Form 3160-3
(August 1999)

New Mexico Oil ...

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

FORM APPROVED
OMB NO. 1004-0136
Expires: November 30, 2000

APPLICATION FOR PERMIT TO DRILL OR REENTER

1a. Type of Work: [x] DRILL [ ] REENTER	5. Lease Serial No. NM 62665
1b. Type of Well: [x] Oil Well [ ] Gas Well [ ] Other [ ] Single Zone [ ] Multiple Zone	6. If Indian, Allotee or Tribe Name: N/A
	7. Unit or CA Agreement Name and No.: ARROWHEAD GRAYBURG UNIT
2. Name of Operator: Chevron U.S.A. Inc.	8. Lease Name and Well No.: 351
3a. Address: P.O. Box 1150 Midland, TX 79702 — 3b. Phone No. (include area code): (915)687-7148	9. API Well No.: 30-025-34927
4. Location of Well (*Report location clearly and in accordance with any State equirements*)* At surface: 2540' FNL & 1320' FWL UNIT E — At proposed prod. zone: UNORTHODOX LOCATION — SUBJECT TO LIKE APPROVAL BY STATE	10. Field and Pool, or Exploratory: ARROWHEAD; GRAYBURG
	11. Sec., T., R., M., or Blk. and Survey or Area: SEC. 1, T22S, R36E
14. Distance in miles and direction from nearest town or post office*: 5 MI - EUNICE, NM	12. County or Parish: LEA — 13. State: NM

15. Distance from proposed* location to nearest property or lease line, ft. (Also to nearest drg. unit line, if any)	16. No. of Acres in lease	17. Spacing Unit dedicated to this well
1320'		40

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
1206'	3885'	UNKNOWN

21. Elevations (Show whether DF, KDB, RT, GL, etc.	22. Approximate date work will start*	23. Estimated duration
3517'	2/22/99	8 DAYS

24. Attachments — CAPITAN 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	Name (*Printed/Typed*)	Date
J. K. Ripley	J. K. RIPLEY	1/6/00
Title: REGULATORY O.A.		

Approved by (Signautre)	Name (*Printed/Typed*)	Date
Earle Smith	Earle Smith	
Title: Acting Assistant Field Manager, Lands And Minerals	Office	

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

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

*(*Instructions on Reverse*)

APPROVAL SUBJECT TO
GENERAL REQUIREMENTS AND
SPECIAL STIPULATIONS
ATTACHED

ack 1/24/00

... NO. 4323
2571
3040
... 2-10-00
API NO. 30-025-34927

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
30-025-34927	03040	ARROWHEAD;GRAYBURG

Property Code	Property Name	Well Number
2571	AGU	351

OGRID No.	Operator Name	Elevation
4323	CHEVRON U.S.A. PRODUCTION COMPANY	3517

Surface Location

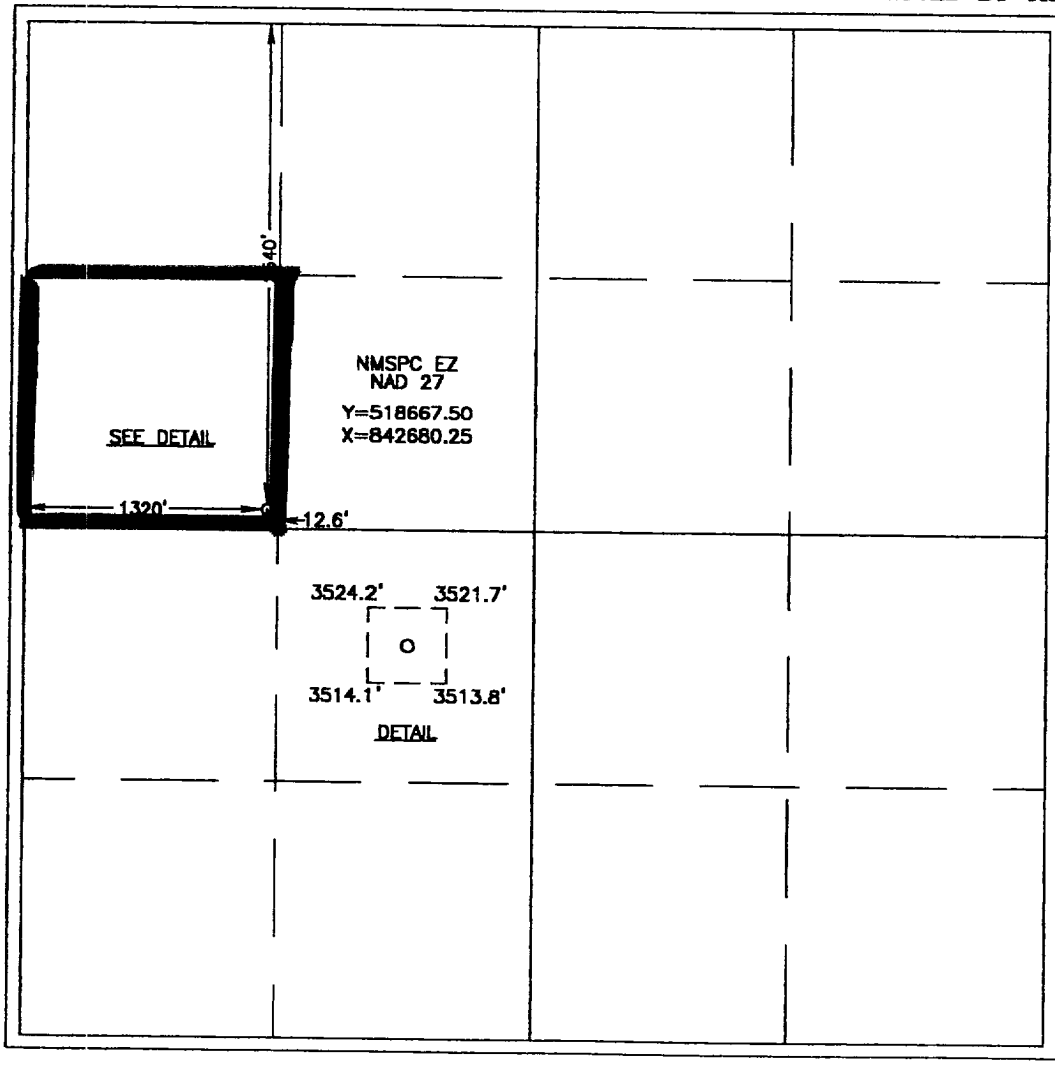
UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
E	1	22 S	36 E		2540	NORTH	1320	WEST	LEA

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.
40			

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



OPERATOR CERTIFICATION

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

J. K. Ripley
Signature

J. K. RIPLEY
Printed Name

REGULATORY O.A.
Title

1/6/00
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 15, 1999
Date Surveyed LMP

Signature & Seal of Professional Surveyor

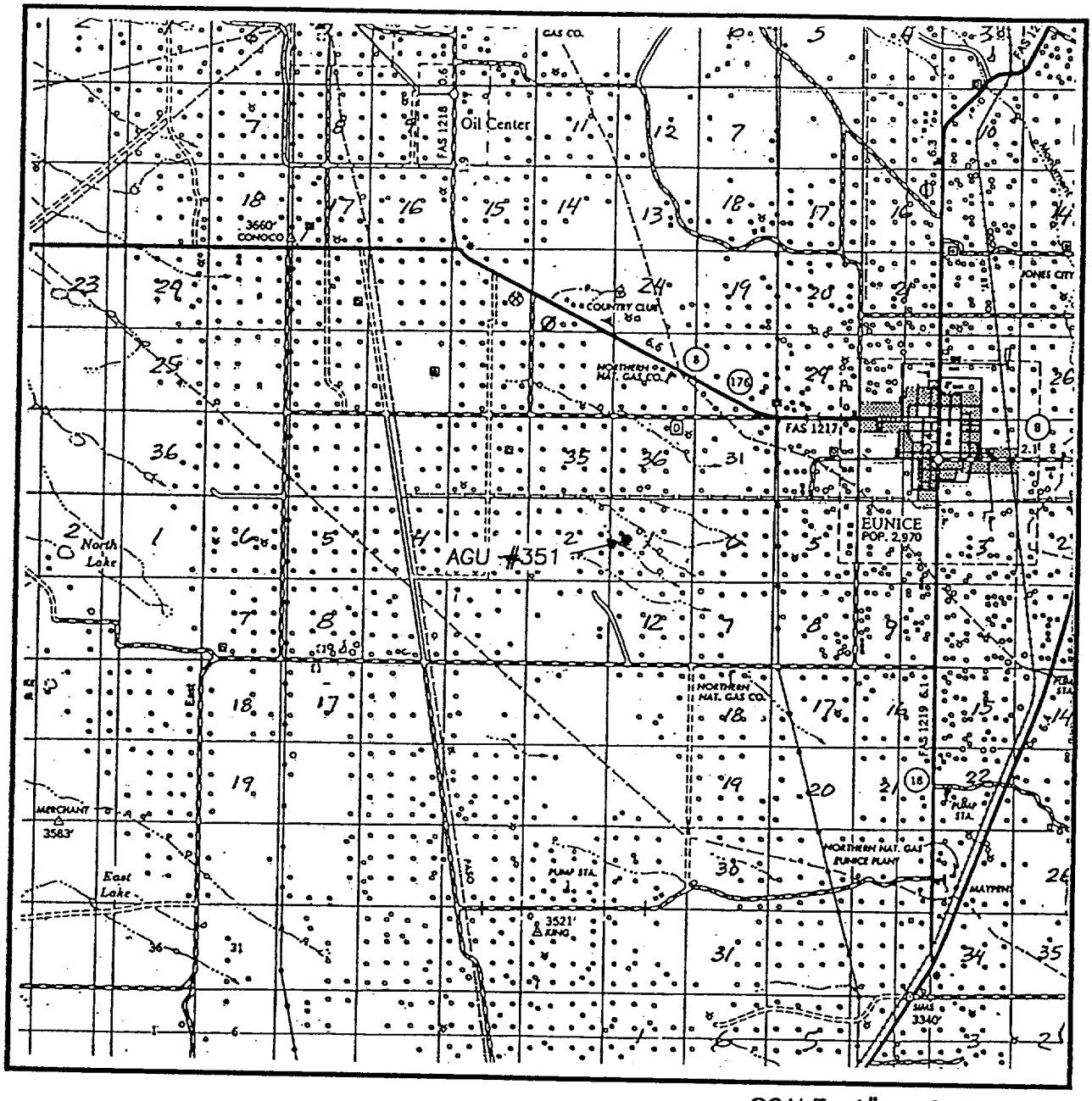
RONALD J. EIDSON
NEW MEXICO
3239
REGISTERED PROFESSIONAL SURVEYOR

Ronald J. Eidson 12-20-99

99-11-1074

Certificate No. RONALD J. EIDSON 3239
GARY L. EIDSON 12641
MACON McDONALD 12185

VICINITY MAP



SCALE: 1" = 2 MILES

SEC. 1 TWP. 22--S RGE. 36--E

SURVEY N.M.P.M.

COUNTY LEA

DESCRIPTION 2540' FNL & 1320' FWL

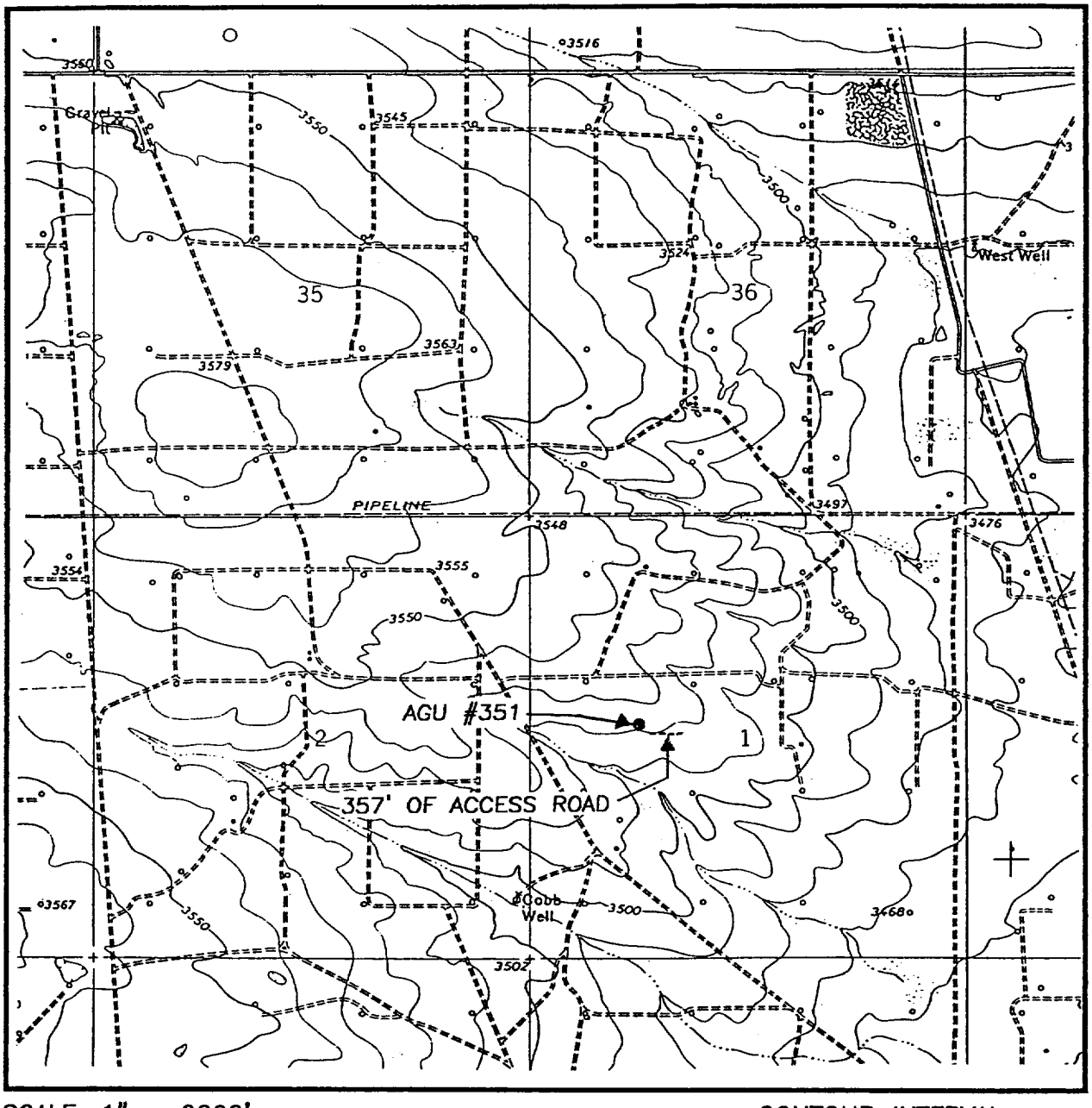
ELEVATION 3517

OPERATOR CHEVRON U.S.A. PRODUCTION COMPANY

LEASE AGU

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

LOCATION VERFICATION MAP



SCALE: 1" = 2000'

CONTOUR INTERVAL:
EUNICE, N.M. – 10'

SEC. 1 TWP. 22–S RGE. 36–E

SURVEY N.M.P.M.

COUNTY LEA

DESCRIPTION 2540' FNL & 1320' FWL

ELEVATION 3517

OPERATOR CHEVRON U.S.A. PRODUCTION COMPANY

LEASE AGU

U.S.G.S. TOPOGRAPHIC MAP
EUNICE, N.M.

JOHN WEST SURVEYING
HOBBS, NEW MEXICO
(505) 393–3117

DRILLING PROGRAM

Attached to Form 3160-3
Chevron U.S.A. Inc.
Arrowhead Grayburg Unit #351
2540' FNL & 1320' FWL
Section 1, T22S, R36E
Lea County, New Mexico

1. Geological Name of Surface Formation:

   Aeolian

2. Estimated Tops Of Important Geological Markers:

Rustler	1183'
T/Salt	1279'
B/Salt	2519'
Queen	3384'
Grayburg	3678'

3. Protection of Zones:

   The fresh water sands will be protected by setting 9 5/8" casing at 500' and circulating cement to surface. The oil and gas zones will be protected with 7" casing to total depth and circulating cement to surface.

4. Casing Program:

Hole Size	Interval	Csg OD	Weight, Grade, Type
12 1/4"	0- 500'	9 5/8"	36#, K-55, ST&C
8 3/4"	500'-3885'	7"	20#, K-55, LT&C

WITNESS

Cement Program:

9 5/8" Surface Casing: (12 1/4" hole)	Cemented to surface using Class "C" + 4% Gel + 3% salt, followed by Class "C" + 2% CaCl2.

7" Production Casing (8 3/4" hole)	Cemented to surface using Class "C" + 4% Gel + Additives, followed by Class "C" + additives.

The above cement slurries will be designed using caliper logs to circulate cement to surface.

5. Minimum Specifications for Pressure Control:

The blowout preventor equipment (BOP) shown in attachment will consist of a (2M system) double ram type (2000 psi WP) preventor. The unit will be hydraulically operated and equipped with blind and pipe type rams. BOP's will will be installed on the 9 5/8" surface casing and will be utilized continuously until total depth is reach and production casing is in place and cemented. All BOP's and associated equipment will be tested to 1000 psi before drilling out 9 5/8" casing shoe.

Pipe rams will be operated and checked each 24 hour period and each time the drill pipe is out of the hole. These function tests will be documented on the daily drillers log. A 2" kill line and 2" choke line will be incorporated in the drilling spool below the ram-type BOP. Other BOP equipment will include a kelly cock, floor safety valve, choke lines and choke manifold having 2000 psi WP rating.

6. Types and Characteristics of Proposed Mud System:

The well will be drilled to a total depth using fresh water and brine water mud systems.

DEPTH	TYPE	WEIGHT	VISCOSITY	WATER LOSS
0'-500'	Fresh Water	8.4	34-36	No control
500'-TD	Brine Water	10.0	28	No Control

7. A. A kelly cock will be in the drill string at all times.

B. A full opening drill pipe stabbing valve having the appropriate connections will be on the rig floor at all times.

C. H2S monitors and safety equipment will be on location and operating continuously while drilling below the surface casing to TD.

8. Logging, Testing and Coring Program:

A. No DST's are planned.

B. The open hole logging program will be:
GR/Dual Laterolog/MSFL/Comp Sonic

C. No cores are planned.

9. Abnormal Pressures, Temperature and Potential Hazards:

No abnormal pressures or temperatures are foreseen. Minor concentrations of hydrogen sulfide gas have been reported or are known to exist at these depths in this area. No major loss circulation intervals have been encountered in adjacent wells.

10. Anticipated Starting Date and Duration of Operations:

Road and location preparation will not be undertaken until approval has been received from the BLM. The anticipated spud date is approximately February 22, 2000. The drilling operations should require approximately 12 days. If the well is deemed productive, completion operations will require, at minimum, an additional 30 days of testing to ascertain whether permanent production facilities will be constructed.

SURFACE USE AND OPERATING PLAN

Attachment to Form 3160-3
Chevron U.S.A. Inc.
Arrowhead Grayburg Unit #351
2540' FNL & 1320' FWL
Section 1, T22S, R36E
Lea County, New Mexico

1. Existing Roads:

   A. The well site and elevation plat for the proposed Arrowhead Grayburg Unit #351 is attached. The well site was staked by Ronald J. Eidson on December 20, 1999.

   B. Directions to location: Take Hwy 8-176 west out of Eunice, NM for 1.8 miles. Exit west onto Dump Ground Road. Go 1.4 miles and turn south on lease road. Go 1.3 miles and turn west on lease road. Go 0.1 mile and turn north on lease road. Proceed 0.l mile to well location.

2. Proposed access Road:

   A. The maximum width of the road will be fifteen (15) feet.

   B. It will be crowned and made of 6 inches of rolled and compacted caliche. Water will be deflected, as necessary, to avoid accumulation and prevent surface erosion.

   C. Surface material will be native caliche. The material will be obtained from a BLM approved pit nearest in proximity to the location or from existing caliche under the location.

   D. No cattle guards, grates or fence cuts will be necessary.

   E. No turnouts are planned.

3. Location of Existing and/or Proposed facilities:

   If the well is productive, it will be tied in to an existing battery. A sundry notice will be sent to the BLM upon results of the completion.
   If the well is productive, rehabilitation plans are as follows:

1. The reserve pit will be back-filled after the contents of the pit are dry (within 120 days after completion, weather permitting).

2. Caliche from unused portions of the drill pad will be removed. The original topsoil from the well site will be returned to the location. The drill site will then be contoured to the original natural state.

4. Location and Type of Water Supply:

The Arrowhead Grayburg Unit #351 will be drilled using a combination of Brine and Fresh water mud systems (outlined in the Drilling Program). The water will be obtained from commercial water stations in the area and hauled to the location by transport truck. Additionally, produced salt water from the lease gathering tanks may be used. No water well will be drilled on the location.

5. Source of Construction Materials:

All caliche utilized for the drilling pad and proposed access road will be obtained from an existing BLM approved pit or from prevailing deposits found under the location. All roads will be constructed of 6" rolled and compacted caliche.

6. Methods of Handling Water Disposal:

A. Drill cuttings will be disposed into the reserve pit.

B. Drilling Fluids will be contained in steel mud tanks. The reserve pit will contain excess drilling fluids or fluid from the well during drilling, cementing, and completion operations. The reserve pit will be earthen pit roughly 80' x 80' x 6', or smaller, in size.

C. The reserve pit will be fenced on three sides throughout drilling operations and will be totally isolated upon removal of the rotary rig. The pit will be lined using 6 mil plastic to minimize loss of drilling fluids and saturation of the ground with brine water used to drill from 1200' - 3885'.

D. Water produced from the well during completion operations will be disposed into steel tanks or the reserve pit, if volumes prove excess. After placing the well on production through the production facilities, all water will be collected in tanks. Produced oil will be separated into steel stock tanks until sold.

E. A portable chemical toilet will be available on location for human waste during drilling operations.

F. Garbage, trash and waste paper produced during drilling operations will be collected in a container trailer and disposed at an approved landfill. All waste material will be contained to prevent scattering by the wind. All water, fluids, salt or other chemicals will be disposed in the reserve pit. No toxic waste or hazardous chemicals will be generated by this operation.

G. All waste material will be removed within 30 days after the well is either completed or abandoned. The reserve pit will be completely fenced until it has dried. At the point the reserve pit is found sufficiently dry, it will be backfilled and reclaimed as outlined by the BLM specifications. Only the portion of the drilling pad used by production equipment (pumping unit and tank battery) will remain in use. If the well is deemed non-commercial, only a dry hole marker will remain.

7. Ancillary Facilities:

No campsite or other facilities will be constructed as a result of this well.

8. Well Site Layout:

A. The drill pad is shown on Attachment. Approximate dimensions of the pad, the pits and the general location of the rig equipment are displayed. Top soil will be stored adjacent to the pad until reclamation efforts are undertaken. Only modest cuts will be necessary to build the pad which will be covered with 6" of compacted caliche.

B. No permanent living facilities are planned, but temporary trailers for the tool pusher, drilling foreman and mud logger may be on location throughout drilling operations.

C. The reserve pit will be lined using plastic sheeting of 6 mil thickness.

9. Plans for Restoration of Surface:

A. If after concluding the drilling and/or completion operations, the well is found non-commercial, the caliche will be removed from the pad and transported to the original caliche pit or used for other drilling locations. The road will be reclaimed as directed by the BLM. The reserve pit area will be broken out and leveled after drying to a condition where these efforts are feasible. The original top soil will again be returned to the pad and contoured, as close as possible, to the original topography.

B. The pit lining will be buried or hauled away in order to return the location and road to the pristine nature. All pits will be filled and location leveled, weather permitting, within 120 days after abandonment.

C. The location and road will be rehabilitated as recommended by the BLM.

D. The reserve pit will be fenced on three sides throughout drilling operations. After the rotary rig is removed, the reserve pit will be fenced on the fourth side to preclude endangering wildlife. The fencing will be in place until the pit is reclaimed.

E. If the well is deemed commercially productive, the reserve pit will be restored as described on 10 (A) within 120 days subsequent to the completion date. Caliche from the area of the pad site not required for operations will be reclaimed. The original top soil will be returned to the area of the drill pad not necessary to operate the well. These unused areas of the drill pad will be contoured, as close as possible, to match the original topography.

10. Surface Ownership:

The Well site is owned by the Bureau of Land Management.

Road routes have been approved and the surface location will be restored as directed by the BLM.

11. Refer to archaeological report performed by Agency for Conservation Archaeology-Eastern New Mexico University (No. F91-115) for a description of the topography, flora, fauna, soil characteristics, dwellings, historical and cultural sites.

12. Lessee's or Operator's Representative:

George Tullos

Chevron U.S.A. Inc.
P.O. Box 1150
Midland, Texas 79702

Phone: (915)687-7463

Certification:

I hereby certify that I, or a Chevron representative, have inspected the proposed drill site and access road; that the statements made in this plan are, to the best of my knowledge, true and correct; and that the work associated with the operations proposed herein will be performed by Chevron U.S.A. Inc. and its contractors and subcontractors in conformity with this plan and the terms and conditions under which it is approved.

Date: 1/6/00

Signed: J. K. Ripley

J. K. Ripley

Attachments

H2S DRILLING OPERATIONS PLAN

I. HYDROGEN SULFIDE TRAINING

All contractors and subcontractors employed by Chevron U.S.A. Inc. will receive or have received training from a qualified instructor within the last twelve months in the following areas prior to commencing drilling operations on this well.

1. The hazards and characteristics of hydrogen sulfide (H2S)
2. Safety precautions
3. Operations of safety equipment and life support systems

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

1. The effect of H2S on metal components in the system. If high tensile tubulars are to be used. personnel will be trained in their special maintenance requirements.

2. Corrective action and shut-down procedures when drilling or working a well, blowout prevention and well control procedures, if the nature of work performed involves these items.

3. The contents and requirements of the contingency plan when such plan is required.

All personnel will be required to carry documentation of the above training on their person.

II. H2S EQUIPMENT AND SYSTEMS

1. Safety Equipment

The following safety equipment will be on location.

A. Wind direction indicators as seen in attached diagram.
B. Automatic H2S detection alarm equipment (both audio and visual).
C. Clearly visible warning signs as seen on the attached diagram. Signs will use the words "POISON GAS" and "CAUTION" with a strong color contrast.
D. Protective breathing equipment will be located in the dog house and at the briefing areas as seen in the attached diagram.

2. Well Control Systems

A. Blowout Prevention Equipment
Equipment includes but is not limited to:

a. pipe rams to accommodate all pipe sizes
b. blind rams
c. choke manifold
d. closing unit

Auxiliary equipment added as appropriate includes:

a.	annular preventor	NA
b.	rotating head	NA
c.	mud-gas separator	NA
d.	flare line and means of ignition	NA
e.	remote operated choke	NA

B. Communication

The rig contractor will be required to have a two-way communication capability. Chevron U.S.A. Inc. will have either land-line or mobile telephone capabilities.

C. Mud Program

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 when appropriate will minimize hazards when penetrating H2S bearing formations.

D. No Drill Stem Tests are planned.

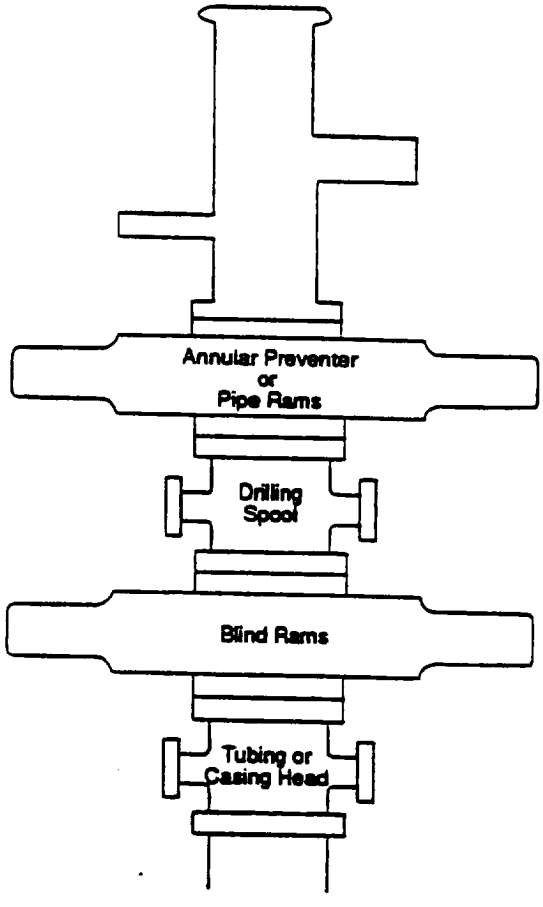
III. WELL SITE DIAGRAM

A complete well site diagram including the following information is attached.

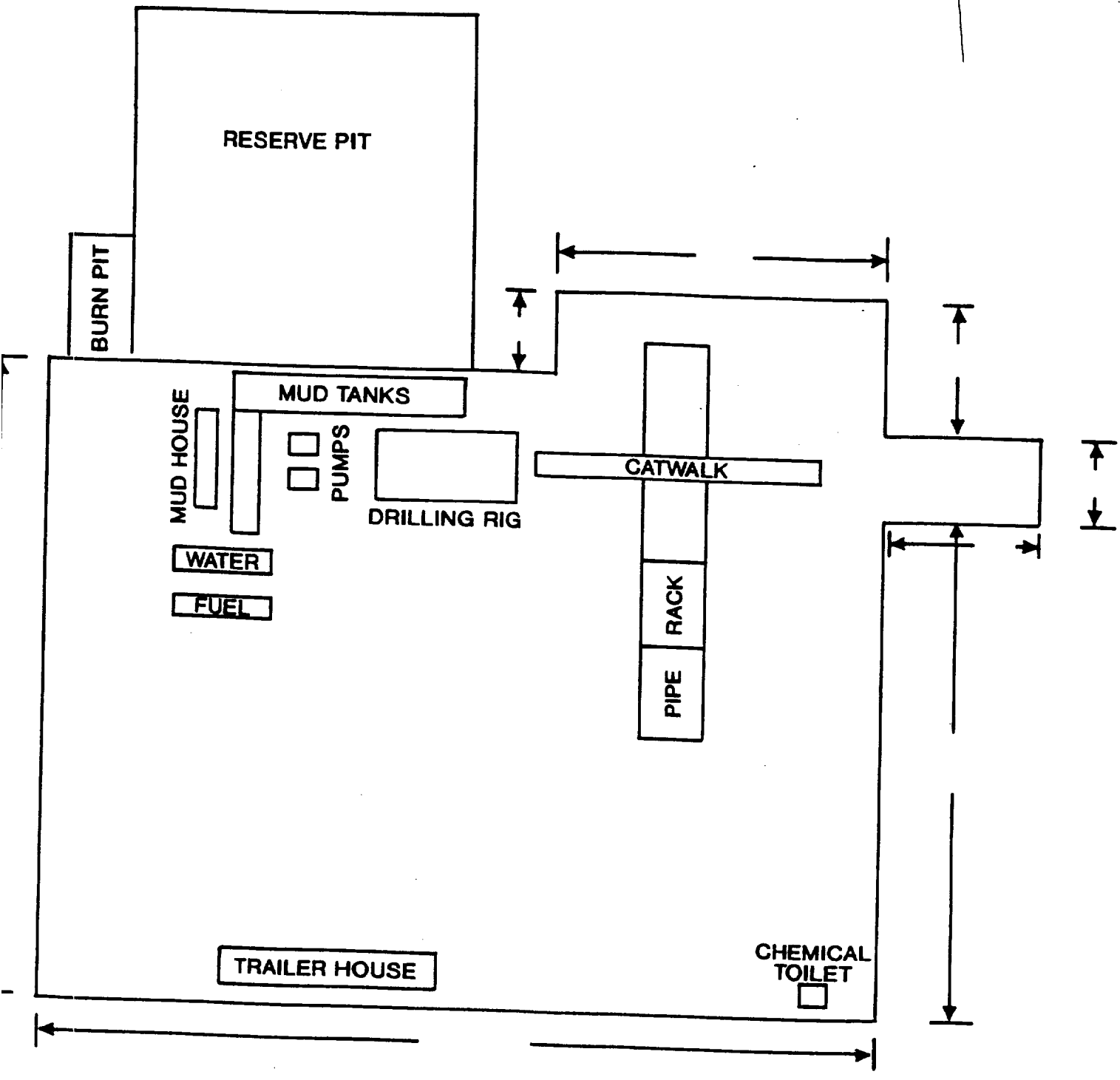
1. Rig orientation
2. Briefing areas
3. Ingress and egress
4. Pits and flare lines
5. Caution and danger signs
6. Wind indicators and prevailing wind direction

D. CLASS II-B BLOWOUT PREVENTER STACK:

Figure 11J.3
Class II-B Blowout Preventer Stack



The Class II-B preventer stack is designed for drilling or workover operations. It is composed of a single hydraulically operated annular preventer on top, then a drilling spool, and a single blind ram preventer on bottom. In an alternate configuration, a single pipe ram preventer may be substituted for the annular preventer. The choke and kill lines are installed onto the drilling spool and must have a minimum internal diameter of 2". An emergency kill line may be installed on the wellhead. As the maximum anticipated surface pressure of this stack is less than 2000 psi, screwed connections may be used. All components must be of steel construction. The Class II-B blowout preventer stack is shown to the left in Figure 11J.3.



Chevron

CHEVRON USA INC.

EXHIBIT "C"

Well Name & Number: Arrowhead Grayburg Unit #351

Location: 2540 'F N L & 1320 'F W L

Section: 1 **Unit:** E

Township: 22S **Range:** 36E

LEA **County, New Mexico**

PREPARED BY:

C. CLASS II CHOKE MANIFOLD

The Class II choke manifold is suitable for all Class II workovers and drilling operations. The Class II choke manifold is shown below in Figure 11J.7. Specific design features of the Class II choke manifold include:

1. The manifold is attached to the tubing/casing head when a Class II-A preventer stack is use. This hook-up is only recommended for Class II workover operations.

2. The manifold is attached to a drilling spool or top ram preventer side outlets when a Class II-B preventer stack is in use.

3. The minimun internal diameter is 2" (nominal) for outlets, flanges, valves and lines.

4. Includes two steel gate valves in the choke line at the wellhead/drilling spool outlet. The inside choke line valve may be remotely controlled (HCR).

5. Includes one manually adjustable choke which is installed on the side of the manifold cross. Steel isolation gate valves are installed between the choke and the cross, and downstream of the choke.

6. Includes one bleed line installed on the side of the manifold cross which is isolated by a steel gate valve.

7. Includes a pressure gauge suitable for drilling service which can display the casing pressure within view of the choke operator.

8. Screwed connections may be used in lieu of flanges or clamps.

Figure 11J.7 - Class II Manifold

NC = Normally Closed
NO = Normally Open