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Form 3160-3  
(August 2008)

FEB 04 2009

N.M. Oil Cons. Division

HOBBSOCD

1625 N. French Dr.  
Hobbs NM 88240

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT

APPLICATION FOR PERMIT TO DRILL OR REENTER

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

5. Lease Serial No

~~Y 8072~~ NM-105886

6. If Indian, Allottee or Tribe Name

7. If Unit or CA Agreement, Name and No

8. Lease Name and Well No

Ninja BMN State Com. #137304

9. API Well No.

30-005-29083

10. Field and Pool, or Exploratory  
v Abo  
Wildcat Wolfcamp

11. Sec., T., R., M., or Blk. And Survey or Area

Section 11, T15S-R31E

12. County or Parish

Chaves County

13. State

New Mexico

17. Spacing Unit dedicated to this well

N2/N2 160 acres.

20. BLM/ BIA Bond No. on file

NATIONWIDE BOND #NMB000434

23. Estimated duration

60 days

24. Attachments

ROSWELL CONTROLLED WATER BASIN

The following, completed in accordance with the requirements of Onshore Oil and Gas Order No. 1 shall 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 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)

Cy Cowan

Date

10/21/2008

Title

Regulatory Agent

Approved By (Signature)

/s/ Jerry Dutchover

Name (Printed/ Typed)

/s/ Jerry Dutchover

Date

FEB 02 2009

Title

Acting Assistant Field Manager,  
Lease and Minerals

Office

ROSWELL FIELD OFFICE

APPROVED FOR 2 YEARS

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 cc operations thereon

Conditions of approval, if any, are attached

Title 18 U.S.C. Section 1001 and Title 43 U.S.C. Section 1212, make it a crime for any person knowingly and wilfully 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.

\*(Instructions on page 2) C-144 Attached

DECLARED WATER BASIN

CEMENT BEHIND THE 11 3/4"  
CASING MUST BE CIRCULATED

WITNESS

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

Form C-102  
Revised October 12, 2005

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

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

RECEIVED  
FEB 04 2009  
HOBBSOCD

☐ AMENDED REPORT

### WELL LOCATION AND ACREAGE DEDICATION PLAT

API Number <b>30-005-29083</b>	Pool Code <b>✓</b>	Pool Name <b>Wildcat Wolfcamp</b>
Property Code <b>37304</b>	Property Name <b>NINJA "BMN" STATE COM</b>	Well Number <b>1H</b>
OGRID No. <b>025575</b>	Operator Name <b>YATES PETROLEUM CORP.</b>	Elevation <b>4386'</b>

#### Surface Location

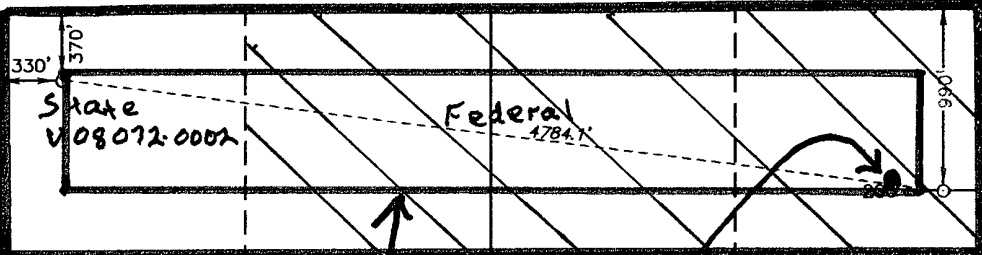
UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
A	11	15 S	31 E		990	NORTH	200	EAST	CHAVES

#### 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
D	11	15 S	31 E		370	NORTH	330	WEST	CHAVES

Dedicated Acres	Joint or Infill	Consolidation Code	Order No.
160			

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

		<b>OPERATOR CERTIFICATION</b> <p>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 released mineral interest in the land including the proposed bottom hole 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.</p> <p><i>Cy Cowan</i> 10/21/08 Signature Date Printed Name</p>
<b>BOTTOM HOLE LOCATION</b> Lat - N33°02'12.10" Long - W103°47'59.46" SPC- N.: 741299.001 E.: 704823.620 (NAD-83)	<b>SURFACE LOCATION</b> Lat - N33°02'06.15" Long - W103°47'03.71" SPC- N.: 740722.556 E.: 709572.818 (NAD-83)	<b>SURVEYOR CERTIFICATION</b> <p>I hereby certify that the well location shown on this plat was plotted from field notes of actual surveys made by me or under my supervision, and that the same is true and correct to the best of my belief.</p> <p>JULY 8 - 2008 Date Surveyed <i>GARY L. JONES</i> Signature of Seal Professional Surveyor Certificate No. Gary L. Jones 7977</p>
<b>BASIN SURVEYS</b>		

# YATES PETROLEUM CORPORATION

## Ninja BMN State Com. #1H

990' FNL and 200' FEL, Section 11-T15S-R31E (Surface Hole Location)

370' FNL and 330' FWL, Section 11-T15S-R31E (Bottom Hole Location)

Chaves County, New Mexico

**1. The estimated tops of geologic markers are as follows:**

Yates	2430'	Glorieta	5456'
Seven Rivers	2680'	Tubb	6778'
Queen	3234' Oil/Gas	ABO	7483' Gas
Grayburg	3310' Oil	Wolfcamp	8785' Oil
San Andres	3947' Oil	TVD	9080'
		TMD	13426'

**2. The estimated depths at which anticipated water, oil or gas formations are expected to be encountered:**

Water: 260'

Oil or Gas: Queen, Grayburg, San Andres, ABO, and Wolfcamp

**3. Pressure Control Equipment:** BOPE will be installed on the 8 5/8" casing and rated for 3000 psi BOP systems will be consistent with API RP 53. Pressure tests will be conducted before drilling out from under all casing strings which are set and cemented in place. Blowout Preventor controls will be installed prior to drilling the surface plug and will remain in use until the well is completed or abandoned. Preventors will be inspected and operated at least daily to ensure good mechanical working order, and this inspection recorded on the daily drilling report. See Exhibit B.

Auxiliary Equipment:

- A. Auxiliary Equipment: Kelly cock, pit level indicators, flow sensor equipment and a sub with full opening valve to fit the drill pipe and collars will be available on the rig floor in the open position at all times for use when kelly is not in use.

**4. THE PROPOSED CASING AND CEMENTING PROGRAM:**

A. Casing Program: (All New)

Hole Size	Casing Size	Wt./Ft	Grade	Thread	Interval	Length
14 3/4"	11 3/4"	42#	H-40	ST&C	0-400'	400'
11"	8 5/8"	32#	J-55	ST&C	0-100'	100'
11"	8 5/8"	24#	J-55	ST&C	100-2200'	2100'
11"	8 5/8"	32#	J-55	ST&C	2200-4050'	1850'
7 7/8"	5 1/2"	17#	HCP-110	LT&C	0-13426'	TMD13426' - TVD 8840.47'

Pilot hole will be drilled to 9080'. Well will then be plugged back and kicked off at approx. 8363' at 12 degrees per 100' to 13426' MD with a TVD of 8840' at TD. The penetration point of producing formation will be encountered at 957' FNL & 452' FEL, Section 11, T15S-R31E. Deepest TD of the well will be in the pilot hole @ 9080'. The deepest TVD in the lateral will be 8840'. We request a variance be given to test the BOP on the surface casing to 1000 psi using rig pumps.

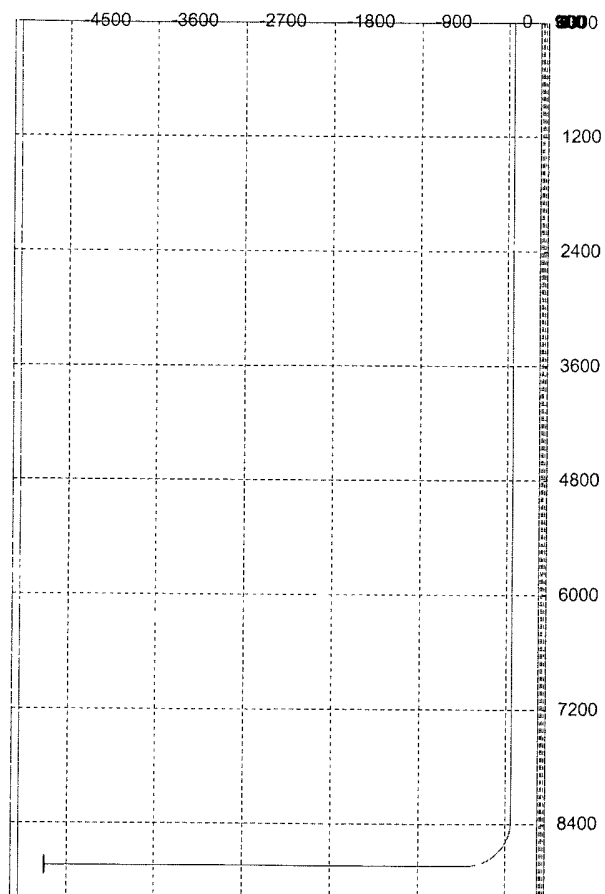
Minimum Casing Design Factors: Burst 1.0, Tensile Strength 1.8, Collapse 1.125

M.D.	Inclination	Azimuth	T.V.D.	N/S	E/W	D.S.	ToolFace	T.F. Ref.	HS/GM
0	0	0	0	0	0	0			
2,430	0	0	2,430	0	0	0			YATES
2,680	0	0	2,680	0	0	0			SEVEN RIVERS
3,234	0	0	3,234	0	0	0			QUEEN
3,310	0	0	3,310	0	0	0			GRAYBURG
3,947	0	0	3,947	0	0	0			SAN ANDRES
5,456	0	0	5,456	0	0	0			GLORIETA
6,778	0	0	6,778	0	0	0			TUBB
7,483	0	0	7,483	0	0	0			ABO
8363	0	0	8363	0	0	12	277	GN	KOP
8375	1.44	277.44	8375	0.02	-0.15	12	360	HS	
8400	4.44	277.44	8399.96	0.19	-1.42	12	0	HS	
8425	7.44	277.44	8424.83	0.52	-3.99	12	360	HS	
8450	10.44	277.44	8449.52	1.02	-7.84	12	0	HS	
8475	13.44	277.44	8473.98	1.69	-12.97	12	0	HS	
8500	16.44	277.44	8498.13	2.53	-19.36	12	0	HS	
8525	19.44	277.44	8521.91	3.52	-26.99	12	0	HS	
8550	22.44	277.44	8545.26	4.68	-35.85	12	360	HS	
8575	25.44	277.44	8568.1	5.99	-45.91	12	360	HS	
8600	28.44	277.44	8590.39	7.46	-57.14	12	360	HS	
8625	31.44	277.44	8612.05	9.07	-69.51	12	0	HS	
8650	34.44	277.44	8633.03	10.83	-82.99	12	0	HS	
8675	37.44	277.44	8653.27	12.73	-97.53	12	0	HS	
8700	40.44	277.44	8672.71	14.76	-113.11	12	0	HS	
8725	43.44	277.44	8691.3	16.93	-129.68	12	360	HS	
8750	46.44	277.44	8709	19.21	-147.19	12	0	HS	
8775	49.44	277.44	8725.74	21.61	-165.59	12	0	HS	
8800	52.44	277.44	8741.49	24.13	-184.84	12	0	HS	
8825	55.44	277.44	8756.21	26.74	-204.88	12	0	HS	
8850	58.44	277.44	8769.85	29.45	-225.65	12	0	HS	
8875	61.44	277.44	8782.37	32.25	-247.1	12	0	HS	
8881	62.16	277.44	8785.2	32.94	-252.35	12	0	HS	WOLFCAMP
8900	64.44	277.44	8793.74	35.13	-269.18	12	360	HS	
8925	67.44	277.44	8803.93	38.09	-291.81	12	0	HS	
8950	70.44	277.44	8812.91	41.11	-314.94	12	0	HS	
8975	73.44	277.44	8820.66	44.18	-338.51	12	0	HS	
9000	76.44	277.44	8827.16	47.31	-362.44	12	0	HS	
9025	79.44	277.44	8832.38	50.47	-386.68	12	0	HS	
9050	82.44	277.44	8836.32	53.67	-411.16	12	0	HS	
9075	85.44	277.44	8838.95	56.88	-435.81	12	0	HS	
9100	88.44	277.44	8840.29	60.12	-460.56	12	0	HS	
9113.05	90.01	277.44	8840.47	61.8	-473.5	0			
13425.83	90.01	277.44	8840	620	-4750	0			LATERAL TD

Pilot hole will be drilled to 9080'. Well will then be plugged back and kicked off at approx 8363' at 12 degrees per 100' with a 8 3/4" hole to 13426' MD with a TVD of 8,840' at TD. Penetration point of producing zone will be encountered at 957' FNL and 452' FEL, 11-15S-31E. Deepest TVD in the well is 9080' in the pilot hole. Deepest TVD in the lateral is 8840.47'.

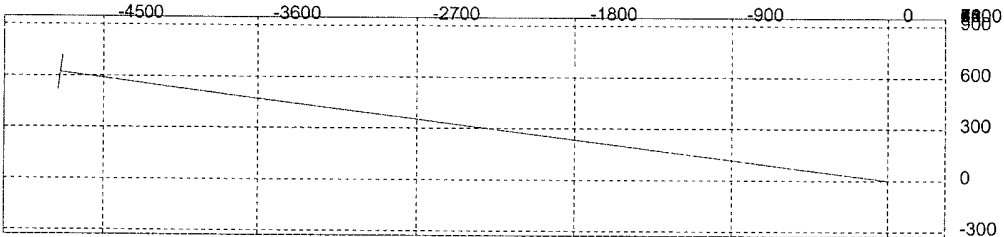
Company: Yates Petroleum Corporation  
Well: Ninja BMN State Com. #1H

### 3D<sup>3</sup> Directional Drilling Planner - 3D View



3D<sup>3</sup> Directional Drilling Planner - 3D View

Company: **Yates Petroleum Corporation**  
Well: **Ninja BMN State Com. #1H**



**B. CEMENTING PROGRAM:**

Surface Casing: 425 sacks "C" + 2% CaCL<sub>2</sub> (WT 14.8 YLD 1.34). Cement to surface.

Intermediate Casing: 900 sacks C Lite (Wt 12.5 YLD 2.04). Tail in with 200 sacks "C" + 2% CaCL<sub>2</sub> (WT 14.8 YLD 1.33) Cement to surface.

Production Casing: Lead with 650 sack 50:50:10C (WT 11.6 YLD 2.43). Tail in with 1300 sacks 50:50:4C (WT 13.5 YLD 1.46). Cement to Surface.

**5. Mud Program and Auxiliary Equipment:**

<u>Interval</u>	<u>Type</u>	<u>Weight</u>	<u>Viscosity</u>	<u>Fluid Loss</u>
Spud-400'	Fresh Water Gel	8.6-9.0	32-34	N/C
400'-4050'	Brine Water	10.0-10.2	28	N/C
4050'-7400'	Cut Brine	8.7-9.2	28	N/C
7400'-9080'	Cut Brine	8.7-9.2	28	<10-15cc
8363'-13426'	Cut Brine	8.7-9.2	28	<10-12cc

(Lateral Section)

Sufficient mud material(s) to maintain mud properties, control lost circulation and contain a blow out will be available at the well site during drilling operations. Mud will be checked hourly by rig personnel.

**6. EVALUATION PROGRAM:**

Samples: 10' from intermediate casing to TD.

Logging: Platform Express; CNL/LDT/NGT TD to intermediate casing, CNL/GR TD to surface casing, DLL-MSFL TD to surface casing, BHC-Sonic TD to surface casing.

Coring: None anticipated.

DST's: None anticipated.

H2S: None anticipated.

**7. ABNORMAL CONDITIONS, BOTTOM HOLE PRESSURE AND POTENTIAL HAZARDS:****Anticipated BHP:**

From: 0	TO 400' TVD	Anticipated Max. BHP: 190	PSI
From: 400'	TO 4050' TVD	Anticipated Max. BHP: 2150	PSI
From: 4050'	TO 9080' TVD	Anticipated Max. BHP: 4350	PSI

Abnormal Pressures Anticipated: None -

Lost Circulation Zones Anticipated: None

H2S Zones Anticipated: None

Maximum Bottom Hole Temperature: 120° F

**8. ANTICIPATED STARTING DATE:**

Plans are to drill this well as soon as possible after receiving approval. It should take approximately 45 days to drill the well with completion taking another 30 days.

## **MULTI-POINT SURFACE USE AND OPERATIONS PLAN**

**Yates Petroleum Corporation**

**Ninja BMN Federal #1H**

990' FNL and 200' FWL, Section 11, T15S-R31E (Surface Hole Location)

370' FNL and 330' FWL, Section 11-T15S-R31E (Bottom Hole Location)

Chaves County, New Mexico

This plan is submitted with Form 3160-3, Application for Permit to Drill, covering the above described well. The purpose of this plan is to describe the location of the proposed well, the proposed construction activities and operations plan, the magnitude of the surface disturbance involved and the procedures to be followed in rehabilitating the surface after completion of the operations, so that a complete appraisal can be made of the environmental effect associated with the operations.

### **1. EXISTING ROADS:**

Exhibit A is a portion of the BLM map showing the well and roads in the vicinity of the proposed location. The proposed well site is located approximately 12 miles north of Maljamar, New Mexico and the access route to the location is indicated in red and green on Exhibit A.

#### **DIRECTIONS:**

From Maljamar, NM go 1 mile east on Highway 82 to the intersection of Highway 82 and State Road 249. Turn left on State Road 249 and go approximately 12 miles to Wanda Road. Please note 249 turns into State Road 172. Turn right on Wanda Road and cross cattleguard. Immediately after crossing the cattleguard turn left on lease going north and then east for approximately 1.8 miles. The new road will start here going south for approximately .1 of a mile to the northwest corner of the proposed well location.

### **2. PLANNED ACCESS ROAD:**

- A. The proposed new road will go in a north to south direction for approximately .1 of a mile to the northwest corner of the drilling pad.
- B. The new road will be 14' in width (driving surface) and will be adequately drained to control runoff and soil erosion.
- C. The new road will be bladed with drainage on one side. Traffic turnouts may be built as needed.
- D. The route of the road is visible.
- E. Existing roads will be maintained in the same or better condition.

### **3. LOCATION OF EXISTING WELL**

- A. There is drilling activity within a one-mile radius of the well site.
- B. Exhibit D shows existing wells within a one-mile radius of the proposed well site.

### **4. LOCATION OF EXISTING AND/OR PROPOSED FACILITIES**

- A. There are no production facilities on this lease at the present time.
- B. In the event that the well is productive, the necessary production facilities will be installed on the drilling pad. If the well is productive oil, a gas or diesel self-contained unit will be used to provide the necessary power until an electric power line can be built if needed.

### **5. LOCATION AND TYPE OF WATER SUPPLY:**

- A. It is planned to drill the proposed well with a fresh water system. The water will be obtained from commercial sources and will be hauled to the location by truck over the existing and proposed roads shown in Exhibit A.



**5. LOCATION AND TYPE OF WATER SUPPLY:**

- A. It is planned to drill the proposed well with a fresh water system. The water will be obtained from commercial sources and will be hauled to the location by truck over the existing and proposed roads shown in Exhibit A.

**6. SOURCE OF CONSTRUCTION MATERIALS:**

The dirt contractor will acquire any materials from the closest source at the time of construction of the well pad.

**7. METHODS OF HANDLING WASTE DISPOSAL:**

- A. Drill cuttings will be disposed of in the reserve pits.
- B. The temporary drilling pit will be constructed, maintained, and closed in compliance with the State of New Mexico, Energy and Natural Resources Department, Oil Conservation Division – the “Pit Rule” 19.15.17 NMAC.
- C. Water produced during operations will be collected in tanks until hauled to an approved disposal system, or separate disposal application will be submitted.
- D. Oil produced during operations will be stored in tanks until sold.
- E. Current laws and regulations pertaining to the disposal of human waste will be complied with.
- F. All trash, junk, and other waste materials will be contained in trash cages or bins to prevent scattering and will be removed and deposited in an approved sanitary landfill. Burial on site is not approved.

**8. ANCILLARY FACILITIES: None**

**9. WELLSITE LAYOUT:**

- A. Exhibit C shows the relative location and dimensions of the well pad, the reserve pits, and the location of the drilling equipment, rig orientation and access road approach.
- B. The temporary drilling pit will be constructed, maintained and closed in compliance with the State of New Mexico, Energy and Natural Resources Department, Oil Conservation Division—the “Pit Rule” 19.15.17 NMAC. Form C-144 attached.
- C. A 600' x 600' area has been staked and flagged.

**10. PLANS FOR RESTORATION**

- A. After finishing drilling and/or completion operations, all equipment and other material not needed for further operations will be removed. The location will be cleaned of all trash and junk to leave the well site in as aesthetically pleasing a condition as possible.
- B. Unguarded pits, if any, containing fluids will be fenced until they have dried and been leveled.
- C. 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. All pits will be filled level within 90 days after abandonment.

**11. SURFACE OWNERSHIP:** Split Estate—Private Surface and Federal Minerals. Surface owners are Billy R. Medlin and Donna K. Medlin, his wife, as joint tenants.

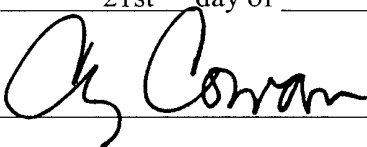
**12. OTHER INFORMATION:**

- A. Topography: Refer to the existing archaeological report for a description of the topography, flora, fauna, soil characteristics, and dwellings, historical and cultural sites.
- B. The primary surface use is for grazing.

CERTIFICATION  
YATES PETROLEUM CORPORATION  
Ninja BMN Federal 1H

I hereby certify that I, or someone under my direct supervision, have inspected the drill site and access route proposed herein; that I am familiar with the conditions which currently exist; and an someone under employment of Yates Petroleum Corporation has 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 I, or the company I represent, 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 21st day of October 2008

Signature 

Name Cy Cowan

Position Title Regulatory Agent

Address 105 South Fourth Street, Artesia, New Mexico 88210

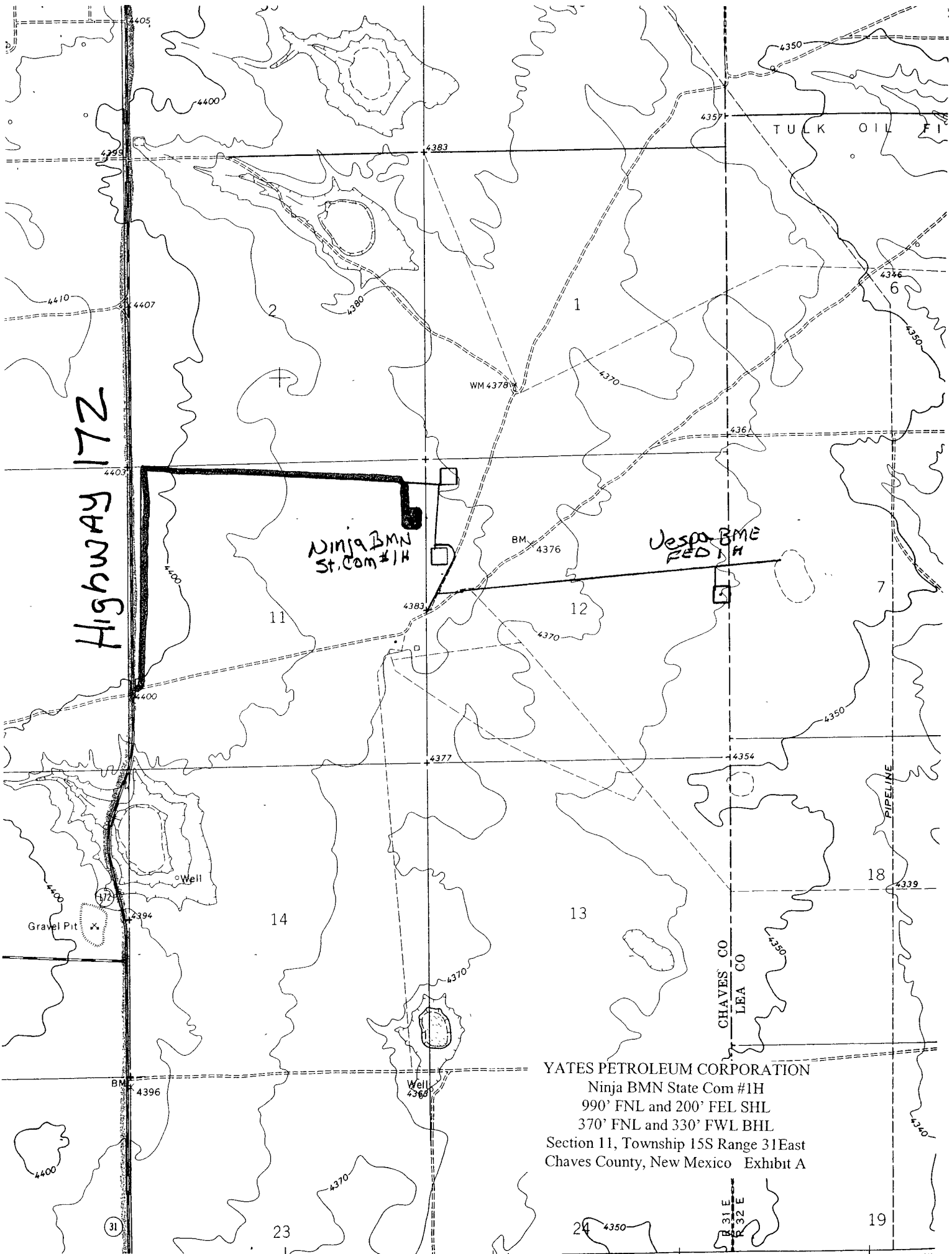
Telephone (505) 748-4372

Field Representative (if not above signatory) Tim Bussell, Drilling Supervisor

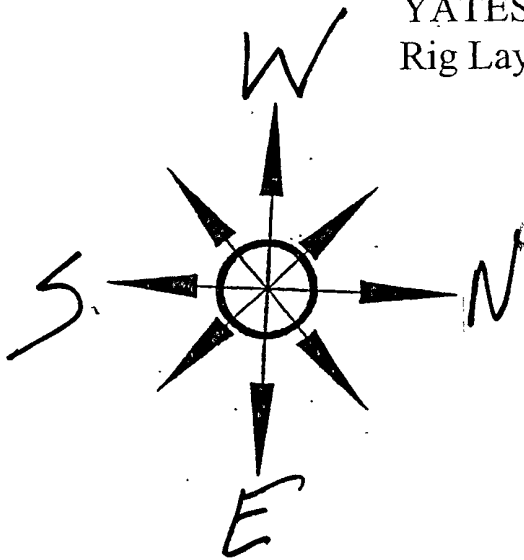
Address (if different from above) Same as above.

Telephone (if different from above) (505) 748-4221

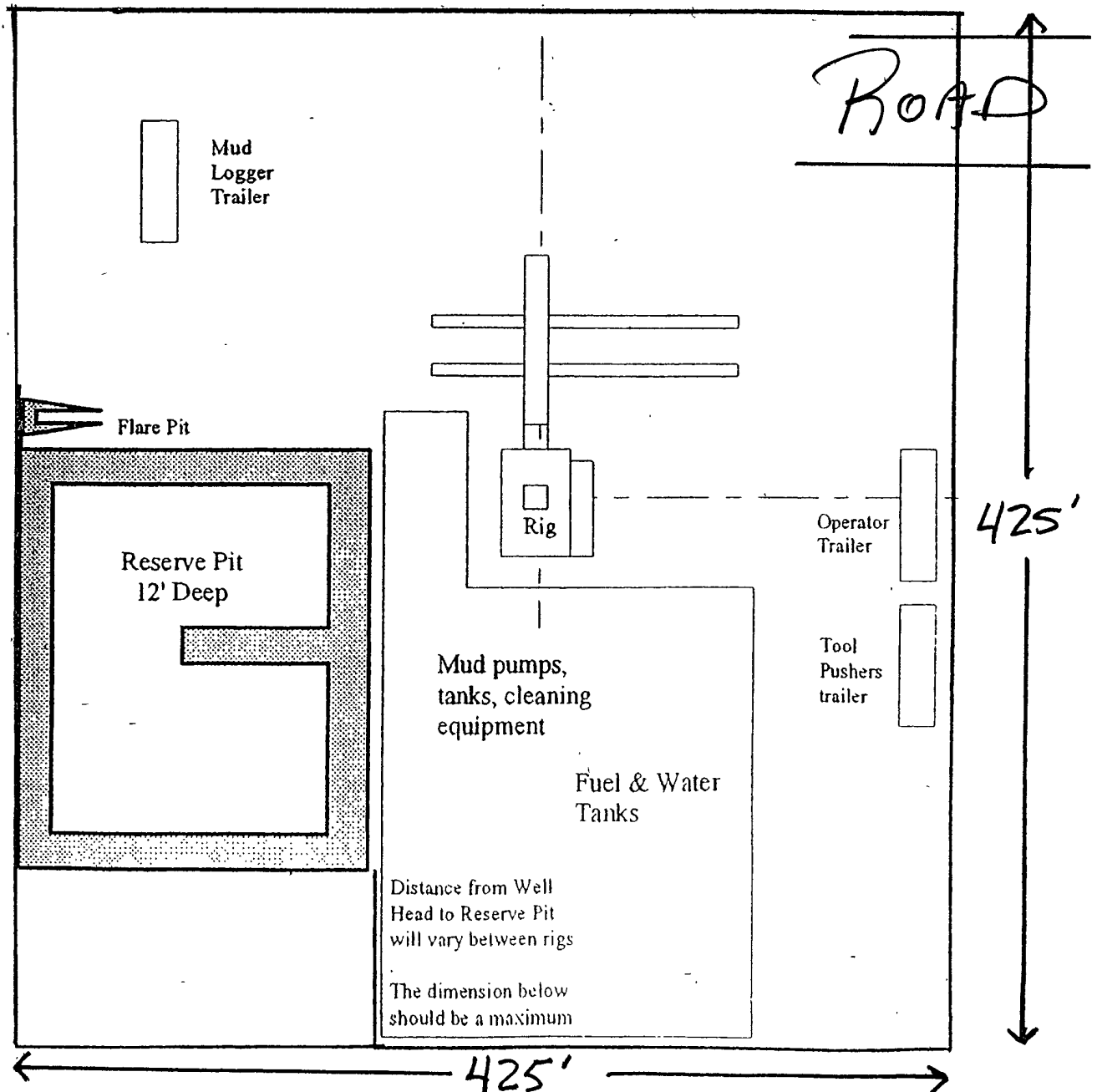
E-mail (optional) \_\_\_\_\_

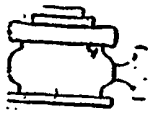


YATES PETROLEUM CORPORATION.  
Rig Layout for Horizontal Well Locations



YATES PETROLEUM CORPORATION  
Ninja BMN State Com #1H  
990' FNL and 200' FEL SHL  
370' FNL and 330' FWL BHL  
Section 11, Township 15S Range 31East  
Chaves County, New Mexico Exhibit B

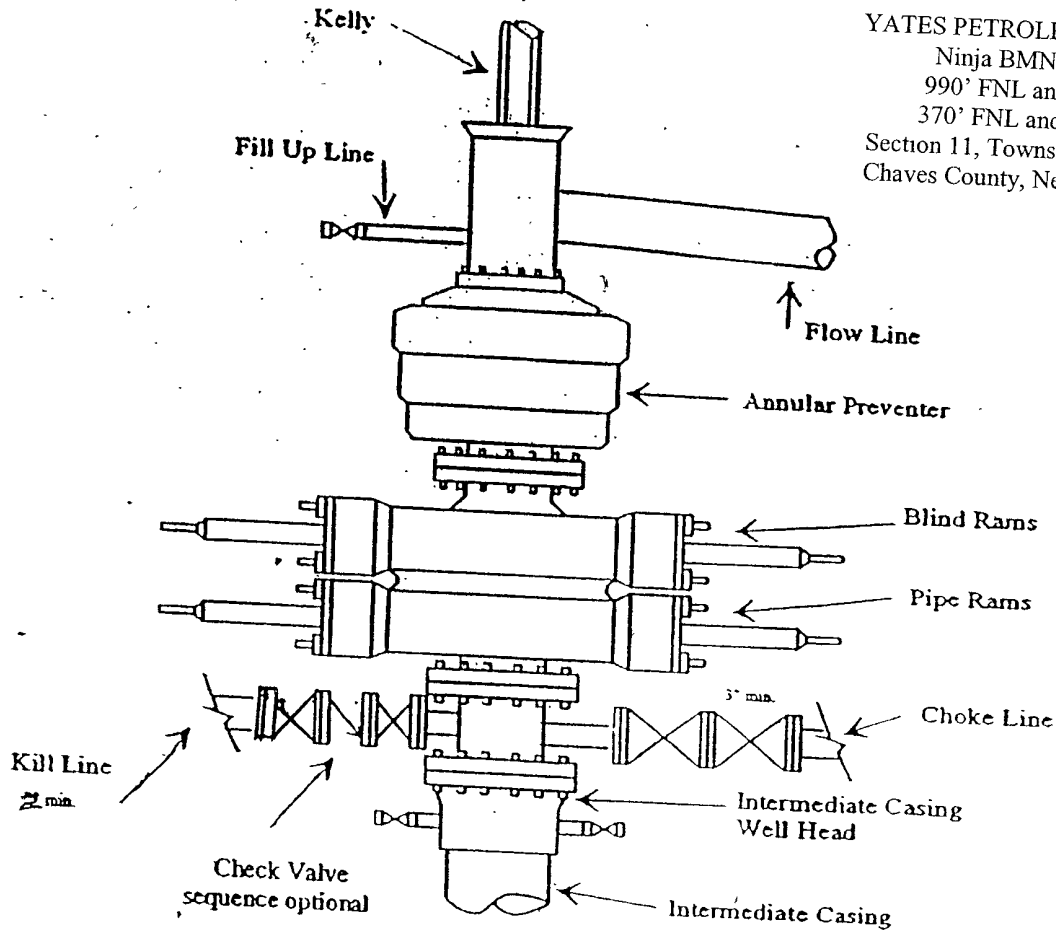




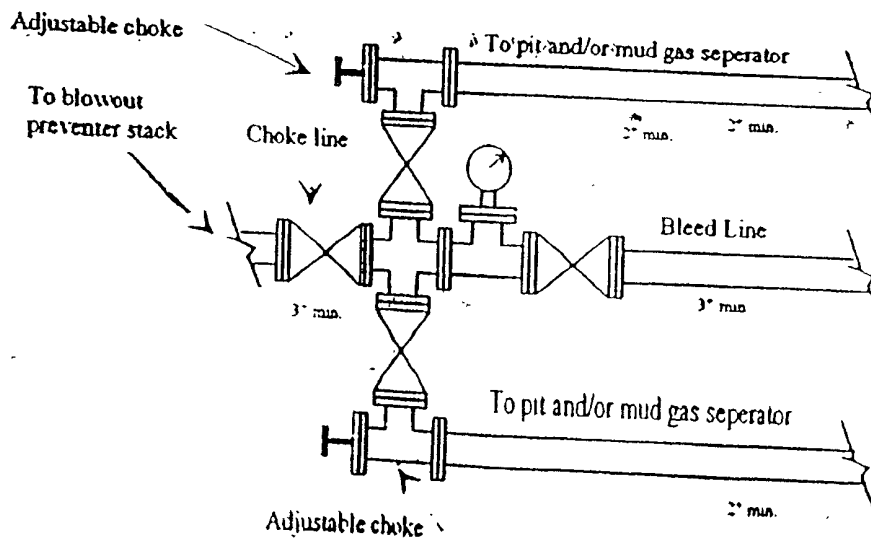
# Yates Petroleum Corporation

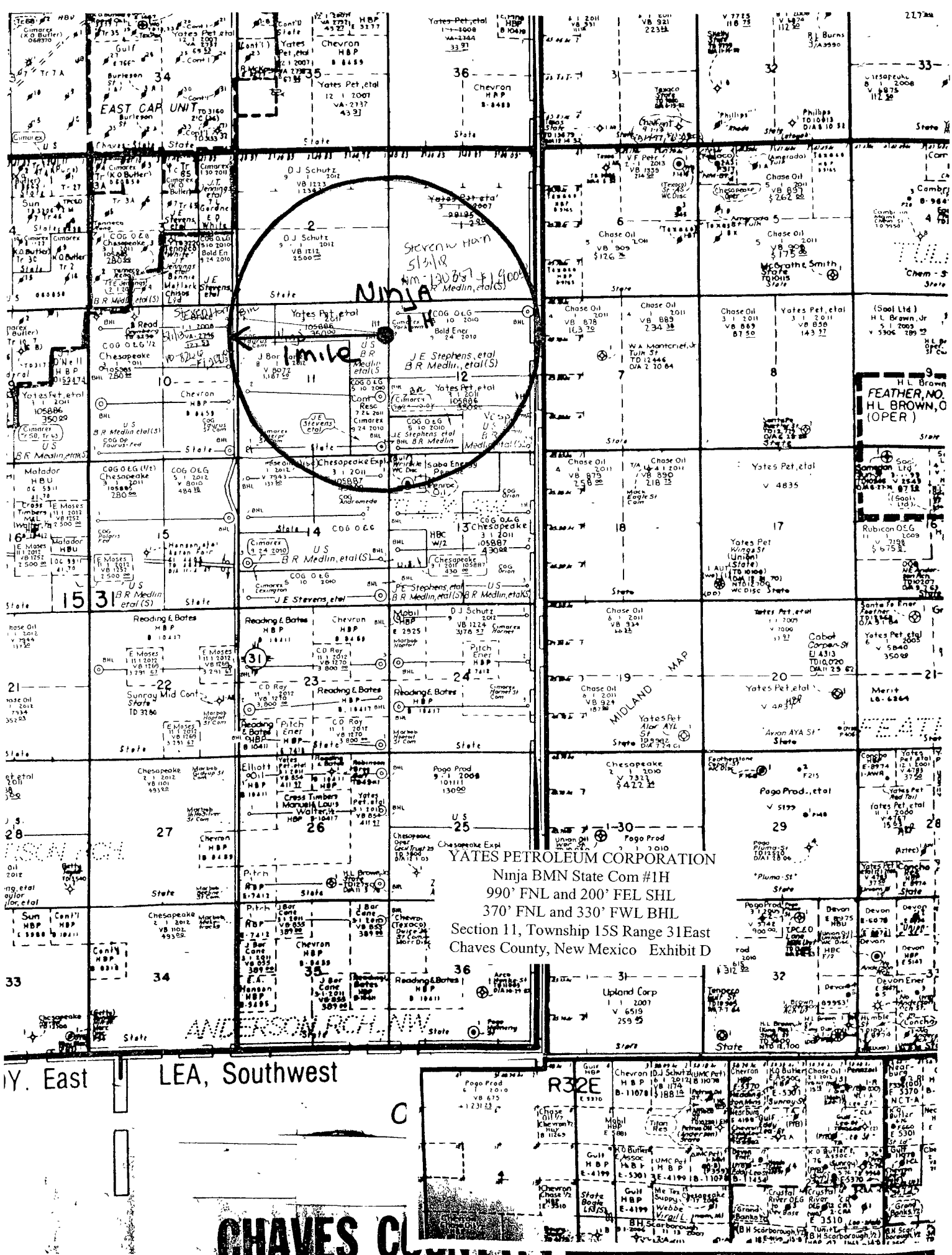
BOP-3

## Typical 3,000 psi Pressure System Schematic Annular with Double Ram Preventer Stack



## Typical 3,000 psi choke manifold assembly with at least these minimum features





## Exhibit "A"

### Ninja BMN State Com #1H - Siting Requirements:

Enclosed herewith are supporting maps and documents to support siting required by 19.15.17.10 NMAC.

Attached is the water data for the area that indicates depth to water is greater than 200 feet (Exhibit B-1). From our site inspection of the location there are no continuously flowing watercourse within 300 feet or within 200 feet of any significant watercourse lakebeds, sinkhole or playa lakes. There are no permanent residences, school, hospital, institutions or church in existence within 300 feet or 1000 feet of the location. From iWaters database and visual inspection there are no domestic fresh water wells or springs within 500 horizontal feet or 1000 horizontal feet from the well location (Exhibit B-1). The location is not within the incorporated municipal boundaries or within a defined fresh water well field covered under a municipal ordinance and not within 500 feet of a wetland. There are no subsurface mines overlying the area. 100 year flood plain has not been indicated on the FEMA website and BLM has confirmed that this section is not in the flood plain area (Exhibit A-1).

  
\_\_\_\_\_  
Regulatory Agent

  
\_\_\_\_\_  
Date



MARTIN YATES, III  
1912-1985

FRANK W. YATES  
1936-1986

S.P. YATES  
1914-2008



JOHN A. YATES  
CHAIRMAN OF THE BOARD  
PRESIDENT

DAVID LANNING  
CHIEF OPERATING OFFICER

105 SOUTH FOURTH STREET  
ARTESIA, NEW MEXICO 88210-2118  
TELEPHONE (575) 748-1471

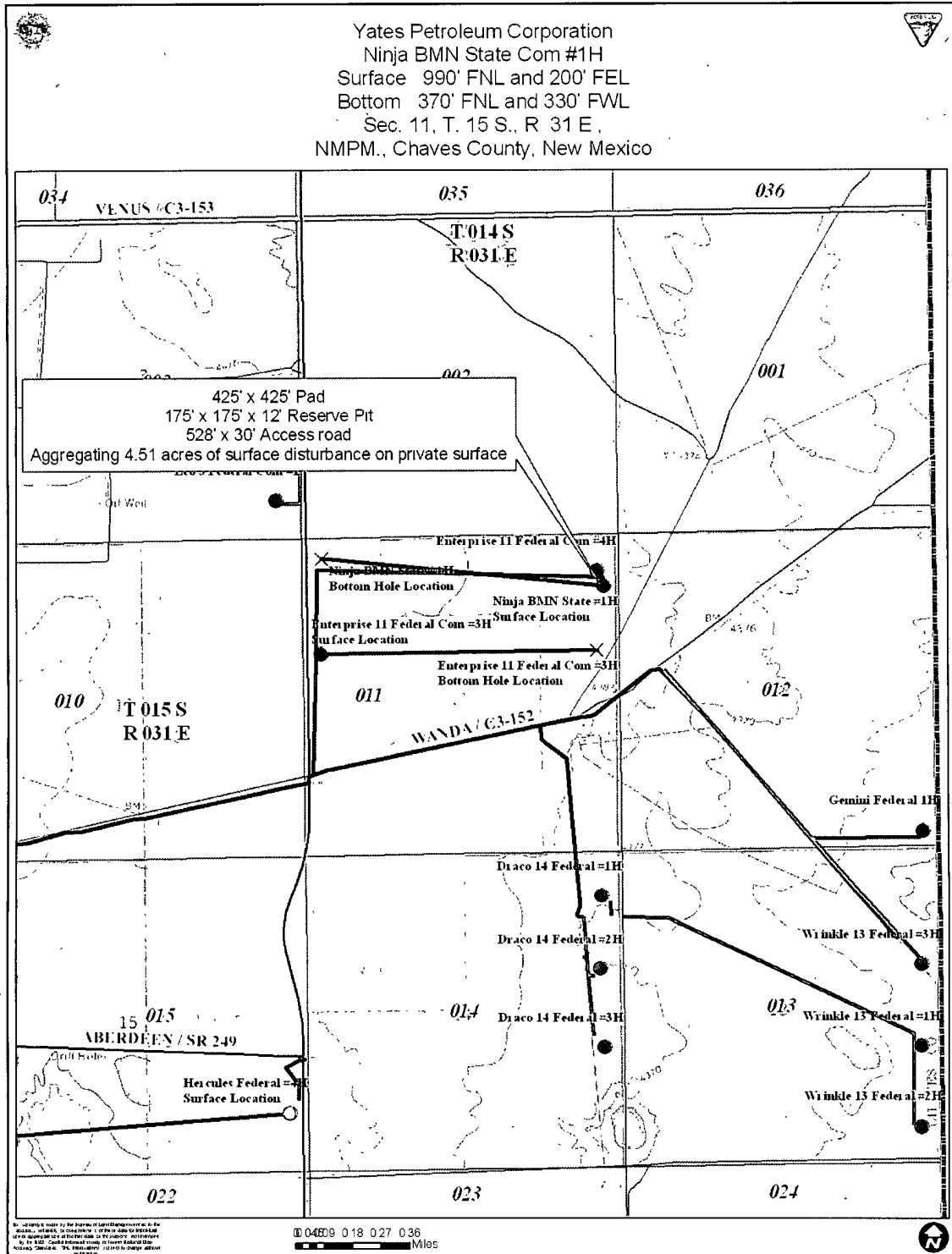
As per BLM instructions, Yates Petroleum Corporation is tendering the \$4,000.00 APD Processing Fee for the Ninja BMN State Com #1H date submitted: October 22, 2008, Section 11, Township 15 South, Range 31 East, Chaves County, New Mexico.

Please be advised we are tendering this fee under protest as we believe it contradicts language in the Energy Policy Act of 2005 signed by President Bush.

RANDY G. PATTERSON  
SECRETARY

DENNIS G. KINSEY  
TREASURER

# Exhibit A General Location Map



**EXHIBIT B**  
**PECOS DISTRICT - RFO**  
**CONDITIONS OF APPROVAL**

**January 29, 2009**

Ninja BNM State Com #2H  
Surface Location: 990' FNL & 200' FEL,  
Bottom-hole Location: 370' FNL & 330' FWL  
Section 11, T. 15 S., R.31 E.,  
Chaves County, New Mexico, NMPM  
Yates Petroleum Corporation  
NM-105886

**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.

**I. 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).

**II. 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.

### **III. NOXIOUS WEEDS**

The operator shall be held responsible if noxious weeds become established within the areas of operations (access road and/or well pad). 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.

### **IV. CONSTRUCTION**

#### **A. NOTIFICATION:**

The BLM shall administer compliance and monitor construction of the access road and well pad. Notify the Roswell Field Office at (505) 627-0247 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 Application for Permit to Drill and Conditions of Approval on the well site and they shall be made available upon request by the Authorized Officer.

#### **B. TOPSOIL:**

The topsoil will be stripped to approximately 6 inches in depth within the area designated for construction of the well pad. The operator shall stockpile the stripped topsoil on the side of the well pad. The topsoil will be used for interim and final reclamation of the surface disturbance created by the construction 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. RESERVE PITS:**

The reserve pit shall be constructed and closed in accordance with the NMOCD rules.

According to a Sundry received January 8, 2009, the reserve pit shall be constructed 175' X 175' X 12' on the SOUTHEAST side of the well pad.

The reserve pit shall be constructed, so that upon completion of drilling operations, the dried pit contents shall be buried a minimum depth of four (4) feet below ground level. Should the pit content level not meet the four (4) foot minimum depth requirement, the excess contents shall be removed until the required minimum depth of four feet below ground level has been met. The operator shall properly dispose of the excess contents at an authorized disposal site.

The reserve pit shall be constructed and maintained so that runoff water from outside the location is not allowed to enter the pit. The berms surrounding the entire perimeter of the pit shall extend a minimum of two (2) feet above ground level. At no time will standing fluids in the pit be allowed to rise above ground level.

The reserve pit shall be fenced on three (3) sides during drilling operations. The fourth side shall be fenced immediately upon rig release.

#### **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 Roswell Field Office at (505) 627-0236.

#### **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 need.

#### **F. ON LEASE ACCESS ROADS:**

##### **Road Egress and Ingress**

The access road shall be constructed to access the corner of the well pad.

##### **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 un-surfaced access road other than to

remove vegetation as necessary, road irregularities, safety issues, or to fill low areas that may sustain standing water.

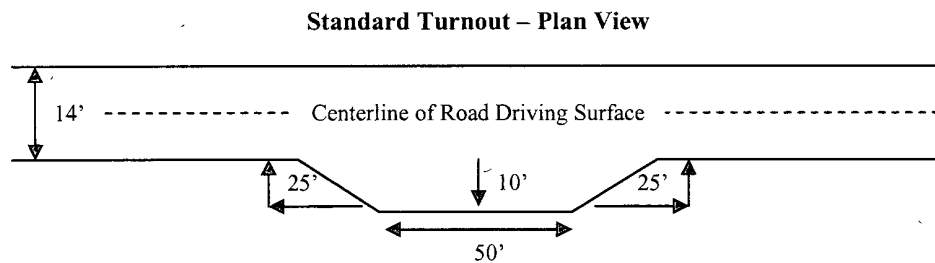
The Authorized Officer reserves the right to require surfacing of any portion of the access road at any time deemed necessary. Surfacing may be required in the event the road deteriorates, erodes, road traffic increases, or it is determined to be beneficial for future field development. The surfacing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

### **Turnouts**

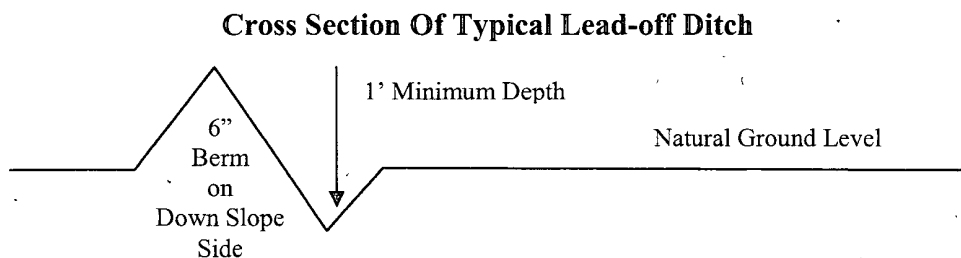
Vehicle turnouts shall be constructed on the road. Turnouts shall be intervisible with interval spacing distance less than 1000 feet. Turnouts shall be constructed on all blind curves. Turnouts shall conform to the following diagram:



### **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.



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:

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

#### **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**

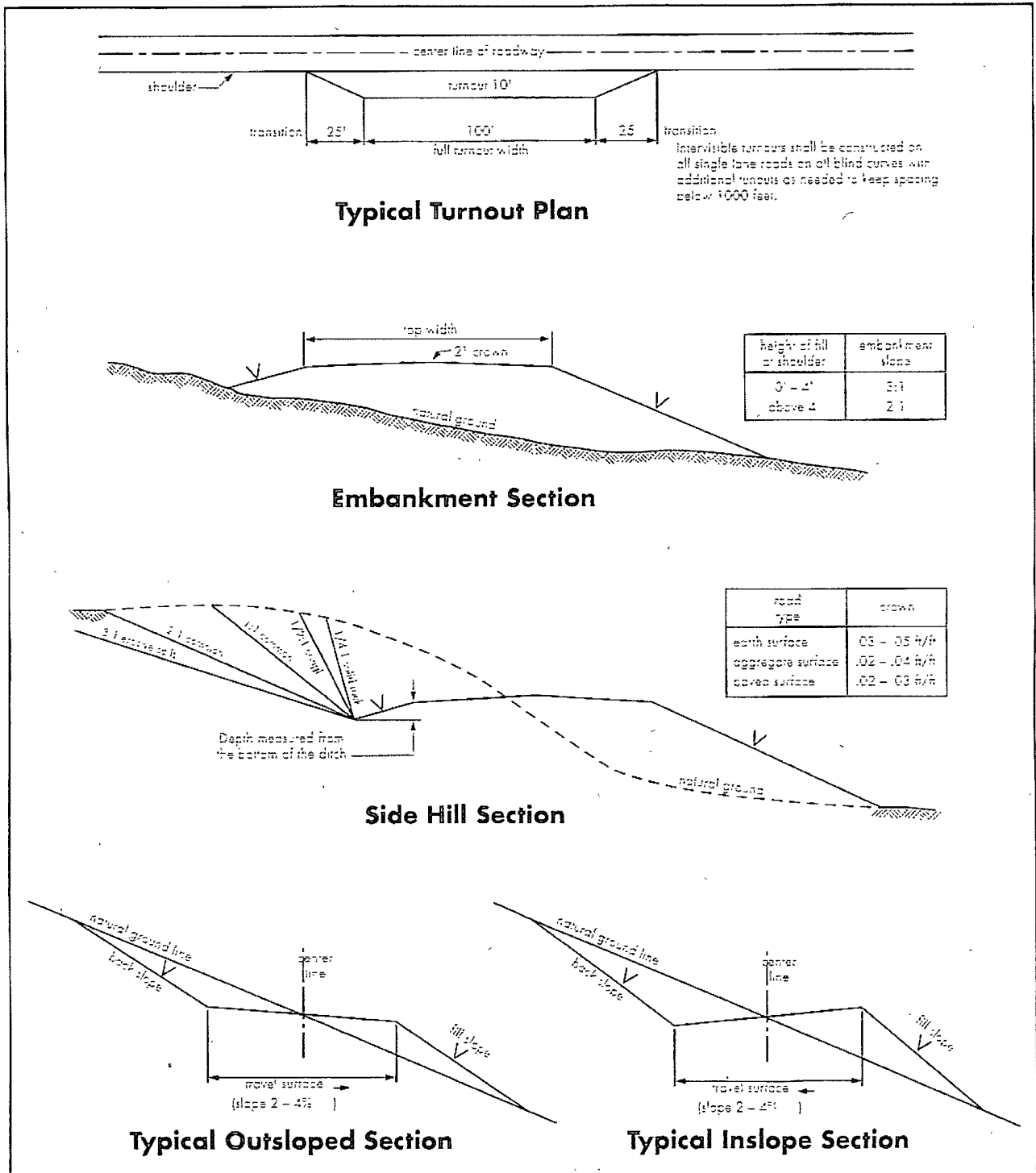
Where entry is required across a fence line, the fence shall be braced and tied off on both sides of the passageway prior to cutting.

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





## **V. DRILLING**

### **A. DRILLING OPERATIONS REQUIREMENTS:**

1. Call the Roswell Field Office, 2909 West Second St., Roswell, NM 88201. During office hours call (575) 627-0205 or after office hours call (575) 910-6024. Engineer on call during office hours call (575) 627-0275 or after office hours call (575) 626-5749.
2. The BLM is to be notified a minimum of 24 hours in advance for a representative to witness:
  - a. Spudding well
  - b. Setting and/or Cementing of all casing strings

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

#### **BOPE Tests**

3. 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.
4. Include the API Number assigned to well by NMOCD on the subsequent report of setting the first casing string.
5. A Communitization Agreement covering the acreage dedicated to this well must be filed for approval with the BLM. The effective date of the agreement shall be prior to any sales.
6. The operator will accurately measure the drilling rate in ft/min to set the base of the usable water protection casing string(s) opposite competent rock. The record of the drilling rate along with the caliper-gamma ray-neutron well log run to surface will be submitted to this office as well as all other logs run on the borehole 30 days from completion
7. Air, air-mist or fresh water and non toxic drilling mud shall be used to drill to the base of the usable water protection casing string(s). Any polymers used will be water based and non-toxic.

### **B. CASING:**

1. The **11-3/4** inch usable water protection casing string shall be set at approximately 400 ft. in competent bedrock.

If not the operator is required to set usable water protecting casing in the next thick competent bedding (i.e. 15 to 25 ft or greater) encountered and cemented to the surface.

- a. If cement does not circulate to the surface, the Roswell Field 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 primary cement job will be a minimum 18 hours for a water basin or 500 pounds compression strength, whichever is greater. (This is to include the lead cement).
  - 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 compression strength, whichever is greater.
  - d. If cement falls back, remedial action 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 **sufficient to circulate to the surface**. If cement does not circulate see B.1.a-d above.
  - 3. The minimum required fill of cement behind the 5-1/2 inch production casing is **sufficient to tie back 500 feet above the uppermost perforation in the pay zone**. If cement does not circulate, 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.
  - 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.
  - 5. All casing shall be new or reconditioned and tested casing and meet API standards for new casing. The use of reconditioned and tested casing shall be subject to approval by the authorized officer. Approval will be contingent upon the wall thickness of any casing being verified to be at least 87-1/2 per cent of the nominal wall thickness of new casing.

### **C. PRESSURE CONTROL:**

- 1. Before drilling below the 11-3/4 inch surface casing shoe, the blowout preventer assembly shall consist of a minimum of One Annular Preventer or Two Ram-Type Preventers and a Kelly Cock/Stabbing Valve. Before drilling below the 8-5/8 inch intermediate casing shoe, the blowout preventer assembly shall consist of a minimum of One Annular Preventer, Two Ram-Type Preventers, and a Kelly Cock/Stabbing Valve.
- 2. Before drilling below the 11-3/4 inch surface casing shoe, minimum working pressure of the blowout preventer and related equipment (BOPE) shall be **2000** psi. Before drilling below the 8-5/8 inch intermediate casing shoe, minimum working pressure of the BOPE shall be **3000** psi.
- 3. The BOPE shall be installed before drilling below the 11-3/4 inch surface casing and the 8-5/8 inch intermediate casing and shall be tested as described in Onshore Order No. 2. Any equipment failing to test satisfactorily shall be repaired or replaced.
  - a. The BLM Roswell Field office shall be notified a minimum of 4 hours in advance for a representative to witness the tests.

- b. The tests shall be done by an independent service company.
- c. 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.
- d. 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 BLM Roswell Field Office at 2909 West Second Street, Roswell, New Mexico 88201.
- e. Testing fluid must be water or an appropriate clear liquid suitable for sub-freezing temperatures. Use of drilling mud for testing is not permitted since it can mask small leaks.
- f. Testing must be done in a safe workman like manner. Hard line connections shall be required.

## **VI. PRODUCTION**

### **A. WELL STRUCTURES & FACILITIES**

#### **Placement of Production Facilities**

Production facilities should be placed on the well pad to allow for maximum interim re-contouring and re-vegetation 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, Juniper Green (Standard Environmental Color Chart June 2008).

#### **VRM Facility Requirement**

Low-profile tanks not greater than eight-feet-high shall be used.

## **VII. 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.

During reclamation, the removal of caliche is important to increasing the success of re-vegetating the site. Removed caliche may be used in road repairs, fire walls or for building other roads and locations. In addition, 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 re-vegetated areas for production or workover operations will be allowed. If there is significant disturbance and loss of vegetation, the area will need to be re-vegetated. Communicate with the appropriate BLM office for any exceptions/exemptions if needed.

Loamy, SD-3 Ecological Site; Loamy CP-2; Gyp Upland CP-2 (for Loamy HP-3)		
Common Name and Preferred Variety	Scientific Name	Pounds of Pure Live Seed Per Acre
Blue grama,	<i>(Bouteloua gracilis)</i>	4.00 LBS.
Sideoats grama,	<i>(Bouteloua curtipendula)</i>	1.0 LB.
Sand dropseed	<i>(Sporobolus cryptandrus)</i>	0.5 LB.
Vine mesquite	<i>(Panicum obtusum)</i>	1.0 LB.
Plains bristlegrass	<i>(Setaria macrostachya)</i>	1.0 LB.
Indian blanketflower	<i>(Gaillardia aristata)</i>	0.5 LB.
Desert or Scarlet	<i>(Sphaeralcea ambigua)</i>	1.0 LB.
Globemallow or	<i>(S. coccinea)</i>	
Annual sunflower	<i>(Helianthus annuus)</i>	<u>0.75 LB.</u>
TOTAL POUNDS PURE LIVE SEED (pls) PER ACRE		9.75 LBS.

Certified Weed Free Seed. If one species is not available, increase ALL others proportionately.  
Use No Less than 4 species, including one forb. No less than 9.75 pounds lbs per acre shall be applied.

### VIII. FINAL ABANDONMENT & REHABILITATION REQUIREMENTS

a. Upon abandonment of the well and/or when the access road is no longer in service, a Notice of Intent for Final Abandonment with the proposed surface restoration procedure must be submitted for approval.

b. 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 agreements and a copy of the release is to be submitted upon abandonment.

c. Upon abandonment of the well, all casing shall be cut-off at the base of the cellar or 3-feet below final restored ground level (whichever is deeper). A 4-inch pipe, 10 feet in length, shall be installed 4 feet above ground and embedded in cement. The following information shall be permanently inscribed on the dry hole marker: Well name and number, the name of the operator, the lease serial number, the surveyed location (the quarter-quarter section, section, township and range or other authorized survey designation acceptable to the authorized officer; such as metes and bounds).

d. Surface Reclamation must be completed within 6 months of well plugging. If the operator proposes to modify the plans for surface reclamation approved on the APD, the operator must attach these modifications to the Subsequent Report of Plug and Abandon using Sundry Notices and Reports on Wells, Form 3160-5.