NMOCD
Artesia

Form 3160-3
(March 2012)

Amended

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

APPLICATION FOR PERMIT TO DRILL OR REENTER

FORM APPROVED
OMB No. 1004-0137
Expires October 31, 2014

5. Lease Serial No.
NMNM-131580

6. If Indian, Allotee or Tribe Name

1a. Type of work: ☒ DRILL ☐ REENTER

7. If Unit or CA Agreement, Name and No.
<314080>

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

8. Lease Name and Well No.
Prince Rupert Federal #1

2. Name of Operator
Mack Energy Corporation

9. API Well No.
30-005-64222

3a. Address
PO Box 960 Artesia, NM 88211-0960

3b. Phone No. *(include area code)*
(575)748-1288

10. Field and Pool, or Exploratory
Round Tank; San Andres (52770)

4. Location of Well *(Report location clearly and in accordance with any State requirements. *)*
At surface 1900 FSL & 330 FWL
At proposed prod. zone 1675 FSL & 355 FWL

11. Sec., T. R. M. or Blk, and Survey or Area
Sec. 20 T15S R29E

14. Distance in miles and direction from nearest town or post office*
12 miles northwest of Loco Hills, NM

12. County or Parish
Chaves

13. State
NM

15. Distance from proposed* location to nearest property or lease line, ft. (Also to nearest drlg. unit line, if any) 330'	16. No. of acres in lease 320	17. Spacing Unit dedicated to this well 40
18. Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft. 1320'	19. Proposed Depth MD 3519.8' TVD 3500'	20. BLM/BIA Bond No. on file NMB000286
21. Elevations (Show whether DF, KDB, RT, GL, etc.) 3749.7' GR	22. Approximate date work will start* 11/1/2014	23. Estimated duration 7 days

24. Attachments

ROSWELL CONTROLLED WATER BASIN

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

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

25. Signature Jerry W. Sherrell	Name *(Printed/Typed)* Jerry W. Sherrell	Date 10-7-2014

Title
Production Clerk

Approved by (Signature) Charles W. Schmidt /s/	Name *(Printed/Typed)* Charles W. Schmidt	Date JAN 6 2015
Title Field Manager	Office APPROVED FOR 2 YEARS Roswell Field Office	

Application approval does not warrant or certify that the applicant holds legal or equitable title to those rights in the subject lease which would entitle the applicant to conduct operations thereon.
Conditions of approval, if any, are attached.

Title 18 U.S.C. Section 1001 and Title 43 U.S.C. Section 1212, make it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction.

(Continued on page 2)

*(Instructions on page 2)

DECLARED WATER BASIN

CEMENT BEHIND THE 85" CASING MUST BE CIRCULATED

NM OIL CONSERVATION
ARTESIA DISTRICT
JAN 07 2015
RECEIVED

APPROVAL SUBJECT TO GENERAL REQUIREMENTS AND SPECIAL STIPULATIONS ATTACHED

District I
1625 N. French Dr., Hobbs, NM 88240
Phone: (575) 393-6161 Fax: (575) 393-0720
District II
811 S. First St., Artesia, NM 88210
Phone: (575) 748-1283 Fax: (575) 748-9720
District III
1000 Rio Brazos Road, Aztec, NM 87410
Phone: (505) 334-6178 Fax: (505) 334-6170
District IV
1220 S. St. Francis Dr., Santa Fe, NM 87505
Phone: (505) 476-3460 Fax: (505) 476-3462

State of New Mexico
Energy, Minerals & Natural Resources Department
OIL CONSERVATION DIVISION
1220 South St. Francis Dr.
Santa Fe, NM 87505

Form C-102
Revised August 1, 2011
Submit one copy to appropriate District Office

☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

1 API Number	2 Pool Code	3 Pool Name
30-005-64222	52770	Round Tank; San Andres

4 Property Code	5 Property Name	6 Well Number
314080	PRINCE RUPERT FEDERAL	1

7 OGRID No.	8 Operator Name	9 Elevation
13837	MACK ENERGY CORPORATION	3749.7

10 Surface Location

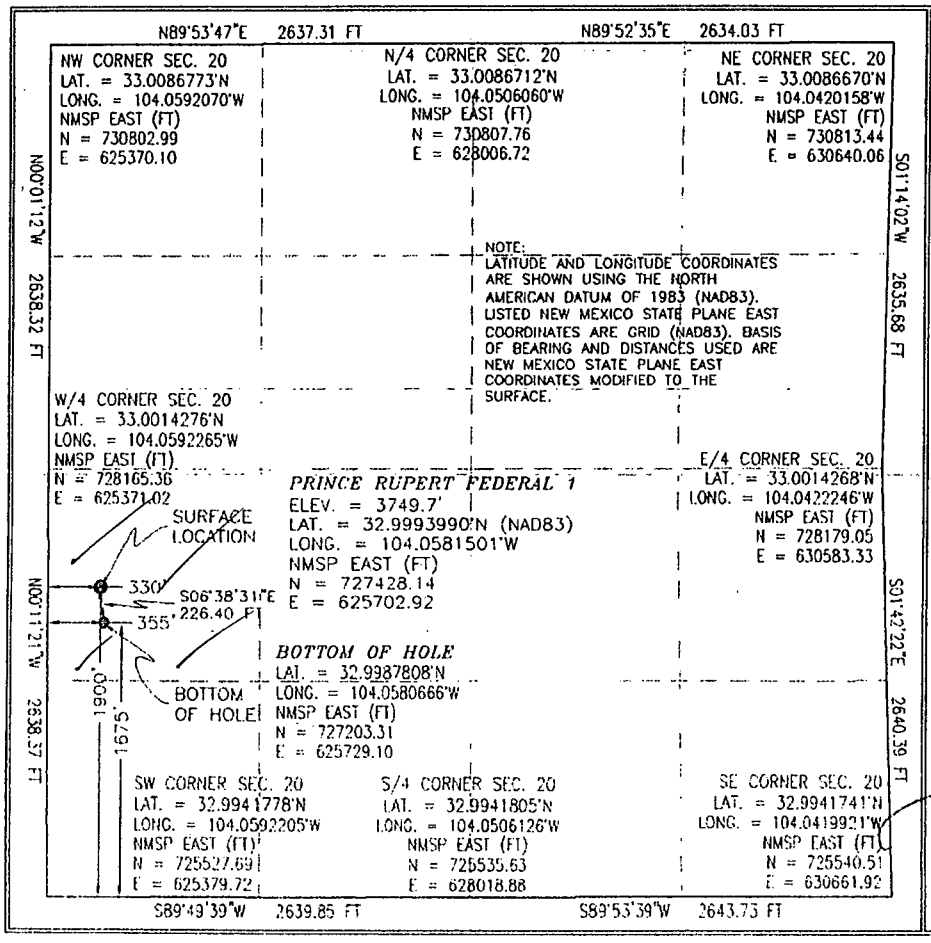
UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
L	20	15 S	29 E		1900	SOUTH	330	WEST	CHAVES

11 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
L	20	15 S	29 E		1675	SOUTH	355	WEST	CHAVES

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

No allowable will be assigned to this completion until all interests have been consolidated or a non-standard unit has been approved by the division.



17 OPERATOR CERTIFICATION

I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief, and that this organization either owns a working interest or unleased mineral interest in the land including the proposed bottom hole location or has a right to drill this well at this location pursuant to a contract with an owner of such a mineral or working interest, or to a voluntary pooling agreement or a compulsory pooling order heretofore entered by the division.

Jerry W. Sherrell 8-25-14
Signature Date

Jerry W. Sherrell
Printed Name

jerrys@mec.com
E-mail Address

18 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.

JULY 28, 2014
Date of Survey

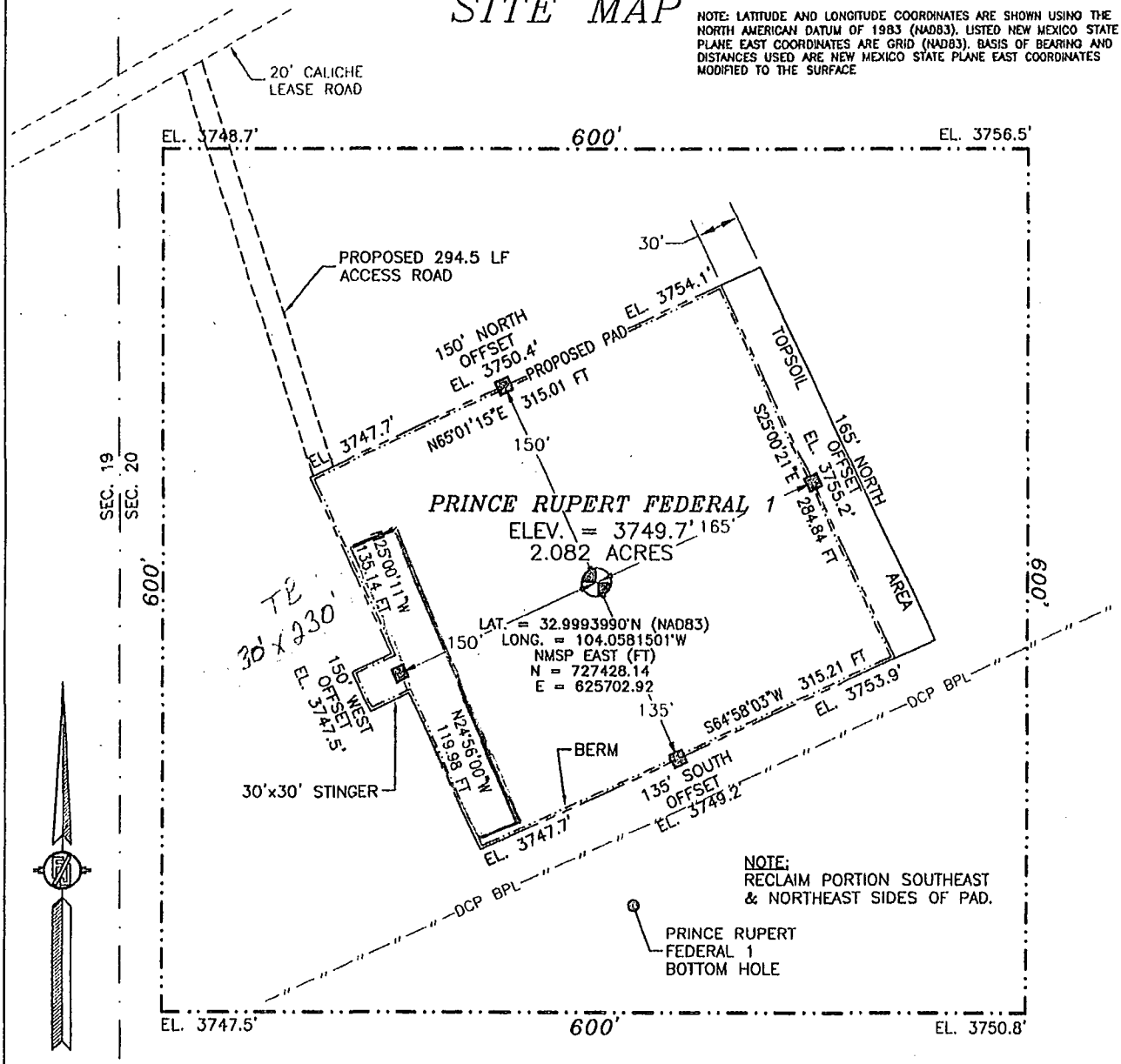
(12797)
Signature and Seal of Professional Surveyor

Certificate Number: FIDEL P. JARAMILLO, PLS 12797

SURVEY NO. 2804B

SECTION 20, TOWNSHIP 15 SOUTH, RANGE 29 EAST, N.M.P.M.
CHAVES COUNTY, STATE OF NEW MEXICO
SITE MAP

NOTE: LATITUDE AND LONGITUDE COORDINATES ARE SHOWN USING THE NORTH AMERICAN DATUM OF 1983 (NAD83). LISTED NEW MEXICO STATE PLANE EAST COORDINATES ARE GRID (NAD83). BASIS OF BEARING AND DISTANCES USED ARE NEW MEXICO STATE PLANE EAST COORDINATES MODIFIED TO THE SURFACE



010 50 100 200
SCALE 1" = 100'

DIRECTIONS TO LOCATION
FROM THE INTERSECTION OF STATE HIGHWAY 249 AND CR 30 (JEMINA) GO NORTHWEST ON STATE HIGHWAY 249 FOR APPROX. 2.1 MILES. GO SOUTH ON CALICHE LEASE ROAD APPROX. 4.4 MILES. GO SOUTHEAST APPROX. 0.5 OF A MILE. GO SOUTHWEST APPROX. 0.6 OF A MILE. LOCATION IS APPROX. 375' SOUTH.

MACK ENERGY CORPORATION
PRINCE RUPERT FEDERAL 1
LOCATED 1900 FT. FROM THE SOUTH LINE AND 330 FT. FROM THE WEST LINE OF SECTION 20, TOWNSHIP 15 SOUTH, RANGE 29 EAST, N.M.P.M.
CHAVES COUNTY, STATE OF NEW MEXICO

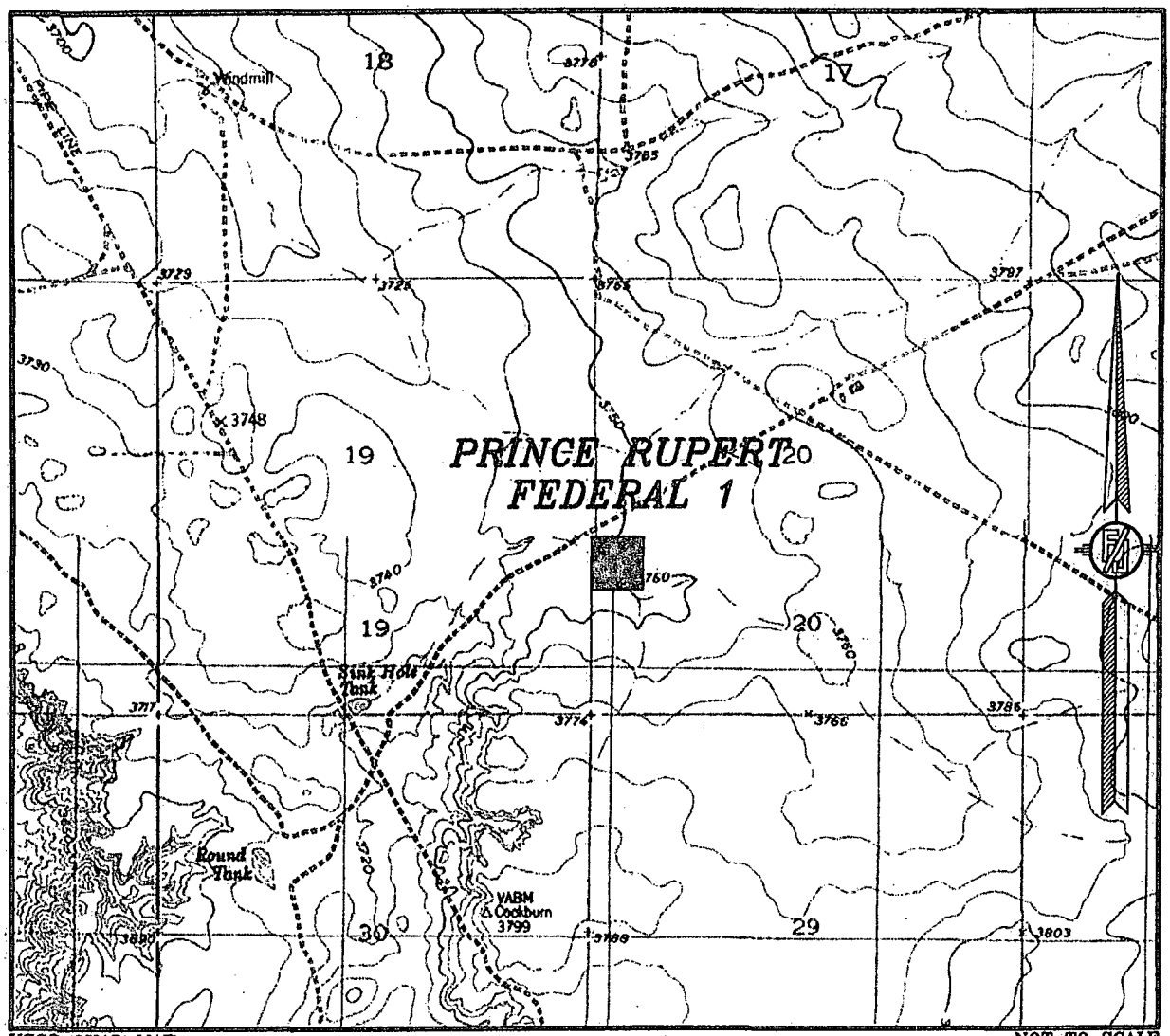
AUGUST 21, 2014

SURVEY NO. 2804B

MADRON SURVEYING, INC. 301 SOUTH CANAL (575) 234-3341 *CARLSBAD, NEW MEXICO*

SECTION 20, TOWNSHIP 15 SOUTH, RANGE 29 EAST, N.M.P.M.
CHAVES COUNTY, STATE OF NEW MEXICO

LOCATION VERIFICATION MAP



USGS-QUAD-MAP:-
KING CAMP & BASIN
WELL

NOT-TO-SCALE

MACK ENERGY CORPORATION
PRINCE RUPERT FEDERAL 1
LOCATED 1900 FT. FROM THE SOUTH LINE
AND 330 FT. FROM THE WEST LINE OF
SECTION 20, TOWNSHIP 15 SOUTH,
RANGE 29 EAST, N.M.P.M.
CHAVES COUNTY, STATE OF NEW MEXICO

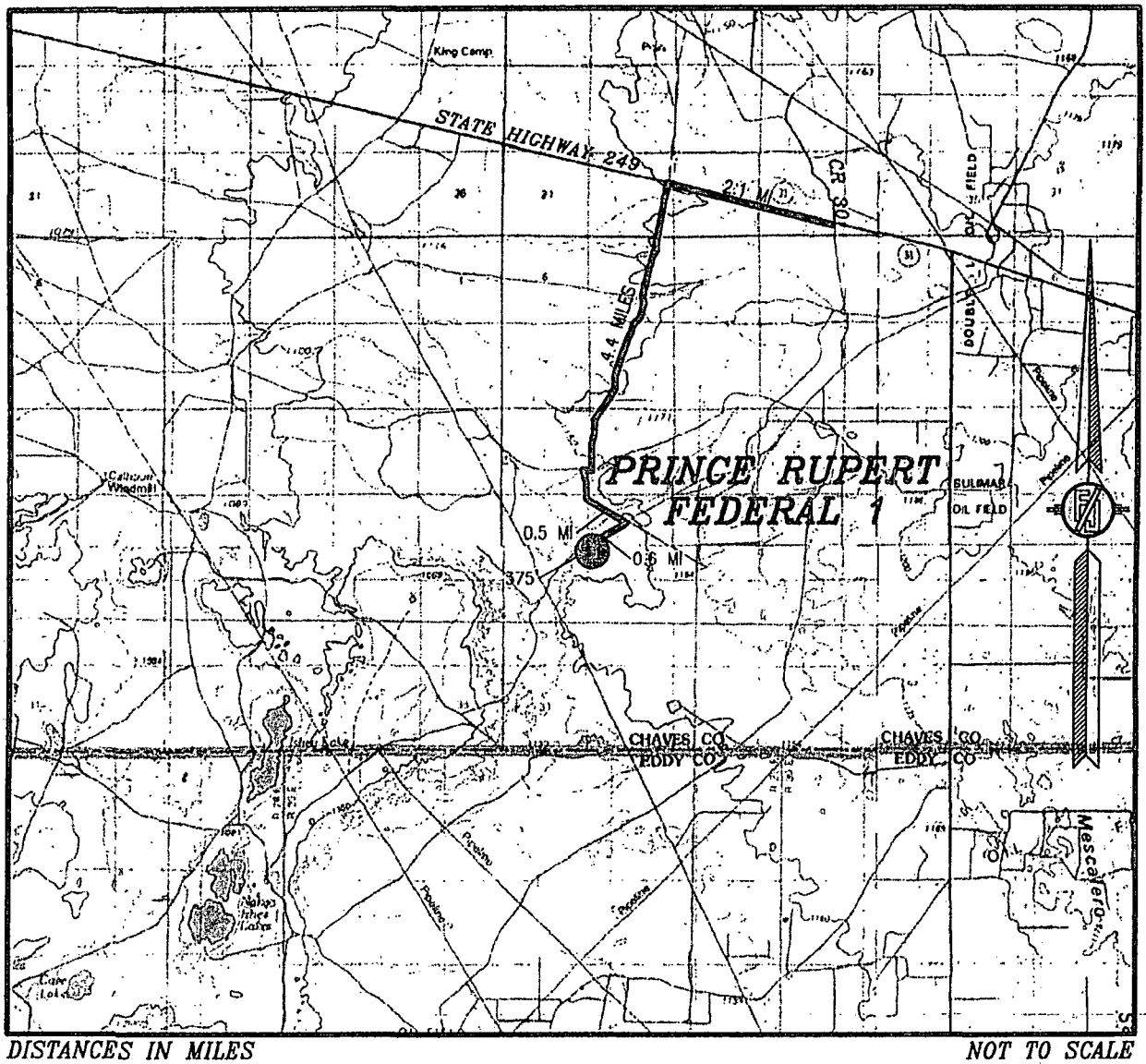
AUGUST 21, 2014

SURVEY NO. 2804B

MADRON SURVEYING, INC. 301 SOUTH CANAL (575) 234-3341 CARLSBAD, NEW MEXICO

SECTION 20, TOWNSHIP 15 SOUTH, RANGE 29 EAST, N.M.P.M.
CHAVES COUNTY, STATE OF NEW MEXICO

VICINITY MAP



DISTANCES IN MILES

NOT TO SCALE

DIRECTIONS TO LOCATION
FROM THE INTERSECTION OF STATE HIGHWAY 249 AND CR 30 (JEMINA) GO NORTHWEST ON STATE HIGHWAY 249 FOR APPROX. 2.1 MILES. GO SOUTH ON CALICHE LEASE ROAD APPROX. 4.4 MILES. GO SOUTHEAST APPROX. 0.5 OF A MILE. GO SOUTHWEST APPROX. 0.6 OF A MILE. LOCATION IS APPROX. 375' SOUTH.

MACK ENERGY CORPORATION
PRINCE RUPERT FEDERAL 1
LOCATED 1900 FT. FROM THE SOUTH LINE AND 330 FT. FROM THE WEST LINE OF SECTION 20, TOWNSHIP 15 SOUTH, RANGE 29 EAST, N.M.P.M.
CHAVES COUNTY, STATE OF NEW MEXICO

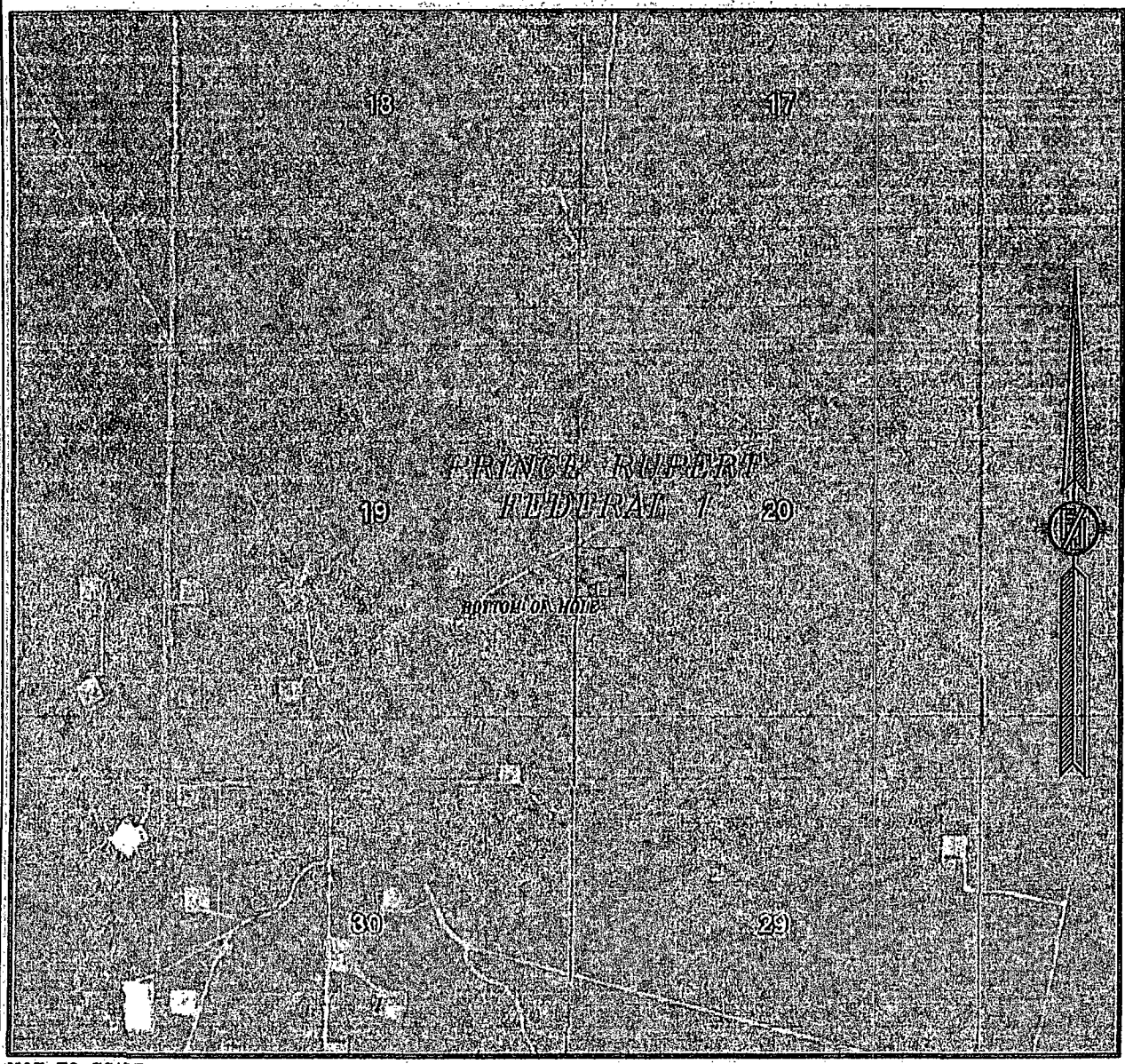
AUGUST 21, 2014

SURVEY NO. 2804B

MADRON SURVEYING, INC. 501 SOUTH CANAL (575) 234-3341 CARLSBAD, NEW MEXICO

SECTION 20, TOWNSHIP 15 SOUTH, RANGE 29 EAST, N.M.P.M.
CHAVES COUNTY, STATE OF NEW MEXICO

AERIAL PHOTO



NOT TO SCALE
AERIAL PHOTO:
GOOGLE EARTH
JULY 2011

MACK ENERGY CORPORATION
PRINCE RUPERT FEDERAL 1
LOCATED 1900 FT. FROM THE SOUTH LINE
AND 330 FT. FROM THE WEST LINE OF
SECTION 20, TOWNSHIP 15 SOUTH,
RANGE 29 EAST, N.M.P.M.
CHAVES COUNTY, STATE OF NEW MEXICO

AUGUST 21, 2014

SURVEY NO. 2804B

MADRON SURVEYING, INC. 301 SOUTH CANAL (575) 734-3341 CARLSBAD, NEW MEXICO

SECTION 20, TOWNSHIP 15 SOUTH, RANGE 29 EAST, N.M.P.M.
CHAVES COUNTY, STATE OF NEW MEXICO

ACCESS AERIAL ROUTE MAP

NOT TO SCALE
AERIAL PHOTO:
GOOGLE EARTH
JULY 2011

MACK ENERGY CORPORATION
PRINCE RUPERT FEDERAL 1
LOCATED 1900 FT. FROM THE SOUTH LINE
AND 330 FT. FROM THE WEST LINE OF
SECTION 20, TOWNSHIP 15 SOUTH,
RANGE 29 EAST, N.M.P.M.
CHAVES COUNTY, STATE OF NEW MEXICO

AUGUST 21, 2014

SURVEY NO. 2804B

MADRON SURVEYING, INC. 301 SOUTH CANAL (575) 234-3341 CARLSBAD, NEW MEXICO

Mack Energy

Chavez County
Prince Rupert Federal #1
#1

OH

Plan: Design #1

Standard Planning Report

27 August, 2014

Database:	EDM 5000.1 Single User Db	**Local Co-ordinate Reference:**	Well #1
Company:	Mack Energy	**TVD Reference:**	WELL @ 3766.7usft (Original Well Elev)
Project:	Chavez County	**MD Reference:**	WELL @ 3766.7usft (Original Well Elev)
Site:	Prince Rupert Federal #1	**North Reference:**	Grid
Well:	#1	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	OH		
Design:	Design #1		

Project Chavez County

Map System:	US State Plane 1927 (Exact solution)	**System Datum:**	Mean Sea Level
Geo Datum:	NAD 1927 (NADCON CONUS)		
Map Zone:	New Mexico East 3001		

Site Prince Rupert Federal #1

Site Position:		**Northing:**	727,428.14 usft	**Latitude:**	32° 59' 56.739 N
From:	Map	**Easting:**	625,702.92 usft	**Longitude:**	103° 55' 23.976 W
Position Uncertainty:	0.0 usft	**Slot Radius:**	13-3/16 "	**Grid Convergence:**	0.22 °

Well #1

Well Position	**+N/-S**	0.0 usft	**Northing:**	727,428.14 usft	**Latitude:**	32° 59' 56.739 N
	+E/-W	0.0 usft	**Easting:**	625,702.92 usft	**Longitude:**	103° 55' 23.976 W
Position Uncertainty		0.0 usft	**Wellhead Elevation:**		**Ground Level:**	3,749.7 usft

Wellbore OH

Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	8/27/2014	7.41	60.76	48,720

Design Design #1

Audit Notes:

Version:		**Phase:**	PLAN	**Tie On Depth:**	0.0

Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)
	0.0	0.0	0.0	173.36

Plan Sections

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	TFO (°)	Target
0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.00	0.00	
550.0	0.00	0.00	550.0	0.0	0.0	0.00	0.00	0.00	0.00	
1,172.8	12.46	173.36	1,167.9	-67.0	7.8	2.00	2.00	0.00	173.36	
1,597.0	12.46	173.36	1,582.1	-157.9	18.4	0.00	0.00	0.00	0.00	
2,219.8	0.00	0.00	2,200.0	-224.8	26.2	2.00	-2.00	0.00	180.00	VP(PRF#1)
3,519.8	0.00	0.00	3,500.0	-224.8	26.2	0.00	0.00	0.00	0.00	

Wellplanning

Planning Report

Database:	EDM 5000.1 Single User Db	**Local Co-ordinate Reference:**	Well #1
Company:	Mack Energy	**TVD Reference:**	WELL @ 3766.7usft (Original Well Elev)
Project:	Chavez County	**MD Reference:**	WELL @ 3766.7usft (Original Well Elev)
Site:	Prince Rupert Federal #1	**North Reference:**	Grid
Well:	#1	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	OH		
Design:	Design #1		

Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
0.0	0.00	0.00	0.0	0.0	0.0	0.0	0.00	0.00	0.00
100.0	0.00	0.00	100.0	0.0	0.0	0.0	0.00	0.00	0.00
200.0	0.00	0.00	200.0	0.0	0.0	0.0	0.00	0.00	0.00
300.0	0.00	0.00	300.0	0.0	0.0	0.0	0.00	0.00	0.00
400.0	0.00	0.00	400.0	0.0	0.0	0.0	0.00	0.00	0.00
500.0	0.00	0.00	500.0	0.0	0.0	0.0	0.00	0.00	0.00
550.0	0.00	0.00	550.0	0.0	0.0	0.0	0.00	0.00	0.00
600.0	1.00	173.36	600.0	-0.4	0.1	0.4	2.00	2.00	0.00
700.0	3.00	173.36	699.9	-3.9	0.5	3.9	2.00	2.00	0.00
800.0	5.00	173.36	799.7	-10.8	1.3	10.9	2.00	2.00	0.00
900.0	7.00	173.36	899.1	-21.2	2.5	21.4	2.00	2.00	0.00
1,000.0	9.00	173.36	998.2	-35.0	4.1	35.3	2.00	2.00	0.00
1,100.0	11.00	173.36	1,096.6	-52.3	6.1	52.6	2.00	2.00	0.00
1,172.8	12.46	173.36	1,167.9	-67.0	7.8	67.4	2.00	2.00	0.00
1,200.0	12.46	173.36	1,194.5	-72.8	8.5	73.3	0.00	0.00	0.00
1,300.0	12.46	173.36	1,292.1	-94.2	11.0	94.9	0.00	0.00	0.00
1,400.0	12.46	173.36	1,389.8	-115.7	13.5	116.4	0.00	0.00	0.00
1,500.0	12.46	173.36	1,487.4	-137.1	16.0	138.0	0.00	0.00	0.00
1,597.0	12.46	173.36	1,582.1	-157.9	18.4	158.9	0.00	0.00	0.00
1,600.0	12.40	173.36	1,585.1	-158.5	18.5	159.6	2.00	-2.00	0.00
1,700.0	10.40	173.36	1,683.1	-178.1	20.7	179.3	2.00	-2.00	0.00
1,800.0	8.40	173.36	1,781.7	-194.3	22.6	195.6	2.00	-2.00	0.00
1,900.0	6.40	173.36	1,880.9	-207.1	24.1	208.5	2.00	-2.00	0.00
2,000.0	4.40	173.36	1,980.4	-216.5	25.2	217.9	2.00	-2.00	0.00
2,100.0	2.40	173.36	2,080.3	-222.3	25.9	223.8	2.00	-2.00	0.00
2,200.0	0.40	173.36	2,180.2	-224.8	26.2	226.3	2.00	-2.00	0.00
2,219.8	0.00	0.00	2,200.0	-224.8	26.2	226.3	2.00	-2.00	-876.79
VP(PRF#1)									
2,300.0	0.00	0.00	2,280.2	-224.8	26.2	226.3	0.00	0.00	0.00
2,400.0	0.00	0.00	2,380.2	-224.8	26.2	226.3	0.00	0.00	0.00
2,500.0	0.00	0.00	2,480.2	-224.8	26.2	226.3	0.00	0.00	0.00
2,600.0	0.00	0.00	2,580.2	-224.8	26.2	226.3	0.00	0.00	0.00
2,700.0	0.00	0.00	2,680.2	-224.8	26.2	226.3	0.00	0.00	0.00
2,800.0	0.00	0.00	2,780.2	-224.8	26.2	226.3	0.00	0.00	0.00
2,900.0	0.00	0.00	2,880.2	-224.8	26.2	226.3	0.00	0.00	0.00
3,000.0	0.00	0.00	2,980.2	-224.8	26.2	226.3	0.00	0.00	0.00
3,100.0	0.00	0.00	3,080.2	-224.8	26.2	226.3	0.00	0.00	0.00
3,200.0	0.00	0.00	3,180.2	-224.8	26.2	226.3	0.00	0.00	0.00
3,300.0	0.00	0.00	3,280.2	-224.8	26.2	226.3	0.00	0.00	0.00
3,400.0	0.00	0.00	3,380.2	-224.8	26.2	226.3	0.00	0.00	0.00
3,500.0	0.00	0.00	3,480.2	-224.8	26.2	226.3	0.00	0.00	0.00
3,519.8	0.00	0.00	3,500.0	-224.8	26.2	226.3	0.00	0.00	0.00

Design Targets

Target Name - hit/miss target - Shape	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude
VP(PRF#1) - plan hits target center - Point	0.00	0.00	2,200.0	-224.8	26.2	727,203.31	625,729.10	32° 59' 54.513 N	103° 55' 23.679 W

Database:	EDM 5000.1 Single User Db	**Local Co-ordinate Reference:**	Well #1
Company:	Mack Energy	**TVD Reference:**	WELL @ 3766.7usft (Original Well Elev)
Project:	Chavez County	**MD Reference:**	WELL @ 3766.7usft (Original Well Elev)
Site:	Prince Rupert Federal #1	**North Reference:**	Grid
Well:	#1	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	OH		
Design:	Design #1		

NEXUS
DIRECTIONAL SOLUTIONS, L.P.

Azimuths to Grid North
True North: -0.22°
Magnetic North: 7.19°

Magnetic Field
Strength: 48720.2snT
Dip Angle: 60.76°
Date: 8/27/2014
Model: IGRF2010

To convert a Magnetic Direction to a Grid Direction, Add 7.19°
To convert a True Direction to a Grid Direction, Subtract 0.22°

Prince Rupert Federal #1 #1
Chavez County
Northing: (Y) 727428.14
Easting: (X) 625702.92
Design #1

Map System: US State Plane 1927 (Exact solution)
Datum: NAD 1927 (NADCON CONUS)
Ellipsoid: Clarke 1866
Zone Name: New Mexico East 3001

Local Origin: Well #1, Grid North

Latitude: 32° 59' 56.739 N
Longitude: 103° 55' 23.976 W

Grid East: 625702.92
Grid North: 727428.14
Scale Factor: 1.000

Geomagnetic Model: IGRF2010
Sample Date: 27-Aug-14
Magnetic Declination: 7.41°
Dip Angle from Horizontal: 60.76°
Magnetic Field Strength: 48720

To convert a Magnetic Direction to a Grid Direction, Add 7.19°
To convert a Magnetic Direction to a True Direction, Add 7.41° East
To convert a True Direction to a Grid Direction, Subtract 0.22°

WELL DETAILS:

WELL @ 3766.7usft (Original Well Elev)

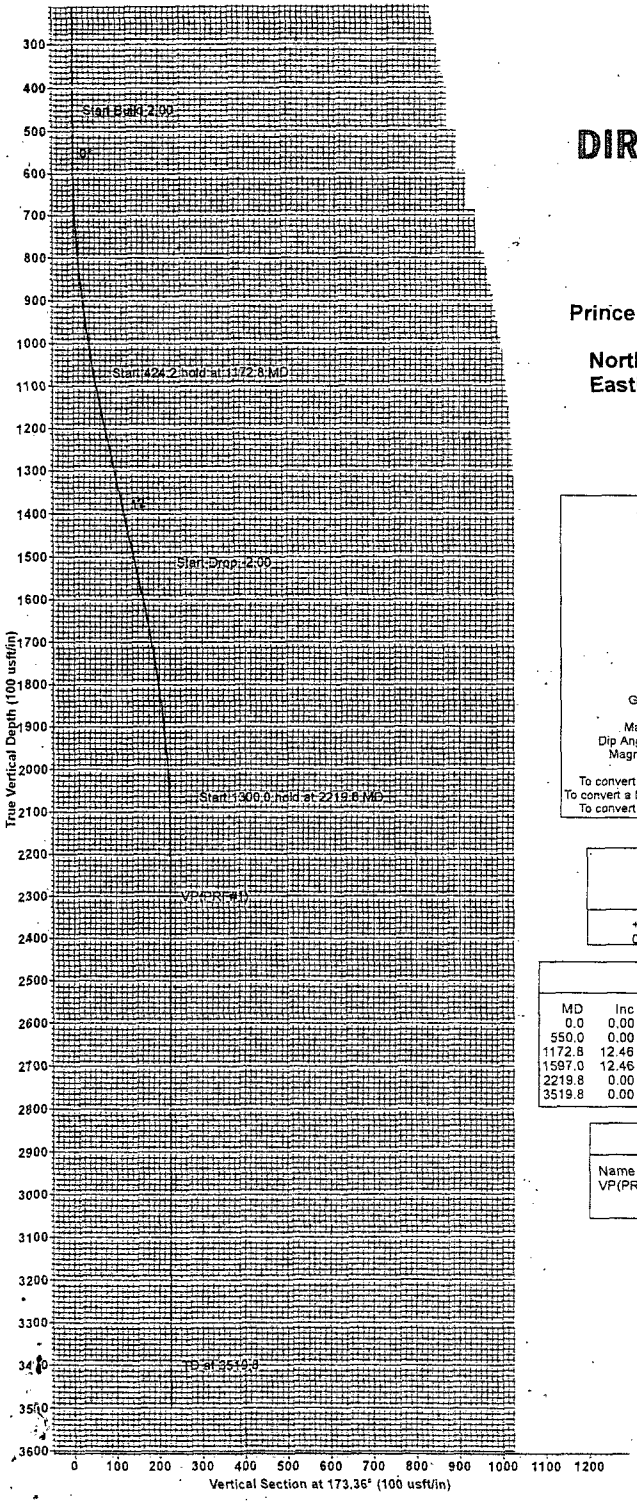
+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
0.0	0.0	727428.14	625702.92	32° 59' 56.739 N	103° 55' 23.976 W

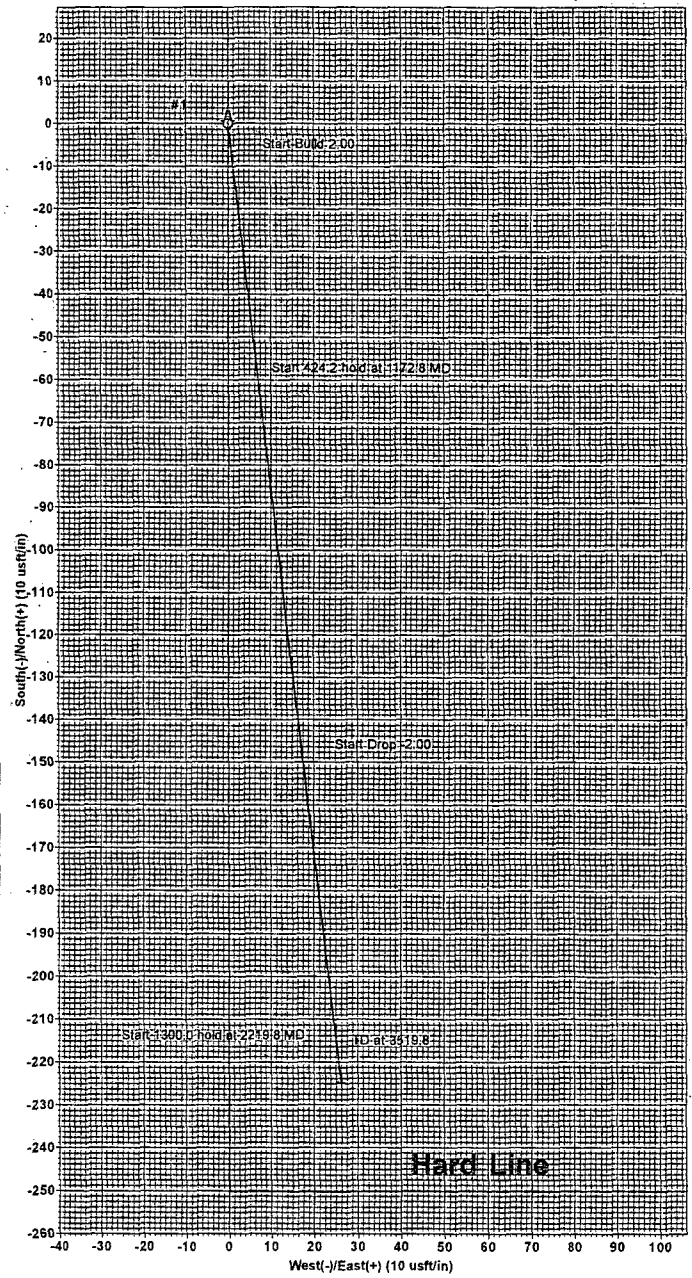
SECTION DETAILS

MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSect
0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.0
550.0	0.00	0.00	550.0	0.0	0.0	0.00	0.00	0.0
1172.8	12.46	173.36	1167.9	-67.0	7.8	2.00	173.36	67.4
1597.0	12.46	173.36	1582.1	-157.9	18.4	0.00	0.00	158.9
2219.8	0.00	0.00	2200.0	-224.8	26.2	2.00	180.00	226.3
3519.8	0.00	0.00	3500.0	-224.8	26.2	0.00	0.00	226.3

DESIGN TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Northing	Easting
VP(PRF#1)	2200.0	-224.8	26.2	727203.31	625729.10





LEGEND

Design #1

Lease Lines Subject to Customer Approval

Hard Line

PECOS DISTRICT
CONDITIONS OF APPROVAL

OPERATOR'S NAME:	Mack Energy Corporation - Sherrell, Jerry
LEASE NO.:	NMNM-131580
WELL NAME & NO.:	PRINCE RUPERT FEDERAL - 1
SURFACE HOLE FOOTAGE:	[1900] ' F [S] L [330] ' F [W] L
BOTTOM HOLE FOOTAGE:	[1900] ' F [S] L [330] ' F [W] L
LOCATION:	Section 020, T015. S., R 029 E., NMPM
COUNTY:	Chaves County, New Mexico

1. All surface disturbances shall follow the operating standards and guidelines within The Gold Book , Fourth Edition – Revised 2007. To obtain a copy with no charge contact Harley Davis (575) 627-0247 or visit BLM on the web at: http://www.blm.gov/wo/st/en/prog/energy/oil_and_gas/best_management_practices/gold_book.html
   All construction and operations shall follow the Onshore Oil and Gas Operations as described in the 43 CFR part 3160.

2. A complete copy of the *approved* APD and the attached Conditions of Approval (COAs) shall be kept on the well's location for reference upon inspections.

3. Containment Dikes

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. All production facilities shall have a lined containment structure large enough to contain **110% of the largest Tank (PLUS) 24 hours of production.** (43 CFR 3162.5-1) Environmental Obligations.

4. Well Pad Surfacing:

Surfacing of the well pad is not required. If the operator elects to surface the well pad, the surfacing material will 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.

5. Road 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 will be required to be removed at the time of reclamation. Where possible, no improvements should be made on the unsurfaced access road other than to remove vegetation as necessary, road irregularities, safety issues, or to fill low areas that may sustain standing water. The Authorized Officer

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

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

6. PIPELINE PROTECTION REQUIREMENT

Precautionary measures shall be taken by the operator during construction of the access road to protect existing pipelines 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 (2' X 3' X 14'), shall be constructed over existing pipelines. The operator shall be held responsible for any damage to existing pipelines. If the 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.

7. PALEONTOLOGICAL RESOURCES

If previously undocumented paleontological sites are encountered during construction, the project proponent will immediately stop all construction activities in the immediate vicinity of the discovery. The proponent with then immediately notify the paleontological monitor (if required), or the BLM/RFO paleontology resource staff. It is necessary to protect fossil material and their geological context upon discovered during construction. The BLM would then evaluate the site. Should the discovery be evaluated as significant, it will be protected in place until mitigation measures can be developed and implemented according to guidelines set by the BLM. Mitigation measures such as data and fossil recovery may be required by the BLM to prevent impacts to newly identified paleontological resources.

8. WASTES, HAZARDOUS AND SOLID

Waste materials produced during all phases of operation will be disposed of promptly in an approved manner so it will not impact the air, soil, water, vegetation or animals. "Waste" means all discarded matter including, but not limited to, human waste, trash, garbage, refuse, oil drums, petroleum products, ashes and equipment. All liquid waste, completion fluids and drilling products associated with oil and gas operations will be contained and then removed and deposited in an approved disposal site. Portable toilets will remain on site throughout well pad construction, drilling and reclamation.

The operator and contractors shall ensure that all use, production, storage, transportation and disposal of hazardous materials, solid wastes and hazardous wastes associated with the drilling, completion and production of this well will be in accordance with all applicable existing or hereafter promulgated federal, state and local government rules, regulations and guidelines. All project related activities involving hazardous materials will be conducted in a manner to minimize potential environmental impacts. A file will be maintained onsite containing current Material Safety Data Sheets (MSDS) for all chemicals, compounds and/or substances which are used in the course of construction, drilling, completion and production operations.

9. Drilling:
DRILLING OPERATIONS REQUIREMENTS:

1. Call the Roswell Field Office, 2909 West Second St., Roswell, NM 88201. During or after office hours call (575) 627-0205. 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
c. BOPE Tests

3. A Hydrogen Sulfide (H2S) Drilling Operation Contingency Plan shall be activated prior to drilling into the **San Andres** formation. A copy of the plan shall be posted at the drilling site.

4. 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.

5. Include the API Number assigned to well by NMOCD on the subsequent report of setting the first casing string.

6. The operator will accurately measure the drilling rate in feet/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 nontoxic 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.

CASING:

1. Deepest depth of usable water occurs at a depth under 100 feet according to the State Engineer. The operator will run **40** feet of conductor pipe and ready mix cement to the surface. The **8-5/8** inch usable water protection casing string(s) shall be set at the top of the salt between **185** feet and **205** feet.

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 circulate to the surface**. 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.

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. If operator chooses to use a control device greater than the minimum stand they will have to follow all guidelines as stated within Bureau of Land Management 43 CFR part 3160 and Onshore Oil and Gas Order No. 2 Drilling Operations.

3. The BOPE shall be installed before drilling below the **8-5/8** inch surface casing shoe 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 24 hours in advance for a representative to witness the tests.

b. 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.

c. All tests are required to be recorded on a calibrated test chart. A copy of the BOP/BOPE test will be submitted to the BLM Roswell Field Office at 2909 West Second Street, Roswell, New Mexico 88201.

d. 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.

e. Testing must be done in a safe workman like manner. Hard line connections shall be required.

f. The requested variance to test the BOPE prior to **drilling below the 8-5/8 inch surface casing** to the reduced pressure of **2000** psi by a third party is approved.

10. INTERIM RECLAMATION

Reclamation earthwork for interim and/or final reclamation shall be completed within 6 months of well completion or well plugging (weather permitting), and shall consist of: 1) backfilling pits, 2) re-contouring and stabilizing the well site, access road, cut/fill slopes, drainage channels, utility and pipeline corridors, and all other disturbed areas, to approximately the original contour, shape, function, and configuration that existed before construction (any compacted backfilling activities shall ensure proper spoils placement , settling, and stabilization)., 3) surface ripping, prior to topsoil placement, to a depth of 18-24 inches deep on 18-24 inch centers to reduce compaction, 4) final grading and replacement of all topsoil so that no topsoil's remains in the stockpile, 5) seeding in accordance with reclamation portions of the APD and these COA's.

Any subsequent re-disturbance of interim reclamation shall be reclaimed within six (6) months by the same means described herein.

Prior to conducting interim reclamation, the operator is required to:

- Submit a Sundry Notices and Reports on Wells (Notice of Intent), Form 3160-5, prior to conducting interim reclamation.

- Contact BLM at least three (3) working days prior to conducting any interim reclamation activities, and prior to seeding.

During reclamation, the removal of caliche is important to increasing the success of revegetating 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 revegetated areas for production or workover operations will be allowed. If there is significant disturbance and loss of vegetation, the area will need to be revegetated. Communicate with the appropriate BLM office for any exceptions/exemptions if needed.

Disturbing re-vegetated areas for production or work over 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.

Use a certified noxious weed-free seed mixture. Use seed tested for viability and purity in accordance with State law(s) within nine months prior to purchase. Use a commercial seed mixture certified or registered and tagged in accordance with State law(s). Make the seed mixture labels available for BLM inspection.

11. SEE ATTACHED SEED MIX: The Ecological Site Description for the well pad and access road is as follows:

Well Name	Ecosite Access rd	Ecosite Pad
PRINCE RUPERT 1	Sandy SD-3	Sandy SD-3

12. FINAL ABANDONMENT

A. Upon abandonment of the well a Notice of Intent for Plug and Abandonment describing plugging procedures. Followed within 30 days you shall file with this office, a Subsequent Report of Abandonment (Form 3160-5). To be included with this report is where the plugs were placed; volumes of cement used and well bore schematic as plugged.

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). The well bore shall then be covered with a metal plate at least ¼ inch thick and welded in place. 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. The Operator shall promptly plug and abandoned each newly completed, re-completed or producing well which is not capable of producing in paying quantities. No well may be temporarily abandoned for more than 30 days without prior approval from this office. When justified by the Operator, BLM may authorize additional delays, no one of which may exceed an additional 12 months. Upon removal of drilling or producing equipment form the site of a well which is to be permanently abandoned, the surface of the lands disturbed shall be reclaimed in accordance with an approved Notice of Intent for reclamation.

13. **CLOSED LOOP SYSTEMS:**

No reserve pit will be used.

Steel tanks are required for drilling operations: No Pits Allowed.

The operator shall properly dispose of drilling contents at an authorized disposal site.

14. 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 in shallow rows adjacent to the constructed 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 will not be used to construct the containment structure or earthen dike that is constructed and maintained on the outside boundaries of the constructed well pad.

15. SPECIAL STIPULATION:

If frac ponds are necessary submit for approval a right-of-way application or sundry notice (Form 3160-5) to the BLM, Roswell Field Office 2909 West Second, Roswell, NM 88201. If frac pond is located on private/State surface and support the enhanced production of federal minerals BLM approval is necessary.

WILDLIFE PROTECTION MEASURES – Best Management Practices (BMPs)

Wildlife Mortality - General

The operator will notify the Bureau of Land Management (BLM) authorized officer and nearest Fish and Wildlife Service (FWS) Law Enforcement office within 24 hours, if the operator discovers a dead or injured federally protected species (i.e., migratory bird species, bald or golden eagle, or species listed by the FWS as threatened or endangered) in or adjacent to a pit, trench, tank, exhaust stack, or fence. (If the operator is unable to contact the FWS Law Enforcement office, the operator must contact the nearest FWS Ecological Services office.)

1. Open Pits and Open Tanks Containing or Potentially Containing Freestanding Fluids

a. Surface Accumulation of Oil – The operator will minimize or preclude releases of oil into open pits. Unless the authorized officer approves the release, no oil should go into a pit except in an emergency. The operator must remove any accumulation of oil or condensate in a pit within 48 hours of discovery.
b. Exclosure Fencing (Fluids Pits and Open Cellars) – The operator will design, construct, and maintain exclosure fencing for all open cellars and pits containing freestanding fluids to prevent access to livestock and large forms of wildlife such as deer, elk, and pronghorn. At a minimum, the operator will adequately fence all fluids pits and open cellars during and after

drilling operations until the pit is free of fluids and the operator initiates backfilling. The operator will maintain the fence in order to protect public health and safety, wildlife, and livestock.
(For examples of exclosure fencing design, refer to the Oil and Gas Gold Book – Exclosure Fence Illustrations, Figure 1, Page 18.)

Adequate fencing [in lieu of more stringent requirements by the surface owner] includes all of the following:
a. Construction materials will consist of steel and/or wood posts. Use a fence with five separate wires (smooth or barbed) or hog panel (16-foot length by 50-inch height) with connectors such as fence staples, quick-connect clips, hog rings, hose clamps, twisted wire, etc. Do not use electric fences.
b. Set posts firmly in the ground. Stretch the wire, if used, tightly and space it evenly, from the ground level to the top wire, effectively keeping out animals. Tie hog panels securely into posts and to one another using fence staples, clamps, etc. Construct the fence at least 2 feet from the edge of the pit.
c. For reserve pits, fence all four sides as soon as the pit is constructed. Reconstruct any damage to the rig side of the fence immediately following release of the drilling rig.
d. Maintain the erect fences in adequate condition until the pit has been closed.

2. **Exclosure Netting (Fluids Pits)** – The operator will prevent wildlife and livestock access (including avian wildlife) to fluids pits that contain or have the potential of containing salinity sufficient to cause harm to wildlife or livestock, hydrocarbons, surfactants, or Resource Conservation and Recovery Act-exempt hazardous substances. At a minimum, the operator will install approved netting in these circumstances, in accordance with the requirements below, immediately following release of the drilling rig. Note: The BLM does not approve of the use of flagging, strobe lights, metal reflectors, or noisemakers as techniques for deterring wildlife.

Minimum Netting Requirements: The operator will:
a. Construct a rigid structure made of steel tubing or wooden posts with cable strung across the pit at no more than 7-foot intervals along the X- and Y-axes to form a grid of 7-foot squares.
b. Suspend netting a minimum of 4 to 5 feet above the pit surface.
c. Use a maximum netting mesh size of 1½ inches to allow for snow loading while excluding most birds in accordance with Fish and Wildlife Service recommendations. Refer to: http://www.fws.gov/mountain-prairie/contaminants/contaminants1c.html
d. Cover the top and sides of the netting support frame with netting and secure the netting at the ground surface around the entire pit to prevent wildlife entry at the netting edges. Note: Hog wire panels or other wire mesh panels or fencing used on the sides of the netting support frame is ineffective in excluding small wildlife and songbirds unless covered by smaller meshed netting.
e. Monitor and maintain the netting sufficiently to ensure the netting is functioning as intended, has not entrapped wildlife, and is free of holes and gaps greater than 1½ inches.

3. **Escape Ramps (Open Pits and Cellars, Tanks, and Trenches)**

The operator will construct and maintain pits, cellars, open-top tanks, and trenches, that are not otherwise fenced, screened, or netted, to exclude livestock, wildlife, and humans (for example, lined, clean water pits; well cellars; or utility trenches) to prevent livestock, wildlife, and humans from becoming entrapped. At a minimum, the operator will construct and maintain escape ramps, ladders, or other methods of avian and terrestrial wildlife escape in pits, cellars, open-top tanks, or at frequent intervals along trenches where entrapment hazards may exist.

4. **Exclosure Netting (Open-top Tanks)** – Immediately following active drilling or completion operations, the operator will take actions necessary to prevent wildlife and livestock access, including avian wildlife, to all open-topped tanks that contain or have the potential to contain salinity sufficient to cause harm to wildlife or livestock, hydrocarbons, or Resource Conservation and Recovery Act of 1976-exempt hazardous substances. At a minimum, the operator will net, screen, or cover open-topped tanks to exclude wildlife and livestock and prevent mortality. If the operator uses netting, the operator will cover and secure the open portion of the tank to prevent wildlife entry. The operator will net, screen, or cover the tanks until the operator removes the tanks from the location or the tanks no longer contain substances that could be harmful to wildlife or livestock.

5. **Chemical and Fuel Secondary Containment Systems**

Chemical and Fuel Secondary Containment and Exclosure Screening – The operator will prevent all hazardous, poisonous, flammable, and toxic substances from coming into contact with soil and water. At a minimum, the operator will install and maintain an impervious secondary containment system for any tank or barrel containing hazardous, poisonous, flammable, or toxic substances sufficient to contain the contents of the tank or barrel and any drips, leaks, and anticipated precipitation. The operator will dispose of fluids within the containment system that do not meet applicable state or U. S. Environmental Protection Agency livestock water standards in accordance with state law; the operator must not drain the fluids to the soil or ground.
The operator will design, construct, and maintain all secondary containment systems to prevent wildlife and livestock exposure to harmful substances. At a minimum, the operator will install effective wildlife and livestock exclosure systems such as fencing, netting, expanded metal mesh, lids, and grate covers.

6. **Open-Vent Exhaust Stacks**

Open-Vent Exhaust Stack Exclosures – The operator will construct, modify, equip, and maintain all open-vent exhaust stacks on production equipment to prevent birds and bats from entering, and to discourage perching, roosting, and nesting. Production equipment includes, but may not be limited to, tanks, heater-treaters, separators, dehydrators, flare stacks, in-line units, and compressor mufflers.

PECOS DISTRICT
SEED MIX FOR

The following Soils or Soil associations may represent these ecological sites: Alama-Poquita, Alama-Reeves, Anthony sandy loam, Berino, Blakeney-Ima, Cacique, Dona Ana, Glendale-Harkey, Harkey sandy loam, Karro loam, Kermit-Berino fine sands, Mobeetie fine sandy loam, Pajarito-Bluepoint, Poquita, Potter-Simona complex, Sharvana-Redona, Simona, Simona-Bippus complex, Sotim-Berino, Sotim-Simona association, moderately undulating, Tonuco loamy sands,Vinton

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

April 4, 2006

Common Name and Preferred Variety	Scientific Name	Pounds of Pure Live Seed Per Acre
Black grama or Blue grama,	*(Bouteloua eriopoda)* *(Bouteloua gracilis)*	3.0
Sideoats grama	*(Bouteloua curtipendula)*	2.0
Sand dropseed or Mesa dropseed or Spike dropseed	*(Sporobolus cryptandrus)* *(S. flexuosus)* *(S. contractus)*	1.5
Desert or Scarlet Globemallow	*(Sphaeralcea ambigua)* or *(S. coccinea)*	1.0
Croton	*(Croton* spp.*)*	1.0
TOTAL POUNDS PURE LIVE SEED (pls) PER ACRE		8.5

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

APPROVED: /s/ Douglas J. Burger
District Manager- Pecos District