ATS-10-29 lm

OCD Artesia

RECEIVED
DEC 31 2009
NMOCD ARTESIA

Form 3160-3
(August 2007)

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

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

APPLICATION FOR PERMIT TO DRILL OR REENTER

5. Lease Serial No.
NMNM110829

6. If Indian, Allotee or Tribe Name
N/A

1a. Type of work: ☑ DRILL ☐ REENTER

7. If Unit or CA Agreement, Name and No.
N/A

1b. Type of Well: ☑ Oil Well ☐ Gas Well ☐ Other ☑ Single Zone ☐ Multiple Zone

8. Lease Name and Well No.
Jitterbug Federal #2

2. Name of Operator BC Operating, Inc. OGRID 160825
Brian Arnold (432) 684-9696; prior to approval: Vicki Johnston (281) 468-2448

9. API Well No.
30-015-37491

3a. Address P.O. Box 50820
Midland, TX 79710

3b. Phone No. *(include area code)*
(432) 684-9696

10. Field and Pool, or Exploratory
Malaga; Delaware 42940

4. Location of Well *(Report location clearly and in accordance with any State requirements.*)*
At surface 2280' FNL & 1290' FEL, Unit H
At proposed prod. zone 2280' FNL & 1290' FEL, Unit H
UNORTHODOX LOCATION

11. Sec., T. R. M. or Blk. and Survey or Area
Sec 24, T24S, R28E

14. Distance in miles and direction from nearest town or post office*
Approximately 3 miles SE from Malaga, New Mexico

12. County or Parish
Eddy

13. State
NM

15. Distance from proposed* location to nearest property or lease line, ft. (Also to nearest drig. unit line, if any) 1290'

16. No. of acres in lease
160

17. Spacing Unit dedicated to this well
40

18. Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft. 690'

19. Proposed Depth
7,500'

20. BLM/BIA Bond No. on file
NM-2572

21. Elevations (Show whether DF, KDB, RT, GL, etc.)
2966' GL

22. Approximate date work will start*
01/01/2010

23. Estimated duration
30 days

24. Attachments

The following, completed in accordance with the requirements of Onshore Oil and Gas Order No.1, must be attached to this form:

1. Well plat certified by a registered surveyor.
2. A Drilling Plan.
3. A Surface Use Plan (if the location is on National Forest System Lands, the SUPO must be filed with the appropriate Forest Service Office).
4. Bond to cover the operations unless covered by an existing bond on file (see Item 20 above).
5. Operator certification
6. Such other site specific information and/or plans as may be required by the BLM.

25. Signature [signature] Name *(Printed/Typed)* Brian Arnold, Jr. (432) 684-9696 x232 Date 11/9/09

Title
Landman

Approved by *(Signature)* /s/ James A. Amos Name *(Printed/Typed)* /s/ James A. Amos Date DEC 29 2009

Title FOR FIELD MANAGER Office CARLSBAD FIELD OFFICE

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 operations thereon.
Conditions of approval, if any, are attached.
APPROVAL FOR TWO YEARS

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.

(Continued on page 2)

*(Instructions on page 2)

CARLSBAD CONTROLLED WATER BASIN
SEE ATTACHED FOR
CONDITIONS OF APPROVAL

APPROVAL SUBJECT TO
GENERAL REQUIREMENTS
AND SPECIAL STIPULATIONS
ATTACHED

EXHIBIT A

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

State of New Mexico
Energy, Minerals and Natural Resources Department

OIL CONSERVATION DIVISION

1220 South St. Francis Dr.
Santa Fe, New Mexico 87505

Form C-102
Revised October 15, 2009

Submit one copy to appropriate District Office

☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

API Number	Pool Code	Pool Name
30 015 37491	42940	MALAGA; DELAWARE

Property Code	Property Name	Well Number
37006	JITTERBUG FEDERAL	2

OGRID No.	Operator Name	Elevation
160825	BC OPERATING	2966'

Surface Location

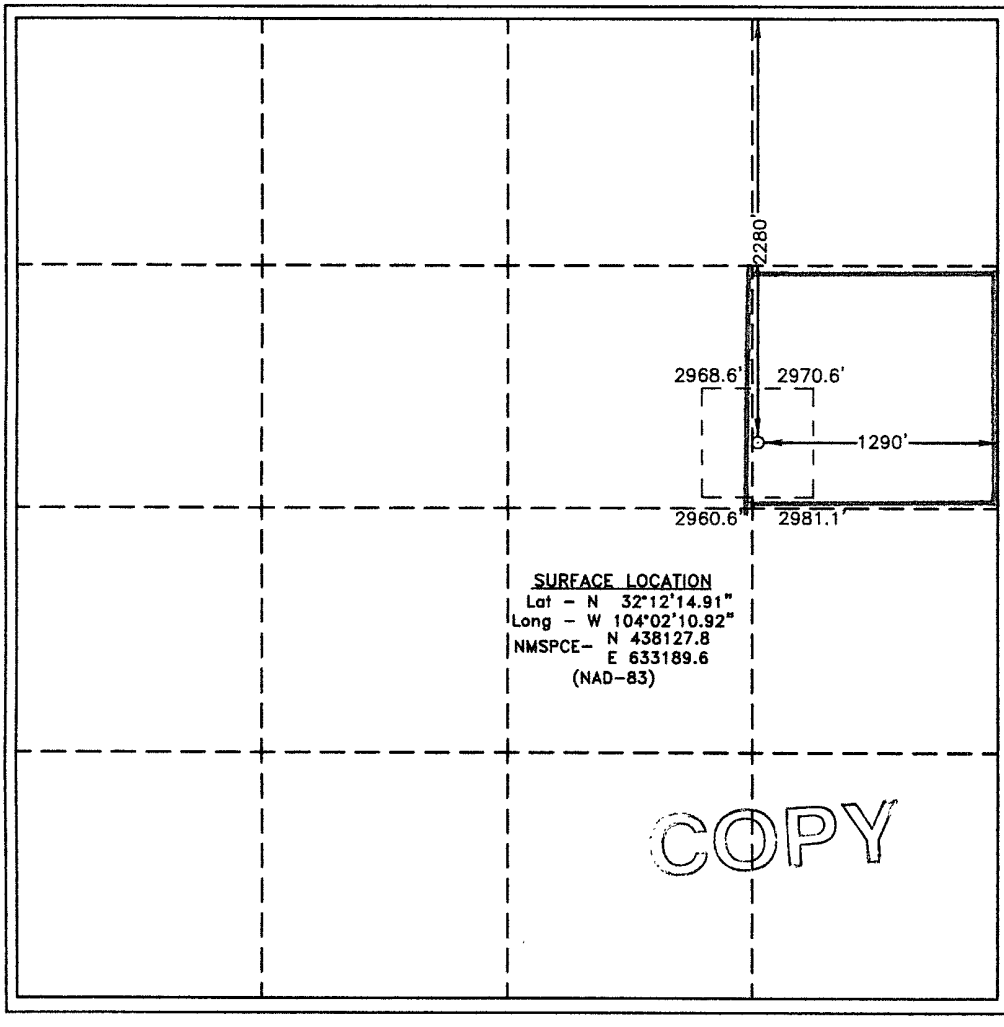
UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
H	24	24 S	28 E		2280	NORTH	1290	EAST	EDDY

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

Dedicated Acres	Joint or Infill	Consolidation Code	Order No.
40			

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



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 11/9/09 Date

Brian Arnold, Jr.
Printed Name

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 supervison, and that the same is true and correct to the best of my belief.

NOVEMBER 21, 2008
Date Surveyed

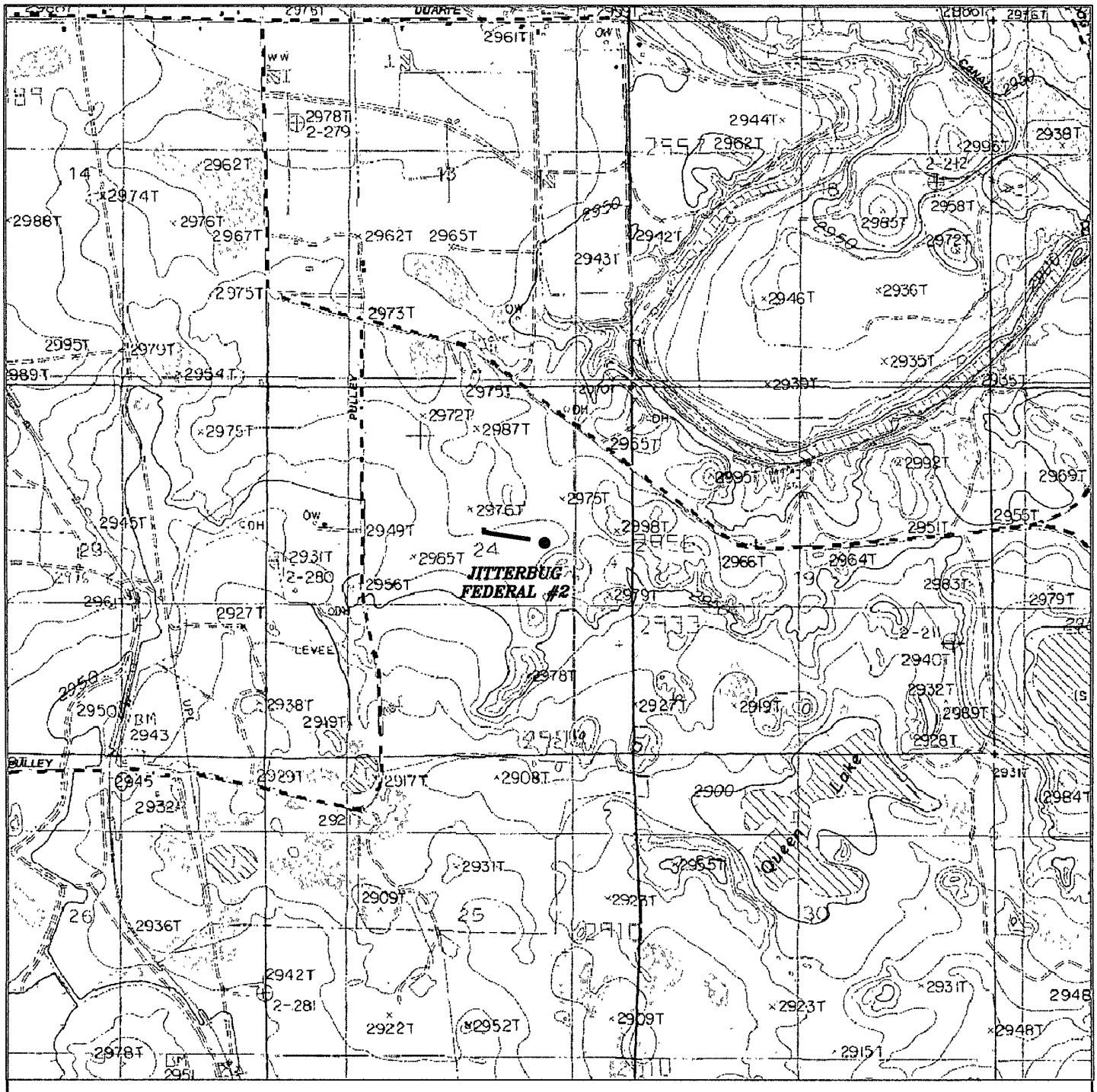
Signature & Seal of Professional Surveyor

GARY L. JONES NEW MEXICO 7977 REGISTERED PROFESSIONAL SURVEYOR

Certificate No. Gary L. Jones 7977

BASIN SURVEYS

EXHIBIT C-1



JITTERBUG FEDERAL #2
Located 2280' FNL and 1290' FEL
Section 24, Township 24 South, Range 28 East,
N.M.P.M., Eddy County, New Mexico.

basin surveys
focused on excellence in the oilfield

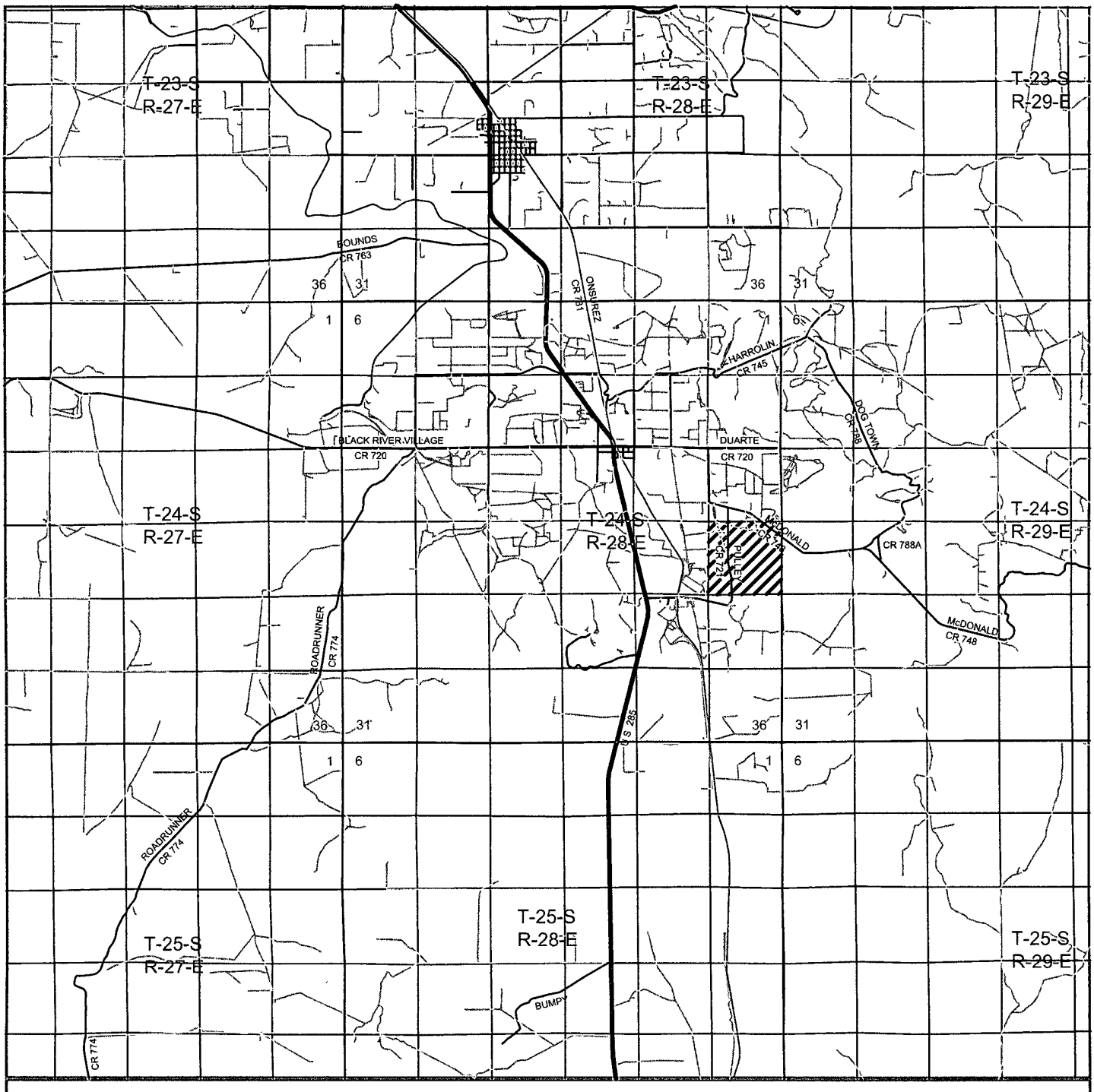
P.O. Box 1786
1120 N. West County Rd.
Hobbs, New Mexico 88241
(575) 393-7316 - Office
(575) 392-2206 - Fax
basinsurveys.com

W.O. Number:	JMS 21898
Survey Date:	11-02-2009
Scale:	1" = 2000'
Date:	11-03-2009

N

BC OPERATING

EXHIBIT B - AREA ROADS



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(575) 392-2206 - Fax
basinsurveys.com

W.O. Number:	JMS 21898
Survey Date:	11-02-2009
Scale:	1" = 2 Miles
Date:	11-03-2009

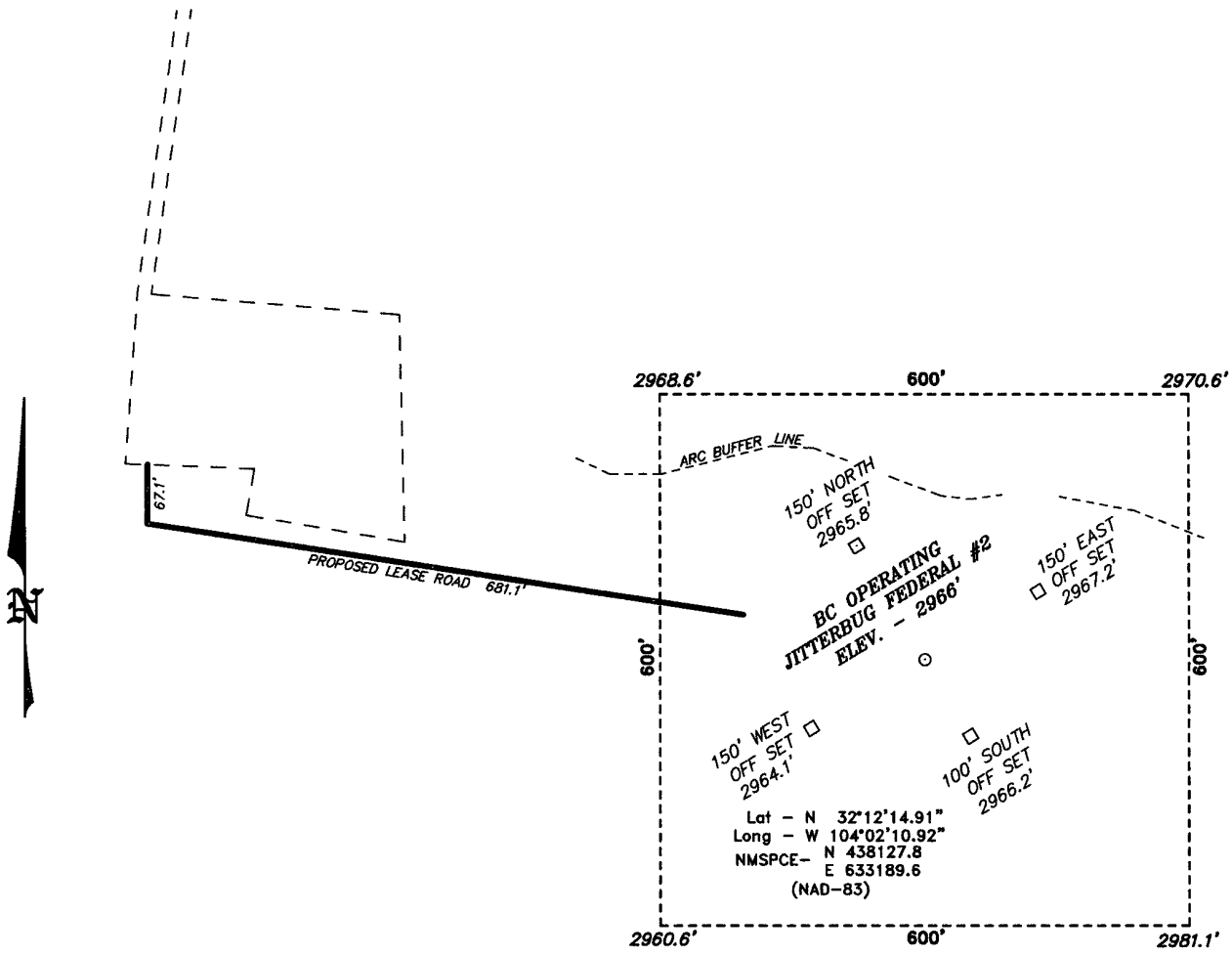
N

BC OPERATING

EXHIBIT E-1

SECTION 24, TOWNSHIP 24 SOUTH, RANGE 28 EAST, N.M.P.M.,

EDDY COUNTY, **NEW MEXICO.**



200 0 200 400 FEET

SCALE: 1" = 200'

Directions to Location:

FROM THE JUNCTION OF DUARTE AND McDONALD, GO SOUTH WINDING EAST ON McDONALD FOR 1.6 MILES TO LEASE ROAD, ON LEASE ROAD GO SOUTHERLY FOR 0.5 MILES TO THE JITTERBUG #1 WELL AND PROPOSED LEASE ROAD.

BC OPERATING

REF: JITTERBUG FEDERAL #2 / WELL PAD TOPO

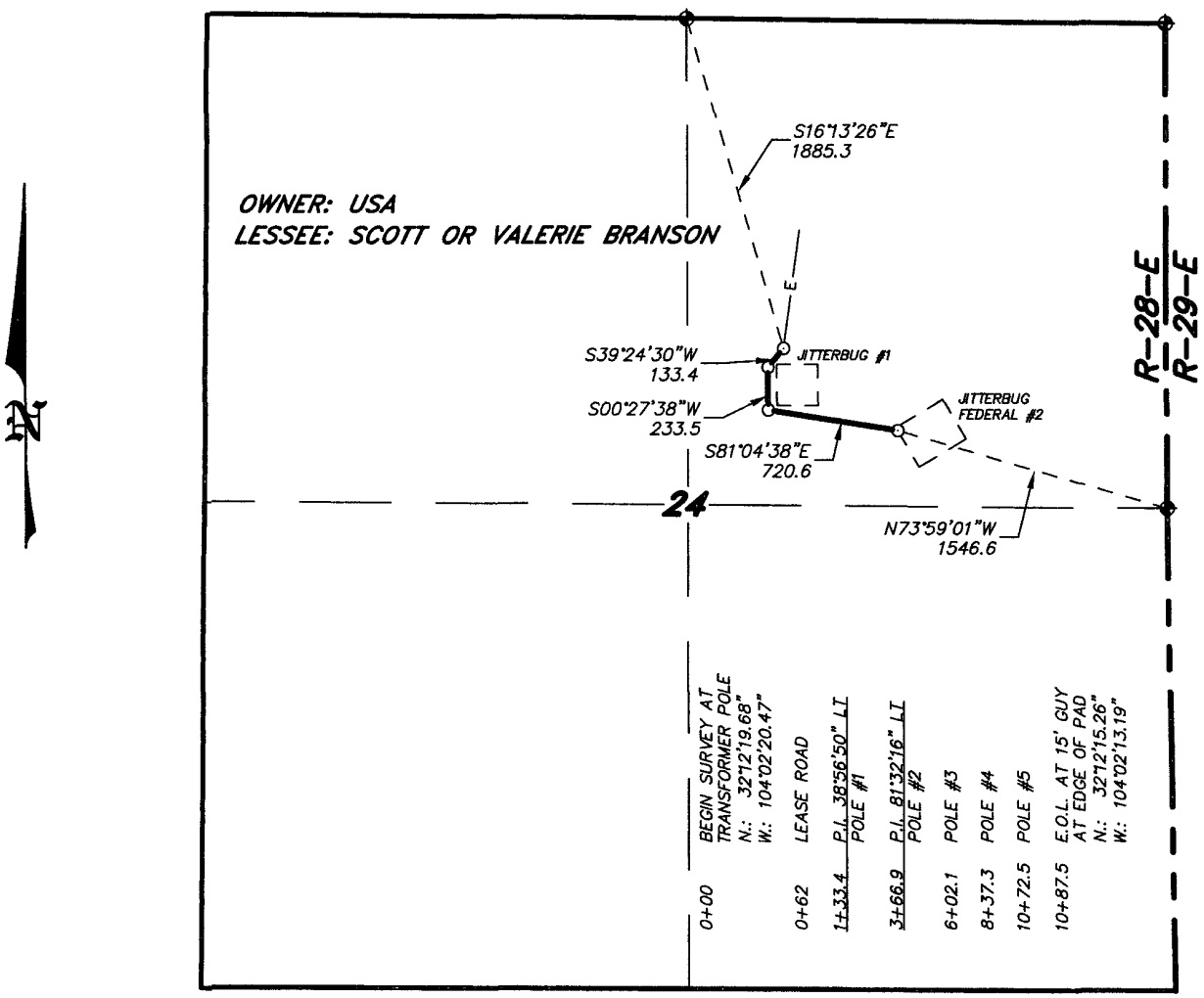
THE JITTERBUG FEDERAL #2 LOCATED 2280' FROM THE NORTH LINE AND 1290' FROM THE EAST LINE OF SECTION 24, TOWNSHIP 24 SOUTH, RANGE 28 EAST, N.M.P.M., EDDY COUNTY, NEW MEXICO.

BASIN SURVEYS P.O. BOX 1786 – HOBBS, NEW MEXICO

W.O. Number: 21898	Drawn By: J. SMALL
Date: 11-03-2009	Disk: JMS 21898
Survey Date: 11-02-2009	Sheet 1 of 1 Sheets

EXHIBIT E-2

SECTION 24, TOWNSHIP 24 SOUTH, RANGE 28 EAST, N.M.P.M.,
EDDY COUNTY, **NEW MEXICO.**



LEGAL DESCRIPTION

A STRIP OF LAND 30.0 FEET WIDE, LOCATED IN SECTION 24, TOWNSHIP 24 SOUTH, RANGE 28 EAST, N.M.P.M., EDDY COUNTY, NEW MEXICO AND BEING 15.0 FEET LEFT AND RIGHT OF THE ABOVE PLATTED CENTERLINE SURVEY.

SECTION 24 = 1087.5 FEET = 65.91 RODS = 0.21 MILES = 0.75 ACRES

1000 0 1000 2000 FEET

I HEREBY CERTIFY THAT THIS PLAT WAS PREPARED FROM FIELD NOTES OF AN ACTUAL SURVEY AND MEETS OR EXCEEDS ALL REQUIREMENTS FOR LAND SURVEYS AS SPECIFIED BY THIS STATE.

GARY L. JONES N.M. P.S. No. 7977
TEXAS P.L.S. No. 5074

BASIN SURVEYS P.O. BOX 1786 – HOBBS, NEW MEXICO

BC OPERATING

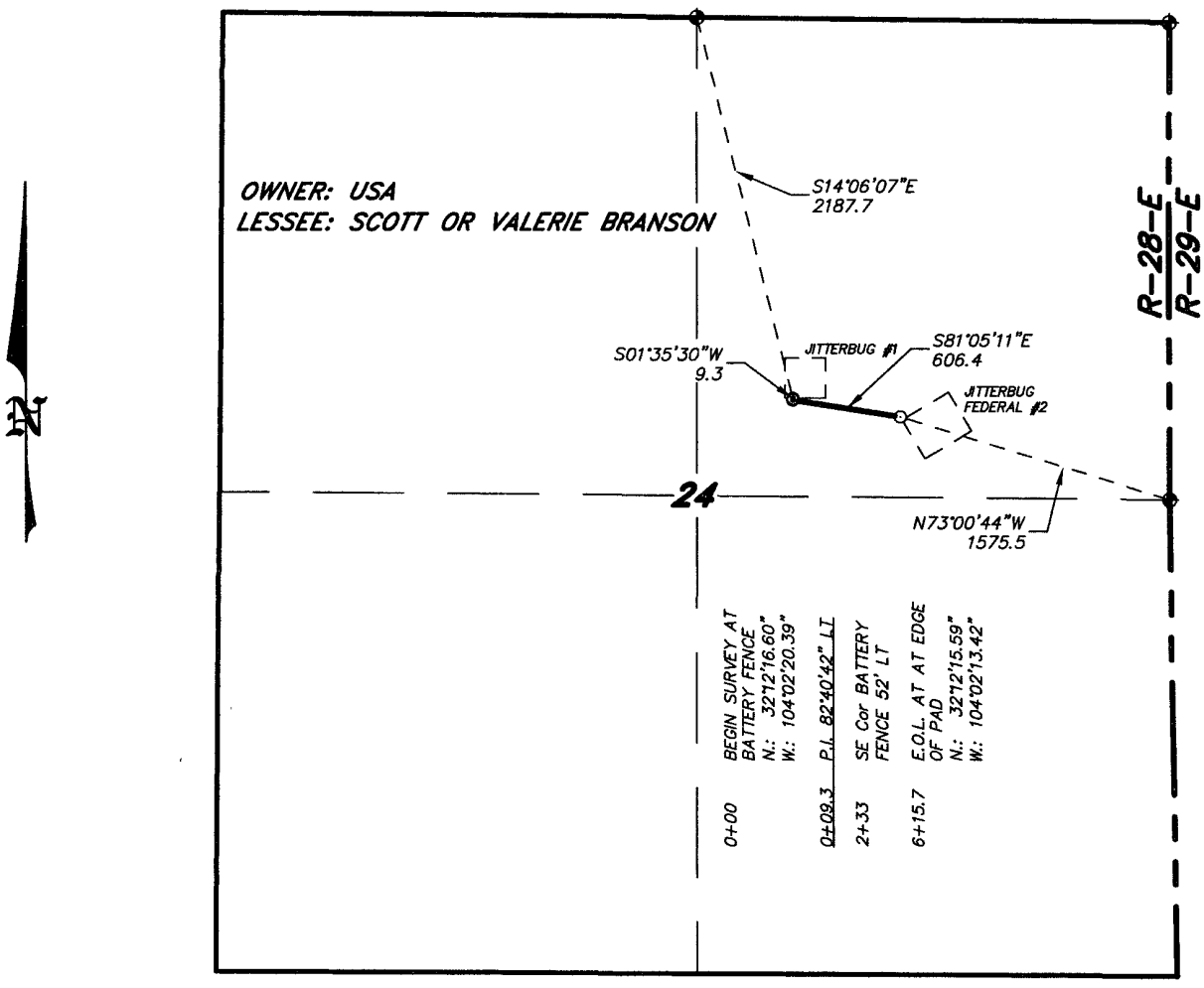
REF: PROPOSED ELECTRIC LINE TO THE JITTERBUG FEDERAL #2

AN ELECTRIC LINE CROSSING USA LAND IN
SECTION 24, TOWNSHIP 24 SOUTH, RANGE 28 EAST,
N.M.P.M., EDDY COUNTY, NEW MEXICO.

W.O. Number: 21898	Drawn By: J. M. SMALL		
Date: 11-03-2009	Disk: JMS 21898	Survey Date: 11-02-2009	Sheet 1 of 1 Sheets

EXHIBIT E-3

SECTION 24, TOWNSHIP 24 SOUTH, RANGE 28 EAST, N.M.P.M.,
EDDY COUNTY, **NEW MEXICO.**



LEGAL DESCRIPTION

A STRIP OF LAND 30.0 FEET WIDE, LOCATED IN SECTION 24, TOWNSHIP 24 SOUTH, RANGE 28 EAST, N.M.P.M., EDDY COUNTY, NEW MEXICO AND BEING 15.0 FEET LEFT AND RIGHT OF THE ABOVE PLATTED CENTERLINE SURVEY.

SECTION 24 = 615.7 FEET = 37.32 RODS = 0.12 MILES = 0.42 ACRES

I HEREBY CERTIFY THAT THIS PLAT WAS PREPARED FROM FIELD NOTES OF AN ACTUAL SURVEY AND MEETS OR EXCEEDS ALL REQUIREMENTS FOR LAND SURVEYS AS SPECIFIED BY THIS STATE.

1000 0 1000 2000 FEET

GARY L. JONES N.M. P.S. No. 7977
TEXAS P.L.S. No. 5074

BASIN SURVEYS P.O. BOX 1786 – HOBBS, NEW MEXICO

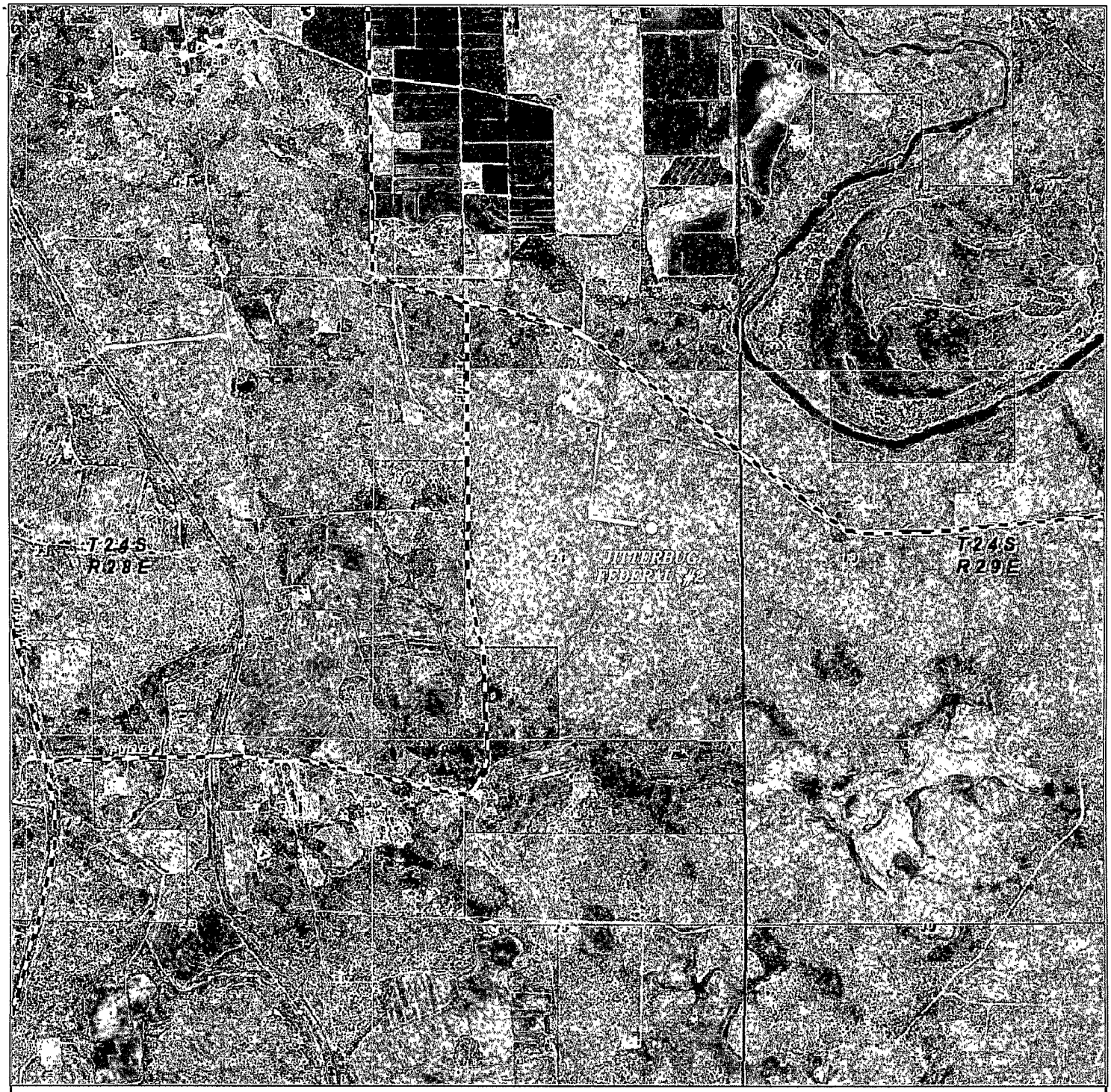
BC OPERATING

REF: PROPOSED PIPELINE TO THE JITTERBUG FEDERAL #2

A PIPELINE CROSSING USA LAND IN
SECTION 24, TOWNSHIP 24 SOUTH, RANGE 28 EAST,
N.M.P.M., EDDY COUNTY, NEW MEXICO.

W.O. Number: 21898	Drawn By: J. M. SMALL		
Date: 11-03-2009	Disk: JMS 21898	Survey Date: 11-02-2009	Sheet 1 of 1 Sheets

EXHIBIT C-2



JITTERBUG FEDERAL #2
Located 2280' FNL and 1290' FEL
Section 24, Township 24 South, Range 28 East,
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focused on excellence in the oilfield

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Hobbs, New Mexico 88241
(575) 393-7316 - Office
(575) 392-2206 - Fax
basinsurveys.com

W.O. Number: JMS 21898

Scale: 1" = 2000'

YELLOW TINT - USA LAND
BLUE TINT - STATE LAND
NATURAL COLOR - FEE LAND

N

BC OPERATING

Exhibit C-3

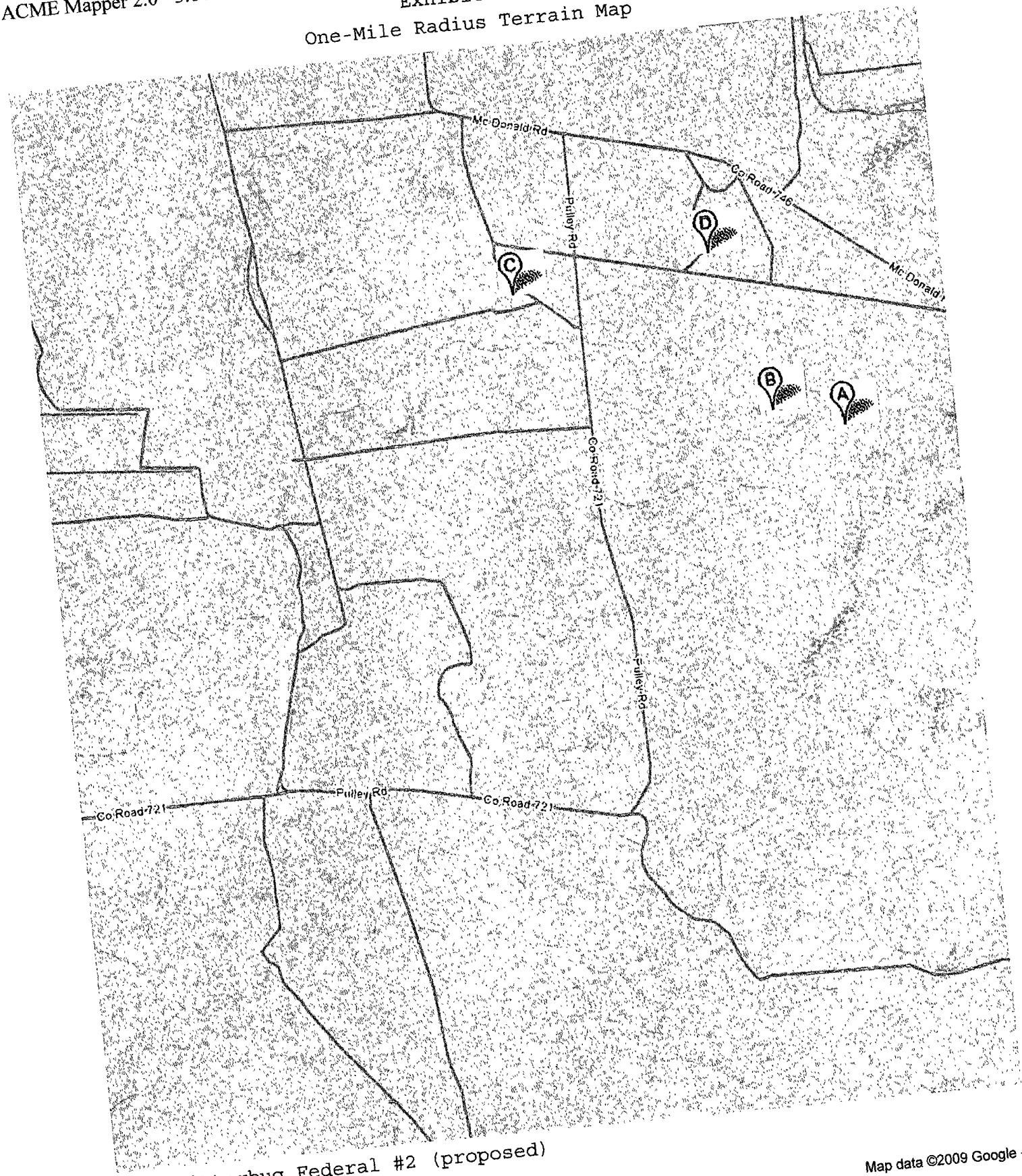
One-Mile Radius Satellite Map

A - Jitterbug Federal #2 (proposed)
B - Jitterbug Federal #1
C - Dewey #1
D - Dewey #2

ACME Mapper 2.0 - 3.6 km SE of Malaga NM

Exhibit C-4

One-Mile Radius Terrain Map



A - Jitterbug Federal #2 (proposed)
B - Jitterbug Federal #1
C - Dewey #1
D - Dewey #2

Map data ©2009 Google -

11/5/2009

...er.acme.com/

DRILLING PROGRAM

BC Operating, Inc.
Jitterbug Federal #2
Surface Location: 2280' FNL & 1290' FEL, Unit H, Sec. 24, T24S, R28E, Eddy, NM

Lease Serial # NM-110829

1. **Geologic Name of Surface Formation**
   Quaternary Alluvium

2. **Estimated Tops of Geological Markers and Depths of Anticipated Fresh Water, Oil or Gas:**

FORMATION	DEPTH	WATER/OIL/GAS
Rustler	1200'	Water
Delaware	2700'	Oil/Gas/Water
Bone Spring	6900'	Oil
TD	7500'	Oil/Gas

No other formations are expected to yield oil, gas or fresh water in measurable volumes. Any surface fresh water sands will be protected by setting 13-3/8" casing at ~~450~~ 420' and circulating cement back to surface. All producing zones will be isolated with 5-1/2" casing to total depth (7500' ±) and cemented with cement back into the 8-5/8" intermediate string of casing.

3. **Casing Program**
   All casing is new and API approved. The surface, intermediate and production strings will be tested to ~~1000~~ psi. See COA

HOLE SIZE	INTERVAL	OD CSG	WT	COLLAR	GRD	COLLAPSE DESIGN FACTOR	BURST DESIGN FACTOR	TENSION DESIGN FACTOR
17-1/2"	0-~~445~~' 420	13-3/8"	54.5	STC	J-55	1.36	3.23	12.7
11"	0-~~2700~~' 2650	8-5/8"	32	LTC	J-55	1.16	1.92	4.6
7-7/8"	0-7500'	5-1/2"	15.5	LTC	J-55	1.25	1.42	1.67

4. **Cement Program**
   a. **13-3/8" Surface**
      Cement to surface with 500SX Class C
      Weight: 14.8; Yield: 1.32; TOC: Surface
   b. **8-5/8" Intermediate**
      Cement to surface with 700SX Class C
      Weight: 14.8; Yield: 1.32; TOC: Surface
   c. **7-7/8" Production**
      Per Operator CRW 12/10/09 ~~Cement to surface~~ with 500SX Class C and H with additives
      Weight: 14.8; Yield: 2.04; TOC: 2500'

The above cement volumes could be revised pending the caliper measurement from the open hole logs. The top of cement is designed to reach approximately 200' above the 8-5/8" casing shoe.

5. **Pressure Control Equipment** See COA
Pressure control equipment will include a ~~3000~~ psi or larger WP blowout preventer stack, with Series 900 blind and pipe rams. The BOP stack will include a 3" kill line and choke manifold tested to minimum ~~3000~~ psi. BOP hydraulic controls will be operated at least daily. A BOP schematic is attached (Exhibit F) showing the assembly for a ~~3000~~ psi BOP that will be used during drilling. All BOP's and associated equipment will be tested before drilling out the 13-3/8" casing shoe (70% of 54.5#, J-55 casing). Prior to drilling out the 8-5/8" casing shoe, the BOP's and Hydril will be tested per BLM Drilling Operations Order #2.

Pipe rams will be operated and checked each 24-hour period and each time the drill pipe is out of the hole. These function tests will be documented on the daily driller's log. Other accessory BOP equipment will include a Kelly cock valve, floor safety valve, choke lines and choke manifold having a 3000# WP rating. (Exhibit G)

6. **Proposed Mud Circulation System**

DEPTH	WEIGHT (ppg)	VISCOSITY	FLUID LOSS (cc/30min)	TYPE SYSTEM
0--~~445~~'	8.4 – 9.0	28 – 36	≥10 cc	**Fresh Water with gel spud**
~~445~~'--2700'	9.0 – 10.0	28 – 36	≥10 cc	**Cut Brine with gel**
2700'--TD	9.0 – 12.0	32 - 38	≤10 cc	**Fresh Water & Cut Brine with gel & lime**

7. **Auxiliary Well Control and Monitoring Equipment**
   a. A Kelly cock will be in the drill string at all times.
   b. A full-opening safety valve, to fit the drill string in use, will be kept on the rig floor at all times.
   c. Hydrogen Sulfide detection equipment will be in operation after drilling out the 13-3/8" casing shoe until the 5-1/2" casing is cemented. Breathing equipment will be on location upon drilling the 13-3/8" shoe until total depth is reached.

8. **Logging, Coring and Testing Program** See COA
   a. Samples will be caught at 30' intervals from surface to 2700', and 10' intervals starting from 2700' to TD.
   b. Drill stem tests will be based on geological samples, at discretion of well-site geologist.
   c. The open hole electrical logging program will be:
      i. 1100' to TD: Neutron – Density
      ii. Additional testing will be initiated subsequent to setting the 5-1/2" production casing if geologic personnel deem this important. Specific intervals will be targeted based on log evaluation, geological sample shows and drill stem tests.

9. **Potential Hazards**
No abnormal pressures or temperatures are expected. There is no known presence of H2S in this area. If H2S is encountered, the operator will comply with the provisions of Onshore Oil and Gas Order No. 6. No lost circulation is expected to occur. All personnel will be familiar with all aspects of safe operation of equipment being used to drill this well.

Estimated BHP: 4900 psi; Estimated BHT: 135°

10. **Anticipated Starting Date and Duration of Operations**
Drilling will commence upon approval. Drilling and completion operations will last approximately 14 days. If production casing is run, it will take another 30 days to complete well and lay flow line in order to place well on production.

Design Criteria and Casing Loading Assumptions for the proposed Jitterbug Fed #2 Eddy County, NM

Surface Casing

Tension A 21.2 DF was obtained utilizing a dry air enivroment.

Collapse A 3.3 DF was obtained with full internal evacuation and a collapse force equal to the hydrostatic force of the cement gradient calculated using the assumed cmt weight of 14.8 ppg. The effects of axial load on collapse will be considered.

Burst A 9.5 DF was determined by using the fracture gradient at the setting depth minus an all gas internal environment to surface. The max burst will be seen at the setting depth which will be the fracture pressure of the formation. A conservative fracture pressure will be used in each case such that it represents a fracture resistance up to 1.0 psi/ft gradient.

Intermediate Casing String

Tension A 4.8 DF was obtained utilizing a dry air environment.

Collapse A 1.2 DF was obtained with full internal evacuation and a collapse force equal to the hydrostatic force of the cement gradient calculated using the assumed cmt weight of 14.8 ppg. The effects of axial load on collapse will be considered.

Burst A 2.4 DF was determined by using the fracture gradient at the setting depth minus an all gas internal environment to surface. The max burst will be seen at the setting depth which will be the fracture pressure of the formation.

Production Casing String

Tension A 1.9 DF was obtained utilizing a dry air environment.

Collapse A 2.4 DF was calc by using the differential pressure seen at the setting depth of the casing. The pressure calculation in the annulus was done with the assumption of a freshwater spacer followed by a assumed cmt weight of 14.8 along with a assumed vol equivalent to a TOC of 2500'. The internal pressure was calc with a fresh wtr gradient.

Burst A 1.14 DF was calc assuming an internal all gas enviro to surface. The max burst pressure will be seen at the setting depth which is equivalent to the fracture pressure of the formation.

EXHIBIT D-1
DRILLING RIG LAYOUT – DURING CONSTRUCTION

(not to scale)

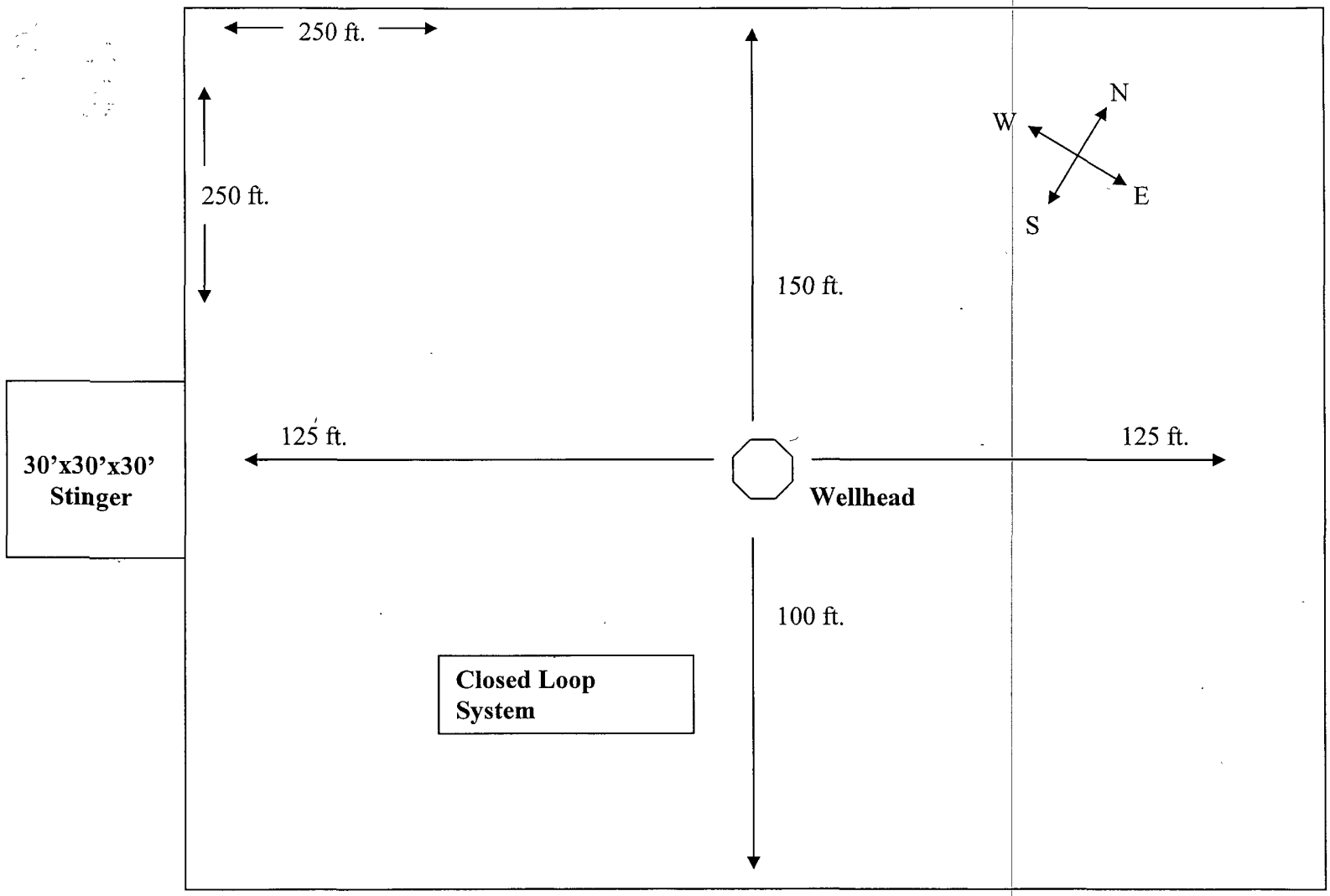
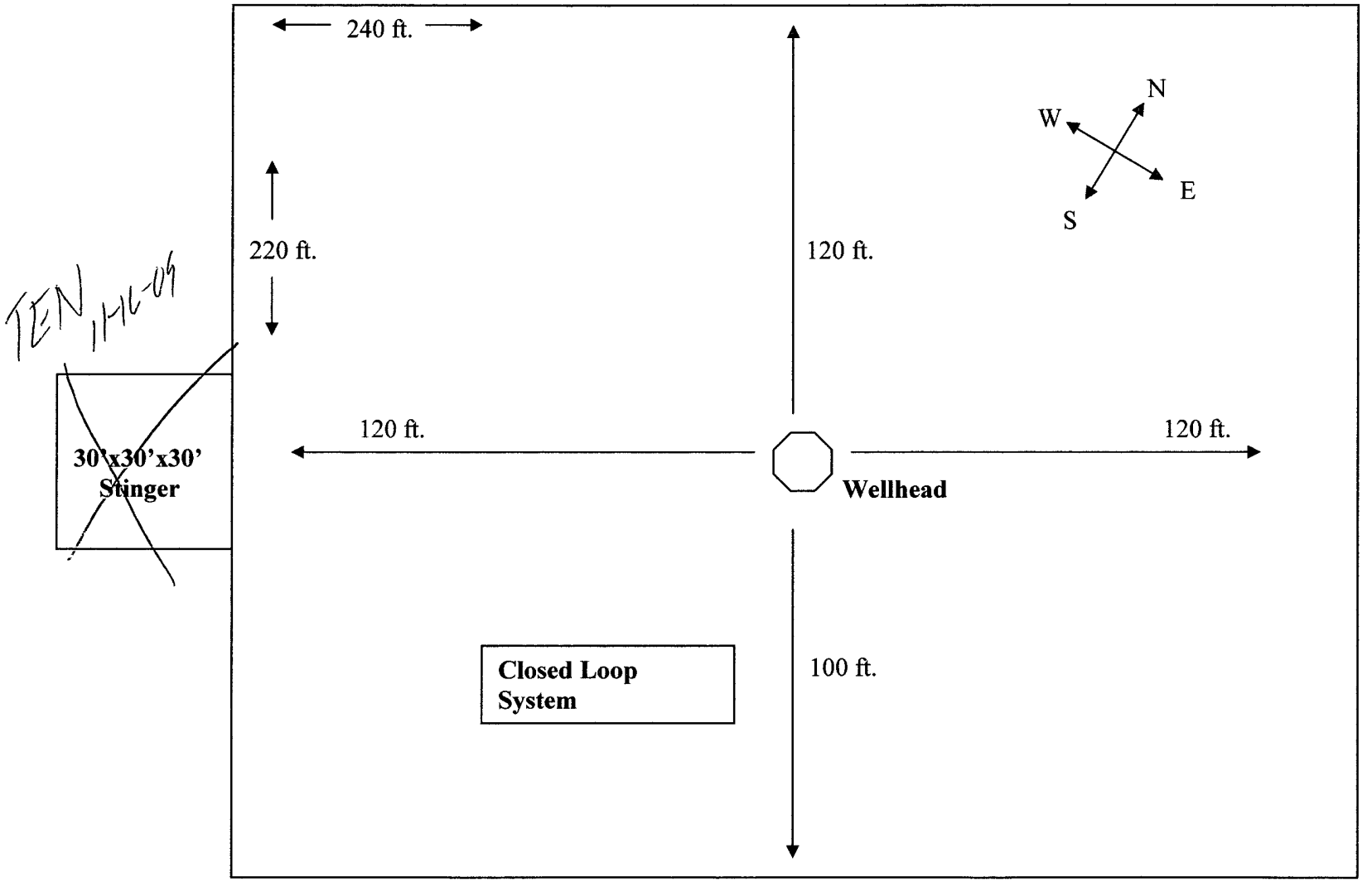


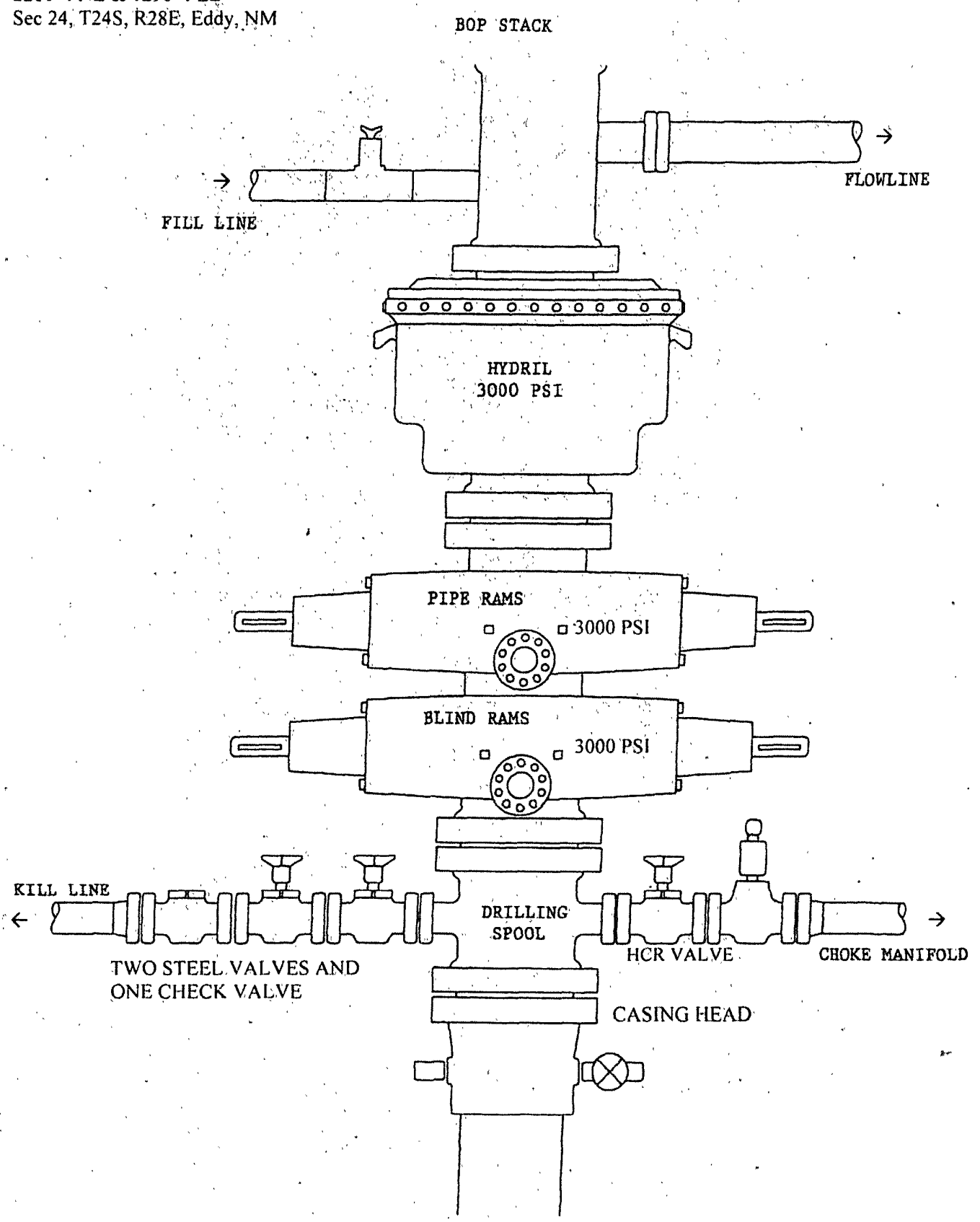
EXHIBIT D-2
DRILLING RIG LAYOUT – AFTER INTERIM RECLAMATION

(not to scale)



BC Operating, Inc.
JITTERBUG FEDERAL #2
2280' FNL & 1290' FEL
Sec 24, T24S, R28E, Eddy, NM

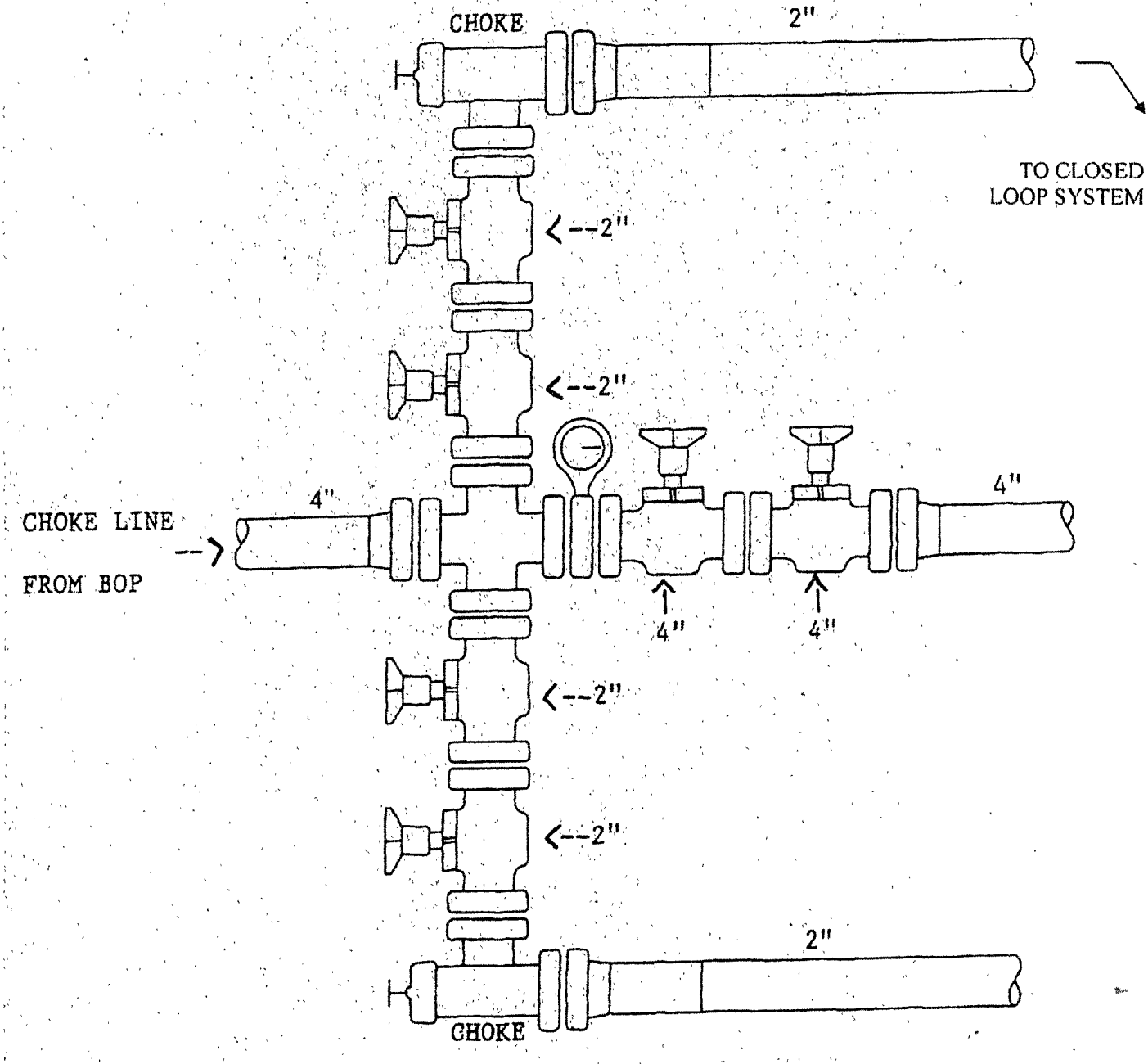
EXHIBIT F



BC Operating, Inc.
JITTERBUG FEDERAL #2
2280' FNL & 1290' FEL
Sec 24, T24S, R28E, Eddy, NM

EXHIBIT G

CHOKE MANIFOLD



BC Operating, Inc.

HYDROGEN SULFIDE (H_2S) DRILLING OPERATIONS PLAN
FOR DRILLING / COMPLETING / WORKOVER / FACILITY
WITH THE EXPECTATION OF H_2S IN EXCESS OF 100 PPM

BC Operating, Inc.
NEW DRILL WELL
JITTERBUG FEDERAL #2
2280' FNL & 1290' FEL, Unit H
Sec 24, T24S, R28E
Eddy County, New Mexico

This well/facility is not expected to have H_2S, but the following is submitted as requested.

TABLE OF CONTENTS

GENERAL H2S EMERGENCY ACTIONS

In the event of any evidence of H_2S emergency, the following plan will be initiated:

1. All personnel will immediately evacuate to an upwind and if possible uphill "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/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 representative 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 emergency response agencies and residents.

EMERGENCY PROCEDURES FOR AN UNCONTROLLABLE RELEASE OF H_2S

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 representative if not on location.
4. Set in motion the steps to protect and/or remove the general public to any upwind "safe area." Maintain strict security and safety procedures while dealing with the source.
5. No entry to any unauthorized personnel.
6. Notify the appropriate agencies: City Police - City streets
   State Police - State Roads
   County Sheriff - County Roads
7. Call the New Mexico Oil Conservation Division.

If at this time the supervising person determines the release of H_2S cannot be contained to the site location and the general public is in harm's way, he will immediately notify public safety personnel.

EMERGENCY CALL LIST
BC Operating, Inc.

		Office	Cell
BC Operating, Inc.		432-684-9696	
Jaron Simon	Drilling Engineer	432-684-9696 x250	432-425-6578
Brian Arnold, Jr.	Landman	432-684-9696 x232	432-894-8452
Jerry Livingston	Operations Super	432-684-9696	432-664-3189
		or	432-934-5625
Jason Wacker	Operations Engineer	432-684-9696 x237	
Brandon Black	Vice President	432-684-9696 x229	432-296-9379

EMERGENCY RESPONSE NUMBERS

EMERGENCY – DIAL 911

Eddy County Sheriff's Office - Artesia	575-746-9888
Police / Fire / Ambulance Department - Carlsbad	575-885-2111
Police / Fire / Ambulance Department - Artesia	575-746-5000
Eddy County Emergency Management - Carlsbad	575-887-7551
BLM – Carlsbad	575-361-2822
State Police Department	575-437-1313
State Emergency Response Center (SERC)	505-827-9126
New Mexico Oil Conservation Division - Artesia	575-748-1283
Hospital – Carlsbad	575-887-4100
Areocare	806-747-8923
Chemtrec	800-424-9300
Flight for Life – Lubbock, Texas	806-743-9911
Med Flight Air Ambulance – Albuquerque, New Mexico	505-842-4433
OSHA – Lubbock, Texas	800-692-4204

HYDROGEN SULFIDE TRAINING

All rig crews and company personnel will receive training from a qualified instructor in the following areas prior to penetrating any hydrogen sulfide bearing formations during drilling operations.

1. The hazards and characteristics of hydrogen sulfide (H_2S)
2. The proper use and maintenance of the H_2S safety equipment and of personal protective equipment to be utilized at the location such as H_2S detection monitors, alarms and warning systems, and breathing equipment. Briefing areas and evacuation procedures will also be discussed and established.
3. Proper rescue techniques and procedures will be discussed and established.

Prior to penetrating any known H_2S-bearing formation, H2S training will be required at the rig sight for all rig crews and company personnel that have not previously received such training. This instruction will be provided by a qualified instructor with each individual being required to pass a 20 question test regarding H_2S safety procedures. All contract personnel employed on an unscheduled basis will be required to have received appropriate H_2S training.

This Hydrogen Sulfide Drilling and Operations Plan shall be available at the well site during drilling operations.

PROTECTION OF THE GENERAL RADIUS OF EXPOSURE (ROE)

In the event greater than 100 ppm H_2S is present, the ROE calculations will be done to determine if the following conditions exist and whether the Plan must be activated:

- 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 3000' will be assumed if there is insufficient data to do the calculations, and there is a reasonable expectation that H_2S could be present in concentrations greater than 100 ppm in the gas mixture.

Calculation for the 100 ppm ROE: (H_2S concentrations in decimal form)

ROE = [(1.589)(H_2S concentration)(Q)] (^0.6258) 10,000 ppm + = .01
1,000 ppm + = .001

Calculation for the 500 ppm ROE: 100 ppm + = .0001
10 ppm + = .00001

ROE = [(0.4546)(H2S concentration)(Q)] (^0.6258)
EXAMPLE: If a well/facility has been determined to have 650 ppm H_2S in the gas mixture and the well/facility is producing at a gas rate of 200 MCFD then:

ROE for 100 ppm ROE=[(1.589)(.00065)(200,000)] ^0.6258
ROE=28.1'
ROE for 500 ppm ROE=[(.4546)(.00065)(200,000)] ^0.6258
ROE=12.8'
These calculations will be forwarded to the appropriate NMOCD district office when applicable.

PUBLIC EVACUATION PLAN

When the supervisor has determined that the general public will be involved, the following plan will be implemented.

1. Notification of the emergency response agencies of the hazardous condition and implement evacuation procedures.
2. A trained person in H_2S safety shall monitor with detection equipment the H_2S concentration, wind and area of exposure. 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 I Groups A, B, C & D, Division I hazardous locations. All monitors will have a minimum capability of measuring H_2S, oxygen, and flammable values.
3. Law enforcement shall be notified to set up necessary barriers and maintain such for the duration of the situation as well as aid in the evacuation procedure.
4. The company representative shall stay in communication with all agencies throughout the duration of the situation and inform such agencies when the situation has been contained and the affected area is safe to enter.

PROCEDURE FOR IGNITING AN UNCONTROLLABLE CONDITION

The decision to ignite a well should be a last resort with one, if not both, of the following conditions:

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

Instructions for Igniting the Well:

1. Two people are required. They must be equipped with positive pressure, self-contained breathing apparatus and "D"-ring style, full body, OSHA-approved safety harness. Non-flammable rope will be attached.
2. One of the people will be a qualified safety person who will test the atmosphere for H_2S, oxygen and LFL. The other person will be the designated company representative.
3. Ignite upwind from a distance no closer than necessary. Make sure that the ignition site has the maximum escape avenue available. A 25mm flare gun with a range of approximately +/- 500 feet shall be used to ignite the gas.
4. Before igniting, check for the presence of combustible gases.
5. After igniting, continue emergency actions and procedures as before.

REQUIRED EMERGENCY EQUIPMENT

All H_2S safety equipment and systems will be installed, tested and operational when drilling operations reach a depth approximately 500' above any known or probable H_2S-bearing formation. The safety systems to be utilized during drilling operations are as follows:

1. **Well Control Equipment**
   a. Double ram BOP with a properly sized closing unit and pipe rams to accommodate all pipe sizes in use.
   b. A choke manifold with a minimum of one remote choke.
2. **H_2S Detection and Monitoring Equipment**
   Three (3) H_2S detection monitors will be placed in service at the rig location. One monitor will be placed near the bell nipple on the rig floor, one will be placed at the rig substructure, and one will be placed at the shale shaker. This monitoring system will have warning lights and audible alarms that will alert personnel when H_2S levels reach 10 ppm.
3. **Protective Equipment for Essential Personnel**
   a. Four (4) five-minute escape packs located at strategic points around the rig.
   b. Two (2) thirty-minute rescue packs to be located at the designated briefing areas.
4. **Visual Warning System**
   a. Two wind direction indicators.
   b. One Condition/Warning sign which will be posted on the road providing direct access to the location. The sign will contain lettering of sufficient size to be readable at a reasonable distance from the immediate location. The sign will inform the public that a hydrogen sulfide gas environment could be encountered at the location.
5. **Mud Program**
   All drill strings, casing, tubing, wellhead, blow out preventers, drilling spools, kill lines, choke manifolds, lines and valves will be suitable for H_2S service.
6. **Communication**
   Cellular communications will be available in company vehicles.

GENERAL EQUIPMENT INSPECTION PROCEDURES

PERFORM EACH TOUR:

1. Check fire extinguishers for proper charge
2. Check breathing equipment
3. Check operation of H_2S Detection System

PERFORM EACH WEEK:

1. Check each piece of breathing equipment for Demand Regulator function. This requires that the bottle be opened and the mask assembly be put on tight enough to receive air when inhaling.
2. Blow Out Preventer skills
3. Check supply pressure on BOP accumulator stand-by source
4. Check all SKA-PAC units for operation. Demand Regulator, escape bottle air volumes, and supply bottle air volumes.
5. Check breathing equipment mask assembly to see that straps are loosened and turned back, ready to don.
6. Check pressure on breathing equipment air bottles for full charge.
7. Confirm pressure on all supply air bottles.
8. Perform breathing equipment drills with on-site personnel.
9. Check the following supplies for availability:
    a. Emergency telephone list
    b. Hand-operated H_2S detectors and tubes

RESCUE & FIRST AID FOR VICTIMS OF H2S POISONING

- Do not panic.
- Remain calm and think.
- Hold your breath (do not inhale first).
- Put on the breathing apparatus.
- Remove the victim to the safe breathing area as quickly as possible, upwind and uphill from source or crosswind to achieve upwind.
- Notify emergency response personnel that the victim(s) have been exposed to H_2S gas.
- Provide artificial respiration and/or CPR as necessary. Briefly apply chest pressure – arm lift method of artificial respiration to clean the victim's lungs and to avoid inhaling any toxic gas directly from the victim's lungs.
- Remove all contaminated clothing to avoid further exposure.
- Everyone on location shall be trained in CPR and First Aid for eyes and skin contact with liquid H_2S. Everyone should master these necessary skills.

USING SELF-CONTAINED BREATHING AIR EQUIPMENT (SCBA)

1. Written procedures shall be prepared covering safe use of SCBA's in dangerous atmosphere, which might be encountered in normal operations or in emergencies. Personnel shall be familiar with these procedures and the available SCBA.
2. SCBA's shall be inspected frequently at random to insure that they are properly used, cleaned and maintained.
3. Anyone who may use the SCBA's shall be trained in how to insure proper face piece-to-face seal. They shall wear SCBA's in normal air and then wear them in a test atmosphere. Beard and/or sideburns and eyeglasses will not allow a proper seal. Anyone who may be reasonably expected to wear SCBA's should have these items removed before entering a toxic atmosphere. A special mask must be obtained for anyone who must wear eyeglasses or contact lenses. Facial hair, standard eyeglasses, and contact lenses are not allowed with SCBA.
4. Maintenance and care of SCBA:
    a. A program for maintenance and care of SCBA shall include the following:
        i. Inspection for defects, including leak checks
        ii. Cleaning and disinfecting
        iii. Repair
        iv. Storage
    b. Inspection -- SCBA for emergency use shall be inspected monthly and the following permanent records kept of these inspections:
        i. Fully charged cylinders
        ii. Regulator and warning device operation
        iii. Condition of face piece and connections
        iv. Elastomer or rubber parts shall be stretched or massaged to keep them pliable and prevent deterioration
    c. Routinely-used SCBA's shall be collected, cleaned and disinfected as frequently as necessary to insure proper protection is provided.
5. All personnel shall be trained in the use of SCBA prior to working in a potentially hazardous location, and persons required to use SCBA shall be certified physically fit for breathing equipment usage by the local Company physician at least annually.
6. SCBA's should be worn when any of the following are performed:
    a. Working near the top or on top of a tank, unless test reveals less than 10 ppm of H_2S.
    b. Disconnecting any line where H_2S can reasonably be expected.
    c. Sampling air in the area to determine if toxic concentrations of H_2S exist.
    d. Working in areas where over 10 ppm of H_2S has been detected.
    e. At any time there is a doubt of the level of H_2S in the area.

TOXIC EFFECTS OF H2S POISONING

Hydrogen Sulfide is extremely toxic. The acceptable ceiling concentration for eight-hour exposure is 10 PPM, which is .001% by volume. Hydrogen Sulfide is heavier than air (specific gravity-1.192) and is colorless and transparent. It forms an explosive mixture with air between 4.3 & 46% by volume. Hydrogen Sulfide is almost as toxic as Hydrogen Cyanide and is 5-6 times more toxic that Carbon Monoxide. Occupational exposure limits for Hydrogen sulfide and other gases are compared below in Table I. Toxicity table for H2S and physical effects are shown in Table II.

Table I
Toxicity of Various Gases

Common Name	Symbol	Sp. Gravity	TLV	HLV	LLV
Hydrogen Cyanide	HCN	.94	10 ppm	150 ppm/Hr	300 ppm
Hydrogen Sulfide	H_2S	1.18	10 ppm	250 ppm/Hr	600 ppm
Sulfide Dioxide	SO_2	2.21	5 ppm		1000 ppm
Chlorine	Cl	2.45	1 ppm	4 ppm/Hr	1000 ppm
Carbon Monoxide	CO	.97	50 ppm	400 ppm/Hr	1000 ppm
Carbon Dioxide	CO_2	1.52	5000 ppm	5%	10%
Methane	CH_4	.55	90,000 ppm	Combustible Above 5% in Air	

Definitions

A. TLV–Threshold Limit Value-Concentration at which it is believed that all workers may be repeatedly exposed day after day without adverse effects.
B. HLV–Hazardous Limit - Concentration that will cause death with short-term exposure.
C. LLV–Lethal Limit Value - Concentration that will cause death with short-term exposure.

TABLE II
Physical Effects of H_2S

Percent	PPM	Concentration Grains	Physical Effects
0.001	<10	0.65	Obvious and unpleasant odor.
0.002	10	1.30	Safe for 8 hours of exposure.
0.010	100	6.48	Kills sense of smell in 3-15 minutes. May sting eyes and throat.
0.020	200	12.96	Kills sense of smell; stings eyes and throat.
0.050	500	32.96	Dizziness, cessation of breathing begins in a few minutes. Needs prompt artificial respiration.
0.070	700	45.36	Unconscious quickly; death will result if not rescued promptly.
0.100	1000	64.3	Unconscious at once, followed by death within minutes.

PHYSICAL PROPERTIES OF H_2S

The properties of all gases are usually described in the context of seven major categories:

COLOR
ODOR
VAPOR DENSITY
EXPLOSIVE LIMITS
FLAMMABILITY
SOLUBILITY (IN WATER)
BOILING POINT

Hydrogen Sulfide is no exception. Information from these categories should be considered in order to provide a fairly complete picture of the properties of the gas.

COLOR – TRANSPARENT
Hydrogen Sulfide is colorless so it is invisible. This fact simply means that you can't rely on your eyes to detect its presence, a fact that makes the gas extremely dangerous to be around.

ODOR – ROTTEN EGGS
Hydrogen Sulfide has a distinctive offensive smell, similar to "rotten eggs." For this reason it earned its common name "sour gas." However, H_2S, even in low concentrations, is so toxic that it attacks and quickly impairs a victim's sense of smell, so it could be fatal to rely on your nose as a detection device.

VAPOR DENSITY – SPECIFIC GRAVITY OF 1.192
Hydrogen Sulfide is heavier than air so it tends to settle in low-lying areas like pits, cellars or tanks. If you find yourself in a location where H_2S is known to exist, protect yourself. Whenever possible, work in an area upwind and keep to higher ground.

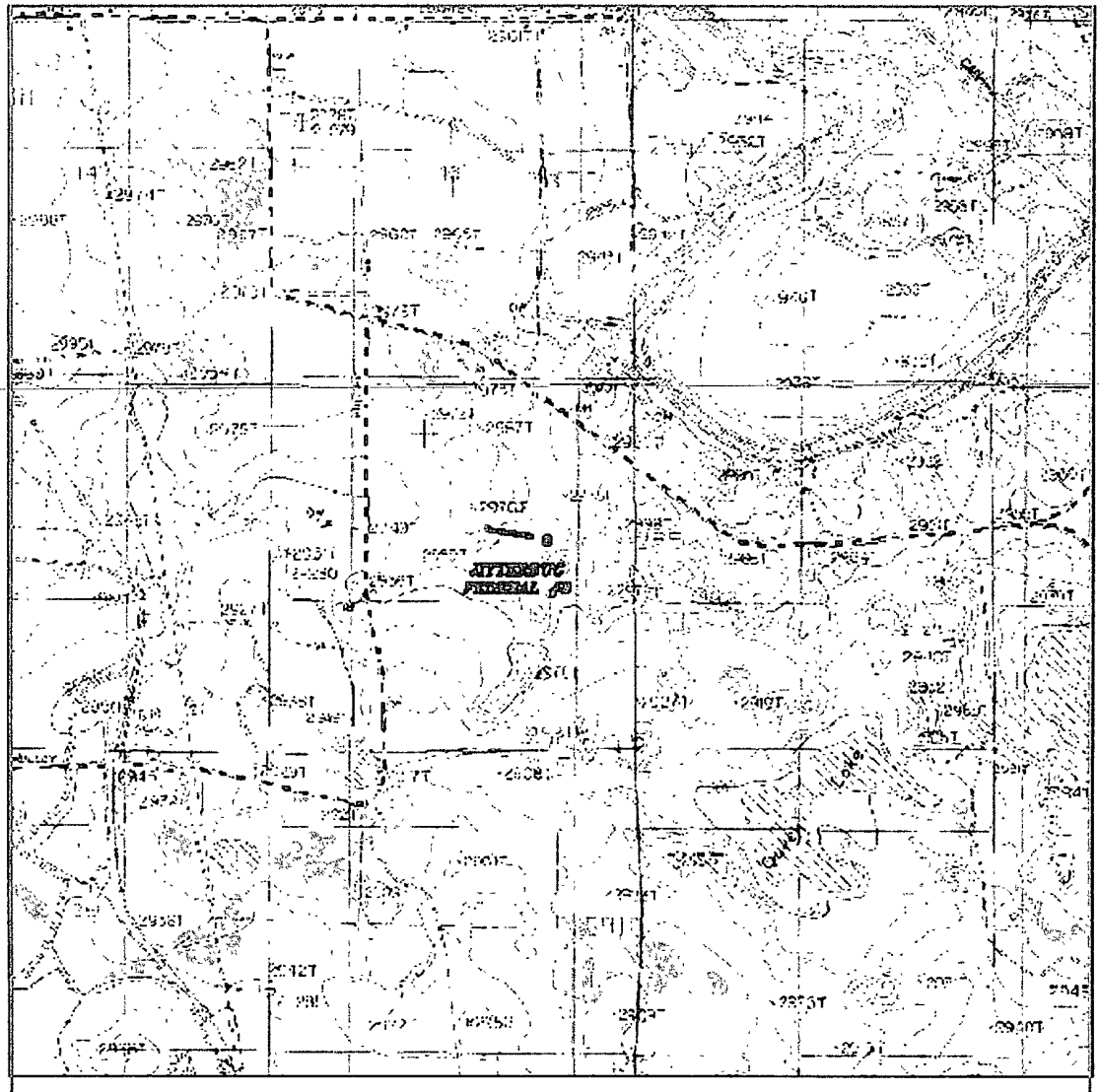
EXPLOSIVE LIMITS – 4.3% TO 46%
Mixed with the right proportion of air or oxygen, H_2S will ignite and burn or explode, producing another alarming element of danger besides poisoning.

FLAMMABILITY
Hydrogen Sulfide will burn readily with a distinctive clear blue flame, producing Sulfur Dioxide (SO_2), another hazardous gas that irritates the eyes and lungs.

SOLUBILITY – 4 TO 1 RATIO WITH WATER
Hydrogen Sulfide can be dissolved in liquids, which means that it can be present in any container or vessel used to carry or hold well fluids including oil, water, emulsion and sludge. The solubility of H_2S is dependent on temperature and pressure, but if conditions are right, simply agitating a fluid containing H_2S may release the gas into the air.

BOILING POINT – (-76 degrees Fahrenheit)
Liquefied Hydrogen Sulfide boils at a very low temperature, so it is usually found as a gas.

LOCATION MAP



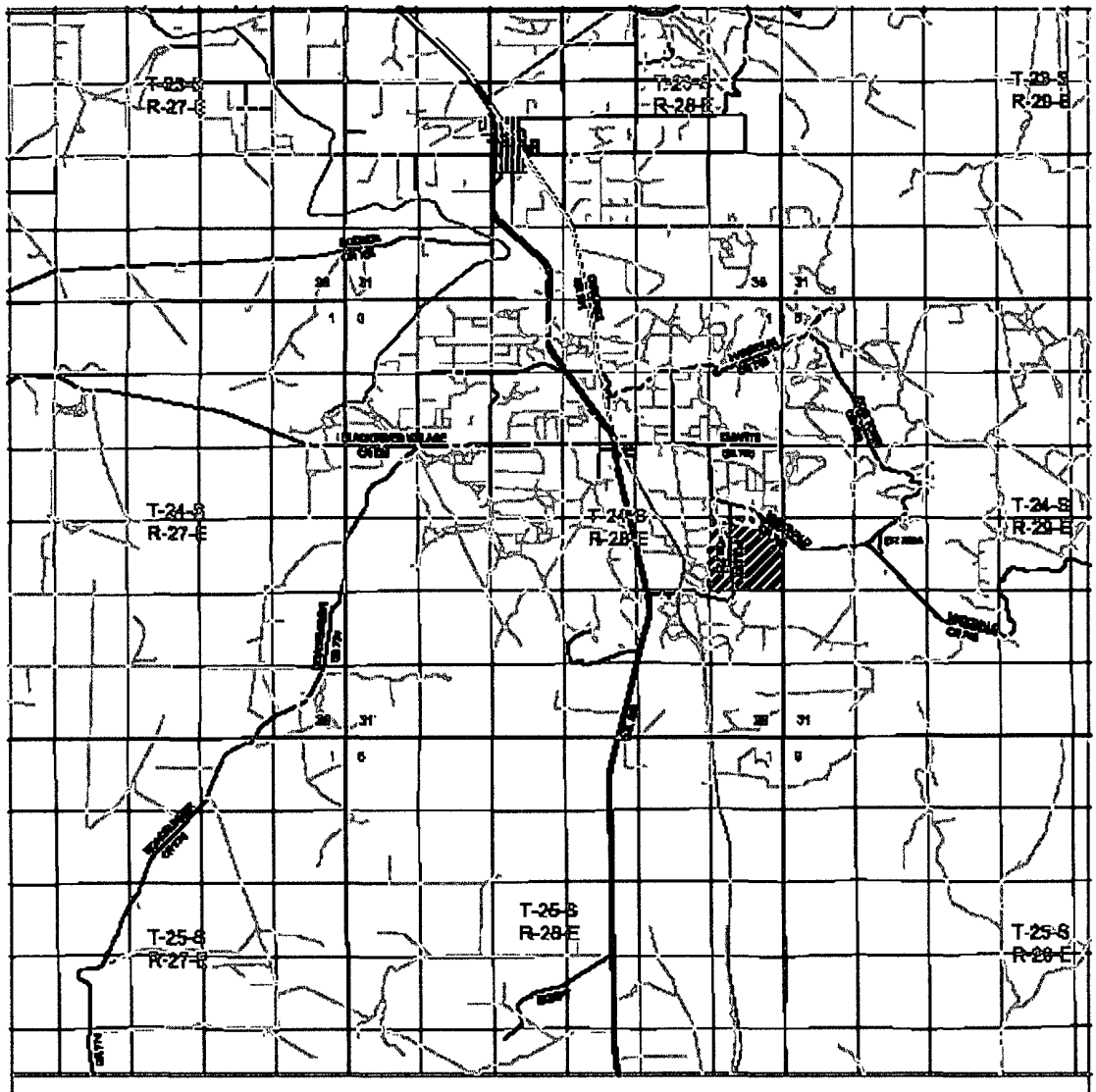
JITTERBUG FEDERAL #2
Located 2280' FNL and 1290' FEL
Section 24, Township 24 South, Range 28 East,
N.M.P.M., Eddy County, New Mexico.

Basin Surveys
Focused on your success in the field
P.O. Box 1786
1120 N. West County Rd.
Hobbs, New Mexico 88241
(575) 393-7316 - Office
(575) 392-2526 - Fax
basinsurveys.com

W.O. Number: JS5 21808
Survey Date: 11-02-2009
Scale: 1" = 2000'
Date: 11-03-2009

BC OPERATING

VICINITY MAP



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Section 24, Township 24 South, Range 28 East,
N.M.P.M., Eddy County, New Mexico.

basin surveys P.O. Box 1786 1120 N. West County Rd. Hobbs, New Mexico 88241 (575) 393-7316 - Office (575) 392-2526 - Fax basinsurveys.com	W.O. Number: JMS 21598 Survey Date: 11-02-2009 Scale: 1" = 2 Miles Date: 11-03-2009	BC OPERATING

SURFACE USE PLAN OF OPERATIONS

BC Operating, Inc.
Jitterbug Federal #2
Surface Location: 2280' FNL & 1290' FEL, Unit H, Sec. 24, T24S, R28E, Eddy, NM

1. **Existing Roads:**
   a. The well site and elevation plat for the proposed well are reflected on the well site layout; Form C102 (Exhibit A). The well was staked by Basin Surveys. Tanner Nygren, BLM Surface Protection, was present during the staking.
   b. All roads into the location are depicted on Exhibit B. BC Operating, Inc. has a Right-of-Way Grant from the BLM for existing lease road to the Jitterbug #1 (NM-122208).
   c. Directions to Location: From the junction of Duarte and McDonald, go south winding east on McDonald for 1.6 miles to lease road. On lease road, go southerly for 0.5 miles to the Jitterbug #1 well and proposed lease road.

2. **New or Reconstructed Access Roads:**
   a. Exhibit E-1 shows the proposed access road, which begins at the edge of the existing Jitterbug #1 well pad and goes south and east approximately 748.2 feet to edge of proposed well pad. 14 TEN 11/20/09
   b. The maximum width of the proposed access road will be ~~20~~ 14', including shoulders. It will be constructed with a 4-inch crown at the centerline. Water will be deflected as necessary to avoid accumulation and prevent surface erosion.
   c. The new access road will be constructed of material-in-place. The maximum grade will be less than 1%.
   d. No cattle guards, grates or fence cuts will be required. No turnouts are planned.
   e. The well pad will require about 4' of cut and fill from the southwest to the northeast. About 5" of topsoil from the pad will be stockpiled on the west side of the location for use in rehabilitation.

3. **Location of Existing Wells:**
   Exhibits C-3 is a one-mile radius map showing other known wells in the area.

4. **Location of Existing And/ Or Proposed Facilities:**
   a. In the event the well is productive, the Jitterbug #1 facilities will be utilized so as not to create unnecessary waste.
   b. If necessary, the well will be operated by means of an electric line. Approximately 1087.5 feet (65.91 rods) of electric line will be set along the north side of the proposed access road connecting to existing electric at Jitterbug #1 well site. See Exhibit E-2.
   c. If the well is productive, approximately 615.7 feet (37.32 rods) of flow line will be laid along the south side of the proposed access road. See Exhibit E-3.
   d. If the well is productive, the original topsoil from the well site will be returned to the location. The drill site will then be contoured as close as possible to the original state. A Closed-Loop System will be used in drilling this well. There will be no reclamation of a reserve pit.

SURFACE USE PLAN OF OPERATIONS

BC Operating, Inc.
Jitterbug Federal #2

5. Location and Type of Water Supply:
This location will be drilled using a combination of water mud systems (outlined in the Drilling Program). The water for drilling operations will be purchased from a commercial water station in the area and hauled to location by transport truck using the existing and proposed roads shown on Exhibits B and E-1.

6. Construction Materials:
Whenever possible, BC Operating, Inc. plans to use material-in-place for construction. If necessary, caliche for surfacing the road and pad will be obtained from a privately-owned pit and hauled to the location. Without prior approval, there are no plans to use caliche from Public Lands.

7. Methods of Handling Waste Disposal:
a. Drill cuttings will be disposed of in a properly-designated facility or dump.
b. Disposal of fluids will be handled by Closed Loop Specialties, P.O. Box 1479, Carlsbad, NM 88220:
    i. CRI Disposal Permit #R9-166
    ii. Sundance Landfill Disposal Permit #NM01-003
c. Produced water from any tests will be disposed of in the same manner as the drilling fluids.
d. Produced oil from any tests will be stored in proper test tanks until sold.
e. A Porto-john will be provided for the rig crews. This equipment will be properly maintained during the drilling and completion operations, and will be removed when all operations are complete.
f. All trash, junk, and other waste material will be contained in trash cages or trash bins to prevent scattering. When the job is completed, all contents will be removed and disposed of in an approved sanitary landfill.

8. Ancillary Facilities:
No campsite or other facilities will be constructed as a result of this well.

9. Well Site Layout:
a. Exhibit D-1 shows the proposed well site layout with dimensions of the pad layout during construction. Exhibit D-2 shows the proposed well site layout with dimensions of the pad layout after interim reclamation.
b. A Closed Loop System will be used.

10. Plans for Surface Reclamation:
a. After concluding the drilling and/or completion operations, if the well is found non-commercial, the caliche will be removed from the pad and transported to the original caliche pit or used for other drilling locations. The road will be reclaimed as directed by the BLM. The original top soil will be returned to the pad and contoured, as close as possible, to the original topography.

b. The location and road will be rehabilitated as recommended by the BLM.
c. If the well is deemed commercially productive, caliche from areas of the pad site not required for operations will be reclaimed. The pad will be pulled back to within 100' of the wellbore or the anchors after all drilling and completion work is finished. See Exhibit D-2 for details regarding the well pad layout dimensions after interim reclamation. See Exhibit E-1 and the Cultural Resource Survey Report for details regarding a buffer line for Archaeology. The original top soil will be returned to the area of the drill pad not necessary to operate the well. These unused areas of the drill pad will be re-seeded and contoured, as close as possible, to match the original topography.
d. All trash and scrap materials will be cleared, and the well site will be left in as aesthetically pleasing a condition as possible.

11. Surface Ownership:

The surface is owned by the U.S. Government and is administered by the Bureau of Land Management. The surface is multiple use with the primary uses of the region for the grazing of livestock and the production of oil and gas.

12. Other Information:

a. The project area is situated across a relatively flat plain between several low hills. The terrain trends downhill to the southwest at a grade of less than 1%.
b. The shallow, silty soils have a high concentration of limestone gravels and cobbles with low, rocky hills.
c. Vegetation is typical of Chihuahuan Desert scrub and includes various grasses, mesquite, creosote, acacia, and various low forbes.
d. There are no ponds or streams near the well site. The Pecos River is located roughly a mile to the northeast, and Queen Lake is located a mile to the southeast.
e. There are no occupied dwellings within two miles of the location.
f. A Cultural Resources Examination was conducted by Justin Rein, Boone Archaeological Surveys, on November 2, 2009. The report was forwarded to the BLM office in Carlsbad, New Mexico via overnight mail on November 5, 2009.

Operator's Representative:

Representative responsible for assuring compliance with the approved Surface Use Plan:
Brian Arnold, Jr., Landman
BC Operating, Inc.
P.O. Box 50820
Midland, TX 79710
432.684.9696 Ext. 232 (office); 432.894.8452 (cell)

BC Operating, Inc.
Jitterbug Federal #2
SL: 2280' FNL & 1290' FEL, UNIT H
Sec 24, T24S, R28E
Eddy County, New Mexico

CERTIFICATION

I hereby certify that I, or persons under my direct supervision, have inspected the drill site and access road proposed herein; that I am familiar with conditions that presently exist; that I have full knowledge of State and Federal laws applicable to this operation; that the statements made in this APD package are, to the best of my knowledge, true and correct; and that the work associated with the operations proposed herein will be performed in conformity with this APD package and the terms and conditions under which it is approved. I also certify that BC Operating, Inc. is responsible for the operations conducted under this application. These statements are subject to the provisions of 18 U.S.C. 1001 for the filing of false statements.

November 9, 2009
Date

Brian Arnold
BC Operating, Inc.

BC Operating, Inc.
Jitterbug Federal #2

COMPANY REPRESENTATIVES:

Representatives responsible for ensuring compliance of the surface use plan are listed below:

Permitting & Land

Mr. Brian Arnold, Jr.
Landman
BC Operating, Inc.
P.O. Box 50820
Midland, TX 79710
(432) 684-9696 Ext. 232 Office
(432) 894-8452 Cell

Drilling

Mr. Jaron Simon
Drilling Engineer
BC Operating, Inc.
P.O. Box 50820
Midland, TX 79710
(432) 684-9696 Ext. 250 Office
(432) 425-6578 Cell

Operations

Mr. Jason Wacker
Production Engineer
BC Operating, Inc.
P.O. Box 50820
Midland, TX 79710
(432) 684-9696 Ext. 237

PECOS DISTRICT
CONDITIONS OF APPROVAL

OPERATOR'S NAME:	BC Operating
LEASE NO.:	NM110829
WELL NAME & NO.:	2 Jitterbug Federal
SURFACE HOLE FOOTAGE:	2280' FNL & 1290' FEL
BOTTOM HOLE FOOTAGE	' F L & ' F L
LOCATION:	Section 24, T. 24 S., R 28 E., NMPM
COUNTY:	Eddy County, New Mexico

TABLE OF CONTENTS

Standard Conditions of Approval (COA) apply to this APD. If any deviations to these standards exist or special COAs are required, the section with the deviation or requirement will be checked below.

Electric Lines

☒ **Interim Reclamation/Reseeding Procedure**

☐ **Final Abandonment/Reclamation**

I. GENERAL PROVISIONS

The approval of the Application For Permit To Drill (APD) is in compliance with all applicable laws and regulations: 43 Code of Federal Regulations 3160, the lease terms, Onshore Oil and Gas Orders, Notices To Lessees, New Mexico Oil Conservation Division (NMOCD) Rules, National Historical Preservation Act As Amended, and instructions and orders of the Authorized Officer. Any request for a variance shall be submitted to the Authorized Officer on Form 3160-5, Sundry Notices and Report on Wells.

II. PERMIT EXPIRATION

If the permit terminates prior to drilling and drilling cannot be commenced within 60 days after expiration, an operator is required to submit Form 3160-5, Sundry Notices and Reports on Wells, requesting surface reclamation requirements for any surface disturbance. However, if the operator will be able to initiate drilling within 60 days after the expiration of the permit, the operator must have set the conductor pipe in order to allow for an extension of 60 days beyond the expiration date of the APD. (Filing of a Sundry Notice is required for this 60 day extension.)

III. ARCHAEOLOGICAL, PALEONTOLOGY & HISTORICAL SITES

Any cultural and/or paleontological resource discovered by the operator or by any person working on the operator's behalf shall immediately report such findings to the Authorized Officer. The operator is fully accountable for the actions of their contractors and subcontractors. The operator shall suspend all operations in the immediate area of such discovery until written authorization to proceed is issued by the Authorized Officer. An evaluation of the discovery shall be made by the Authorized Officer to determine the appropriate actions that shall be required to prevent the loss of significant cultural or scientific values of the discovery. The operator shall be held responsible for the cost of the proper mitigation measures that the Authorized Officer assesses after consultation with the operator on the evaluation and decisions of the discovery. Any unauthorized collection or disturbance of cultural or paleontological resources may result in a shutdown order by the Authorized Officer.

No surface disturbance shall occur north of the archeology site buffer depicted in the "well pad topo" page in the APD. This may result in truncating the north corner of the well pad.

IV. NOXIOUS WEEDS

The operator shall be held responsible if noxious weeds become established within the areas of operations. Weed control shall be required on the disturbed land where noxious weeds exist, which includes the roads, pads, associated pipeline corridor, and adjacent land affected by the establishment of weeds due to this action. The operator shall consult with the Authorized Officer for acceptable weed control methods, which include following EPA and BLM requirements and policies.

V. SPECIAL REQUIREMENT(S)

Protecting Water Quality:
The entire well pad will be bermed to prevent oil, salt, and other chemical contaminants from leaving the pad. The uphill sides (north and east sides) of the pad shall be constructed so that water flow can be diverted around the location. No water flow from the uphill sides of the pad shall be allowed to enter the well pad. The berm shall be maintained through the life of the well and after interim reclamation has been completed.

Preventing Soil Erosion:
The water flow that will be diverted around the pad shall be slowed by erosion control structures. Appropriate and adequate measures shall be taken by the operator to prevent soil erosion around the well pad and adjacent areas. Soil erosion structures shall be determined appropriate and adequate by BLM Environmental Protection Specialists or an Authorized Officer (Carlsbad Field Office at (575) 234-5972).

The well pad will parallel the hill side to the southeast.

Archaeological Conditions of Approval

Historic properties in the vicinity of this project are protected by federal law. In order to ensure that they are not damaged or destroyed by construction activities, the project proponent and construction supervisors shall ensure that the following stipulations are implemented.

Date of Issue: 11/12/2009 **BLM Report No.:** 10-0102

Project Name: Jitterbug Fed#2 loc, access, ppln, pwln

1. Professional archaeological monitoring. Contact your project archaeologist, or BLM's Cultural Resources Section at (575) 234-2228, 5917, 2236, or 5967, for assistance.

These stipulations must be given to your monitor at least 5 days prior to the start of construction. No construction, including vegetation removal or other site prep may begin prior to the arrival of the monitor.

2. The archaeological monitor shall:

Observe all ground-disturbing activities within 100 feet of cultural site no. LA:164312

Other:

Site Protection and Employee Education: It is the responsibility of the project proponent and his construction supervisor to inform all employees and subcontractors that cultural and archaeological sites are to be avoided by all personnel, vehicles, and equipment; and that it is illegal to collect, damage, or disturb cultural resources on Public Lands.
For assistance, contact BLM Cultural Resources:

Bruce Boeke	(575) 234-5917
Martin Stein	(575) 234-5967
George MacDonell	(575) 234-2228
Lynn Robinson	(575) 234-2236
Ian Young	
Jeremy Iliff	(575) 234-6231

Cave/Karst

Depending on location, additional Drilling, Casing, and Cementing procedures may be required by engineering to protect critical karst groundwater recharge areas.

Cave/Karst Surface Mitigation

The following stipulations will be applied to minimize impacts during construction, drilling and production.

Construction:
In the advent that any underground voids are opened up during construction activities, construction activities will be halted and the BLM will be notified immediately.

No Blasting:
No blasting will be utilized for pad construction. The pad will be constructed and leveled by adding the necessary fill and caliche.

Tank Battery Liners and Berms:
Tank battery locations will be lined and bermed. A 20 mil permanent liner will be installed with a 4 oz. felt backing to prevent tears or punctures. Tank battery berms must be large enough to contain 1 ½ times the content of the largest tank.

Leak Detection System:
A method of detecting leaks is required. The method could incorporate gauges to measure loss, situating values and lines so they can be visually inspected, or installing electronic sensors to alarm when a leak is present. Leak detection plan will be submitted to BLM for approval.

Automatic Shut-off Systems:
Automatic shut off, check values, or similar systems will be installed for pipelines and tanks to minimize the effects of catastrophic line failures used in production or drilling.

Cave/Karst Subsurface Mitigation
The following stipulations will be applied to protect cave/karst and ground water concerns:

Rotary Drilling with Fresh Water:
Fresh water will be used as a circulating medium in zones where caves or karst features are expected. SEE ALSO: Drilling COAs for this well.

Directional Drilling:
Kick off for directional drilling will occur at least 100 feet below the bottom of the cave occurrence zone. SEE ALSO: Drilling COAs for this well.

Lost Circulation:
ALL lost circulation zones from the surface to the base of the cave occurrence zone will be logged and reported in the drilling report.

Regardless of the type of drilling machinery used, if a void of four feet or more and circulation losses greater than 70 percent occur simultaneously while drilling in any cave-bearing zone, the BLM will be notified immediately by the operator. The BLM will assess the situation and work with the operator on corrective actions to resolve the problem.

Abandonment Cementing:
Upon well abandonment in high cave karst areas additional plugging conditions of approval may be required. The BLM will assess the situation and work with the operator to ensure proper plugging of the wellbore.

Pressure Testing:
Annual pressure monitoring will be performed by the operator on all casing annuli and reported in a sundry notice. If the test results indicated a casing failure has occurred, remedial action will be undertaken to correct the problem to the BLM's approval.

VI. CONSTRUCTION

A. NOTIFICATION

The BLM shall administer compliance and monitor construction of the access road and well pad. Notify the Carlsbad Field Office at (575) 234-5972 at least 3 working days prior to commencing construction of the access road and/or well pad.

When construction operations are being conducted on this well, the operator shall have the approved APD and Conditions of Approval (COA) on the well site and they shall be made available upon request by the Authorized Officer.

B. TOPSOIL

The operator shall stockpile the topsoil of the well pad in an appropriate location to prevent loss of soil due to water/wind erosion. The topsoil will be used for interim and final reclamation.

C. CLOSED LOOP SYSTEM

Tanks are required for drilling operations: No Pits.
The operator shall properly dispose of drilling contents at an authorized disposal site.

D. FEDERAL MINERAL MATERIALS PIT

If the operator elects to surface the access road and/or well pad, mineral materials extracted during construction of the reserve pit may be used for surfacing the well pad and access road and other facilities on the lease.

Payment shall be made to the BLM prior to removal of any additional federal mineral materials from any site other than the reserve pit. Call the
Carlsbad Field Office at (575) 234-5972.

E. WELL PAD SURFACING

Surfacing of the well pad is not required.

If the operator elects to surface the well pad, the surfacing material may be required to be removed at the time of reclamation.

The well pad shall be constructed in a manner which creates the smallest possible surface disturbance, consistent with safety and operational needs.

F. ON LEASE ACCESS ROADS

Road Width
The access road shall have a driving surface that creates the smallest possible surface disturbance and does not exceed fourteen (14) feet in width. The maximum width of surface disturbance, when constructing the access road, shall not exceed thirty (30) feet.

Surfacing
Surfacing material is not required on the new access road driving surface. If the operator elects to surface the new access road or pad, the surfacing material may be required to be removed at the time of reclamation.

Where possible, no improvements should be made on the unsurfaced access road other than to remove vegetation as necessary, road irregularities, safety issues, or to fill low areas that may sustain standing water.

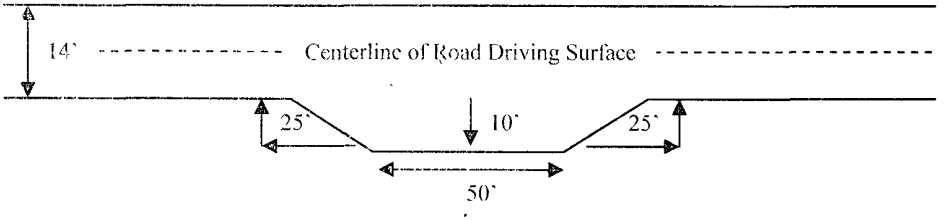
The Authorized Officer reserves the right to require surfacing of any portion of the access road at any time deemed necessary. Surfacing may be required in the event the road deteriorates, erodes, road traffic increases, or it is determined to be beneficial for future field development. The surfacing depth and type of material will be determined at the time of notification.

Crowning
Crowning shall be done on the access road driving surface. The road crown shall have a grade of approximately 2% (i.e., a 1" crown on a 14' wide road). The road shall conform to Figure 1; cross section and plans for typical road construction.

Ditching
Ditching shall be required on both sides of the road.

Turnouts
Vehicle turnouts shall be constructed on the road. Turnouts shall be intervisible with interval spacing distance less than 1000 feet. Turnouts shall be constructed on all blind curves. Turnouts shall conform to the following diagram:

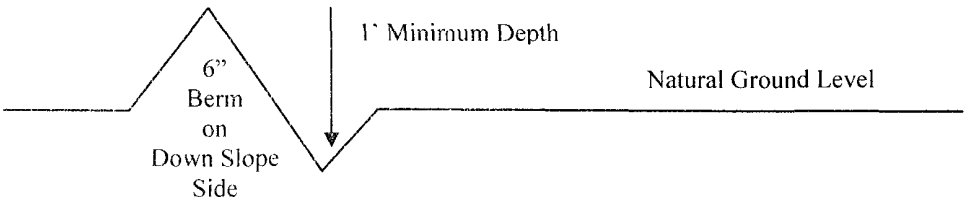
Standard Turnout – Plan View



Drainage
Drainage control systems shall be constructed on the entire length of road (e.g. ditches, sidehill outsloping and insloping, lead-off ditches, culvert installation, and low water crossings).

A typical lead-off ditch has a minimum depth of 1 foot below and a berm of 6 inches above natural ground level. The berm shall be on the down-slope side of the lead-off ditch.

Cross Section of a Typical Lead-off Ditch



All lead-off ditches shall be graded to drain water with a 1 percent minimum to 3 percent maximum ditch slope. The spacing interval are variable for lead-off ditches and shall be determined according to the formula for spacing intervals of lead-off ditches, but may be amended depending upon existing soil types and centerline road slope (in %);

Formula for Spacing Interval of Lead-off Ditches

Example - On a 4% road slope that is 400 feet long, the water flow shall drain water into a lead-off ditch. Spacing interval shall be determined by the following formula:

400 foot road with 4% road slope: $\frac{400'}{4\%} + 100' = 200'$ lead-off ditch interval

Culvert Installations
Appropriately sized culvert(s) shall be installed at the deep waterway channel flow crossing.

Cattleguards
An appropriately sized cattleguard(s) sufficient to carry out the project shall be installed and maintained at fence crossing(s).

Any existing cattleguard(s) on the access road shall be repaired or replaced if they are damaged or have deteriorated beyond practical use. The operator shall be responsible for the condition of the existing cattleguard(s) that are in place and are utilized during lease operations.

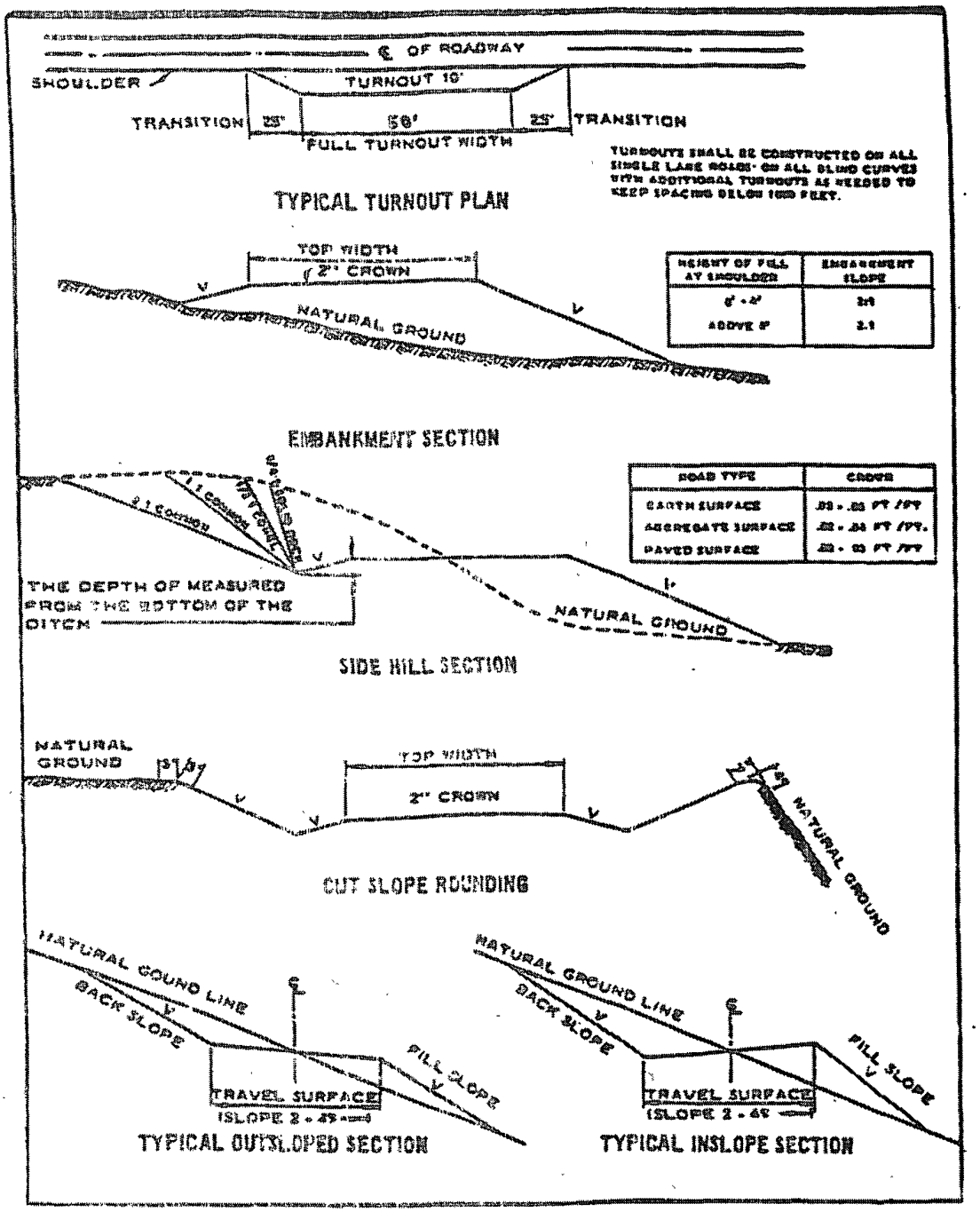
A gate shall be constructed and fastened securely to H-braces.

Fence Requirement
Where entry is required across a fence line, the fence shall be braced and tied off on both sides of the passageway prior to cutting.

The operator shall notify the private surface landowner or the grazing allotment holder prior to crossing any fence(s).

Public Access
Public access on this road shall not be restricted by the operator without specific written approval granted by the Authorized Officer.

Figure 1 – Cross Sections and Plans For Typical Road Sections



VII. DRILLING

A. DRILLING OPERATIONS REQUIREMENTS

The BLM is to be notified a minimum of 4 hours in advance for a representative to witness:

a. Spudding well
b. Setting and/or Cementing of all casing strings
c. BOPE tests

☒ **Eddy County**
Call the Carlsbad Field Office, 620 East Greene St., Carlsbad, NM 88220, (575) 361-2822

1. **Hydrogen Sulfide has been reported as a hazard, but no measurements have been recorded. It is recommended that monitoring equipment be onsite for potential Hydrogen Sulfide. If Hydrogen Sulfide is encountered, please report measurements and formations to the BLM.**

2. Unless the production casing has been run and cemented or the well has been properly plugged, the drilling rig shall not be removed from over the hole without prior approval.

3. Floor controls are required for 3M or Greater systems. These controls will be on the rig floor, unobstructed, readily accessible to the driller and will be operational at all times during drilling and/or completion activities. Rig floor is defined as the area immediately around the rotary table; the area immediately above the substructure on which the draw works are located, this does not include the dog house or stairway area.

4. **The record of the drilling rate along with the CAL/GR/N well log run from TD to surface will be submitted to the BLM office as well as all other logs run on the borehole 30 days from completion. If available, a digital copy of the logs is to be submitted in addition to the paper copies. The Rustler top and top and bottom of Salt are to be recorded on the Completion Report.**

B. CASING

Changes to the approved APD casing and cement program require submitting a sundry and receiving approval prior to work. Failure to obtain approval prior to work will result in an Incident of Non-Compliance being issued.

Centralizers required on surface casing per Onshore Order 2.III.B.1.f.

Wait on cement (WOC) time for a primary cement job will be a minimum 18 hours for a water basin, 24 hours in the potash area, or 500 pounds compressive strength, whichever is greater for all casing strings. Provide compressive strengths including hours to reach required 500 pounds compressive strength prior to cementing each casing string. See individual casing strings for details regarding lead cement slurry requirements.

No pea gravel permitted for remedial or fall back remedial without prior authorization from the BLM engineer.

HIGH CAVE/KARST
Possible lost circulation in the redbeds and the Castile Group,

1. The 13-3/8 inch surface casing shall be set at **approximately 420 feet (a minimum of 25 feet into the Rustler Anhydrite and above the salt)** and cemented to the surface.

    a. If cement does not circulate to the surface, the appropriate BLM office shall be notified and a temperature survey utilizing an electronic type temperature survey with a surface log readout will be used or a cement bond log shall be run to verify the top of the cement. Temperature survey will be run a minimum of six hours after pumping cement and ideally between 8-10 hours after completing the cement job.

    b. **Wait on cement (WOC) time for a primary cement job is to include the lead cement slurry.**

    c. Wait on cement (WOC) time for a remedial job will be a minimum of 4 hours after bringing cement to surface or 500 pounds compressive strength, whichever is greater.

    d. If cement falls back, remedial cementing will be done prior to drilling out that string.

2. The minimum required fill of cement behind the **8-5/8** inch intermediate casing is:

    ☒ Cement to surface. If cement does not circulate see B.1.a, c-d above. **Wait on cement (WOC) time for a primary cement job is to include the lead cement slurry due to cave/karst. Additional cement may be required as the excess calculated to be 19%.**

If 75% or greater lost circulation occurs while drilling the intermediate casing hole, the cement on the production casing must come to surface.

Formation below the 8-5/8" shoe to be tested according to Onshore Order 2.III.B.1.i. Test to be done as a mud equivalency test using the mud weight necessary for the pore pressure of the formation below the shoe (not the mud weight required to prevent dissolving the salt formation) and the mud weight for the bottom of the hole. Report results to BLM office.

3. The minimum required fill of cement behind the **5-1/2** inch production casing is:

   ☒ Cement should tie-back at least 200 feet into previous casing string. Operator shall provide method of verification. **Additional cement may be required as the excess calculated to be 16%.**

4. If hardband drill pipe is rotated inside casing, returns will be monitored for metal. If metal is found in samples, drill pipe will be pulled and rubber protectors which have a larger diameter than the tool joints of the drill pipe will be installed prior to continuing drilling operations.

C. PRESSURE CONTROL

1. All blowout preventer (BOP) and related equipment (BOPE) shall comply with well control requirements as described in Onshore Oil and Gas Order No. 2 and API RP 53 Sec. 17.

2. Minimum working pressure of the blowout preventer (BOP) and related equipment (BOPE) required for drilling below the surface casing shoe shall be **5000 (5M)** psi. **5M system requires an HCR valve, remote kill line and annular to match. The remote kill line is to be installed prior to testing the system and tested to stack pressure.**

3. The appropriate BLM office shall be notified a minimum of 4 hours in advance for a representative to witness the tests.

   a. Casing cut-off and BOP installation will not be initiated until the cement has had 4-6 hours of setup time in a water basin and 12 hours in the potash areas. This time will start after the cement plug is bumped.

   b. **Prior to testing a BOP/BOPE system against the casing; the wait on cement (WOC) time for that casing is to be met (see WOC statement at start of casing section). Testing the BOP/BOPE against a plug can commence after meeting the conditions in (a.) plus the BOP installation time.**

   c. The tests shall be done by an independent service company.

   d. The results of the test shall be reported to the appropriate BLM office.

e. All tests are required to be recorded on a calibrated test chart. **A copy of the BOP/BOPE test chart and a copy of independent service company test will be submitted to the appropriate BLM office.**

f. The BOP/BOPE test shall include a low pressure test from 250 to 300 psi. The test will be held for a minimum of 10 minutes if test is done with a test plug and 30 minutes without a test plug.

g. **Effective November 1, 2008, no variances will be granted on reduced pressure tests on the casing and BOP/BOPE. Onshore Order 2 requirements will be in effect.**

D. DRILL STEM TEST

If drill stem tests are performed, Onshore Order 2.III.D shall be followed.

CRW 121009

VIII. PRODUCTION (POST DRILLING)

A. WELL STRUCTURES & FACILITIES

Placement of Production Facilities
If any production facilities are needed, they should be placed on the west side of the well pad to allow for maximum interim recontouring and revegetation of the east side of the well location.

Containment Structures
The containment structure shall be constructed to hold the capacity of the entire contents of the largest tank, plus 24 hour production, unless more stringent protective requirements are deemed necessary by the Authorized Officer.

Painting Requirement
All above-ground structures including meter housing that are not subject to safety requirements shall be painted a flat non-reflective paint color
Shale Green, Munsell Soil Color Chart # 5Y 4/2

B. PIPELINES

STANDARD STIPULATIONS FOR SURFACE INSTALLED PIPELINES

A copy of the APD and attachments, including stipulations, survey plat and/or map, will be on location during construction. BLM personnel may request to you a copy of your permit during construction to ensure compliance with all stipulations.

Holder agrees to comply with the following stipulations to the satisfaction of the Authorized Officer:

1. The holder shall indemnify the United States against any liability for damage to life or property arising from the occupancy or use of public lands under this grant.

2. The holder shall comply with all applicable Federal laws and regulations existing or hereafter enacted or promulgated. In any event, the holder shall comply with the Toxic Substances Control Act of 1976 as amended, 15 USC 2601 et seq. (1982) with regards to any toxic substances that are used, generated by or stored on the right-of-way or on facilities authorized under this right-of-way grant. (See 40 CFR, Part 702-799 and especially, provisions on polychlorinated biphenyls, 40 CFR 761.1-761.193.) Additionally, any release of toxic substances (leaks, spills, etc.) in excess of the reportable quantity established by 40 CFR, Part 117 shall be reported as required by the Comprehensive Environmental Response, Compensation, and Liability Act, section 102b. A copy of any report required or requested by any Federal agency or State government as a result of a reportable release or spill of any toxic substances shall be furnished to the authorized officer concurrent with the filing of the reports to the involved Federal agency or State government.

3. The holder agrees to indemnify the United States against any liability arising from the release of any hazardous substance or hazardous waste (as these terms are defined in the Comprehensive Environmental Response, Compensation and Liability Act of 1980, 42 U.S.C. 9601, et seq. or the Resource Conservation and Recovery Act, 42 U.S.C. 6901, et seq.) on the Right-of-Way (unless the release or threatened release is wholly unrelated to activity of the Right-of-Way holder's activity on the Right-of-Way), or resulting from the activity of the Right-of-Way holder on the Right-of-Way. This agreement applies without regard to whether a release is caused by the holder, its agent, or unrelated third parties.

4. The holder shall be liable for damage or injury to the United States to the extent provided by 43 CFR Sec. 2883.1-4. The holder shall be held to a standard of strict liability for damage or injury to the United States resulting from pipe rupture, fire, or spills caused or substantially aggravated by any of the following within the right-of-way or permit area:

a. Activities of the holder including, but not limited to construction, operation, maintenance, and termination of the facility.

b. Activities of other parties including, but not limited to:

(1) Land clearing.
(2) Earth-disturbing and earth-moving work.
(3) Blasting.
(4) Vandalism and sabotage.

c. Acts of God.

The maximum limitation for such strict liability damages shall not exceed one million dollars ($1,000,000) for any one event, and any liability in excess of such amount shall be determined by the ordinary rules of negligence of the jurisdiction in which the damage or injury occurred.

This section shall not impose strict liability for damage or injury resulting primarily from an act of war or from the negligent acts or omissions of the United States.

5. If, during any phase of the construction, operation, maintenance, or termination of the pipeline, any oil, salt water, or other pollutant should be discharged from the pipeline system, impacting Federal lands, the control and total removal, disposal, and cleaning up of such oil, salt water, or other pollutant, wherever found, shall be the responsibility of the holder, regardless of fault. Upon failure of the holder to control, dispose of, or clean up such discharge on or affecting Federal lands, or to repair all damages resulting therefrom, on the Federal lands, the Authorized Officer may take such measures as he deems necessary to control and clean up the discharge and restore the area, including, where appropriate, the aquatic environment and fish and wildlife habitats, at the full expense of the holder. Such action by the Authorized Officer shall not relieve the holder of any responsibility as provided herein.

6. The authorized right-of-way width will be **25** feet. 14 feet of the right-of-way width will consist of existing disturbance (access road) and the remaining 11 feet will consist of area adjacent to the disturbance. All construction and maintenance activity will be confined to existing roads.

7. No blading or clearing of any vegetation will be allowed unless approved in writing by the Authorized Officer.

8. The holder shall install the pipeline on the surface in such a manner that will minimize suspension of the pipeline across low areas in the terrain. In hummocky of duney areas, the pipeline will be "snaked" around hummocks and dunes rather then suspended across these features.

9. The pipeline shall be buried with a minimum of **24** inches under all roads, "two-tracks," and trails. Burial of the pipe will continue for 20 feet on each side of each crossing. The condition of the road, upon completion of construction, shall be returned to at least its former state with no bumps or dips remaining in the road surface.

10. The holder shall minimize disturbance to existing fences and other improvements on public lands. The holder is required to promptly repair improvements to at least their former state. Functional use of these improvements will be maintained at all times. The holder will contact the owner of any improvements prior to disturbing them. When necessary to pass through a fence line, the fence shall be braced on both sides of the passageway prior to cutting of the fence. No permanent gates will be allowed unless

approved by the Authorized Officer.

11. In those areas where erosion control structures are required to stabilize soil conditions, the holder will install such structures as are suitable for the specific soil conditions being encountered and which are in accordance with sound resource management practices.

12. Excluding the pipe, all above-ground structures not subject to safety requirement shall be painted by the holder to blend with the natural color of the landscape. The paint used shall be a color which simulates "Standard Environmental Colors" – **Shale Green**, Munsell Soil Color No. 5Y 4/2; designated by the Rocky Mountain Five State Interagency Committee.

13. The pipeline will be identified by signs at the point of origin and completion of the right-of-way and at all road crossings. At a minimum, signs will state the holder's name, BLM serial number, and the product being transported. Signs will be maintained in a legible condition for the life of the pipeline.

14. The holder shall not use the pipeline route as a road for purposes other than routine maintenance as determined necessary by the Authorized Officer in consultation with the holder. The holder will take whatever steps are necessary to ensure that the pipeline route is not used as a roadway.

15. Any cultural and/or paleontological resource (historic or prehistoric site or object) discovered by the holder, or any person working on his behalf, on public or Federal land shall be immediately reported to the authorized officer. Holder shall suspend all operations in the immediate area of such discovery until written authorization to proceed is issued by the authorized officer. An evaluation of the discovery will be made by the authorized officer to determine appropriate cultural or scientific values. The holder will be responsible for the cost of evaluation and any decision as to proper mitigation measures will be made by the authorized officer after consulting with the holder.

C. ELECTRIC LINES

STANDARD STIPULATIONS FOR OVERHEAD ELECTRIC DISTRIBUTION LINES

A copy of the grant and attachments, including stipulations, survey plat and/or map, will be on location during construction. BLM personnel may request to you a copy of your permit during construction to ensure compliance with all stipulations.

Holder agrees to comply with the following stipulations to the satisfaction of the Authorized Officer:

1. The holder shall indemnify the United States against any liability for damage to life or property arising from the occupancy or use of public lands under this grant.

2. The holder shall comply with all applicable Federal laws and regulations existing or hereafter enacted or promulgated. In any event, the holder shall comply with the Toxic Substances Control Act of 1976 as amended, 15 USC 2601 et seq. (1982) with regards to any toxic substances that are used, generated by or stored on the right-of-way or on facilities authorized under this right-of-way grant. (See 40 CFR, Part 702-799 and especially, provisions on polychlorinated biphenyls, 40 CFR 761.1-761.193.) Additionally, any release of toxic substances (leaks, spills, etc.) in excess of the reportable quantity established by 40 CFR, Part 117 shall be reported as required by the Comprehensive Environmental Response, Compensation, and Liability Act, section 102b. A copy of any report required or requested by any Federal agency or State government as a result of a reportable release or spill of any toxic substances shall be furnished to the authorized officer concurrent with the filing of the reports to the involved Federal agency or State government.

3. The holder agrees to indemnify the United States against any liability arising from the release of any hazardous substance or hazardous waste (as these terms are defined in the Comprehensive Environmental Response, Compensation and Liability Act of 1980, 42 U.S.C. 9601, et seq. or the Resource Conservation and Recovery Act, 42 U.S.C. 6901, et seq.) on the Right-of-Way (unless the release or threatened release is wholly unrelated to the Right-of-Way holder's activity on the Right-of-Way), or resulting from the activity of the Right-of-Way holder on the Right-of-Way. This agreement applies without regard to whether a release is caused by the holder, its agent, or unrelated third parties.

4. There will be no clearing or blading of the right-of-way unless otherwise agreed to in writing by the Authorized Officer.

5. Powerlines shall be constructed in accordance to standards outlined in "Suggested Practices for Raptor Protection on Powerlines, " Raptor Research Foundation, Inc., 1981. The holder shall assume the burden and expense of proving that pole designs not shown in the above publication are "raptor safe." Such proof shall be provided by a raptor expert approved by the Authorized Officer. The BLM reserves the right to require modification or additions to all powerline structures placed on this right-of-way, should they be necessary to ensure the safety of large perching birds. Such modifications and/or additions shall be made by the holder without liability or expense to the United States.

6. The holder shall minimize disturbance to existing fences and other improvements on public lands. The holder is required to promptly repair improvements to at least their former state. Functional use of these improvements will be maintained at all times. The holder will contact the owner of any improvements prior to disturbing them. When necessary to pass through a fence line, the fence shall be braced on both sides of the passageway prior to cutting the fence. No permanent gates will be allowed unless approved by the Authorized Officer.

7. The BLM serial number assigned to this authorization shall be posted in a permanent, conspicuous manner where the power line crosses roads and at all serviced facilities. Numbers will be at least two inches high and will be affixed to the pole nearest the road

crossing and at the facilities served.

8. Upon cancellation, relinquishment, or expiration of this grant, the holder shall comply with those abandonment procedures as prescribed by the Authorized Officer.

9. All surface structures (poles, lines, transformers, etc.) shall be removed within 180 days of abandonment, relinquishment, or termination of use of the serviced facility or facilities or within 180 days of abandonment, relinquishment, cancellation, or expiration of this grant, whichever comes first. This will not apply where the power line extends service to an active, adjoining facility or facilities.

10. Any cultural and/or paleontological resource (historic or prehistoric site or object) discovered by the holder, or any person working on his behalf, on public or Federal land shall be immediately reported to the Authorized Officer. Holder shall suspend all operations in the immediate area of such discovery until written authorization to proceed is issued by the Authorized Officer. An evaluation of the discovery will be made by the Authorized Officer to determine appropriate actions to prevent the loss of significant cultural or scientific values. The holder will be responsible for the cost of evaluation and any decision as to proper mitigation measures will be made by the Authorized Officer after consulting with the holder.

11. Special Stipulations:
- For reclamation, remove poles, lines, transformer, etc. and dispose of properly.
- Fill in any holes from the poles removed.

IX. INTERIM RECLAMATION & RESEEDING PROCEDURE

A. INTERIM RECLAMATION

If the well is a producer, interim reclamation shall be conducted on the well site in accordance with the orders of the Authorized Officer. The operator shall submit a Sundry Notices and Reports on Wells (Notice of Intent), Form 3160-5, prior to conducting interim reclamation.

The company has provided a rig layout of the dimensions of the well pad after interim reclamation in the APD. These dimensions may be changed by the Authorized Officer during interim reclamation.

During the life of the development, all disturbed areas not needed for active support of production operations should undergo interim reclamation in order to minimize the environmental impacts of development on other resources and uses.

Erosion control structures shall be utilized after interim reclamation to minimize water erosion.

Operators should work with BLM surface management specialists to devise the best strategies to reduce the size of the location. Any reductions should allow for remedial well operations, as well as safe and efficient removal of oil and gas.

During reclamation, the removal of caliche is important to increasing the success of revegetating the site..Removed caliche may be used for road repairs, fire walls or for building other roads and locations. In order to operate the well or complete workover operations, it may be necessary to drive, park and operate on restored interim vegetation within the previously disturbed area. Disturbing revegetated areas for production or workover operations will be allowed. If there is significant disturbance and loss of vegetation, the area will need to be revegetated. Communicate with the appropriate BLM office for any exceptions/exemptions if needed.

B. RESEEDING PROCEDURE

Once the well is drilled, all completion procedures accomplished and all trash removed, reseed the location and all surrounding disturbed areas as follows:

X. FINAL ABANDONMENT & REHABILITATION REQUIREMENTS

Upon abandonment of the well and/or when the access road is no longer in service the Authorized Officer shall issue instructions and/or orders for surface reclamation and restoration of all disturbed areas.

On private surface/federal mineral estate land the reclamation procedures on the road and well pad shall be accomplished in accordance with the private surface land owner agreement.

Seed Mixture 1, for Loamy Sites

The holder shall seed all disturbed areas with the seed mixture listed below. The seed mixture shall be planted in the amounts specified in pounds of pure live seed (PLS)* per acre. There shall be no primary or secondary noxious weeds in the seed mixture. Seed will be tested and the viability testing of seed will be done in accordance with State law(s) and within nine (9) months prior to purchase. Commercial seed will be either certified or registered seed. The seed container will be tagged in accordance with State law(s) and available for inspection by the authorized officer.

Seed will be planted using a drill equipped with a depth regulator to ensure proper depth regulator to ensure proper depth of planting where drilling is possible. The seed mixture will be evenly and uniformly planted over the disturbed area (small/heavier seeds have a tendency to drop the bottom of the drill and are planted first). The holder shall take appropriate measures to ensure this does not occur. Where drilling is not possible, seed will be broadcast and the area shall be raked or chained to cover the seed. When broadcasting the seed, the pounds per acre are to be doubled. The seeding will be repeated until a satisfactory stand is established as determined by the authorized officer. Evaluation of growth will not be made before completion of at least one full growing season after seeding.

Species to be planted in pounds of pure live seed* per acre:

Species	lb/acre
Plains lovegrass (Eragrostis intermedia)	0.5
Sand dropseed (Sporobolus cryptandrus)	1.0
Sideoats grama (Bouteloua curtipendula)	5.0

*Pounds of pure live seed:

Pounds of seed x percent purity x percent germination = pounds pure live seed