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OIL CONS. DIV.
DIST. 3

Form 3160-5
(August 2007)

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

SEP 22 2011

FORM APPROVED
OMB No 1004-0137
Expires July 31, 2010

Farmington Field Office
Bureau of Land Management

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 page 2.

1. Type of Well ☐ Oil Well ☒ Gas Well ☐ Other		6. If Indian, Allottee, or Tribe Name Jicarilla Apache Tribe	
2. Name of Operator Black Hills Gas Resources		7. If Unit or CA Agreement Name and/or No. Jicarilla 458-06 #733	
3a. Address 3200 N 1st Street Bloomfield, NM 87413	3b. Phone No. (include area code) (505) 634-1111	8. Well Name and No. Jicarilla 458-06 #733	
4. Location of Well (Footage, Sec., T., R., M., or Survey Description) 1,420' FSL & 1,815' FEL NW/SE Section 6 T30N R3W Lot 8 743' FNL & 0' FEL NE/NE Section 8 T30N R3W Lot 4		9. API Well No. 30-039-30282	
		10. Field and Pool, or Exploratory Area Basin Mancos	
		11. County or Parish, State Rio Arriba County, New Mexico	

12. 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
☐ Subsequent Report	☐ Altering Casing	☐ Fracture Treat	☐ Reclamation	☐ Well Integrity
☐ Final Abandonment Notice	☐ Casing Repair	☐ New Construction	☐ Recomplete	☒ Other Convert Vertical well to Horizontal well
	☒ Change Plans	☐ Plug and abandon	☐ Temporarily Abandon	
	☐ 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 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 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 reclamation, have been completed, and the operator has determined that the site is ready for final inspection.)

The Jicarilla 458-6 #733 was originally approved as a vertical Dakota natural gas well on May 28, 2008 (and extended by sundry on August 31, 2010) and given an API number of 30-039-30282. After recent studies and drills in the surrounding area, Black Hills Gas Resources found the best way to develop the minerals is by drilling a horizontal lateral natural gas well. Therefore Black Hills intends to convert the original vertical Dakota natural gas well to a Mancos horizontal natural gas well, and changing the bottom hole to 743' FNL & 0' FEL NE/NE in Section 8 T30N R3W. Black Hills is submitting a new drilling plan, deviation plan, BOP, and C102.

The surface plans will not need to be modify or change for the original plans, so there will be no new surface plans submitted.

BLM'S APPROVAL OR ACCEPTANCE OF THIS ACTION DOES NOT RELIEVE THE LESSEE AND OPERATOR FROM OBTAINING ANY OTHER AUTHORIZATION REQUIRED FOR OPERATIONS ON FEDERAL AND INDIAN LANDS

CONDITIONS OF APPROVAL
Adhere to previously issued stipulations.

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

Daniel Manus

Regulatory Technician

Signature *Daniel Manus*

Title Date *September 22, 2011*

THIS SPACE FOR FEDERAL OR STATE OFFICE USE

Approved by *Troy L. Salvers*

Title *Petroleum Engineer* Date *2/17/2012*

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)

Hold C104

NOTIFY AZTEC OCD 24 HRS. PRIOR TO CASING & CEMENT

NMOCD

for Directional Survey and "As Drilled" plat

Hold C104 for Directional Survey and "As Drilled" plat

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 July, 16, 2010
Submit one copy to appropriate
District Office

☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

¹ API Number 30-039-30282	² Pool Code 71599	³ Pool Name BASIN MANCOS
⁴ Property Code 22859	⁵ Property Name JICARILLA 458-06	⁶ Well Number 733
⁷ GRID No. 013925	⁸ Operator Name BLACK HILLS GAS RESOURCES	⁹ Elevation 7049'

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
LOT 8	6	30-N	3-W		1420	SOUTH	1815	EAST	SAN JUAN

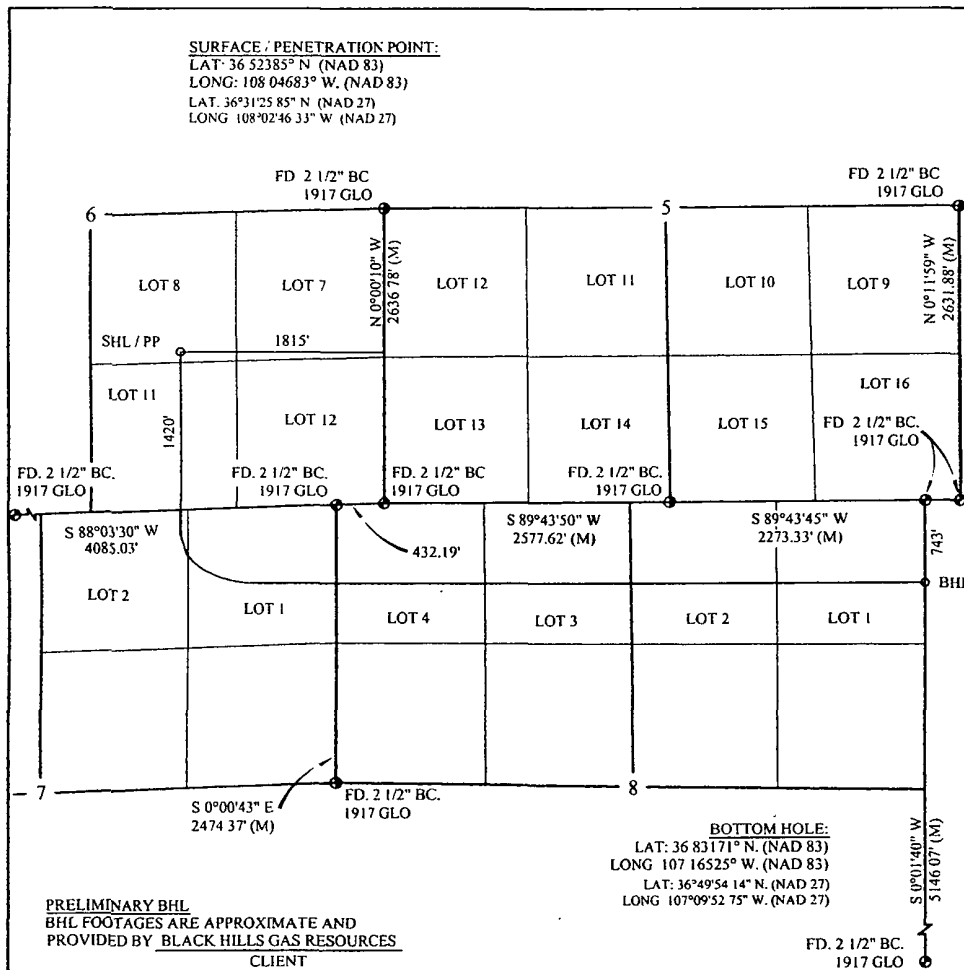
¹¹ Bottom Hole Location If Different From Surface

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
LOT 4	8	30-N	3-W		743	NORTH	0	EAST	SAN JUAN

¹² Dedicated Acres	¹³ Joint or Infill	¹⁴ Consolidation Code	¹⁵ Order No. R-13449
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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

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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.

Daniel Manus 9/22/11
Signature Date

Daniel Manus
Printed Name

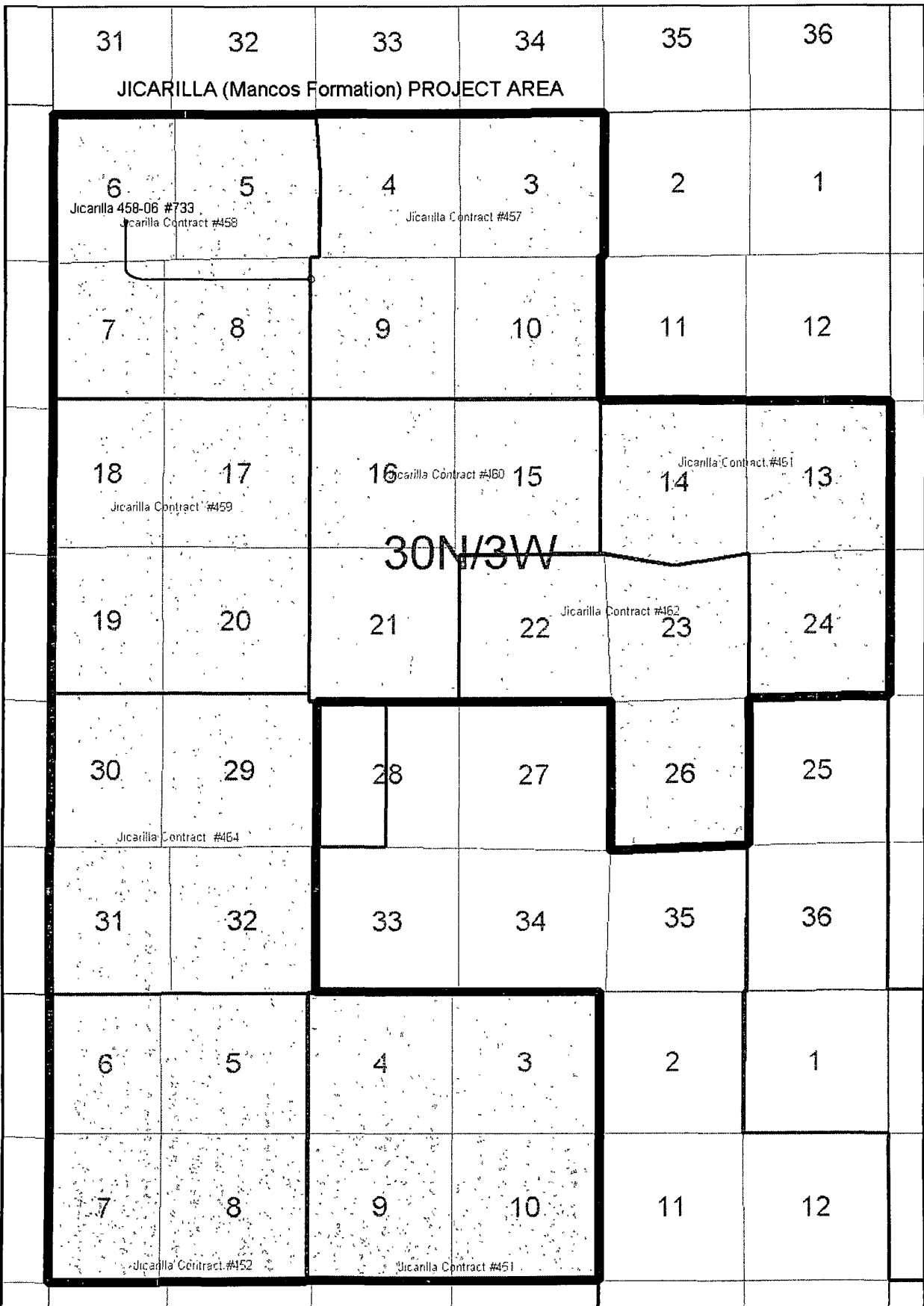
Daniel.Manus@blackhillscorp.com
E-mail Address

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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.

JULY 25, 2011
Date of Survey
ROY A. RUSH
Signature and Seal of Professional Surveyor
NEW MEXICO
REGISTERED PROFESSIONAL LAND SURVEYOR
8894
Certificate Number



BH
Black Hills Gas Resources
 A Black Hills Corporation Enterprise
 East Blanco Field - San Juan Basin
 Rio Arriba County, New Mexico
 JICARILLA 458-06 #722
 Exhibit "A"
 PAM, 08/08/1990, 07:20:00
 PAM, 08/08/1990, 07:20:00

JICARILLA (Mancos Formation) PROJECT AREA



ORDER # R-13449



Black Hills Gas Resources

Jicarilla 458-06 #733

Surface Location: 1,420' FSL 1,815' FEL (NW/SE)

Sec.6 T30N R3W

Bottom Hole Location: 743' FSL & 0' FEL (NE/SE)

Sec.08 T30N R3W

Rio Arriba County, New Mexico

Lease: Contract 458

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 NOS process includes an onsite meeting which was held on November 18, 2010 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.

SURFACE FORMATION – San Jose

GROUND ELEVATION – 7,049'

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

San Jose	Surface	Sandstone, shales & siltstones
Nacimiento	1974'	Sandstone, shales & siltstones
Ojo Alamo	3142'	Sandstone, shales & siltstones
Fruitland Coal	3669'	Sandstone, shales, siltstones & coal
Pictured Cliffs	3712'	Sandstone, shales & siltstones
Lewis	3795'	Sandstone, shales & siltstones
Mesaverde	5683'	Sandstone, shales & siltstones
Mancos	6625'	Sandstone, shales & siltstones

TOTAL DEPTH **7,458' TVD**
 14,678' MD

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

Nacimiento	1974'	Gas, water, sand
Ojo Alamo	3142'	Gas, water, sand
Fruitland Coal	3669'	Gas, water, sand
Pictured Cliffs	3712'	Gas, water, sand
Lewis	3795'	Gas, water, sand
Mesaverde	5683'	Gas, water, sand
Mancos	6625'	Gas, water, sand

HORIZONTAL DRILLING PROGRAMKick-Off Point is estimated to be $\pm 4,052'$ TVD**CASING PROGRAM**

Depth	Hole Diameter	Casing Diameter	Casing Weight and Grade	Cement
0' - 250'	17-1/2"	13-3/8"	54# & J-55	150 sks Class G cement (yield 1.15 ft ³ /sk ; wt. 15.8 lbm/gal)
0' MD – 3,200' MD	12 1/4"	9 5/8"	36# & J-55	Lead: ± 700 sxs Lite Premium cement w/ 0.5 lbm/sxs Gilsonite & 0.125 lbm/sxs Poly-E-Flake (yield 1.82 ft ³ /sxs : wt 12.50 lbm/gal)* Tail: ± 100 sxs Premium cement w/ 0.125 lbm/sxs Poly-E-Flake & 2% Halad@-9 (yield 1.15 ft ³ /sxs : wt 15.80 lbm/gal)*
3,000' MD – 8,652' MD	8 3/4"	7"	23# & N-80	Lead: ± 515 sxs 50/50 Poz Premium cement w/ 0.4% Halad@-413, 0.5% Halad@-344, 0.1% CFR-3, 0.2% Versaset & 0.2% HR-5 (yield 1.44 ft ³ /sxs : wt 13 lbm/gal)* Tail: ± 125 sxs 50/50 Poz Premium cement w/ 0.4% Halad@-413, 0.5% Halad@, 0.015% CRF-3, 0.2% Versaset & 0.4% HR-5 (yield 1.1 ft ³ /sxs : Wt. 15.80/gal)*
0' MD – 14,679' MD	6 1/8"	4 1/2"	11.6# & HCP-110	850 sxs Poz Premium w/ 0.4% Halad@-413, 0.5% Halad@-344, .01% Versaset, 0.4% HR-5 & 0.3% Supe CBL (yield 1.44 ft ³ /sxs : Wt 13.0/gal)*

* Actual cement volume to be determined by caliper log.

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 1,500 psi. Annular type preventor will be pressure tested to 50% of the rated working pressure, not to exceed 2,500 psi. All casing strings will be pressure tested to 0.22 psi/ft. or 1,500 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 5M 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

	Interval to	Type	M.W.	Vis	W.L.	Sld's
Surface	0' – 3,200'	Fresh Water / Spud Mud	$\pm 8.4 - 9.0$ ppg	28 - 32 sec	$\geq 6 - 8$ cc	$\geq 6\%$
Intermediate to KOP	3,000' MD – 8,652' MD	Low solids non-dispersed	$\pm 9.2 - 9.4$ ppg	40 - 50 sec	$\geq 4 - 6$ cc	$\geq 6\%$
BIC to TD of Lateral	8,652' MD – 14,379' MD	Invert OBM	$\pm 10.0 - 10.3$ ppg	28 - 32 sec	n/c	1 - 2%

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: | Mud log | 2-Man Unit | 3,500' to 14,678' |
| | | OpenHole | Tripel Combo w/Spectral GR | |
| | | | DIL/FDC/CNL-SONIC | 1,000' to 8,652' |
| | | Lateral | MWD/GR | 8,652' to 14,678' |
| | | | Measurement while drilling-GR | |
| B) | Coring: | None | | |
| C) | Testing: | DST – None anticipated. Drill stem tests may be run on shows of interest | | |
| | | Manned mud logging unit from 3,500' to 14,658' | | |
| | | Samples | 100 ft samples from 400' to 4,200' | |
| | | | 30 ft samples from 4,200' to 6,000' | |
| | | | 10 ft samples from 6,300' to 6,530' | |
| | | | 10 ft samples from 9,526' to 9,719' | |

ABNORMAL CONDITIONS

- A) Pressures: No abnormal conditions are anticipated
Bottom hole pressure gradient – 0.49 psi/ft
- B) Temperatures: No abnormal conditions are anticipated
- C) H₂S: See attached H₂S plan in event H₂S is encountered.
- D) Estimated bottomhole pressure: 3,746 psi

ANTICIPATED START DATE

November 1, 2011

COMPLETION

The location pad will be of sufficient size to accommodate all completion activities and equipment. BHGR plans to complete the well as follows: Perforate and perform multi-stage slickwater frac in lateral section using plug & perf method for each stage. Perforation intervals and frac volumes will be determined once well logs are run. A sundry notice will be submitted with a revised completion program if warranted.



Job ID : 11xxx

Company : Black Hills Gas Resources

Lease/Well : Jicarilla 458-06 #733

Location : Rio Arriba County, NM

Rig Name :

Elevation (To MSL) : 7049 ft

RKB : 19 ft

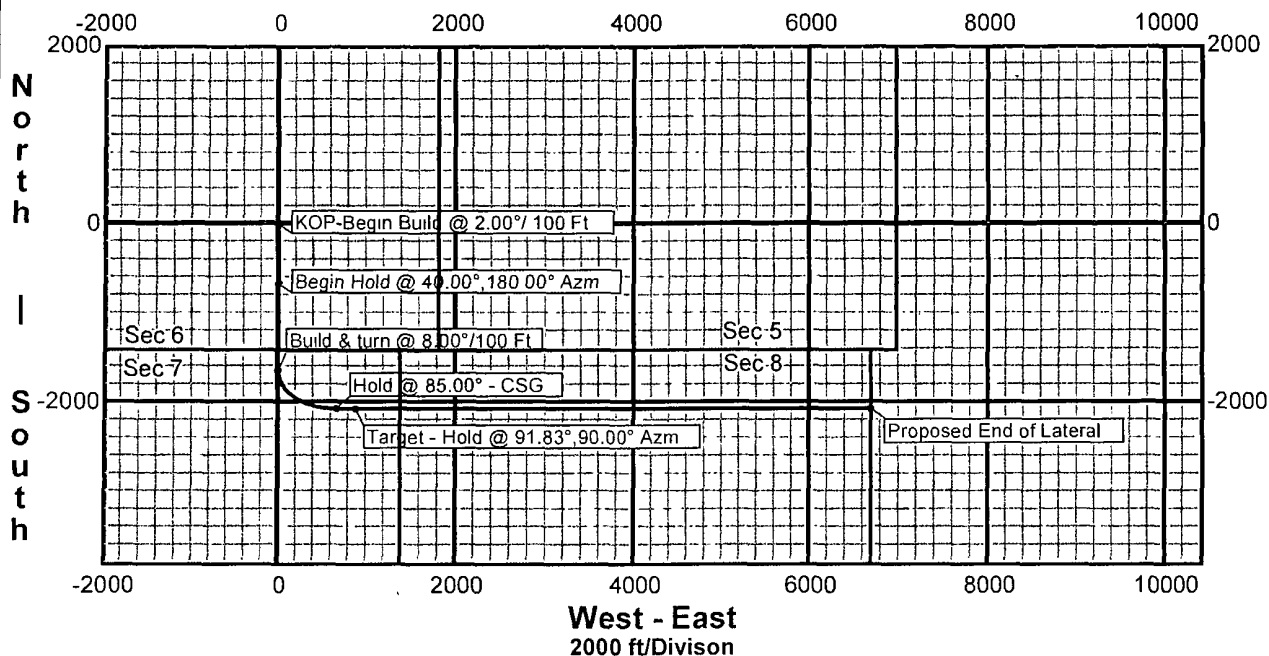
North Reference : True North

Latitude : 36°50'14.5956" N

Longitude : -107°11'17.1451" W

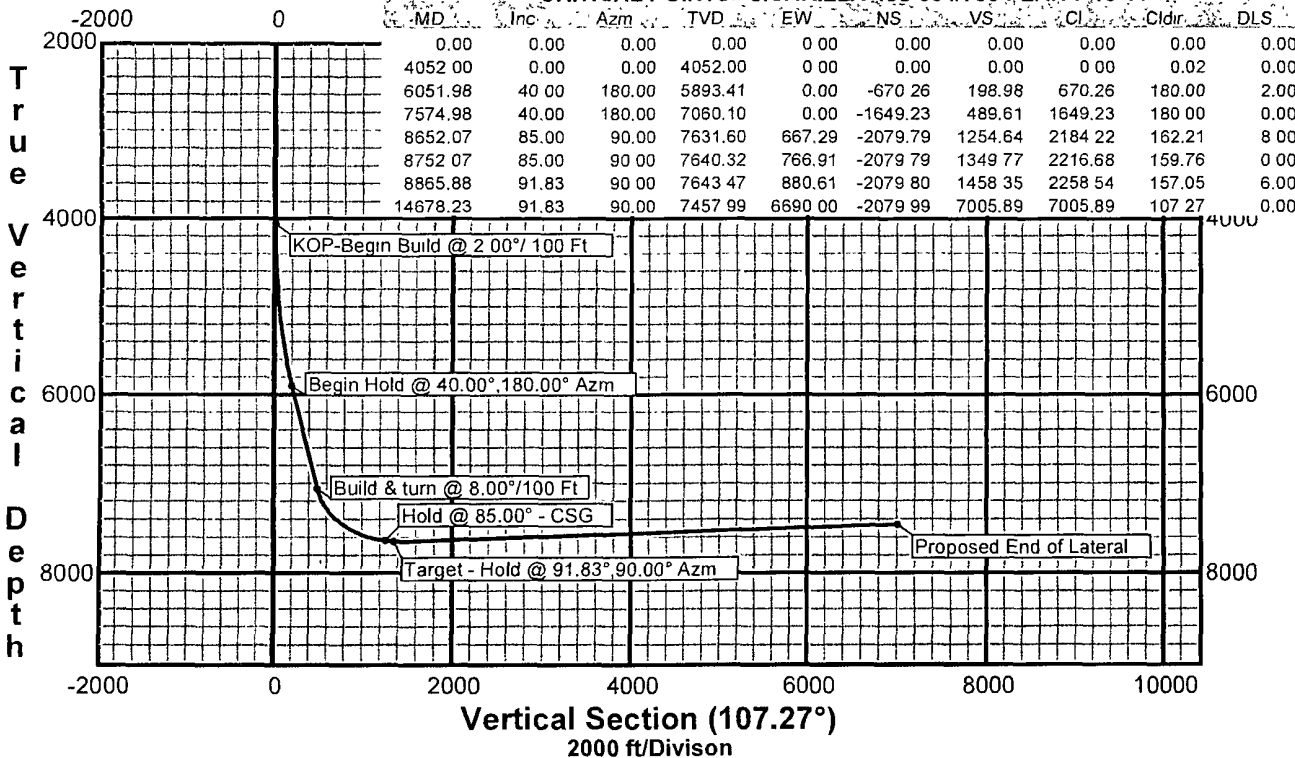


Horizontal Plot



Vertical Section Plot

CRITICAL POINTS - JICARILLA 458-06 #733 PLAN 7-19-11





Job Number: 11xxx
 Company: Black Hills Gas Resources
 Lease/Well: Jicarilla 458-06 #733
 Location: Rio Arriba County, NM
 Rig Name:
 State/County: NM/ Rio Arriba
 Country: USA
 API Number:

Elevation (To MSL): 7049.00 ft
 RKB: 19.00 ft
 Projection System: US State Plane 1983
 Projection Group: New Mexico Central Zone
 Projection Datum: GRS80
 Magnetic Declination: 9.65
 Grid Convergence: -0.56246 W
 Date: Tuesday, July 19, 2011

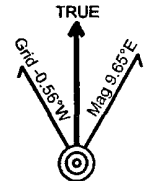
NOVA Directional, Inc.
 Directional Survey Report

Calculated by HawkEye Software
 Minimum Curvature Method
 Vertical Section Plane 107.27°

Northing: 2125443.62 Easting: 1365903.91

Latitude: 36°50'14.5956" N Longitude: -107°11'17.1451" W

Well Location: 1420.00 FSL, 1815.00 FEL, Section 6, T30N, R3W, Meridian 23, Rio Arriba County, NM
 Direction Reference: True North



Measured Depth (Ft)	INC Deg	AZM Deg	TVD (Ft)	NS (Ft)	EW (Ft)	VS (Ft)	Closure (Ft)	Closure Dir Deg	DLS °/100Ft
Surface									
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
500.00	0.00	0.00	500.00	0.00	0.00	0.00	0.00	0.00	0.00
1000.00	0.00	0.00	1000.00	0.00	0.00	0.00	0.00	0.00	0.00
1500.00	0.00	0.00	1500.00	0.00	0.00	0.00	0.00	0.04	0.00
2000.00	0.00	0.00	2000.00	0.00	0.00	0.00	0.00	0.03	0.00
2500.00	0.00	0.00	2500.00	0.00	0.00	0.00	0.00	0.03	0.00
3000.00	0.00	0.00	3000.00	0.00	0.00	0.00	0.00	0.02	0.00
3500.00	0.00	0.00	3500.00	0.00	0.00	0.00	0.00	0.02	0.00
4000.00	0.00	0.00	4000.00	0.00	0.00	0.00	0.00	0.02	0.00
KOP-Begin Build @ 2.00°/ 100 Ft									
4052.00	0.00	0.00	4052.00	0.00	0.00	0.00	0.00	0.02	0.00
4082.00	0.60	180.00	4082.00	-0.16	0.00	0.05	0.16	180.00	2.00
4112.00	1.20	180.00	4112.00	-0.62	0.00	0.19	0.62	180.00	2.00
4142.00	1.80	180.00	4141.99	-1.41	0.00	0.42	1.41	180.00	2.00
4172.00	2.40	180.00	4171.96	-2.51	0.00	0.75	2.51	180.00	2.00
4202.00	3.00	180.00	4201.93	-3.93	0.00	1.17	3.93	180.00	2.00
4232.00	3.60	180.00	4231.88	-5.65	0.00	1.68	5.65	180.00	2.00
4262.00	4.20	180.00	4261.81	-7.70	0.00	2.28	7.70	180.00	2.00
4292.00	4.80	180.00	4291.72	-10.04	0.00	2.98	10.04	180.00	2.00
4322.00	5.40	180.00	4321.60	-12.71	0.00	3.77	12.71	180.00	2.00
4352.00	6.00	180.00	4351.45	-15.69	0.00	4.66	15.69	180.00	2.00
4382.00	6.60	180.00	4381.27	-18.98	0.00	5.64	18.98	180.00	2.00
4412.00	7.20	180.00	4411.05	-22.59	0.00	6.71	22.59	180.00	2.00
4442.00	7.80	180.00	4440.80	-26.50	0.00	7.87	26.50	180.00	2.00
4472.00	8.40	180.00	4470.50	-30.73	0.00	9.12	30.73	180.00	2.00
4502.00	9.00	180.00	4500.15	-35.27	0.00	10.47	35.27	180.00	2.00
4532.00	9.60	180.00	4529.76	-40.12	0.00	11.91	40.12	180.00	2.00
4562.00	10.20	180.00	4559.32	-45.27	0.00	13.44	45.27	180.00	2.00
4592.00	10.80	180.00	4588.81	-50.74	0.00	15.06	50.74	180.00	2.00
4622.00	11.40	180.00	4618.25	-56.52	0.00	16.78	56.52	180.00	2.00
4652.00	12.00	180.00	4647.62	-62.60	0.00	18.59	62.60	180.00	2.00
4682.00	12.60	180.00	4676.93	-68.99	0.00	20.48	68.99	180.00	2.00
4712.00	13.20	180.00	4706.18	-75.69	0.00	22.47	75.69	180.00	2.00
4742.00	13.80	180.00	4735.35	-82.70	0.00	24.55	82.70	180.00	2.00
4772.00	14.40	180.00	4764.44	-90.01	0.00	26.72	90.01	180.00	2.00
4802.00	15.00	180.00	4793.46	-97.62	0.00	28.98	97.62	180.00	2.00
4832.00	15.60	180.00	4822.40	-105.54	0.00	31.33	105.54	180.00	2.00
4862.00	16.20	180.00	4851.25	-113.75	0.00	33.77	113.75	180.00	2.00
4892.00	16.80	180.00	4880.01	-122.28	0.00	36.30	122.28	180.00	2.00

Measured Depth (Ft)	INC Deg	AZM Deg	TVD (Ft)	NS (Ft)	EW (Ft)	VS (Ft)	Closure (Ft)	Closure Dir Deg	DLS °/100Ft
4922.00	17.40	180.00	4908.69	-131.09	0.00	38.92	131.09	180.00	2.00
4952.00	18.00	180.00	4937.27	-140.22	0.00	41.63	140.22	180.00	2.00
4982.00	18.60	180.00	4965.75	-149.64	0.00	44.43	149.64	180.00	2.00
5012.00	19.20	180.00	4994.13	-159.36	0.00	47.31	159.36	180.00	2.00
5042.00	19.80	180.00	5022.41	-169.37	0.00	50.28	169.37	180.00	2.00
5072.00	20.40	180.00	5050.58	-179.68	0.00	53.34	179.68	180.00	2.00
5102.00	21.00	180.00	5078.64	-190.29	0.00	56.49	190.29	180.00	2.00
5132.00	21.60	180.00	5106.60	-201.19	0.00	59.73	201.19	180.00	2.00
5162.00	22.20	180.00	5134.43	-212.37	0.00	63.05	212.37	180.00	2.00
5192.00	22.80	180.00	5162.15	-223.86	0.00	66.46	223.86	180.00	2.00
5222.00	23.40	180.00	5189.74	-235.63	0.00	69.95	235.63	180.00	2.00
5252.00	24.00	180.00	5217.21	-247.69	0.00	73.53	247.69	180.00	2.00
5282.00	24.60	180.00	5244.55	-260.04	0.00	77.20	260.04	180.00	2.00
5312.00	25.20	180.00	5271.76	-272.67	0.00	80.95	272.67	180.00	2.00
5342.00	25.80	180.00	5298.84	-285.59	0.00	84.78	285.59	180.00	2.00
5372.00	26.40	180.00	5325.78	-298.78	0.00	88.70	298.78	180.00	2.00
5402.00	27.00	180.00	5352.58	-312.26	0.00	92.70	312.26	180.00	2.00
5432.00	27.60	180.00	5379.24	-326.02	0.00	96.79	326.02	180.00	2.00
5462.00	28.20	180.00	5405.75	-340.06	0.00	100.96	340.06	180.00	2.00
5492.00	28.80	180.00	5432.11	-354.38	0.00	105.21	354.38	180.00	2.00
5522.00	29.40	180.00	5458.33	-368.96	0.00	109.54	368.96	180.00	2.00
5552.00	30.00	180.00	5484.38	-383.83	0.00	113.95	383.83	180.00	2.00
5582.00	30.60	180.00	5510.29	-398.97	0.00	118.44	398.97	180.00	2.00
5612.00	31.20	180.00	5536.03	-414.38	0.00	123.02	414.38	180.00	2.00
5642.00	31.80	180.00	5561.61	-430.06	0.00	127.67	430.06	180.00	2.00
5672.00	32.40	180.00	5587.02	-446.00	0.00	132.41	446.00	180.00	2.00
5702.00	33.00	180.00	5612.27	-462.20	0.00	137.22	462.20	180.00	2.00
5732.00	33.60	180.00	5637.34	-478.68	0.00	142.11	478.68	180.00	2.00
5762.00	34.20	180.00	5662.23	-495.41	0.00	147.07	495.41	180.00	2.00
5792.00	34.80	180.00	5686.96	-512.40	0.00	152.12	512.40	180.00	2.00
5822.00	35.40	180.00	5711.50	-529.66	0.00	157.24	529.66	180.00	2.00
5852.00	36.00	180.00	5735.86	-547.16	0.00	162.44	547.16	180.00	2.00
5882.00	36.60	180.00	5760.04	-564.92	0.00	167.71	564.92	180.00	2.00
5912.00	37.20	180.00	5784.03	-582.94	0.00	173.06	582.94	180.00	2.00
5942.00	37.80	180.00	5807.83	-601.20	0.00	178.48	601.20	180.00	2.00
5972.00	38.40	180.00	5831.44	-619.71	0.00	183.98	619.71	180.00	2.00
6002.00	39.00	180.00	5854.85	-638.47	0.00	189.55	638.47	180.00	2.00
6032.00	39.60	180.00	5878.06	-657.47	0.00	195.19	657.47	180.00	2.00
Begin Hold @ 40.00°,180.00° Azm									
6051.98	40.00	180.00	5893.41	-670.26	0.00	198.98	670.26	180.00	1.99
6551.98	40.00	180.00	6276.43	-991.65	0.00	294.40	991.65	180.00	0.00
7051.98	40.00	180.00	6659.45	-1313.05	0.00	389.81	1313.05	180.00	0.00
7551.98	40.00	180.00	7042.48	-1634.44	0.00	485.22	1634.44	180.00	0.00
Build & turn @ 8.00°/100 Ft									
7574.98	40.00	180.00	7060.10	-1649.23	0.00	489.61	1649.23	180.00	0.00
7604.98	39.93	176.26	7083.10	-1668.48	0.63	495.93	1668.48	179.98	8.00
7634.98	39.97	172.53	7106.10	-1687.64	2.51	503.41	1687.65	179.91	8.00
7664.98	40.14	168.81	7129.06	-1706.68	5.64	512.06	1706.69	179.81	8.00
7694.98	40.42	165.12	7151.96	-1725.57	10.01	521.84	1725.60	179.67	8.00
7724.98	40.82	161.48	7174.73	-1744.27	15.63	532.75	1744.34	179.49	8.00
7754.98	41.33	157.91	7197.35	-1762.75	22.47	544.77	1762.89	179.27	8.00
7784.98	41.95	154.42	7219.77	-1780.97	30.52	557.87	1781.24	179.02	8.00
7814.98	42.67	151.02	7241.96	-1798.91	39.78	572.04	1799.35	178.73	8.00
7844.98	43.49	147.72	7263.88	-1816.54	50.22	587.24	1817.23	178.42	8.00
7874.98	44.40	144.52	7285.48	-1833.81	61.82	603.45	1834.85	178.07	8.00
7904.98	45.40	141.42	7306.73	-1850.71	74.58	620.64	1852.21	177.69	8.00
7934.98	46.48	138.44	7327.60	-1867.20	88.45	638.79	1869.29	177.29	8.00

Measured Depth (Ft)	INC Deg	AZM Deg	TVD (Ft)	NS (Ft)	EW (Ft)	VS (Ft)	Closure (Ft)	Closure Dir Deg	DLS /100Ft
7964.98	47.63	135.56	7348.04	-1883.25	103.43	657.86	1886.09	176.86	8.00
7994.98	48.85	132.80	7368.03	-1898.84	119.48	677.81	1902.60	176.40	8.00
8024.98	50.14	130.13	7387.52	-1913.94	136.57	698.61	1918.80	175.92	8.00
8054.98	51.48	127.57	7406.47	-1928.52	154.68	720.24	1934.71	175.41	8.00
8084.98	52.88	125.10	7424.87	-1942.55	173.77	742.63	1950.30	174.89	8.00
8114.98	54.33	122.72	7442.67	-1956.02	193.82	765.77	1965.60	174.34	8.00
8144.98	55.82	120.43	7459.84	-1968.89	214.77	789.61	1980.57	173.77	8.00
8174.98	57.36	118.22	7476.36	-1981.15	236.61	814.09	1995.23	173.19	8.00
8204.98	58.93	116.08	7492.20	-1992.77	259.28	839.19	2009.57	172.59	8.00
8234.98	60.54	114.02	7507.32	-2003.74	282.75	864.86	2023.59	171.97	8.00
8264.98	62.17	112.01	7521.70	-2014.02	306.98	891.05	2037.28	171.33	8.00
8294.98	63.84	110.07	7535.32	-2023.62	331.93	917.73	2050.66	170.68	8.00
8324.98	65.53	108.19	7548.15	-2032.50	357.55	944.83	2063.71	170.02	8.00
8354.98	67.24	106.35	7560.17	-2040.66	383.80	972.31	2076.44	169.35	8.00
8384.98	68.97	104.56	7571.36	-2048.08	410.62	1000.14	2088.84	168.66	8.00
8414.98	70.73	102.82	7581.69	-2054.74	437.99	1028.24	2100.90	167.97	8.00
8444.98	72.49	101.11	7591.15	-2060.64	465.83	1056.58	2112.64	167.26	8.00
8474.98	74.28	99.43	7599.73	-2065.76	494.12	1085.11	2124.03	166.55	8.00
8504.98	76.07	97.78	7607.41	-2070.10	522.79	1113.78	2135.09	165.83	8.00
8534.98	77.88	96.16	7614.17	-2073.64	551.80	1142.54	2145.80	165.10	8.00
8564.98	79.69	94.56	7620.00	-2076.39	581.09	1171.32	2156.17	164.37	8.00
8594.98	81.51	92.97	7624.90	-2078.33	610.63	1200.10	2166.18	163.63	8.00
8624.98	83.34	91.41	7628.85	-2079.46	640.34	1228.81	2175.82	162.88	8.00
Hold @ 85.00° - CSG									
8652.07	85.00	90.00	7631.60	-2079.79	667.29	1254.64	2184.22	162.21	8.00
Begin Build @ 6.00°/ 100 Ft									
8752.07	85.00	90.00	7640.32	-2079.79	766.91	1349.77	2216.68	159.76	0.00
8782.07	86.80	90.00	7642.46	-2079.79	796.83	1378.35	2227.21	159.04	6.00
8812.07	88.60	90.00	7643.67	-2079.79	826.81	1406.97	2238.11	158.32	6.00
8842.07	90.40	90.00	7643.93	-2079.79	856.80	1435.62	2249.37	157.61	6.00
Target - Hold @ 91.83°, 90.00° Azm									
8865.88	91.83	90.00	7643.47	-2079.80	880.61	1458.35	2258.54	157.05	6.00
9365.88	91.83	90.00	7627.51	-2079.82	1380.36	1935.57	2496.20	146.43	0.00
9865.88	91.83	90.00	7611.56	-2079.83	1880.10	2412.79	2803.66	137.89	0.00
10365.88	91.83	90.00	7595.60	-2079.85	2379.85	2890.01	3160.61	131.15	0.00
10865.88	91.83	90.00	7579.65	-2079.87	2879.59	3367.23	3552.17	125.84	0.00
11365.88	91.83	90.00	7563.69	-2079.89	3379.34	3844.45	3968.10	121.61	0.00
11865.88	91.83	90.00	7547.74	-2079.90	3879.08	4321.67	4401.51	118.20	0.00
12365.88	91.83	90.00	7531.78	-2079.92	4378.83	4798.89	4847.70	115.41	0.00
12865.88	91.83	90.00	7515.83	-2079.94	4878.57	5276.11	5303.45	113.09	0.00
13365.88	91.83	90.00	7499.87	-2079.95	5378.32	5753.33	5766.50	111.14	0.00
13865.88	91.83	90.00	7483.92	-2079.97	5878.06	6230.55	6235.22	109.49	0.00
14365.88	91.83	90.00	7467.96	-2079.99	6377.81	6707.77	6708.41	108.06	0.00
Proposed End of Lateral									
14678.23	91.83	90.00	7457.99	-2079.99	6690.00	7005.89	7005.89	107.27	0.00
TARGET DATA									
Name	Shape	Easting (Ft)	Northing (Ft)	Subsea TVD (Ft)	NS (Ft)	EW (Ft)	Side A (Ft)	Side B (Ft)	Diameter (Ft)
Jic733 BHL	CYLINDER	1372573.17	2123298.05	390.00	-2080.00	6690.00	100.00	100.00	100.00

5000 psi System

