ATS-08-979
EA-08-1348
Secretary's Potash

JAN 13 2009

OCD-ARTESIA

Form 3160-3
(August 2007)

OCD-ARTESIA

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

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

APPLICATION FOR PERMIT TO DRILL OR REENTER

5 Lease Serial No. NM033775

6. If Indian, Allotee or Tribe Name

1a. Type of work: ☑ DRILL ☐ REENTER

7 If Unit or CA Agreement, Name and No. NMNM70993X

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

8. Lease Name and Well No. NBQU #56

2. Name of Operator: Arena Resources Inc

9. API Well No. 30.015.36905

3a. Address: 2130 W. Bender Hobbs, NM 88240

3b Phone No. *(include area code)*: 575-738-1739

10. Field and Pool, or Exploratory: Benson Queen Grayburg North

4. Location of Well *(Report location clearly and in accordance with any State requirements.*)*

At surface 1807 FNL 50 FEL

At proposed prod. zone 1807 FNL 50 FEL

UNORTHODOX LOCATION OK

11. Sec., T. R. M. or Blk. and Survey or Area: Sec. 28, T18S, R30 E

14. Distance in miles and direction from nearest town or post office*: 7.85 to Loco Hills

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)	16. No. of acres in lease	17. Spacing Unit dedicated to this well
467'	1800	40
18. Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft.	**19. Proposed Depth**	**20. BLM/BIA Bond No. on file**
849'	~~3600~~ 3500'	NMB000130
21. Elevations (Show whether DF, KDB, RT, GL, etc.)	**22. Approximate date work will start***	**23. Estimated duration**
3469' GL	09/15/2008	10 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	Name *(Printed/Typed)*	Date
Colleen Robinson	Colleen Robinson	08/12/2008

Title: Compliance Analyst

Approved by *(Signature)*	Name *(Printed/Typed)*	Date
/S/ RON DUNTON	/S/ RON DUNTON	JAN 09 2009

Title	Office
ACTING STATE DIRECTOR	NM STATE 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)

CAPITAN CONTROLLED WATER BASIN

ENTERED 01-14-09

SEE ATTACHED FOR CONDITIONS OF APPROVAL

APPROVAL SUBJECT TO GENERAL REQUIREMENTS AND SPECIAL STIPULATIONS ATTACHED

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 12, 2005
Submit to Appropriate District Office
State Lease - 4 Copies
Fee Lease - 3 Copies

WELL LOCATION AND ACREAGE DEDICATION PLAT

☐ AMENDED REPORT

API Number	Pool Code	Pool Name
30-015-36905	53300	Benson; Queen-Graybg North

Property Code	Property Name	Well Number
33129	NBQU	56

OGRID No.	Operator Name	Elevation
220420	ARENA RESOURCES, INC.	3469'

Surface Location

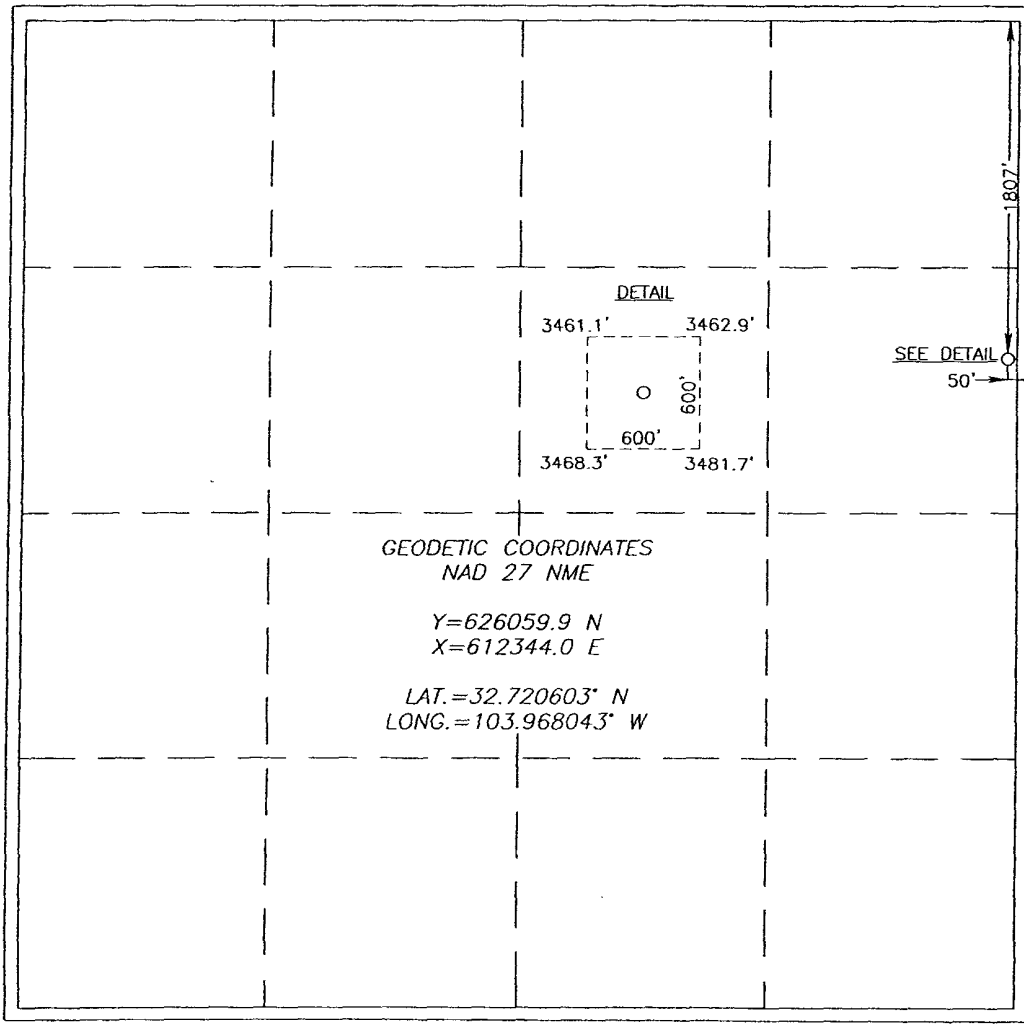
UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
H	28	18-S	30-E		1807	NORTH	50	EAST	EDDY

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 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 mineral or working interest, or to a voluntary pooling agreement or a compulsory pooling order heretofore entered by the division.

Signature 8-12-08 Date

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

Date Surveyed: AUGUST 10, 2007

Signature & Seal of Professional Surveyor

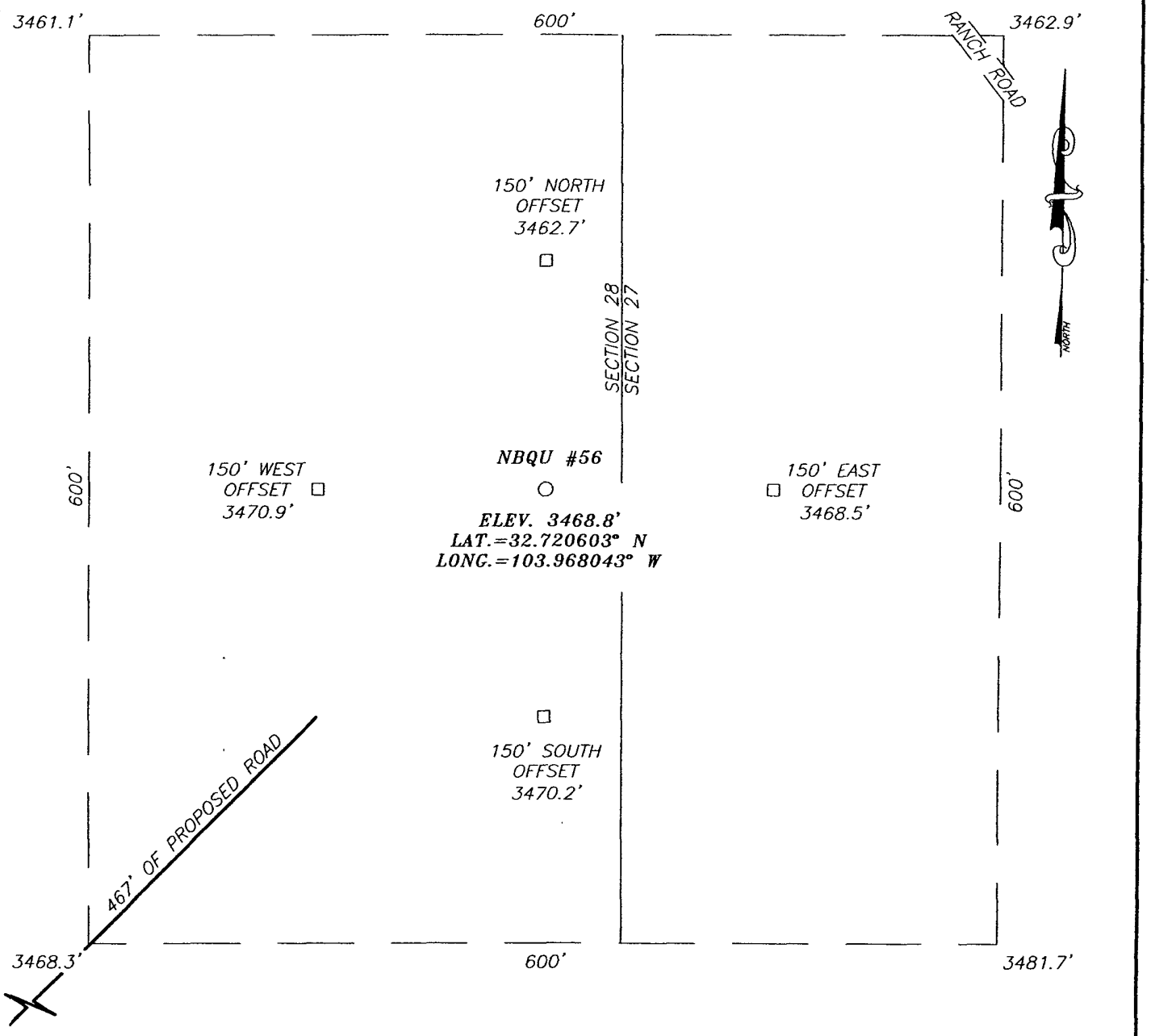
RONALD J. EIDSON 3239 NEW MEXICO REGISTERED PROFESSIONAL SURVEYOR

8/23/07

Certificate No. GARY EIDSON 12641
RONALD J. EIDSON 3239

SECTION 28, TOWNSHIP 18 SOUTH, RANGE 30 EAST, N.M.P.M.,

EDDY COUNTY, NEW MEXICO



DIRECTIONS TO LOCATION

FROM THE INTERSECTION OF ST. HWY. #360 (BLUESTEM RD.) AND CO. RD. #251 (DUVAL SHAFT), GO NORTH–NORTHEAST ON DUVAL SHAFT RD. APPROX. 3 MILES. TURN LEFT AND GO WEST APPROX. 900 FEET TO A STAKED ROAD. THIS LOCATION IS 466 FEET TO THE SOUTHWEST CORNER OF THE PAD.

100 0 100 200 Feet

Scale: 1"=100'

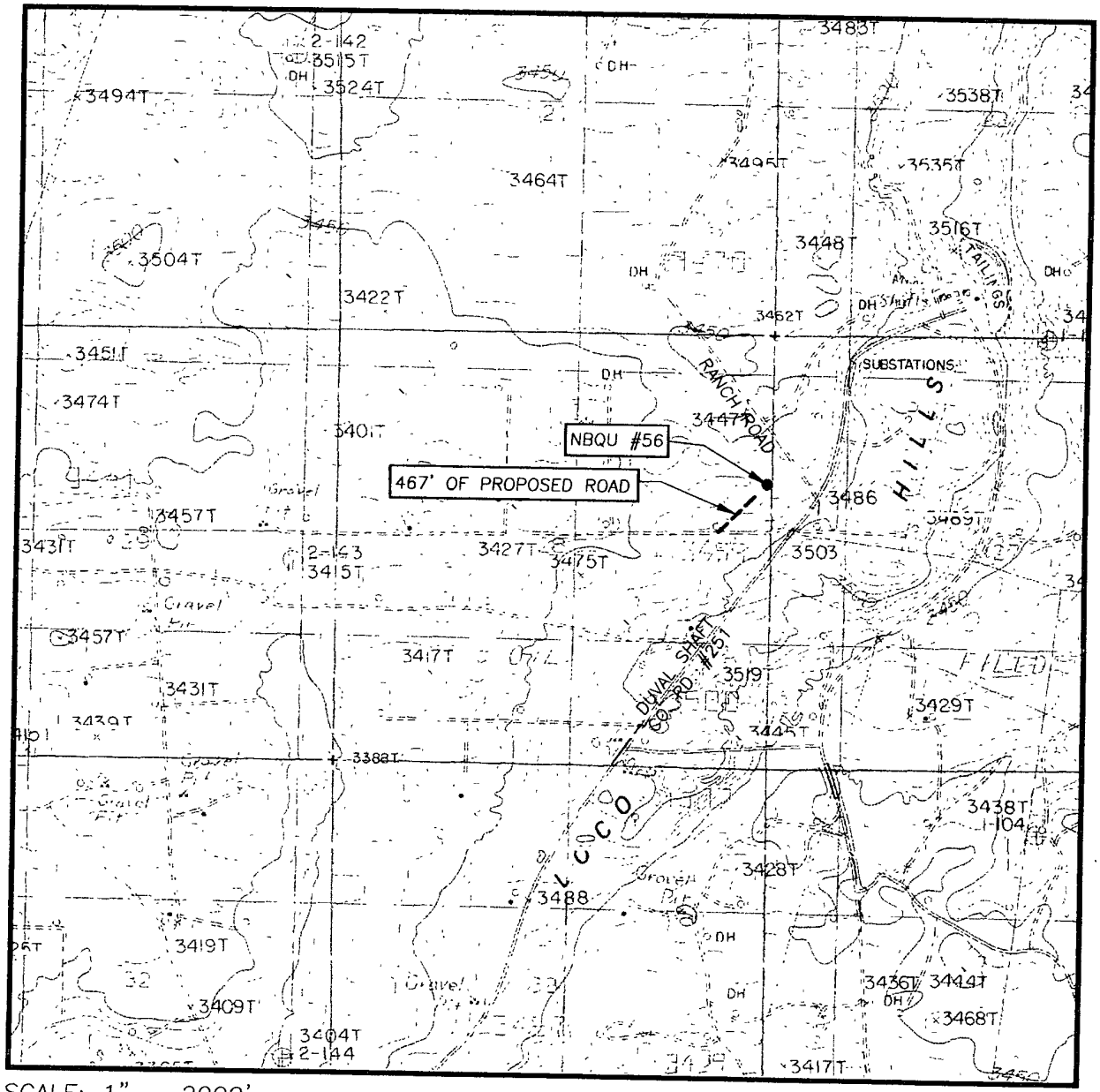
PROVIDING SURVEYING SERVICES
SINCE 1946
JOHN WEST SURVEYING COMPANY
412 N. DAL PASO
HOBBS, N.M. 88240
(505) 393-3117

ARENA RESOURCES, INC.

NBQU #56 WELL
LOCATED 1807 FEET FROM THE NORTH LINE
AND 50 FEET FROM THE EAST LINE OF SECTION 28,
TOWNSHIP 18 SOUTH, RANGE 30 EAST, N.M.P.M.,
EDDY COUNTY, NEW MEXICO.

Survey Date: 8/10/07	Sheet 1 of 1 Sheets		
W.O. Number: 07.11.0450	Dr By: AR	Rev 1:N/A	
Date: 08/22/07	Disk:	07110450	Scale: 1"=100'

LOCATION VERIFICATION MAP



SCALE: 1" = 2000'

CONTOUR INTERVAL:
HACKBERRY LAKE, N.M. – 10'

SEC. 28 TWP. 18-S RGE. 30-E

SURVEY N.M.P.M.

COUNTY EDDY STATE NEW MEXICO

DESCRIPTION 1807' FNL & 50' FEL

ELEVATION 3469'

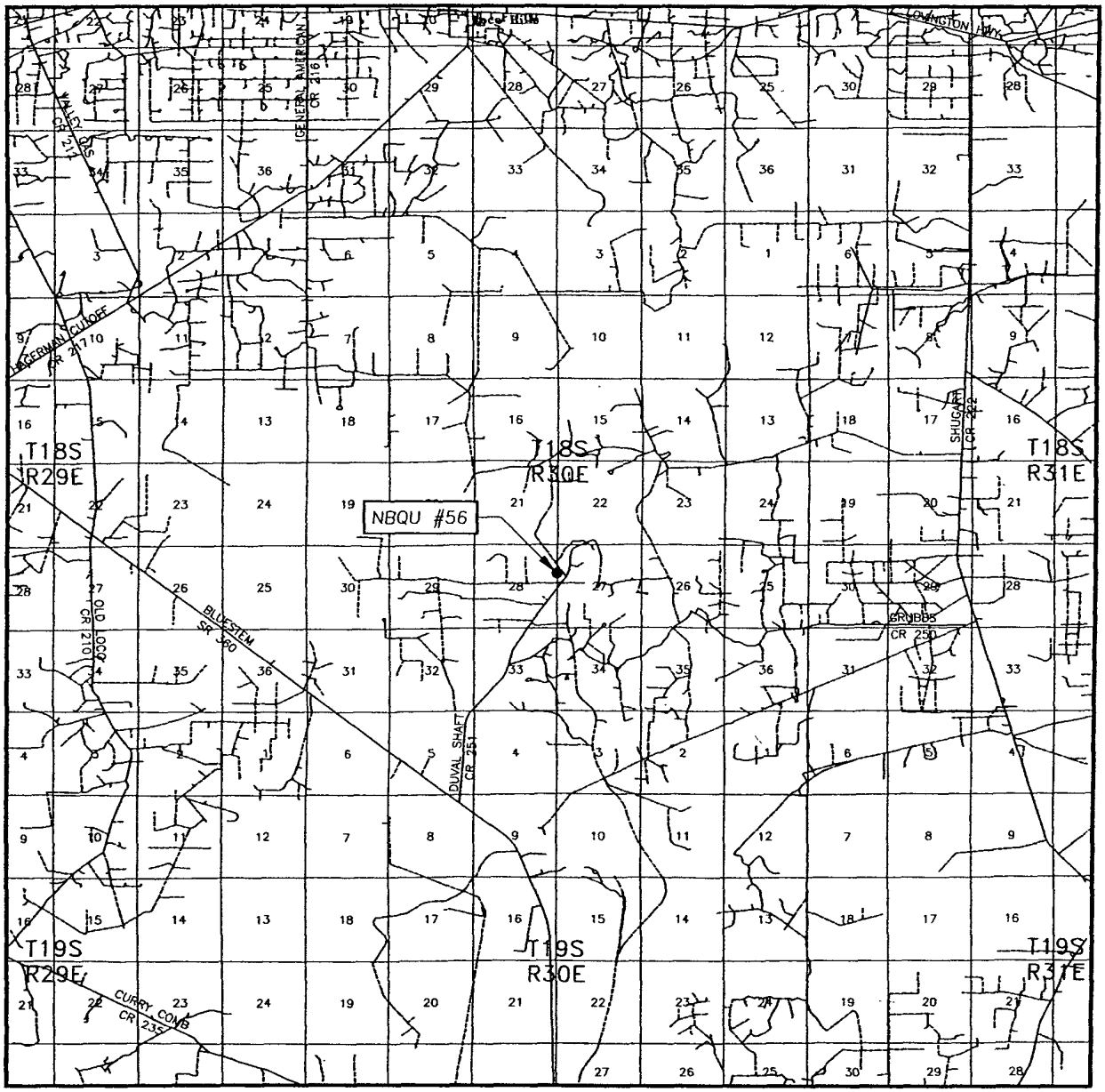
OPERATOR ARENA RESOURCES, INC.

LEASE NBQU

U.S.G.S. TOPOGRAPHIC MAP
HACKBERRY LAKE, N.M.

PROVIDING SURVEYING SERVICES
SINCE 1946
JOHN WEST SURVEYING COMPANY
412 N. DAL PASO
HOBBS, N.M. 88240
(505) 393-3117

VICINITY MAP



SCALE: 1" = 2 MILES

SEC. 28 TWP. 18-S RGE. 30-E

SURVEY N.M.P.M.

COUNTY EDDY STATE NEW MEXICO

DESCRIPTION 1807' FNL & 50' FEL

ELEVATION 3469'

OPERATOR ARENA RESOURCES, INC.

LEASE NBQU

PROVIDING SURVEYING SERVICES
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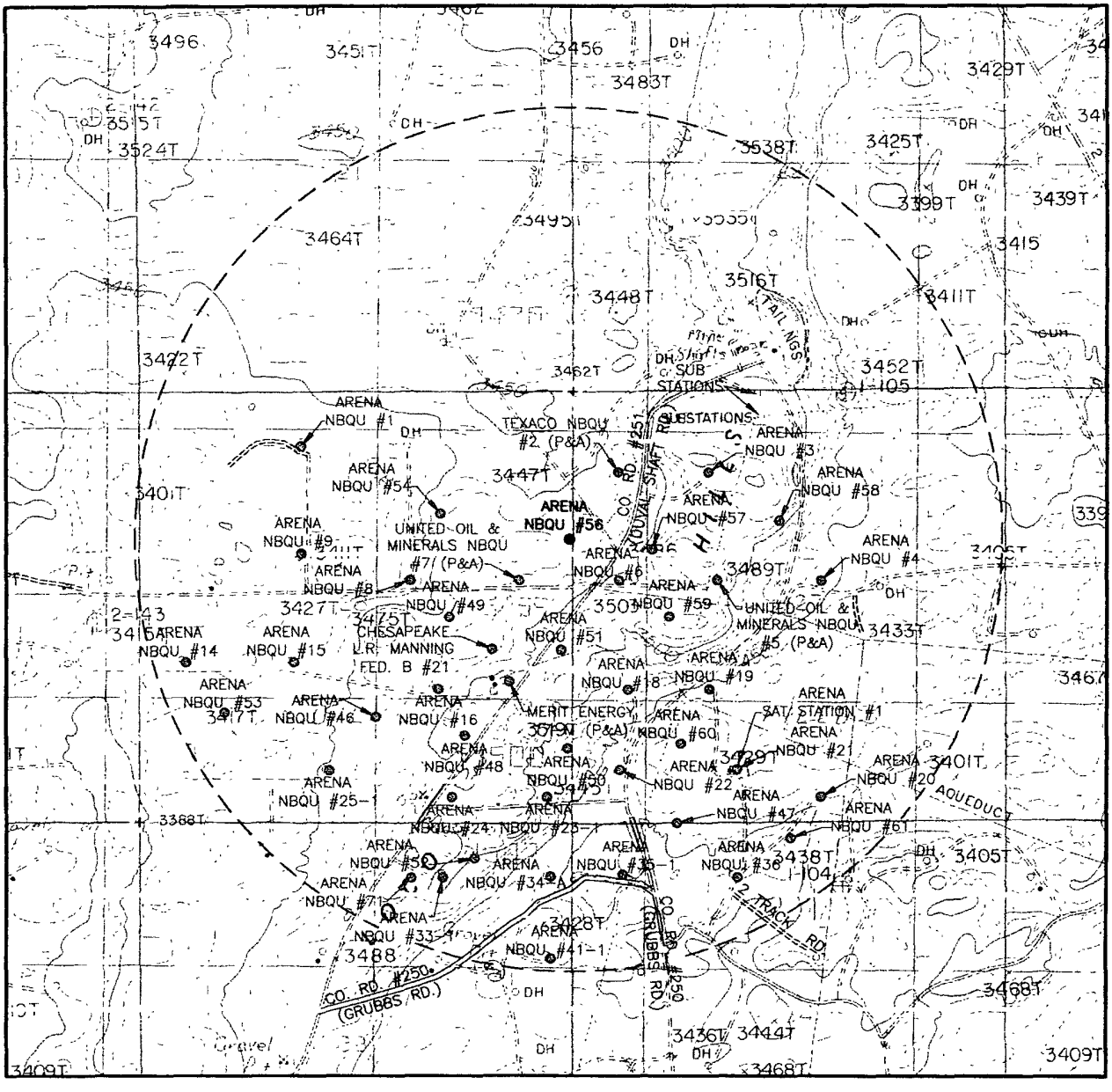
412 N. DAL PASO
HOBBS, N.M. 88240
(505) 393-3117



LEGEND

= = = = DENOTES EXISTING ROADS

DENOTES COUNTY ROADS

● DENOTES EXISTING WELLS

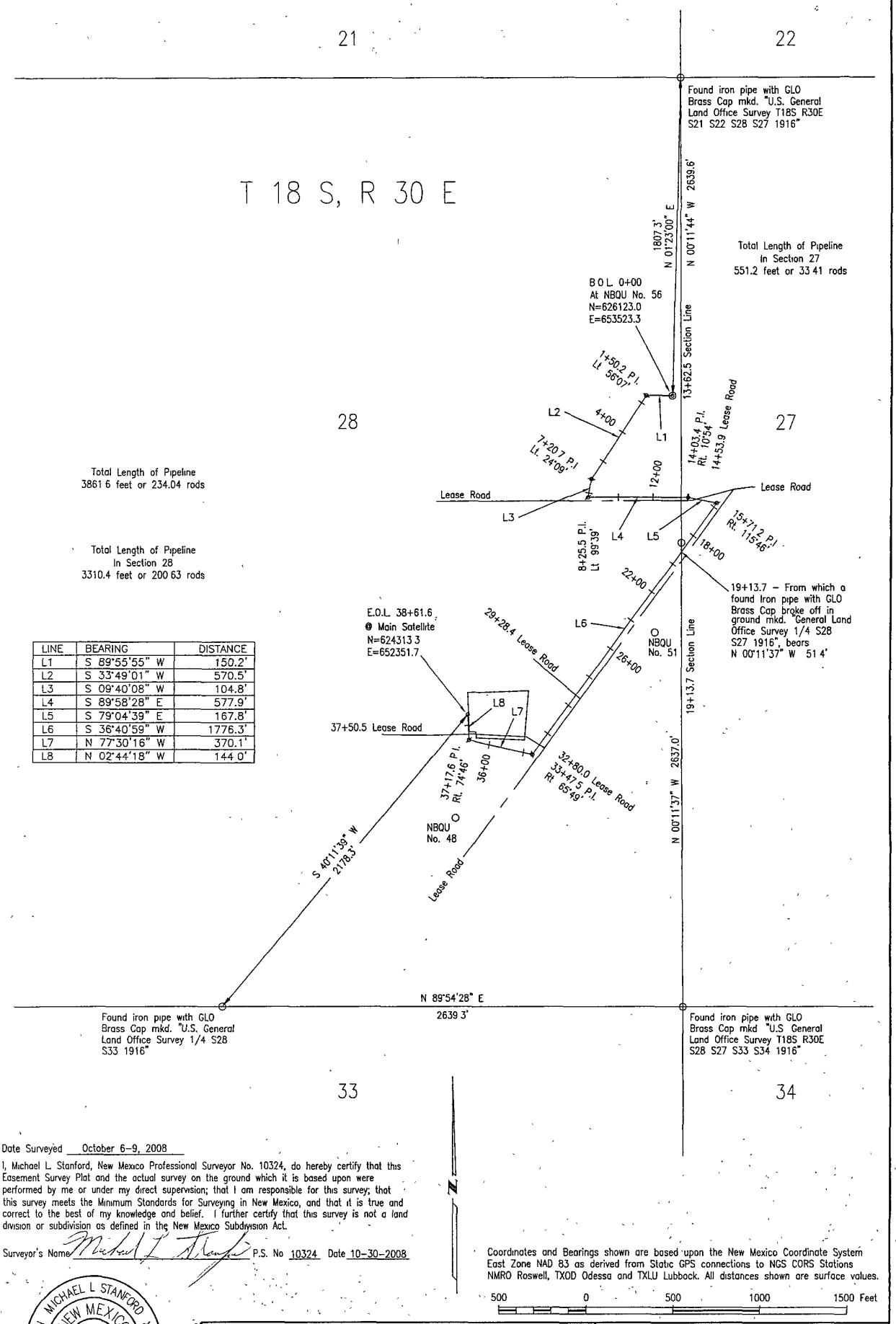
2000 0 2000 4000 FEET

Scale: 1"= 2000'

ARENA RESOURCES, INC.

TOPOGRAPHIC MAP OF ARENA NMBQU #56 IN SECTION 28, TOWNSHIP 18 SOUTH, RANGE 30 EAST, EDDY COUNTY, NEW MEXICO.

Survey Date: 6/07/06	Sheet 1 of 1 Sheets	
W.O. Number: 08.13.0444	Drawn By: AR	
Date: 4/04/08	RELATED WO: 08110213	08130444



Date Surveyed October 6–9, 2008

I, Michael L. Stanford, New Mexico Professional Surveyor No. 10324, do hereby certify that this Easement Survey Plat and the actual survey on the ground which it is based upon were performed by me or under my direct supervision; that I am responsible for this survey; that this survey meets the Minimum Standards for Surveying in New Mexico, and that it is true and correct to the best of my knowledge and belief. I further certify that this survey is not a land division or subdivision as defined in the New Mexico Subdivision Act.

Surveyor's Name Michael L. Stanford P.S. No 10324 Date 10–30–2008

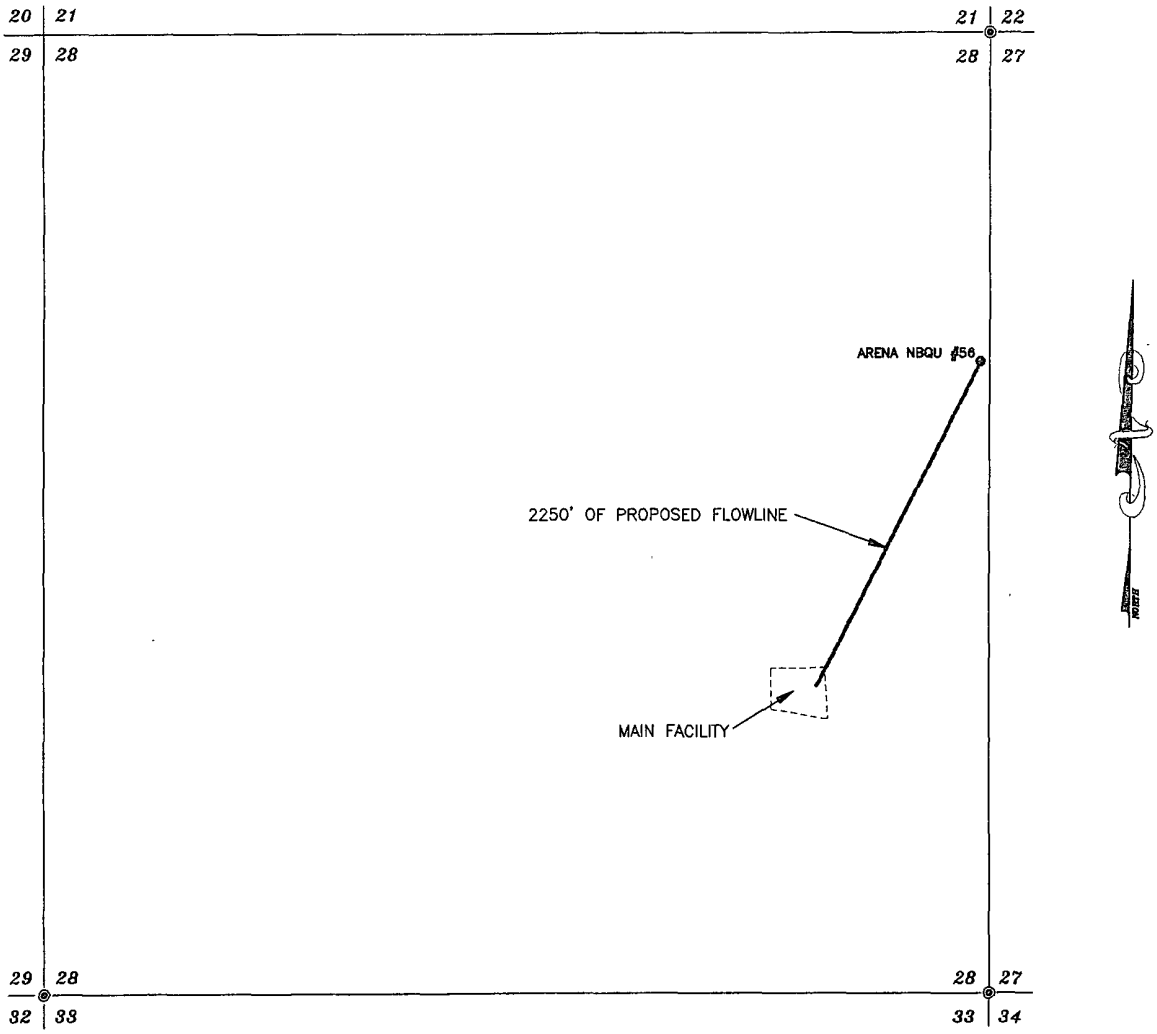
MICHAEL L STANFORD NEW MEXICO 10324 REGISTERED PROFESSIONAL LAND SURVEYOR

Arena Resources, Inc.
Easement Plat
for Proposed Flowline to the NBQU No. 56 Well
Sections 27 & 28, T 18 S, R 30 E, N.M.P.M., Eddy County, New Mexico

STANFORD SURVEYING COMPANY
P.O. BOX 8490
MIDLAND, TEXAS 79708–8490
432–699–5708

DRAWN BY Adam Welch | DATE 10–28–2008 | SCALE 1" = 500' | FILE NAME A-4135

SECTION 28, TOWNSHIP 18 SOUTH, RANGE 30 EAST, N.M.P.M.,
EDDY COUNTY NEW MEXICO



1000 0 1000 2000 FEET
Scale:1"=1000'

PROVIDING SURVEYING SERVICES
SINCE 1946
JOHN WEST SURVEYING COMPANY
412 N. DAL PASO
HOBBS, N.M. 88240
(505) 393-3117

ARENA RESOURCES

PLAT SHOWING EXISTING WELL LOCATION
& PROPOSED FLOWLINE SITUATED IN
SECTION 28, TOWNSHIP 18 SOUTH, RANGE 30 EAST,
N.M.P.M., EDDY COUNTY, NEW MEXICO.

Survey Date: 6/7/08	Sheet 1 of 1 Sheets	
W.O. Number: 08.13.1375	Drawn By: L.A.	
Date: 8/22/08	REL: 08.11.0213	08131375

DRILLING PROGRAM NBQU #56

1. Geologic Name of Surface Formation

a. Permian

2. Estimated Tops of Geological Markers

a. Top of Anhydrite	330'	
b. Top of Yates	1672'	Possibly yeild hydrocarbons @ 1650'
c. Top of Queen	2786'	Possibly yield hydrocarbons @ 2800'
d. Top of Penrose	3003'	Possibly yield hydrocarbons @ 3200'
e. Top of Grayburg	3225'	
f. Total Depth	3500'	

No other formations are expected to yield oil, gas or fresh water in measurable volumes. The surface fresh water sands will be protected by setting 8 5/8" casing at 400' and circulating cement back to surface. Potash / fresh water sands will be protected by setting 5 1/2" casing at 3500' and circulating cement to surface.

3. Casing Program:

Hole Size	Depth	ODCsg	Weight	Collar	Grade	New/Used	
12 ¼	400'	8 5/8	23#	ST&C	J-55	New	* see attached spec sheet
7 7/8	3500'	5 ½	15.5#	LT&C	J-55	New	

Safety factors: Burst 1.1 Collapse 1.125 Tension 1.8

4. Cement Program: (Note yields; and dv tool depths if multiple stages)

a. 8 5/8" Surface — Circulate cement to surface with 240 sks Class C cement + 2% CaCl2 (wt. 14.8#/gal., Yield 1.34 Cuft/sk)

b. 5 1/2" Production — Circulate cement to surface with lead cement from 3300' to surface with 350 sks 50:50 POZ class C + 2% Bentonite + 0.5% F.L. + 0.25 lb/sk LCM + 0.4% anti foam (wt. 11.9 lbs/gal, Yield 2.06 cuft/sk)
Tail cement: 50 sks class "C" + 2% CaCl2 (wt 14.8 lbs/sk, yield 1.34 cuft/sk) from 3500' to 3300'

See COA →

The above cement volumes could be revised pending the caliper measurement from the open hole logs. The top of cement is designed to reach surface.

5. Pressure Control Equipment:

The blowout preventer equipment (BOP) shown in Exhibit #A will consist of a (3M system) double ram type (3000 psi WP) preventer and a bag-type (Hydril) preventer (3000 psi WP) and rotating head. Both units will be hydraulically operated and the ram type preventer will be equipped with blind rams on top and 3 1/2" drill pipe rams on bottom. The drilling head will be installed on the 8 5/8" surface casing and utilized continuously until total depth is reached. All BOP's and associated equipment will be tested to ~~1200~~ psi with the rig pump before drilling out the 8 5/8" casing shoe (70% of 23#, J-55 casing). Prior to drilling out the 8 5/8" casing shoe, the BOP's and Hydril will be tested as per BLM Drilling Operations Order #2. See COA

Pipe rams will be operated and checked each 24-hour period and each time the drill pipe is out of the hole. These functional tests will be documented on the daily drillers log. A 2" kill line and 3" choke line will be incorporated in the drilling spool below the ram-type BOP. Other accessory BOP equipment will include a Kelly cock, floor safety valve, choke lines and choke manifold having a 5000 psi WP rating.

6. Proposed Wellbore Circulation System – Air and Foam

This well will be drilled with air and foam. The necessary foam/air products will be on location at all times.
0-400' - drilled with air
400-3500' - 2% KCL wtr w/2 gal. surfactant per every 24 bbls.

- The following equipment will be in place and operational during drilling:
- Properly lubricated & maintained rotating head
- Spark arresters on engines or water cooled exhaust
- Blooie line discharge will be 40 feet from the wellhead due to the allowed size of the location (80 X 125) yet securely anchored
- Straight run on blooie line
- Appropriate deduster equipment
- All cuttings and circulating medium shall be directed into a reserve or blooie pit
- Float valve above bit
- Automatic igniter or continuous pilot light on the blooieline, "vent n/a because will be drilling with heavy foam.
- Compressors located in the opposite direction from the blooie line yet will be less than 100 ft from the wellbore due to location size.
- Mud circulating equipment, water, and mud materials sufficient to maintain the capacity of the hole and circulating tanks.

In the event of needing to switch from air/foam to a mud drilling, the mud program on Exhibit B will be followed, and a closed loop system will be in place.

7. Auxiliary Well Control and Monitoring Equipment:

a. A Kelly cock will be in the drill string at all times.

b. A full opening drill pipe stabbing valve having the appropriate connections will be on the rig floor at all times.

c. Hydrogen Sulfide detection equipment will be in operation after drilling out the 8 5/8" casing shoe until the 5 1/2" casing is cemented. Breathing equipment will be on location upon drilling the 8 5/8" shoe until total depth is reached.

8. Logging, Coring, and Testing Program:

a. Drill stem tests will be based on geological sample shows.

b. The open hole electrical logging program will be:

i. Total Depth to base of salt: Spectral Logs with Gamma Ray and Caliper.

ii. No coring program is planned

iii. Additional testing will be initiated subsequent to setting the 5 *1/2"* production casing. Specific intervals will be targeted based on log evaluation, geological sample shows and drill stem tests.

9. Potential Hazards:

a. No abnormal pressures or temperatures are expected. If H2S is encountered the operator will comply with the provisions of Onshore Oil and Gas Order NO.6. A copy of the H2S Contingency Plan will be on location at all times. 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 1500 psi and Estimated BHT 100°. No H2S is anticipated to be encountered.

10. Anticipated Starting Date and Duration of Operations:

a. Road and location construction will begin after the BLM has approved the APD. Anticipated spud date will be as soon after BLM approval and as soon as a rig will be available. Move in operations and drilling is expected to take 10 days. If production casing is run then an additional 90 days will be needed to complete well and construct surface facilities and/or lay flow lines in order to place well on production.

COBRA DRILLING FLUIDS, LLC

Arena Resources Inc

Queen Prospect

Eddy County, New Mexico

Mud Program Summary

Depth	Hole Size	Casing Size	Mud Wt	Viscosity	Fluid Loss
0 – 400'	12-1/4"	8-5/8"	8.6-9.2	33-35	NC
400 – 2600'	7-7/8"	--	10.0-10.1	28-29	NC
2600 – 3500'	7-7/8"	5-1/2"	10.0-10.2	34-38	10-15cc

Potential Problems

Surface Interval 0-550'

- Poorly consolidated formation, may require higher than normal viscosity.
- Light seepage through water sands

Open Hole Interval 550'-2600'

- Evaporate salt causing washouts
- Moderate seepage
- Hole cleaning through Capitan sand interval. (1800'-2300'+)

Production Interval 2600'-3700'+

- Moderate loses
- Deviation

ANTICIPATED FORMATION TOPS

Anhydrite	330'	Seven Rivers	2060'
B/Salt	1500'	Queen	2800'
Yates	1700'	Grayburg	3100'

SURFACE INTERVAL

Interval:	0-550'
Hole Size:	12-1/4"
Casing Size:	8-5/8"
Total Days:	1
Mud Type:	Fresh Water GelNative
Properties:	
Weight:	8.8 – 9.4 ppg
Viscosity:	32 – 34 sec/1000cc
Filtrate:	N/C
pH:	N/C

Interval Discussion:

Spud with a conventional Fresh Water Gel/Lime "spud mud". Circulate working pits, jetting to reserve as needed. Use native solids to maintain a 33-35 sec/1000cc viscosity. Use fresh water additions at flowline for volume and to maintain viscosity and mud weight in desired range. Add Paper 2-3 sacks every 100' to improve wall cake and clean hole through Red Bed and Sand intervals.

At total depth sweep hole with 5 gals. Vismaster. Circulate sweep out flowline prior to tripping out of hole to run surface casing.

Materials Consumption & Cost:

30 sx	Fresh Water Gel
20 sx	Paper
5 sx	Lime
1 Bkt	Vismaster

INTERMEDIATE INTERVAL

Interval:		550' -2600'
Hole Size:		7-7/8"
Casing Size:		--
Total Days:		2
Mud Type:		Brine
Properties:		
	Weight:	10.0 – 10.1
	Viscosity:	28-29 sec/1000cc
	Filtrate:	N/C
	pH:	9.2-10

Interval Discussion:

Drill below surface casing with Brine, circulating a controlled portion of the reserve pit for gravitational solids removal. Use Brine to avoid excessive wash out and hole enlargement through salt interval. Mix Paper for seepage control. Use Caustic Soda for pH 9.5-10. Paper for seepage/sweeps 1-2 sacks per 100' or as needed to help clean hole. Possible sand stringers through this interval could require additional hole sweeps with Vismaster/Paper.

Materials Consumption & Cost:

1 cn	Vismaster
15 sx	Caustic
30 sx	Paper

PRODUCTION INTERVAL

Interval:		2600' – 3700'
Hole Size:		7-7/8"
Casing Size:		5-1/2"
Total Days:		2
Mud Type:		Salt gel/Starch
Properties:		
	Weight:	10.0 – 10.2
	Viscosity:	34-38 sec/1000cc
	Filtrate:	10-15cc
	pH:	9.5-10.0

Interval Discussion:

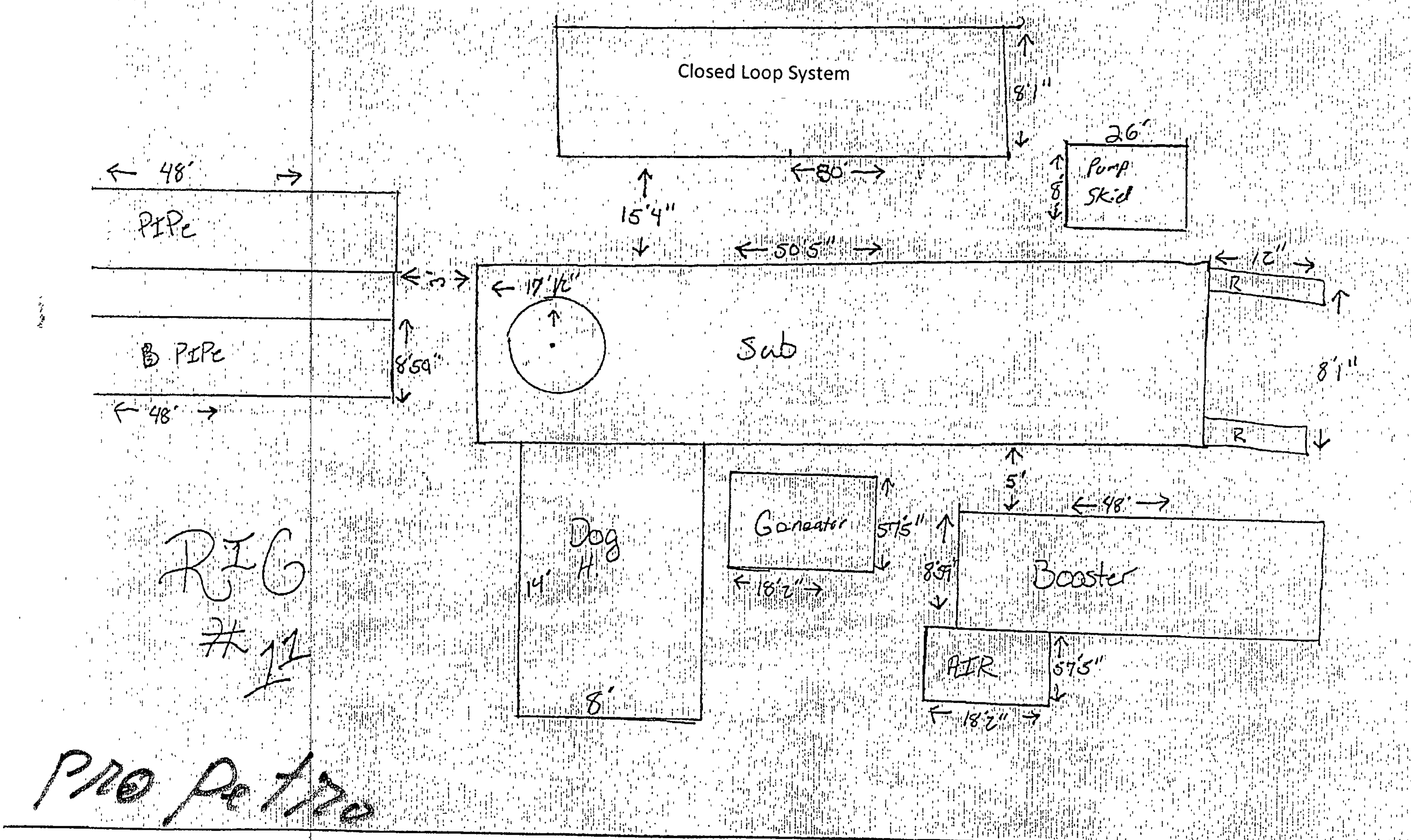
At 2600' or as per Company orders split flowline and circulate working pits. Adjust pH with Caustic Soda. Mix Yellow Starch to lower water loss 15-20cc. Add Defoamer as needed.

Continue sweeping hole with Paper as needed. Suggest to raise viscosity 34-36 sec/1000cc with Salt Water Gel around 200-300' from total depth. Sweep hole at TD prior to logging and casing operations with Vismaster.

Materials Consumption & Cost:

50 sx	Starch
10 sx	Caustic Soda
1 cn	Vismaster
100 sx	Salt Water Gel
2 cn	Defoamer

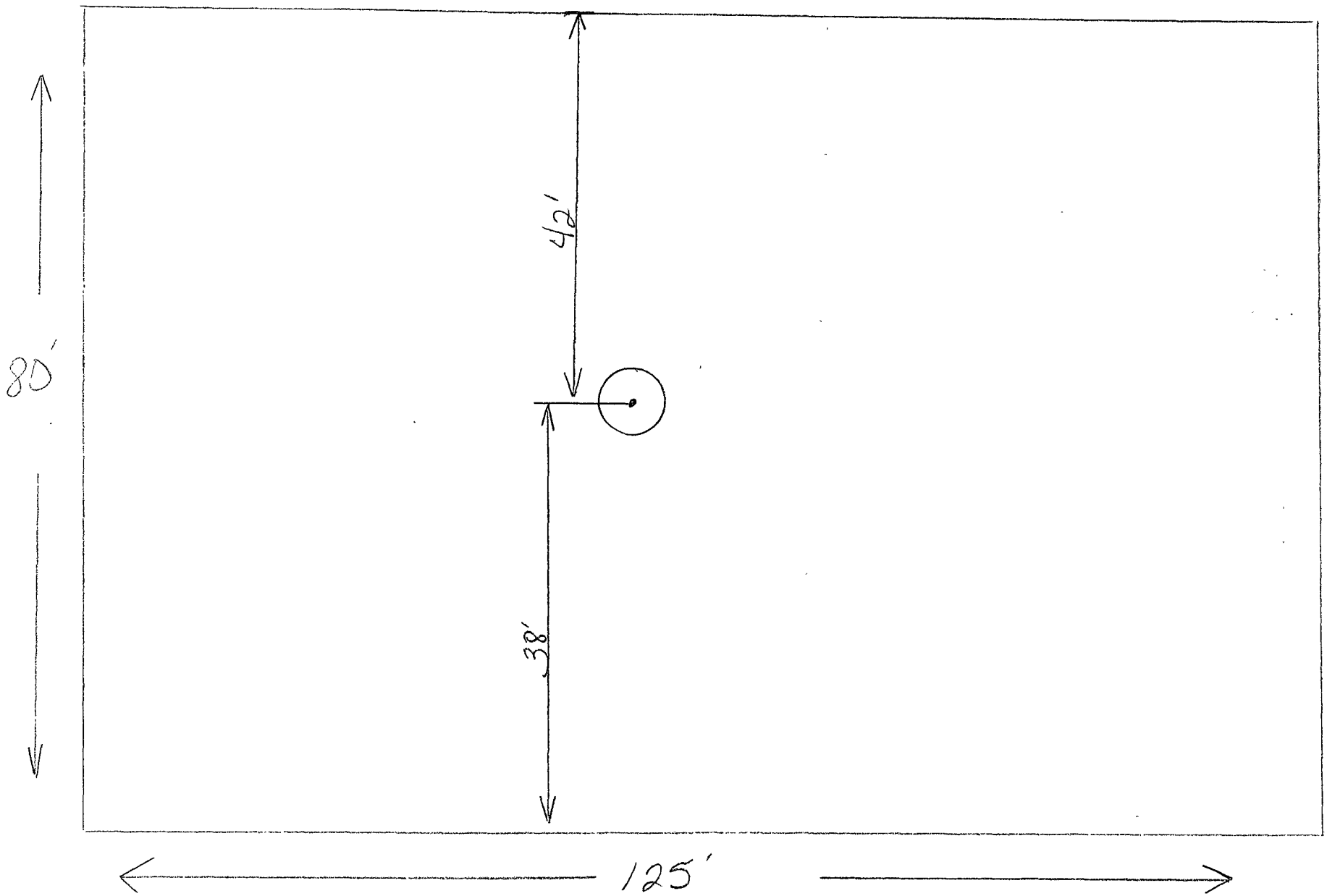
Exhibit 2



Closed Loop System
8'1"
80'
26'
Pump Skid
8'
48'
PIPe
15'4"
50'5"
12"
3'
17'1/2"
Sub
R
8'1"
B PIPe
8'59"
48'
R
5'
48'
Generator
57'5"
Dog H.
14'
8'
Booster
89'
18'2"
AIR
57'5"
18'2"
RIG #11
Pro Petro

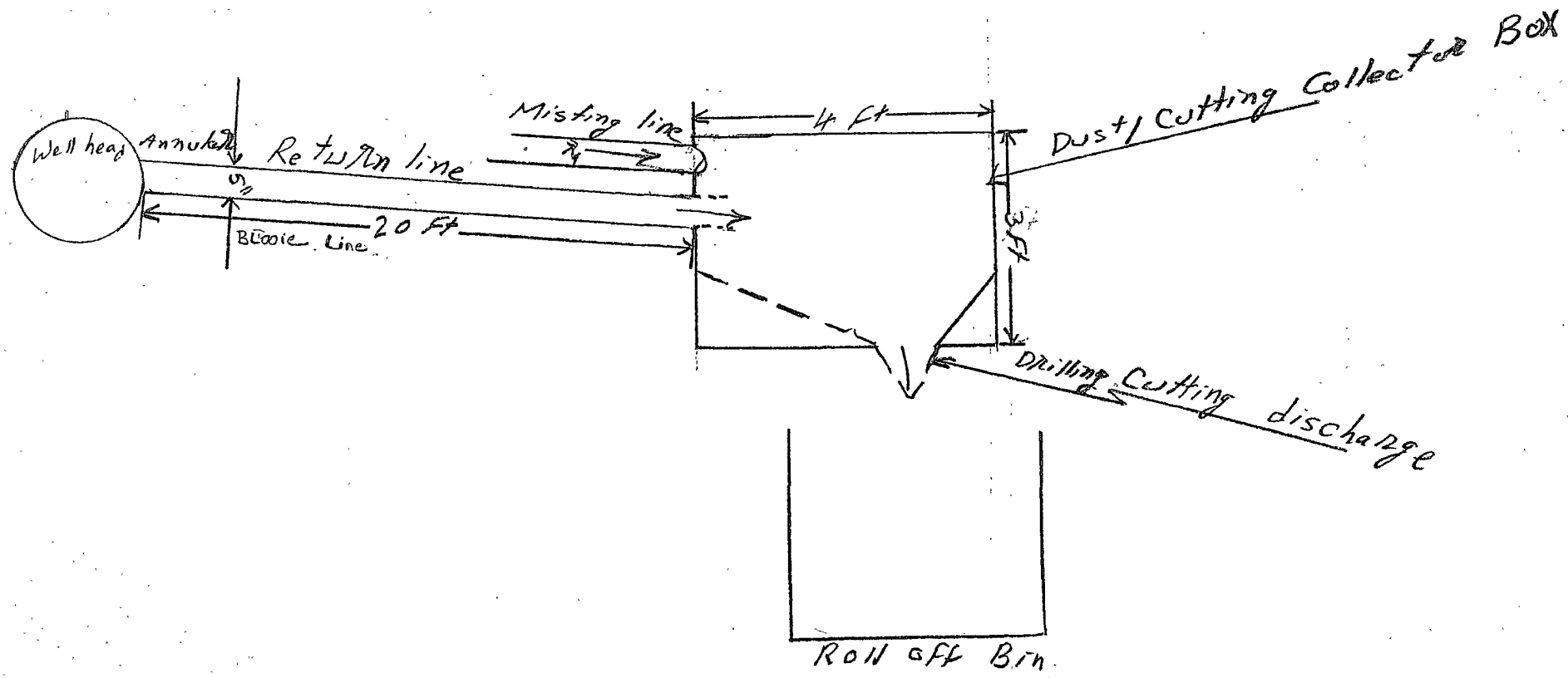
LOCATION PLAT

NBQU #56

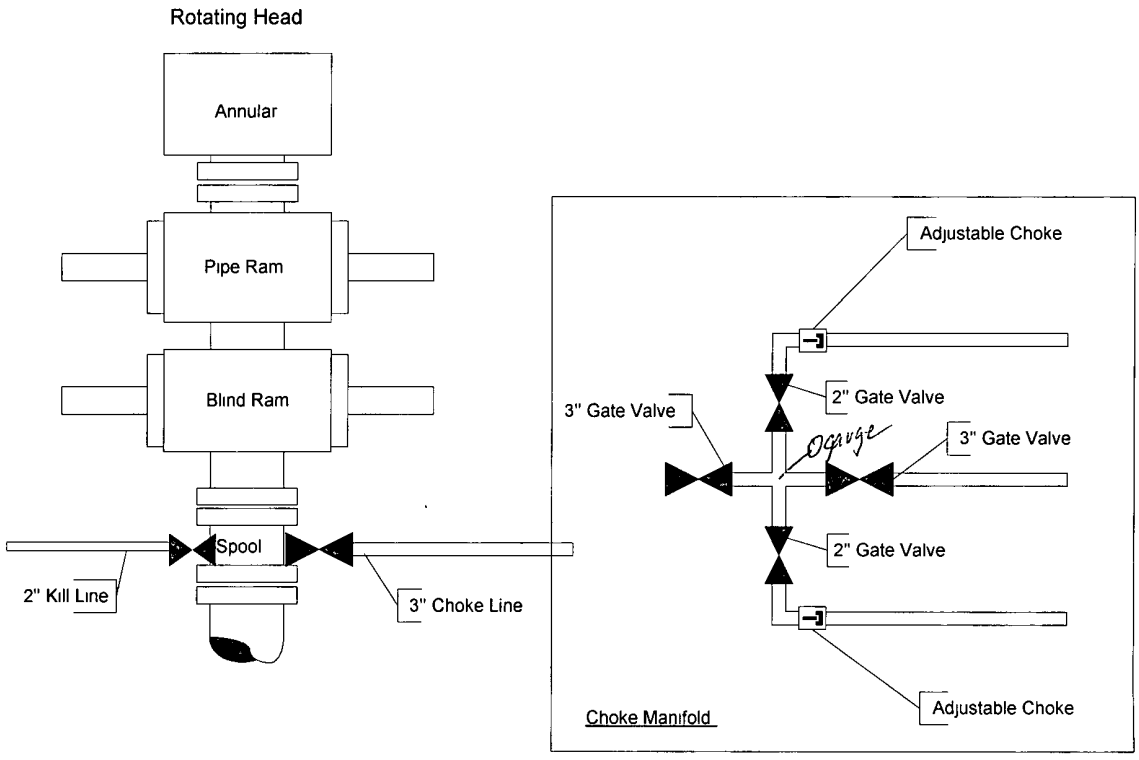


Blooie Line

NBQU



3000psi -
BOPE



H2S CONTINGENCY PLAN
ARENA RESOURCES, INC.
NORTH BENSON QUEEN UNIT

PURPOSE

This plan is intended to protect the health and safety of the public, contractors and Arena Resources, Inc. (Arena) personnel should an unanticipated release of a potentially hazardous volume of Hydrogen Sulfide (H2S) occur.

Further to:

- Comply with the Bureau of Land Management's (BLM) Onshore Oil and Gas Operations Onshore Oil and gas Order No. 6, Hydrogen Sulfide Operations (43 CFR Part 3160).
- Comply with the State of New Mexico Oil Conservation Division's (NMOCD) Rule 19 NMC 15.C 118.
- Assure proper notification of the appropriate parties and agencies

SCOPE

The provisions of this document are intended to address Hydrogen Sulfide (H2S) releases and H2S emergencies at Arena Resources, Inc. production batteries, wells and all surrounding operated field locations in the North Benson Queen Unit. Facilities for which calculations indicate a potential hazardous volume of H2S could occur have additional site specific response information and radius of exposure drawn on the attached USGS topographic map. The production field is located approximately 7.2 miles South of Loco Hills , NM (Lea County).

DEFINITIONS

All Clear – Notification of effected personnel, by the response leader, that an incident has ended and the area is safe to re-enter.

A Potentially Hazardous Volume – a volume of Hydrogen Sulfide (H2S) gas of such concentrate that:

- The 100-ppm radius of exposure (ROE) includes any public area.
- The 500-ppm radius of exposure (ROE) includes any public road.
- The 100-ppm radius of exposure (ROE) exceeds 3,000 feet.

Facility – Equipment involved in producing, processing, or transporting natural gas and/or crude oil, including the property to the edge of the pad or fence.

Hydrogen Sulfide Gas (H2S) – an extremely flammable, colorless, poisonous gas that may occur naturally as a component of production streams, such as crude oil, produced water and natural gas. At low concentrations it ahs a rotten egg odor, but at higher concentrations deadens the sense of smell. Its specific gravity is heavier than air giving it a tendency to collect in low-lying areas on still days. The permissible exposure limit is 10 ppm and the short term exposure limit is 15 ppm. It is considered to be immediately dangerous to life and health at 300 ppm. H2S is readily dispersed in air and is water soluble.

ICS (Incident Command System) – A team based concept for emergency response in which roles and responsibilities are predetermined.

Incident Commander (IC) – Senior Arena Resources, Inc. employee in charge of an emergency response.

Incipient Stage Fire – A fire in the beginning or very early stages of development, which can be effectively extinguished by one or more persons with portable fire fighting equipment.

Muster Site – A pre-defined staging or meeting area.

RMS Level I – An emergency that can be reasonably addressed by the Hobbs Area Office in which the incident occurs and that can be resolved in approximately two days or less.

ROE (Radius of Exposure) – The radius constructed with the point of escape (of gas) as its starting point and its length calculated using the Pasquill-Gifford derived equation or computer modeling where the H2S concentration is greater than 10%.

PPM – Parts per Million

Public Area – Any building or structure that is not associated with the well, facility or operation for which the ROE is being calculated and that is used as a dwelling, office, place of business, church, school, hospital or government building, or any portion of a park, city, town, village, or designated school bus stop or other similar area where members of the public may reasonably be expected to be present.

Public Road – Any federal, state, municipal or county road or highway.

Serious Incident – An event which results or has the potential to result in severe personal injury and/or significant equipment damage.

Sulfur Dioxide (SO2) – A heavy colorless toxic gas that is formed when hydrogen sulfide is burned. It has a pungent odor and is a respiratory irritant. The permissible exposure limit is 2 ppm, the short term exposure limit is 5 ppm. It is considered to be immediately dangerous to life and health at 100 ppm. SO2 is readily dispersed in air and is water soluble.

Total Personnel Evacuation – An evacuation of all persons (contract employees, or visitors) from the emergency area to a muster area.

THE PLAN

Training:

All personnel (company, contractors and sub-contractors) working in the field for Arena Resources, Inc. are required to complete hydrogen sulfide training before beginning work and annually thereafter.

Training on the contents of this plan shall be provided to all Arena Resources, Inc. and appropriate contract personnel working for Arena Resources, Inc.:

- whenever the employees' responsibilities or designated actions under the plan change,
- whenever the contents of the plan are changed/revised,
- whenever a new employee begins employment, and
- Periodically as needed for all employees.

Arena Resources, Inc. supervision is responsible for this training.

Orientation:

All persons visiting or working at the North Benson Queen Unit shall receive an orientation covering the following minimum items:

- What types of emergencies are possible,
- How to report an incident/emergency,
- Who will be in charge during an emergency,
- How to safely evacuate the area, and
- Where to assemble so that all persons can be accounted for.

The Arena representative responsible for the contractors or visitors shall conduct the orientations and shall document attendees and dates.

H2S Monitors:

All personnel working at the North Benson Queen Unit are required to wear a personal H2S monitor at all times when working in the area. Monitors should have a vibrating alarm if used in high noise areas.

Activation:

Phase I – activated when:

1. Sustained H2S concentration reaches 10 parts per million (ppm) in any work area and the source is not readily identified and/or controllable.

2. Continuous H2S levels are detected at 10 ppm (or greater) at any public road, near an occupied residence or bus stop, and the source is not readily identified and/or immediately controlled.

Phase II – activated when:

1. A potentially hazardous volume of H2S is detected.

2. When sustained H2S concentrations exceed 50 ppm at any facility boundary.

Phase I:

Upon discover onsite personnel should:

- Make others on-site aware of the presence of H2S and leave the area upwind or crosswind to a safe location. (Pre-determine if a pre-job tailgate meeting was conducted).

- Prevent unauthorized persons from entering the area. Request assistance if needed.

- If a residence or other public area is in the vicinity, monitor for H2S to ensure exposure is less than 10 ppm. Notify supervisor if higher exposures are noted or if any other questions arise about steps necessary to protect these sensitive areas.

- If considering re-entering the area to assess the H2S source, ensure you have been properly trained to respond. Use an H2S monitor with digital display (preferably a multi-gas monitor) and have a supplied air respirator (SAR) and back up person with (SAR) readily available. Consider notification of supervisor if appropriate.

- Proceed with caution. If H2S concentration reaches 10 ppm in your breathing zone, back out and use SAR to re-enter. **If H2S concentration reaches 50 ppm at the facility boundary, immediately notify supervision.**

- If source can be safely controlled, monitor area to ensure H2S levels are below 10 ppm. End response here and sound all clear to allow others to re-enter the area. Report length of release and volume to supervisor.

- If the source of H2S cannot be identified and/or controlled, or if you cannot do so without exposing yourself to danger, leave the area to a safe distance.

- Notify supervision.

- Continue to monitor for H2S and maintain site security until instructed by supervision to do otherwise.

Supervision:

- Gather necessary information to determine the course of action and level of response.

- Mobilize any additional manpower or equipment necessary.

- Ensure Phase II measures are implemented if appropriate.

- Continue to monitor situation until incident is over.

- Make notifications if required.

- Complete reports if required.

- Investigate as indicated.

Phase II

Upon discovery on-site personnel should:

- Make others on-site aware of the presence of H2S and leave the area upwind or crosswind to a safe location. (Pre-determined if a pre-job tailgate meeting was conducted.
- Prevent authorized persons from entering the area.
- **Notify Supervisor**

Supervision:

- Mobilize the resources necessary to maintain site security and provide for the protection of personnel and the public
- Issue warnings to all Arena personnel by radio and/or phone to make them aware of the incident and its location. Have non-essential personnel leave the area. If deemed necessary, order total personnel evacuation of the area.
- Notify non-company personnel known to work or reside in the area. If necessary to ensure their safety, dispatch Arena personnel with the appropriate monitor, supplied air respirators and means of communication to these locations.
- Have Arena personnel set up road blocks to prevent unauthorized entry into impacted areas until relieved by law enforcement or other authorized personnel.
- Make appropriate notifications to NPC, Federal, State and local authorities.
- When the release has been contained and monitoring indicates the area is safe to re-enter, terminate operations and signal the all clear.
- Complete records if required.
- Investigate as indicated.

All other personnel not involved in the immediate response:

- If a total evacuation is ordered, report to the incident command center or nearest muster site to which you have safe access.
- Ensure all contract personnel working for you (or in your area) are accounted for and have them report to a safe muster site.
- Senior employee at each muster site should make a roster of all personnel reporting to that muster site and be prepared to make it available to the incident commander (IC).
- Maintain communication with the IC and be prepared to offer assistance as it is requested.

Ignition of H2S:

While no uncontrollable release of H2S is anticipated, should ignition of gas be necessary for the protection of personnel or the public, the determination would be made by the Arena Supervisor on location. The method of ignition will maintain the safety of the person performing this task as the primary concern. The most likely method would be the use of a flare gun from a safe distance.

If this becomes necessary, monitoring will include Sulfur Dioxide (SO2) in addition to H2S.

Coordination with State Emergency Plans:

Under certain conditions as provided for in the New Mexico Hazardous Materials Emergency Response Plan (HMER), the New Mexico State Police responding to the emergency may elect to assume the position of Field Incident Commander (FIC) or they may establish a Unified Command of which the Arena Field Incident Commander may be a key member. Under the Unified Command scenario, the Arena FIC shall cooperate with the other involved emergency responders, such as the New Mexico State Police, local fire department, City Police, Sheriff's Office, NMOCD or other appropriate public emergency response agencies to manage the effective and safe response to the emergency situation.

ARENA RESOURCES, INC.
EMERGENCY CONTACTS

Contact	Office	Mobile	Bag	Home
Danny Palmer	(575) 738-1739	(575) 602-8595	(575) 631-4113	(575) 392-0063
Tony Tucker	(575) 738-1739	(575) 208-6792	(575) 208-6758	(575) 706-7216
Bob Akin	(575) 738-1739	(575) 390-8007	(575) 390-8007	(575) 394-0937

EMERGENCY SERVICES
OUTSIDE SUPPORT PHONE NUMBERS

Hospital Name	Address	City	Phone Number
Lea Regional Hospital	5419 Lovington Highway	Hobbs, NM	(575) 492-5000
Carlsbad Medical Center	2430 W. Pierce St.	Carlsbad, NM	(575) 887-4100
Artesia General Hospital	702 N. 13th	Artesia, NM	(575) 748-3333
Nor-Lea General Hospital	1600 N. Main Street	Lovington, NM	(575) 396-6611
Yoakum County Hospital	412 Mustang Dr.	Denver City, TX	(806) 592-5484
Brownfield Regional Medical Center	705 E. Felt	Brownfield, TX	(806) 637-3551
Covenant Health Systems	4000 24th Street	Lubbock, TX	(806) 725-6000
Covenant Medical Center	2615 19th Street	Lubbock, TX	(806) 725-1011
University Medical Center	602 Indiana	Lubbock, TX	(806) 743-3111

AMBULANCE	Phone Number
Hobbs, NM	911 or (575) 397-9308
Lovington, NM	911 or (575) 396-2811
Eunice, NM	911
Artesia, NM	911 or (575) 746-5050

AIR AMBULANCE	Phone Number
AEROCARE Methodist Hospital, Lubbock, TX	1-800-627-2376

POLICE

CITY	PHONE NUMBER
Artesia, New Mexico	911 or (575) 746-5000
Hobbs, New Mexico	911 or (575) 397-9265
Eunice, New Mexico	911 or (575) 394-2112
Lovington, New Mexico	911 or (575) 396-2811

SHERIFF

CITY/COUNTY	PHONE NUMBER
Eddy County Sheriff – Artesia	(575) 746-9888
Eddy County Sheriff – Carlsbad	(575) 887-7551

STATE HIGHWAY PATROL

CITY	PHONE NUMBER
Artesia, New Mexico	(575) 748-9718

FIRE DEPARTMENT

CITY	PHONE NUMBER
Artesia, New Mexico	911 or (575) 746-5050
Loco Hills, New Mexico	911 or (575) 677-2349
Carlsbad, New Mexico	911 or (806) 592-3516

AIRPORTS

CITY	PHONE NUMBER
Artesia Municipal Airport	(575) 748-3206
Lea County Airport – Carlsbad Hwy	(575) 393-4943
Lea County Lovington Airport	(575) 396-9911
Lubbock International Airport	(806) 762-6411
Midland International Airport	(432) 563-2033

GOVERNMENT AGENCIES

AGENCY	PHONE NUMBER
NMOCD – Artesia	(575) 370-7106
NMOCD – Santa Fe	(575) 827-7131
NMED - Air Quality Bureau	(575) 827-1494
NMED – OSHA	(575) 827-2850
Bureau of Land Management - Carlsbad	(575) 234-5972

POISON CONTROL CENTER	**(800) 432-6866**

MULTI POINT SURFACE USE AND OPERATIONS PLAN

Arena Resources, Inc.
North Benson Queen Unit No. 56
1807 FNL, 50 FEL, Sec. 28, T18S, R30E
Eddy County, NM
Unit No.: NMNM70993X

This Plan is submitted with the Application for Permit to Drill the above described well. The purpose of the plan is to describe the location of the proposed well, the proposed construction activities and operations plan to be followed in rehabilitating the surface and environmental effects associated with operations.

1. Existing Roads:

A. Attached is a topographic map showing the location of the proposed well as staked. The well site location is approximately 26.9 road miles South and West of Loco Hills, NM. Traveling West from Loco Hills on Hwy 82 and then SE on Hwy 360 and then NE on CR 251, there will be approximately 26.9 miles of existing paved road.

B. Directions: Travel West from Loco Hills approximately 11.2 miles on Hwy 82, then South for 13.2 miles on Hwy 360. Then travel North on County Rd. 251 for 3.2 miles to the well site.

2. Planned Access Roads:

A. Length and Width: 467' long and 20' wide.

B. Construction: Any access to the proposed site will be constructed by grading and toping with 6" compacted caliche. The surface will be properly drained.

C. Turnouts: As identified during BLM site visit.

D. Culverts: None required.

E. Cuts and fills: None required.

F. Gates, Cattle guards: None required.

G. Off lease right of way: None required.

3. Location of Existing Well:

Exhibit 1 shows all existing wells within a one-mile radius of this well.

4. Well Site Layout:

Attached is a copy of the well site layout (Exhibit 2) showing the location of the drilling rig, associated equipment and the location of the closed loop system equipment. The pad surface will be topped with 6 "compacted caliche and there will be no earthen reserve pits on location.

5. Plans for Restoration of the Surface:

After completion of drilling and/or completion operations, all equipment and other material not required for operations will be removed. The location will be cleaned of all trash and junk to leave the well site in an aesthetically pleasing a condition as possible. If the proposed well is non-productive, all rehabilitation and/or vegetation requirements of the Bureau of Land Management will be complied with and will be accomplished as expeditiously as possible.

6. Location of Existing and / or Proposed Facilities:

A. Arena Resources Inc. does operate a production facility in this unit.

B. If the well is productive, contemplated facilities will be as follows:

1) Production will be sent to the NBQU Central Facility located in the SE/4 of Section 28. The facility is shown on the attachment.
2) All flow lines and piping will be installed according to API specifications.
3) Any additional caliche will be obtained from a BLM approved caliche pit. Any additional construction materials will be purchased from contractors.
4) Proposed flow lines will follow an archaeologically approved route to the NBQU Central Facility. The flow line will be SDR 11 2" poly line laid on the surface and will be approximately 2000' in length.
5) If the well is productive, rehabilitation plans will include the following:
   a) This will be a closed loop system, cuttings will be stored on site until storage bins have reached capacity at which time cuttings will be hauled to a NMOCD approved facility
   b) Sampling will not be required

7. Location and Type of Water Supply:

The well will be drilled with an air/foam system as outlined in the drilling program. The necessary mud products for weight addition and fluid loss will be on location at all times in the event it is needed. The water will be obtained from commercial water stations in the area and hauled to location by transport truck over the existing and proposed access roads. If a commercial fresh water source is nearby, fast line may be laid along existing road ROW's and fresh water pumped to the well. No water will be drilled on the location.

8. Source of Construction Materials:

All caliche required for construction of the drill pad and any proposed new access road will be obtained from a BLM approved caliche pit or the reserve pit.

9. Methods of Handling Water Disposal:

A. Drill cuttings not retained for evaluation purposes will be disposed into an NMOCD approved disposal facility.

C. Drill cuttings will be stored in the closed loop reserve tan ks to be disposed of at a NMOCD approved facility.

D. Water produced from the well during completion may be disposed into a steel tank. After the well is permanently placed on production, produced water will be collected in tanks at the NBQU Injection Facility and used for water flood purposes.

E. Garbage and trash produced during drilling or completion operations will be collected in a trash bin and hauled to an approved landfill. All water and fluids will be contained within the close loop system and ultimately disposed of at the NGQU Injection Facility. No toxic waste or hazardous chemicals will be produced by this operation.

F. After the rig is moved out and the well is either completed or abandoned, all waste materials will be cleaned up within 30 days. In the event of a dry hole only a dry hole marker will remain.

10. Ancillary Facilities:

No airstrip, campsite or other facilities will be built as a result of the operation on this well.

11. Surface Ownership:

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

B. The surface tenant for this site is: Jimmy Richardson / Jimmy Richardson Cattle Co. P.O. Box 487, Carlsbad, NM 88221.

C. The proposed road routes and surface location will be restored as directed by the BLM.

12. Bond Coverage:

Bond Coverage is #NMB 000130.

13. Other Information:

A. Topography: The proposed well site and access road are located on relatively flat terrain gently sloping to the South. The location has an elevation of 3506' GL.

B. Soil: The topsoil at the well site is reddish sand mixed with a tan loam.

C. Flora and Fauna: The location has a relatively poor grass covering of three awn (*Aristida spp.*) and dropseeds (*Sporobolus spp.*) along with plants of mesquite, yucca, broomweed, sage, cacti and miscellaneous weeds and wildflowers. The wildlife consists of rabbits, coyotes, antelope, deer, rattlesnakes, lizards, dove, quail and other wildlife typical of the semi-arid desert land.

D. Ponds and Streams: None present.

E. Residences and Other Structures: None present.

F. Land Use: Cattle grazing.

G. Surface Ownership: The proposed well site and access road are on Federal surface and minerals.

14. Lessee's and Operator's Representative:

The Arena Resources Inc representative responsible for assuring compliance with the surface use plan is as follows:

David Chiles
Production Supervisor
Arena Resources Inc
2130 W. Bender
Hobbs, NM 88240
575-738-1739

H.D. Hasten
General Manager
Arena Drilling Co.
207 SE Mustang Dr.
Andrews, TX 79714
432-523-9993

Reviewed By: _____ Date: 8/11/2008

Nagi Soas
District Operations Engineer
Arena Resources Inc.

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 the 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 and the terms and conditions under which it is approved. I also certify that I, or Arena Resources Inc, am 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. Executed this 8th day of August 2008.

Signed: _____

Printed Name: Nagi Soas
Position: District Operations Engineer
Address: 2130 W. Bender Hobbs, NM 88240
Telephone: 575-738-1739
Email: nsoas@arenaresourcesinc.com

PECOS DISTRICT
CONDITIONS OF APPROVAL

OPERATOR'S NAME:	ARENA RESOURCES INC.
LEASE NO.:	NM-033775
WELL NAME & NO.:	NBQU #56
SURFACE HOLE FOOTAGE:	1807' FNL & 50' FE L
BOTTOM HOLE FOOTAGE	' F L & ' F L
LOCATION:	Section 28, T. 18 S., R 30 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.

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.

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)

Mitigation Measures: The mitigation measures include the Pecos District Conditions of Approval, the standard stipulation for permanent resource roads, the standard stipulation for surface pipelines, the standard stipulation for the Hackberry Lake OHV area, and the standard stipulation for the Lesser Prairie Chicken.

The NBQU wells # 48, 49, 50, 53, 54, 56, and 60 are all located within the Hackberry Lake OHV Area boundary. The NBQU # 52, 62, 63, 64, and 67 are located outside of the boundary for the OHV.

Hackberry OHV Area
For the Hackberry OHV Area: All surface pipeline/flowlines will be buried at OHV trail intersections. Any pipelines will be buried with a minimum cover of 36 inches between the top of the pipe and ground level and a minimum of 3 feet either side of any trail. Any open trenches that need to be left unattended prior to pipeline burial shall be flagged and signed for public safety.

Timing Limitation Stipulation/Condition of Approval for Lesser Prairie-Chicken:
Oil and gas activities including 3-D geophysical exploration, and drilling will not be allowed in lesser prairie-chicken habitat during the period from March 1st through June 15th annually. During that period, other activities that produce noise or involve human activity, such as the maintenance of oil and gas facilities, geophysical exploration other than 3-D operations, and pipeline, road, and well pad construction, will be allowed except between 3:00 am and 9:00 am. The 3:00 am to 9:00 am restriction will not apply to normal, around-the-clock operations, such as venting, flaring, or pumping, which do not require a human presence during this period. Additionally, no new drilling will be allowed within up to 200 meters of leks known at the time of permitting. Normal vehicle use on existing roads will not be restricted. Exhaust noise from pump jack engines must be muffled or otherwise controlled so as not to exceed 75 db measured at 30 ft. from the source of the noise.

NBQU # 56: Closed Loop, Pit North V-Door East

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. The topsoil shall not be used to backfill the reserve pit and will be used for interim and final reclamation.

C. Closed Loop System

NBQU # 56: Closed Loop, Pit North V-Door East

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.

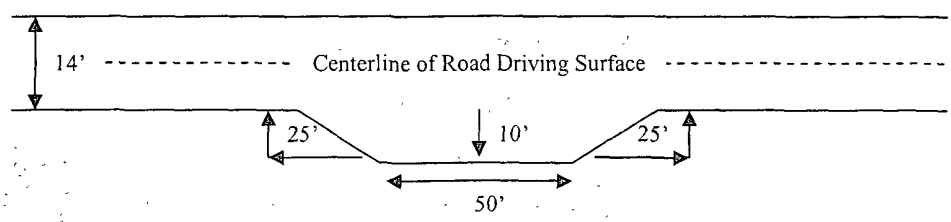
The Authorized Officer reserves the right to require surfacing of any portion of the access road at any time deemed necessary. Surfacing may be required in the event the road deteriorates, erodes, road traffic increases, or it is determined to be beneficial for future field development. The surfacing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

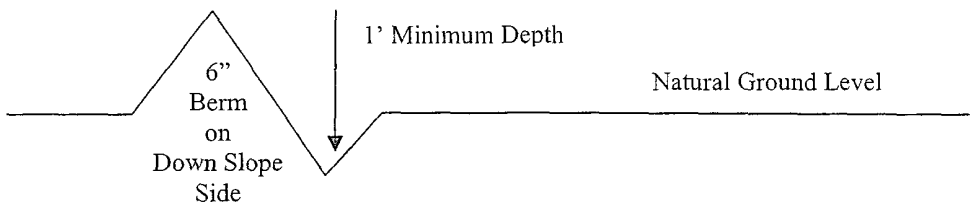
Standard Turnout – Plan View



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.

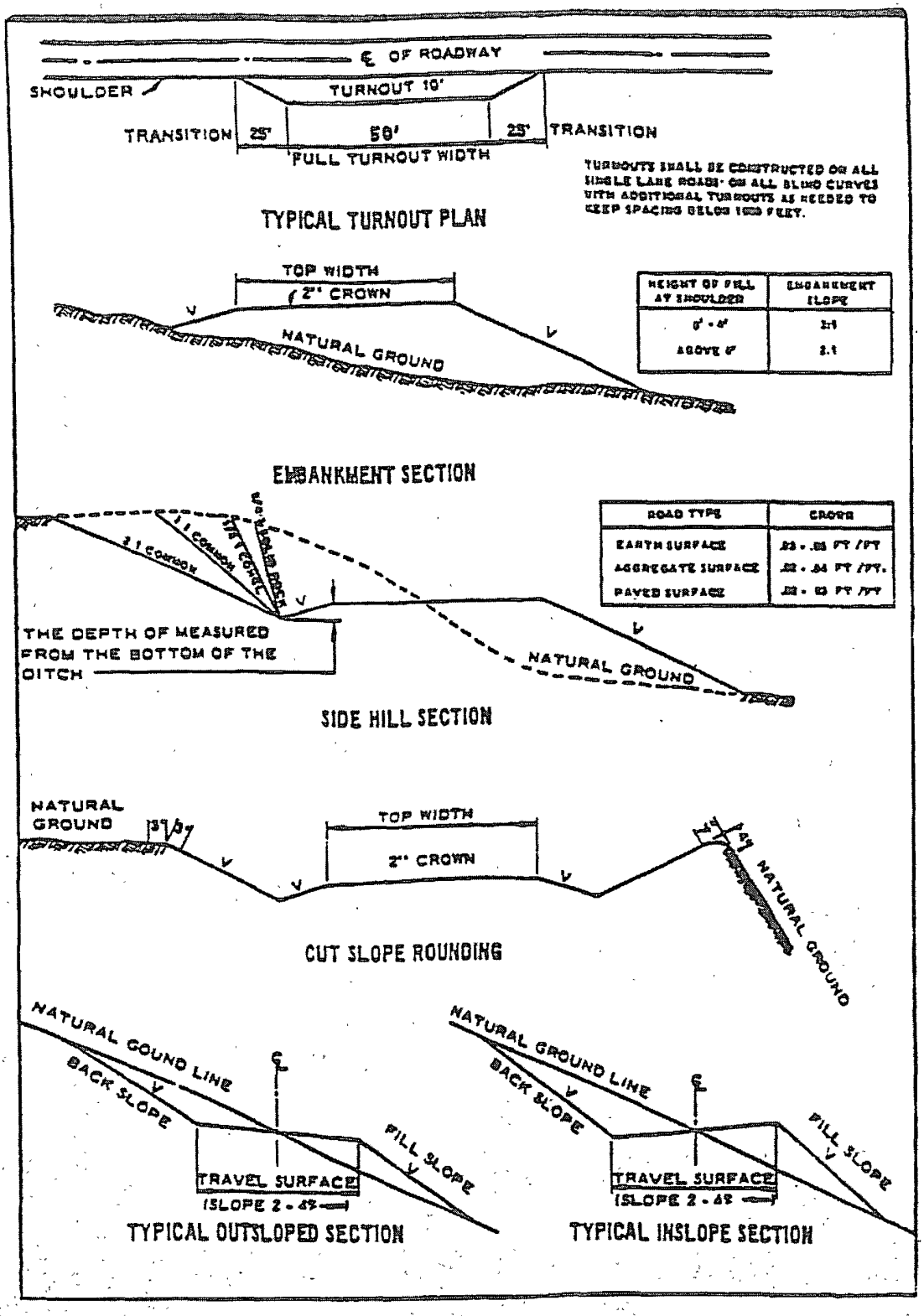
A gate shall be constructed and fastened securely to H-braces.

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 – Drilling with Air/Foam

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. A Hydrogen Sulfide (H2S) Drilling Plan should be activated 500 feet prior to drilling into the **Queen** formation. **If Hydrogen Sulfide is encountered, please provide measured values 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.

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.

Possible lost circulation in the Artesia Group.
Possible water flows in the Artesia Group and brine flows in the Salado Group.

1. The **8-5/8** inch surface casing shall be set **at approximately 400 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.

    b. 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.

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

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

    ☒ Cement to surface. If cement does not circulate, contact the appropriate BLM office. **Wait on cement (WOC) time for a primary cement job is to include the lead cement slurry due to Secretary's Potash.**

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

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

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

c. 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.

d. 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.

e. **No variance granted on BOP/BOPE test when running only two casing strings. Third party test required.**

D. DRILLING MUD

Mud system will be air and foam. Due to location size, the minimum requirements for portions of the air drill equipment cannot be met. A variance is approved for the distance requirements for the blooie line and the compressor package providing that the 3M choke manifold is equipped with a remote choke to enable controlled bleeding of a gas volume. If the bleeding extends past a two hour period, the drilling medium is to be changed to a 10 ppg mud. No variance will be granted from using a 3M BOP/BOPE.

NOTE – any spray onto vegetation outside of the existing pad is to be reported immediately.

Operator has also proposed a water based mud system if needed.

E. DRILL STEM TEST

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

WWI 100408

VIII. PRODUCTION (POST DRILLING)

A. WELL STRUCTURES & FACILITIES

Placement of Production Facilities
Production facilities should be placed on the well pad to allow for maximum interim recontouring and revegetation 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. All construction and maintenance activity will be confined to the authorized right-of-way width of **25** feet.

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 hehalf, 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.

(March 1989)

IX. INTERIM RECLAMATION & RESERVE PIT CLOSURE

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.

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.

The 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.

Seed Mixture 2, for Sandy 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 of planting where drilling is possible. The see mixture will be evenly and uniformly planted over the disturbed area (smaller/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
Sand dropseed (Sporobolus cryptandrus)	1.0
Sand love grass (Eragrostis trichodes)	1.0
Plains bristlegrass (Setaria macrostachya)	2.0

*Pounds of pure live seed:

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

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.