 psi

Centralizers

5 Total

1 near surface at 40'

2 -1 each at middle of bottom joint, second joint

2 -1 each at every other joint 40' spacing

Total centralized $\pm 200' (50' - 250')$

Note that field experience indicates that additional centralizers greatly increase the chance of "sticking" the surface casing prior to reaching surface casing total depth.



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 30-04-13#111
Location: Rio Arriba County, NM
Rig Name: Patt. 744
RKB: ☐
G.L. or M.S.L.: 6934'

State/Country: NM/USA
Declination: ☐
Grid: ☐
File name: Z:\BLACKH-1\NEWWEL-1\MC30-0-3\30413111.SVY
Date/Time: 28-Mar-07 / 11:12
Curve Name: MC 30-04-13#111 Plan 3-28-07

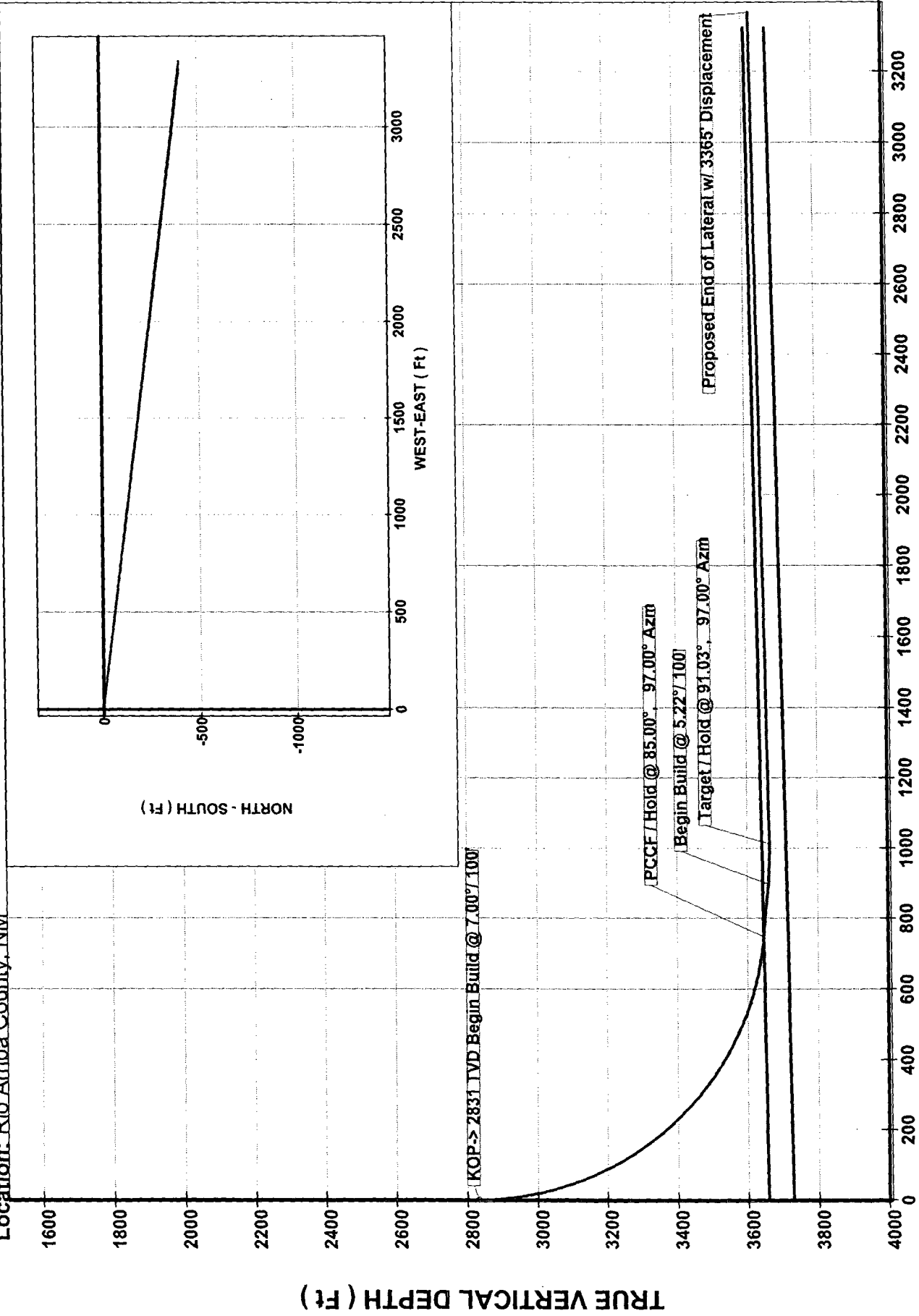
WINSERVE PROPOSAL REPORT
Minimum Curvature Method
Vertical Section Plane 97.00
Vertical Section Referenced to Wellhead
Rectangular Coordinates Referenced to Wellhead

Measured Depth FT	Incl Angle Deg	Drift Direction Deg	True Vertical Depth	Vertical Section FT	N-S FT	E-W FT	CLOSURE Distance FT	Direction Deg	Dogleg Severity Deg/100
KOP-> 2831 TVD Begin Build @ 7.00°/ 100'									
2831.00	.00	.00	2831.00	.00	.00	.00	.00	.00	.00
2861.00	2.10	97.00	2860.99	.55	-.07	.55	.55	97.00	7.00
2891.00	4.20	97.00	2890.95	2.20	-.27	2.18	2.20	97.00	7.00
2921.00	6.30	97.00	2920.82	4.94	-.60	4.91	4.94	97.00	7.00
2951.00	8.40	97.00	2950.57	8.78	-1.07	8.72	8.78	97.00	7.00
2981.00	10.50	97.00	2980.16	13.71	-1.67	13.60	13.71	97.00	7.00
3011.00	12.60	97.00	3009.55	19.71	-2.40	19.57	19.71	97.00	7.00
3041.00	14.70	97.00	3038.70	26.79	-3.27	26.59	26.79	97.00	7.00
3071.00	16.80	97.00	3067.58	34.93	-4.26	34.67	34.93	97.00	7.00
3101.00	18.90	97.00	3096.13	44.13	-5.38	43.80	44.13	97.00	7.00
3131.00	21.00	97.00	3124.33	54.37	-6.63	53.96	54.37	97.00	7.00
3161.00	23.10	97.00	3152.13	65.63	-8.00	65.14	65.63	97.00	7.00
3191.00	25.20	97.00	3179.51	77.90	-9.49	77.32	77.90	97.00	7.00
3221.00	27.30	97.00	3206.41	91.17	-11.11	90.49	91.17	97.00	7.00
3251.00	29.40	97.00	3232.81	105.41	-12.85	104.63	105.41	97.00	7.00
3281.00	31.50	97.00	3258.67	120.62	-14.70	119.72	120.62	97.00	7.00
3311.00	33.60	97.00	3283.96	136.76	-16.67	135.74	136.76	97.00	7.00
3341.00	35.70	97.00	3308.63	153.81	-18.74	152.67	153.81	97.00	7.00
3371.00	37.80	97.00	3332.67	171.76	-20.93	170.48	171.76	97.00	7.00
3401.00	39.90	97.00	3356.03	190.58	-23.23	189.16	190.58	97.00	7.00
3431.00	42.00	97.00	3378.69	210.24	-25.62	208.67	210.24	97.00	7.00
3461.00	44.10	97.00	3400.61	230.72	-28.12	229.00	230.72	97.00	7.00
3491.00	46.20	97.00	3421.77	251.98	-30.71	250.11	251.98	97.00	7.00

Measured Depth FT	Incl Angle Deg	Drift Direction Deg	True Vertical Depth	Vertical Section FT	N-S FT	E-W FT	CLOSURE Distance FT	Direction Deg	Dogleg Severity Deg/100
3521.00	48.30	97.00	3442.13	274.01	-33.39	271.97	274.01	97.00	7.00
3551.00	50.40	97.00	3461.67	296.77	-36.17	294.56	296.77	97.00	7.00
3581.00	52.50	97.00	3480.37	320.23	-39.03	317.85	320.23	97.00	7.00
3611.00	54.60	97.00	3498.19	344.36	-41.97	341.80	344.36	97.00	7.00
3641.00	56.70	97.00	3515.12	369.13	-44.99	366.38	369.13	97.00	7.00
3671.00	58.80	97.00	3531.13	394.50	-48.08	391.56	394.50	97.00	7.00
3701.00	60.90	97.00	3546.19	420.44	-51.24	417.31	420.44	97.00	7.00
3731.00	63.00	97.00	3560.30	446.91	-54.47	443.58	446.91	97.00	7.00
3761.00	65.10	97.00	3573.43	473.89	-57.75	470.36	473.89	97.00	7.00
3791.00	67.20	97.00	3585.56	501.33	-61.10	497.59	501.33	97.00	7.00
3821.00	69.30	97.00	3596.67	529.19	-64.49	525.24	529.19	97.00	7.00
3851.00	71.40	97.00	3606.76	557.44	-67.93	553.28	557.44	97.00	7.00
3881.00	73.50	97.00	3615.80	586.04	-71.42	581.67	586.04	97.00	7.00
3911.00	75.60	97.00	3623.80	614.96	-74.94	610.37	614.96	97.00	7.00
3941.00	77.70	97.00	3630.72	644.14	-78.50	639.34	644.14	97.00	7.00
3971.00	79.80	97.00	3636.58	673.57	-82.09	668.54	673.57	97.00	7.00
4001.00	81.90	97.00	3641.35	703.18	-85.70	697.94	703.18	97.00	7.00
4031.00	84.00	97.00	3645.03	732.95	-89.32	727.49	732.95	97.00	7.00
PCCF / Hold @ 85.00° / 97.00° Azm									
4045.30	85.00	97.00	3646.40	747.19	-91.06	741.62	747.19	97.00	7.00
4145.30	85.00	97.00	3655.11	846.81	-103.20	840.50	846.81	97.00	.00
Begin Build @ 5.22° / 100'									
4195.30	85.00	97.00	3659.47	896.62	-109.27	889.93	896.62	97.00	.00
4225.30	86.57	97.00	3661.67	926.53	-112.92	919.63	926.53	97.00	5.22
4255.30	88.13	97.00	3663.06	956.50	-116.57	949.37	956.50	97.00	5.22
4285.30	89.70	97.00	3663.63	986.50	-120.22	979.14	986.50	97.00	5.22
Target / Hold @ 91.03°, 97.00° Azm									
4310.95	91.03	97.00	3663.47	1012.14	-123.35	1004.60	1012.14	97.00	5.22
4310.97	91.03	97.00	3663.47	1012.17	-123.35	1004.62	1012.17	97.00	1.08
4410.97	91.03	97.00	3661.66	1112.15	-135.54	1103.86	1112.15	97.00	.00
4510.97	91.03	97.00	3659.86	1212.14	-147.72	1203.10	1212.14	97.00	.00
4610.97	91.03	97.00	3658.06	1312.12	-159.91	1302.34	1312.12	97.00	.00
4710.97	91.03	97.00	3656.25	1412.10	-172.09	1401.58	1412.10	97.00	.00
4810.97	91.03	97.00	3654.45	1512.09	-184.28	1500.82	1512.09	97.00	.00
4910.97	91.03	97.00	3652.64	1612.07	-196.46	1600.05	1612.07	97.00	.00
5010.97	91.03	97.00	3650.84	1712.05	-208.65	1699.29	1712.05	97.00	.00
5110.97	91.03	97.00	3649.04	1812.04	-220.83	1798.53	1812.04	97.00	.00
5210.97	91.03	97.00	3647.23	1912.02	-233.02	1897.77	1912.02	97.00	.00
5310.97	91.03	97.00	3645.43	2012.01	-245.20	1997.01	2012.01	97.00	.00
5410.97	91.03	97.00	3643.62	2111.99	-257.39	2096.25	2111.99	97.00	.00
5510.97	91.03	97.00	3641.82	2211.97	-269.57	2195.48	2211.97	97.00	.00
5610.97	91.03	97.00	3640.01	2311.96	-281.76	2294.72	2311.96	97.00	.00
5710.97	91.03	97.00	3638.21	2411.94	-293.94	2393.96	2411.94	97.00	.00
5810.97	91.03	97.00	3636.41	2511.92	-306.13	2493.20	2511.92	97.00	.00
5910.97	91.03	97.00	3634.60	2611.91	-318.31	2592.44	2611.91	97.00	.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	
6010.97	91.03	97.00	3632.80	2711.89	-330.50	2691.68	2711.89	97.00	.00
6110.97	91.03	97.00	3630.99	2811.88	-342.68	2790.92	2811.88	97.00	.00
6210.97	91.03	97.00	3629.19	2911.86	-354.87	2890.15	2911.86	97.00	.00
6310.97	91.03	97.00	3627.39	3011.84	-367.05	2989.39	3011.84	97.00	.00
6410.97	91.03	97.00	3625.58	3111.83	-379.24	3088.63	3111.83	97.00	.00
6510.97	91.03	97.00	3623.78	3211.81	-391.42	3187.87	3211.81	97.00	.00
6610.97	91.03	97.00	3621.97	3311.79	-403.61	3287.11	3311.79	97.00	.00
Proposed End of Lateral w/ 3365' Displacement									
6664.27	91.03	97.00	3621.01	3365.08	-410.10	3340.00	3365.08	97.00	.00

Job Number: 71xxx
 Company: Black Hills Gas Resources
 Lease/Well: Many Canyons 30-04-13#111
 Location: Rio Arriba County, NM



VERTICAL SECTION (Ft) @ 97.00°