

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.

207 FEB -7 PM 2:10

1. Type of Well <input type="checkbox"/> Oil Well <input checked="" type="checkbox"/> Gas Well <input type="checkbox"/> Other		210 FARMINGTON NM	5. Lease Serial No. Contract 452
2. Name of Operator Black Hills Gas Resources, Inc. Contact: Lynn H. Benally			6. If Indian, Allottee or Tribe Name Jicarilla Apache
3a. Address 3200 N 1st Street PO Box 249 Bloomfield, NM 87413	3b. Phone No. (include area code) 505-634-1111 ext 27		7. If Unit or CA/Agreement, Name and/or No.
4. Location of Well (Footage, Sec., T, R., M., or Survey Description) Surface: 1,700' FSL 1,075' FWL NW/SW Sec. 8 T29N R3W Unit L Bottom Hole: 1,700' FSL 660' FEL NE/SE Sec 8 T29N R3W Unit I			8. Well Name and No. Jicarilla 452-08 #31
			9. API Well No. 30-039-29461
			10. Field and Pool, or Exploratory Area E. 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	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"/> Alter 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 directional</u>
	<input type="checkbox"/> Change Plans	<input type="checkbox"/> Plug and Abandon	<input type="checkbox"/> Temporarily Abandon	<u>drilling angle from 45 to</u>
	<input type="checkbox"/> Convert to Injection	<input type="checkbox"/> Plug Back	<input type="checkbox"/> Water Disposal	<u>65 degrees</u>

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 recomple 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 recomple 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 a Pictured Cliff (PC) well was approved on July 28, 2006. The well was given API number 30-039-29461. A sundry was submitted on September 27, 2006 and approved on October 23, 2006 to convert the vertical Pictured Cliff (PC) well to a horizontal PC well. Having drilled several horizontal wells it has been determined that the drilling angle needs to be evaluated. Black Hills Gas Resources (BHGR) is proposing to change the directional portion of the drilling from 45 degrees to 65 degrees changing the KOP. The surface and ending bottom hole footages will remain the same. Attached is the updated drilling program and the directional survey data. The directional survey data was intentionally left short 5 feet to guarantee equal or less then the 660 FEL footage.

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

RCVD FEB14'07
OIL CONS. DIV.

HOLD C104 FOR directional survey
DIST. 3

14. I hereby certify that the foregoing is true and correct Name (Printed/Typed) Lynn H. Benally		Title Regulatory Compliance Coordinator
Signature		Date February 9, 2007
Approved by (Signature)		Title Petr. Eng
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 Date 2/12/07

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.

(Continued on next page)

NMCOOD 8



Black Hills Gas Resources

Jicarilla 452-08 #31

Surface Location: 1700' FSL 1075' FWL (NW/SW)

Bottom Hole Location: 1700' FSL 660' FEL (NE/SE)

Sec.8 T29N R3W

Rio Arriba County, New Mexico

Lease: Contract 452

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 meeting which was held on October 6, 2004 as determined by Bureau of Land Management (BLM), Bureau of Indian Affairs (BIA) and Jicarilla Oil & Gas Administration (JOGA), and at which time the specific concerns of Black Hills Gas Resources (BHGR) were discussed.

A sundry was submitted on September 27, 2006 and approved on October 23, 2006 to convert the vertical Pictured Cliff (PC) well to a horizontal PC well. Having drilled several horizontal wells it has been determined that the drilling angle needs to be evaluated. Black Hills Gas Resources (BHGR) is proposing to change the directional portion of the drilling from 45 degrees to 65 degrees changing the kick off point (KOP). The surface and the ending bottom hole footages will remain the same. Attached is the updated drilling directional survey data.

SURFACE FORMATION – San Jose

GROUND ELEVATION – 6,952'

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

San Jose	Surface	Sandstone, shales & siltstones
Nacimiento	1,977'	Sandstone, shales & siltstones
Ojo Alamo	3,215'	Sandstone, shales & siltstones
Fruitland	3,986'	Sandstone, shales & siltstones
Pictured Cliffs	4,189'	Sandstone, shales & siltstones
Lewis	4386'	Sandstone, shales & siltstones

TOTAL DEPTH	4,000'	TVD
	4,085'	Vertical Length of Bore

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

Tertiary

San Jose	surface	Gas
Nacimiento	1,977'	Gas
Ojo Alamo	3,215'	Gas
Fruitland	3,986'	Gas
Pictured Cliffs	4,189'	Gas

HORIZONTAL DRILLING PROGRAMKick Off Point is estimated to be $\pm 2687'$ TVD**CASING 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) **
0-4000' 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) * **
2687' 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'	-	300'	Fresh water – M.W. 8.5 ppg, Vis 30-33
300'	-	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: 1,240 psi

ANTICIPATED START DATE

February 10, 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.

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

Job Number: 61xxx
Company: Black Hills Gas Resources
Lease/Well: Jicarilla 452-08 #31
Location: Rio Arriba Co., NM
Rig Name: ☐
RKB: ☐
G.L. or M.S.L.: ☐

State/Country: NM/USA
Declination: ☐
Grid: ☐
File name: Z:\BLACKH~1\71047J~1\4520831.SVY
Date/Time: 09-Feb-07 / 07:46
Curve Name: Pilot Hole 65°

WINSERVE PROPOSAL REPORT
Minimum Curvature Method
Vertical Section Plane 90.00
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		Dogleg Severity Deg/100
Distance FT	Direction Deg								
KOP-> 2687 TVD Begin Build @ 6.50°/ 100 Ft									
2687.00	.00	90.00	2687.00	.00	.00	.00	.00	.00	.00
2717.00	1.95	90.00	2716.99	.51	.00	.51	.51	90.00	6.50
2747.00	3.90	90.00	2746.95	2.04	.00	2.04	2.04	90.00	6.50
2777.00	5.85	90.00	2776.84	4.59	.00	4.59	4.59	90.00	6.50
2807.00	7.80	90.00	2806.63	8.15	.00	8.15	8.15	90.00	6.50
2837.00	9.75	90.00	2836.28	12.73	.00	12.73	12.73	90.00	6.50
2867.00	11.70	90.00	2865.75	18.31	.00	18.31	18.31	90.00	6.50
2897.00	13.65	90.00	2895.02	24.89	.00	24.89	24.89	90.00	6.50
2927.00	15.60	90.00	2924.05	32.47	.00	32.47	32.47	90.00	6.50
2957.00	17.55	90.00	2952.80	41.02	.00	41.02	41.02	90.00	6.50
2987.00	19.50	90.00	2981.24	50.55	.00	50.55	50.55	90.00	6.50
3017.00	21.45	90.00	3009.35	61.04	.00	61.04	61.04	90.00	6.50
3047.00	23.40	90.00	3037.08	72.49	.00	72.49	72.49	90.00	6.50
3077.00	25.35	90.00	3064.40	84.87	.00	84.87	84.87	90.00	6.50
3107.00	27.30	90.00	3091.29	98.17	.00	98.17	98.17	90.00	6.50
3137.00	29.25	90.00	3117.71	112.38	.00	112.38	112.38	90.00	6.50
3167.00	31.20	90.00	3143.63	127.48	.00	127.48	127.48	90.00	6.50
3197.00	33.15	90.00	3169.03	143.45	.00	143.45	143.45	90.00	6.50
3227.00	35.09	90.00	3193.86	160.27	.00	160.27	160.27	90.00	6.50
3257.00	37.04	90.00	3218.11	177.94	.00	177.94	177.94	90.00	6.50
3287.00	38.99	90.00	3241.74	196.41	.00	196.41	196.41	90.00	6.50
3317.00	40.94	90.00	3264.73	215.68	.00	215.68	215.68	90.00	6.50
3347.00	42.89	90.00	3287.05	235.73	.00	235.73	235.73	90.00	6.50

Measured Depth FT	Incl Angle Deg	Drift Direction Deg	True Vertical Depth	Vertical Section FT	N-S FT	E-W FT	CLOSURE		Dogleg Severity Deg/100
							Distance FT	Direction Deg	
3377.00	44.84	90.00	3308.68	256.52	.00	256.52	256.52	90.00	6.50
3407.00	46.79	90.00	3329.59	278.03	.00	278.03	278.03	90.00	6.50
3437.00	48.74	90.00	3349.75	300.24	.00	300.24	300.24	90.00	6.50
3467.00	50.69	90.00	3369.15	323.12	.00	323.12	323.12	90.00	6.50
3497.00	52.64	90.00	3387.75	346.66	.00	346.66	346.66	90.00	6.50
3527.00	54.59	90.00	3405.55	370.81	.00	370.81	370.81	90.00	6.50
3557.00	56.54	90.00	3422.51	395.55	.00	395.55	395.55	90.00	6.50
3587.00	58.49	90.00	3438.62	420.86	.00	420.86	420.86	90.00	6.50
3617.00	60.44	90.00	3453.86	446.69	.00	446.69	446.69	90.00	6.50
3647.00	62.39	90.00	3468.21	473.04	.00	473.04	473.04	90.00	6.50
3677.00	64.34	90.00	3481.66	499.85	.00	499.85	499.85	90.00	6.50
Top of Coal / Begin Hold @ 65.00°, 90° Azm									
3687.14	65.00	90.00	3486.00	509.02	.00	509.02	509.02	90.00	6.50
3787.14	65.00	90.00	3528.26	599.65	.00	599.65	599.65	90.00	.00
3887.14	65.00	90.00	3570.52	690.28	.00	690.28	690.28	90.00	.00
3987.14	65.00	90.00	3612.79	780.91	.00	780.91	780.91	90.00	.00
3999.48	65.00	90.00	3618.00	792.09	.00	792.09	792.09	90.00	.00
4087.14	65.00	90.00	3655.05	871.54	.00	871.54	871.54	90.00	.00
4187.14	65.00	90.00	3697.31	962.17	.00	962.17	962.17	90.00	.00
4287.14	65.00	90.00	3739.57	1052.80	.00	1052.80	1052.80	90.00	.00
Proposed End of Pilot									
4326.02	65.00	90.00	3756.00	1088.04	.00	1088.04	1088.04	90.00	.00

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Location: Rio Arriba Co., NM
Rig Name: ☐
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State/Country: NM/USA
Declination: ☐
Grid: ☐
File name: Z:\BLACKH-1\71047J-1\4520831.SVY
Date/Time: 09-Feb-07 / 07:47
Curve Name: Lateral Plan

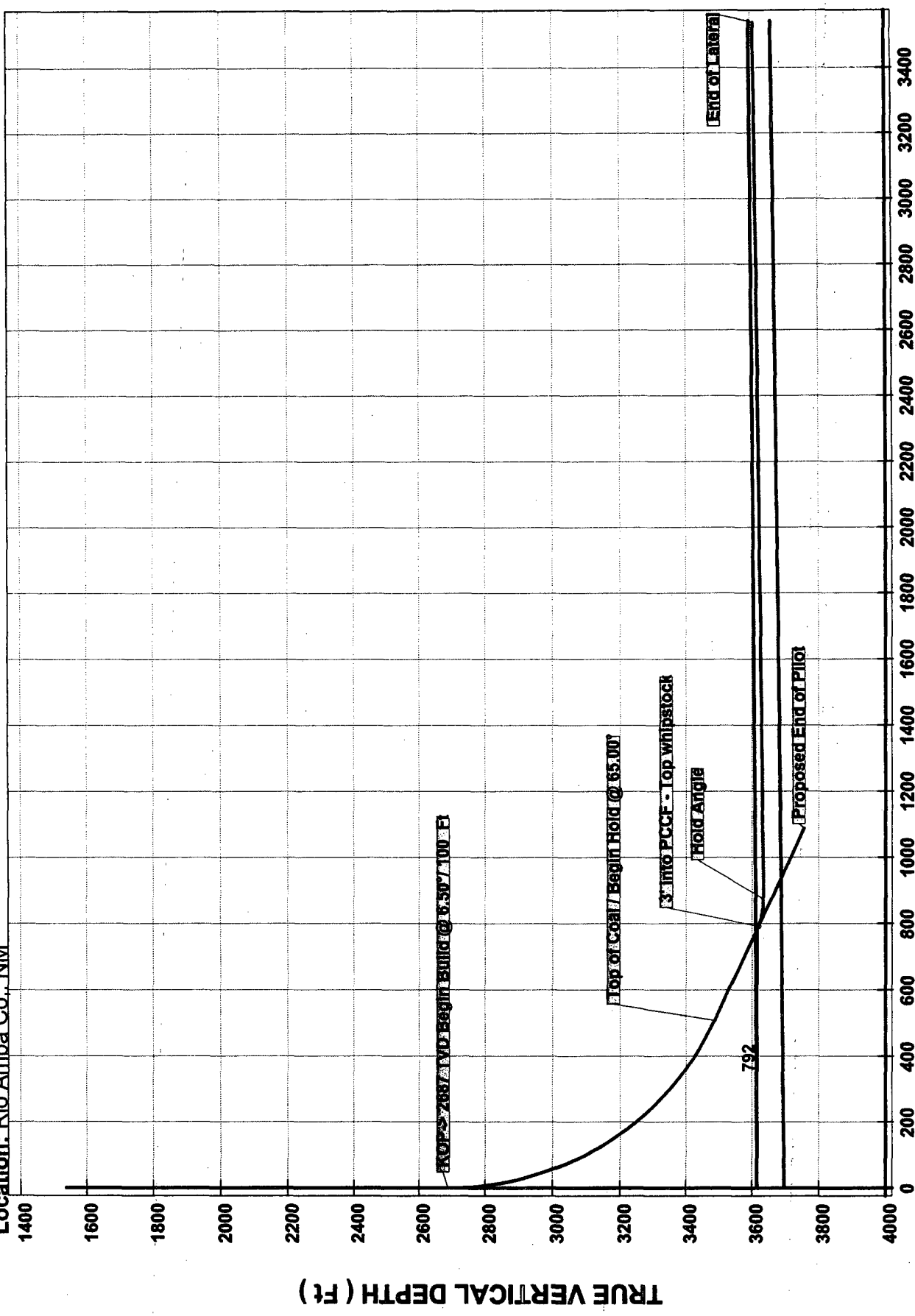
WINSERVE PROPOSAL REPORT
Minimum Curvature Method
Vertical Section Plane 90.00
Vertical Section Referenced to Wellhead
Rectangular Coordinates Referenced to Wellhead

Measured Depth FT	Incl Angle Deg	Drift Direction Deg	True Vertical Depth	Vertical Section FT	N-S FT	E-W FT	CLOSURE		Dogleg Severity Deg/100
Distance FT	Direction Deg								
3' into PCCF - Top whipstock									
3999.48	65.00	90.00	3618.00	792.09	.00	792.09	792.09	90.00	.00
4029.48	75.50	90.00	3628.12	820.29	.00	820.29	820.29	90.00	35.00
4059.48	86.00	90.00	3632.94	849.85	.00	849.85	849.85	90.00	35.00
Hold Angle									
4085.18	90.56	90.00	3633.71	875.54	.00	875.54	875.54	90.00	17.74
4185.18	90.56	90.00	3632.73	975.53	.00	975.53	975.53	90.00	.00
4285.18	90.56	90.00	3631.76	1075.53	.00	1075.53	1075.53	90.00	.00
4385.18	90.56	90.00	3630.78	1175.52	.00	1175.52	1175.52	90.00	.00
4485.18	90.56	90.00	3629.80	1275.52	.00	1275.52	1275.52	90.00	.00
4585.18	90.56	90.00	3628.82	1375.51	.00	1375.51	1375.51	90.00	.00
4685.18	90.56	90.00	3627.85	1475.51	.00	1475.51	1475.51	90.00	.00
4785.18	90.56	90.00	3626.87	1575.50	.00	1575.50	1575.50	90.00	.00
4885.18	90.56	90.00	3625.89	1675.50	.00	1675.50	1675.50	90.00	.00
4985.18	90.56	90.00	3624.91	1775.49	.00	1775.49	1775.49	90.00	.00
5085.18	90.56	90.00	3623.94	1875.49	.00	1875.49	1875.49	90.00	.00
5185.18	90.56	90.00	3622.96	1975.48	.00	1975.48	1975.48	90.00	.00
5285.18	90.56	90.00	3621.98	2075.48	.00	2075.48	2075.48	90.00	.00
5385.18	90.56	90.00	3621.00	2175.47	.00	2175.47	2175.47	90.00	.00
5485.18	90.56	90.00	3620.03	2275.47	.00	2275.47	2275.47	90.00	.00
5585.18	90.56	90.00	3619.05	2375.46	.00	2375.46	2375.46	90.00	.00
5685.18	90.56	90.00	3618.07	2475.46	.00	2475.46	2475.46	90.00	.00
5785.18	90.56	90.00	3617.09	2575.45	.00	2575.45	2575.45	90.00	.00
5885.18	90.56	90.00	3616.12	2675.45	.00	2675.45	2675.45	90.00	.00
5985.18	90.56	90.00	3615.14	2775.45	.00	2775.45	2775.45	90.00	.00

Measured Depth FT	Incl Angle Deg	Drift Direction Deg	True Vertical Depth	Vertical Section FT	N-S FT	E-W FT	CLOSURE		Dogleg Severity Deg/100
							Distance FT	Direction Deg	
6085.18	90.56	90.00	3614.16	2875.44	.00	2875.44	2875.44	90.00	.00
6185.18	90.56	90.00	3613.19	2975.44	.00	2975.44	2975.44	90.00	.00
6285.18	90.56	90.00	3612.21	3075.43	.00	3075.43	3075.43	90.00	.00
6385.18	90.56	90.00	3611.23	3175.43	.00	3175.43	3175.43	90.00	.00
6485.18	90.56	90.00	3610.25	3275.42	.00	3275.42	3275.42	90.00	.00
6585.18	90.56	90.00	3609.28	3375.42	.00	3375.42	3375.42	90.00	.00
6685.18	90.56	90.00	3608.30	3475.41	.00	3475.41	3475.41	90.00	.00
Proposed End of Lateral									
6749.77	90.56	90.00	3607.67	3540.00	.00	3540.00	3540.00	90.00	.00

Job Number: 61xxx
 Company: Black Hills Gas Resources
 Lease/Well: Jicarilla 452-08 #31
 Location: Rio Arriba Co., NM

1754-8 Trenchard Dr., Houston, TX 77060
 (713) 865-1000
 www.bhgs.com



VERTICAL SECTION / FT @ 90.00°