UNITED STATES DEPARTMENT OF THE INTERIOR BUREAU OF LAND MANAGEMENT

FORM APPROVED OMB No. 1004-0136 Expires January 31, 2004

5. Lease Serial No. Jicarilla Contract 462

APPLICATION FOR PE	RMIT TO DR		ENTER		6. If Indian, Allottee or	
la. Type of Work: DRILL	☐ REENTER	<u> </u>			Jicarilla Apache Nation 7. If Unit or CA Agreem	ent, Name and No.
1b. Type of Well: Oil Well Gas Well	Other	O Sing	RECEIVE 70 FARMINGT gle Zone W Multi	FOR EM	NA 8. Lease Name and Well I Jicarilla 462-22 # 229	
2. Name of Operator					9. API Well No.	
Black Hills Gas Resources					30-039	
3a. Address			(include area code)		10. Field and Pool, or Exp	C 1 1 1/4
PO Box 249/3200 N 1st Street Bloomfield, NM		505-634-111				Jakota
4. Location of Well (Report location clearly and in a	eccordance with a	ny State require	ments. *)		11. Sec., T., R., M., or Bil	k. and Survey or Area
At surface 2025 FNL 2005 FWL SE/NW					F	
At proposed prod. zone 2025' FNL 2055 FWI	L SE/NW				r Sec. 22 T30N R3W M	ler NMP
14. Distance in miles and direction from nearest town of					12. County or Parish	13. State
20 miles Southwest of Duice, NM	•				Rio Arriba	NM
15. Distance from proposed* location to nearest property or lease line, ft. (Also to nearest drig. unit line, if any) 2400 feet		16. No. of Ac	res in lease	17. Spacing	g Unit dedicated to this well	1
18. Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft. 50 feet (Twir	n Loc)	19. Proposed 3	•		BIA Bond No. on file	
21. Elevations (Show whether DF, KDB, RT, GL, etc.	;.)	22. Approxim	ate date work will s	tart*	23. Estimated duration	
7209 GL		6/1/2006			45-60 Days Drig & Compl	
		24. Attach	ments			
The following, completed in accordance with the require	ements of Onshore	e Oil and Gas O	rder No.1, shall be at	tached to this	s form:	
 Well plat certified by a registered surveyor. A Drilling Plan. A Surface Use Plan (if the location is on National SUPO shall be filed with the appropriate Forest Ser 		Lands, the	Item 20 above). 5. Operator certific	ation. specific info	s unless covered by an exi SEE ATTACHE impation and of plans is d	D FOR
25. Signature		i `	Printed/Typed) . Benally		Da	ate 4-26-00
Title						
Regulatory Specialist/Black Hills Gas Resour	rces					
Approved by (Signature)		Name (Printed/Typed)		Da Z	11 0/101
Title		Office			_•	~

*(Instructions on reverse)

Conditions of approval, if any, are attached.

operations thereon.

Application approval 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

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.

DRILLING OPERATIONS AND ARE SUBJECT TO COMPLIANCE WITH ATTACHED "GENERAL REQUIREMENTS".

MMOCD g 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

State of New Mexico Energy, Minerals & Natural Resources Department OIL CONSERVATION DIVISION

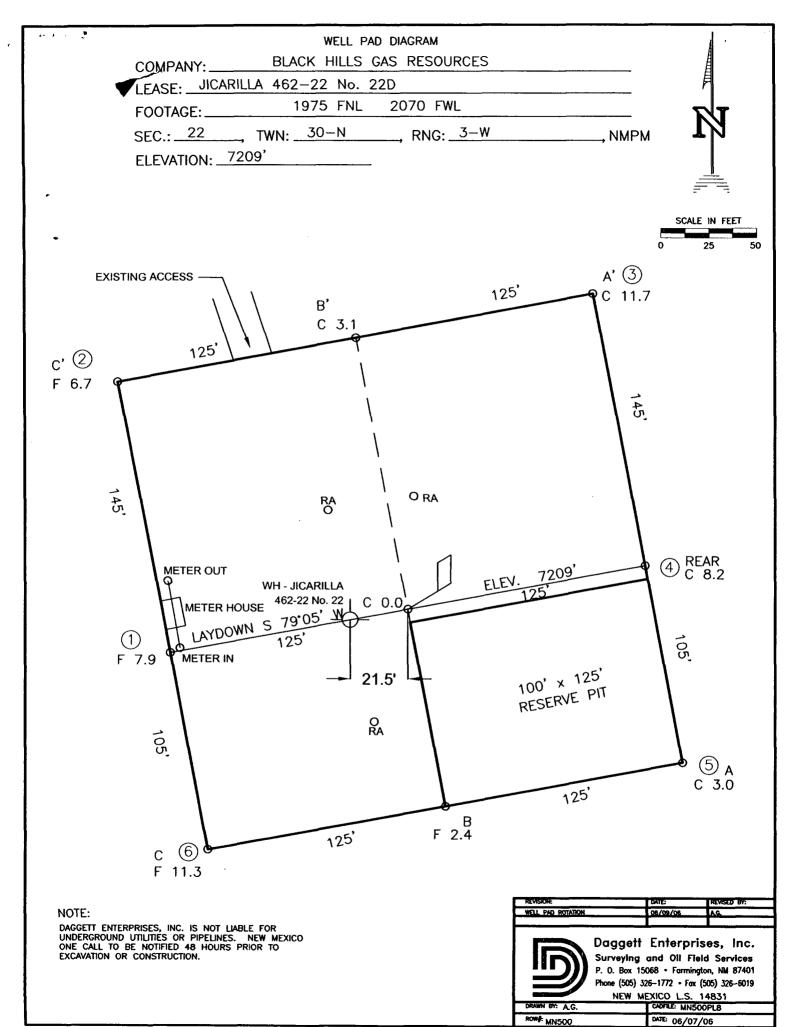
1220 South St. Francis Dr. Santa Fe, NM 87505

Form C-102 Revised October 12, 2005 Submit to Appropriate District Office

State Lease - 4 Copies Fee Lease - 3 Copies

T AMENDED DEPORT

¹ API Number	VV [_ L_ L	LOCATIO	N AND AC	REAGE DED	ICATION PL	_AT					
API Number		² Pool Code 71599		³ Pool Name BASIN DAKOTA				³ Pool Name			
¹.9roperty Code 24245 23				erty Name *Well Number A 462-22 /235							
70GRID No. 013925		BLAC	•	perator Name S GAS RESOURCES 720							
<u> </u>	<u></u>		¹⁰ Surface	Location	·····						
UL or lot no. Section F 22	Township Range	. 1 1	Feet from the 1975	North/South line NORTH	Feet from the 2070	East/West line WEST	County RIO ARRIBA				
	11 B	ottom Hole	Location 1	f Different Fr	om Surface						
UL or lot no. Section	Township Range	e Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County				
¹² Dedicated Acres	13 Joint	or Infill	¹⁴ Consolidation Co	ode	15 Order No.	<u> </u>					
320											
NO ALLOWABLE V				ON UNTIL ALL			CONSOLIDATED				
FND 2 1/2" BC/259 1917 GLO (V) (W) (N) (N) (N) (N) (N) (N) (N) (N) (N) (N	2.9 (M) / /	1917 ((NAD 83)	I hereby ce is true and belief, and interest or including th right to dri contract wi interest, or		tion contained herein t of my knowledge and either owns a working rest in the land ole location or has a atomineral or working g agreement or a				



		WELL PAD CROSS	-SECTIONAL DIAGRA	М	
F		DLACK UILLS	CAS DESCUIDOES		
,	COMPANY:	BLACK HILLS LLA 462-22 No. 2	200 RESOURCES		
	LEASE: UICANA	1975 FNL, 20	070 FWL		
				3_W	NIMOM
		, TWN: <u>30-N</u> 7209'	, KNG.		, NMPW
	ELEVATION:	7203			
			N	OTE:	
				NDERGROUND LITH IT	S, INC. IS NOT LIAE TIES OR PIPELINES. DTIFIED 48 HOURS F
ELEV. A-A	•		C/L	XCAVATION OR CONS	STRUCTION.
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Jicarilla 462-22 #22D

2,025' FNL 2,055' FWL (SE/NW)
Sec.22 T30N R3W
Rio Arriba County, New Mexico
Lease: Contract 462



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 March 9, 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 Mallon Oil Company (Mallon) the predecessor of BHGR, included in the meeting were BLM, BIA and JOGA.

BHGR RESPECTFULLY REQUESTS THAT ALL INFORMATION REGARDING THIS WELL BE KEPT CONFIDENTIAL.

SURFACE FORMATION - San Jose

GROUND ELEVATION - 7,209'

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

San Jose	Surface	Sandstone, shales & siltstones
Ojo Alamo	3,191'	Sandstone, shales & siltstones
Pictured Cliffs	3,699'	Sandstone, shales & siltstones
Lewis	3,815	Sandstone, shales & siltstones
Cliffhouse	5,671'	Sandstone, shales & siltstones
Point Lookout	6,078'	Sandstone, shales & siltstones
Mancos	6,549'	Sandstone, shales & siltstones
Gallup	7,379'	Sandstone, shales & siltstones
Dakota	8,271'	Sandstone
Morrison	8,498'	Sandstone

TOTAL DEPTH 8,698'

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

Ojo Alamo	3,281'	Gas, water, sand
Pictured Cliffs	3,826'	Gas, water, sand
Lewis	3,911'	Gas, water, sand, shale
Cliffhouse	5,797	Gas, water, sand, shale
Point Lookout	6,184'	Gas, water, sand, shale
Mancos	6,658'	Gas, water, sand, shale
Gallup	7,463'	Gas, oil, water, sand, shale
Dakota	8,357	Gas, water, sand, shale
Morrison	8. 582'	• •

~ .	^	70	77	~	**	43.5
CA	21L	١Ci	PK	UU	iΚ	AM

Depth	Hole Diameter	Casing Diameter	Casing Weight and Grade	Cement
0-300'	12-1/4"	9 5/8"	J-55 36# ST&C	+/- 305 sxs Class B
0-3908	8-3/4"	7"	N 80 23# LT&C	+/- 792 sxs lite or 65:35 poz and +/-
3908-TD	6-1/8"	4-1/2"	L-80 11.6# LT&C	+/- 656 sxs lite or 65:35 poz and +/-
Actual cer	ment volume to	be determined 1	by caliper log. Where	coment does not circulat
ields:	Class B yield = 65:35 Poz viel	= 1.18 ft^3/sx d = 1.62 ft^3/sx	a CBL, +	Minimum 206 sxs 50:50 poz coment does not circular emp survey, or other will be

 $65:35 \text{ Poz vield} = 1.62 \text{ ft}^3/\text{sx}$

 $50:50 \text{ Poz yield} = 1.26 \text{ ft}^3/\text{sx}$

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' -3908' Fresh water - Low solids non-dispersed

M.W. 8.5 - 9.2 ppg Vis - 28 - 50 sec

W.L. 15cc or less

Air - Deliver ± 2400 SCFM (Air) @ 1700 psi & 35 gpm fluid. 3908' -8,698

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: 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: 2720 psi

ANTICIPATED START DATE

June 1, 2006

COMPLETION

The location pad will be of sufficient size to accommodate all completion activities and equipment. A string of 2-3/8" J-55 4.7#/ft tubing will be run for a flowing string. A Sundry Notice will be submitted with a revised completion program if warranted.

Jicarilla 464-22 #22D

2,025' FNL 2,055' FWL, (SE /4 NW /4)

> Sec. 22 T 30N **R** 3W

Rio Arriba County, New Mexico

Contract 464

SURFACE CASING AND CENTRALIZER DESIGN

Proposed Total Depth: 8.698 ' 275 ' Proposed Depth of Surface Casing: **Estimated Pressure Gradient:** 0.31 psi/ft

Bottom Hole Pressure at

0.31 psi/ft x 4,000 '

psi

Hydrostatic Head of gas/oil mud:

0.22 psi/ft psi

0.22 psi/ft x 4.000 '

Maximum Design Surface Pressure

Bottom Hole Pressure Hydrostatic Head 0.22 psi/ft 8,698 ') 0.31 psi/ft x 8,698 '

> 2.696 psi

1.914

783 psi

9 5/8 J-55 24# ST&C **Casing Strengths**

Wt. Burst (psi) Collapse (psi) Tension (lbs) 36 # 394,000 3,520 2,020 452.000 2.950 2,570 40 #

Safety Factors

(

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

36 #/ft x 275 ' 9.900 # Tension (Dry): 39.80 Safety Factor = 394.000 ok

9.900

4.50

psi

3.520 Burst: Safety Factor = psi 783 psi

 $0.052 \times 9.0 \text{ ppg} \times$ 275 '= Hvdrostatic = 129 DSÌ

15.70 Safety Factor = 2.020 psi

129

psi

ok

ok

Use 275 ' 9.625 J-55 24# ST&C

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

Centralizers

Collapse:

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

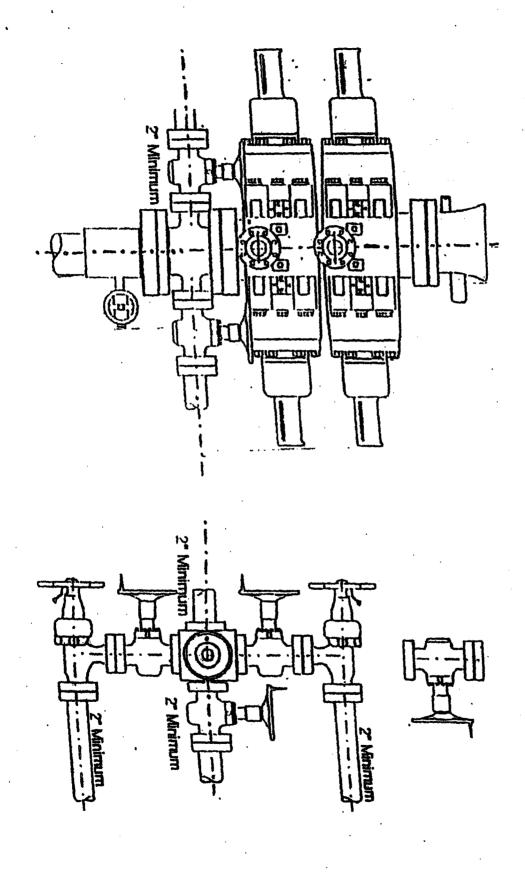
± 200 '(

275') 75' -

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

2-M SYSTEM Black Hills Gas Resources, Inc.

ANNULAR PREVENTOR MAY BE SUBSTITUTED FOR DOUBLE GATE PREVENTORS BOP PRESSURE TEST TO 1,000 PSI





Hydrogen Sulfide Drilling Operations Plan

I. Hydrogen Sulfide Training

All personnel, whether regularly assigned, contracted, or employed on an unscheduled basis, will receive training from a qualified instructor in the following areas prior to commencing drilling operations on this well:

- 1. The hazards and characteristics of hydrogen sulfide (H₂S).
- 2. The proper use and maintenance of personal protective equipment and life support systems.
- 3. The proper use of H₂S detectors, alarms, warning systems, briefing areas, evacuation procedures, and prevailing winds.
- 4. The proper techniques for first aid and rescue procedures.

In addition, supervisory personnel will be trained in the following areas:

- 1. The effects of H₂S on metal components. If high tensile tubular are to be used, personnel will be trained in their special maintenance requirements.
- 2. Corrective action and shut-in procedures when drilling or reworking a well and blowout prevention and will control procedures.
- 3. The contents and requirements of the H₂S Drilling Operations Plan and the Public Protection Plan.

There will be an initial training session just prior to encountering a known or probable H_2S zone (within 3 days or 500 feet) and weekly H_2S and will control drills for all personnel in each crew. The initial training sessions shell include a review of the site specific H_2S Drilling Operations Plan and the Public Protection Plan. This plan shall be available at the well site. All personnel will required to carry documentation that they have received the proper training.

II. H2S safety equipment and Systems

Note: All H₂S safety equipment and systems (if necessary) will be in stalled, tested, and operational when drilling reaches a depth of 500 feet above the three days prior to penetrating the first zone containing or reason ably expected to contain H₂S.

A. Well control equipment:

- 1. Choke manifold with a minimum of one remote choke.
- Blind rams and pipe rams to accommodate all pipe sizes with properly sized closing unit.
- B. Protective equipment for essential personnel

 Mark II Surniveair 30-minute units located in the doghouse and at briefing areas, as indicated on will site diagram.

C. H₂S detection and monitoring equipment:

Two portable H₂S monitors positioned on location for best coverage and response.
 These units have warning lights and aqudilbesirens when H₂S levels of 10ppm.

D. Visual warning systems:

- 1. Wind direction indicators as shown on well site diagram.
- Caution/Danger signs shall be posted on roads providing direct access to location.
 Signs will be painted a high visibility yellow with black lettering of sufficient size to be readable at a reasonable distance from the immediate location. Bilingual signs will be used when appropriate. See example attached.

E. Mud program:

 The mud programs has been designed to minimize the volume of H₂S circulated to the surface. Proper mud weight, safe drilling practices and the use of H₂S scavengers will minimize hazards when penetrating H₂S bearing zones.

F. Metallurgy:

- 1. All drill strings, casings, tubing, wellhead, blowout preventers, drilling spool, kill lines, choke manifold and lines, and valves shall be suitable for H₂S service.
- 2. All elastomers used for packing and seals shall be H₂S trim.

G. Communication:

1. Cellular telephone communications in company vehicles.

H. Well testing:

Drill stem testing will be performed with a minimum number of personnel in the
immediate vicinity which are necessary to safely and adequately conduct the test.
The drill stem lesting will be conducted during daylight hours and formation fluids
will not be flowed to the surface. All drill stem testing operations conducted in an
H₂S environment will use the closed chamber method of testing.

Form 3160-5 (April 2004)	UNITED STATES DEPARTMENT OF THE INTERIOR				FORM APPROVED OM B No. 1004-0137 Expires: March 31, 2007		
	BUREAU OF LAND MAN			5. Lease Sen			
SUNDRY	NOTICES AND RE	PORTS ON V	veglsam 8 4		459 462		
Do not use th	is form for proposals (to drill or to r	e-enter an	1	n, Allottee or Tribe Name		
w penophaga	ell. Use Form 3160-3 (APD) for such	CECEIVED		a Apache Nation		
SUBMIT IN TRI	PLICATE- Other inst	ructionໂຮ້ໄດ້ກ ເັອ	x ersa sida .on ni	7. If Unit o	or CA/Agreement, Name and/or No.		
	Gas Well Other				nme and No. la 462-22		
2. Name of Operator Black Hills G	as Resources, Inc.			9. API W			
3a Address P.O. Box 249 / 3200 N 1st St B	loomfield, NM 87413	3b. Phone No. (inc 505 634-1111	lude area code)	10. Field a	nd Pool, or Exploratory Area		
4. Location of Well (Footage, Sec.,	T., R., M., or Survey Description)				Dakota		
At surface 1,975' FNL 2,070' F AT proposed Prod. zone 1,975		4 Unit F		}	or Parish, State		
12. CHECK A	PPROPRIATE BOX(ES) TO	INDICATE NAT	TURE OF NOTICE, F	REPORT, O	R OTHER DATA		
TYPE OF SUBMISSION			TYPE OF ACTION				
✓ Notice of Intent	Acidize	Deepen	Production (St	art/Resume)	Water Shut-Off		
	Alter Casing Casing Repair	Fracture Treat	Reclamation		Well Integrity Other		
Subsequent Report	Change Plans	New Constructi Plug and Aband		handon			
Final Abandonment Notice	Convert to Injection	Plug Back	Water Disposal				
following completion of the inv testing has been completed. Fit determined that the site is ready On June 7, 2006, the Jicar	volved operations. If the operation nal Abandonment Notices shall be of for final inspection.)	results in a multiple of filed only after all required with Jicarilla Oil a	ompletion or recompletion uirements, including reclar and Gas, BIA and Black	in a new interv nation, have be	reports shall be filed within 30 days ral, a Form 3160-4 shall be filed once en completed, and the operator has esources. Base on the on-site, the		
Pleas Find attachments of	-			124.56/89/24/24/24/24/24/24/24/24/24/24/24/24/24/	COL ST. BL. L. S.		
14. I hereby certify that the fore Name (Printed/Typed)	going is true and correct						
Daniel R. Manus	1	Title	Regulatory Technicis	n			
Signature / August	Saws	Dat	: 6/2/0	6			
	THIS SPACE FOR	FEDERAL OF	STATE OFFICE	USE			
Approved by	Manthe 4		Title ATO	U	Date 7/15/86		
Conditions of approval, if any are a certify that the applicant holds legal which would entitle the applicant to	or equitable title to those rights	ages not warrant or in the subject lease	Office FF	د			

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(Instructions on page 2)