Form 3160 -3 (April 2004)

# N.M. Oil Cons. DIV-Dist. 2 1301 W. Grand Avenue Artesia, NM 88210

OCT 08 2008

OCD-ARTESIA FORM APPROVED OMB No 1004-0137 Expires March 31 2007

6 If Indian, Allotee or Tribe Name

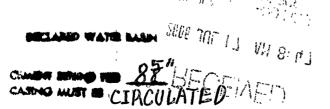
UNITED STATES DEPARTMENT OF THE INTERIOR BUREAU OF LAND MANAGEMENT

5	Lease Serial No
IN	/NM-101106

APPLICATION FOR PERMIT TO DRILL OR REENTER
--

la Typeofwork- DRILL REENT	ΓER			7 If Unit or CA Agre	ement, Nam	e and No	_
				8. Lease Name and V	Vell No.		-
lb Type of Well Oil Well Gas Well Other	Si	ngle Zone Mult	iple Zone	Blue Bomber Fe			
2 Name of Operator				9 API Well No.			-
Mack Energy Corporation		13837		30.005	.640	59	
3a. Address	3b. PhoneNo	(include area code)		_10Freid_and_Pool, or			
P.O. Box 960 Artesia, NM 88211-0960	(575)748-	1288		Round Tank; San	n Andres	i	
4 Location of Well (Report location clearly andinaccorounce with an	y State requireme	ents*)		I 1 Sec, T R. M or B	lk and Surv	ey or Area	_
At surface 2310 FSL &1650 FEL							
At proposed prod zone				Sec. 7 T15S R29	E		
14 Distance in miles and direction from nearest town or post office*				12. County or Parish		3 State	_
14 miles north/northwest of Loco Hills, NM				Chaves	N	IM	_
15 Distance from proposed* location to nearest property or lease line, ft	16. No of ac	eres in lease	17. Spacii	ng Unit dedicated to this	well		
(Also to nearest drlg unit line, if any) 330	1088.70		80				
18 Distance from proposed location* to nearest well, drilling, completed,	19 Proposed	Depth	20 BLM/	BIA Bond No on file			
applied for, on this lease, ft N/A	3500		NMB00	00286			
2 1 Elevations (Show whether DF, KDB, RT, GL, etc.)	22 Approxim	ate date work will sta		2 3. Estimated duratio	n		_
3736' GR	8/15/08			15 days			
	24. Attac	hments		WELL CONTROLL	ED WATER	BASIN	_
The following, completed in accordance with the requirements of Onsho	ore Oil and Gas (	Order No. 1, shall be a					-
l Well plat certified by a registered surveyor		4. Bond to cover t	he operation	ns unless covered by an	existing boi	nd on file (se	e
2. A Drilling Plan		Item 20 above),	•	·		,	
3 A Surface Use Plan (if the location is on National Forest System	Lands, the	5 Operator certifi					
SUPO shall be filed with the appropriate Forest Service Office)		6. Such other site authorized offi		ormation and/or plans as	may be req	uired by the	
25 Signature	Name	(Printed'/Typed)			Date		=
Janes W. Shewell				7/15/08			
Title Title							_
Production Clerk							_
Approved by (Signature) /S/ Angel Mayes	Name	(Printedl/Typed)  /S/An	ael Ma	iues	Date	T 06	200
Title Assistant Field Manager,	Office	_					_
Lands And Minerals	:	ROSWELL F			APP	ROVEDF	OR 2
Application approval does not warrantor certify that the applicant hold conduct operations thereon	is lega orequitat	le title to those right	s in the subj	ect lease which would en	ntitle the ap	olicant to	_

\*(Instructions on page 2)



**APPROVAL SUBJECT TO GENERAL REQUIREMENTS AND** SPECIAL STIPULATIONS ATTACHED

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TNESS

#### State of New Mexico

DISTRICT I 1625 N. FRENCH DR., HOBBS, NM 88240

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

#### DISTRICT II 1301 W. GRAND AVENUE, ARTESIA, NM 88210

DISTRICT IV

DISTRICT III 1000 Rio Brazos Rd., Aztec, NM 87410

# OIL CONSERVATION DIVISION 1220 SOUTH ST. FRANCIS DR. Santa Fe, New Mexico 87505

WELL LOCATION AND ACREAGE DEDICATION PLAT

☐ AMENDED REPORT

1220 S. ST. FR	ANCIS DR., SANTA FE, NM 87505	WELL LOCATION AND	ACIVEAGE DEDICATION LEAT	☐ AMENDED REPORT
	API Number	Pool Code	Pool Name	
30	.005.64059	52770	Round Tank;San Andres	
Prop	erty Code	Prop	erty Name	Well Number
3	1423	BLUE BOMI	BER FEDERAL	1
OGI	RID No.	Oper	ator Name	Elevation
12	3837	MACK ENERG	Y CORPORATION	3736'

#### Surface Location

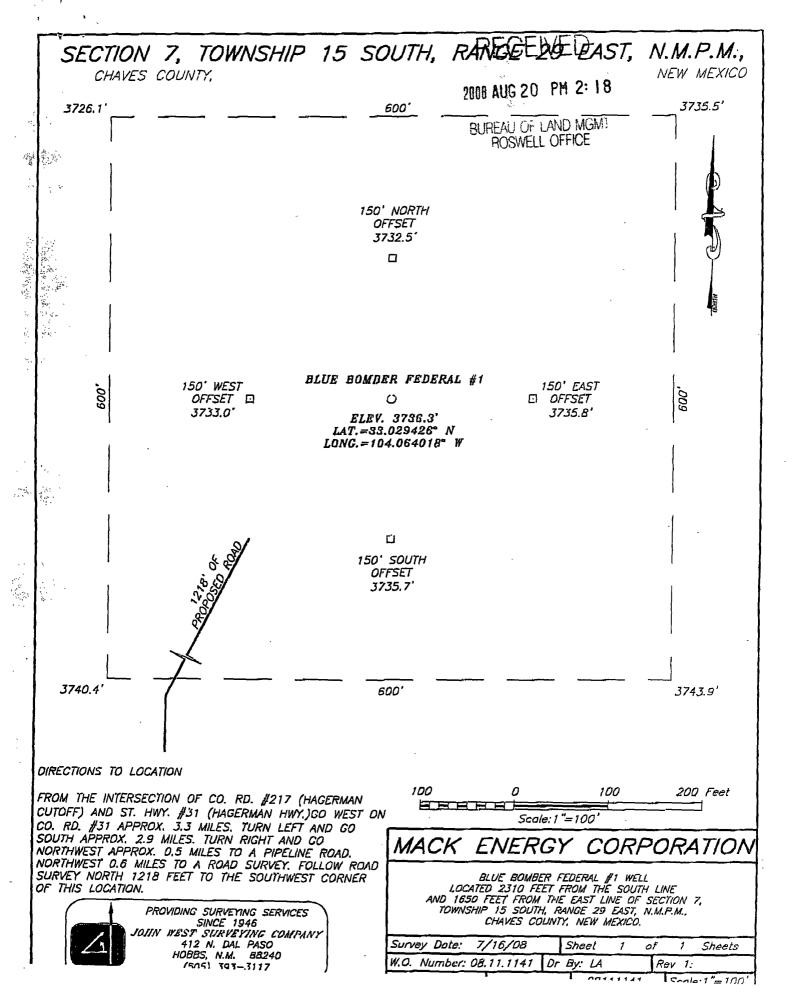
UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
J	7	15-S	29-E		2310	SOÚTH	1650	EAST	CHAVES

#### Bottom Hole Location If Different From Surface

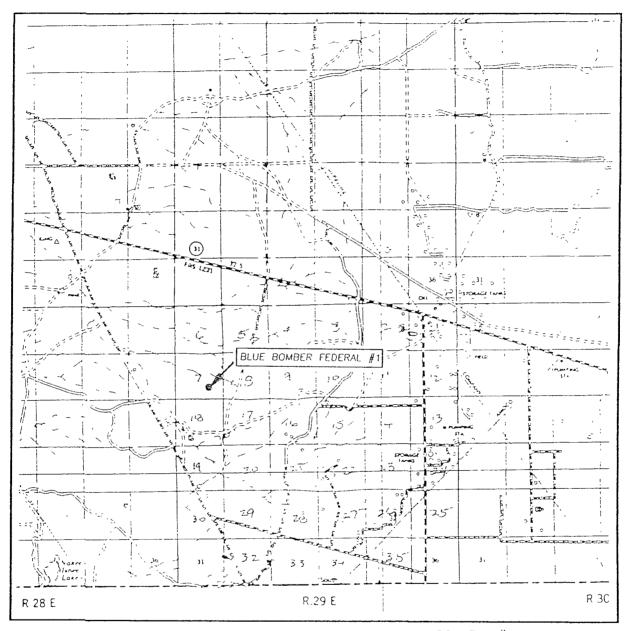
UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
Dedicated Acres	Joint o	r Infill Co	nsolidation	Code Ore	der No.				
40									

NO ALLOWABLE WILL BE ASSIGNED TO THIS COMPLETION UNTIL ALL INTERESTS HAVE BEEN CONSOLIDATED

OR A NOP	I-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.  Out to be a such mineral or working interest, or to a voluntary pooling agreement or a compulsory pooling order heretofore entered by the division.  Out to be a such mineral or working interest, or to a voluntary pooling agreement or a compulsory pooling order heretofore entered by the division.
GEODETIC COORDINATES NAD 27 NME  Y=738324.2 N X=582540.1 E  LAT.=33.029426 N	3726.1' 3735.5' ———————————————————————————————————	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.
LONG. = 104.064018* W	2310	Date Surveyed ME  Signature Used Of Professional Surveyor 3239  Certificate No. CARY EIDSON 12641  RONALD EIDSON 3239



# VICINITY MAP



SCALE 1" = 2 MILES

SEC \_7 TWP \_15-S RGE \_29-E

SURVEY \_\_\_\_\_ N M.P M

COUNTY \_CHAVES \_STATE \_NEW \_MEXICO

DESCRIPTION \_2310' FSL & 1650' FEL

ELEVATION \_\_\_\_\_ 3736'

MACK \_ENERGY
OPERATOR \_\_\_\_ CORPORATION

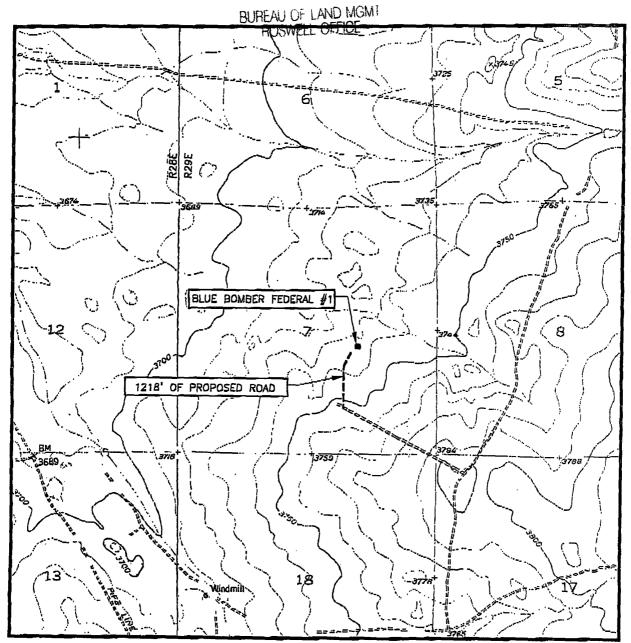
LEASE \_\_\_ BLUE \_BOMBER FEDERAL



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



# RECEIVED LOCATION VERIFICATION MAP



SCALE: 1" = 2000'

SK der

CONTOUR INTERVAL: KING CAMP, N.M. - 10'

SEC. 7 TWP. 15-S RGE. 29-E

SURVEY\_\_\_\_\_N.M.P.M.

COUNTY CHAVES STATE NEW MEXICO

DESCRIPTION 2310' FSL & 1650' FEL

ELEVATION 3736'

OPERATOR MACK ENERGY CORPORATION

LEASE BLUE BOMBER FEDERAL

U.S.G.S. TOPOGRAPHIC MAP



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

# DRILLING PROGRAM

#### 1. Geologic Name of Surface Formation

Quaternary

#### 2. Estimated Tops of Important Geologic Markers:

Quaternary	Surface
Yates	770'
Queen	1500'
Grayburg	1900'
San Andres	2200'

# 3. Estimated Depths of Anticipated Fresh Water, Oil and Gas:

Water Sand	150'	Fresh Water
Queen	1500'	Oil/Gas
Grayburg	1900'	Oıl/Gas
San Andres	2200'	Oil/Gas

No other formations are expected to give up oil, gas or fresh water in measurable quantities. Setting 8 5/8" casing to 200' and circulating cement back to surface will protect the surface fresh water sand. Salt Section will be protected by setting 5 ½" casing to 3500' and circulating cement back to surface. Any shallower zones above TD, which contain commercial quantities of oil and/or gas, will have cement circulated across them by cementing 5 1/2" production casing, sufficient cement will be pumped to circulate back to surface.

# 4. Casing Program:

Hole Size	e Interval	OD Casing	Wt, Grade, Jt, cond, collapse/burst/tension
12 ¼"	0-200°	8 5/8"	24#, J-55, ST&C, New, 14.014/5.827/5.900
7 7/8"	0-3500°	5 ½"	15.5#, J-55,LT&C,New,2.198/1.613/1.603

Drilling Program Page 1

#### 5. Cement Program:

8 5/8" Surface Casing: Class C, 850sx, yield 1.32.

5 1/2" Production Casing: Class C, 800sx, yield 1.32.

### 6. Minimum Specifications for Pressure Control:

The blowout preventer equipment (BOP) shown in Exhibit #9 will consist of a double ram-type (3000 psi WP) minimum preventer. This unit will be hydraulically operated and the ram type preventer will be equipped with blind rams on top of 4 1/2" drill pipe rams on bottom. The BOP will be nippled up on the 8 5/8" surface casing and tested to 1000 psi using the rig pump and used continuously until TD is reached. All BOP's and accessory equipment will be tested to 1000 psi before drilling out of surface casing. Pipe rams will be operationally checked each 24-hour period. Blind rams will be operationally checked on each trip out of the hole. These checks will be noted on the daily tour sheets. Other accessories to the BOP equipment (Exhibit #10) will include a Kelly cock and floor safety valve and choke lines and choke manifold (Exhibit #11) with a minimum 3000 psi WP rating.

#### 7. Types and Characteristics of the Proposed Mud System:

The well will be drilled to TD with a combination of brine, cut brine and polymer mud system. The applicable depths and properties of this system are as follows:

DEPTH	TYPE	WEIGHT	VISCOSITY	WATERLOSS
0-200'	Fresh Water	8.5	28	N.C.
0'-TD	Cut Brine	9.1	29	N.C.

Sufficient mud materials to maintain mud properties and meet minimum lost circulation and weight increase requirements will be kept at the well site at all times.

#### 8. Auxiliary Well Control and Monitoring Equipment:

- A. Kelly cock will be kept in the drill string at all times.
- B. A full opening drill pipe-stabbing valve with proper drill pipe connections will be on the rig floor at all times.

#### 9. Logging, Testing and Coring Program:

Drilling Program Page 2

- A. The electric logging program will consist of GR-Dual Laterolog, Spectral Density, Dual Spaced Neutron, CSNG Log and will be ran from T.D. to 9 5/8 casing shoe.
- B. Drill Stem test is not anticipated.
- C. No conventional coring is anticipated.
- D. Further testing procedures will be determined after the 5 1/2" production casing has been cemented at TD based on drill shows and log evaluation.

#### 10. Abnormal Conditions, Pressures, Temperatures and Potential Hazards:

No abnormal pressures or temperatures are anticipated. The estimated bottom hole at TD is 120 degrees and estimated maximum bottom hole pressure is 3250 psig. Low levels of Hydrogen sulfide have been monitors in producing wells in the area, so H2S may be present while drilling of the well; a plan is attached to the Drilling program. No major loss of circulation zones has been reported in offsetting wells.

# 11. Anticipated Starting Date and Duration of Operations:

Road and location work will not begin until approval has been received from the BLM. The anticipated spud date is August 15, 2008. Once commenced, the drilling operation should be finished in approximately 35 days. If the well is productive, an additional 30 days will be required for completion and testing before a decision is made to install permanent facilities.

#### SURFACE USE AND OPERATING PLAN

# 1. Existing & Proposed Access Roads

- A. The well site and elevation plat for the proposed well is shown in Exhibit #1. It was staked by John West Engineering, Hobbs, NM.
- B. All roads to the location are shown in Exhibit below. The existing lease roads are illustrated and are adequate for travel during drilling and production operations. Upgrading existing roads prior to drilling well will be done where necessary.
- C. Directions to Location: From the intersection of Co. Rd #217 and Hwy #31, go west on Rd #31 3.3 miles ,turn left and go south 2.9 miles, turn right, go northwest 0.5 miles, follow road survey 0.3 miles to location.
- D. Routine grading and maintenance of existing roads will be conducted as necessary to maintain their condition as long as any operations continue on this lease.

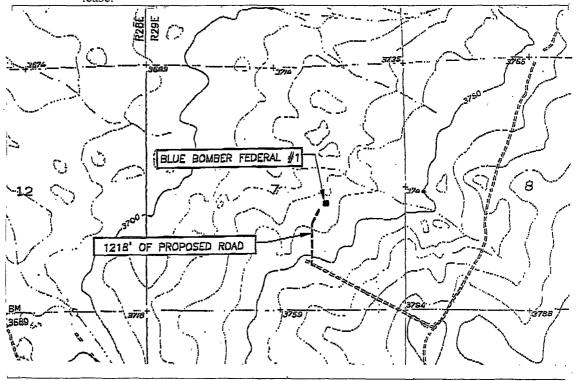


Exhibit #4

#### 2. Proposed Access Road:

Surface Use Plan

Exhibit #3 shows the 1412' of new access road to be constructed. The road will be constructed as follows:

- A. The Maximum width of the running surface will be 14'. The road will be crowned and ditched and constructed of 6" rolled and compacted caliche. Ditches will be at 3:1 slope and 4 feet wide. Water will be diverted where necessary to avoid ponding, prevent erosion, maintain good drainage, and to be consistent with local drainage patterns.
- B. The average grade will be less than 1%.
- C. No turnouts are planned.
- D. No culverts, cattleguard, gates, low water crossings or fence cuts are necessary.
- E. Surfacing material will consist of native caliche. Caliche will be obtained from the nearest BLM approved caliche pit.
- F. The proposed access road as shown in Exhibit #3 has been centerline flagged by John West Engineering, Hobbs, New Mexico.

#### 3. Location of Existing Wells & Proposed flow lines for New Wells:

Exhibit #4 shows all existing wells within a one-mile radius of this well. Proposed flow lines, will stay on location production facility will be constructed.

# 4. Location of Existing and/or Proposed Facilities:

- A. Mack Energy Corporation does not operate a production facility on this lease.
- B. If the well is productive, contemplated facilities will be as follows:
  - 1) San Andres Completion: Will be sent to the Blue Bomber Federal Com TB located at the #1 well. The Facility is shown in Exhibit #5.
  - 2) The tank battery and facilities including 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) It will be necessary to run electric power if this well is productive. Power will be run by CVE and they will send in a separate plan for power.

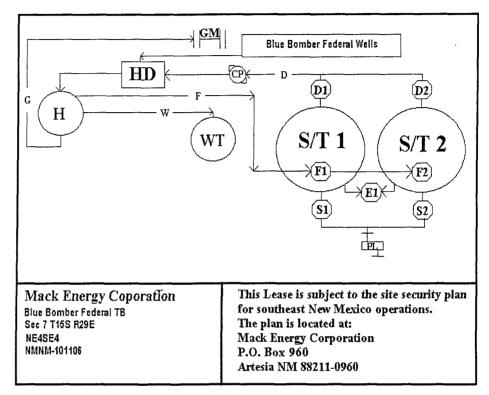


Exhibit #5

- A. If the well is productive, rehabilitation plans are as follows:
  - Topsoil removed from the drill site will be used to recontour the surrounding area to the original natural level, as nearly as possible, and reseeded as per BLM specifications.

#### 5. Location and Type of Water Supply:

The well will be drilled with combination brine and fresh water mud system as outlined in the drilling program. 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 shown in Exhibit #4. If a commercial fresh water source is nearby, fasline may be laid along existing road ROW's and fresh water pumped to the well. No water well will be drilled on the location.

#### 6. Source of Construction Materials:

All caliche required for construction of the drill pad and proposed new access road (approximately 2500 cubic yards) will be obtained from a BLM approved caliche pit.

# 7. Methods of Handling Water Disposal:

- A. Drill cuttings not retained for evaluation purposes will be disposed into the steel tanks and hauled to an approved facility.
- B. Drilling fluids will be contained in steel tanks using a closed loop system.
- C. 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 (fiberglass) until pumped to an approved disposal system; produced oil will be collected in steel tanks until sold.
- D. 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 disposed of into an approved facility. No toxic waste or hazardous chemicals will be produced by this operation.
- E. 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.

# 8. Ancillary Facilities:

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

## 9. Well Site Layout:

- A. The drill pad layout, with elevations staked by John West Engineering, is shown in Exhibit #6. Dimensions of the pad are shown. Topsoil, if available, will be stockpiled per BLM specifications. Because the pad is almost level no major cuts will be required.
- B. Diagram below shows the proposed orientation of the location. No permanent living facilities are planned, but a temporary foreman/toolpusher's trailer will be on location during the drilling operations.

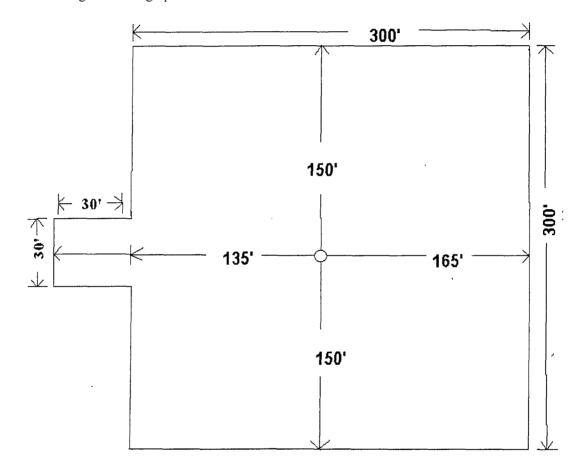


Exhibit #6

#### 10. Plans for Restoration of the Surface:

- A. Upon completion of the proposed operations, if the well is completed, any additional caliche required for facilities will be obtained from a BLM approved caliche pit.
- B. In the event of a dry hole. Topsoil removed from the drill site will be used to recontour the area to its original natural level and reseeded as per BLM specifications.

# 11. Surface Ownership:

The well site and lease is located entirely on Federal surface. We have notified the surface lessee of the impending operations. According to BLM the lease is Bogel Limited Company, Lewis Derrick, P.O. Box 460 Dexter, NM 88230.

#### 12. Other Information:

- A. The area around the well site is grassland and the topsoil is sandy. The vegetation is native scrub grass with sagebrush.
- B. There is no permanent or live water in the immediate area.
- C. A Cultural Resources Examination has been requested and will be forwarded to your office in the near future.

#### 13. Lessee's and Operator's Representative:

The Mack Energy Corporation representative responsible for assuring compliance with the surface use plan is as follows:

Jerry W. Sherrell Mack Energy Corporation P.O. Box 960 Artesia, NM 88211-0960 Phone (575) 748-1288 (office)

# Mack Energy Corporation Onshore Order #6 Hydrogen Sulfide Drilling Operation Plan

#### I. HYDROGEN SULFIDE TRAINING

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

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

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

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

There will be an initial training session just prior to encountering a known or probable H2S zone (within 3 days or 500 feet) and weekly H2S and well control drills for all personnel in each crew. The initial training session shall include a review of the site specific H2S Drilling Operations Plan and the Public Protection Plan. The concentrations of H2S of wells in this area from surface to TD are low enough that a contingency plan is not required.

# II. H2S SAFETY EQUIPMENT AND SYSTEMS

Note: All H2S safety equipment and systems will be installed, tested, and operational when drilling reaches a depth of 500 feet above, or three days prior to penetrating the first zone containing or reasonable expected to contain H2S.

#### 1. Well Control Equipment:

- A. Flare line.
- B. Choke manifold.
- C. Blind rams and pipe rams to accommodate all pipe sizes with properly sized closing unit.
- D. Auxiliary equipment may include if applicable: annular preventer & rotating head.

# 2. Protective equipment for essential personnel:

A. Mark II Survive air 30-minute units located in the doghouse and at briefing areas, as indicated on well site diagram.

# 3. H2S detection and monitoring equipment:

A. 1 portable H2S monitors positioned on location for best coverage and response. These units have warning lights and audible sirens when H2S levels of 20 PPM are reached.

#### 4. Visual warning systems:

- A. Wind direction indicators as shown on well site diagram (Exhibit #8).
- B. Caution/Danger signs (Exhibit #7) shall be posted on roads providing direct access to location. Signs will be painted a high visibility yellow with black lettering of sufficient size to be readable at a reasonable distance from the immediate location. Bilingual signs will be used, when appropriate. See example attached.

#### 5. Mud program:

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

#### 6. Metallurgy:

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

#### 7. Communication:

- A. Radio communications in company vehicles including cellular telephone and 2way radio.
- B. Land line (telephone) communication at Office.

#### 8. Well testing:

- A. Drill stem testing will be performed with a minimum number of personnel in the immediate vicinity, which are necessary to safely and adequately conduct the test. The drill stem testing will be conducted during daylight hours and formation fluids will not be flowed to the surface. All drill-stem-testing operations conducted in an H2S environment will use the closed chamber method of testing.
- B. There will be no drill stem testing.

## EXHIBIT #7

# **WARNING**

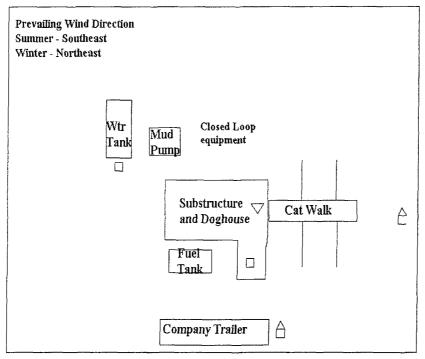
### YOU ARE ENTERING AN H2S

AUTHORIZED PERSONNEL ONLY

- 1. BEARDS OR CONTACT LENSES NOT ALLOWED
- 2. HARD HATS REQUIRED
- 3. SMOKING IN DESIGNATED AREAS ONLY
- 4. BE WIND CONSCIOUS AT ALL TIMES
- 5. CHECK WITH MACK ENERGY FOREMAN AT OFFICE

MACK ENERGY CORPORATION 1-575-748-1288

# DRILLING LOCATION H2S SAFTY EQUIPMENT Exhibit # 8



- $\bigvee$  H2S Monitors with alarms at the bell nipple
- ☐ Wind Direction Indicators
- Safe Briefing areas with caution signs and breathing equipment min 150 feet from

# Mack Energy Corporation Call List, Eddy County

Artesia (575)	)	<b>Cellular</b> 746-5515	Office	Home
Jim Krogman.		746-5515	748-1288	746-2674
Lonnie Archer	r	746-7889	748-1288	365-2998
Donald Arche	r	748-7875	748-1288	748-2287
Chris Davis		746-7132	.748-1288	••
Kevin Garrett.		746-7423	748-1288	• •
Agency Call 1	<u>List (575)</u>			
Artesi	a		·	
	City Police			746-2703
	Sheriff's Office	<u> </u>		746-9888
	Ambulance			.911
	Fire Departmen	ıt		.746-2701
	LEPC (Local E	mergency Planning C	ommittee	.746-2122
	NMOCD			.748-1283
Carlsb	oad			
	State Police			885-3137
	City Police			885-2111
		t		
		mergency Planning C		
		Management		
		nergency Response C		
		8,		
		ency Response Center		` '
		1		,
	ency Services			
		IWC1		` '
		Control		
	B. J. Services			746-3569
	Flight For Life-	Lubbock, TX		(806)743-9911
	Aerocare-Lubbo	ock, TX	(	(806)747-8923
	Med Flight Air	Amb-Albuquerque, N	M	(505)842-4433
		sed Svc. Albuquerque		

# Attachment to Exhibit #9 NOTES REGARDING THE BLOWOUT PREVENTERS

# Blue Bomber Federal Com #1 Chaves County, New Mexico

- 1. Drilling nipple to be so constructed that it can be removed without use of a welder through rotary table opening, with minimum I.D. equal to preventer bore.
- 2. Wear ring to be properly installed in head.
- 3. Blow out preventer and all fittings must be in good condition, 2000 psi WP minimum.
- 4. All fittings to be flanged.
- 5. Safety valve must be available on rig floor at all times with proper connections, valve to be full 2000 psi WP minimum.
- 6. All choke and fill lines to be securely anchored especially ends of choke lines.
- 7. Equipment through which bit must pass shall be at least as large as the diameter of the casing being drilled through.
- 8. Kelly cock on Kelly.
- 9. Extension wrenches and hands wheels to be properly installed.
- 10. Blow out preventer control to be located as close to driller's position as feasible.
- 11. Blow out preventer closing equipment to include minimum 40-gallon accumulator, two independent sources of pump power on each closing unit installation all API specifications.

Blowout Preventers Page 15

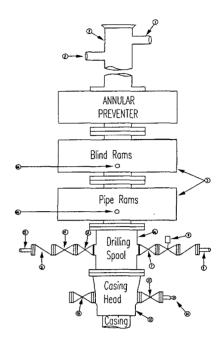
# **Mack Energy Corporation**

## Minimum Blowout Preventer Requirements

3000 psi Working Pressure 3 MWP EXHIBIT #10

**Stack Requirements** 

	Stack Requireme		
NO	Items	Mın.	Mın
		ID.	Nominal
l	Flowline		2"
2	Fill up line		2"
3	Drilling nipple		
4	Annular preventer		
5	5 Two single or one dual hydraulically		
	operated rams		
6a	Drilling spool with 2" min. kill line and 3"		2"
	min choke line outlets		Choke
6b	2" min kill line and 3" min choke line		
	outlets in ram (Alternate to 6a above)		
7	Valve Gate	3 1/8	]
	Plug		
8	Gate valve-power operated	3 1/8	
9	Line to choke manifold		3"
10	Valve Gate	2 1/16	
	Plug		
11	Check valve	2 1/16	
12	Casing head		
13	Valve Gate	1 13/16	
	Plug		
14	Pressure gauge with needle valve		
15	Kill line to rig mud pump manifold		2"



#### **OPTIONAL**

16	Flanged Valve	1 13/16
1		

#### CONTRACTOR'S OPTION TO FURNISH.

- All equipment and connections above bradenhead or casinghead. Working pressure of preventers to be 2000 psi minimum.
- 2 Automatic accumulator (80 gallons, minimum) capable of closing BOP in 30 seconds or less and, holding them closed against full rated working pressure
- 3 BOP controls, to be located near drillers' position
- 4 Kelly equipped with Kelly cock.
- Inside blowout preventer or its equivalent on derrick floor at all times with proper threads to fit pipe being used.
- 6 Kelly saver-sub equipped with rubber casing protector at all times
- 7 Plug type blowout preventer tester
- 8 Extra set pipe rams to fit drill pipe in use on location at all times
- 9 Type RX ring gaskets in place of Type R

#### MEC TO FURNISH

- 1 Bradenhead or casing head and side valves.
- 2 Wear bushing If required

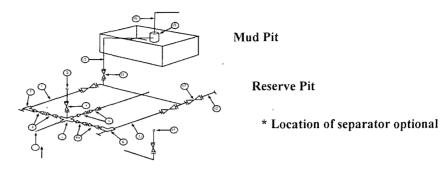
#### GENERAL NOTES:

- Deviations from this drawing may be made only with the express permission of MEC's Drilling Manager
- 2 All connections, valves, fittings, piping, etc., subject to well or pump pressure must be flanged (suitable clamp connections acceptable) and have minimum working pressure equal to rated working pressure of preventers up through choke valves must be full opening and suitable for high pressure mud service
- 3 Controls to be of standard design and each marked, showing opening and closing position
- Chokes will be positioned so as not to hamper or delay changing of choke beans. Replaceable parts for adjustable choke, or bean

- sizes, retainers, and choke wrenches to be conveniently located for immediate use.
- All valves to be equipped with hand-wheels or handles ready for immediate use
- Choke lines must be suitably anchored
- 7 Handwheels and extensions to be connected and ready for
- 8 Valves adjacent to drilling spool to be kept open. Use outside valves except for emergency.
- 9 All seamless steel control piping (2000 psi working pressure) to have flexible joints to avoid stress. Hoses will be permitted.
- 10 Casinghead connections shall not be used except in case of emergency
- Does not use kill line for routine fill up operations

# Mack Energy Corporation Exhibit #11

Exhibit #11
MIMIMUM CHOKE MANIFOLD
3,000, 5,000, and 10,000 PSI Working Pressure
3M will be used
3 MWP - 5 MWP - 10 MWP



**Below Substructure** 

#### Mimimum requirements

			I'	Million ar	n require	ments				
		3,0	00 MWP		5	5,000 MWP		]	10,000 MWP	
No.		I.D.	NOMINAL	Rating	I.D.	Nominal	Rating	I.D.	Nominal	Rating
1	Line from drilling Spool		3"	3,000		3"	5,000		3"	10,000
2	Cross 3" x 3" x 3" x 2"			3,000			5,000			
2	Cross 3" x 3" x 3" x 2"									10,000
3	Valve Gate Plug	3 1/8		3,000	3 1/8		5,000	3 1/8		10,000
4	Valve Gate Plug	1 13/16		3,000	1 13/16		5,000	1 13/16		10,000
4a	Valves (1)	2 1/16		3,000	2 1/16		5,000	2 1/16		10,000
5	Pressure Gauge			3,000			5,000			10,000
6	Valve Gate Plug	3 1/8		3,000	3 1/8		5,000	3 1/8		10,000
7	Adjustable Choke (3)	2"		3,000	2"		5,000	2"		10,000
8	Adjustable Choke	1"		3,000	1"		5,000	2"		10,000
9	Line		3"	3,000		3"	5,000		3"	10,000
10	Line		2"	3,000		2"	5,000		2"	10,000
11	Valve Gate Plug	3 1/8		3,000	3 1/8		5,000	3 1/8		10,000
12	Line		3"	1,000		3"	1,000		3"	2,000
13	Line		3"	1,000		3"	1,000		3"	2,000
14	Remote reading compound Standpipe pressure quage			3,000			5,000			10,000
15	Gas Separator		2' x5'			2' x5'			2' x5'	
16	Line		4"	1,000		4"	1,000		4"	2.000
17	Valve Gate Plug	3 1/8		3,000	3 1/8		5,000	3 1/8		10,000

- (1) Only one required in Class 3M
- (2) Gate valves only shall be used for Class 10 M
- (3) Remote operated hydraulic choke required on 5,000 psi and 10,000 psi for drilling

## EQUIPMENT SPECIFICATIONS AND INSTALLATION INSTRUCTION

- 1 All connections in choke manifold shall be welded, studded, flanged or Cameron clamp of compable rating
- 2 All flanges shall be API 6B or 6BX and ring gaskets shall be API RX or BX. Use only BX for 10 MWP
- 3 All lines shall be securely anchored
- 4 Chokes shall be equipped with tungsten carbide seats and needles, and replacements shall be available.
- 5 Choke manifold pressure and standpipe pressure gauges shall be available at the choke manifold to assist in regulating chokes. As an alternate with automatic chokes, a choke manifold pressure gauge shall be located on the rig floor in conjunction with the standpipe pressure gauge
- 6 Line from drilling spool to choke manifold should bee as straight as possible Lines downstream from chokes shall make turns by large bends or 90 degree bends using bull plugged tees.

# CERTIFICATION

I hereby certify that I, or person under my direct supervision, have inspected the proposed drill site and access route; that I am familiar with the conditions which currently exist; that the statements made in this APD are to the best of my knowledge, true and correct; and the work associated with the operations proposed herein will be performed by Mack Energy Corporation and its contractors and subcontractors in conformity with this plan and the terms and conditions which it is approved. This statement is subject to the provisions of 18 U.S.C. 1001 for the filing of a false statement.

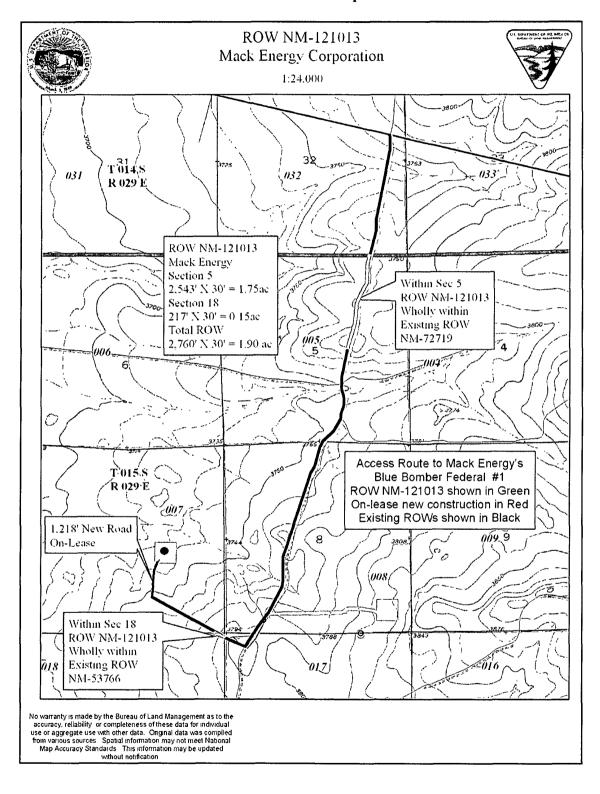
Date: 7-15-08

Signed:

Jerry W. Sherrell

1	6	5
		÷
12	7	8
- <b></b>	Blue Bomber Federal # 1 2310 FSL+1650 FEL Sec. 7 TISS R29E	<b>\( \rightarrow\)</b>
	- <b>\$</b> -	
13	18	17
DETIDA 7/20/2008 2 78 02 DM		0 <u>1.7</u> 23 FEET

# Exhibit A Well Location Map



# Exhibit B PECOS DISTRICT ROSWELL FIELD OFFICE CONDITIONS OF APPROVAL

September 19, 2008

Blue Bomber Federal #1 Oil Well
2310' FSL & 1650' FEL,
Unit J, Section 7, T15S-R29E,
Chaves County, New Mexico, N.M.P.M.
Mack Energy Corporation
NM-101106

#### **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

No access road improvements and/or maintenance are authorized beginning 100 feet before archaeological site LA 160335, through archaeological site LA 160335, and until 100 feet past archaeological site LA 160335. Three day notice is required prior to commencement of preconstruction activities, road maintenance or improvements (contact: Rebecca Hill 575-627-0218 or Pat Flanary 575-627-0277). At that time the exclusion area will marked with florescent pink flagging tape.

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 operator shall stockpile the topsoil of the well pad. The topsoil to be stripped to approximately 6 inches in depth. The topsoil shall not be used to backfill the reserve pit and shall be used for interim and final reclamation of the well pad. The topsoil shall be stockpiled to the side of the well pad.

## C. CLOSED LOOP SYSTEM: No reserve pit will be used.

A containment structure or earthen dike shall be constructed and maintained around all sides of the outside boundary of the well pad. The containment structure or earthen dike shall be constructed two (2) feet high (the containment structure or earthen dike can be constructed higher than the two (2) feet high minimum). The containment structure or earthen dike is required so that if oilfield waste contaminant or product contaminant were leaked, spilled, and or released upon the well pad the oilfield waste contaminant or product contaminant shall be contained on the well pad. If the well pad is constructed into a cut on a slope then the uphill side of the well pad will not require the construction of the containment structure or earthen dike, but

the construction of the containment structure or dike will be required on the remaining three sides of the well pad which will extend into the uphill portion of the well pad.

#### 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. 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 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:

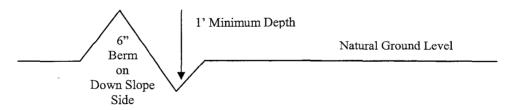
# 

# 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.

# Cross Section Of 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

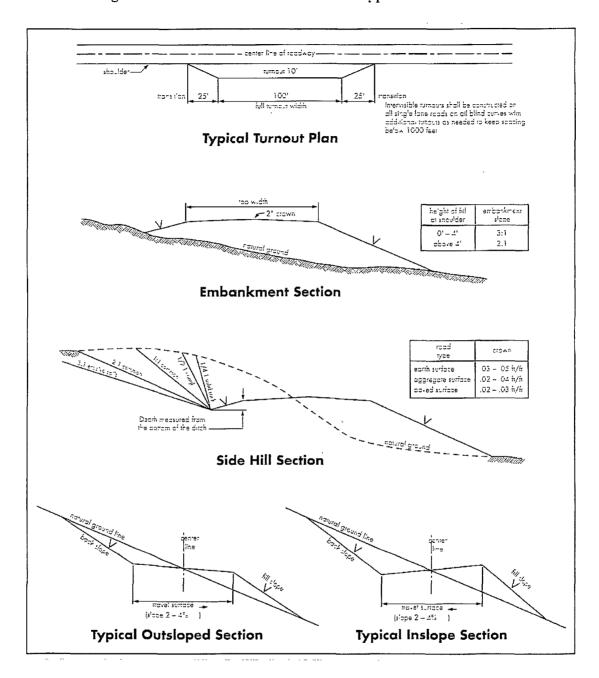
#### **Public Access**

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

#### **Pipeline Protection Requirement**

Precautionary measures shall be taken by the operator during construction of the access road to protect an existing pipeline that the access road will cross over. An earthen berm; 2 feet high by 3 feet wide and 14 feet across the access road travelway shall be constructed over the existing pipeline. The operator shall be held responsible for any damage to the existing pipeline. If the either pipeline is ruptured and/or damaged the operator shall immediately cease construction operations and repair the pipeline. The operator shall be held liable for any unsafe construction operations that threaten human life and/or cause the destruction of equipment.

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 Roswell Field Office is to be notified a minimum of 24 hours in advance for a representative to witness:
- a. Spudding
- b. Cementing casing: 8-5/8 inch 5-1/2 inch

The Roswell Field Office 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 No. assigned to well by NMOCD on the subsequent report of setting the first casing string.

The operator will be required to have a geolograph or some other device to accurately measure the drilling rate in order to set surface casing shoe opposite competent rock Onshore Order No. 2. III. B. The record of the drilling rate along with the gamma ray-neutron well log run to surface will be submitted to this office as well as all other logs run on the on the borehole CFR 3162.4-1(a) and (b).

#### B. CASING:

- 1. The 8-5/8 inch surface casing shall be set at approximately 200 feet if the rock is competent. If not the operator will be required to set surface 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 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.
- 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.
- 4. 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. In a Sundry Notice submitted August 20, 2008, the operator is proposing a casing program of mixed pipe run for 8 5/8" surface casing J55-24#, J55-32#, K55-24#, and K55-32#.

#### C. PRESSURE CONTROL:

- 1. Before drilling below the **8-5/8** 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.
- 2. Before drilling below the 8-5/8 inch surface casing shoe, minimum working pressure of the blowout preventer and related equipment (BOPE) shall be 2000 psi.
- 3. The BOPE shall be installed before drilling below the 8-5/8 inch surface 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 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.
- b. 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.
- c. 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.
- d. Testing must be done in a safe workman like manner. Hard line connections shall be required.

#### D. Drilling Mud

1. Fresh water and non toxic drilling mud shall be used to drill the 12-1/4 inch hole for the 8-5/8 inch surface casing to be set at an approximate depth of 200 feet. Any polymers used will be water based and non-toxic.

#### VI. PRODUCTION

#### A. WELL STRUCTURES & FACILITIES

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

Production facilities should be placed on the well pad to allow for maximum interim recontouring 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 "Juniper Green" according to the guidelines set forth by the BLM's "Standard Environmental Colors Color Guide.

#### 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 work over 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.

#### PECOS DISTRICT SEED MIX FOR:

Ecological Site: Shallow Sand SD-3 and Sandy SD-3

Common Name		Pounds of Pure
and Preferred Variety	Scientific Name	Live Seed Per Acre
Black grama	(Bouteloua eriopoda)	3.00 lbs.
or Blue grama,	(Bouteloua gracilis)	•
Sideoats grama	(Bouteloua curtipendula)	2.00 lbs.
Sand dropseed	(Sporobolus cryptandrus)	1.50 lbs.
or Mesa dropseed	(S. flexuosus)	
or Spike dropseed	(S. contractus)	
Desert or Scarlet	(Sphaeralcea ambigua)	1.00 lb.
Globemallow or	(S. coccinea)	
Croton	(Croton spp.)	1.00 lb.
TOTAL POUNDS PURE L	8.50 lbs.	

Certified Weed Free Seed. If one species is not available, increase all others proportionately. Use no less than 4 species, including 1 forb. No less than 8.5 pounds pls 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. 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).
- c. 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.

#### **EXHIBIT C**

# BLM Serial Number: NM-121013 Company Reference: Mack Energy Corporation Standard Stipulations

### **September 19, 2008**

The holder shall construct, operate, and maintain the facilities, improvements, and structures within this right-of-way in strict conformity with the stipulations which are made part of the grant. Any relocation, additional construction, or use that is not in accord with the approved stipulations, shall not be initiated without the prior written approval of the authorized officer. A copy of the complete right-of-way grant, including all stipulations, shall be made available on the right-of-way area during construction, operation, and termination to the authorized officer. Noncompliance with the above will be grounds for an immediate temporary suspension of activities if it constitutes a threat to public health and safety or the environment.

The holder shall designate a representative(s) who shall have the authority to act upon and to implement instructions from the authorized officer. The holder's representative shall be available for communication with the authorized officer within a reasonable time when construction or other surface disturbing activities are underway.

The holder shall contact the authorized officer at least 10 days prior to the anticipated start of construction and/or any surface disturbing activities. The authorized officer may require and schedule a preconstruction conference with the holder prior to the holder's commencing construction and/or surface disturbing activities on the right-of-way. The holder and/or his representative shall attend this conference. The holder's contractor, or agents involved with construction and/or any surface disturbing activities associated with the right-of-way, shall also attend this conference to review the stipulations of the grant including the plans(s) of development.

The holder shall conduct all activities associated with the construction, operation, and termination of the right-of-way within the authorized limits of the right-of-way.

The holder shall provide for the safety of the public entering the right-of-way. This includes, but is not limited to, barricades for open trenches, flag men/women with communication systems for single-lane roads without visible turnouts, and attended gates for blasting operations.

The holder shall permit free and unrestricted public access to and upon the right-of-way for all lawful purposes except for those specific areas designated as restricted by the authorized officer to protect the public, wildlife, livestock, or facilities constructed within the right-of-way.

Construction-related traffic shall be restricted to routes approved by the authorized officer. New access roads or cross-country vehicle travel will not be permitted unless prior written approval is given by the authorized officer. Authorized roads used by the holder shall be rehabilitated or maintained when construction activities are complete as approved by the authorized officer.

No construction or routine maintenance activities shall be performed during periods when the soil is too wet to adequately support construction equipment. If such equipment creates ruts in excess of three inches deep, the soil shall be deemed too wet to adequately support construction equipment.

The holder shall maintain the right-of-way in a safe, usable condition, as directed by the authorized officer. (A regular maintenance program shall include, but is not limited to, blading, ditching, culvert installation and surfacing).

The holder shall meet Federal, State, and local emission standards for air quality.

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

Construction sites shall be maintained in a sanitary condition at all times; waste materials at those sites shall be disposed of promptly at an appropriate waste disposal site. "Waste" means all discarded matter including, but not limited to, human waste, trash, garbage, refuse, oil drums, petroleum products, ashes, and equipment.

The holder(s) shall comply with all applicable Federal laws and regulations existing or hereafter enacted or promulgated. In any event, the holder(s) shall comply with the Toxic Substances Control Act of 1976, as amended (15 U.S.C. 2601, et seq.) with regard 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 of 1980, 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.

The holder of the Right-of-Way 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 of 1976, 42 U.S.C. 6901 et seq.) on the right-of-way (unless the release or threatened release is wholly unrelated to the right-of-way holder's activity on the right-of-way. This agreement applies without regard to whether a release is caused by the holder, its agent, or unrelated third parties.

Power or high-pressure clean all equipment of all mud, dirt, and plants immediately prior to moving into and off of the project area. Any gravel or fill to be used must come from weed-free sources. Inspect gravel pits and fill sources to identify weed-free sources. No soil spoil that could potentially contain noxious weed seeds shall be transported out of the area where it is created. If seeding is required, it must be certified noxious weed free. If the applicant is required to mulch, that also must be weed free.

Any use of herbicides/pesticides shall comply with the applicable Federal and State laws. Herbicides/pesticides and shall be used only in accordance with their registered uses and within limitations imposed by the Secretary of the Interior. Prior to the use of pesticides, holder shall obtain from the Authorized Officer (AO) written approval of a plan showing the type and quantity of materials to be used, pest(s) to be controlled, method of application, location of storage and disposal of containers, and any other information deemed necessary by the AO. Emergency use of pesticides shall be approved in writing by the AO prior to use.

Prior to termination of the right-of-way, the holder shall contact the authorized officer to arrange a joint inspection of the right-of-way. This inspection will be held to agree to an acceptable termination (and rehabilitation) plan. This plan shall include, but is not limited to, removal of facilities, drainage structures, or surface material, re-contouring, top soiling, or seeding. The authorized officer must approve the plan in writing prior to the holder's commencement of any termination activities.