Form 3160- 5
(April 2004)

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

RECEIVED
OCT 24 2008
Bureau of Land Manag
Farmington Field Office

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.
Contract 459

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

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 459-19 #141

2. Name of Operator
Black Hills Gas Resources

9. API Well No.
30-039-29879

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
East Blanco Pictured Cliffs

4. Location of Well *(Footage, Sec., T., R., M., or Survey Description)*
Surface Location: 550'FSL 610' FWL Unit N SE/SW Sec 19 T30N R03W
Bottom Hole: ± 1240'FSL ± 50' FEL Unit P SE/SE Sec 30 T30N R03W

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
	☐ Change Plans	☐ Plug and abandon	☐ Temporarily Abandon	Drilling Plan
☐ Final Abandonment Notice	☐ Convert to Injection	☐ Plug back	☐ Water Disposal	

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 Pictured Cliff (PC) well was approved on June 23, 2008. The well was given API number 30-039-29879. Black Hills Gas Resources (BHGR) is submitting this drilling plan to change the drilling technique for the un-drilled horizontal well. Included is an updated 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.

NOTIFY AZTEC OCD 24 HRS. PRIOR TO CASING & CEMENT

The bottom hole is estimated at ± 1240'FNL ± 50' FEL Unit P SE/SE Sec 30 T30N R03W

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

Hold C104 for Directional Survey and "As Drilled" plat

CONDITIONS OF APPROVAL
Adhere to previously issued stipulations.

RCVD NOV 20 '08
OIL CONS. DIV.
DIST. 3

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

Name *(Printed/ Typed)*
Daniel Manus

Title
Regulatory Technician

Signature

Date
Oct 23, 2008

THIS SPACE FOR FEDERAL OR STATE OFFICE USE

Approved by

Title Petr. Eng.

Date 10/30/08

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

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)

NMOCD

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
30-039-29879	72460	EAST BLANCO PICTURED CLIFFS

[4] Property Code	[5] Property Name	[6] Well Number
22210	JICARILLA 459-19	141

[7] OGRID No.	[8] Operator Name	[9] Elevation
013925	BLACK HILLS GAS RESOURCES	7280

[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
N	19	30-N	3-W	4	550	SOUTH	610	WEST	RIO ARRIBA

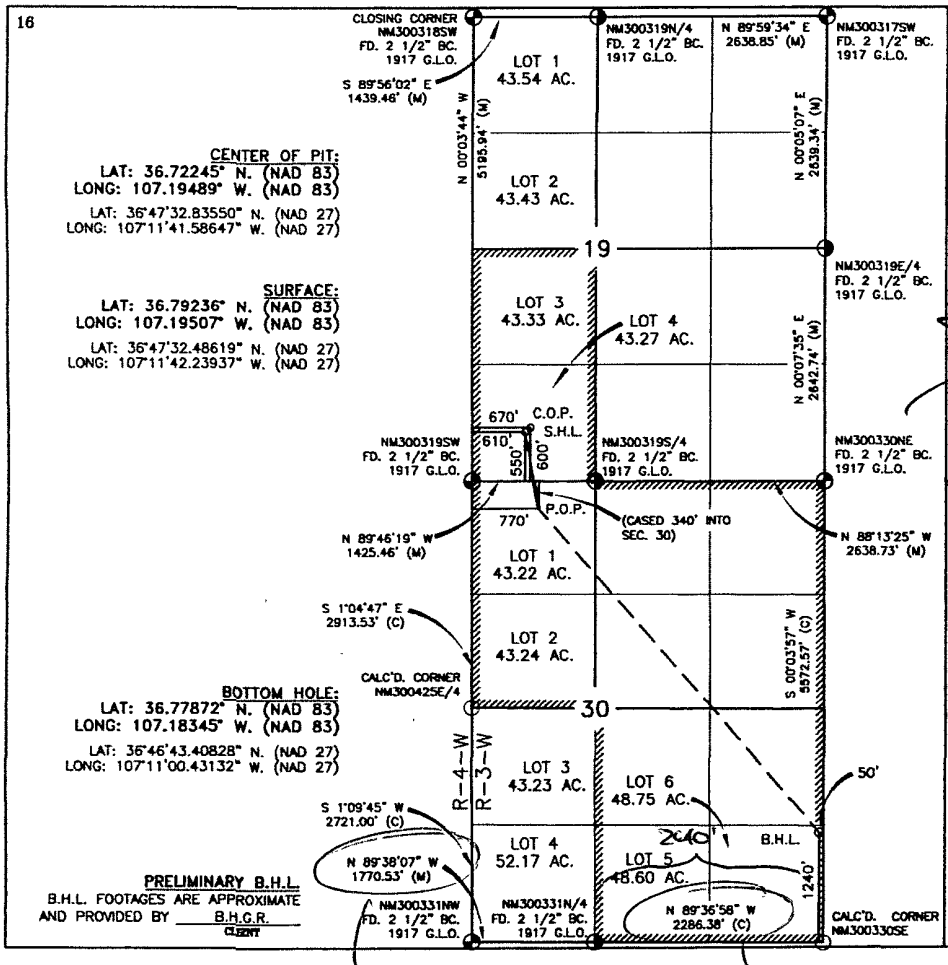
[11] Bottom Hole Location If Different From Surface

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
P	30	30-N	3-W	6	1240	SOUTH	50	EAST	RIO ARRIBA

[12] Dedicated Acres	[13] Joint or Infill	[14] Consolidation Code	[15] Order No.
493.06 PROJECT AREA			Project area; R8774 Unit E - lots 3,4 sec 19, Lots 1,2 Sec 30 + E/2 30

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

16



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 — Date 10/14/08

Printed Name

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 knowledge and belief.

JULY 21, 2008

Date of Survey

Signature and Seal of Professional Surveyor:

RONALD RUSH — NEW MEXICO — 9894 — REGISTERED PROFESSIONAL LAND SURVEYOR — 10-13-08

Certificate Number

NW 1/4 equiv. Sec 31 only.

Distance from CC to BC NE 1/4 Sec 31 only.

Black Hills Gas Resources

Jicarilla 459-19 #141
Surface Location: 550' FSL 610' FWL (SE/SW) Unit N - Lot 4
Sec.19 T30N R03W
Bottom Hole: ± 1240'FSL ± 50' FEL (SE/SE) Unit P
Sec 30 T30N R03W
Rio Arriba County, New Mexico
Lease: Contract 459

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 March 29, 2006 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.

This new drilling plan will modify the drilling program for this un-drilled horizontal well. It will still be drilled into the pictured cliffs formation. Attached is the horizontal drilling plan.

SURFACE FORMATION – San Jose

GROUND ELEVATION – 7,280'

ESTIMATED FORMATION TOPS - (mineral-bearing formations)

San Jose	Surface	Surface	Sandstone, shales & siltstones
Nacimiento	2119'M	2,119'V	Sandstone, shales & siltstones
Ojo Alamo	3397'M	3,382'V	Sandstone, shales & siltstones
Kirtland	3662'M	3,601'V	Sandstone, shales & siltstones
Fruitland Coal	4149'M	3,866'V	Sandstone, shales & siltstones
Pictured Cliffs	4409'M	3,379'V	Sandstone, shales & siltstones
TOTAL DEPTH	**9591' TMD**	**3929' TVD**	

ESTIMATED DEPTHS OF ANTICIPATED FRESH WATER, OIL, OR GAS:

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

Nacimiento	2119'	Gas, water, sand
Ojo Alamo	3397'	Gas, water, sand
Kirtland	3662'	Gas, water, sand
Fruitland Coal	4149'	Gas, water, sand
Pictured Cliffs	4409'	Gas, water, sand

HORIZONTAL DRILLING PROGRAM
Kick Off Point is estimated to be ± 3096' TVD

CASING PROGRAM

Depth	Hole Diameter	Casing Diameter	Casing Weight and Grade	Cement
0' to 250'	12 1/4"	9 5/8"	H-40 32.3# ST&C	To surface (±175 sxs classB)
0' to 4309'	8 3/4"	7"	J-55 23# ST & C	TD to surface (±630 sxs lite or 65:35 poz and ±270 sxs 50:50 poz)*
4309' to 9591'	6 1/4 "	Open hole***	none	none

* 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 1/4" 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 condition. 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'	Potassium Formate- Inhibitive low solids non-dispersed M.W. 6.0 – 9.2 ppg Vis – 45 – 60 sec W.L. 8cc or less

Sufficient mud materials to maintain mud properties, control lost circulation and to contain "kick" will be available at wellsite.

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:	GR/SP/CAL – Resistivity/Conductivity – Neutron/Density – Bulk Density/RWA From TD to SC
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:	1,145 psi

ANTICIPATED START DATE: December 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#, J-55 tubing will be run for a flowing string. A Sundry Notice will be submitted with a revised completion program if warranted.

NEVIS
ENERGY SERVICES INC.
1724-B Townhurst Drive
Houston Texas 77043
1-800-909-9819
www.nevisenergy.com

Job Number: 81xxxx
Company: Black Hills Gas Resources
Lease/Well: Jicarilla 459-19 #141
Location: Rio Arriba County, NM
Rig Name: Patterson 741
RKB: 15'
G.L. or M.S.L.: 7280'

State/Country: NM
Declination:
Grid:
File name: C:\CURREN~1\459-19~1\45919141.SVY
Date/Time: 14-Oct-08 / 16:05
Curve Name: Jicarilla 459-19 #141 plan 10-14-08

Jicarilla 459-19 #141 plan 10-14-08

WINSERVE PROPOSAL REPORT
Minimum Curvature Method
Vertical Section Plane 170.00
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	CLOSURE Direction Deg	Dogleg Severity Deg/100
KOP-> 3096 TVD Begin Build @ 7.00°/ 100'									
3095.57	.00	170.00	3095.57	.00	.00	.00	.00	.00	.00
3125.57	2.10	170.00	3125.56	.55	-.54	.10	.55	170.00	7.00
3155.57	4.20	170.00	3155.52	2.20	-2.17	.38	2.20	170.00	7.00
3185.57	6.30	170.00	3185.39	4.95	-4.87	.86	4.95	170.00	7.00
3215.57	8.40	170.00	3215.14	8.78	-8.65	1.53	8.78	170.00	7.00
3245.57	10.51	170.00	3244.73	13.71	-13.50	2.38	13.71	170.00	7.00
3275.57	12.61	170.00	3274.12	19.72	-19.42	3.42	19.72	170.00	7.00
3305.57	14.71	170.00	3303.27	26.80	-26.40	4.65	26.80	170.00	7.00
3335.57	16.81	170.00	3332.14	34.95	-34.42	6.07	34.95	170.00	7.00
3365.57	18.91	170.00	3360.70	44.15	-43.48	7.67	44.15	170.00	7.00
3395.57	21.01	170.00	3388.89	54.39	-53.56	9.44	54.39	170.00	7.00
3425.57	23.11	170.00	3416.69	65.66	-64.66	11.40	65.66	170.00	7.00
3455.57	25.21	170.00	3444.06	77.94	-76.75	13.53	77.94	170.00	7.00
3485.57	27.31	170.00	3470.97	91.21	-89.83	15.84	91.21	170.00	7.00
3515.57	29.41	170.00	3497.36	105.46	-103.86	18.31	105.46	170.00	7.00
3545.57	31.52	170.00	3523.22	120.67	-118.84	20.95	120.67	170.00	7.00
3575.57	33.62	170.00	3548.50	136.82	-134.74	23.76	136.82	170.00	7.00
3605.57	35.72	170.00	3573.17	153.88	-151.54	26.72	153.88	170.00	7.00
3635.57	37.82	170.00	3597.20	171.84	-169.23	29.84	171.84	170.00	7.00
3665.57	39.92	170.00	3620.56	190.66	-187.77	33.11	190.66	170.00	7.00
3695.57	42.02	170.00	3643.21	210.33	-207.14	36.52	210.33	170.00	7.00
3725.57	44.12	170.00	3665.13	230.82	-227.31	40.08	230.82	170.00	7.00
3755.57	46.22	170.00	3686.27	252.09	-248.26	43.78	252.09	170.00	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	CLOSURE Direction Deg	Dogleg Severity Deg/100
3785.57	48.32	170.00	3706.63	274.13	-269.97	47.60	274.13	170.00	7.00
3815.57	50.42	170.00	3726.16	296.90	-292.39	51.56	296.90	170.00	7.00
3845.57	52.53	170.00	3744.84	320.37	-315.50	55.63	320.37	170.00	7.00
3875.57	54.63	170.00	3762.66	344.50	-339.27	59.82	344.50	170.00	7.00
3905.57	56.73	170.00	3779.57	369.28	-363.67	64.12	369.28	170.00	7.00
3935.57	58.83	170.00	3795.57	394.66	-388.66	68.53	394.66	170.00	7.00
3965.57	60.93	170.00	3810.62	420.61	-414.22	73.04	420.61	170.00	7.00
3995.57	63.03	170.00	3824.71	447.09	-440.30	77.64	447.09	170.00	7.00
4025.57	65.13	170.00	3837.83	474.07	-466.87	82.32	474.07	170.00	7.00
4055.57	67.23	170.00	3849.94	501.51	-493.89	87.09	501.51	170.00	7.00
4085.57	69.33	170.00	3861.04	529.38	-521.34	91.93	529.38	170.00	7.00
4115.57	71.43	170.00	3871.11	557.64	-549.17	96.83	557.64	170.00	7.00
4145.57	73.54	170.00	3880.14	586.25	-577.34	101.80	586.25	170.00	7.00
4175.57	75.64	170.00	3888.11	615.17	-605.82	106.82	615.17	170.00	7.00
4205.57	77.74	170.00	3895.02	644.36	-634.57	111.89	644.36	170.00	7.00
4235.57	79.84	170.00	3900.85	673.78	-663.55	117.00	673.78	170.00	7.00
4265.57	81.94	170.00	3905.60	703.40	-692.72	122.14	703.40	170.00	7.00
4295.57	84.04	170.00	3909.26	733.18	-722.04	127.31	733.18	170.00	7.00
Begin Hold @ 85.00° for 200'									
4309.27	85.00	170.00	3910.57	746.81	-735.46	129.68	746.81	170.00	7.00
4409.27	85.00	170.00	3919.29	846.43	-833.57	146.98	846.43	170.00	.00
Begin Build @ 9.09°/ 100'									
4509.27	85.00	170.00	3928.00	946.05	-931.68	164.28	946.05	170.00	.00
4539.27	87.73	170.00	3929.90	975.99	-961.16	169.48	975.99	170.00	9.09
Target / Hold @ 90.29°, 170.00° Azm									
4567.46	90.29	170.00	3930.39	1004.17	-988.92	174.37	1004.17	170.00	9.09
4567.47	90.29	170.00	3930.39	1004.18	-988.93	174.37	1004.18	170.00	2.23
Turn to BHL									
4597.47	90.29	168.50	3930.24	1034.18	-1018.40	179.97	1034.18	169.98	5.00
4627.47	90.29	167.00	3930.09	1064.15	-1047.72	186.34	1064.16	169.92	5.00
4657.47	90.29	165.50	3929.94	1094.09	-1076.85	193.47	1094.09	169.82	5.00
4687.47	90.29	164.00	3929.79	1123.96	-1105.80	201.36	1123.98	169.68	5.00
4717.47	90.29	162.50	3929.64	1153.75	-1134.52	210.00	1153.79	169.51	5.00
4747.47	90.29	161.00	3929.48	1183.44	-1163.01	219.40	1183.53	169.32	5.00
4777.47	90.29	159.50	3929.33	1213.01	-1191.25	229.53	1213.16	169.09	5.00
4807.47	90.29	158.00	3929.18	1242.43	-1219.21	240.41	1242.68	168.85	5.00
4837.47	90.29	156.50	3929.03	1271.69	-1246.87	252.01	1272.08	168.57	5.00
4867.47	90.29	155.00	3928.88	1300.76	-1274.22	264.33	1301.35	168.28	5.00
4897.47	90.29	153.50	3928.73	1329.64	-1301.24	277.36	1330.47	167.97	5.00
4927.47	90.29	152.00	3928.58	1358.29	-1327.91	291.10	1359.44	167.64	5.00
4957.47	90.29	150.50	3928.43	1386.69	-1354.21	305.53	1388.25	167.29	5.00
4987.47	90.29	149.00	3928.27	1414.84	-1380.13	320.64	1416.88	166.92	5.00
5017.47	90.29	147.50	3928.12	1442.70	-1405.64	336.42	1445.33	166.54	5.00

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
5047.47	90.29	146.00	3927.97	1470.26	-1430.72	352.87	1473.60	166.15	5.00
5077.47	90.29	144.50	3927.82	1497.51	-1455.37	369.97	1501.66	165.74	5.00
5107.47	90.29	143.00	3927.67	1524.41	-1479.56	387.71	1529.52	165.32	5.00
5137.47	90.29	141.50	3927.52	1550.96	-1503.28	406.08	1557.16	164.88	5.00
5167.47	90.29	140.00	3927.37	1577.13	-1526.51	425.06	1584.59	164.44	5.00
5197.47	90.29	138.50	3927.22	1602.91	-1549.24	444.64	1611.78	163.99	5.00
End Turn									
5212.98	90.29	137.72	3927.14	1616.08	-1560.79	454.99	1625.75	163.75	5.00
5312.98	90.29	137.72	3926.63	1700.63	-1634.78	522.26	1716.17	162.28	.00
5412.98	90.29	137.72	3926.13	1785.18	-1708.77	589.53	1807.60	160.97	.00
5512.98	90.29	137.72	3925.62	1869.73	-1782.76	656.80	1899.90	159.78	.00
5612.98	90.29	137.72	3925.12	1954.27	-1856.75	724.07	1992.94	158.70	.00
5712.98	90.29	137.72	3924.62	2038.82	-1930.74	791.33	2086.62	157.71	.00
5812.98	90.29	137.72	3924.11	2123.37	-2004.73	858.60	2180.86	156.82	.00
5912.98	90.29	137.72	3923.61	2207.92	-2078.72	925.87	2275.59	155.99	.00
6012.98	90.29	137.72	3923.10	2292.47	-2152.71	993.14	2370.76	155.23	.00
6112.98	90.29	137.72	3922.60	2377.01	-2226.70	1060.41	2466.31	154.54	.00
6212.98	90.29	137.72	3922.09	2461.56	-2300.70	1127.68	2562.20	153.89	.00
6312.98	90.29	137.72	3921.59	2546.11	-2374.69	1194.95	2658.39	153.29	.00
6412.98	90.29	137.72	3921.08	2630.66	-2448.68	1262.22	2754.85	152.73	.00
6512.98	90.29	137.72	3920.58	2715.21	-2522.67	1329.48	2851.56	152.21	.00
6612.98	90.29	137.72	3920.08	2799.75	-2596.66	1396.75	2948.48	151.72	.00
6712.98	90.29	137.72	3919.57	2884.30	-2670.65	1464.02	3045.61	151.27	.00
6812.98	90.29	137.72	3919.07	2968.85	-2744.64	1531.29	3142.91	150.84	.00
6912.98	90.29	137.72	3918.56	3053.40	-2818.63	1598.56	3240.38	150.44	.00
7012.98	90.29	137.72	3918.06	3137.95	-2892.62	1665.83	3338.00	150.06	.00
7112.98	90.29	137.72	3917.55	3222.49	-2966.62	1733.10	3435.76	149.71	.00
7212.98	90.29	137.72	3917.05	3307.04	-3040.61	1800.36	3533.64	149.37	.00
7312.98	90.29	137.72	3916.55	3391.59	-3114.60	1867.63	3631.63	149.05	.00
7412.98	90.29	137.72	3916.04	3476.14	-3188.59	1934.90	3729.74	148.75	.00
7512.98	90.29	137.72	3915.54	3560.69	-3262.58	2002.17	3827.94	148.46	.00
7612.98	90.29	137.72	3915.03	3645.23	-3336.57	2069.44	3926.23	148.19	.00
7712.98	90.29	137.72	3914.53	3729.78	-3410.56	2136.71	4024.61	147.93	.00
7812.98	90.29	137.72	3914.02	3814.33	-3484.55	2203.98	4123.06	147.69	.00
7912.98	90.29	137.72	3913.52	3898.88	-3558.54	2271.24	4221.59	147.45	.00
8012.98	90.29	137.72	3913.02	3983.43	-3632.54	2338.51	4320.18	147.23	.00
8112.98	90.29	137.72	3912.51	4067.98	-3706.53	2405.78	4418.84	147.01	.00
8212.98	90.29	137.72	3912.01	4152.52	-3780.52	2473.05	4517.55	146.81	.00
8312.98	90.29	137.72	3911.50	4237.07	-3854.51	2540.32	4616.32	146.61	.00
8412.98	90.29	137.72	3911.00	4321.62	-3928.50	2607.59	4715.15	146.43	.00
8512.98	90.29	137.72	3910.49	4406.17	-4002.49	2674.86	4814.02	146.25	.00
8612.98	90.29	137.72	3909.99	4490.72	-4076.48	2742.12	4912.94	146.07	.00
8712.98	90.29	137.72	3909.49	4575.26	-4150.47	2809.39	5011.90	145.91	.00
8812.98	90.29	137.72	3908.98	4659.81	-4224.46	2876.66	5110.90	145.75	.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
8912.98	90.29	137.72	3908.48	4744.36	-4298.45	2943.93	5209.94	145.59	.00
9012.98	90.29	137.72	3907.97	4828.91	-4372.45	3011.20	5309.01	145.45	.00
9112.98	90.29	137.72	3907.47	4913.46	-4446.44	3078.47	5408.12	145.30	.00
9212.98	90.29	137.72	3906.96	4998.00	-4520.43	3145.74	5507.26	145.17	.00
9312.98	90.29	137.72	3906.46	5082.55	-4594.42	3213.01	5606.43	145.03	.00
9412.98	90.29	137.72	3905.96	5167.10	-4668.41	3280.27	5705.63	144.91	.00
9512.98	90.29	137.72	3905.45	5251.65	-4742.40	3347.54	5804.86	144.78	.00
Proposed End of Lateral									
9590.82	90.29	137.72	3905.06	5317.46	-4800.00	3399.90	5882.12	144.69	.00

Job Number: 81xxxx
Company: Black Hills Gas Resources
Lease/Well: Jicarilla 459-19 #141
Location: Rio Arriba County, NM