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

S

Form 3160 -3
(April 2004)

FEB 27 2008

FORM APPROVED
OMB No 1004-0137
Expires March 31, 2007

UNITED STATES
DEPARTMENT OF THE INTERIOR OCD-ARTESIA
BUREAU OF LAND MANAGEMENT

APPLICATION FOR PERMIT TO DRILL OR REENTER

	5 Lease Serial No NMNM-101107
	6 If Indian, Allotee or Tribe Name
Ia Typeofwork- ☒ DRILL ☐ REENTER	7 If Unit or CA Agreement, Name and No
Ib Type of Well ☒ Oil Well ☐ Gas Well ☐ Other ☐ Single Zone ☐ Multiple Zone	8, Lease Name and Well No Seahawks Federal #1H
2 Name of Operator Mack Energy Corporation	9 API Well No. 30-005-64016
3a Address P.O. Box 960 Artesia, NM 88211-0960	3b. PhoneNo *(include area code)* (505)748-1288
	10 Field and Pool, or Exploratory Round Tank; San Andres
4 Location of Well *(Report location clearly andinaccorounce with any State requirements*)* At surface 1650 FSL & 2310 FEL At proposed prod zone 1700 FSL & 330 FEL	11 Sec , T. R. M. or Blk and Survey or Area Sec. 19 T15S R29E
14. Distance in miles and direction from nearest town or post office* 14 miles north/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 520	17. Spacing Unit dedicated to this well 80
18 Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft N/A	19 Proposed Depth 4737	20 BLM/BIA Bond No on file NMB000286
21 Elevations (Show whether DF, KDB, RT, GL, etc) 3738' GR	22 Approximate date work will start* 11/30/07	23. Estimated duration 20 days

24. Attachments

ROSWELL CONTROLLED WATER BASIN

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

1 Well plat certified by a registered surveyor.
2 A Drilling Plan
3. A Surface Use Plan (if the location is on National Forest System Lands, the SUPO shall 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 authorized officer

25 Signature Jerry W. Sherrell	Name *(Printed/Typed)* Jerry W. Sherrell	Date 11/5/07
Title Production Clerk		
Approved by *(Signature)* (Orig. Sgd.) Jerry Dutchover	Name *(Printed/Typed)* (Orig. Sgd.) Jerry Dutchover	Date FEB 21 2008
Title Acting Assistant Field Manager, Lands And Minerals	Office ROSWELL FIELD OFFICE	APPROVED FOR 2 YEARS

Application approval does not warrant or certify that the applicant holds legal or equitable title to those rights in the subject lease which would entitle the applicant to 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.

**(Instructions on page 2)*

DECLARED WATER BASIN

CEMENT BEHIND THE 13 3/8" CASING MUST BE CIRCULATED

WITNESS

APPROVAL SUBJECT TO GENERAL REQUIREMENTS AND SPECIAL STIPULATIONS ATTACHED

ENTERED ONGARD

ENTERED RBDMS

FEB 27 2008
OCD-ARTESIA

RECEIVED
OCT 17 2007

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

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

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

DISTRICT IV
1220 S. ST. FRANCIS DR., SANTA FE, NM 87505

State of New Mexico
Energy, Minerals and Natural Resources Department

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

Form C-102
Revised October 12, 2005
Submit to Appropriate District Office
State Lease - 4 Copies
Fee Lease - 3 Copies

WELL LOCATION AND ACREAGE DEDICATION PLAT

☐ AMENDED REPORT

API Number	Pool Code	Pool Name
	52770	Round Tank; San Andres

Property Code	Property Name	Well Number
37026	SEAHAWKS FEDERAL	1

OGRID No.	Operator Name	Elevation
013837	MACK ENERGY CORPORATION	3738'

Surface Location

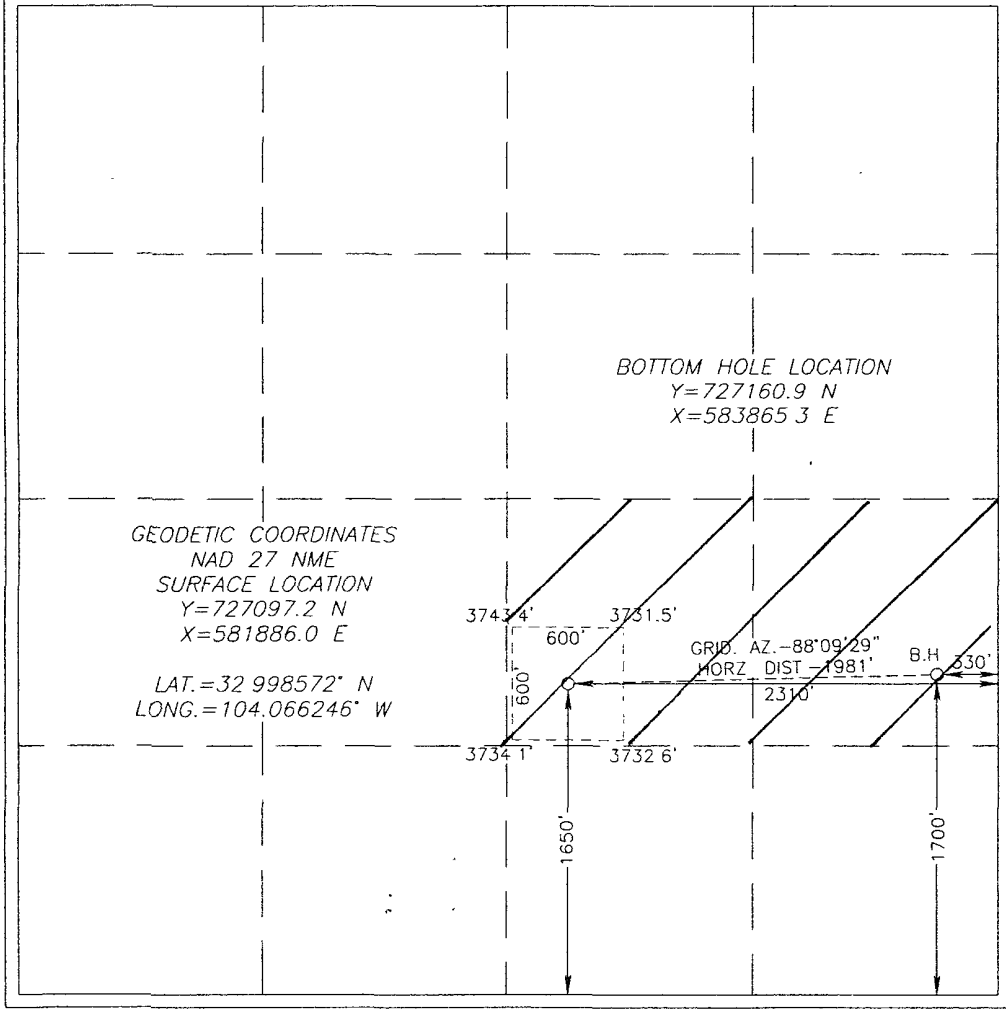
UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
J	19	15-S	29-E		1650	SOUTH	2310	EAST	CHAVES

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
I	19	15-S	29-E		1700	SOUTH	330	EAST	CHAVES

Dedicated Acres	Joint or Infill	Consolidation Code	Order No.
80			

NO ALLOWABLE WILL BE ASSIGNED TO THIS COMPLETION UNTIL ALL INTERESTS HAVE BEEN CONSOLIDATED OR A NON-STANDARD UNIT HAS BEEN APPROVED BY THE DIVISION



OPERATOR CERTIFICATION

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

Jerry W. Sherrell 11/5/07
Signature Date

Jerry W. Sherrell
Printed Name

SURVEYOR CERTIFICATION

I hereby certify that the well location shown on this plat was plotted from field notes of actual surveys made by me or under my supervision, and that the same is true and correct to the best of my belief.

RONALD J. EIDSON
NEW MEXICO
3239
REGISTERED PROFESSIONAL SURVEYOR

SEPTEMBER 28, 2007

Date Surveyed LA REV: 10/16/07

Signature & Seal of Professional Surveyor

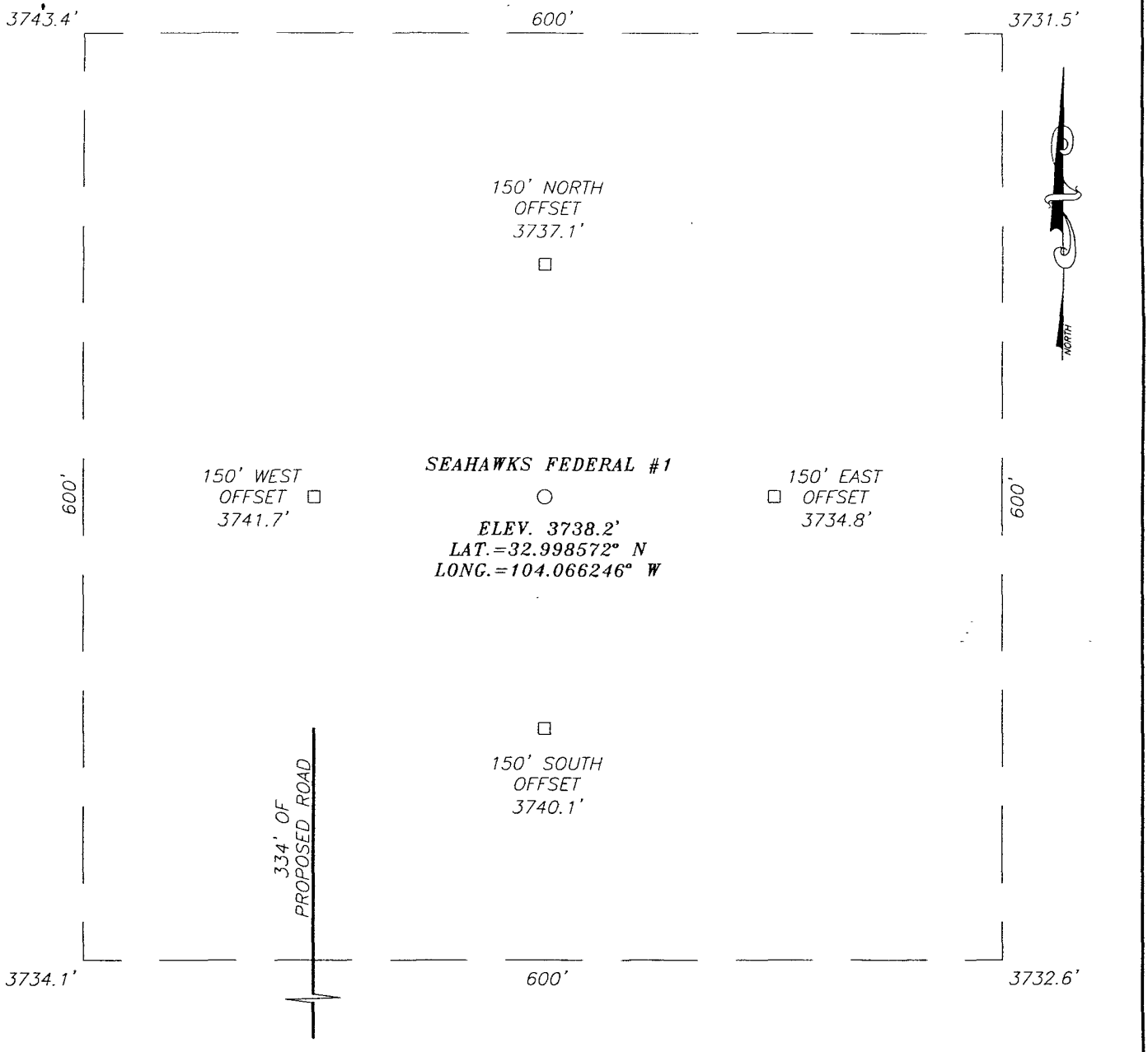
Ronald J. Eidson 10/16/07

07.11.1347

Certificate No. GARY EIDSON 12641
RONALD EIDSON 3239

SECTION 19, TOWNSHIP 15 SOUTH, RANGE 29 EAST, N.M.P.M.,

CHAVES COUNTY, NEW MEXICO



DIRECTIONS TO LOCATION

FROM THE INTERSECTION OF CO. RD. #217 (HAGERMAN CUTOFF) AND STATE HWY. #31, GO WEST ON ST. HWY. #31 APPROX. 3 2 MILES. TURN LEFT AND GO SOUTH APPROX. 3 3 MILES. TURN RIGHT AND GO WEST APRPOX. 0 8 MILES. TURN LEFT AND GO SOUTH APPROX. 0.7 MILES TO A PIPELINE RIGHT OF WAY TURN LEFT AND GO SOUTHEAST APPROX 0.7 MILES. TURN LEFT AND GO WEST APPROX. 0 1 MILE TO THIS LOCATION.

100 0 100 200 Feet

Scale. 1"=100'

PROVIDING SURVEYING SERVICES SINCE 1946

JOHN WEST SURVEYING COMPANY

412 N. DAL PASO

HOBBS, N.M. 88240

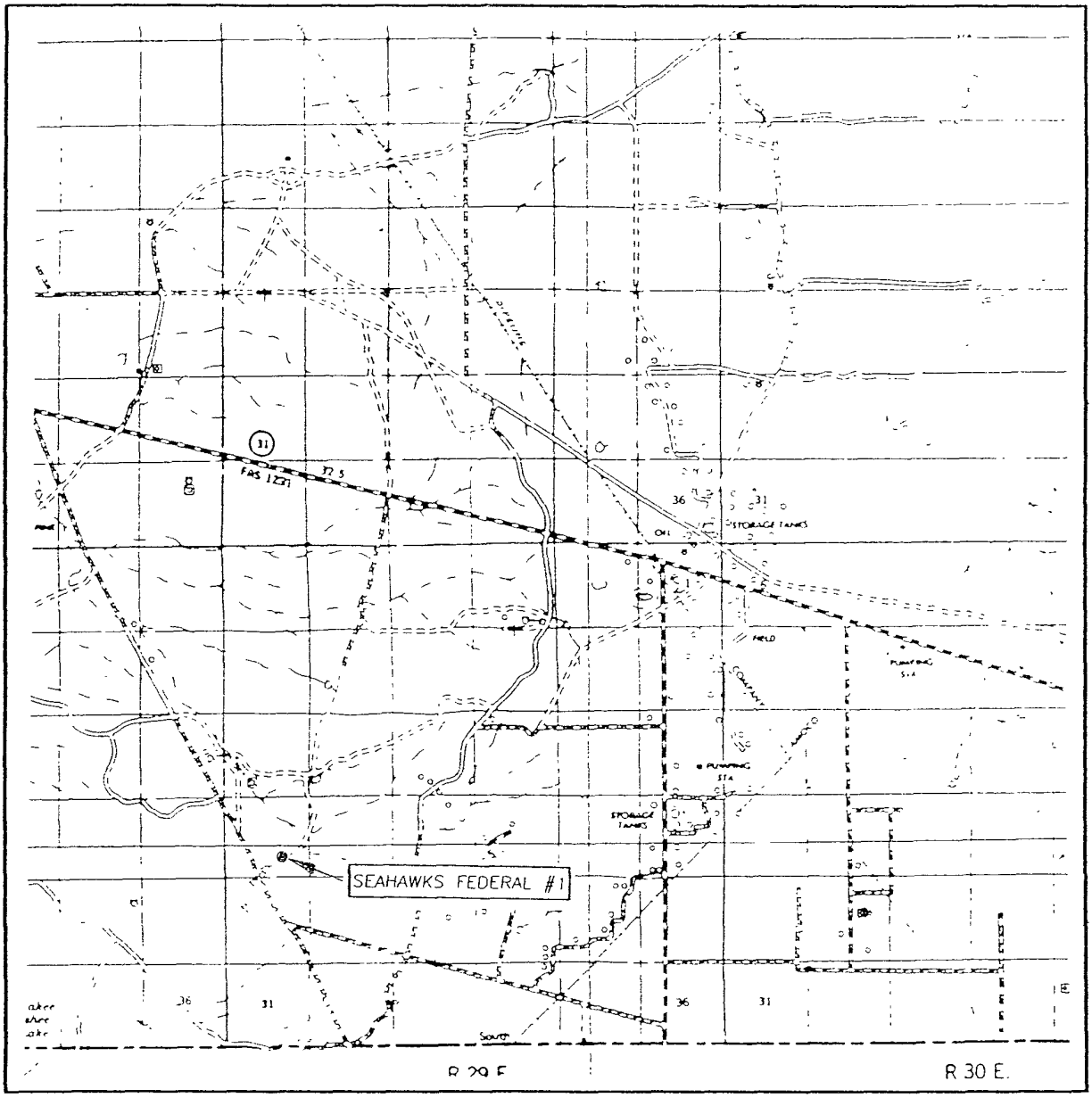
(505) 393-3117

MACK ENERGY CORPORATION

SEAHAWKS FEDERAL #1 WELL
LOCATED 1650 FEET FROM THE SOUTH LINE
AND 2310 FEET FROM THE EAST LINE OF SECTION 19,
TOWNSHIP 15 SOUTH, RANGE 29 EAST, N.M.P.M.,
CHAVES COUNTY, NEW MEXICO.

Survey Date: 9/28/07	Sheet 1 of 1 Sheets		
W.O. Number: 07.11.1347	Dr By: LA	Rev 1:N/A	
Date: 10/8/07	Disk: CD#6	07111347	Scale:1"=100'

VICINITY MAP



SCALE: 1" = 2 MILES

SEC. 19 TWP. 15-S RGE. 29-E

SURVEY N.M.P.M.

COUNTY CHAVES STATE NEW MEXICO

DESCRIPTION 1650' FSL & 2310' FEL

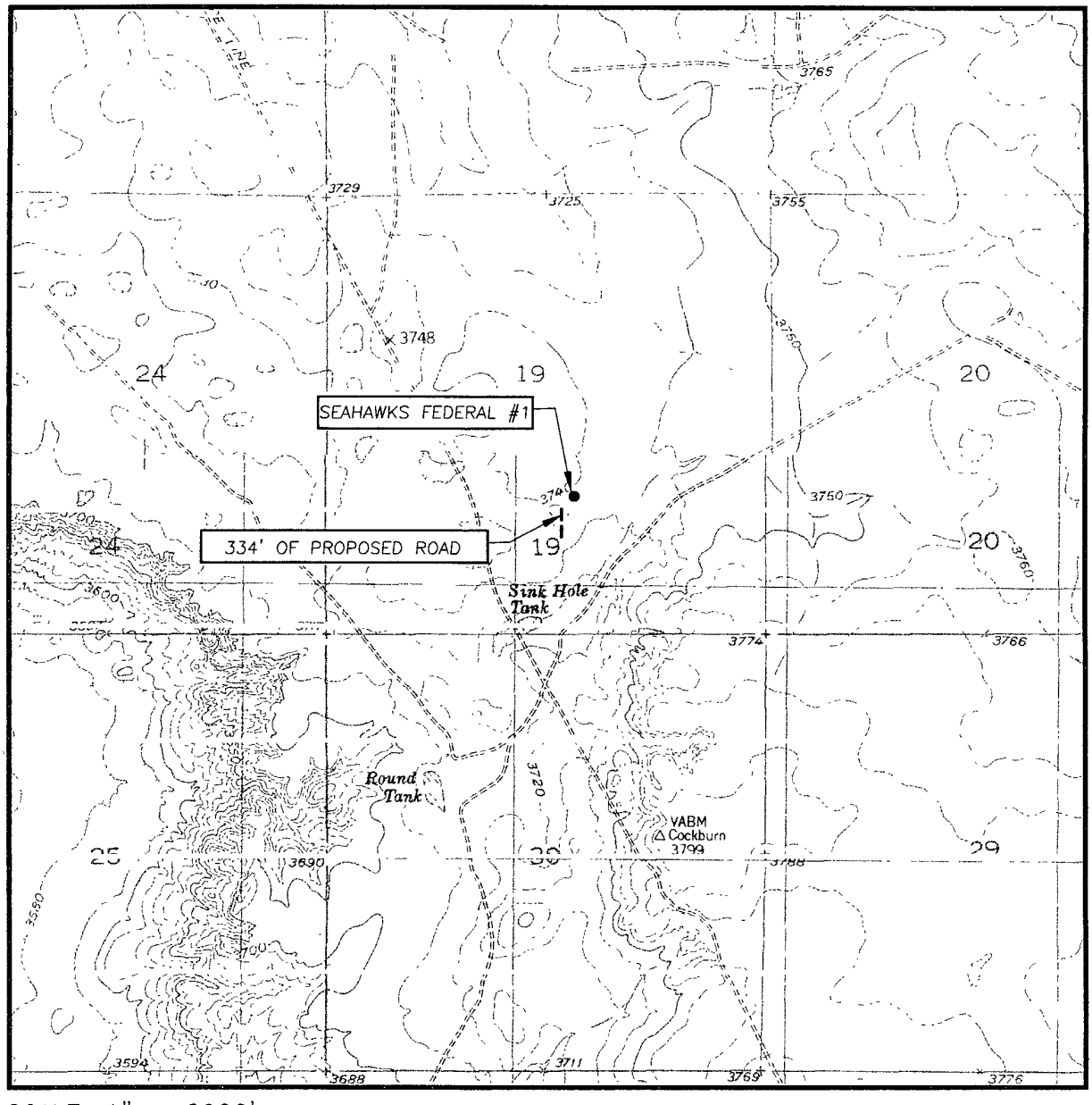
ELEVATION 3738'

OPERATOR MACK ENERGY CORPORATION

LEASE SEAHAWKS FEDERAL

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

LOCATION VERIFICATION MAP



SCALE: 1" = 2000'

CONTOUR INTERVAL:
BASIN WELLS, N.M. – 10'

SEC. 19 TWP. 19-S RGE. 29-E

SURVEY N.M.P.M.

COUNTY CHAVES STATE NEW MEXICO

DESCRIPTION 1650' FNL & 2310' FEL

ELEVATION 3738'

OPERATOR MACK ENERGY CORPORATION

LEASE SEAHAWKS FEDERAL

U.S.G.S. TOPOGRAPHIC MAP
BASIN WELLS, N.M.

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

Mack Energy Corp.

Chaves County, NM (NAD 27 NME)
Seahawks Federal #1
Seahawks Federal #1
Wellbore #1

Plan: Plan #1

Standard Planning Report

16 October, 2007

Scientific Drilling
Directional Drilling Operations

Database:	EDM 2003 16 Single User Db	Local Co-ordinate Reference:	Well Seahawks Federal #1
Company:	Mack Energy Corp.	TVD Reference:	WELL @ 3754 00ft (KB Elev)
Project:	Chaves County, NM (NAD 27 NME)	MD Reference:	WELL @ 3754 00ft (KB Elev)
Site:	Seahawks Federal #1	North Reference:	Grid
Well:	Seahawks Federal #1	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan #1		

Project Chaves County, NM (NAD 27 NME)

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 Seahawks Federal #1

Site Position:		Northing:	727,097 20 ft	Latitude:	32° 59' 54 859 N
From:	Map	Easting:	581,886 00 ft	Longitude:	104° 3' 58 485 W
Position Uncertainty:	0 00 ft	Slot Radius:	ft	Grid Convergence:	0 15 °

Well Seahawks Federal #1

Well Position	+N/-S	0 00 ft	Northing:	727,097 20 ft	Latitude:	32° 59' 54 859 N
	+E/-W	0 00 ft	Easting:	581,886 00 ft	Longitude:	104° 3' 58 485 W
Position Uncertainty		0 00 ft	Wellhead Elevation:	3,754 00 ft	Ground Level:	3,738 00 ft

Wellbore Wellbore #1

Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF200510	10/16/2007	8 30	60 92	49,413

Design Plan #1

Audit Notes:

Version:		Phase:	PLAN	Tie On Depth:	0 00

Vertical Section:	Depth From (TVD) (ft)	+N/-S (ft)	+E/-W (ft)	Direction (°)
	0 00	0 00	0 00	87 87

Plan Sections

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	TFO (°)	Target
0 00	0 00	0 00	0 00	0 00	0 00	0 00	0 00	0 00	0 00	
2,490 00	0 00	0 00	2,490 00	0 00	0 00	0 00	0 00	0 00	0 00	
3,243 82	89 04	87 87	2,975 00	17 76	476 61	11 81	11 81	0 00	87 87	
4,737 40	89 04	87 87	3,000 00	73 38	1,968 95	0 00	0 00	0 00	0 00	PBHL-Seahawks #1

Database:	EDM 2003.16 Single User Db	**Local Co-ordinate Reference:**	Well Seahawks Federal #1
Company:	Mack Energy Corp	**TVD Reference:**	WELL @ 3754.00ft (KB Elev)
Project:	Chaves County, NM (NAD 27 NME)	**MD Reference:**	WELL @ 3754.00ft (KB Elev)
Site:	Seahawks Federal #1	**North Reference:**	Grid
Well:	Seahawks Federal #1	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan #1		

Planned Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
0 00	0 00	0 00	0 00	0 00	0 00	0 00	0 00	0 00	0 00
East HL-Seahawks #1 - South HL-Seahawks #1									
1,000 00	0 00	0 00	1,000 00	0 00	0 00	0 00	0 00	0 00	0 00
8 5/8" Casing									
2,490 00	0 00	0 00	2,490 00	0 00	0 00	0 00	0 00	0 00	0 00
KOP 2490' Start 11 81°/100'									
2,500 00	1 18	87 87	2,499 99	0 00	0 10	0 10	11 81	11 81	0 00
2,599 99	12 99	87 87	2,599 05	0 46	12 41	12 42	11 81	11 81	0 00
2,699 99	24 80	87 87	2,693 50	1 67	44 72	44 75	11 81	11 81	0 00
2,799 99	36 62	87 87	2,779 32	3 57	95 66	95 73	11 81	11 81	0 00
2,899 99	48 43	87 87	2,852 89	6 08	163 08	163 20	11 81	11 81	0 00
2,999 99	60 24	87 87	2,911 09	9 10	244 13	244 30	11 81	11 81	0 00
3,099 99	72 05	87 87	2,951 46	12 50	335 36	335 59	11 81	11 81	0 00
3,199 99	83 86	87 87	2,972 29	16 13	432 92	433 22	11 81	11 81	0 00
3,243 82	89 04	87 87	2,975 00	17 76	476 62	476 95	11 81	11 81	0 00
EOC hold 89.04°									
3,299 99	89 04	87 87	2,975 94	19 85	532 74	533 11	0 00	0 00	0 00
3,399 99	89 04	87 87	2,977 61	23 58	632 66	633 10	0 00	0 00	0 00
3,499 99	89 04	87 87	2,979 29	27 30	732 58	733 08	0 00	0 00	0 00
3,599 99	89 04	87 87	2,980 96	31 03	832 49	833 07	0 00	0 00	0 00
3,699 99	89 04	87 87	2 982 63	34 75	932 41	933 06	0 00	0 00	0 00
3,799 99	89 04	87 87	2,984 31	38 47	1,032 32	1,033 04	0 00	0 00	0 00
3,899 99	89 04	87 87	2,985 98	42 20	1,132 24	1,133 03	0 00	0 00	0 00
3,999 99	89 04	87 87	2,987 66	45 92	1,232 16	1,233 01	0 00	0 00	0 00
4,099 99	89 04	87 87	2,989 33	49 64	1,332 07	1,333 00	0 00	0 00	0 00
4,199 99	89 04	87 87	2,991 00	53 37	1,431 99	1,432 98	0 00	0 00	0 00
4,299 99	89 04	87 87	2,992 68	57 09	1,531 91	1,532 97	0 00	0 00	0 00
4,399 99	89 04	87 87	2,994 35	60 82	1,631 82	1,632 96	0 00	0 00	0 00
4,499 99	89 04	87 87	2,996 03	64 54	1,731 74	1,732 94	0 00	0 00	0 00
4,599 99	89 04	87 87	2,997 70	68 26	1,831 66	1,832 93	0 00	0 00	0 00
4,699 99	89 04	87 87	2,999 37	71 99	1,931 57	1,932 91	0 00	0 00	0 00
4,737 40	89 04	87 87	3,000 00	73 38	1,968 95	1,970 32	0 00	0 00	0 00
PBHL-Seahawks #1									

Targets

Target Name - hit/miss target - Shape	Dip Angle (°)	Dip Dir (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (ft)	Easting (ft)	Latitude	Longitude
East HL-Seahawks #1	0 00	0 00	0 00	63 70	1,979 30	727 160 90	583,865 30	32° 59' 55 439 N	104° 3' 35 242 W
- plan misses by 1980 32ft at 0 00ft MD (0 00 TVD, 0 00 N, 0 00 E)									
- Rectangle (sides W500 00 H0 00 D0 00)									
PBHL-Seahawks #1	0 00	0 00	3,000 00	73 38	1,968 95	727,170 58	583,854 95	32° 59' 55 535 N	104° 3' 35 363 W
- plan hits target									
- Circle (radius 10 00)									
South HL-Seahawks #1	0 00	0 00	0 00	63 70	1,979 30	727,160 90	583,865 30	32° 59' 55 439 N	104° 3' 35 242 W
- plan misses by 1980 32ft at 0 00ft MD (0 00 TVD, 0 00 N, 0 00 E)									
- Rectangle (sides W0 00 H1,000 00 D0 00)									

Database:	EDM 2003 16 Single User Db	Local Co-ordinate Reference:	Well Seahawks Federal #1
Company:	Mack Energy Corp.	TVD Reference:	WELL @ 3754 00ft (KB Elev)
Project:	Chaves County, NM (NAD 27 NME)	MD Reference:	WELL @ 3754 00ft (KB Elev)
Site:	Seahawks Federal #1	North Reference:	Grid
Well:	Seahawks Federal #1	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan #1		

Casing Points

Measured Depth (ft)	Vertical Depth (ft)	Name	Casing Diameter (ft)	Hole Diameter (ft)
1,000 00	1,000 00	8 5/8" Casing	8 62500	12 25000

Plan Annotations

Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates +N/-S (ft)	Local Coordinates +E/-W (ft)	Comment
2,490 00	2,490 00	0 00	0 00	KOP 2490' Start 11 81°/100'
3,243 82	2,975 00	17 76	476 62	EOC hold 89 04°

MACK Energy Corporation

Scientific Drilling for Mack Energy Corp.
Site: Chaves County, NM (NAD 27 NME)
Well: Seahawks Federal #1
Wellbore: Wellbore #1
Design: Plan #1

Scientific Drilling
Directional Drilling Operations

SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	DLeg	TFace	VSec	Target
1	0 00	0 00	0 00	0.00	0 00	0 00	0 00	0 00	0 00	
2	2490 00	0 00	0 00	2490 00	0 00	0 00	0 00	0 00	0 00	
3	3243 82	89 04	87 87	2975 00	17 76	476 62	11 81	87 87	476 95	
4	4737.40	89.04	87 87	3000 00	73 38	1968 95	0 00	0 00	1970 32	PBHL-Seahawks #1

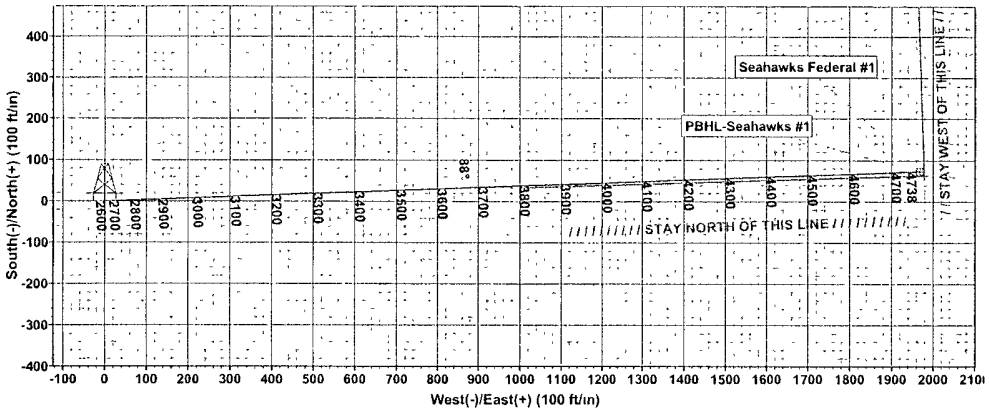
WELLBORE TARGET DETAILS (MAP CO-ORDINATES)

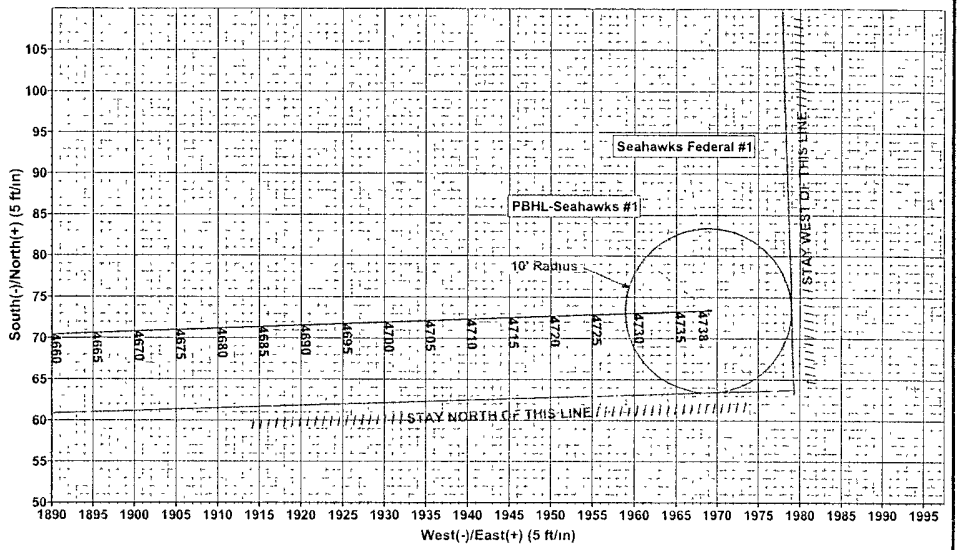
Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Shape
East HL-Seahawks #1	0 00	63 70	1979.30	727160 90	583865.30	32°59' 55 439 N	104°3' 35 242 W	Rectangle (Sides L500 00 W0 00)
South HL-Seahawks #1	0 00	63 70	1979 30	727160 90	583865 30	32°59' 55 439 N	104°3' 35 242 W	Rectangle (Sides L0 00 W1000 00)
PBHL-Seahawks #1	3000 00	73 38	1968.95	727170 58	583854 95	32°59' 55 535 N	104°3' 35 363 W	Circle (Radius 1 0 00)

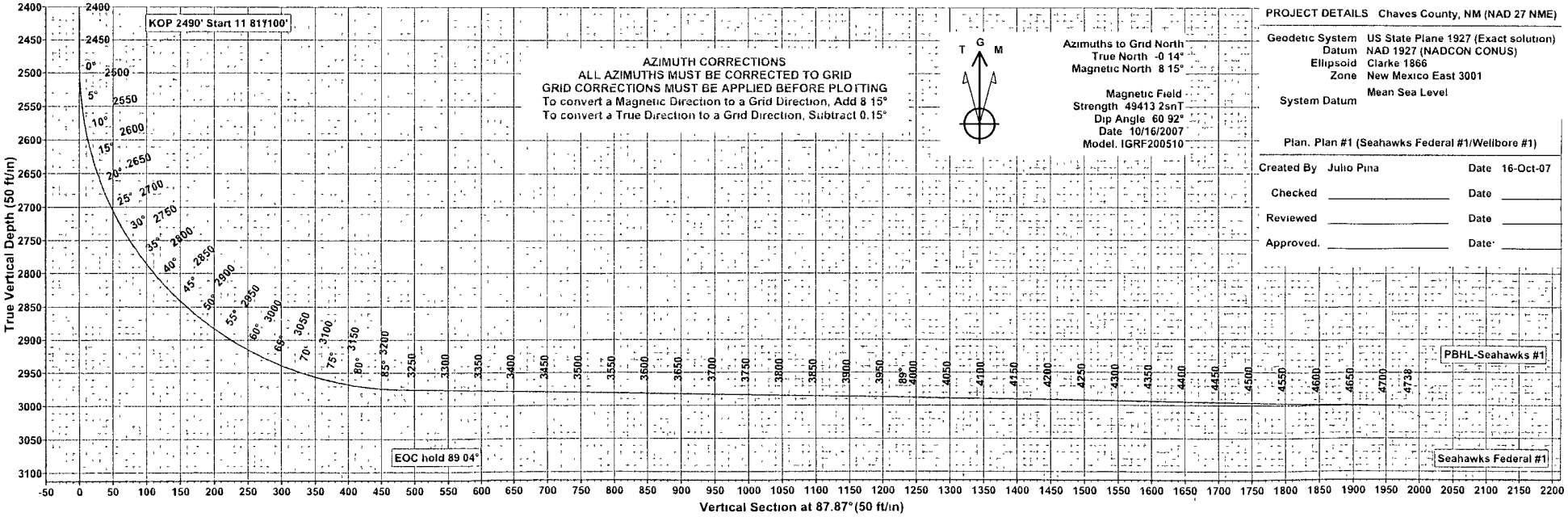
WELL DETAILS. Seahawks Federal #1

Ground Level 3738 00

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Slot
0 00	0.00	727097 20	581886 00	32°59' 54 859 N	104°3' 5 8 485 W	







PROJECT DETAILS Chaves County, NM (NAD 27 NME)

Geodetic System US State Plane 1927 (Exact solution)
Datum NAD 1927 (NADCON CONUS)
Ellipsoid Clarke 1866
Zone New Mexico East 3001
System Datum Mean Sea Level

Plan: Plan #1 (Seahawks Federal #1/Wellbore #1)

Created By Julio Pina Date 16-Oct-07
Checked _____ Date _____
Reviewed _____ Date _____
Approved. _____ Date _____

Attached to Form 3160-3
Mack Energy Corporation
Seahawks Federal #1
SHL 1650 FSL & 2310 FEL Unit J, Sec. 19 T15S R29E
BHL 1700 FSL & 330 FEL Unit I, Sec 19 T15S R29E
Chaves County, NM

DRILLING PROGRAM

1. Geologic Name of Surface Formation

Quaternary

2. Estimated Tops of Important Geologic Markers:

Quaternary	Surface
Yates	770'
Seven Rivers	1010'
Queen	1500'
Grayburg	1900'
San Andres	2200'
Glorieta	3550'

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

Water Sand	150'	Fresh Water
Yates	770'	Oil/Gas
Seven Rivers	1010'	Oil/Gas
Queen	1500'	Oil/Gas
Grayburg	1900'	Oil/Gas
San Andres	2200'	Oil/Gas

No other formations are expected to give up oil, gas or fresh water in measurable quantities. Setting 13 3/8" casing to 325' and circulating cement back to surface will protect the surface fresh water sand. Salt Section will be protected by setting 8 5/8" casing to 1000' 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	Interval	OD Casing	Wt, Grade, Jt, cond, burst/collapse/tension
17 ½"	0-325'	13 3/8"	48#, H-40, ST&C, New, 9.79/4.19/16.77
12 ¼"	0-1000'	8 5/8"	24#, J-55, ST&C, New, 3.93/2.637/10.17
7 7/8"	0-2900'	5 1/2"	17#, J-55, LT&C, New, 3.41/3.0/2.88
7 7/8"	2900-4737'	5 1/2"	17#, J-55, Buttress, New, 3.41/3.147/7.49

5. Cement Program:

13 3/8" Surface Casing: Class C, 300sx, yield 1.32.

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

5 1/2" Production Casing: Class C, 1500sx, 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 (2000 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 13 3/8" surface casing and tested to 1500 psi by a 3rd party. The BOP will then be nippled up on the 8 5/8" intermediate casing and tested by a 3rd party to 2000 psi and used continuously until TD is reached. All BOP's and accessory equipment will be tested to 2000 psi before drilling out of intermediate 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 2000 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
0-325'	Fresh Water	8.5	28	N.C.
250-1000'	Brine	10	30	N.C.
1000'-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:

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 8 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 November 30, 2007. Once commenced, the drilling operation should be finished in approximately 20 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.

Attached to Form 3160-3
Mack Energy Corporation
Seahawks Federal #1
SHL 1650 FSL & 2310 FEL Unit J, Sec. 19 T15S R29E
BHL 1700 FSL & 330 FEL Unit I, Sec 19 T15S R29E
Chaves County, NM

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 CR 217 and St. Hwy 31 go west 3.2 miles, turn south 3.3 miles, turn west .8 mile, turn south .7 mile to a pipeline ROW, turn SE .7 mile, turn west . mile 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.

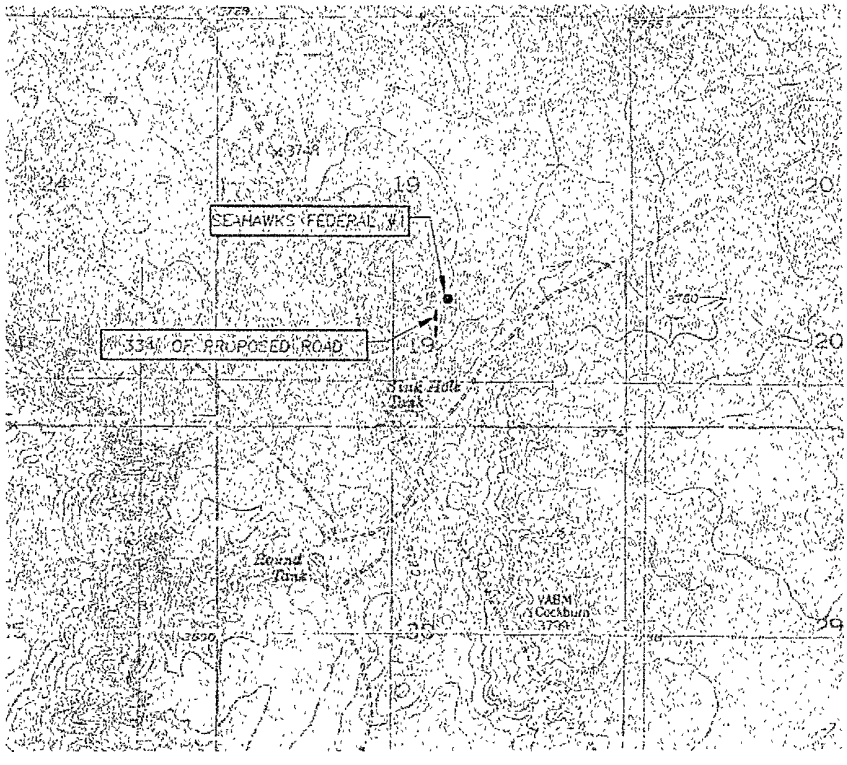


Exhibit #4

2. Proposed Access Road:

Exhibit #3 shows the 334' 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 or reserve pit area.

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 follow stay on location Seahawks Tank Battery at the #1 well.

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:

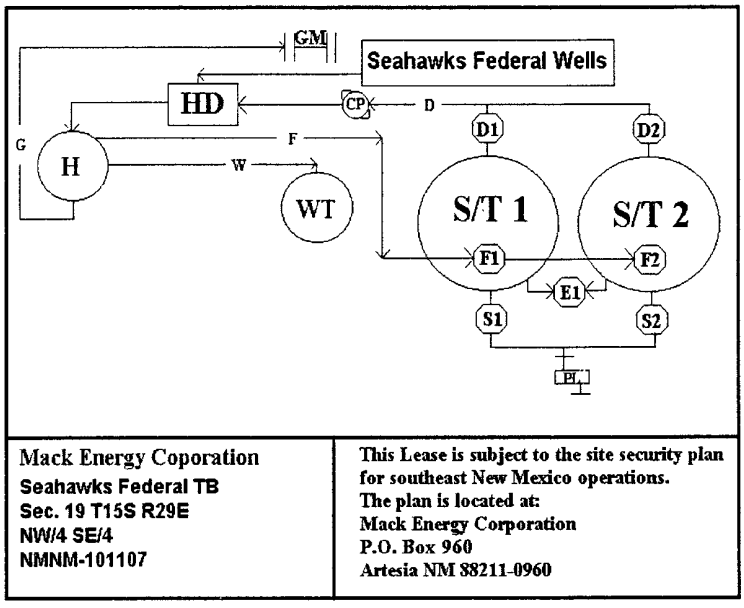
1) San Andres Completion: Will be sent to the Seahawks Federal TB located at the #1 well. The Facility is shown in Exhibit #5.

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:

1) 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 reserve pit.

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.

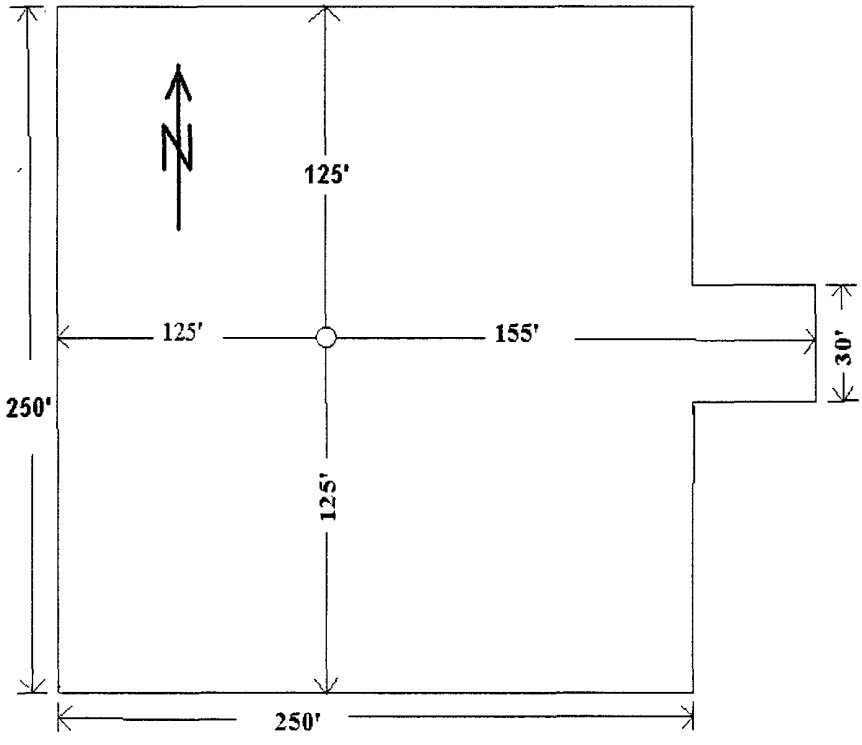


Exhibit #6

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 leasee 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 (505) 748-1288 (office)

Mack Energy Corporation

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 2-way 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

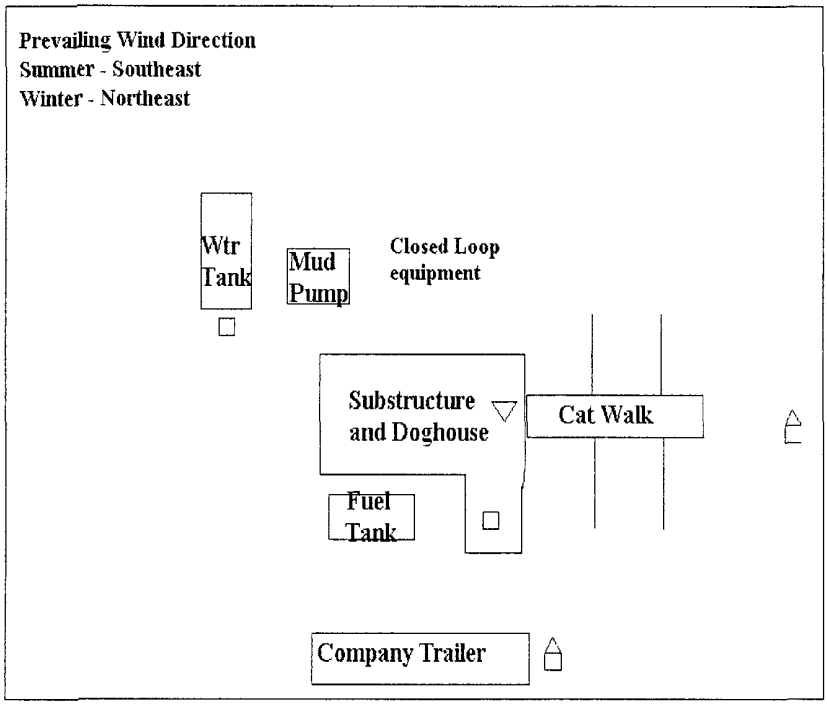
AUTHORIZED PERSONNEL ONLY

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

1-505-748-1288

DRILLING LOCATION H2S SAFTY EQUIPMENT
Exhibit # 8



▽ H2S Monitors with alarms at the bell nipple

□ Wind Direction Indicators

△ Safe Briefing areas with caution signs and breathing equipment min 150 feet from

Attachment to Exhibit #9
NOTES REGARDING THE BLOWOUT PREVENTERS
Seahawks Federal #1
Eddy 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.

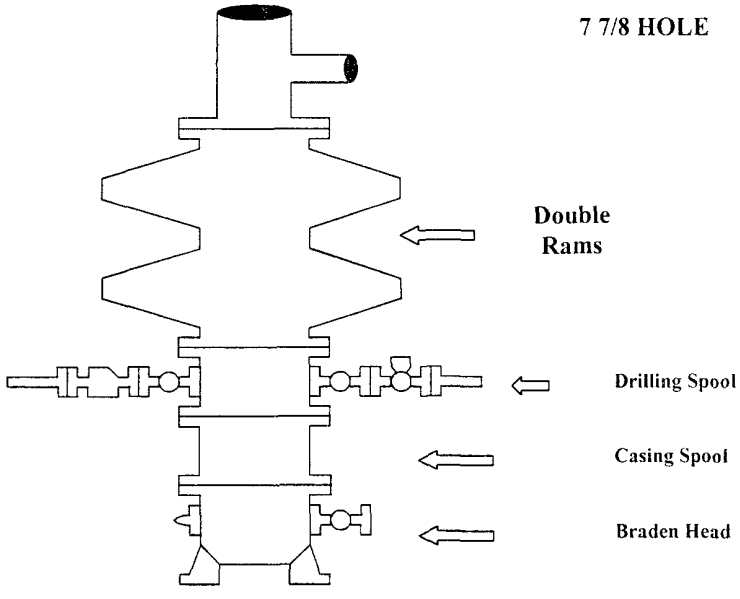
10. Blow out preventer control to be located as close to driller's position as feasible.

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.

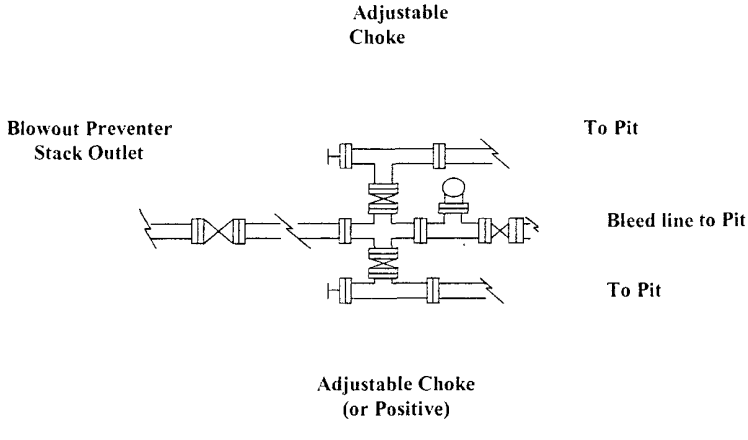
Mack Energy Corporation

Exhibit #9

BOPE Schematic



Choke Manifold Requirement (2000 psi WP minimum)
No Annular Required
See Exhibit #11 for Detail



Mack Energy Corporation

Minimum Blowout Preventer Requirements

2000 psi Working Pressure

2 MWP

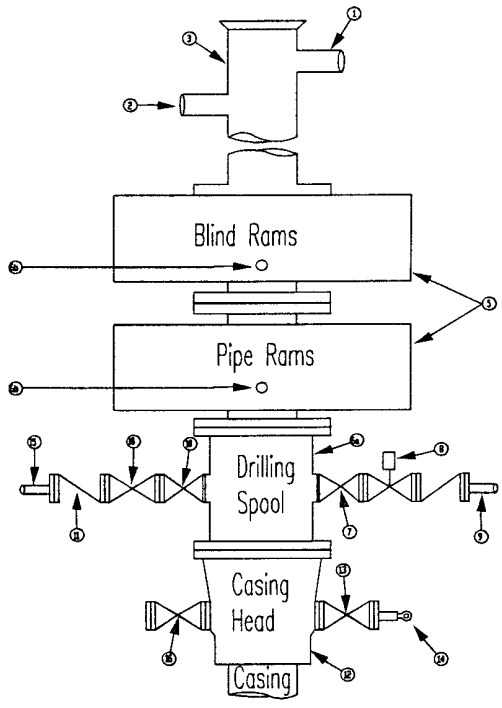
EXHIBIT #10

Stack Requirements

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

OPTIONAL

16	Flanged Valve	1 13/16	



CONTRACTOR'S OPTION TO FURNISH:

1. All equipment and connections above bradenhead or casinghead. Working pressure of preventers to be 2000 psi minimum.
2. Automatic accumulator (80 gallon, 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
5. 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:

1. 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
4. 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
5. All valves to be equipped with hand-wheels or handles ready for immediate use
6. Choke lines must be suitably anchored.
7. Handwheels and extensions to be connected and ready for use.
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
11. Do not use kill line for routine fill up operations

Mack Energy Corporation

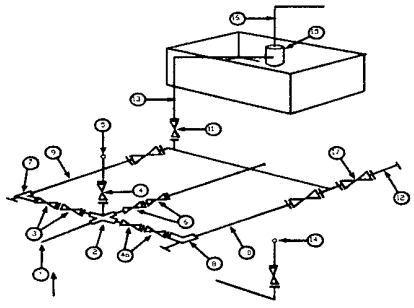
Exhibit #11

MIMIMUM CHOKE MANIFOLD

3,000, 5,000, and 10,000 PSI Working Pressure

3M will be used

3 MWP - 5 MWP - 10 MWP



Mud Pit

Reserve Pit

*** Location of separator optional**

Below Substructure

Mimimum requirements

		3,000 MWP			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 comparable 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

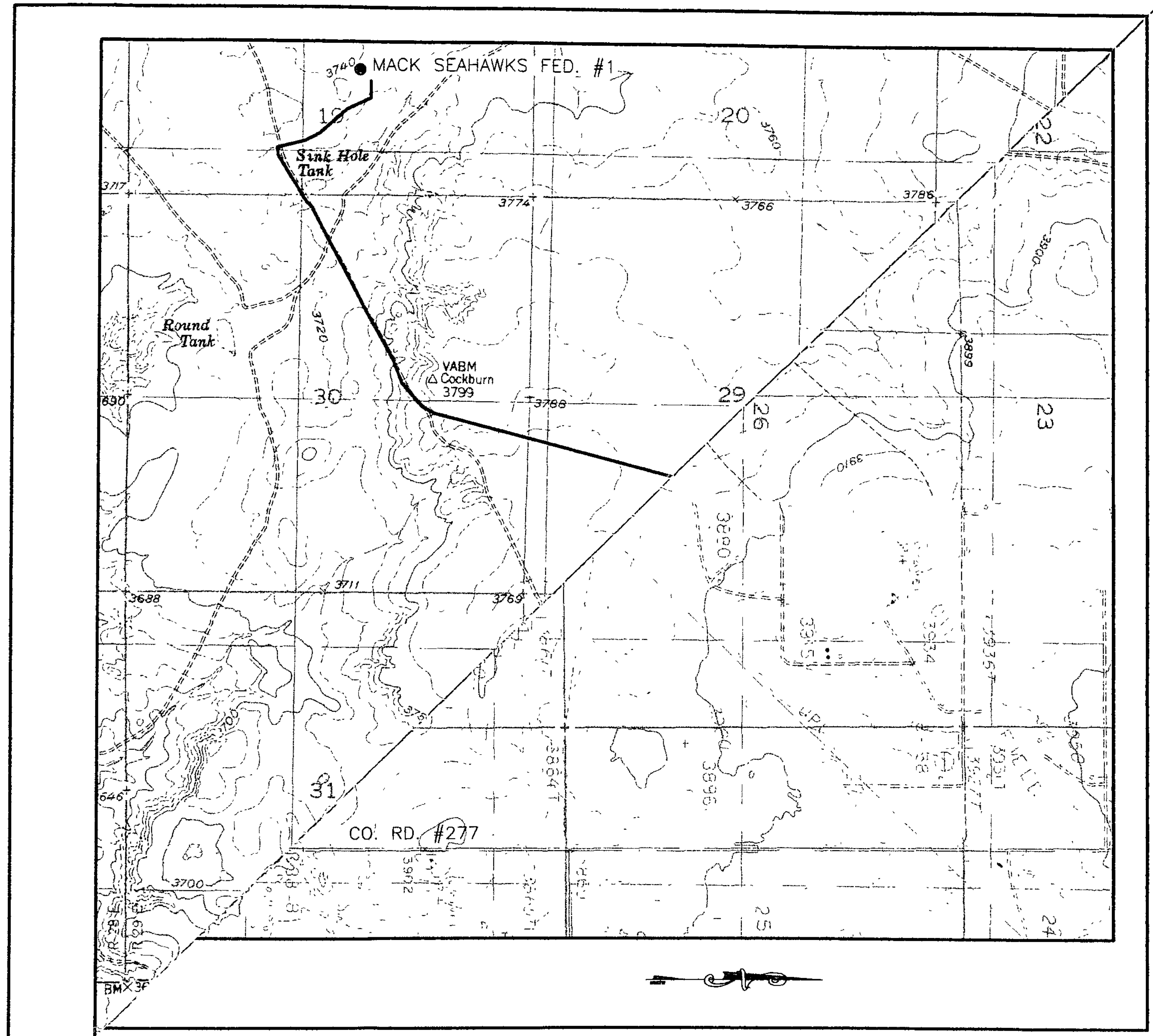
CERTIFICATION

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: 11-5-07

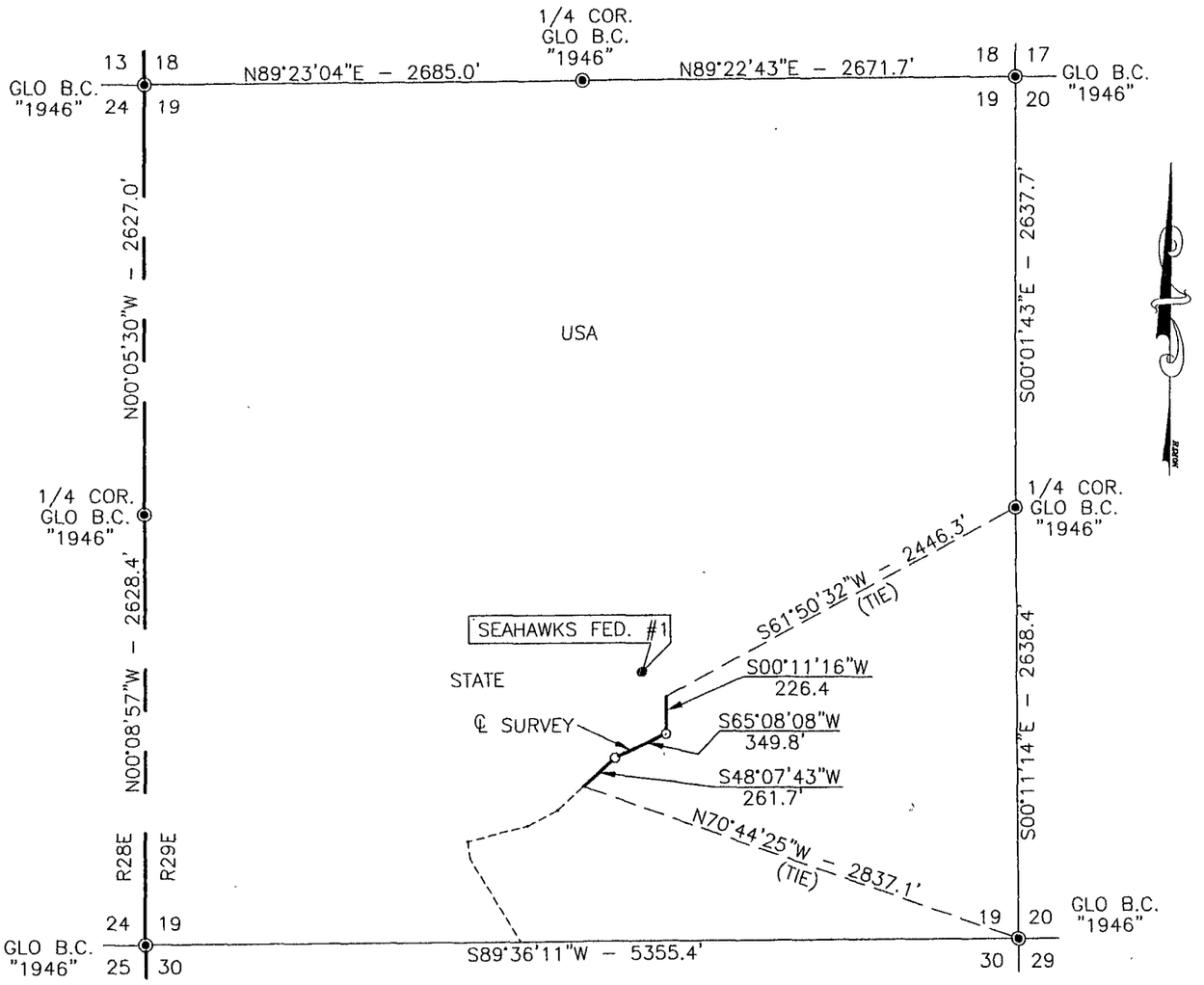
Signed: Jerry W. Sherrell

Jerry W. Sherrell


MACK SEAHAWKS FED. #1
3740
Sink Hole Tank
Round Tank
VABM
Cockburn
3799
CO. RD. #277
19
20
22
23
24
25
26
29
30
31
3717
3774
3766
3786
3720
3788
3711
3769
3688
3700
3899
3910
3890
3896

SECTION 19, TOWNSHIP 15 SOUTH, RANGE 29 EAST, N.M.P.M.,

CHAVES COUNTY, NEW MEXICO.



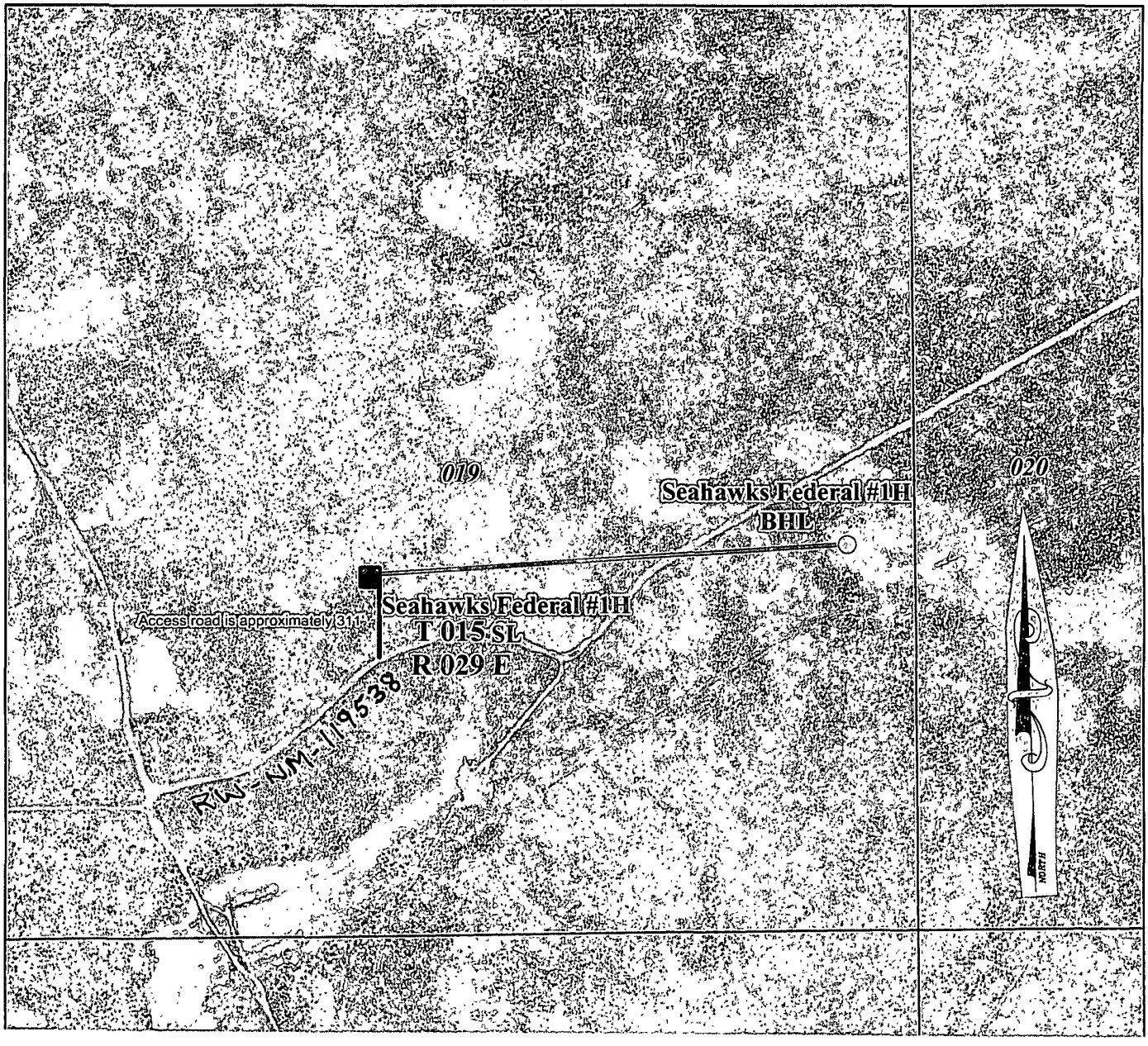
DESCRIPTION

A STRIP OF LAND 50.0 FEET WIDE AND 837.9 FEET OR 0.159 MILES IN LENGTH CROSSING USA LAND IN SECTION 19, TOWNSHIP 15 SOUTH, RANGE 29 EAST, NMPM, CHAVES COUNTY, NEW MEXICO AND BEING 25.0 FEET LEFT AND 25.0 FEET RIGHT OF THE ABOVE PLATTED CENTERLINE SURVEY.

NOTE: BEARINGS SHOWN HEREON ARE MERCATOR GRID AND CONFORM TO THE NEW MEXICO COORDINATE SYSTEM "NEW MEXICO EAST ZONE" NORTH AMERICAN DATUM 1983. DISTANCES ARE SURFACE VALUES.

EXHIBIT A

OPERATORS NAME: **Mack Energy Corporation**
LEASE NO.: **NM-101107**
WELL NAME & NO: **Seahawks Federal #1H**
SURFACE HOLE FOOTAGE: **1650' FSL & 2310' FEL**
BOTTOM HOLE LOCATION: **1700' FSL & 330' FEL**
LOCATION: **Section 19, T. 15 S., R. 29 E., NMPM**
COUNTY: **Chaves County, New Mexico**



PECOS DISTRICT - RFO
CONDITIONS OF APPROVAL

2/21/08

OPERATORS NAME: **Mack Energy Corporation**
LEASE NO.: **NM-101107**
WELL NAME & NO: **Seahawks Federal #1H**
SURFACE HOLE FOOTAGE: **1650' FSL & 2310' FEL**
BOTTOM HOLE LOCATION: **1700' FSL & 330' FEL**
LOCATION: **Section 19, T. 15 S., R. 29 E., NMPM**
COUNTY: **Chaves County, New Mexico**

GENERAL PROVISIONS

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

I. PERMIT EXPIRATION

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

II. ARCHAEOLOGICAL, PALEONTOLOGY & HISTORICAL SITES

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

III. NOXIOUS WEEDS

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

IV. CONSTRUCTION

A. NOTIFICATION:

The BLM shall administer compliance and monitor construction of the access road and well pad. Notify the Roswell Field Office at (505) 627-0247 at least 3 working days prior to commencing construction of the access road and/or well pad.

When construction operations are being conducted on this well, the operator shall have the approved Application for Permit to Drill and Conditions of Approval on the well site and they shall be made available upon request by the Authorized Officer.

B. TOPSOIL:

The operator shall stockpile the topsoil of the well pad. The topsoil to be stripped is approximately 6 inches in depth. The topsoil shall be used for interim and final reclamation. The soil stockpile shall be placed in the southwest side of the well pad.

C. RESERVE PITS: No reserve pit will be used.

The operator shall use a **Closed Loop System** instead of a reserve pit. The drill hole cuttings shall be properly disposed of at an authorized disposal site.

D. FEDERAL MINERAL MATERIALS PIT:

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

Payment shall be made to the BLM prior to removal of any additional federal mineral materials from any site other than the reserve pit. Call the Roswell Field Office at (505) 627-0236.

E. WELL PAD SURFACING:

Surfacing of the well pad is not required.

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

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

F. ON LEASE ACCESS ROAD:

Road Egress and Ingress

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

Road Width

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

Surfacing

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

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

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

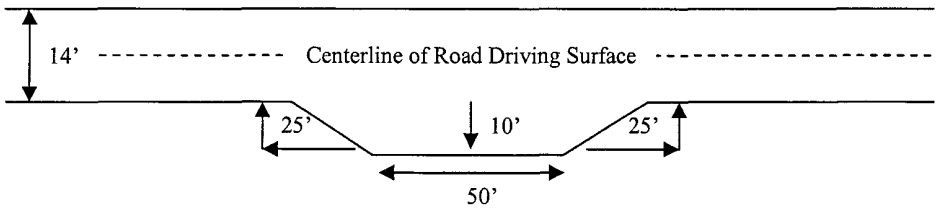
Crowning

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

Turnouts

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

Standard Turnout – Plan View

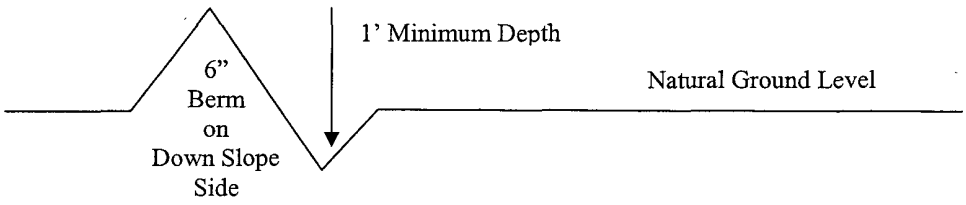


Drainage

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

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

Cross Section Of 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

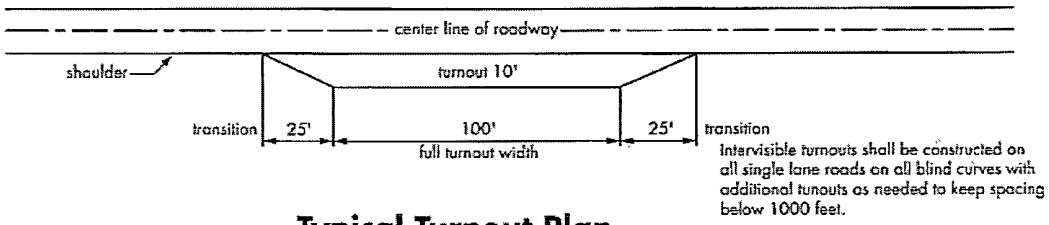
Example - On a 4% road slope that is 400 feet long, the water flow shall drain water into a lead-off ditch. Spacing interval shall be determined by the following formula:

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

Public Access

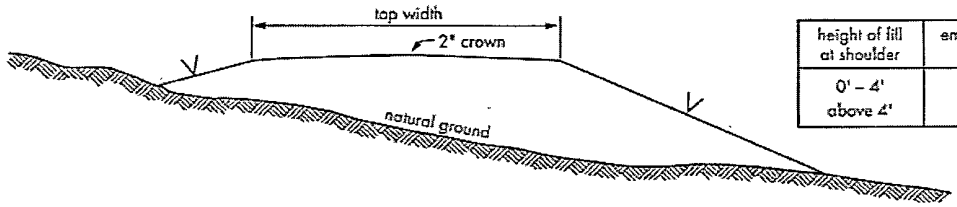
Public access on this road shall not be restricted by the operator without specific written approval granted by the Authorized Officer.

Figure 1 – Cross Sections and Plans For Typical Road Sections



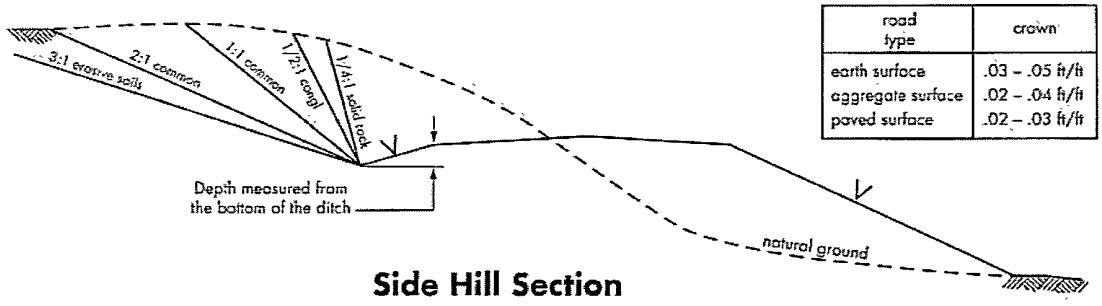
Intervisible turnouts shall be constructed on all single lane roads on all blind curves with additional turnouts as needed to keep spacing below 1000 feet.

Typical Turnout Plan



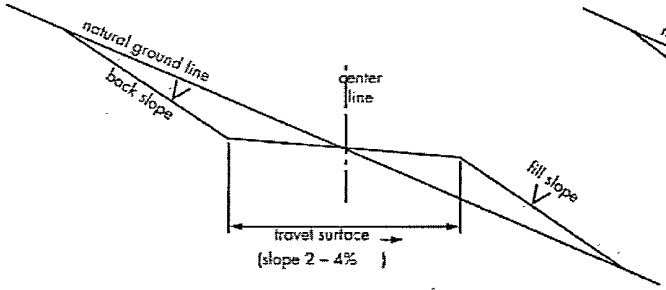
height of fill at shoulder	embankment slope
0' – 4'	3:1
above 4'	2:1

Embankment Section

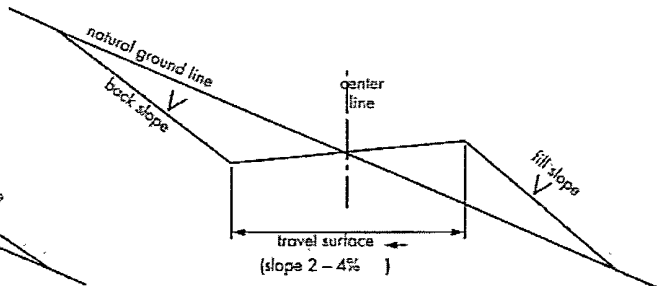


road type	crown
earth surface	.03 – .05 ft/ft
aggregate surface	.02 – .04 ft/ft
paved surface	.02 – .03 ft/ft

Side Hill Section



Typical Outsloped Section



Typical Inslope Section

V. DRILLING

A. DRILLING OPERATIONS REQUIREMENTS

1. The Bureau of Land Management (BLM) is to be notified 24 hours at (505) 627-0205 in sufficient time for a representative to witness:

2. The BLM Roswell Field Office is to be notified a minimum of **4** hours in advance for a representative to witness:

a. Spudding

b. Cementing casing: **13-3/8** inch **8-5/8** inch **5-1/2** inch

3. A Hydrogen Sulfide (H2S) Drilling Plan should be activated 500 feet prior to drilling into the **San Andres** formation.

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.

B. CASING

1. The **13-3/8** inch surface casing shall be set at **approximately 200 feet or 25 feet in the Rustler** and cemented to the surface.

a. If cement does not circulate to the surface, the BLM Roswell Field Office shall be notified and a temperature survey utilizing an electronic type temperature survey with a surface log readout will be used or a cement bond log shall be run to verify the top of the cement.

b. Wait on cement (WOC) time for a primary cement job will be a minimum 18 hours for a water basin, or 500 pounds compression strength, whichever is greater. (This is to include the lead cement).

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

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

2. The minimum required fill of cement behind the **8-5/8** inch intermediate casing is **sufficient to circulate to the surface.** If cement does not circulate see B.1.a-d above.

3. The minimum required fill of cement behind the **5-1/2** inch production casing is **sufficient to tie back 200 feet into the 8-5/8 inch intermediate casing set at approximately 1000 feet.** If cement does not circulate, a temperature survey utilizing an electronic type temperature survey with a surface log readout will be used or a cement bond log shall be run to verify the top of the cement.

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

C. PRESSURE CONTROL

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

2. Minimum working pressure of the blowout preventer (BOP) and related equipment (BOPE) required for drilling below the **13-3/8** inch surface casing shoe shall be **2000 (2M)** psi.

3. Minimum working pressure of the blowout preventer (BOP) and related equipment (BOPE) required for drilling below the **8-5/8** inch intermediate casing shoe shall be **2000 (2M)** psi.

a. The BLM Roswell Field Office shall be notified a minimum of **4** hours in advance for a representative to witness the tests.

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

c. The results of the test shall be reported to the BLM Roswell Field Office, 2909 West Second Street, Roswell, NM 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. 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.

g. 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.

h. A variance to test the surface casing and BOP/BOPE to the reduced pressure of **1500** psi by a third party prior to drilling below the **13-3/8** inch surface casing shoe is approved.

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 revegetation of the well location.

Containment Structures

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

Painting Requirement

All above-ground structures including meter housing that are not subject to safety requirements shall be painted a flat non-reflective paint color, Olive Drab, Munsell Soil Color Chart 18-0622 TPX.

VII. 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 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.

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

The pad shall be recontoured, all trash removed, and reseeded as follows:

Common Name and Preferred Variety	Scientific Name	Pounds of Pure 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 LIVE SEED (pls) PER ACRE		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

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