7008

ATS-08-281

OCD-ARTESIA

331

Form 3160-3
(April 2004)

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

S

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

FEB 15 2008
OCD-ARTESIA

APPLICATION FOR PERMIT TO DRILL OR REENTER

1a. Type of work: [X] DRILL [ ] REENTER	5. Lease Serial No. LC-029342B ~~LC-054988(A)~~ per oper. 1-9-08
1b. Type of Well: [ ] Oil Well [X] Gas Well [ ] Other [X] Single Zone [ ] Multiple Zone	6. If Indian, Allotee or Tribe Name ----------
2. Name of Operator ENCORE OPERATING, L. P. (BILLY JUROSKA 817-339-0788) 189951	7 If Unit or CA Agreement, Name and No. ----------
3a. Address 777 MAIN STREET SUITE 1400 FORT WORTH, TEXAS 76102	8. Lease Name and Well No. 37019 ENCORE "21" LOCO COM. # 1
3b. Phone No. (include area code) 817-877-9955	9. API Well No. 30-015-36135
4. Location of Well (Report location clearly and in accordance with any State requirements.*) At surface 830' FSL & 1235' FWL SECTION 21 T17S-R30E At proposed prod. zone SAME	10. Field and Pool, or Exploratory 80360 Loco Hills South -MORROW 11. Sec., T. R. M. or Blk and Survey or Area SECTION 21 T17S-R30E
14. Distance in miles and direction from nearest town or post office* In the city limits of Loco Hills New Mexico	12. County or Parish EDDY CO. / 13. State NEW MEXICO

15. Distance from proposed* location to nearest property or lease line, ft. (Also to nearest drig. unit line, if any)	16. No. of acres in lease	17. Spacing Unit dedicated to this well
830'	320	320
18 Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft.	**19. Proposed Depth**	**20. BLM/BIA Bond No. on file**
500'±	11,566'	MTB-000020 (NATIONWIDE)
21. Elevations (Show whether DF, KDB, RT, GL, etc.)	**22 Approximate date work will start***	**23. Estimated duration**
3632' GL	WHEN APPROVED	45 Days

24. Attachments

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 Joe T. Janica	Name (Printed Typed) Joe T. Janica	Date 01/07/08
Title Permit Engineer		
Approved by (Signature) /s/ James Stovall	Name (Printed Typed) /s/ James Stovall	Date FEB 09 2008
Title FIELD MANAGER	Office CARLSBAD 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.

APPROVAL FOR TWO YEARS

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

*(Instructions on page 2)

SEE ATTACHED FOR CONDITIONS OF APPROVAL

Roswell Controlled Water Basin

APPROVAL SUBJECT TO GENERAL REQUIREMENTS AND SPECIAL STIPULATIONS ATTACHED

DISTRICT I
1625 N. French Dr., Hobbs, NM 88240
DISTRICT II
1301 W. Grand Avenue, Artesia, NM 88210
DISTRICT III
1000 Rio Brazos Rd., Aztec, NM 87410
DISTRICT IV
1220 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico
Energy, Minerals and Natural Resources Department

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

Form C-102
Revised October 12, 2005

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

☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

API Number	Pool Code	Pool Name
	80360	Loco Hills; MORROW South

Property Code	Property Name	Well Number
	ENCORE "21" LOCO	1

OGRID No.	Operator Name	Elevation
189951	ENCORE OPERATING, L.P.	3632'

Surface Location

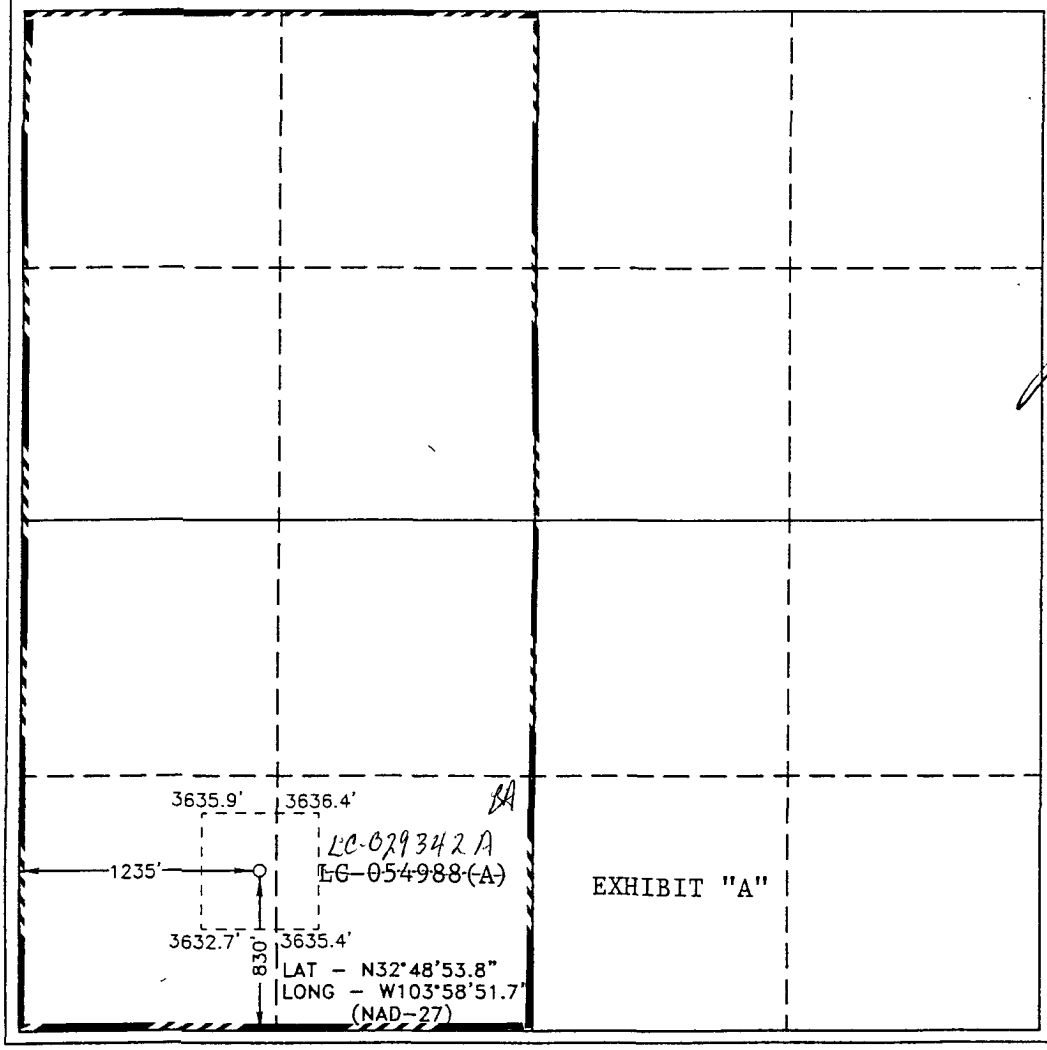
UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
M	21	17 S	30 E		830	SOUTH	1235	WEST	EDDY

Bottom Hole Location If Different From Surface

UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County

Dedicated Acres	Joint or Infill	Consolidation Code	Order No.
320			

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 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 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.

Signature — Date: 01/07/08

Joe T. Janica
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 supervison, and that the same is true and correct to the best of my belief.

Date Surveyed: MARCH 22, 2007

Signature & Seal of Professional Surveyor

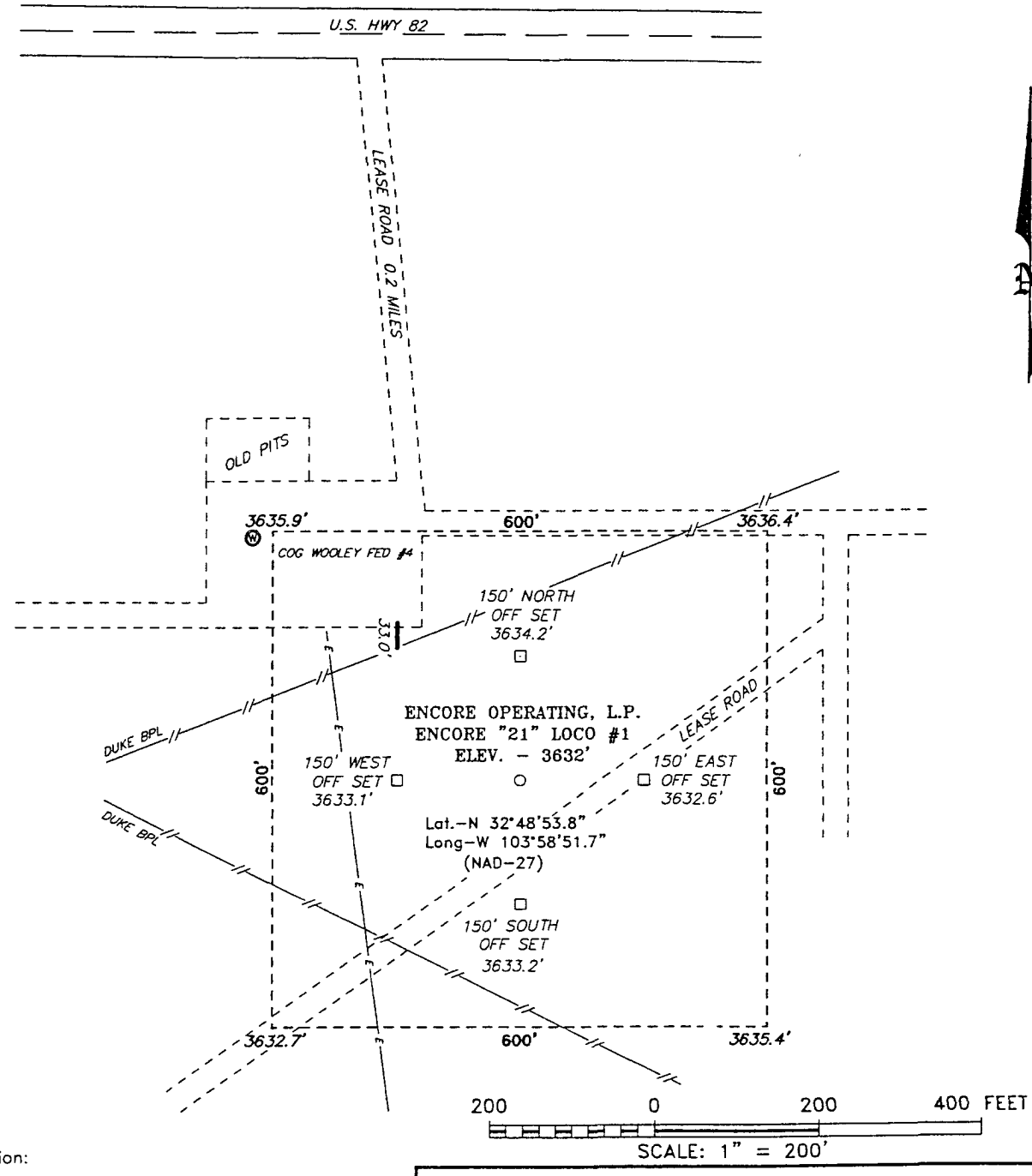
GARY L. JONES — NEW MEXICO — 7977 — REGISTERED PROFESSIONAL LAND SURVEYOR

W.O. No. 17861

Certificate No. GARY L. JONES 7977

BASIN SURVEYS

SECTION 21, TOWNSHIP 17 SOUTH, RANGE 30 EAST, N.M.P.M.,
EDDY COUNTY, NEW MEXICO.



Directions to Location:

FROM MILE MARKER 132 OF U.S. HWY 82 IN LOCO HILLS, GO EAST 0.1 MILES TO LEASE ROAD, ON LEASE ROAD GO SOUTH 0.2 MILES TO PROPOSED LEASE ROAD.

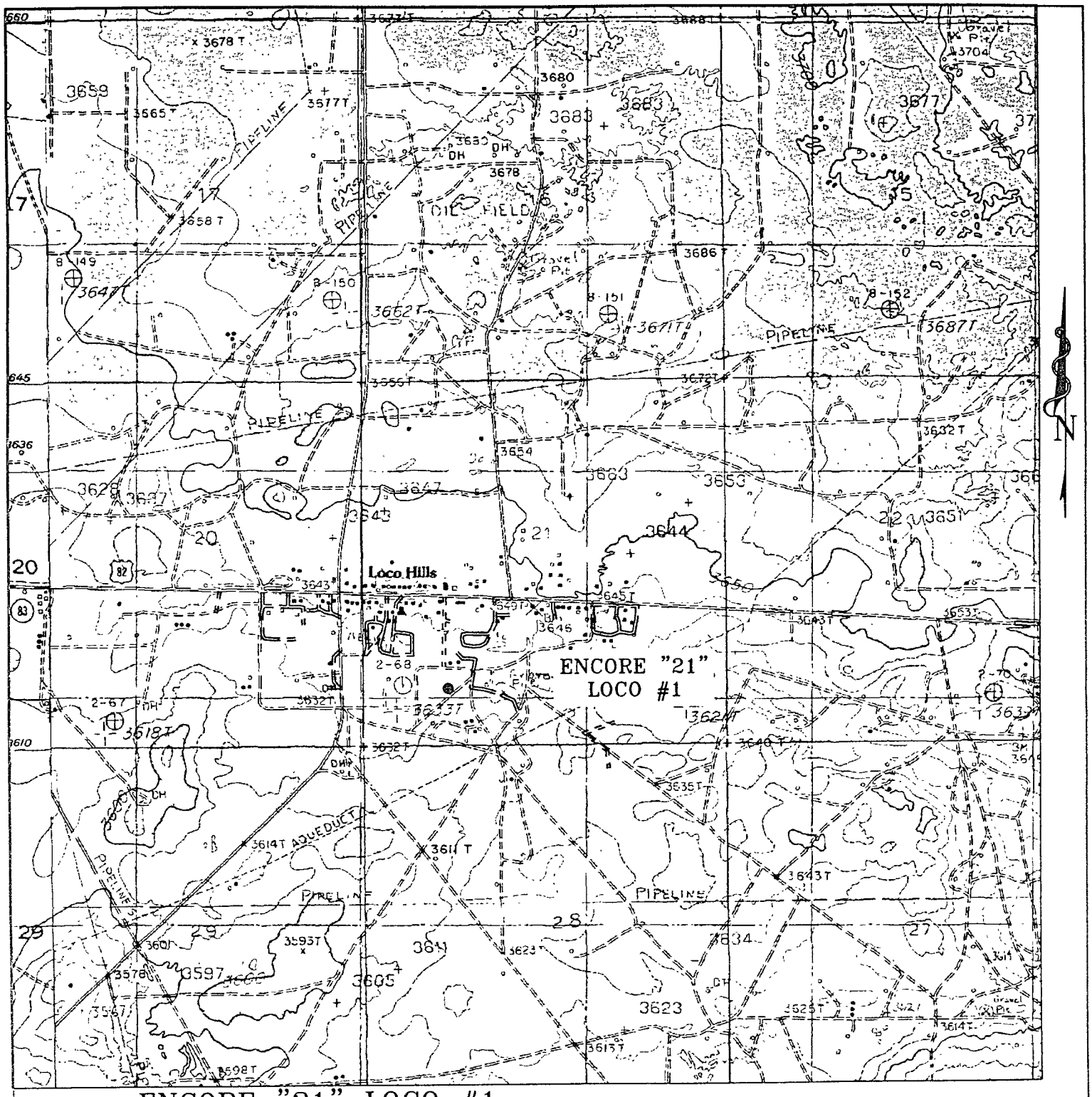
ENCORE OPERATING, L.P.

REF: ENCORE "21" LOCO #1 / WELL PAD TOPO

THE ENCORE "21" LOCO #1 LOCATED 830' FROM THE SOUTH LINE AND 1235' FROM THE WEST LINE OF SECTION 21, TOWNSHIP 17 SOUTH, RANGE 30 EAST, N.M.P.M., EDDY COUNTY, NEW MEXICO.

BASIN SURVEYS P.O. BOX 1786 - HOBBS, NEW MEXICO

W.O. Number: 17861	Drawn By: J. M. SMALL		
Date: 03-23-2007	Disk: JMS 17861W	Survey Date: 03-22-2007	Sheet 1 of 1 Sheets

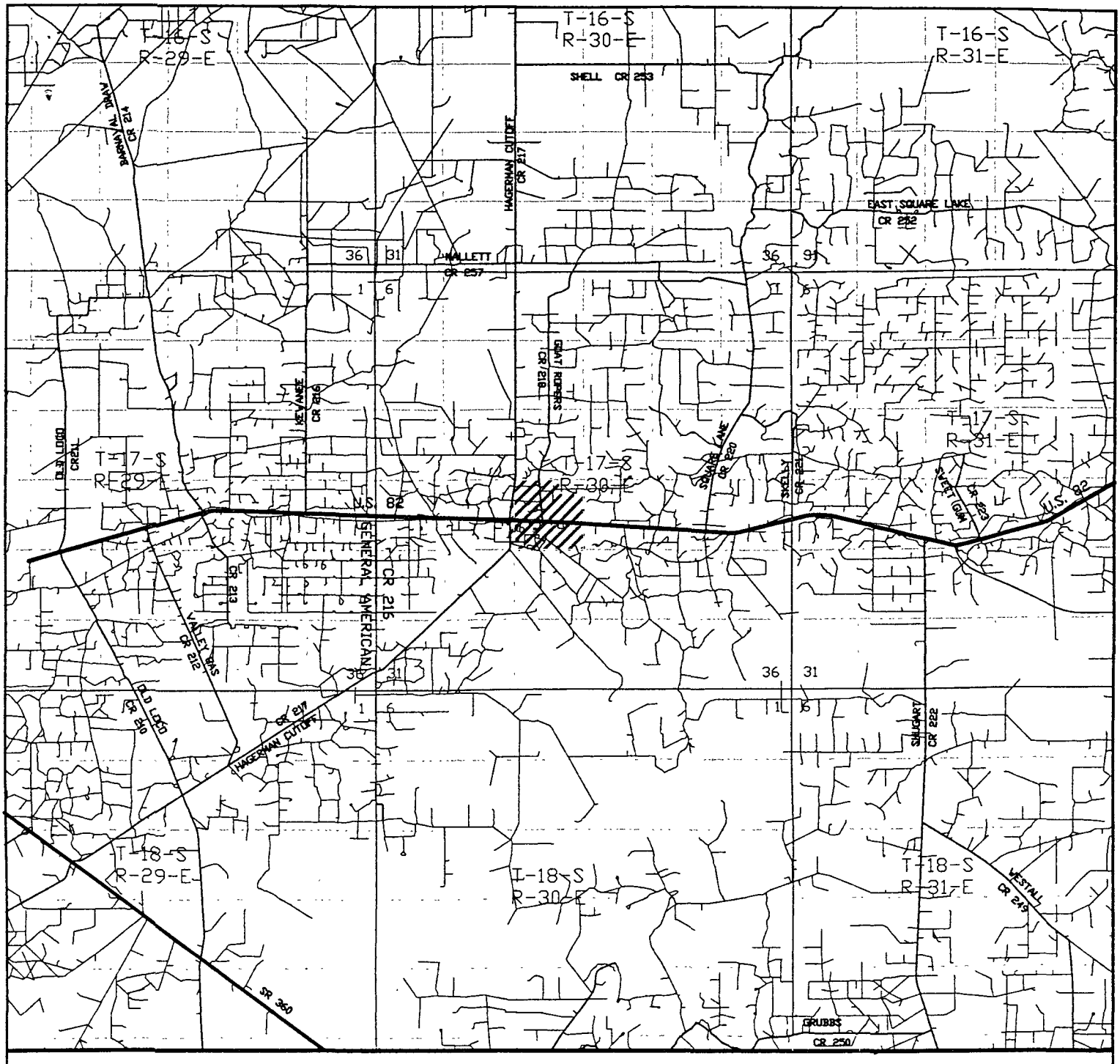


ENCORE "21" LOCO #1
Located at 830' FSL and 1235' FWL
Section 21, Township 17 South, Range 30 East,
N.M.P.M., Eddy County, New Mexico.

Basin Surveys
focused on excellence in the oilfield
P.O. Box 1786
1120 N. West County Rd.
Hobbs, New Mexico 88241
(505) 393-7316 - Office
(505) 392-3074 - Fax
basinsurveys.com

W.O. Number:	17861T
Survey Date:	03-22-2007
Scale:	1" = 2000'
Date:	03-23-2007

ENCORE OPERATING, L.P.



ENCORE "21" LOCO #1
Located at 830' FSL and 1235' FWL
Section 21, Township 17 South, Range 30 East,
N.M.P.M., Eddy County, New Mexico.

basin surveys
focused on excellence in the oilfield

P.O. Box 1786
1120 N. West County Rd.
Hobbs, New Mexico 88241
(505) 393-7316 - Office
(505) 392-3074 - Fax
basinsurveys.com

W.O. Number:	17861TR
Survey Date:	03-22-2007
Scale:	1" = 2 MILES
Date:	03-23-2007

ENCORE OPERATING, L.P.

APPLICATION TO DRILL

ENCORE OPERATING, L.P.
ENCORE "21" LOCO COM. #1
UNIT "M" SECTION 21
T17S-R30E EDDY CO. NM

In response to questions asked under Section II of Bulletin NTL-6, the following information on the above will is provided for your information.

1. LOCATION: 830' FSL & 1235' FWL SECTION 21 T17S-R30E EDDY CO. NM

2. ELEVATION ABOVE SEA LEVEL: 3632' GL

3. GEOLOGIC NAME OF SURFACE FORMATION: Quaternery Aeolian Deposits.

4. DRILLING TOOLS AND ASSOCIATED EQUIPMENT: Conventional rotary drilling rig using drilling mud as a circulating medium for solids removal from hole.

5. PROPOSED DRILLING DEPTH: 11,566'

6. ESTIMATED TOPS OF GELOOGICAL MARKERS:

Salt	580'	Strawn	10,336'
Yates	1230'	Atoka	10,541'
San Andres	3100'	Morrow	11,016'
Abo	6520'	Morrow Lower	11,256'
Wolfcamp	8020'	Mississippi Lm.	11,386
		TD	11,556'

7. POSSIBLE MINERAL BEARING FORMATION:

Abo	Oil	Atoka	Gas
Wolfcamp	Gas	Morrow Sands	Gas

8. CASING PROGRAM:

Hole Size	Interval	OD of Casing	Weight	Thread	Collar	Grade	
26"	0-100	20"	NA	NA	NA	Conductor	New
17½"	0-500'	13 3/8"	48#	8-R	ST&C	H-40	New
12¼"	0-4200'	9 5/8"	40#	Butt.	BT&C	J-55	New
8 3/4"	0-11,566'	5½"	20#	8-R	LT&C	P-110	New

Design Factors: Collapse 1.125 Burst 1.0 Body Yield 1.5 Joint strength:
8-R thread 1.8
BT Thread 1.6

APPLICATION TO DRILL

ENCORE OPERATING, L.P.
ENCORE "21" LOCO COM. #1
UNIT "M" SECTION 21
T17S-R30E EDDY CO. NM

9. CASING SETTING DEPTH & CEMENTING:

20"	Conductor	Set 100' of 20" conductor pipe and cement to sueface with Redi-mix.
13 3/8"	Surface	Set 500' of 13 3/8" 48# H-40 ST&C casing. Cement with 210 Sx. of Class "C" Halco Light + .125# Flocele/Sx., Yield 2.06, tail in with 240 Sx. of Premium Plus Class "C" cement + 2% CaCl. Yield 1.34. Circulate cement.
9 5/8"	Intermediate	Set 4200' of 9 5/8" 40# J-55 BT&C casing. Cement with 830 Sx. of Interfill Class "C" cement Yield 2.76,tail in with 265 Sx. of Premium Plus Class "C" cement circulate cement to surface. Yield 1.33.
5½"	Production	Set 11,566' of 5½" 20# P-110 HC, LT&C casing. Cement in 2 stages, DV Tool at 8000'±. Cement 1st stage with 275 Sx. of Interfill Class "H" + .2% HR-7, Yield 2.81 tail in with 480 Sx. of Super Class "H" cement + .4% LAP-1, + .3% CFR-3, + 1# Salt/Sx, + .25#/Sx D-Air 3000, + .2% HR-7. Yield 1.61. Cement 2nd stage with 785 Sx. of Interfill Class "H" cement, Yield 2.49. Tail in with 185 Sx. of Premium Plus cement, Yield 1.19. Top of cement estimated to be 2500' from surface.

10. PRESSURE CONTROL EQUIPMENT: Exhibit "E" shows a 10,000 PSI working pressure B.O.P. Consting of pipe rams, spool, pipe rams, blind rams, and a 5000PSI annular preventor. The B.O.P. will be nippled up on the 13 3/8" casing and tested to API specifications after each casing string is cemented. The pipe rams will be worked at least once in each 24 hour period and the blind rams will be worked when the drill pipe is out of hole on trips. Full opening Stabbing valve an upper kelly cock will be available on the rig floor at all times. Exhibit "E-1" shows a hydraulically operated closing unit and a 3" 10,000 PSI choke manifoldwith manual choke and remotely controled chokes. No abnormal pressures or abnormal temperatures are expected while drilling this well..

11. PROPOSED MUD CIRCULATING SYSTEM:

DEPTH	MUD WT.	VISC.	FLUID LOSS	TYPE MUD SYSTEM

SEE FOLLOWING PAGE

APPLICATION TO DRILL

ENCORE OPERATING, L.P.
ENCORE "21" LOCO COM. #1
UNIT "M" SECTION 21
T17S-R30E EDDY CO. NM

Mud Program:

Spud with bentonite/lime type mud having a 38-42 sec/qt viscosity and drill to 13-3/8" casing point at 500 feet. Drill out the 13-3/8" casing with 10.0-10.1 brine water. Set 9-5/8" casing at 4,200 feet. Drill out with 8.4 ppg cut brine. Drill from 4,200' to mud-up point at ±10,000' with an 8.4-9.3 ppg brine water. Mud-up brine water with Duo Vis, Poly Pac R and My-Lo-Jel products at ±10,000 feet. Maintain a 38-44 sec/qt viscosity, 12.0-8.0 cc fluid loss and 9.5-9.8 ppg mud weight after mud up to 10,250 feet. To drill from the top of the Strawn expected at 10,336' MD to total depth mud weights of 9.8-10.0 ppg are expected. Mud filtrate will be reduced to 8.0-6.0 cc by 10,250 feet and maintained at these values to TD. Lost circulation material will be added, as needed. A H_2S scavenger chemical will be added to the mud system after drilling out the 13-3/8" shoe and maintain to TD. H_2S training and safety equipment will be operations from the drilling out of the 13-3/8" casing to TD.

Drilling Fluid Properties

Depth (MD)	MW (ppg.)	Viscosity	PV	YP	API FL	pH	Drill Solids
0-500	8.8-9.2	38-42			NC	9.5-10.0	4-5%
500-4,200	10.0-10.1	28	1	1	NC	9.5-10.0	≤1.5%
4,200-10,000	8.4-9.3	28-30	1-2	1-2	NC	9.5-10.0	≤1.5%
10,000-10,250	9.5-9.8	38-44	10-12	10-15	12-8	9.5-10.5	≤5%
10,250-TD	9.8-10.0	38-44	10-12	10-15	8-6	10-10.5	≤5%

Sufficient mud materials will be kept on location at all times in order to combat lost circulation, or unexpected kicks. In order to run open hole logs, and casing the water loss and viscosity may have to be altered in order to meet these requirements.

12. LOGGING, COREING, AND TESTING PROGRAM:

A. Open hole logs: Dual Laterolog, Density, Neutron ,SNP LDT, Fullwave Sonic Gamma Ray and Caliper from TD back to 9 5/8" casing shoe.

B. Cased hole log: Run Gamma Ray Neutron from 9 5/8" casing shoe back to surface.

C. Mud logger will be rigged up on hole at 5500'±. No DST's or cores are planned at this time.

13. POTENTIAL HAZARDS:

No abnormal pressures or temperatures are expected. There is no known presence of H^2S in this area. If H^2S is encountered the operator will comply with the provisions of Onshore Oil and Gas Order No. 6. No lost circulation is expected to occur. All personnel will be familiar with all aspects of safe operation of equipment being used to drill this well. Estimated BHP 6500 PSI, and Estimated BHT 195°.

14. ANTICIPATED STARTING DATE AND DURATION OF OPERATION:

Road and location construction will begin after the BLM has approved the APD. Anticipated spud date will be as soon after BLM approval and as soon as a rig will be available. Move in operation and drilling is expected to take 45 days. If production casing is run then an additional 30 days will be needed to complete well and construct surface facilities and/or lay flowlines in order to place well on production.

15. OTHER FACETS OF OPERATIONS:

After running casing, cased hole Gamma Ray, Neutron Collar logs will be run from TD back to all possible productive zones. The Morrow formation will be perforated and stimulated in order to establish production. The well will be swab tested and potentialed as a gas well.

AFE No. API No. Permit No.	**Encore Operating, L. P.** **Encore "21" Loco Com #1** Proposed Wellbore Sketch	**AFE Information** Dry Hole: $2,776,100 Completed: Proposed TD: 11,566' MD

Drilling Considerations	Wellbore Information	Casing Info / Mud Info / Hole Size / Cement Specs

All geologic depths are TVD

Salt.....580'

Salt Base.....1,065'

Yates .....1,230'

San Andres.....3,100'

Glorieta.....4,380'

Paddock.....4,460'
ABO.....6,520'
Wolfcamp.....8,020

Strawn.....10,336'

Atoka.....10,541'

Morrow.....11,016'

Morrow Middle.....11,096'

Morrow Lower.....11,256'

Mississipian Lm.....11,386'

20" conductor pre-set to 100'
Spud w/ 17-1/2" bit
Circulate cmt to surf behind 13-3/8" csg.
13-3/8" 48.0 ppf H-40 STC at 500'

Drill a 12-1/4" hole

Circ cement to surface

MW 9.7-10.0 ppg @ 9-5/8" csg pt.
9-5/8", 40.0 ppf., J-55 BTC @ 4,200'

Drill out w/8-3/4" bit
Circulate cement to 2500' from surface behind 5-1/2" casing
DV Tool @ 7,000'

MW 8.4-9.3 ppg f/9-5/8" csg pt to mud-up pt @ 10,000'

Mud-up brine water @ 10,000' w/Duo Vis/Poly Pac & My-Lo-Jel system. MW 9.5-9.8 ppg @ mud-up point.

MW from top of Strawn to TD 9.8-10.0 ppg

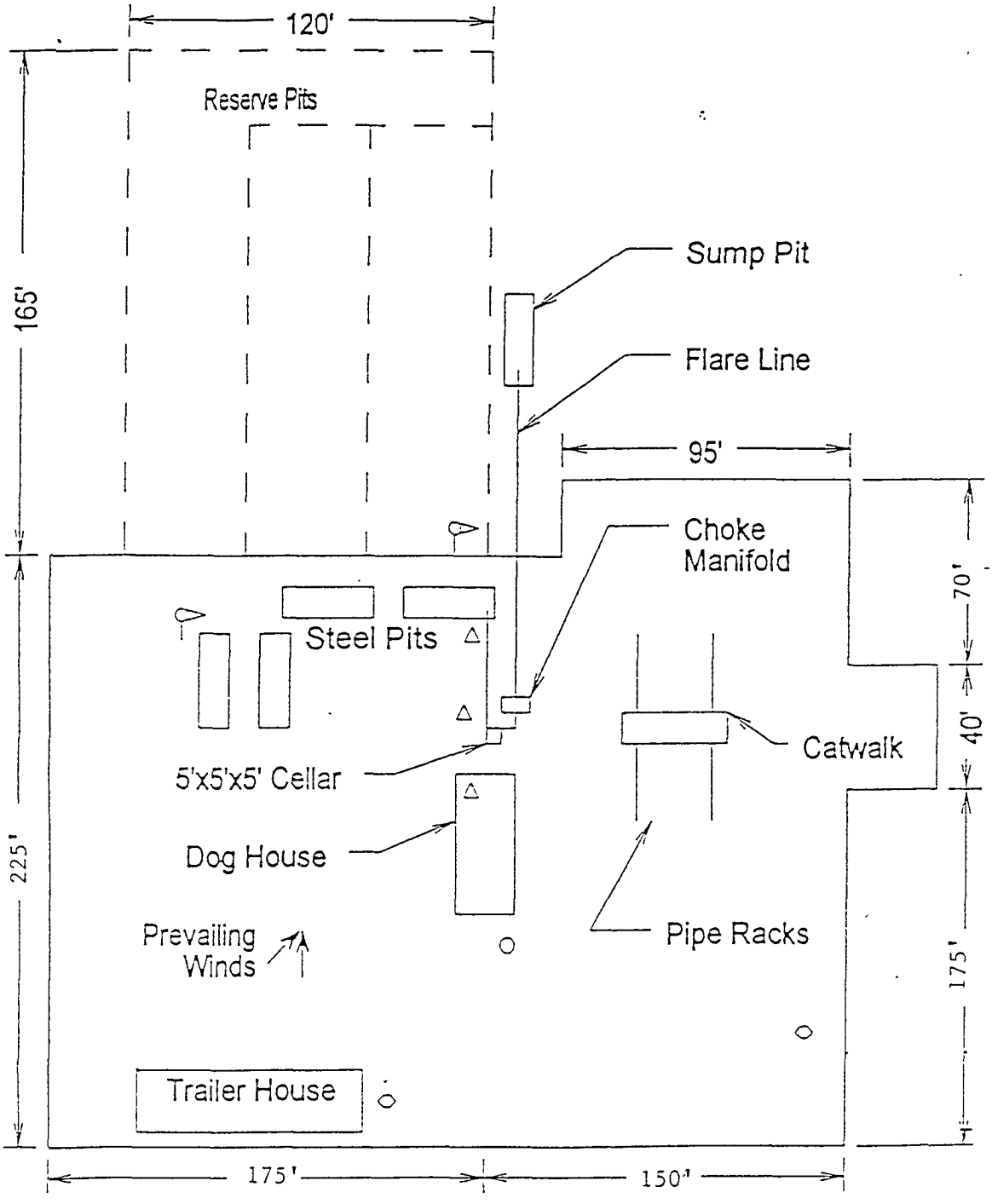
5-1/2", 20.0 ppf., P-110 HC LTC from 0-TD

Proposed 11,566' MD

Well Information

Surface Location: 830' FSL, 1235' FWL, Sec. 21, T17S-R30E, Eddy County, New Mexico

Bottom Hole Location:830' FSL & 1235' FWL, Sec. 21, T17S-R230E



- Wind Direction Indicators (wind sock or streamers)
- △ H2S Monitors (alarms at bell nipple and shale shaker)
- ○ Briefing Areas
- ○ Remote BOP Closing Unit
- □ Sign and Condition Flags

SEE ATTACHED FOR CONDITIONS OF APPROVAL

EXHIBIT "D"
RIG LAY OUT PLAT

ENCORE OPERATING, L.P.
ENCORE "21" LOCO COM. #1
UNIT "M" SECTION 21
T17S-R30E EDDY CO. NM

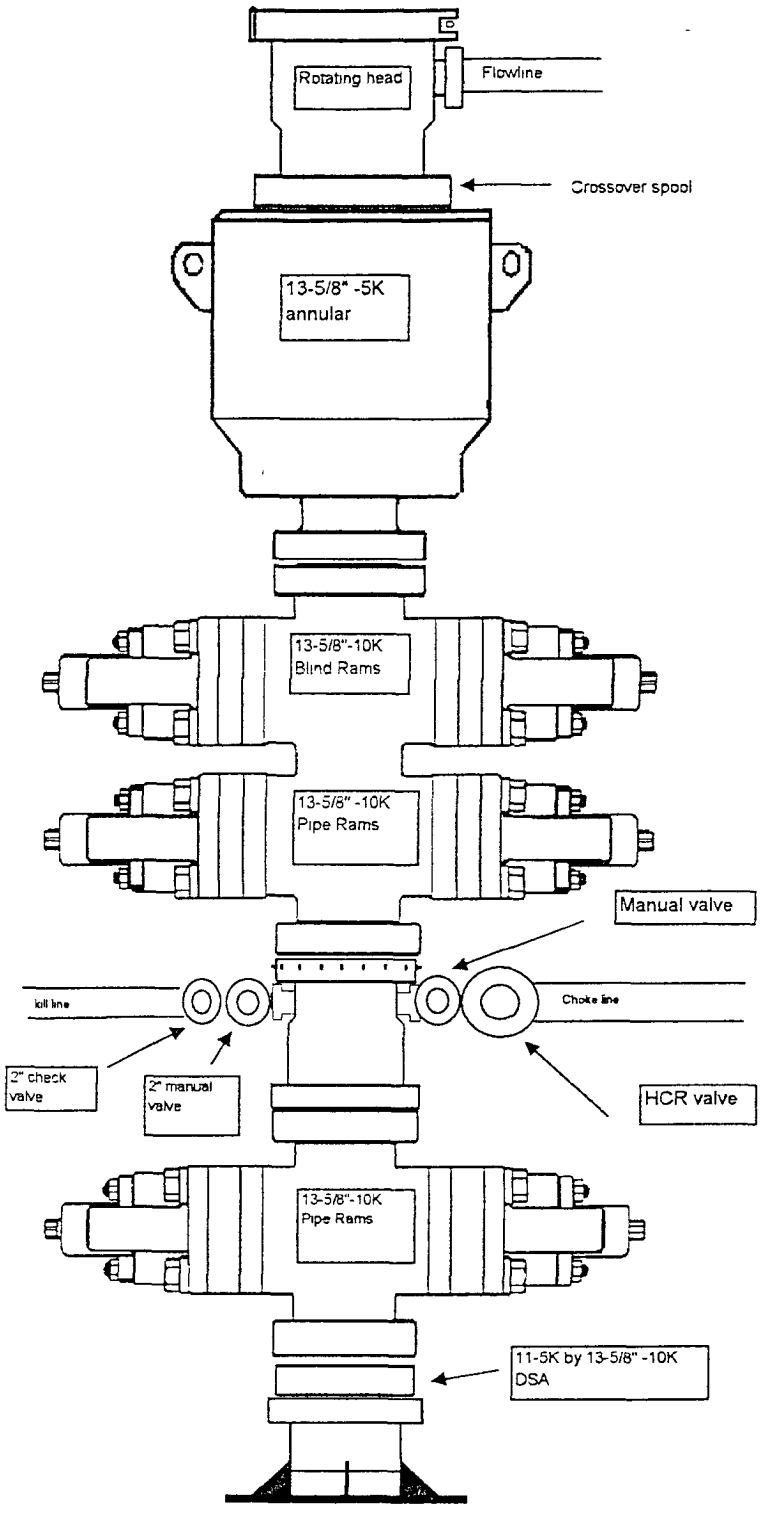
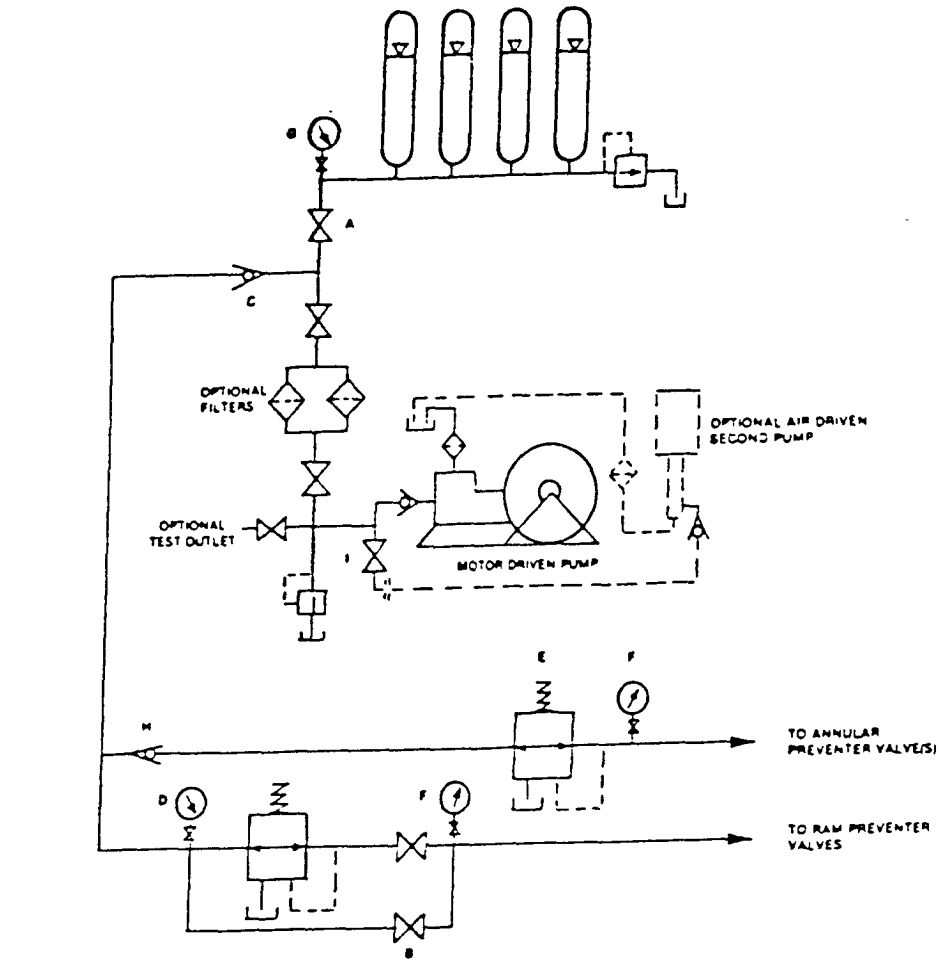


EXHIBIT "E"
SKETCH OF B.O.P. TO BE USED ON

ENCORE OPERATING, L.P.
ENCORE "21" LOCO COM. #1
UNIT "M" SECTION 21
T17S-R30E EDDY CO. NM



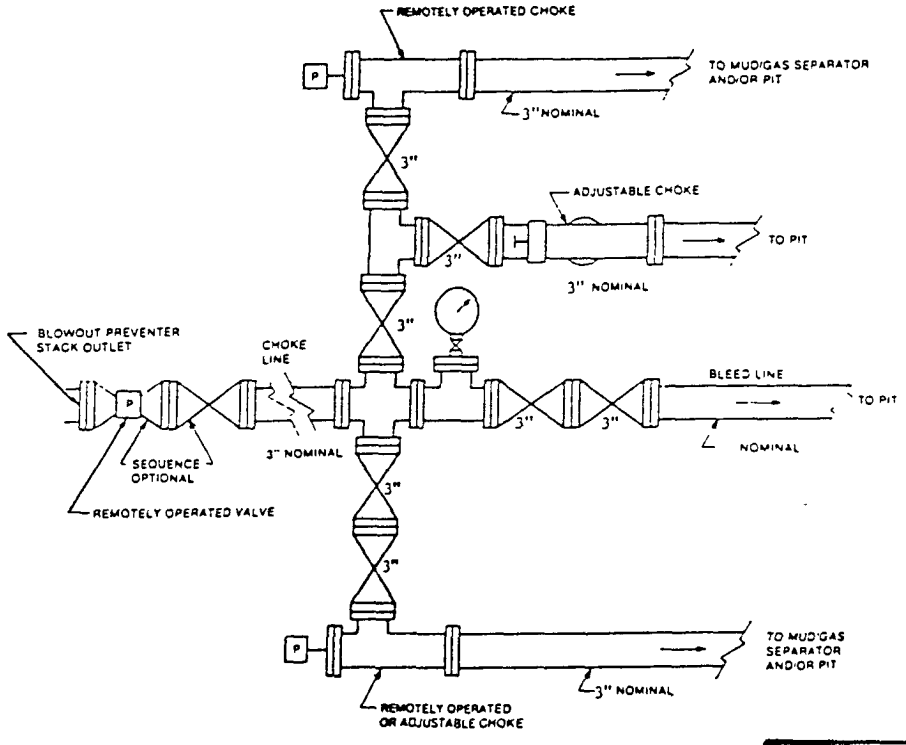


FIGURE K4-3. Typical choke manifold assembly for 10M and 15M rated

EXHIBIT "E-1"
CHOKE MANIFOLD & COLSING UNIT

ENCORE OPERATING, L.P.
ENCORE "21" LOCO COM. #1
UNIT "M" SECTION 21
T17S-R30E EDDY CO. NM

HYDROGEN SULFIDE DRILLING OPERATIONS PLAN

1. All Company and Contract personnel admitted on location must be trained by a qualified H_2S safety instructor to the following:

   A. Characteristics of H_2S
   B. Physical effects and hazzards
   C. Proper use of safety equipment and life support systems.
   D. Principle and operation of H_2S detectors, warning system and briefing areas.
   E. Evacuation procedure, routes and first aid.
   F. Proper use of 30 minute pressure demand air pack.

2. H_2S Detection and Alarm Systems

   A. H_2S detectors and audio alarm system to be located at bell nipple, end of blooie line (mud pit) and on derrick floor or doghouse.

3. Windsock and/or wind streamers

   A. Windsock at mudpit area should be high enough to be visible.
   B. Windsock at briefing area should be high enough to be visible.
   C. There should be a windsock at entrance to location.

4. Condition Flags and Signs

   A. Warning sign on access road to location.
   B. Flags to be displayed on sign at entrance to location. Green flag, normal safe condition. Yellow flag indicates potential pressure and danger. Red flag, danger, H_2S present in dangerous concentration. Only emergency personnel admitted to location.

5. Well control equipment

   A. See exhibit "E"

6. Communication

   A. While working under masks chalkboards will be used for communication.
   B. Hand signals will be used where chalk board is inappropriate.
   C. Two way radio will be used to communicate off location in case of emergency help is required. In most cases cellular telephoned will be available at most drilling foreman's trailer or living quarters.

7. Drillstem Testing

   A. Exhausts will be watered.
   B. Flare line will be equipped with an electric ignitor or a propane pilot light in case gas reaches the surface.
   C. If location is near any dwelling a closed D.S.T. will be performed.

HYDROGEN SULFIDE DRILLING OPERATIONS PLAN

8. Drilling contractor supervisor will be required to be familiar with the effects H_2S has on tubular goods and other mechanical equipment.

9. If H_2S is encountered, mud system will be altered if necessary to maintain control of formation. A mud gas seperator will be brought into service along with H_2S scavengers if necessary.

SURFACE USE PLAN

ENCORE OPERATING, L.P.
ENCORE "21" LOCO COM. #1
UNIT "M" SECTION 21
T17S-R30E EDDY CO. NM

1. EXISTING AND PROPOSED ROADS:

A. Exhibit "B" is a reporduction of a County General Hi-way map showing existing roads. Exhibit "C" is a reproduction of a USGS topographic map showing existing roads and and proposed roads. All existing roads will be maintained in a condition equal to or better than current conditions. All new roads will be constructed to BLM specifications.

B. Exhibit "A" shows the proposed well site as staked.

C. Directions to location: From milepost 132 in Loco Hills New Mexico go East .1 mile to lease road turn South(Left) go .2 mile to lease road to location.

D. Exhibit "C" shows a topographic map with roads and proposed location.

2. PLANNED ACCESS ROADS: No new roads will be required for this location.

A. The access roads will be crowned and sitched to a 14' wide travel surface, within a 30' R-O-W.

B. Gradient of all roads will be less than 5%.

C. Turn-outs will be constructed where necessary.

D. If require new access roads will be surface with a minimum of 4-6" of caliche. this material will be obtained from a local source.

E. Center line for new roads will be flagged, road construction will be done as field conditions require.

F. Culverts will be placed in the access road as drainage conditions require. Roads will be constructed to use low water crossings for drainage as required by the topographic conditions.

3. LOCATION OF EXISTING WELLS WITHIN A ONE MILE RADIUS: EXHIBIT "A-1"

A. Water wells -None known

B. Disposal wells - None known

C. Drilling wells - None known

D. Producing wells - As shown on Exhibit "A-1"

E. Abandoned wells - As shown on Exhibit "A-1"

4. If on completion this well is a producer the operator will lay pipelines and construct powerlines along existing road R-O-W's or other existing R-O-W's. Exhibit "C" shows proposed roads , flowlines and powerlines.

5. LOCATION & TYPE OF WATER SUPPLY:

Water will be purchased locally from a commercial source and trucked over the location access roads or piped to location in flexible lines laid on top of the ground.

6. SOURCE OF CONSTRUCTION MATERIAL:

If possible construction material will be obtained from the excavation of the drill site, if additional material is required it will be obtained from a local source and transported over the location access roads as shown on Exhibit "C".

7. METHODS OF HANDLING WASTE:

A. All trash, junk and other waste material will be contained in trash cages or trash bins in order to prevent scattering. When the job is completed all contents will be removed and disposed of in an approved sanitary land fill.

B. Sewage from living quatersw will be drained into holding tanks and will be cleaned out periodically. A Porta-John will be provided for the rig crews. This equipment will be properly maintained during the drilling operations and removed upon completion of well.

C. Remaining drilling fluids will be allowed to evaporate in the reserve pits until the pits are dry enough to be broken out for further drying. If the drilling fluids do not evaporate in a reasonable time they will be hauled off by transports to a State approved disposal site. Later the pits will be broken out to speed drying. Water produced during completion will be stored in tanks and disposed of in State approved disposal site. Oil and condensate produced during completion will be put in storage tanks and sold.

D. Drill cuttings will be disposed of in resebev pits or if necessary will be taken to a State approved landfarm and disposed of properly.

E. Any remaining salts or mud additives will be collected by the supplier and to stock, this includes all broken bags.

8. ANCILLARY FACILITIES:

A. No camps or air strips will be constructed on location.

9. WELL SITE LAYOUT:

A. Exhibit "D" shows the proposed well site layout.

B. This Exhibit shows the location of reserve pit, sump pits, and living facilities.

C. Mud pits in the active circulating system will be steel pits and the reserve pits will be unlined unless subsurface conditions encontered during pit construction indicate that a plastic liner is required to contain lateral migration.

D. If needed the reserve pits will be lined with polyethelene. The pit liner will be no less than12 mils thick and the liner will be extended at least 3 feet over the top of the dikes and secured in place to keep edge of liner in place.

E. The reserve pit will be fenced on three sides and fenced with four strands of barbed wire during drilling and completionphases. The 4th side will be fenced after drilling operations are complete and the drilling rig has moved out.If the well is a producer the mud pits will remain fenced in until the mud has dried up enough to break out the pits and reclaimed according to BLM requirements.

10. PLANS FOR RESTORATION OF SURFACE:

Rehabilitation of the location and reserve pits will be allowed to dry properly, fluids may be moved and disposed of in accordance with article 7-E as previously noted. The pit area will then be leveled and contoured to conform to the original and surrounding area. Drainage systems, if any will be reshaped to the original configuration with provisions made to alleviate furture erosion. In case of the well completed as a producer the drilling pad will be necessary to construct production facilities. After the area has been shaped and contoured top soil from the spoil pile will be placed over the disturbed area to the extent possible so that revegetation procedures can be accomplished to comply with the BLM specifications.

If the well is a dry hole the pad and road area will be contoured to match the existing terrain. Top soil will be spread to the extent possible and revegetation will be carried out according to the BLM specifications.

Should the well be a producer the previously noted procedures will apply to those areas which are not required for production facilities.

SURFACE USE PLAN

ENCORE OPERATING, L.P.
ENCORE "21" LOCO COM. #1
UNIT "M" SECTION 21
T17S-R30E EDDY CO. NM

11. OTHER INFORMATION:

A. Topography consists of rolling plains relatively flat with low lying sand dunes. Soils consists of tan to red loamy silty sands. Vegetation consists of shinnery oak, snake weed, croton, yucca, mesquite and native grasses.

B. The surface and the mincrals where the location is located is owned by The U. S. Department of Interior and is administered by The Bureau of Land Management. The surface is used to graze livestock and for the production of oil and Gas.

C. An archaeological survey has been done and is filed with the BLM Carlsbad Field Office

D. The location is in the city of Loco Hills New Mexico with dwellings in close proximity to the location.

E. Production facilities will be constructed on location with gas gathering lines near to the location.

CERTIFICATION

I HEREBY CERTIFY THAT I OR PERSONS UNDER MY SUPERVISION HAVE INSPECTED THE PROPOSED DRILL SITE AND THE ACCESS ROAD ROUTES, THAT I AM FAMILIAR WITH THE CONDITIONS THAT CURRENTLY EXIST, AND THAT THE STATEMENTS MADE IN THIS PLAN ARE TO THE BEST OF MY KNOWLEDGE ARE TRUE AND CORRECT, AND THAT THE WORK ASSOCIATED WITH THE OPERATIONS PROPOSED HEREIN WILL BE PERFORMED BY ENCORE OPERATING, L. P. ITS CONTRACTORS OR ITS SUB-CONTRACTORS IS IN CONFORMANCE WITH THIS PLAN AND THE TERMS AND THE CONDITIONS UNDER WHICH IT IS APPROVED. THIS STATEMENT IS SUBJECT TO THE PROVISIONS OF U.S.C. 1001 FOR THE FILING OF A FALSE STATEMENT.

OPERATORS REPRESENTATIVES

BEFORE CONSTRUCTION

JOE T. JANICA

TIERRA EXPLORATION, INC.
P. O. BOX 2188
HOBBS, NEW MEXICO 88241
- PHONE 505-391-8503
CELL 505-390-1598

DURING AND AFTER CONSTRUCTION

BILLY JUROSKA

ENCORE OPERATING, L. P..
777 MAIN STREET
SUITE 1400
PHONE 817-339-0788
CELL 817-915-7010

NAME: JOE T. JANICA Joe T. Janica

DATE: 01/07/08

TITLE: AGENT

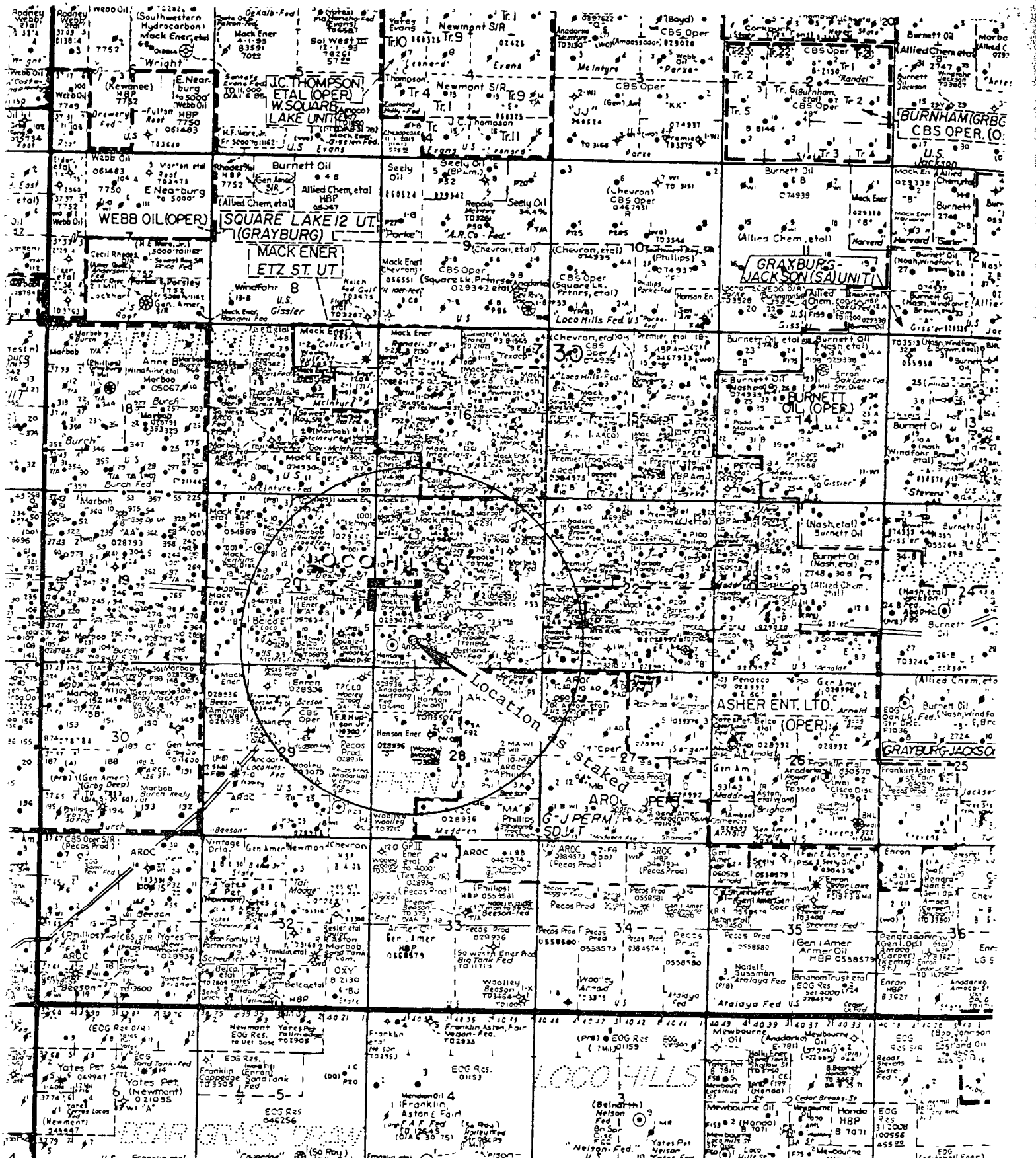


EXHIBIT "A-1"
ONE MILE RADIUS MAP

ENCORE OPERATING, L.P.
ENCORE "21" LOCO COM. #1
UNIT "M" SECTION 21
T17S-R30E EDDY CO. NM

EXHIBIT "B"
LOCATION & ACCESS ROAD MAP

ENCORE OPERATING, L.P.
ENCORE "21"LOCO COM. #1
UNIT "M" SECTION 21
T17S-R30E EDDY CO. NM

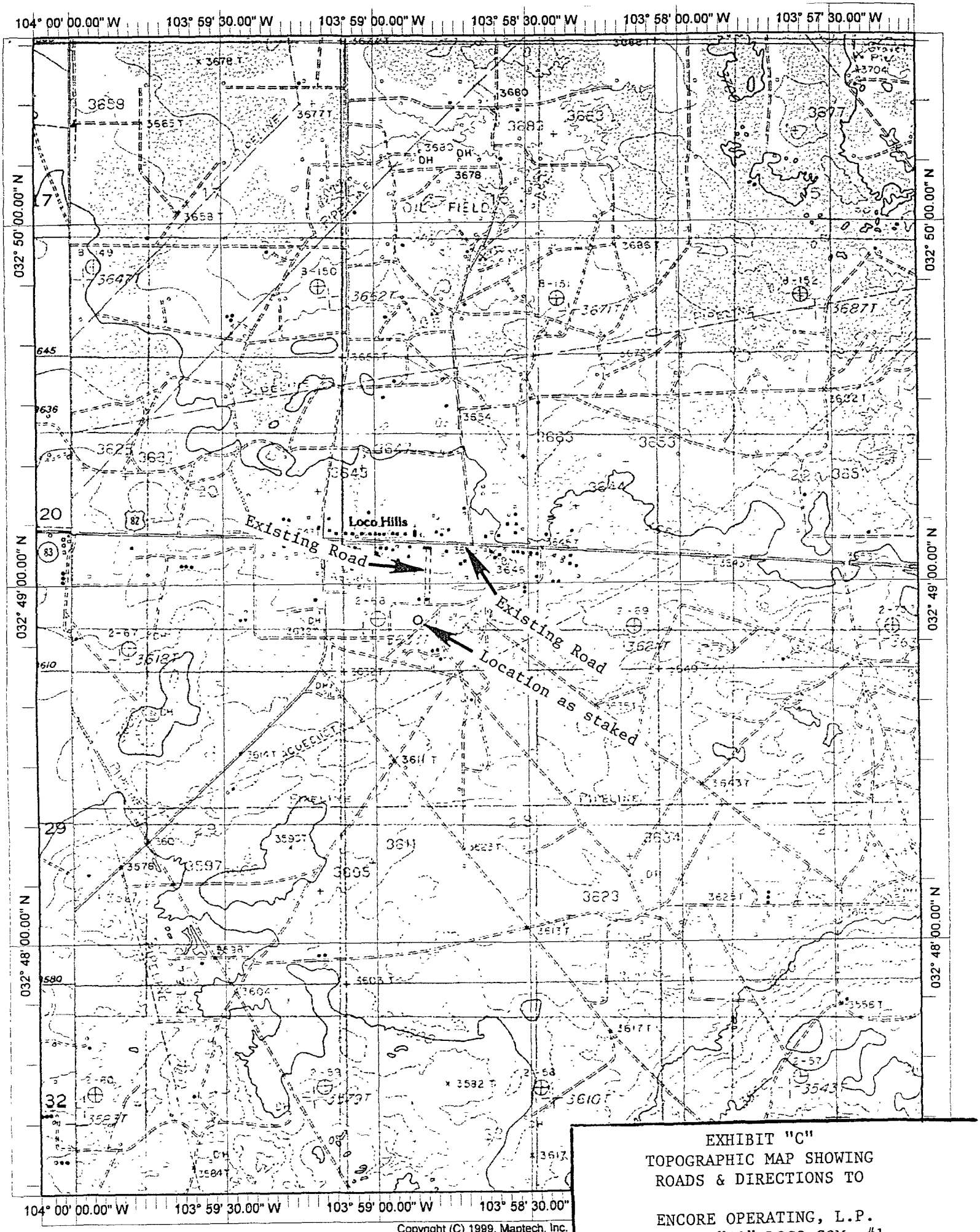


EXHIBIT "C"
TOPOGRAPHIC MAP SHOWING
ROADS & DIRECTIONS TO

ENCORE OPERATING, L.P.
ENCORE "21" LOCO COM. #1
UNIT "M" SECTION 21
T17S-R30E EDDY CO. NM

PECOS DISTRICT
CONDITIONS OF APPROVAL

OPERATOR'S NAME:	Encore Operating
LEASE NO.:	LC029342A
WELL NAME & NO.:	1-Encore 21 Loco Com
SURFACE HOLE FOOTAGE:	830' FSL & 1235' FWL
BOTTOM HOLE FOOTAGE	
LOCATION:	Section 21, T. 17 S., R 30 E., NMPM
COUNTY:	Eddy County, New Mexico

TABLE OF CONTENTS

Standard Conditions of Approval (COA) apply to this APD. If any deviations to these standards exist or special COAs are required, the section with the deviation or requirement will be checked below.

I. GENERAL PROVISIONS

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

II. PERMIT EXPIRATION

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

III. ARCHAEOLOGICAL, PALEONTOLOGY & HISTORICAL SITES

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

IV. NOXIOUS WEEDS

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

V. SPECIAL REQUIREMENT(S)

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

VI. CONSTRUCTION

A. NOTIFICATION

The BLM shall administer compliance and monitor construction of the access road and well pad. Notify the Carlsbad Field Office at (505) 234-5972 at least 3 working days prior to commencing construction of the access road and/or well pad.

When construction operations are being conducted on this well, the operator shall have the approved APD and Conditions of Approval (COA) on the well site and they shall be made available upon request by the Authorized Officer.

B. TOPSOIL

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

C. RESERVE PITS

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

The reserve pit shall be constructed 120' X 160' on the Southwest side of the well pad.

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

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

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

D. FEDERAL MINERAL MATERIALS PIT

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

Payment shall be made to the BLM prior to removal of any additional federal mineral materials from any site other than the reserve pit. Call the Carlsbad Field Office at (505) 234-5972.

E. WELL PAD SURFACING

Surfacing of the well pad is not required.

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

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

F. ON LEASE ACCESS ROADS

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

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

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

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

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

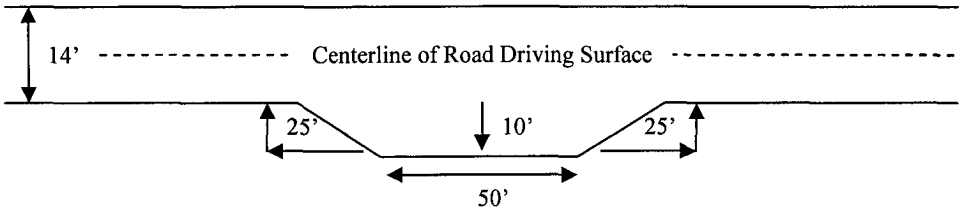
Ditching

Ditching shall be required on both sides of the road.

Turnouts

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

Standard Turnout – Plan View

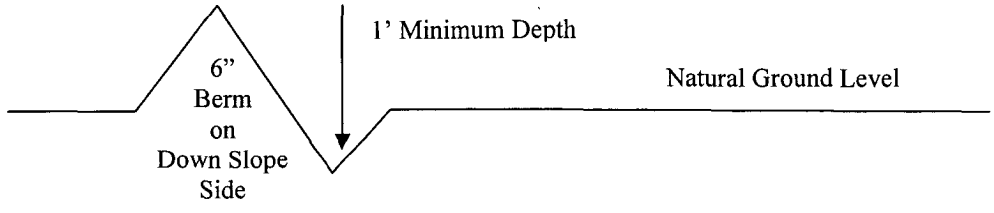


Drainage

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

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

Cross Section of a Typical Lead-off Ditch



All lead-off ditches shall be graded to drain water with a 1 percent minimum to 3 percent maximum ditch slope. The spacing interval are variable for lead-off ditches and shall be determined according to the formula for spacing intervals of lead-off ditches, but may be amended depending upon existing soil types and centerline road slope (in %);

Formula for Spacing Interval of Lead-off Ditches

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

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

Culvert Installations
Appropriately sized culvert(s) shall be installed at the deep waterway channel flow crossing.

Cattleguards
An appropriately sized cattleguard(s) sufficient to carry out the project shall be installed and maintained at fence crossing(s).

Any existing cattleguard(s) on the access road shall be repaired or replaced if they are damaged or have deteriorated beyond practical use. The operator shall be responsible for the condition of the existing cattleguard(s) that are in place and are utilized during lease operations.

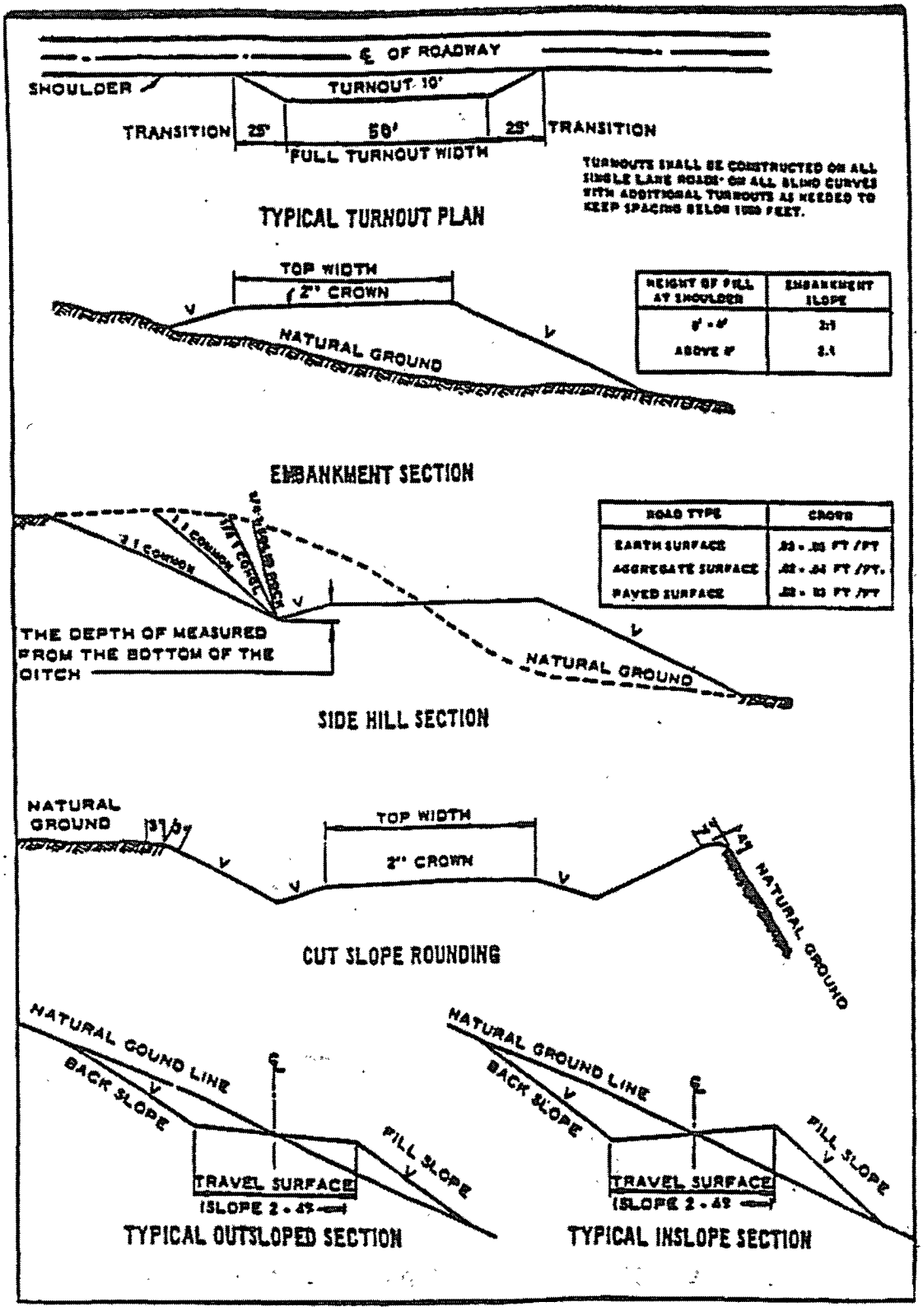
A gate shall be constructed and fastened securely to H-braces.

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

The operator shall notify the private surface landowner or the grazing allotment holder prior to crossing any fence(s).

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

Figure 1 – Cross Sections and Plans For Typical Road Sections



VII. DRILLING

A. DRILLING OPERATIONS REQUIREMENTS

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

a. Spudding well
b. Setting and/or Cementing of all casing strings
c. BOPE tests

☒ **Eddy County**
Call the Carlsbad Field Office, 620 East Greene St., Carlsbad, NM 88220, (575) 361-2822

1. A Hydrogen Sulfide (H2S) Drilling Plan should be activated 500 feet prior to drilling into the **Yates** formation. **Hydrogen Sulfide has been reported in gas streams from 1600-10000 ppm and in STVs from 20-4000 ppm.**

2. Unless the production casing has been run and cemented or the well has been properly plugged, the drilling rig shall not be removed from over the hole without prior approval.

3. Floor controls are required for 3M or Greater systems. These controls will be on the rig floor, unobstructed, readily accessible to the driller and will be operational at all times during drilling and/or completion activities. Rig floor is defined as the area immediately around the rotary table; the area immediately above the substructure on which the draw works are located, this does not include the dog house or stairway area.

B. CASING

1. The **13-3/8** inch surface casing shall be set **a minimum of 25 feet into the Rustler Anhydrite and above the salt at approximately 500** feet and cemented to the surface.

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

   b. Wait on cement (WOC) time for a primary cement job will be a minimum 18 hours for a water basin, 24 hours in the potash area, or 500 pounds compressive strength, whichever is greater. (This is to include the lead cement). **Please provide WOC times to inspector for cement slurries.**

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 compressive strength, whichever is greater.

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

Possible lost circulation in the Grayburg and San Andres formations.
Possible water flows in the Salado and Artesia Groups.

2. The minimum required fill of cement behind the **9-5/8** inch intermediate casing is:

   ☒ Cement to surface. If cement does not circulate see B.1.a-d above. **Please provide WOC times to inspector for cement slurries.**

Formation below the 9-5/8" shoe to be tested according to Onshore Order 2.III.B.1.i.

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

   ☒ Cement should tie-back at least 200 feet into previous casing string. Operator shall provide method of verification. **First stage to circulate – call BLM if it does not.**

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. **BOP proposed will be rated at pressure of lowest rated segment – 5M annular. This will meet the minimum required by the BLM.**

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

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

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

c. All tests are required to be recorded on a calibrated test chart. A copy of the BOP/BOPE test chart and a copy of independent service company test will be submitted to the appropriate BLM office.

d. The BOP/BOPE test shall include a low pressure test from 250 to 300 psi. The test will be held for a minimum of 10 minutes if test is done with a test plug and 30 minutes without a test plug.

e. BOP/BOPE must be tested by an independent service company within 500 feet of the top of the **Wolfcamp** formation **if the time between the setting of the intermediate casing and reaching this depth exceeds 20 days**. This test does not exclude the test prior to drilling out the casing shoe as per Onshore Order No. 2.

D. DRILLING MUD

Mud system monitoring equipment, with derrick floor indicators and visual and audio alarms, shall be operating before drilling into the **Wolfcamp** formation, and shall be used until production casing is run and cemented.

E. DRILL STEM TEST

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

Engineer on call phone (after hours): Carlsbad: (575) 706-2779

WWI 020208

VIII. PRODUCTION (POST DRILLING)

A. WELL STRUCTURES & FACILITIES

Placement of Production Facilities
Production facilities should be placed on the well pad to allow for maximum interim recontouring and revegetation of the well location.

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

Painting Requirement
All above-ground structures including meter housing that are not subject to safety requirements shall be painted a flat non-reflective paint color
Shale Green, Munsell Soil Color Chart # 5Y 4/2

IX. INTERIM RECLAMATION & RESERVE PIT CLOSURE

A. INTERIM RECLAMATION

If the well is a producer, interim reclamation shall be conducted on the well site in accordance with the orders of the Authorized Officer. The operator shall submit a Sundry Notices and Reports on Wells (Notice of Intent), Form 3160-5, prior to conducting interim reclamation.

During the life of the development, all disturbed areas not needed for active support of production operations should undergo interim reclamation in order to minimize the environmental impacts of development on other resources and uses.

At the time reserve pits are to be reclaimed, operators should work with BLM surface management specialists to devise the best strategies to reduce the size of the location. Any reductions should allow for remedial well operations, as well as safe and efficient removal of oil and gas.

During reclamation, the removal of caliche is important to increasing the success of revegetating the site. Removed caliche may be used for road repairs, fire walls or for building other roads and locations. In order to operate the well or complete workover operations, it may be necessary to drive, park and operate on restored interim vegetation within the previously disturbed area. Disturbing revegetated areas for production or workover operations will be allowed. If there is significant disturbance and loss of vegetation, the area will need to be revegetated. Communicate with the appropriate BLM office for any exceptions/exemptions if needed.

B. RESERVE PIT CLOSURE

The reserve pit, when dried and closed, shall be recontoured, all trash removed, and reseeded as follows:

Seed Mixture for LPC Sand/Shinnery Sites

The holder shall seed all disturbed areas with the seed mixture listed below. The seed mixture shall be planted in the amounts specified in pounds of pure live seed (PLS)* per acre. There shall be no primary or secondary noxious weeds in the seed mixture. Seed will be tested and the viability testing of seed will be done in accordance with State law(s) and within nine (9) months prior to purchase. Commercial seed will be either certified or registered seed. The seed container will be tagged in accordance with State law(s) and available for inspection by the authorized officer.

Seed will be planted using a drill equipped with a depth regulator to ensure proper depth of planting where drilling is possible. The seed mixture will be evenly and uniformly planted over the disturbed area (smaller/heavier seeds have a tendency to drop the bottom of the drill and are planted first). The holder shall take appropriate measures to ensure this does not occur. Where drilling is not possible, seed will be broadcast and the area shall be raked or chained to cover the seed. When broadcasting the seed, the pounds per acre are to be doubled. The seeding will be repeated until a satisfactory stand is established as determined by the authorized officer. Evaluation of growth will not be made before completion of at least one full growing season after seeding.

Species to be planted in pounds of pure live seed* per acre:

Species	lb/acre
Plains Bristlegrass	5lbs/A
Sand Bluestem	5lbs/A
Little Bluestem	3lbs/A
Big Bluestem	6lbs/A
Plains Coreopsis	2lbs/A
Sand Dropseed	1lbs/A
**Four-winged Saltbush	5lbs/A

* This can be used around well pads and other areas where caliche cannot be removed.

*Pounds of pure live seed:

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

(Insert Seed Mixture Here)

X. FINAL ABANDONMENT & REHABILITATION REQUIREMENTS

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

On private surface/federal mineral estate land the reclamation procedures on the road and well pad shall be accomplished in accordance with the private surface land owner agreement.