N. M. Oil Cons. Division
611 S. 1ST ST.
ARTESIA, NM 88210-2834

Form 3160-3 (July 1992)

SUBMIT IN TRIPLICATE (Other instructions on reverse side)

FORM APPROVED
OMB NO. 1004-0136
Expires February 28, 1995

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

APPLICATION FOR PERMIT TO DRILL OR DEEPEN

5 LEASE DESIGNATION AND SERIAL NO: LC068037

1a TYPE OF WORK: Drill X Deepen —

6 IF INDIAN, ALLOTTEE OR TRIBE NAME: N/A

b TYPE OF WELL: Oil Well X Gas Well — Other — Single Zone — Multiple Zone —

7 UNIT AGREEMENT NAME: N/A

2 NAME OF OPERATOR: Mallon Oil Company

8 FARM OR LEASE NAME, WELL NO: Mallon Federal 29 #32

3 ADDRESS AND TELEPHONE NO: P.O. Box 3256, Carlsbad, NM 88220 (505) 885-4596

9 API WELL NO: ~~30~~ 30-025-34385

4 LOCATION OF WELL (Report location clearly and in accordance with any State requirements.*)
At surface: 1980' FNL and 1980' FEL (SW NE) Unit G
At proposed prod. zone: 1980' FNL and 1980' FEL (SW NE) Unit G

10 FIELD AND POOL, OR WILDCAT: Quail Ridge, Bone Springs

11 SEC., T., R., M., OR BLK AND SURVEY OR AREA: Sec. 29, T19S-R34E

14 DISTANCE IN MILES AND DIRECTION FROM NEAREST TOWN OR POST OFFICE*: 40 miles West of Hobbs, NM

12 COUNTY OR PARISH: Eddy County 13 STATE: NM

15 DISTANCE FROM PROPOSED* LOCATION TO NEAREST PROPERTY OR LEASE LINE, FT (Also to nearest drlg. unit line, if any)	16. NO. OF ACRES IN LEASE	17 NO. OF ACRES ASSIGNED TO THIS WELL
1980'	600	40
18 DISTANCE FROM PROPOSED LOCATION* TO NEAREST WELL, DRILLING, COMPLETED, OR APPLIED FOR, ON THIS LEASE, FT	19 PROPOSED DEPTH	20 ROTARY OR CABLE TOOLS
1320'	10,300'	Rotary

21 ELEVATIONS (SHOW WHETHER DF, RT, GR, Etc.) 3689 GR 22 APPROX. DATE WORK WILL START

23 PROPOSED CASING AND CEMENTING PROGRAM

SIZE OF HOLE	GRADE, SIZE OF CASING	WEIGHT PER FOOT	SETTING DEPTH	QUANTITY OF CEMENT
20"	16"	42#	40'	Ready mix to surface
12-1/4"	9-5/8"	36#	1500'	700 sx lite or circ to surface
8-3/4"	5-1/2"	17#	TD	Stage 1: 800 sx Class C Stage 2: 580 sx Lite 100 sx Class C

SECRETARY'S POTASH
WITNESS
CAPITAN CONTROLLED WATER BASIN

APR 1998
RECEIVED
OCD - ARTESIA

Mallon Oil Company proposes to drill to a depth sufficient to test the Bone Springs formation for oil. If productive, 5-1/2" casing will be cemented. If non-productive, the well will be plugged and abandoned in a manner consistent with Federal regulations. Specific programs as per on-shore Oil and Gas Order No. 1 are outlined in the following attachments:

Drilling Program

Exhibit 1: Blow Out Preventor Equipment/Plan
Exhibit A: Location and Elevation Plat
Exhibit B: Existing Roads/Planned Access Roads
Exhibit C: One Mile Radius Map
Exhibit D: Drilling Site Layout
Exhibit E: Production Facilities
Exhibit F: Hydrogen Sulfide Drilling Plan
Exhibit G: Archaeological Survey

IN ABOVE SPACE DESCRIBE PROPOSED PROGRAM: If proposal is to deepen, give data on present productive zone and proposed new productive zone. If proposal is to drill or deepen directionally, give pertinent data on subsurface locations and measured and true vertical depths. Give blowout preventer program, if any. acd 3/29/98

24

SIGNED: Terry Lindeman TITLE: ProductionSuperintendent DATE 01/23/98

(This space for Federal or State office use)

PERMIT NO _____ APPROVAL DATE _____

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

CONDITIONS OF APPROVAL, IF ANY:

APPROVED BY (ORIG. SGD.) M. J. CHÁVEZ TITLE STATE DIRECTOR DATE 4-6-98

*See Instructions On Reverse Side

Title 18 U.S.C. Section 1001, makes 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.

APPROVAL SUBJECT TO GENERAL REQUIREMENTS AND SPECIAL STIPULATIONS ATTACHED

NSL

DISTRICT I
P.O. Box 1980, Hobbs, NM 88241-1980

DISTRICT II
P.O. Drawer DD, Artesia, NM 88211-0719

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

DISTRICT IV
P.O. BOX 2088, SANTA FE, N.M. 87504-2088

State of New Mexico
Energy, Minerals and Natural Resources Department

Form C-102
Revised February 10, 1994
Submit to Appropriate District Office
State Lease - 4 Copies
Fee Lease - 3 Copies

OIL CONSERVATION DIVISION

P.O. Box 2088
Santa Fe, New Mexico 87504-2088

☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

API Number	Pool Code	Pool Name
30-025-34385	50460	Apache Ridge; Bone Spring

Property Code	Property Name	Well Number
23234	MALLON FEDERAL 29	32

OGRID No.	Operator Name	Elevation
13925	MALLON OIL COMPANY	3689

Surface Location

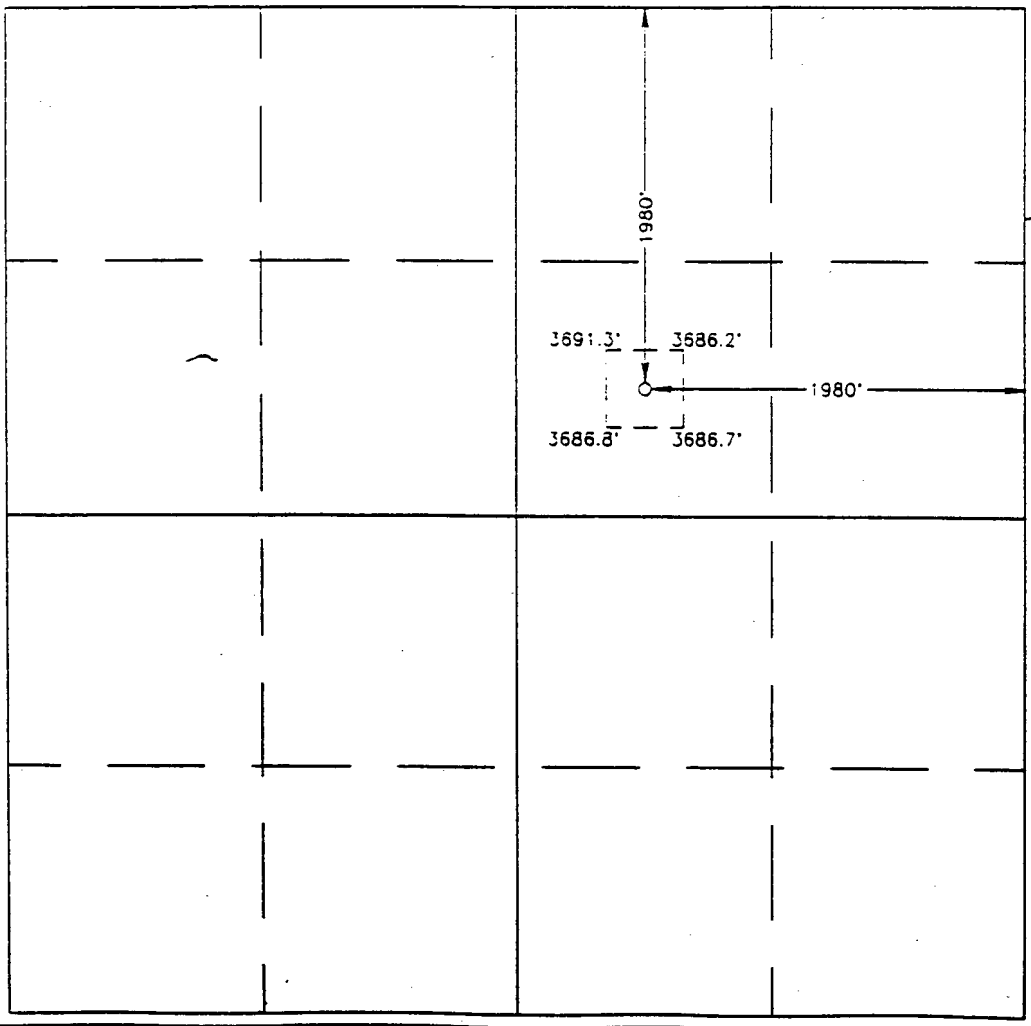
UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
G	29	19 S	34 E		1980	NORTH	1980	EAST	LEA

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.

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 the the information contained herein is true and complete to the best of my knowledge and belief.

Signature

Terry Lindeman
Printed Name

Production Superintendent
Title

January 23, 1998
Date

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.

DECEMBER 8, 1997
Date Surveyed DMCC

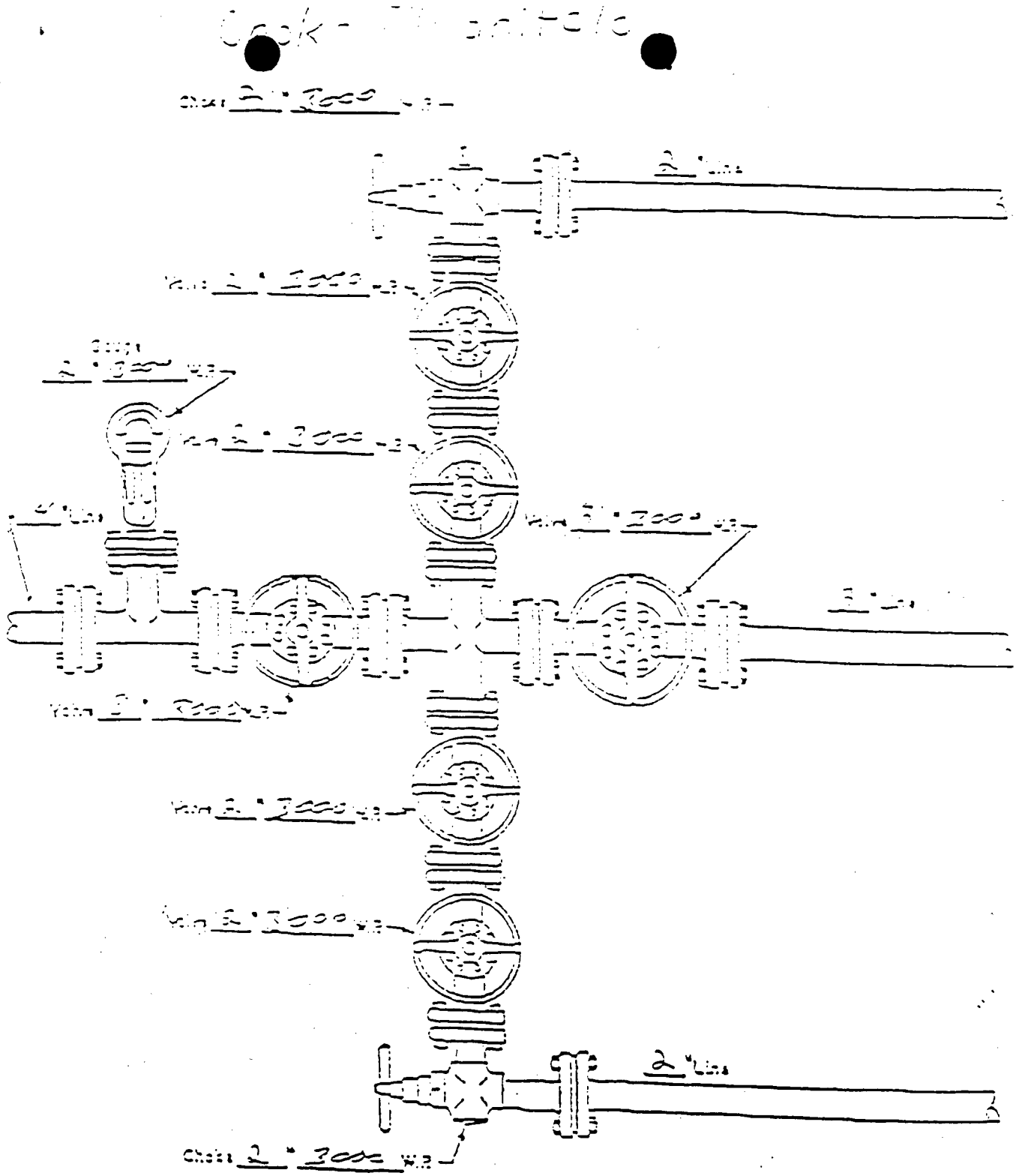
Signature & Seal of Professional Surveyor

ROMAN A. DIAZ NEW MEXICO REGISTERED PROFESSIONAL SURVEYOR

12-11-97

97-11-1993

Certificate No. JOHN W. WEST 676
RONALD J. EIDSON 3239
GARY L. JONES 12641



MANIFOLD
3000 #W.P.

☒ Manual
☐ Hydraulic

Exhibit 1

MINIMUM BLOWOUT PREVENTER REQUIREMENTS

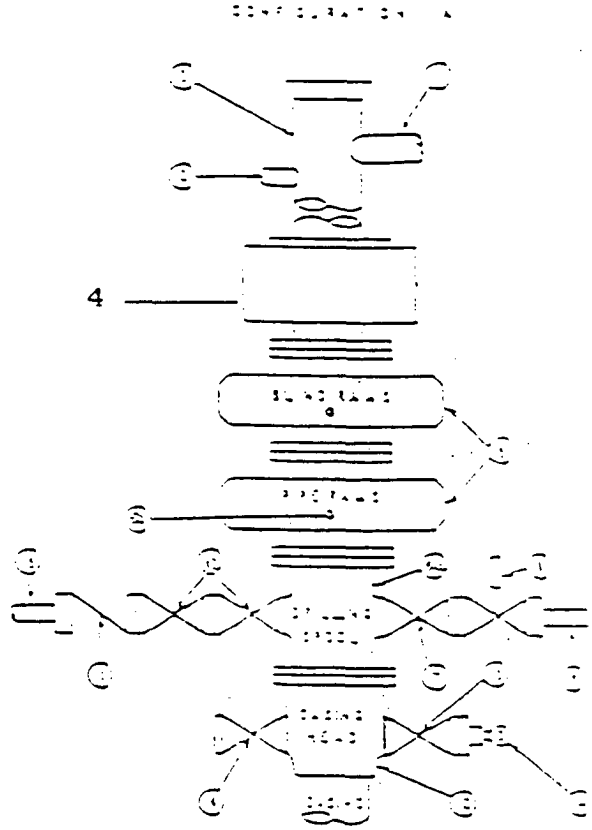
3,000 psi Working Pressure

3 MWP

STACK REQUIREMENTS

No.	Item	Min. I.D.	Min. Nominal
1	Flowline		
2	Fill-up line		2"
3	Drilling nipple		
4	Annular Preventor		
5	Two single or one dual hydraulically operated rams		
6a	Drilling spool with 2" min. kill line and 3" min. choke line outlets		
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	Line to choke manifold	3-1/8"	
9	Line to choke manifold		3"
10	Valve	Gate ☐ Plug ☐	3-1/8"
11	Check valve	3-1/8"	
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 3,000 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 driller's 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 casinghead 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 chokes. 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, other 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. All connections and extensions to be connected and ready for use.
8. Valves adjacent to drilling spool to be kept open. Use outside valves except in emergency.
9. All seamless steel control piping (3000 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.

Exhibit 1

Attachment to Exhibit #1
NOTES REGARDING THE BLOWOUT PREVENTERS

1. Drilling nipple to be so constructed that it can be removed without use of a welder through rotary table opening, with minimum ID 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. 3000 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 bore 3000 psi WP minimum.

6. All choke and fill lines to be securely anchored, especially ends of choke stem.

7. Equipment through which bit must pass shall be at lease as large as the diameter of the casing being drilled through.

8. Kelly cock on kelly.

9. Extension wrenches and hand 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, and meet all API specifications.

Exhibit 1

DRILLING PROGRAM

Attached to Form 3160-3
Mallon Oil Company
Mallon Federal 29 No. 32
1980' FNL, 1980' FEL, Sec. 29, T19S-R34E
Eddy County, New Mexico

Lease Number: LC068037

1. Geologic Name of Surface Formation is : Quaternary Alluvium

2. Estimated Tops of Important Geologic Markers:

Quaternary Alluvium	Surface
Rustler	1590'
Top of Salt	1720'
Base of Salt	3326'
Yates	3513'
Seven Rivers	3821'
Queen	4516'
Delaware	5800'
Total Depth	10,300'

3. The estimated depths of anticipated fresh water, oil or gas:

Quaternary Alluvium	300'	Fresh water
Yates	3513'	Oil
Queen	4516'	Oil
Delaware	5800'	Oil
Bone Springs	10,000'	Oil

No other formations are expected to give up oil, gas or fresh water in measurable quantities. The surface fresh water sands will be protected by setting 9 5/8" csg at 1500' and circulating cement back to surface. Potash will be protected by setting 5 1/2" csg at total depth and circulating cement back to 1300' from surface.

4. Proposed casing program:

Hole Size	Interval	Csg OD	Csg weight grade, Jt., Type Cond	
20"	0'-40'	16"	Conductor, 0.25" wall thickness	
12-1/4"	0'-1500'	9-5/8"	36#	K-55 STC

8-3/4"	0'-5300'	5-1/2"	15.5#	K-55 LTC
	5300'-TD	5-1/2"	17#	~~K-55~~ LTC N-80

Cement Program:

20" Conductor csg: Cemented with ready-mix to surface

9-5/8" Surface csg: Cemented to surface with 700 sks Pacesetter Lite 6.00% Gel (Bentonite)+0.25 lb/sk Cello-Seal 105.% fresh water

5-1/2" Production csg: Stage #1 - Cement with 800 sacks Class "C" + 5 lb/sk CSE + 0.5% CF-14 + 5 lb/sk salt + 5 lb/sk Gilsonite + 0.25 lb/sk Cello-Seal + 59.390% fresh water. This cement slurry is designed to bring TOC to 5000'.

Stage #2 - Cement with 580 sacks Pacesetter Lite, 6.0% Gel (Bentonite) + 5.0% salt + 0.25 lb/sk Cello-Seal + 105.0% fresh water followed with 100 sacks Class "C" cement + 5.0 lb/sk CSE + 5 lb/sk salt + 0.25 lb/sk + Cello-Seal + 5.0 lb/sk Gilsonite + 0.5 % CF-14 + 105.0% fresh water. This cement slurry is designed to bring TOC to 1300'.

5. Minimum specifications for pressure control:

The blowout preventer equipment (BOP) shown in Exhibit #1 will consist of a double ram-type (3000 psi WP) preventer. The unit will be hydraulically operated and the ram-type preventer will be equipped with blind rams on top and drill pipe rams on bottom. The BOP will be nippled up on the 9-5/8" surface csg and used continuously until TD is reached. BOP and accessory equipment will be tested to 1000 psi before drilling out of surface casing. Pipe rams will be operationally checked on each trip out of the hole. These checks will be noted on the daily tour sheets. A 2" kill line and 2" choke line will be included in the drilling spool located below the ram-type BOP. Other accessories to the BOP equipment will include a kelly cock and floor safety valve and choke lines and choke manifold with 3000 psi WP rating.

6. Types and characteristics of the Proposed Mud System:

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

Depth	Type	Weight (ppg)	Viscosity (sec)	Waterloss (cc)
0'-40'	Fresh Water (spud)	8.5	40-45	N.C.
0'-1500'	F.W. (Gel/Lime)	8.5-9.0	32-36	N.C.
1500'-TD	Brine Water	10.0	32-34	10-12 cc

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.

7. Auxiliary Well Control and Monitoring Equipment:

   (A) A Kelly cock will be kept in the drill string at all times.

   (B) A full opening drill pipe stabbing valve (inside BOP) with proper drill pipe connections will be on the rig floor at all times.

   (C) The drilling fluids systems will be visually monitored at all times.

8. Testing, Logging and Coring Program:

Drill Stem Tests:	None anticipated
Logging:	TD to surface casing, GR., CNL-FDC, DLL, MSFL
Coring:	None planned

9. Abnormal Conditions, Pressures, Temperatures, & Potential Hazards:

   No abnormal pressures or temperatures are anticipated. The proposed mud program will be modified to control excess pressure if abnormal pressures are encountered. The estimated bottom hole temperature (BHT) at TD is 150° F and estimated maximum bottom-hole pressure (BHP) is 3200 psig. No hydrogen sulfide or other hazardous gases or fluids have been encountered, reported or are known to exist at this depth in this area. No major loss circulation zones have been reported in offsetting wells.

10. Anticipated starting date: March 3, 1998
    Anticipated completion of Drilling operations: Expected duration of 3 weeks.

Multi-Point Surface Use and Operation Plan

Atached to Form 3160-3
Mallon Oil Company
Mallon Federal 29 No. 32
1980' FNL, 1980' FEL, Sec. 29. T19S-R34E
Lea County, New Mexico
Lease Number: LC068037

1. Existing Roads:

   A. The well site and elevation plat for the proposed well is shown in Exhibit "A". It was staked by John West Engineering, Hobbs, NM

   B. All roads to the location are shown in Exhibit "B". The existing roads are Illustrated in pink and are adequate for travel during drilling and production operations. Upgrading of the road prior to drilling will be done where necessary as determined during the on site inspection.

   C. Directions to location: Go west 36 miles from Hobbs, New Mexico on Hwy. 62/180. Turn north on lease road and travel 0.2 mile, and travel 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.

2. Proposed Access Road:

   Exhibit "C" shows the new access road to be constructed and is illustrated in yellow. The road will be constructed as follows:

   A. The maximum width of the running surface will be 15'. The road will be crowned and ditched and constructed of 6" of 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, cattle guard, 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. Any additional materials that are required will be purchased from the dirt contractor.

F. The proposed access road as shown in Exhibit "C" has been center line flagged by John West Engineering, Hobbs, New Mexico.

3. Location of existing wells:

A. Existing wells within a one mile radius are shown on Exhibit "D".

4. Location of existing and/or proposed facilities:

A. If the well proved to be commercial, the necessary production facilities and tank battery will be installed on the drilling pad.

5. Location and type of water supply:

A. It is planned to drill the proposed well with the fresh water that will be obtained from private or commercial sources and will be transported over the existing access roads. No water well will be drilled on the location.

6. Source of construction materials:

A. Caliche for surfacing the proposed access road and well site pad will be obtained from a BLM-approved caliche pit.

7. Methods of handling waste disposal:

A. Drill cuttings not retained for evaluation purposes will be disposed into the reserve pit.

B. Drilling fluids will be contained in steel metal tanks. The reserve pit will contain any excess drilling fluid or flow from the well during drilling, cementing, and completion operations. The reserve pit will be an earthen pit, approximately 200' x 150' x 6' deep and fenced on three sides prior to drilling. It will be fenced on the fourth side immediately following rig removal. The reserve pit will be plastic-lined (5-7 mil thickness) to minimize lose of drilling fluids and saturation of the ground with brine water.

C. Water produced from the well during completion may be disposed into the reserve pit or a steel tank (depending on the rates). After the well is permanently placed on production, produced water will be collected in tanks (fiberglass or steel) until hauled by transport to an approved disposal system; produced oil will be collected in steel tanks until sold.

D. A portable chemical toilet will be provided on the location for human waste during the drilling and completion operations.

E Garbage and trash produced during drilling or completion operations will be contained in portable trash basket and hauled to approved disposal facilities. All water and fluids will be disposed of into the reserve pit. Salts and other chemicals produced during drilling or testing will be disposed into the reserve pit. No toxic waste or hazardous chemicals will be produced by this operation.

F. After the rig is moved out and the will is either completed or abandoned, all waste materials will be cleaned up within 30 days. No adverse materials will be left on the location. The reserve pit will be completely fenced and flagged and kept closed until it has dried. When the reserve pit is dry enough to breakout and fill and, as weather permits, the un-used portion of the well site will be leveled and re-seeded as per BLM specifications. Only that part of the pad required for production facilities will be kept in use. In the event of a dry hole, only a dry-hole marker will remain.

8. Ancillary Facilities:

A. None required.

9. Well Site Layout:

A. Exhibit "E" shows the relative location and dimensions of the well pad, reserve pits, and location of major rig components are shown. Top soil, if available, will be stockpiled per BLM specifications as determined at the on site inspection. Because the pad is almost level no major cuts will be required.

B. Exhibit "E" shows the planned orientation for the rig and associated drilling equipment, reserve pit, pipe racks, turn-around and parking areas, and access road. No permanent living facilities are planned but a temporary foreman trailer will be on location during the drilling operations.

C. The reserve pit will be lined with a high-quality plastic sheeting (5-7 mil thickness).

10. Plans for restoration of the surface:

A. Upon completion of the proposed operations, if the well is to be abandoned, the caliche will be removed from the location, road and returned to the pit from which it was taken. The pit area, after allowing to dry, will be broken out and leveled. The original top soil will be returned to the entire location which will be leveled and contoured to as nearly the original topography as possible.

All trash, garbage will be hauled away in order to leave the location in an aesthetically pleasing condition.

B. The disturbed area will be re-vegetated as recommended by the BLM.

C. Three sides of the reserve pit will be fenced prior to and during drilling operations. At the time that the rig is removed the reserve pit will be fenced on the rig (fourth) side and flagged to prevent livestock or wildlife from being entrapped. The fencing and flagging will remain in place until the pit area is cleaned up and leveled. No oil will be left on the surface of the fluid in the pit. The entire reserve pit will be flagged until the fluid has completely evaporated.

D. Upon completion of the proposed operations, if the well is completed, the reserve pit will be treated as outlined above within the same prescribed time. The caliche from any area of the original drill site not needed for production operations or facilities will be removed and used for construction of thicker pads or firewalls for the tank battery installation. Any additional caliche required for facilities will be obtained from a BLM-approved caliche pit. Top soil removed from the drill site will be used to re-contour the pit area and any unused portions of the drill pad to the original natural level and re-seeded as per BLM specifications.

11. Surface Ownership:

The well site and lease is located entirely on Federal Surface.

12. Other Information:

    A. The top soil is sandy. The vegetation is native yucca, and prickly pear.

    B. There is no permanent or live water in the immediate area.

    C. Residences and Other Structures: No residences in the immediate area. Oil production facilities on offsetting location.

    D. Land Use: Cattle grazing

    E. Surface Ownership: The proposed well site and access road is on Federal surface and minerals.

    F. There is no evidence of any archaeological, historical or cultural sites in the area. An archaeological survey has been conducted by Desert West Archaeological Services, Carlsbad, New Mexico. The reports have been submitted to the appropriate government agencies.

13. Operations Representative:

    A. The field representative responsible for ensuring compliance with the approved surface use and operations plan is:

    Terry Lindeman
    Mallon Oil Company
    PO Box 3256
    Carlsbad, NM 88220
    Office Phone: (505) 885-4596
    Home Phone: (505) 745-1136

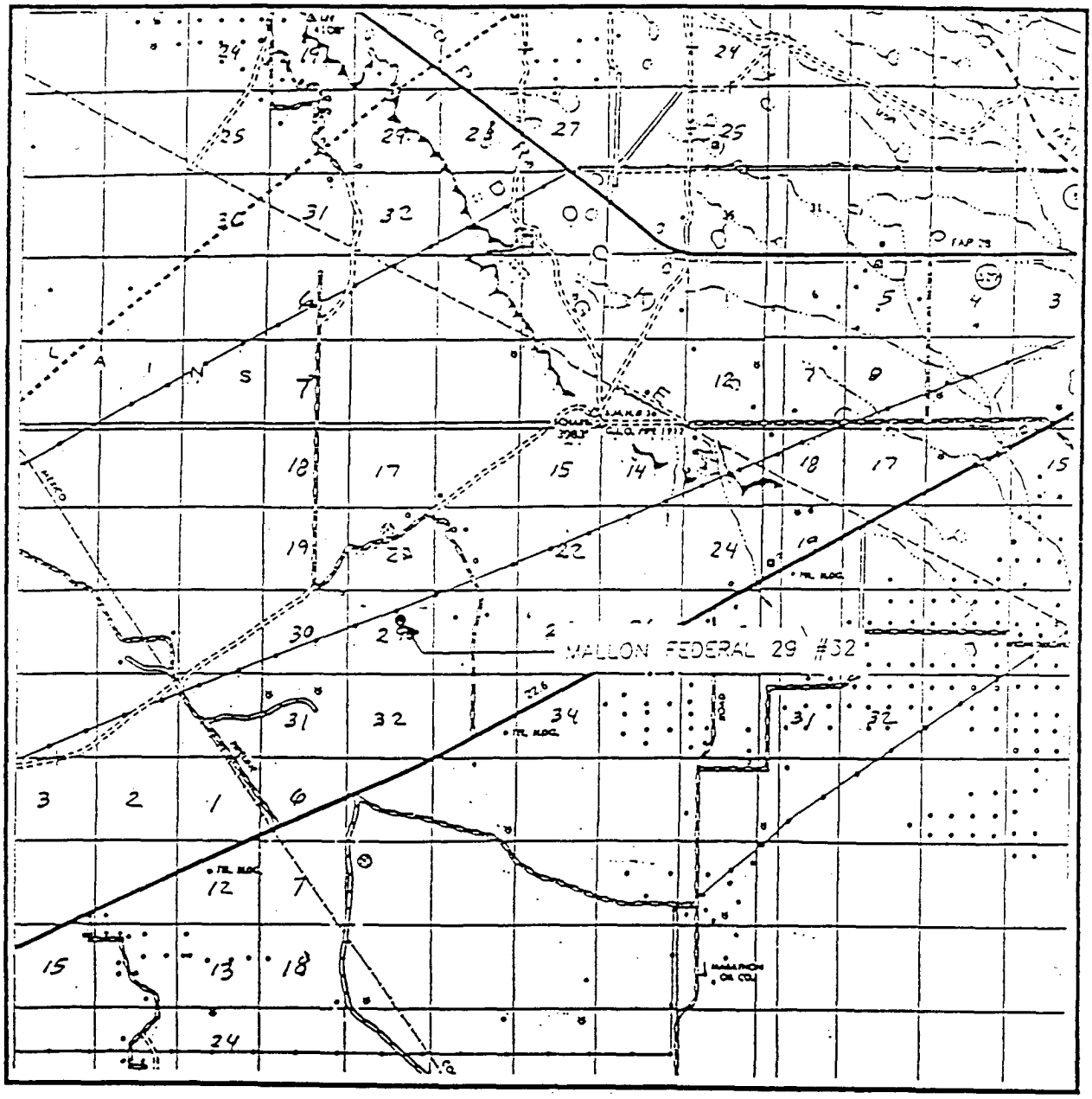
Certification

I hereby certify that I, or persons 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 plan are to the best of my knowledge, true and correct; and the work associated with the operations proposed herein will be performed by Mallon Oil Company 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: 2-13-98 Signed: _____

Terry Lindeman
Production Superintendent

VICINITY MAP



SCALE: 1" = 2 MILES

SEC. 29 TWP. 19-S RGE. 34-E

SURVEY N.M.P.M.

COUNTY LEA

DESCRIPTION 1980' FNL & 1980' FEL

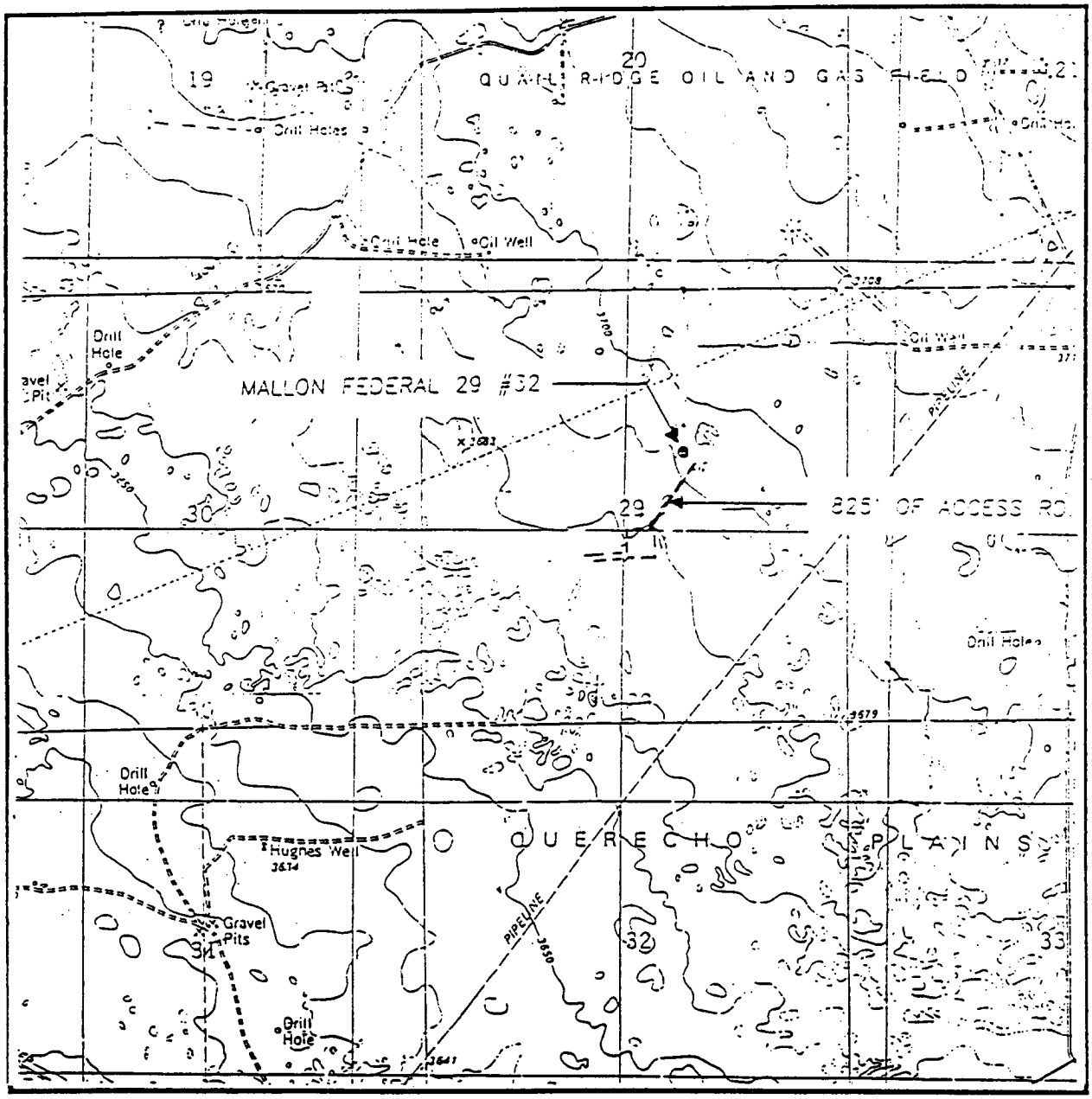
ELEVATION 3689

OPERATOR MALLON OIL COMPANY

LEASE MALLON FEDERAL 29

JOHN WEST ENGINEERING
HOBBS, NEW MEXICO
(505) 393-3117

LOCATION VERIFICATION MAP



SCALE: 1" = 2000'

CONTOUR INTERVAL:
LEA – 10'
IRONHOUSE WELL – 10'

SEC. 29 TWP. 19-S RGE. 34-E

SURVEY N.M.P.M.

COUNTY LEA

DESCRIPTION 1980' FNL & 1980' FEL

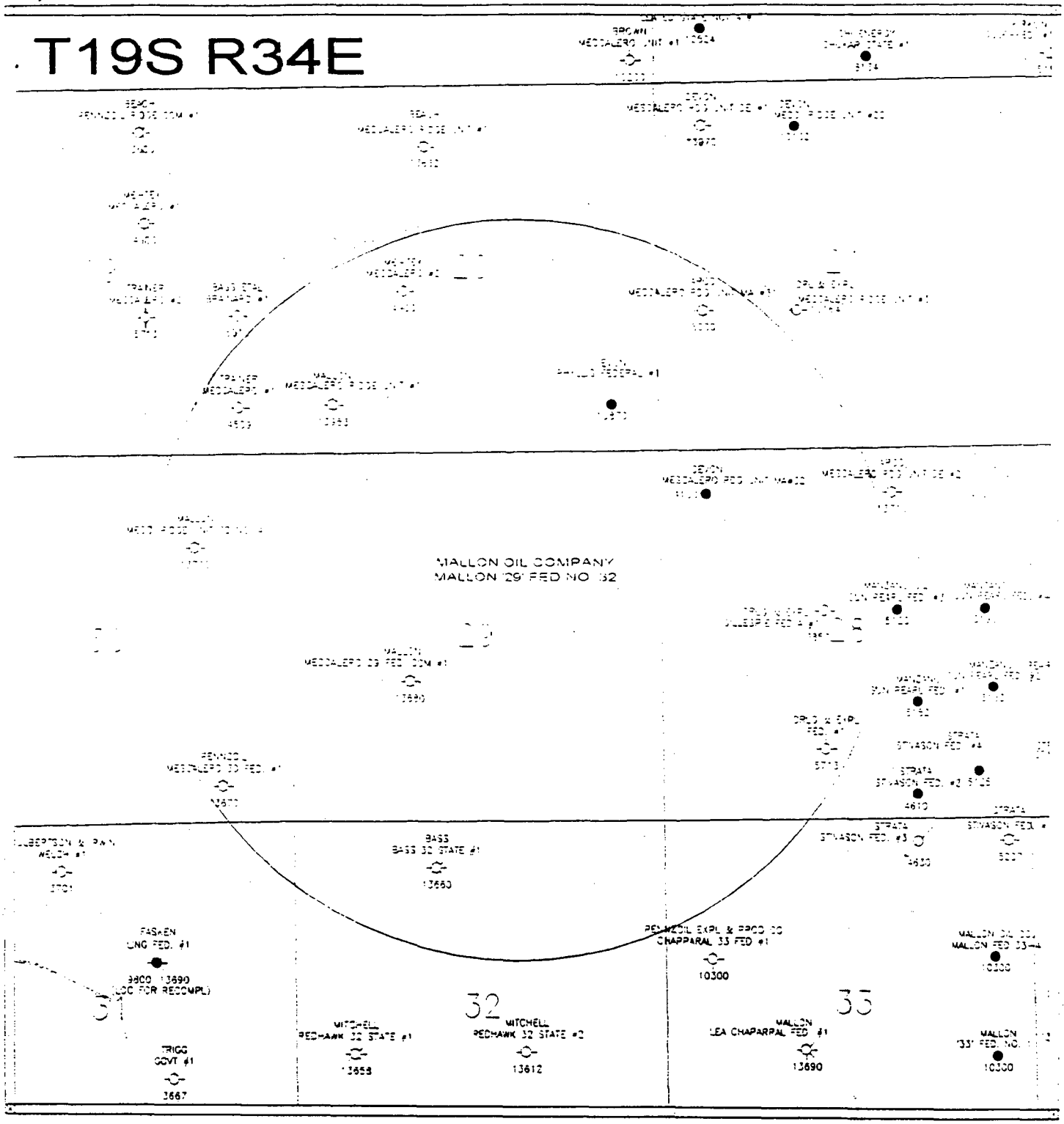
ELEVATION 3689

OPERATOR MALLON OIL COMPANY

LEASE MALLON FEDERAL 29

U.S.G.S. TOPOGRAPHIC MAP
LEA, IRONHOUSE WELL, N.M.

JOHN WEST ENGINEERING
HOBBS, NEW MEXICO
(505) 393-3117



N

Scale 1:24000.

0.1 0. 0.1 0.2 0.3 0.4 0.5 miles

MALLON OIL COMPANY		
Mallon '29' Federal No. 32 One Mile Radius Map Lea County, New Mexico		
T19S-R34E Sec. 29		
1980 FNL 1980 FEL		1/23/98

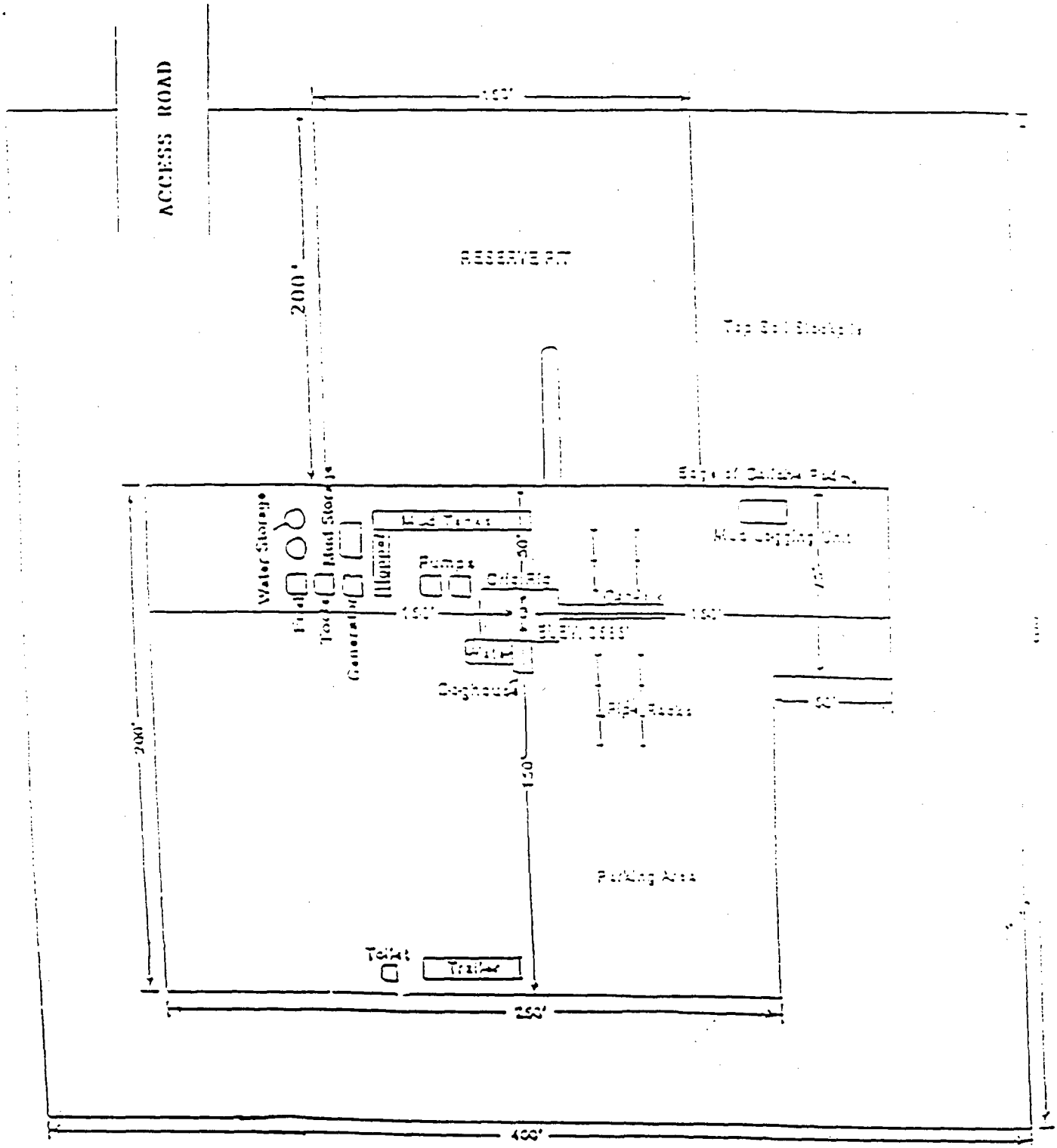

ACCESS ROAD
160'
200'
RESERVE PIT
Top Soil Stockpile
Edge of Cuttings Blk.
Water Storage
Fuel
Tool
Mud Storage
Generator
Mud Tanks
Pumps
Choke Manifold
Mud Logging Unit
50'
150'
Doghouse
Pipe Racks
Parking Area
Toilet
Trailer
200'
150'
250'
400'

Exhibit D

Exhibit E

MALLON OIL COMPANY

ENGINEERING CHART

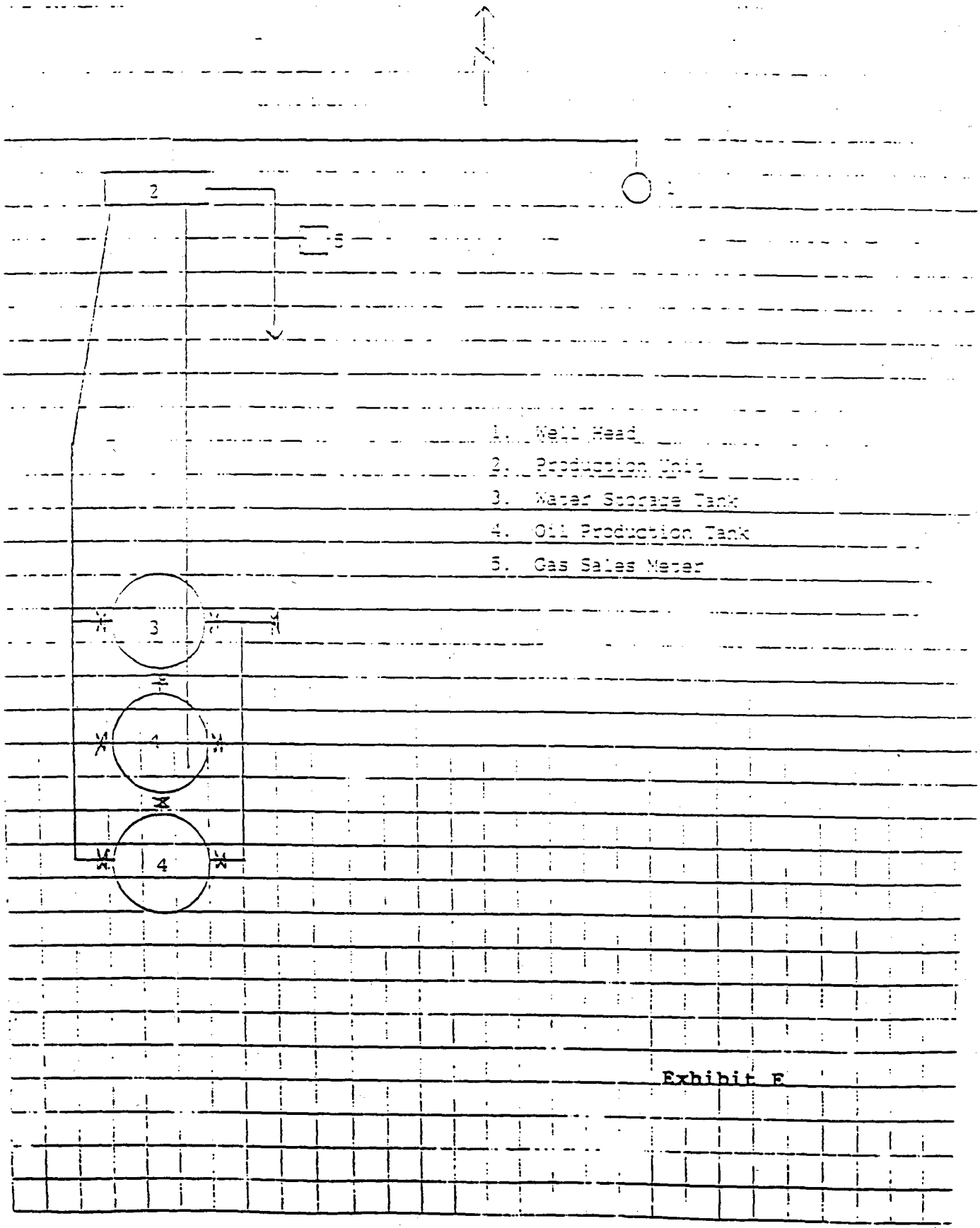
FILE

APPN

DATE

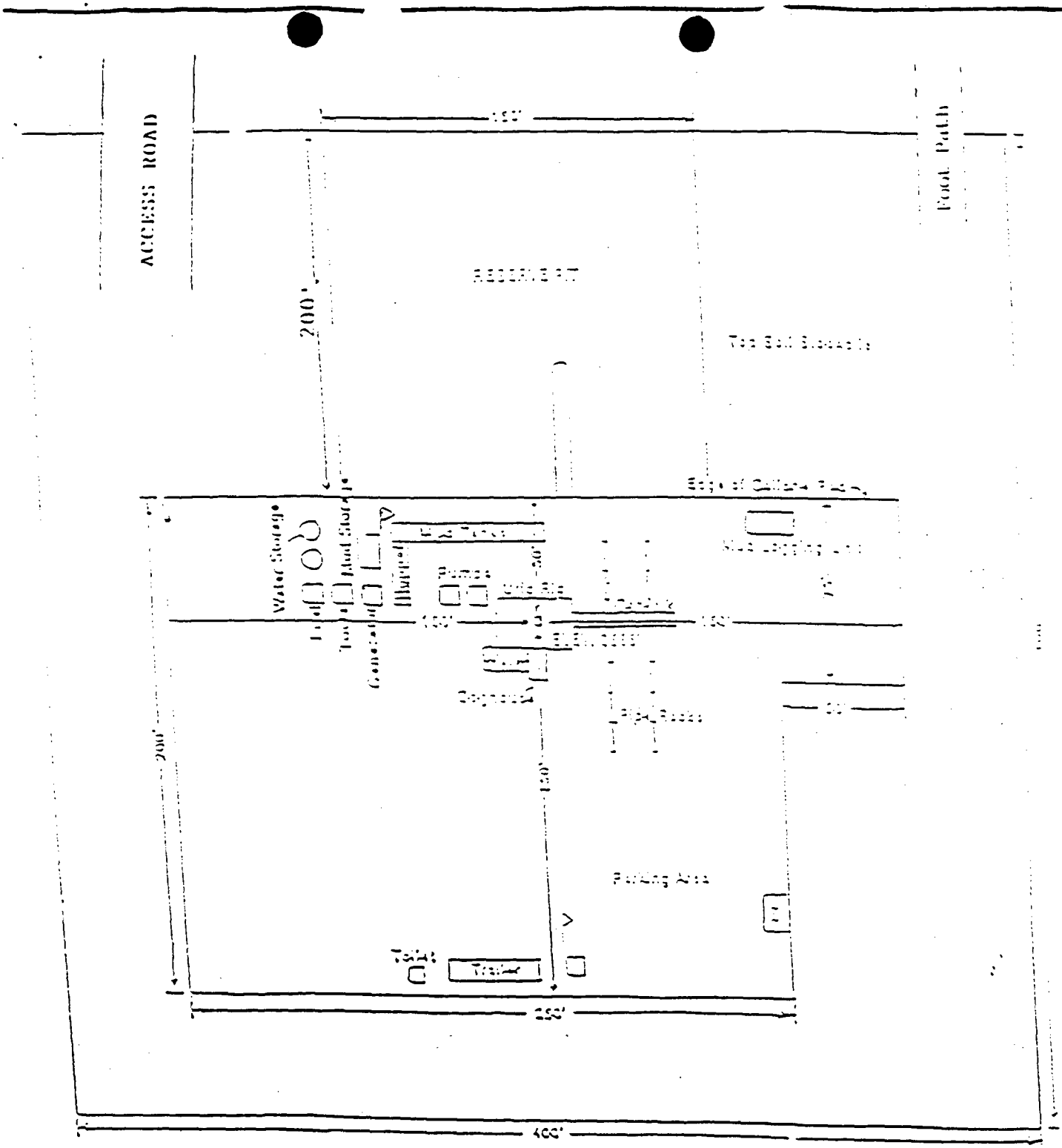
BY

SUBJECT Production Facility Layout



1. Well Head
2. Production Unit
3. Water Storage Tank
4. Oil Production Tank
5. Gas Sales Meter

Exhibit E



△ H_2S Monitors with alarms at the bell nipple and shale shaker

Wind Direction Indicators

□ Safe briefing areas with Caution signs and protective breathing equipment, min. 150 feet from wellhead, (I) designates primary area.

Exhibit F

HYDROGEN SULFIDE DRILLING OPERATIONS 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 and characteristics of hydrogen sulfide (H_2S).

2. The proper use and maintenance of personal protective equipment and life support systems.

3. The proper use of H_2S 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 H_2S on metal components. If high tensile tubulars are to be used, personnel will 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 H_2S Drilling Operations Plan and the Public Protection Plan.

There will be an initial training session just prior to encountering a known or probable H_2S zone (within 3 days or 500 feet) and weekly H_2S and well control drills for all personnel in each crew. The initial training session shall include a review of the site specific H_2S Drilling Operations Plan and the Public Protection Plan. This plan shall be available at the well site. All personnel will be required to carry documentation that they have received the proper training.

II. H_2S SAFETY EQUIPMENT AND SYSTEMS

Note: All H_2S 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 reasonably expected to contain H_2S.

1. Well Control Equipment:

   A. Choke manifold with a minimum of one remote choke.

   B. Blind rams and pipe rams to accommodate all pipe sizes with properly sized closing unit.

2. Protective equipment for essential personnel:

   A. Mark II Surviveair 30-minute units located in the dog house and at briefing areas, as indicated on well site diagram.

3. H_2S detection and monitoring equipment:

   A. 2 - portable H_2S monitors positioned on location for best coverage and response. These units have warning lights and audible sirens when H_2S levels of 20 ppm are reached.

4. Visual warning systems:

   A. Wind direction indicators as shown on well site diagram.

   B. Caution/Danger signs 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 H_2S circulated to the surface. Proper mud weight, safe drilling practices, and the use of H_2S scavengers will minimize hazards when penetrating H_2S bearing zones.

6. Metallurgy:

   A. All drill strings, casings, tubing, wellhead, blowout preventers, drilling spool, kill lines, choke manifold and lines, and valves shall be suitable for H_2S service.

   B. All elastomers used for packing and seals shall be H_2S trim.

7. Communication

   A. Cellular telephone communications in company vehicles.

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 H_2S environment will use the closed chamber method of testing.

Exhibit F

WARNING

YOU ARE ENTERING AN H_2S AREA

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 A MALLON OIL COMPANY REPRESENTIVE AT MAIN OFFICE

MALLON OIL COMPANY

1-505-885-4596

Exhibit F

BLM/ RDO 1/95

TITLE PAGE/ABSTRACT/ NEGATIVE SITE REPORT ROSWELL DISTRICT

1. BLM Report No.
2. (ACCEPTED) (REJECTED)
3. NMCRIS No. 59470

4. Title of Report (Project Title): Archeolological Clearance Report for Mallon Oil Company's Mallon "28" Federal No.s 1 and 11, "29" Federal No.s 31, 32 and 41, "30" Federal No. 34 Drill Locations
5. Project Date(s): 31DEC97 to 31DEC97

6. Report Date 08JAN98

7. Consultant Name & Address: Pecos Archeological Consultants, P.O. Box 1771, Carlsbad, N.M.
Direct Charge: James E. Hunt
Name:
Address:
Authors Name: James E. Hunt
field personnel names: Robert J. Martin
Phone (505-887-7029)
8. Permit No. : BLM Survey Permit No. 6-2920-97

9. Consultant Report No. : 98003

10. Sponsor Name and Address: Mallon Oil Company
Indiv. Responsible: Duane Winkler
Name:
Address:P.O. Box 3256, Carlsbad, NM 88221
Phone ( )

11. For BLM Use only.

12 ACREAGE:
Total No. of acres surveyed: 19.25

SURFACE OWNERSHIP: Federal: 19.25
State_____, Private
13. Location: (Maps Attached if negative survey):
a. State: NM
b. County: Lea
c. BLM District: Roswell
d. Nearest City or town: Hobbs, NM
e. Area: SEE ATTACHEMENT
f. Footages:
g. 7.5 ' Map Name(s): USGS Ironhouse Well Quadrangle, 1984.

14. a. Location: ARMS, BLM
Date: 30DEC97
List By LA#: 106730

b. Description of Undertaking: 1.) Six drill locations.
2.) access road for the "28" No. 1 begins on the southeast corner of the pad and proceeds east to an existing caliche road.
3.) access road for the "29" No. 31 begins on the southeast corner of the pad and proceeds south to the "29" No. 32 pad.
4.) access road for the "29" No. 32 begins on the southeast corner and proceeds southwest to an existing road.
5.) access road for the "29" No. 41 begins on the southeast corner and proceeds east to an existing road.
6.) access road for the "30" No. 34 begins on the southeast corner and proceeds east to an existing road.

c. Environmental Setting (NRCS soil designation; vegetative community; etc.: The project area is located on the Querecho Plains, west of Hobbs, NM. Local soils consist of loamy sands which belong to the Kermit-Berino association. Vegetation includes plains yucca (*Yucca glauca*), mesquite (*Prosopis juliflora*), sand sage (*Artemisia filifolia*) and grasses.

d. Field Methods: Transect Intervals: 15 M
Crew Size: 1
Time in Field: 6 hr
Collections: None

15. Cultural Rsource Findings: None
a. Identification and Description:

16. Management Summary: Clearance for project as planned.

I certify that the information provided above is correct and accurate and meets all appreciable BLM standards.

Responsible Archaeologist: signature _____ date 1/9/98

LOCATIONAL DATA

Mallon Oil Co's "28" Federal No. 1 drill location will measure 400 ft X 400 ft or 3.6 acres. It will be situated 982 FSL and 2326 FWL, in the: SE1/4 SW1/4, section 28, T19S, R34E, NMPM, Lea Co., N.M.

The access road to this well will measure 100 ft X 200 ft or 0.45 acre. It will be situated in the: SE1/4 SW1/4, section 28, T19S, R34E, NMPM, Lea Co., N.M.

The "28" Federal No. 11 drill location will measure 400 ft X 400 ft or 3.6 acres. It will be situated 860 FNL and 660 FWL, in the: NW1/4 NW1/4, section 28, T19S, R34E, NMPM, Lea Co., N.M.

The "29" Federal No. 31 drill location will measure 400 ft X 400 ft or 3.6 acres. It will be situated 660 FNL and 1980 FEL, in the: NW1/4 NE1/4, section 29, T19S, R34E, NMPM, Lea Co., N.M.

The access road to this well will measure 100 ft X 920 ft or 2.11 acres. It will be situated in the: NW1/4 NE1/4, section 29, T19S, R34E, NMPM, Lea Co., N.M.
SW1/4 NE1/4, section 29, T19S, R34E, NMPM, Lea Co., N.M.

The "29" Federal No. 32 drill location will measure 400 ft X 400 ft or 3.6 acres. It will be situated 1980 FNL and 1980 FEL, in the: SW1/4 NE1/4, section 29, T19S, R34E, NMPM, Lea Co., N.M.

The access road to this well will measure 100 ft X 825 ft or 1.89 acres. It will be situated in the: SW1/4 NE1/4, section 29, T19S, R34E, NMPM, Lea Co., N.M.
NW1/4 SE1/4, section 29, T19S, R34E, NMPM, Lea Co., N.M.

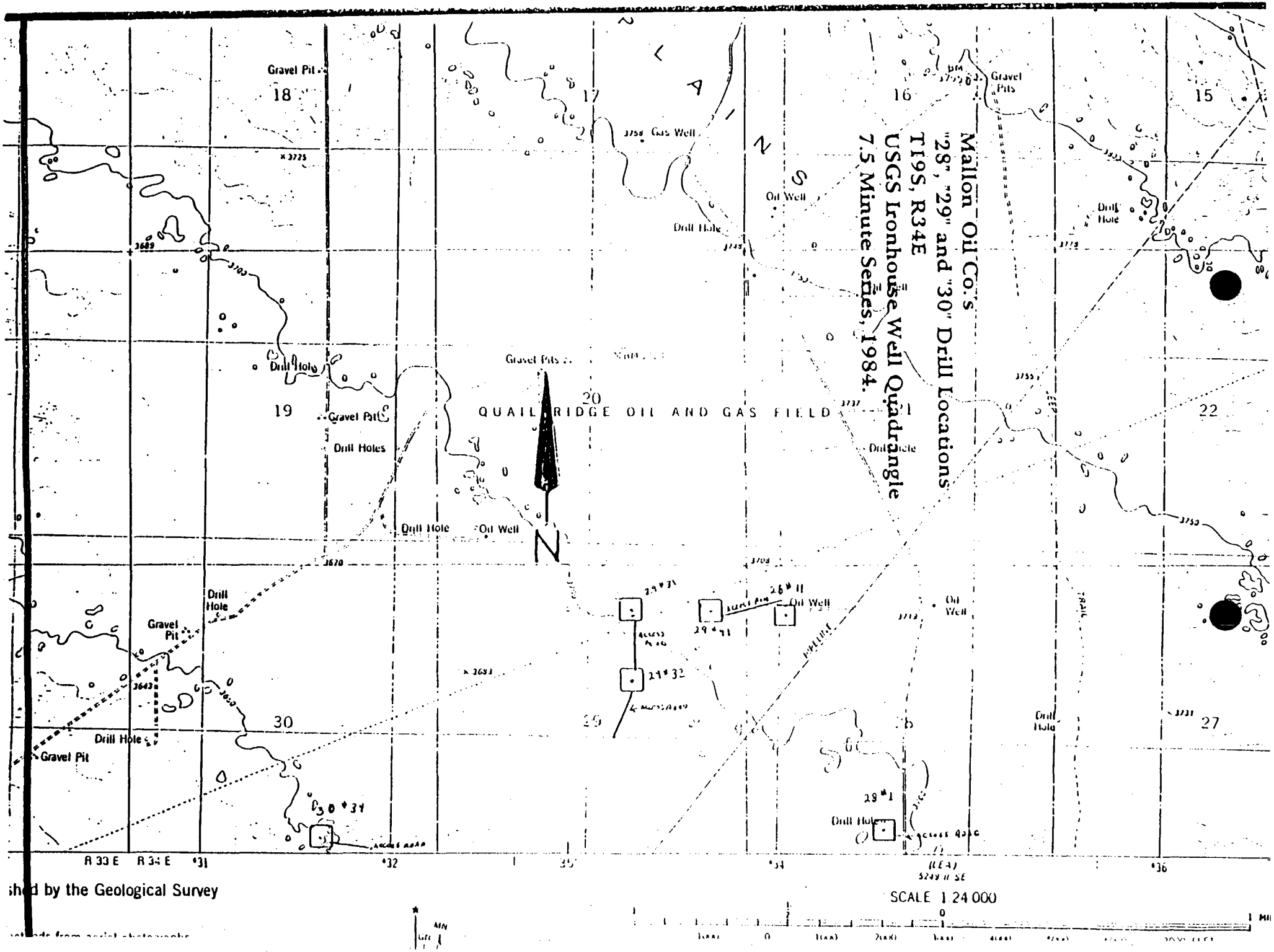
The "29" federal No. 41 drill location will measure 400 ft X 400 ft or 3.6 acres. It will be situated 760 FNL and 660 FEL, in the: NE1/4 NE1/4, section 29, T19S, R34E, NMPM, Lea Co., N.M.

The access road to this well will measure 100 ft X 1111 ft or 2.55 acres. It will be situated in the: NE1/4 NE1/4, section 29, T19S, R34E, NMPM, Lea Co., N.M.
NW1/4 NW1/4, section 28, T19S, R34E, NMPM, Lea Co., N.M.

The "30" Federal No. 34 drill location will measure 400 ft X 400 ft or 3.6 acres. It will be situated 660 FSL and 1980 FEL, in the: SW1/4 SE1/4, section 30, T19S, R34E, NMPM, Lea Co., N.M.

The access road to this well will measure 100 ft X 548 ft or 1.25 acres. It will be situated in the: SW1/4 SE1/4, section 30, T19S, R34E, NMPM, Lea Co., N.M.

Map Reference: USGS Ironhouse Well Quadrangle, 7.5 Minute Series, 1984.



shed by the Geological Survey