

District I
1625 N. French Dr., Hobbs, NM 88240
District II
1301 W. Grand Avenue, Artesia, NM 88210
District III
1000 Rio Brazos Road, Aztec, NM 87410
District IV
1220 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico
Energy Minerals and Natural Resources

Form C-101
March 4, 2004

Oil Conservation Division
1220 South St. Francis Dr.
Santa Fe, NM 87505

RECEIVED
Submit to appropriate District Office
State Lease - 6 Copies
Fee Lease - 5 Copies
APR 19 2004

OCD-ARTESIA

☐ AMENDED REPORT

APPLICATION FOR PERMIT TO DRILL, RE-ENTER, DEEPEN, PLUGBACK, OR ADD A ZONE

Operator Name and Address Eagle Resources, LP. P.O. BOX 3900, Roswell, NM 88202-3900		OGRID Number 182893
Property Code FEE	Property Name Barnard 3B	API Number 30-003-63659
		Well No. #1

Surface Location

UL or lot no. B	Section 3	Township 3-S	Range 29-E	Lot Idn	Feet from the 660	North/South line FNL	Feet from the 1980	East/West line FEL	County Chaves
---------------------------	---------------------	------------------------	----------------------	---------	-----------------------------	--------------------------------	------------------------------	------------------------------	-------------------------

Proposed Bottom Hole Location If Different From Surface

UL or lot no. 1	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
Proposed Pool 1 Wildcat; G6+1634					Proposed Pool 2				

Drilling Pit Location and Other Information

UL or lot no. B	Section 3	Township 3-S	Range 29-E	Lot Idn	Feet from the 660	North/South line FNL	Feet from the 1980	East/West line FEL	County CHAVES
Depth to ground water 100'				Distance from nearest fresh water well 1800'		Distance from nearest surface water 1.5 MILES			
Work Type Code DRILLING		Well Type Code OIL		Cable/Rotary ROTARY		Lease Type Code FEE		Ground Level Elevation 4354	
Multiple		Proposed Depth 3350'		Formation GLORIETA		Contractor UNITED		Spud Date 4-21-04	

Proposed Casing and Cement Program

Hole Size	Casing Size	Casing weight/foot	Setting Depth	Sacks of Cement	Estimated TOC
12 1/2	85/8"	24 #	300	240	SURFACE
7 7/8	5 1/2"	15.50 #	3350	800	SURFACE

22 Describe the proposed program. If this application is to DEEPEN or PLUG BACK, give the data on the present productive zone and proposed new productive zone. Describe the blowout prevention program, if any. Use additional sheets if necessary.

PLAN TO USE AIR/FOAM SURFACE TO TD
Will HAVE FLUID STAND BY IF NOT FEASIBLE
MUD 9.6 VLS.40 WL. 6-10

23 I hereby certify that the information given above is true and complete to the best of my knowledge and belief. I further certify that the drilling pit will be constructed according to NMOC guidelines ☒ a general permit ☐, or an (attached) alternative OCD-approved plan ☐.

Signature:

Tim Collier

Printed name: **TIM COLLIER**

Title: **AGENT/OPS**

E-mail Address: **timc@eaglen-g.com**

Date: **4/16/04**

Phone: **505-622-8800**
cell 626-4106

OIL CONSERVATION DIVISION

Approved by:

ORIGINAL SIGNED BY TIM W. COON
DISTRICT II SUPERVISOR

Title:

Approval Date: **APR 20 2004**

Expiration Date: **APR 20 2005**

Conditions of Approval:

Attached ☐

District I
PO Box 1988, Hobbs, NM 88241-1988
District II
PO Drawer DD, Artesia, NM 88211-0719
District III
1000 Rio Brazos Rd., Aztec, NM 87410
District IV
PO Box 2088, Santa Fe, NM 87504-2088

State of New Mexico
Energy, Minerals & Natural Resources Department

OIL CONSERVATION DIVISION
PO Box 2088
Santa Fe, NM 87504-2088

Form C-102
Revised February 10, 1994
Instructions on back
Submit to Appropriate District Office
State Lease - 4 Copies
Fee Lease - 3 Copies

☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

* API Number		* Pool Code	* Pool Name UND Gloria
* Property Code FEE	* Property Name BARNARD 3B		* Well Number 1
* OGRID No. 182843	* Operator Name Eagle Resources, LP PO BOX 3900 ROSWELL NM 88202		* Elevation 4354

10 Surface Location

UL or lot no. B	Section 3	Township 3s	Range 29e	Lot Ida	Feet from the 660	North/South line North	Feet from the 1980	East/West line East	County Chaves
--------------------	--------------	----------------	--------------	---------	----------------------	---------------------------	-----------------------	------------------------	------------------

11 Bottom Hole Location If Different From Surface

UL or lot no.	Section	Township	Range	Lot Ida	Feet from the	North/South line	Feet from the	East/West line	County
---------------	---------	----------	-------	---------	---------------	------------------	---------------	----------------	--------

12 Dedicated Acres 40	13 Joint or Infill	14 Consolidation Code	15 Order No.
--------------------------	--------------------	-----------------------	--------------

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					<p>17 OPERATOR CERTIFICATION</p> <p>I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief</p> <p><i>Tim Collier</i> Signature TIM COLLIER Printed Name Agent, OPS Title APRIL 16, 2004 Date</p>
<p>18 SURVEYOR CERTIFICATION</p> <p>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.</p> <p>Date of Survey APR 16 2004 Signature and Seal of Professional Surveyor </p> <p>8112 Certificate Number</p>					



NEW MEXICO ENERGY, MINERALS and NATURAL RESOURCES DEPARTMENT

BILL RICHARDSON
Governor

Joanna Prukop
Cabinet Secretary
Acting Director
Oil Conservation Division

20 April 2004

Eagle Resources, LP
P. O. Box 3900
Roswell, New Mexico 88202-3900

RE:

Approval of pit permit - Barnard 3B #1 660FNL & 1980 FEL SEC-3 T-3S R-29E

The Oil Conservation Division of Artesia is in receipt of your application to construct a pit for the purpose of drilling. The request is hereby accepted and approved with the following provisions:

1. The pit is not located in any watercourse, lakebed, sinkhole, playa lake, or wetland.
2. Notice is to be given to the OCD prior to construction of the pit(s).
3. Upon cessation of drilling the freestanding fluid will be removed and disposed of in an OCD approved facility.
4. Pit encapsulations must meet all specific criteria including, but not limited to:
 - A. Site evaluation
 - B. Liner thickness and type must meet requirements as per guidelines.
 - C. Amount of and type of cover
 - D. Drill cuttings will be sampled as per guidelines. Notify OCD 48 hours prior to any sampling event
 - E. In the event that the integrity of the pit lining is breached in a manner such that soil contamination would result, the contents of the pit will have to be disposed of in an approved OCD facility.
5. The pit will not be used for any additional storage of fluids.
6. The Division may attach additional conditions to any permit upon a finding that such conditions are necessary to prevent the contamination of fresh water, or to protect public health or the environment. (19.15.2.50.C.3.G.1.)
7. Re-seeding mixture will must be approved or authorized by surface owner.

If I can be of any further assistance, please feel free to call (505) 748-1283 ext. 109.

Sincerely,

Van Barton

Eagle Resources, LP
Barnard 3B #1
Hydrogen Sulfide Contingency Plan
For Drilling/Workover/Facility
Sec. 3, T-3-S, R-29-E, Chaves, New Mexico
660 FNL, 1980 FEL
N 34 deg. 4' 46.8" W 103 deg. 53' 48.2"

This well and its anticipated facility are not expected to have Hydrogen Sulfide releases. However, there is known Hydrogen Sulfide in the nearby are. This is a Wildcat San Andres, Glorieta test. Due to these facts the following plan has been orchestrated pursuant to NMOCD rule 19.15.3.118

EAGLE RESOURCES, LP
BARNARD 3B #1
Hydrogen Sulfide Contingency Plan
For Drilling/Workover/Facility
660' FNL & 1,980' FEL. SEC 3. T3S. R29E.
CHAVES COUNTY. NEW MEXICO

TABLE OF CONTENTS

COVER PAGE AND REASONING
GENERAL EMERGENCY PLAN
EMERGENCY PROCEDURE FOR UNCONTROLLED RELEASES OF H₂S
EMERGENCY NUMBERS AND
PRODUCTION OF THE GENERAL RADIUS OF EXPOSURE (ROE)
PUBLIC EVACUATION PLAN
PROCEDURE FOR IGNITING AN UNCONTROLLABLE CONDITION:
PREOCEURE FOR IGNITION
REQUIRED EMERGENCY EQUIPMENT
USING SELF CONTAINED BREATHING AIR EQUIPMENT (SCBA)
RESCUE & FIRST AID FOR VICTIMS OF HYDROGEN SULFIDE
(H₂S) POISONING
H₂S TOXIC EFFECTS
H₂S PHYSICAL EFFECTS
LOCATION MAP

EAGLE RESOURCES, LP BARNARD 3B #1

Hydrogen Sulfide Contingency Plan For Drilling/Workover/Facility

660' FNL & 1,980' FEL. SEC 3. T3S, R29E. CHAVES COUNTY. NEW MEXICO

General H2S Emergency Actions:

1. All personnel will immediately evacuate to an up-wind and If possible up-hill "safe area"
2. If for any reason a person must enter the hazardous area, they must wear a SCBA (Self Contained Breathing Apparatus)
3. Always use the "buddy system"
4. Isolate the well and/or the problem if possible
5. Account for all personnel
6. Display the proper colors warning all unsuspecting personnel of the danger at hand.
7. Contact the Company personnel as soon as possible if not at the location. (use the enclosed call list as Instructed)

At this point the company representative will evaluate the situation and coordinate the necessary duties; to bring the situation under control, and if necessary, the notification of the emergency response agencies and nearby residents.

EMERGENCY PROCEDURES FOR AN UNCONTROLABLE RELEASE OF H2S

1. All personnel will don the self contained breathing apparatus.
2. Remove all personnel to the "safe area". (always use the buddy system).
3. Contact company personnel if not on location.
4. Set in motion the steps to protect and or remove the general public to an upwind "safe area".
Maintain strict security & safety procedures while dealing with the source.
5. No entry to any unauthorized personnel.
6. Notify the appropriate agencies: : City Police-City Street (s)
 State Police- State Rd
 County Sheriff- County Rd.
7. Call the NMOCD

EAGLE RESOURCES, LP

BARNARD 3B #1

Hydrogen Sulfide Contingency Plan For Drilling/Workover/Facility

660' FNL & 1,980' FEL. SEC 3. T3S, R29E. CHAVES COUNTY. NEW MEXICO

If at the time the supervising person determines that the release of H2S cannot be contained to the site location and the general public to in harm way he will take the necessary steps to protect the workers and the public.

EMERGENCY CALL UST: (Start and continue until ONE of the— people have been contacted)

EAGLE RESOURCES, LP	MOBILE	OFFICE	HOME
Eagle Resources, LP		505/622-8800	
Tim Collier	505/626-4106	505/622-8800	505/625-0494
Rory McMin	505/626-7100	505/622-8800	505/624-2127
Cody Ferguson, Tomahawk Pumping	505/760-4688		505/274-6251

UNITED DRILLING, INC.

United Drilling		505/623-7730	
Angel Salazar	505/910-2003	505/623-7730	505/622-3407
Juan Aguilar, Toolpusher	505/910-2006	505/623-7730	
Rig #4	505/910-2014		
George Aho, Safety Manager	505/910-2001	505/623-7730	
Jackie Grimes, Roosevelt County Road Superintendent	505/760-0555		

EMERGENCY RESPONSE NUMBERS:

State Police:	Chaves County	505/622-7200
Slate Police:	Roosevelt County	505/356-5139
Sheriff:	Chaves County	505/624-6500
Sheriff:	Roosevelt County	505/356-4408
Emergency Medical Ser (Ambulance)	Chaves County	911 or 505/624-6800
	Roosevelt County	
	Portales	911 or 505/356-4406
Emergency Response	Chaves County SERC	505/624-6770
	Roosevelt County	505/939-8218
Portales Police Dept.		911 or 505/356-4404
Elida Police Dept.		911

EAGLE RESOURCES, LP

BARNARD 3B #1

Hydrogen Sulfide Contingency Plan For Drilling/Workover/Facility

660' FNL & 1,980' FEL, SEC 3. T3S. R29E, CHAVES COUNTY, NEW MEXICO

Elida Fire Dept.	911 or 505/274-6373
Portales Police Dept	911 or 505/356-4404
Portales Fire Dept	911 or 505/356-4406
Roswell Police Dept	911 or 505/624-6770
Clovis Police Dept	911 or 505/769-1921
Clovis Fire Dept	911 or 505/769-7814
Clovis Ambulance	911
Portales Police Dept	505/356-4404
Portales Fire Dept	505/356-4406
Portales Ambulance	505/356-4406

NMOCD District 1 (Lea, Roosevelt, Curry)	505/393-6161
District 2 (Eddy & Chaves)	505/748-1283
Callaway Safety Contact Lea County	505/392-2973
BJ Services Artesia	505/746-3140
Hobbs	505/392-5556
Halliburton Artesia	800/523-2482
Hobbs	800/523-2482
Wild Well Control Midland	432/550-6202
Mobile	432/553-1166

EAGLE RESOURCES, LP BARNARD 3B #1

Hydrogen Sulfide Contingency Plan For Drilling/Workover/Facility

660' FNL & 1,980' FEL. SEC 3. T3S. R29E. CHAVES COUNTY. NEW MEXICO

PROTECTION OF THE GENERAL PUBLIC (ROE)

- 100 ppm at any public area (any place not associated with this site)
- 500 ppm at any public road (any road which the general public may travel)
- 100 ppm radius of ¼ mile in New Mexico will be assumed if there is insufficient data to do the calculations, and there is a reasonable expectation that H₂S could be present in concentrations greater than 100 ppm in the gas mixture

CALCULATIONS FOR THE 100 PPM (ROE "Pasquill-Gifford equation")

$X = [(1.589) (\text{mole fraction}) (Q - \text{volume in std cu ft}) \text{ to the power of } (0.6258)]$

CALCULATION FOR THE 500 PPM ROE:

$X = [(.4546) (\text{mole fraction}) (Q - \text{volume in std cu ft}) \text{ to the power of } (0.6268)]$

Example:

If a well/facility has been determined to have 150 / 500 ppm H₂S in the gas mixture and the well/facility is producing at a gas rate of 100 MCFPD then:

150 ppm $X = [(1.589) (.00015) (100,000 \text{ cfd}) \text{ to the power of } (.6258)]$
 $X = 7\text{ft}$

500 ppm $X = [(.4546) (.0005) (100,000 \text{ cfd}) \text{ to the power of } (.6258)]$
 $X = 3.3\text{ft}$

(These calculations will be forwarded to the appropriate District NMOCD office when Applicable)

PUBLIC EVACUATION PLAN:

- 1. Notification of the emergency response agencies of the hazardous condition and implement evacuation procedures.
- 2. A person trained in H₂S safety, shall monitor with detection equipment the H₂S concentration, wind and area exposure (ROE). This person will determine the outer perimeter of the hazardous area. The extent of the evacuation area will be determined from the data being collected. Monitoring shall continue until the situation has been resolved. (All monitoring equipment shall be UL approved, for use in class 1 groups A, B, C & D, Division 1, hazardous locations. All monitors will have a minimum capability of measuring H₂S, oxygen, and flammable values).
- Law enforcement shall be notified to setup necessary barriers and maintain such for the duration of the situation as well as aid in the evacuation procedure.
- The company supervising personnel shall stay in communication with all agencies through out the duration of the situation and inform such agencies when the situation has been contained and the effected area(s) is safe to enter.

EAGLE RESOURCES, LP

BARNARD 3B #1

Hydrogen Sulfide Contingency Plan For Drilling/Workover/Facility

660' FNL & 1,980' FEL. SEC 3, T3S, R29E, CHAVES COUNTY, NEW MEXICO

PROCEDURE FOR IGNITING AN UNCONTROLABLE CONDITION:

- 1. Human life and/or property are in danger
- 2. There is no hope of bringing the situation under control with the prevailing conditions at the site.

INSTRUCTION FOR IGNITION:

- 1. Two people are required. They must be equipped with positive pressure, self contained breathing apparatus and a "D" ring style full body, OSHA approved safety harness. Non flammable rope will be attached.
- 2. One of the people will be qualified safety person who will test the atmosphere for H₂S, Oxygen & LFL. The other person will be the company supervisor; he is responsible for igniting the well.
- 3. Ignite up wind from a distance no closer than necessary. Make sure that where you ignite from has the maximum escape avenue available. A 25 mm flare gun shall be used, with a \pm 500 ft. range to ignite the gas.
- 4. Prior to ignition, make a final check for combustible gases.
- 5. Following Ignition, continue with the emergency actions & procedures as before.

REQUIRED EMERGENCY EQUIPMENT:

- **1. Breathing apparatus:**
 - » Rescue Packs (SCBA) -1 unit shall be placed at each breathing area, 2 shall be stored in the safety trailer.
 - » Work/Escapes packs - 4 shall be stored on the rig floor with sufficient air hose to not restrict work activity.
 - » Emergency Escape Packs - 4 packs shall be stored in the doghouse for emergency evacuation.
- **2. Signage & Flagging:**
 - » One color code condition sign will be placed at the entrance to the site reflecting the possible conditions at the site.
 - » A colored condition flag will be on display, reflecting the condition at the site at the time.
- **3. Briefing Area:** Two perpendicular areas will be designated by signs and will be readily accessible.
- **4. Wind Socks:** Two wind socks will be placed in strategic locations, visible from all angles.
- **9. Auxiliary Rescue Equipment**
 - » Stretcher

EAGLE RESOURCES, LP BARNARD 3B #1

Hydrogen Sulfide Contingency Plan For Drilling/Workover/Facility

660' FNL & 1,980' FEL SEC 3,T3S, R29E, CHAVES COUNTY, NEW MEXICO

- **5. H2S detectors and alarms:** The stationary detector with three sensors will be placed in the upper dog house if equipped, set to visually alarm @ 10 ppm and audible @ 14 ppm. Calibrate a minimum of every 30 days or as needed. The sensors will be placed in the following places: (Gas sample tubes will be stored in the safety trailer)
 - » Rig Floor
 - » Bell Nipple
 - » End of Flow line or where well bore fluids are being discharged.

- **9. Auxiliary Rescue Equipment**
 - » Stretcher
 - » Two OSHA full body harnesses
 - » 100 ft. 5/8 inch OSHA approved rope
 - » 1-20# class ABC Fire Extinguisher
 - » Communication via cell phones on location and vehicles on location.

- **(SCBA) SHOULD BE WORN WHEN ANY OF THE FOLLOWING ARE PERFORMED:**
 - » Working near the top or on top of a tank
 - » Disconnecting any line where H2S can reasonably be expected
 - » Sampling air in the area to determine if toxic concentrations of H2S exist.
 - » Working in areas where over 10 ppm on H2S has been detected.
 - » At any time there is a doubt as the level OF H2S in the area.

- All personnel shall be trained in the use of SCBA prior to working in a potentially hazardous location.
- Facial hair and standard eyeglasses are not allowed with SCBA.
- Contact lenses are never allowed with SCBA.
- Air quality shall be continuously checked during the entire operation.
- After each use, the SCBA unit shall be cleaned, disinfected, serviced and Inspected
- All SCBA shall be inspected monthly.

RESCUE AND FIRST AID FOR VICTIMS OF HYDROGEN SULFIDE H2S POISONING:

- Do not panic
- Remain Calm & think
- Get on the breathing apparatus
- Remove the victim to the safe breathing area as quickly as possible, up wind and uphill from the source or cross wind to achieve upwind.
- Notify emergency response personnel.

HYDROGEN SULFIDE TOXIC EFFECTS

H₂S is extremely toxic. The acceptable ceiling for eight hours of exposure is 10 ppm, which is .001% H₂S to approximately 20% heavier than air (Sp.Gr. = 1.19)(Air=1) and colorless. It forms an explosive mixture with air between 4.3% and 46%. By volume hydrogen sulfide is toxic as hydrogen cyanide and is 5-6 times more toxic than carbon monoxide.

VARIOUS GASES

COMMON NAME	CHEMICAL ABBREV.	SPECIFIC GRAVITY	THRESHOLD LIMITS	HAZARDOUS LIMITS	LETHAL CONCENTRATIONS
Hydrogen Sulfide	H ₂ S	1.19	10 ppm 15 ppm	100 ppm/hr	600ppm
Hydrogen Sulfide	HCN	0.94	10 ppm	150 ppm/hr	300 ppm
Sulfur Dioxide	SO ₂	2.21	2 ppm	N/A	1000 ppm
Chlorine	CL ₂	2.45	1 ppm	4 ppm/hr	1000 ppm
Carbon Monoxide	CO	0.97	50 ppm	400 ppm/hr	1000 ppm
Carbon Dioxide	CO ₂	1.52	5000 ppm	5%	10%
Methane	CH ₄	0.55	90,000 ppm	Combustible at 5%	N/A

Threshold Limit: Concentrations at which it is believed that all workers may be repeatedly exposed, day after day without adverse effects.

Hazardous Limit: Concentration may cause death.

Lethal Concentrations: Concentrations that will cause death with short term exposure.

Threshold Limit-10 PPM: NIOSH guide to chemical hazards.

PHYSICAL EFFECTS OF HYDROGEN SULFIDE:

CONCENTRATION	PHYSICAL EFFECTS
0.001% 10 ppm	Obvious and unpleasant odor. Safe for 8 hr. exposure.
.005% 50 ppm	Can cause some flu like symptoms and can cause pneumonia.
.01% 100 ppm	Kills sense of smell in 3-5 minutes. May irritate the eyes and Throat.
.02% 200 ppm	Kills the sense of smell rapidly. Severely irritates the eyes and throat. Severe flu like symptoms after 4 or more hours. May cause lung damage and/or death.
	Loss of consciousness quickly, death will result if not





