Form 3160- 5
(April 2004)

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.*

5. Lease Serial No.
464

6. If Indian, Allottee, or Tribe Name
Jicarilla Apache

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

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

8. Well Name and No.
Jicarilla 464-31 #233

2. Name of Operator
Black Hills Gas Resources

DEC 19 2007

9. API Well No.
30-039-30195

3a. Address
3200 N 1st Street PO Box 249 Bloomfield, NM 87413

3b. Phone No. *(include area code)*
505-634-1111 ext 27

10. Field and Pool, or Exploratory Area
E. Blanco/Pictured Cliffs

4. Location of Well *(Footage, Sec., T., R., M., or Survey Description)*
Surface: 1840' FSL 1725' FEL / Unit J Sec 31 T30N R3W
Bottom Hole: ± 2400' FSL ± 50' FEL / Unit I Sec 32 T30N R3W

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			
☑ Notice of Intent	☐ Acidize	☐ Deepen	☐ Production (Start/ Resume)	☐ Water Shut-off
	☐ Altering Casing	☐ Fracture Treat	☐ Reclamation	☐ Well Integrity
☐ Subsequent Report	☐ Casing Repair	☐ New Construction	☐ Recomplete	☑ Other
	☐ Change Plans	☐ Plug and abandon	☐ Temporarily Abandon	Convert (FC)
☐ Final Abandonment Notice	☐ Convert to Injection	☐ Plug back	☐ Water Disposal	well to horizontal (PC)

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 recomplete horizontally, give subsurface locations and measured and true vertical depths or pertinent markers and sands. Attach the Bond under which the work will 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 recompletion 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 initial APD to drill a Fruitland Coal (FC) well was approved on 11/26/2007. The well was given API number 30-039-30195. After evaluation of data from recently drilled wells in the immediate area, it has been determined that the Pictured Cliffs (PC) formation is best developed in this area, using Horizontal Drilling Technology. Black Hills Gas Resources (BHGR) is submitting an updated drilling plan and a revised NM State Form C-102, to change the well from a FC well to a horizontal PC well. BHGR also request 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 ± 2400' FSL ± 50' FEL/Unit I

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

NMOCD approval is required for the NSP.

14. I hereby certify that the foregoing is true and correct.

Name *(Printed/ Typed)*
Lynn H. Benally

Title
Regulatory Specialist

RCVD DEC 27 '07
OIL CONS. DIV.
DIST. 3

Signature

Date 12/19/2007

THIS SPACE FOR FEDERAL OR STATE OFFICE USE

Approved by Wayne Townsend

Title Pet. Eng.

Date 12/20/07

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, fictitiousor fraudulent statements or representations as to any matter within its jurisdiction.

(Instructions on page 2)

HOLD C104 FOR 1 Directional survey 2 as drilled C-102 3 Change of status to Jicarilla 464#4 4. Order for case # 14057

NMOCD

CONDITIONS OF APPROVAL
Adhere to previously issued stipulations.

GENERAL INSTRUCTIONS

This form is designed for submitting proposals to perform certain well operations, and reports of such operations when completed, as indicated on Federal and Indian lands pursuant to applicable Federal law and regulations. Any necessary special instructions concerning the use of this form and the number of copies to be submitted, particularly with regard to local area, or regional procedures and practices, either are shown below or will be issued by, or may be obtained from the local Federal office.

SPECIFIC INSTRUCTIONS

Item 4 - Locations on Federal or Indian land should be described in accordance with Federal requirements. Consult the local Federal office for specific instructions.

Item 13 - Proposals to abandon a well and subsequent reports of abandonment should include such special information as is required by the local Federal office. In addition, such proposals and reports should include reasons for the abandonment; data on any former or present productive zones, or other zones with present significant fluid contents not sealed off by cement or otherwise; depths (top and bottom) and method of placement of cement plugs; mud or other material placed below, between and above plugs; amount, size, method of parting of any casing, liner or tubing pulled and the depth to top of any left in the hole; method of closing top of well and date well site conditioned for final inspection looking to approval of the abandonment.

NOTICE

The Privacy Act of 1974 and the regulation in 43 CFR 2.48(d) provide that you be furnished the following information in connection with information required by this application.

AUTHORITY: 30 U.S.C. 181 et seq., 351 et seq., 25 U.S.C. 396; 43 CFR 3160.

PRINCIPAL PURPOSE: The information is used to: (1) Evaluate, when appropriate, approve applications, and report completion of subsequent well operations, on a Federal or Indian lease; and (2) document for administrative use, information for the management, disposal and use of National Resource lands and resources, such as: (a) evaluating the equipment and procedures to be used during a proposed subsequent well operation and reviewing the completed well operations for compliance with the approved plan; (b) requesting and granting approval to perform those actions covered by 43 CFR 3162.3-2, 3162.3-3, and 3162.3-4; (c) reporting the beginning or resumption of production, as requited by 43 CFR 3162.4-1(c); and (d) analyzing future applications to drill or modify operations in light of data obtained and methods used.

ROUTINE USES: Information from the record and/or the record will be transferred to appropriate Federal, State, local or foreign agencies, when relevant to civil, criminal or regulatory investigations or prosecutions in connection with congressional inquiries or to consumer reporting agencies to facilitate collection of debts owed the Government.

EFFECT OF NOT PROVIDING THE INFORMATION: Filing of this notice and report and disclosure of the information is mandatory for those subsequent well operations specified in 43 CFR 3162.3 - 2, 3162.3 - 3, 3162.3 - 4.

The Paperwork Reduction Act of 1995 (44 U.S.C. 3501 et seq.) requires us to inform you that:

This information is being collected to evaluate proposed and/or completed subsequent well operations on Federal or Indian oil and gas leases.

Response to this request is mandatory.

BLM would like you to know that you do not have to respond to this or any other Federal agency -sponsored information collection unless it displays a currently valid OMB control number.

BURDEN HOURS STATEMENT

Public reporting burden for this form is estimated to average 25 minutes per response, including the time for reviewing instructions, gathering and maintaining data, and completing and reviewing the form. Direct comments regarding the burden estimate or any other aspect of this form to U.S. Department of the Interior, Bureau of Land Management (1004-0137), Bureau information Collection Clearance Officer, (WO-630), Mail Stop 401 LS, 1849 C St., N.W., Washington D.C. 20240

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

[1] API Number	[2] Pool Code	[3] Pool Name
30-039-30195	72400	PICTURED CLIFFS/EAST BLANCO

[4] Property Code	[5] Property Name	[6] Well Number
34022	JICARILLA 464-31	233

[7] OGRID No.	[8] Operator Name	[9] Elevation
013925	BLACK HILLS GAS RESOURCES	7015

[10] Surface Location

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
J	31	30-N	3-W		1840	SOUTH	1725	EAST	RIO ARRIBA

[11] Bottom Hole Location If Different From Surface

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
I	32	30-N	3-W		2400	SOUTH	50	EAST	RIO ARRIBA

[12] Dedicated Acres	[13] Joint or Infill	[14] Consolidation Code	[15] Order No.
472.6 SE/4 SEC. 31 = 156.28 AC S/2 SEC. 32 = 316.32 AC			~~NSL-4355~~

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

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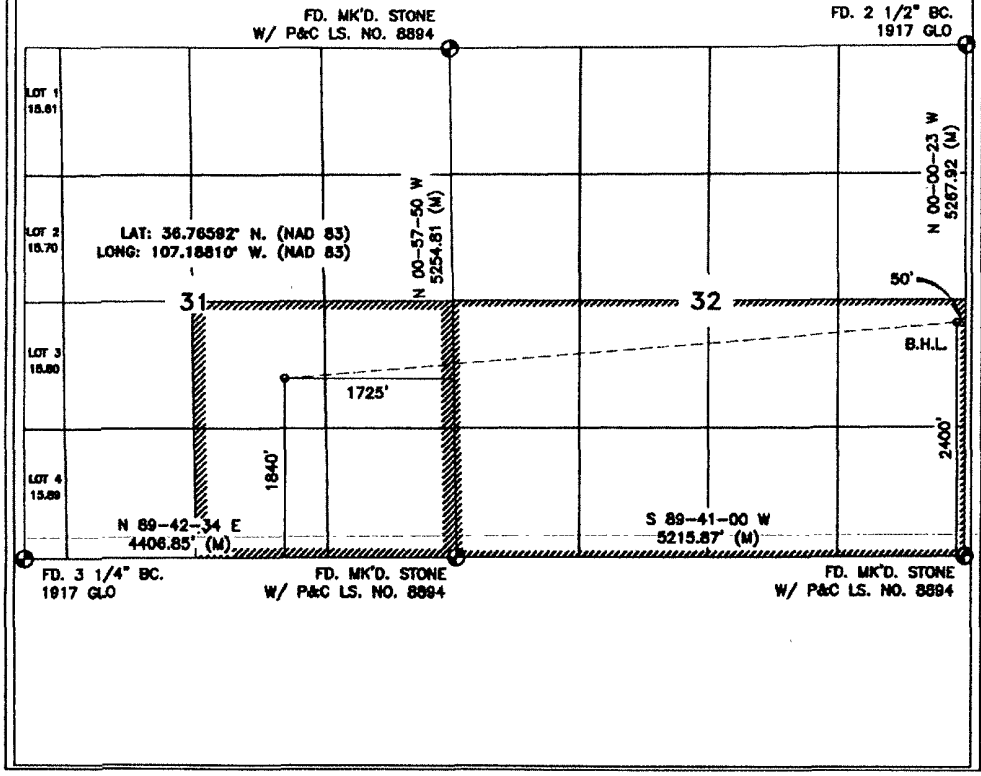

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OPERATOR CERTIFICATION

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 12/19/2007
Date

Lynn H. Benally
Printed Name

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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.

SEPTEMBER 13, 2006
Date of Survey

Signature and Seal of Professional Surveyor:

ROY A. RUSH
NEW MEXICO
8894
REGISTERED PROFESSIONAL LAND SURVEYOR
12-13-07

8894
Certificate Number

Black Hills Gas Resources

Jicarilla 464-31 #233
Surface Location: 1840' FSL 1725' FEL NW/SE Unit J
Sec. 31 T30N R3W
Bottom Hole Location: ± 2400' FSL ± 50' FEL NE/SE Unit I
Sec. 32 T30N R3W
Rio Arriba County, New Mexico
Lease: Contract 464

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. The NOS process includes an onsite meeting which was held on October 26, 2006 as determined by Bureau of Indian Affairs (BIA) and Jicarilla Oil & Gas Administration (JOGA) and at which time the specific concerns of Black Hills Gas Resources (BHGR), BIA, and JOGA were discussed

This well was originally permitted and approved as a horizontal Fruitland Coal (FC) well. This new drilling plan addresses changing the un-drilled well to a horizontal PC well.

SURFACE FORMATION – San Jose

GROUND ELEVATION –7015'

ESTIMATED FORMATION TOPS - (mineral-bearing formations)

San Jose	Surface	Sandstone, shales & siltstones
Nacimiento	1929'	Sandstone, shales & siltstones
Ojo Alamo	3195'	Sandstone, shales & siltstones
Kirtland	3458'	Sandstone, shales & siltstones
Fruitland	3867'	Sandstone, shales & siltstones
Pictured Cliffs	4270'	Sandstone, shales & siltstones
TOTAL DEPTH	**10238'**	**TMD**

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

Tertiary		
San Jose	surface	Gas
Nacimiento	1929'	Gas
Ojo Alamo	3195'	Gas
Fruitland	3867'	Gas
Pictured Cliffs	4270'	Gas

HORIZONTAL DRILLING PROGRAM
Kick Off Point is estimated to be ±2856' TVD

CASING PROGRAM

Depth	Hole Diameter	Casing Diameter	Casing Weight and Grade	Cement
250'	**12-1/4"**	**9-5/8"**	**J-55 36#**	**To Surface (±175 sxs standard cement containing 2% $CaCl^2$ and ¼#/sx LCM**
250' -4270'	**8-3/4"**	**7"**	**J-55 23#**	**TD to surface (Lead ± 400 sxs lite standard cement. Tail ± 400 sxs 50/50 poz containing ¼#/sx LCM**
4270' – 10238'	**6-1/8"**	**Open hole****	**Open hole**	

* Actual cement volume to be determined by caliper log.
** Cement will be circulated to surface
*** If hole instability is encountered, a 4 ½", 10.5#, J-55 uncemented liner may be run in the 6 1/8" open hole section

Yields:

Surface: Standard cement yield = 1.2 ft^3/sx (mixed at 15.6 lb/gal)

Production: Lite Standard Cement yield: = 1.59 ft^3/sx (mixed at 13.4 lb/gal)
50:50 poz yield = 1.27 ft^3/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_2S:	See attached H_2S plan in event H_2S is encountered.
D)	Estimated bottomhole pressure:	1,148 psi

ANTICIPATED START DATE

February 1, 2008

COMPLETION

The location pad will be of sufficient size to accommodate all completion activities and equipment. A string of 2 3/8", 4.7#/ft, J-55 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: 81xxx
Company: Black Hills Gas Resources
Lease/Well: Jicarilla 464-31 #233
Location: Rio Arriba County, NM
Rig Name: Patt 744
RKB: 13
G.L. or M.S.L.: 7015

State/Country: NM/USA
Declination: □
Grid: □
File name: Z:\BLACKH~1\NEWWEL~1\464-31~1\46431233.SVY
Date/Time: 07-Nov-07 / 15:09
Curve Name: Jicarilla 464-31 #233 plan 11-07-07

Jicarilla 464-31 #233 plan 11-07-07

WINSERVE PROPOSAL REPORT
Minimum Curvature Method
Vertical Section Plane 85.35
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	CLOSURE Direction Deg	Dogleg Severity Deg/100
KOP-> 2856 TVD Begin Build @ 7.00°/ 100 Ft									
2856.00	.00	85.35	2856.00	.00	.00	.00	.00	.00	.00
2886.00	2.10	85.35	2885.99	.55	.04	.55	.55	85.35	7.00
2916.00	4.20	85.35	2915.95	2.20	.18	2.19	2.20	85.35	7.00
2946.00	6.30	85.35	2945.82	4.95	.40	4.93	4.95	85.35	7.00
2976.00	8.40	85.35	2975.57	8.78	.71	8.76	8.78	85.35	7.00
3006.00	10.51	85.35	3005.16	13.71	1.11	13.67	13.71	85.35	7.00
3036.00	12.61	85.35	3034.55	19.72	1.60	19.66	19.72	85.35	7.00
3066.00	14.71	85.35	3063.70	26.80	2.17	26.72	26.80	85.35	7.00
3096.00	16.81	85.35	3092.57	34.95	2.83	34.84	34.95	85.35	7.00
3126.00	18.91	85.35	3121.13	44.15	3.58	44.01	44.15	85.35	7.00
3156.00	21.01	85.35	3149.32	54.39	4.41	54.21	54.39	85.35	7.00
3186.00	23.11	85.35	3177.12	65.66	5.32	65.44	65.66	85.35	7.00
3216.00	25.21	85.35	3204.49	77.94	6.31	77.68	77.94	85.35	7.00
3246.00	27.31	85.35	3231.40	91.21	7.39	90.91	91.21	85.35	7.00
3276.00	29.41	85.35	3257.79	105.46	8.54	105.12	105.46	85.35	7.00
3306.00	31.52	85.35	3283.65	120.67	9.77	120.27	120.67	85.35	7.00
3336.00	33.62	85.35	3308.93	136.82	11.08	136.37	136.82	85.35	7.00
3366.00	35.72	85.35	3333.60	153.88	12.46	153.38	153.88	85.35	7.00
3396.00	37.82	85.35	3357.63	171.84	13.92	171.27	171.84	85.35	7.00
3426.00	39.92	85.35	3380.99	190.66	15.44	190.04	190.66	85.35	7.00
3456.00	42.02	85.35	3403.64	210.33	17.04	209.64	210.33	85.35	7.00
3486.00	44.12	85.35	3425.56	230.82	18.70	230.06	230.82	85.35	7.00
3516.00	46.22	85.35	3446.70	252.09	20.42	251.26	252.09	85.35	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	CLOSURE Direction Deg	Dogleg Severity Deg/100
3546.00	48.32	85.35	3467.06	274.13	22.20	273.23	274.13	85.35	7.00
3576.00	50.42	85.35	3486.59	296.90	24.05	295.92	296.90	85.35	7.00
3606.00	52.53	85.35	3505.27	320.37	25.95	319.31	320.37	85.35	7.00
3636.00	54.63	85.35	3523.09	344.50	27.90	343.37	344.50	85.35	7.00
3666.00	56.73	85.35	3540.00	369.28	29.91	368.07	369.28	85.35	7.00
3696.00	58.83	85.35	3556.00	394.66	31.97	393.36	394.66	85.35	7.00
3726.00	60.93	85.35	3571.05	420.61	34.07	419.22	420.61	85.35	7.00
3756.00	63.03	85.35	3585.14	447.09	36.21	445.62	447.09	85.35	7.00
3786.00	65.13	85.35	3598.26	474.07	38.40	472.51	474.07	85.35	7.00
3816.00	67.23	85.35	3610.37	501.51	40.62	499.86	501.51	85.35	7.00
3846.00	69.33	85.35	3621.47	529.38	42.88	527.64	529.38	85.35	7.00
3876.00	71.43	85.35	3631.54	557.64	45.17	555.81	557.64	85.35	7.00
3906.00	73.54	85.35	3640.57	586.25	47.49	584.32	586.25	85.35	7.00
3936.00	75.64	85.35	3648.54	615.17	49.83	613.14	615.17	85.35	7.00
3966.00	77.74	85.35	3655.45	644.36	52.19	642.24	644.36	85.35	7.00
3996.00	79.84	85.35	3661.28	673.78	54.58	671.57	673.78	85.35	7.00
4026.00	81.94	85.35	3666.03	703.40	56.98	701.09	703.40	85.35	7.00
4056.00	84.04	85.35	3669.69	733.18	59.39	730.77	733.18	85.35	7.00
Hold @ 85.00° for 200'									
4069.70	85.00	85.35	3671.00	746.81	60.49	744.36	746.81	85.35	7.00
4169.70	85.00	85.35	3679.72	846.43	68.56	843.65	846.43	85.35	.00
5' into PC / Casing									
4269.70	85.00	85.35	3688.43	946.05	76.63	942.94	946.05	85.35	.00
Begin Build @ 3.95°/ 100'									
4369.70	85.00	85.35	3697.15	1045.67	84.70	1042.23	1045.67	85.35	.00
4399.70	86.18	85.35	3699.45	1075.58	87.12	1072.05	1075.58	85.35	3.95
4429.70	87.37	85.35	3701.14	1105.53	89.55	1101.90	1105.53	85.35	3.95
4459.70	88.55	85.35	3702.21	1135.51	91.98	1131.78	1135.51	85.35	3.95
4489.70	89.74	85.35	3702.66	1165.51	94.41	1161.68	1165.51	85.35	3.95
Target / Hold @ 90.74°, 85.35° Azm									
4515.23	90.74	85.35	3702.55	1191.04	96.47	1187.13	1191.04	85.35	3.95
4515.25	90.74	85.35	3702.55	1191.06	96.48	1187.15	1191.06	85.35	1.09
4615.25	90.74	85.35	3701.25	1291.06	104.57	1286.81	1291.06	85.35	.00
4715.25	90.74	85.35	3699.95	1391.05	112.67	1386.48	1391.05	85.35	.00
4815.25	90.74	85.35	3698.65	1491.04	120.77	1486.14	1491.04	85.35	.00
4915.25	90.74	85.35	3697.35	1591.03	128.87	1585.80	1591.03	85.35	.00
5015.25	90.74	85.35	3696.05	1691.02	136.97	1685.47	1691.02	85.35	.00
5115.25	90.74	85.35	3694.75	1791.01	145.07	1785.13	1791.01	85.35	.00
5215.25	90.74	85.35	3693.45	1891.01	153.17	1884.79	1891.01	85.35	.00
5315.25	90.74	85.35	3692.15	1991.00	161.27	1984.45	1991.00	85.35	.00
5415.25	90.74	85.35	3690.85	2090.99	169.37	2084.12	2090.99	85.35	.00
5515.25	90.74	85.35	3689.55	2190.98	177.47	2183.78	2190.98	85.35	.00
5615.25	90.74	85.35	3688.25	2290.97	185.57	2283.44	2290.97	85.35	.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	CLOSURE Direction Deg	Dogleg Severity Deg/100
5715.25	90.74	85.35	3686.95	2390.96	193.67	2383.11	2390.96	85.35	.00
5815.25	90.74	85.35	3685.65	2490.95	201.77	2482.77	2490.95	85.35	.00
5915.25	90.74	85.35	3684.35	2590.95	209.87	2582.43	2590.95	85.35	.00
6015.25	90.74	85.35	3683.05	2690.94	217.97	2682.10	2690.94	85.35	.00
6115.25	90.74	85.35	3681.75	2790.93	226.07	2781.76	2790.93	85.35	.00
6215.25	90.74	85.35	3680.45	2890.92	234.17	2881.42	2890.92	85.35	.00
6315.25	90.74	85.35	3679.15	2990.91	242.26	2981.08	2990.91	85.35	.00
6415.25	90.74	85.35	3677.85	3090.90	250.36	3080.75	3090.90	85.35	.00
6515.25	90.74	85.35	3676.55	3190.90	258.46	3180.41	3190.90	85.35	.00
6615.25	90.74	85.35	3675.25	3290.89	266.56	3280.07	3290.89	85.35	.00
6715.25	90.74	85.35	3673.95	3390.88	274.66	3379.74	3390.88	85.35	.00
6815.25	90.74	85.35	3672.65	3490.87	282.76	3479.40	3490.87	85.35	.00
6915.25	90.74	85.35	3671.35	3590.86	290.86	3579.06	3590.86	85.35	.00
7015.25	90.74	85.35	3670.05	3690.85	298.96	3678.73	3690.85	85.35	.00
7115.25	90.74	85.35	3668.75	3790.84	307.06	3778.39	3790.84	85.35	.00
7215.25	90.74	85.35	3667.45	3890.84	315.16	3878.05	3890.84	85.35	.00
7315.25	90.74	85.35	3666.15	3990.83	323.26	3977.71	3990.83	85.35	.00
7415.25	90.74	85.35	3664.85	4090.82	331.36	4077.38	4090.82	85.35	.00
7515.25	90.74	85.35	3663.55	4190.81	339.46	4177.04	4190.81	85.35	.00
7615.25	90.74	85.35	3662.25	4290.80	347.56	4276.70	4290.80	85.35	.00
7715.25	90.74	85.35	3660.95	4390.79	355.66	4376.37	4390.79	85.35	.00
7815.25	90.74	85.35	3659.65	4490.79	363.76	4476.03	4490.79	85.35	.00
7915.25	90.74	85.35	3658.35	4590.78	371.86	4575.69	4590.78	85.35	.00
8015.25	90.74	85.35	3657.05	4690.77	379.95	4675.36	4690.77	85.35	.00
8115.25	90.74	85.35	3655.75	4790.76	388.05	4775.02	4790.76	85.35	.00
8215.25	90.74	85.35	3654.45	4890.75	396.15	4874.68	4890.75	85.35	.00
8315.25	90.74	85.35	3653.15	4990.74	404.25	4974.34	4990.74	85.35	.00
8415.25	90.74	85.35	3651.85	5090.73	412.35	5074.01	5090.73	85.35	.00
8515.25	90.74	85.35	3650.55	5190.73	420.45	5173.67	5190.73	85.35	.00
8615.25	90.74	85.35	3649.25	5290.72	428.55	5273.33	5290.72	85.35	.00
8715.25	90.74	85.35	3647.95	5390.71	436.65	5373.00	5390.71	85.35	.00
8815.25	90.74	85.35	3646.65	5490.70	444.75	5472.66	5490.70	85.35	.00
8915.25	90.74	85.35	3645.35	5590.69	452.85	5572.32	5590.69	85.35	.00
9015.25	90.74	85.35	3644.05	5690.68	460.95	5671.98	5690.68	85.35	.00
9115.25	90.74	85.35	3642.75	5790.68	469.05	5771.65	5790.68	85.35	.00
9215.25	90.74	85.35	3641.45	5890.67	477.15	5871.31	5890.67	85.35	.00
9315.25	90.74	85.35	3640.15	5990.66	485.25	5970.97	5990.66	85.35	.00
9415.25	90.74	85.35	3638.85	6090.65	493.35	6070.64	6090.65	85.35	.00
9515.25	90.74	85.35	3637.55	6190.64	501.45	6170.30	6190.64	85.35	.00
9615.25	90.74	85.35	3636.25	6290.63	509.55	6269.96	6290.63	85.35	.00
9715.25	90.74	85.35	3634.95	6390.62	517.64	6369.63	6390.62	85.35	.00
9815.25	90.74	85.35	3633.65	6490.62	525.74	6469.29	6490.62	85.35	.00
9915.25	90.74	85.35	3632.35	6590.61	533.84	6568.95	6590.61	85.35	.00
10015.25	90.74	85.35	3631.05	6690.60	541.94	6668.61	6690.60	85.35	.00
10115.25	90.74	85.35	3629.75	6790.59	550.04	6768.28	6790.59	85.35	.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	CLOSURE Direction Deg	Dogleg Severity Deg/100
10215.25	90.74	85.35	3628.45	6890.58	558.14	6867.94	6890.58	85.35	.00
Proposed End of Lateral									
10238.26	90.74	85.35	3628.15	6913.59	560.01	6890.87	6913.59	85.35	.00

Job Number: 81xxx
Company: Black Hills Gas Resources
Lease/Well: Jicarilla 464-31 #233

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