H2S ONSITE

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

P-06-33
3/13/06

This APD replaces old APD API #30-015-26275

Form 3160-3
(August 1999)

RECEIVED
MAY 25 2006
OCD-ARTESIA

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

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANGEMENT

5. Lease Serial No.
NM89879, NM89882

6. If Indian, Allottee or Tribe Name

APPLICATION FOR PERMIT TO DRILL OR REENTER

1a. Type of Work: ☐ DRILL ☒ REENTER

7. If Unit or CA Agreement, Name and No.

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

8. Lease Name and Well No. 12965
MESQUITE 3 FEDERAL #3H

2. Name of Operator
HARVEY E. YATES COMPANY 10179

9. API Well No.
30-015-26275

3a. Address
PO BOX 1933, ROSWELL, NM 88202-1933

3b. Phone No. (include area code)
505-623-6601

10. Field and Pool, or Exploratory
YOUNG BONE SPRINGS NORTH 65350

4. Location of Well (Report location clearly and in accordance with any State requirements.*)

At surface 990' FSL & 990' FEL
SUBJECT TO LIKE APPROVAL BY STATE

At proposed prod. Zone 1,260' FNL & 330' FEL

11. Sec., T., R., M., or Blk. And Survey or Area
SEC 3, T18S, R31E

14. Distance in miles and direction from nearest town or post office*
16 miles south east of Loco Hills, New Mexico

12. County or Parish
Eddy

13. State
NM

15. Distance from proposed* location to nearest property or lease line, ft. (Also to nearest drlg. Unit line, if any)
990'

16. No. of Acres in lease
160.12

17. Spacing Unit dedicated to this well
160.12 acres

18. Distance from proposed location* to nearest well, drilling, completed applied for, on this lease, ft.
3,850'

19. Proposed Depth
TVD 8,630'
TMD 11,275'

20. BLM/BIA Bond No. on file
NM-B001795 NMB000317

21. Elevations (Show whether DF, KDB, RT, GL, etc)
3,751.8' GL

22. Approximate date work will start*
June 16, 2006

23. Estimated duration
45 days after construction starts

24. Attachments

Csg:	Hole size	Grade, Size Csg	Wt / ft	Depth	Quantity of cement
	17 1/2"	13 3/8" J-55	54.5#	350'	In place - cmt circ'd
	12 1/4"	8 5/8" J-55	32.0#	2,316'	In place - cmt circ'd
	7 7/8"	5 1/2" J-55	17.0#	6,000'	Circulate Cement
	4 3/4"	3 1/2" P-110	9.3#	11,275' MD	Bring Cement to top of Liner Hanger

Mud:
7920 to 11,275' MD Horizontal, mud up with Barazan D, MW 8.4 to 8.8, Vis 34-36

25. Signature Keith Cannon
Name (Printed/Typed) Keith Cannon
Date 3-10-06

Title Drilling Superintendent

Approved by (Signature) /s/ Tony J. Herrell
Name (Printed/Typed) /s/ Tony J. Herrell
Date MAY 23 2006

Title FIELD MANAGER
Office CARLSBAD FIELD OFFICE

Application approval does not warrant or certify 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 1 YEAR

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

If earthen pits are used in association with the drilling of this well, an OCD pit permit must be obtained prior to pit construction.

Submit to Appropriate
District Office
State Lease - 4 copies
Fee Lease - 3 copies

DISTRICT I
P.O. Box 1980, Hobbs, NM 88240

DISTRICT II
P.O. Drawer DD, Artesia, NM 88210

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

State of New Mexico
Energy, Minerals and Natural Resources Department

OIL CONSERVATION DIVISION

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

Form C-102
Revised 1-1-89

WELL LOCATION AND ACREAGE DEDICATION PLAT

All Distances must be from the outer boundaries of the section

Operator	Lease	Well No.
Harvey E. Yates Company	Mesquite Federal	3

Unit Letter	Section	Township	Range	County
P	3	18 South	31 East NMPM	Eddy

Actual Footage Location of Well:
990 feet from the South line and 990 feet from the East line

Ground level Elev.	Producing Formation	Pool	Dedicated Acreage:
3751.8	Wolfcamp	Wildcat	160 Acres

1. Outline the acreage dedicated to the subject well by colored pencil or hachure marks on the plat below.

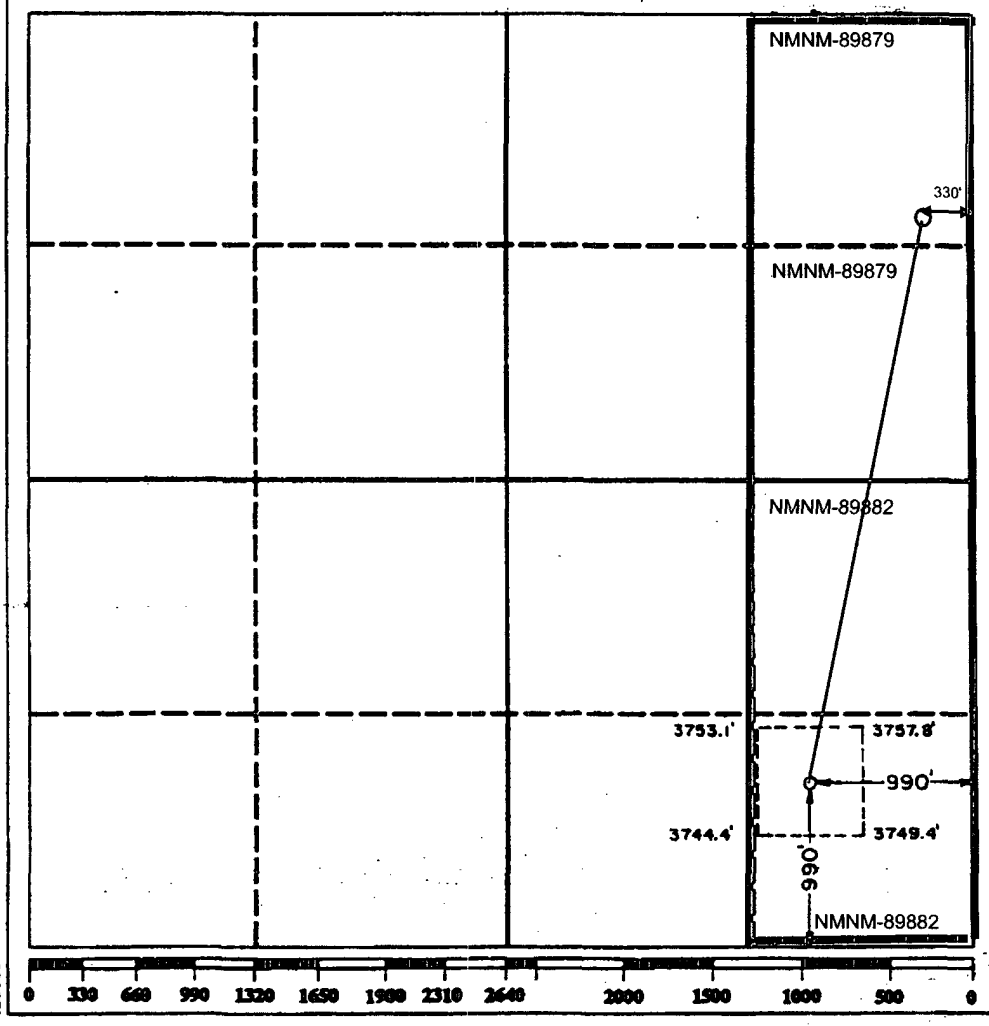
2. If more than one lease is dedicated to the well, outline each and identify the ownership thereof (both as to working interest and royalty).

3. If more than one lease of different ownership is dedicated to the well, have the interest of all owners been consolidated by communitization, unitization, force-pooling, etc.?

☐ Yes ☐ No If answer is "yes" type of consolidation _____

If answer is "no" list the owners and tract descriptions which have actually been consolidated. (Use reverse side of this form if necessary. _____

No allowable will be assigned to the well until all interests have been consolidated (by communitization, unitization, forced-pooling, or otherwise) or until a non-standard unit, eliminating such interest, has been approved by the Division.



125630

OPERATOR CERTIFICATION

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

Signature

Printed Name
Keith Cannon

Position
Drilling Superintendent

Company
Harvey E. Yates Company

Date
3/09/2006

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 knowledge and belief.

Date Surveyed
December 18, 1989

Signature & Seal of Professional Surveyor

REGISTERED PROFESSIONAL ENGINEER AND LAND SURVEYOR NO. 676 NEW MEXICO JOHN W. WEST

Certificate No. JOHN W. WEST 676
RONALD J. EIDSON 3239

Application
Harvey E. Yates Company
Mesquite 3 Federal #3
990' FSL & 990' FEL
Eddy County, New Mexico

In conjunction with Form 3160-3, Application For Permit To Drill Or Deepen subject well, Harvey E. Yates Company submits the following ten items of pertinent information in accordance with Onshore Oil & Gas Order No. 10.

1. Geologic Name of Surface Formation:
   Quaternary Allunium and Bolson deposits

2. Estimated Tops of Significant Geologic Markers:

Formation	Depth	
Rustler	765'	
Yates	2185'	
Seven Rivers	2595'	
Bowers	3045'	
Queen	3290'	
Penrose	3505'	
Grayburg	3780'	
San Andres	4410'	
Bone Spring	5145'	
Kick Off Point	7920'	T.V.D.
BSPG2nd Sands	8020'	8020'
Base A Sands	8139'	8130'
Top B Sands	8384'	8300'
1st Horz. Point	8630'	8350
BHL Target @ TD	11,274'	8150'

3. Estimated Depths at which Water, Oil, or Gas Formations are expected:

Formation	Depth	Remarks
BSPG 2nd sand	8020'	

4. Proposed Casing Program:
   See Form 3160-3

5. Pressure Control Equipment:
   This well will be rated 2m but actual BOP is rated 5m

6. Drilling Fluid Program:
   See Form 3160-3

7. Auxiliary Equipment:
   H2S Compliance Package

8. Testing, Logging, & Coring Program:
   Mud log and gamma ray mwd.

9. Abnormal Conditions, Pressures, Temperature, or Potential Hazards:
   Possibility of H2S. Will have H2S Compliance Package

10. Anticipated Starting Date & Duration of Operation:
    The anticipated starting date is set for as soon as possible after examination and approval of all drilling requirements.
    Duration of this project will be approximately 50 days from start of
    Construction of drilling pad until finish of completion operations

11. **Other Information:**

a. The mineral and surface owner is the Federal Government.

b. The topography consists of sandy soil with native grasses. No wildlife was observed, but the usual inhabitants of this region are Jackrabbits, Reptiles, Coyotes, etc.

c. There are no ponds, lakes, or rivers in this area.

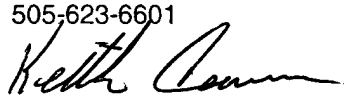
d. An Archaeological Survey has been made and a copy has been sent to the Carlsbad BLM office. There is no evidence of any significant archaeological, historical, or cultural sites in the area. Further, there are no occupied dwellings or windmills in the area.

e. Should any incidental oil be recovered during testing of this well, this oil will be considered waste oil and not sellable due to contamination by drilling and/or completion fluids.

12. **Operator's Representative:**

I 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; that the work associated with operations proposed herein will be performed by Harvey E. Yates Company and its contractors and subcontractors in conformity with this plan and the terms and conditions under which it is approved. This statement is subject to the provisions of 18 U.S.C. 1001 for the filing of a false statement.

Keith Cannon, Drilling Superintendent
Harvey E. Yates Company
P.O. Box 1933
Roswell, NM
505-623-6601



March 8, 2006

Surface Use Plan
Harvey E. Yates Company
Mesquite 3 Fed #3
Section 3, T18S, R31E
Eddy County, New Mexico

1. **Existing Roads:**
   Exhibit A is a portion of a New Mexico map showing the location of the proposed location. The location is approximately 16 miles Southeast of Loco Hills, NM. Leave Artesia on US 82 & travel East 31 miles & turn South on NM 222. Go 3.3 mile & turn left on caliche road. Go 1.6 turn right. Go .9 miles turn right into location.

2. **Planned Access Roads:**
   No new road will be built to access this location.

3. **Location of Existing Wells:**
   See EXHIBIT B From the surveying company / vicinity map

4. **Location of Tank Batteries, Electric Lines, Etc:**
   In the event a producing well is drilled, a tank battery will be built on the location. See EXHIBIT D

5. **Location and Type of Water Supply:**
   Water will be obtained from commercial sources.

6. **Source of Construction Material:**
   We will use materials from a state or blm approved pits to build the location.

7. **Methods of Handling Waste Disposal:**
   Waste will be handled in an approved manner. The wellsite will be cleaned of all waste within 30 days of final completion of the well.

8. **Ancillary Facilities:**
   N/A

9. **Wellsite Layout:**
   a. EXHIBIT D shows the relative location and dimensions of the well pad, reserve pits, and major rig components.

   b. The land is relatively flat with sandy soil and sand dunes.

   c. The pad and pit area have been staked.

10. **Plan for Restoration of the Surface:**
    a. After drilling and completion operations are completed, all equipment and other materials not needed for further operations will be removed. Pits will be back filled and the location cleaned of all trash to leave the wellsite as pleasant in appearance as possible.

    b. If the proposed operation is nonproductive, all restoration and/or vegetation requirements of the BLM will be complied with, and will be accomplished as quickly as possible. All pits will be filled and leveled within 90 days after abandonment.

United States Department of the Interior

BUREAU OF LAND MANAGEMENT
Roswell Resource Area
P.O. Drawer 1857
Roswell, New Mexico 88202-1857

Statement Accepting Responsibilities for Operations

Operator Name: Harvey E. Yates Company
Street or Box: P.O. Box 1933
City, State: Roswell, New Mexico
Zip Code: 88202

The undersigned accepts all applicable terms, conditions, stipulations, and restrictions concerning operations conducted on the leased land or portion thereof, as described below.

Lease No.: NMNM-89879 and NMNM-89882

Lease Name: Mesquite 3 Fed #3H
Legal description of land: Sec 3, T18S, R31E, Eddy County, New Mexico

Formation(s) (if applicable): 2ND SAND "B"

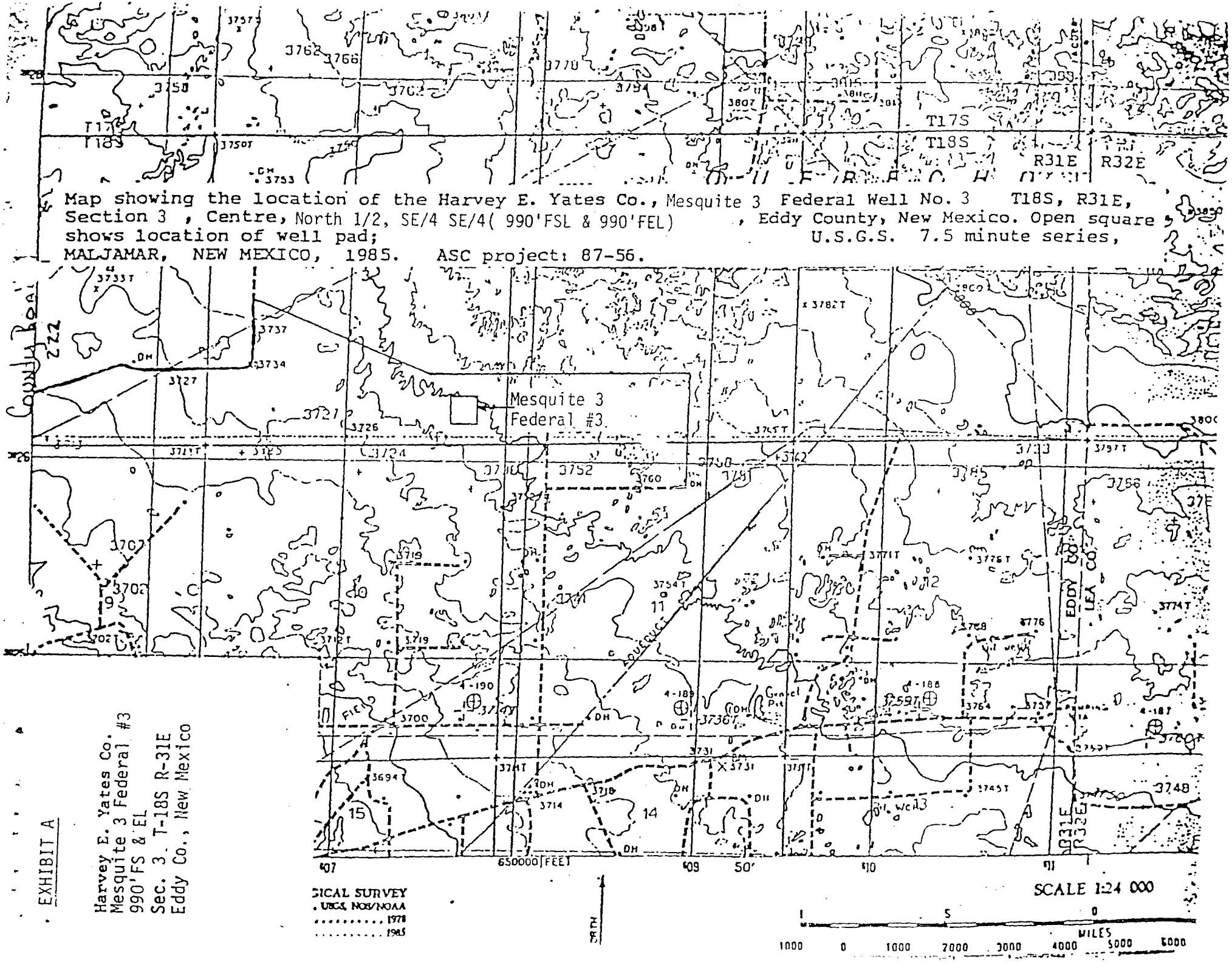
Bond Coverage: Statewide Bond

BLM Bond File No.: ~~NM-B001795~~ NMB000317

Authorized Signature: Keith Owen

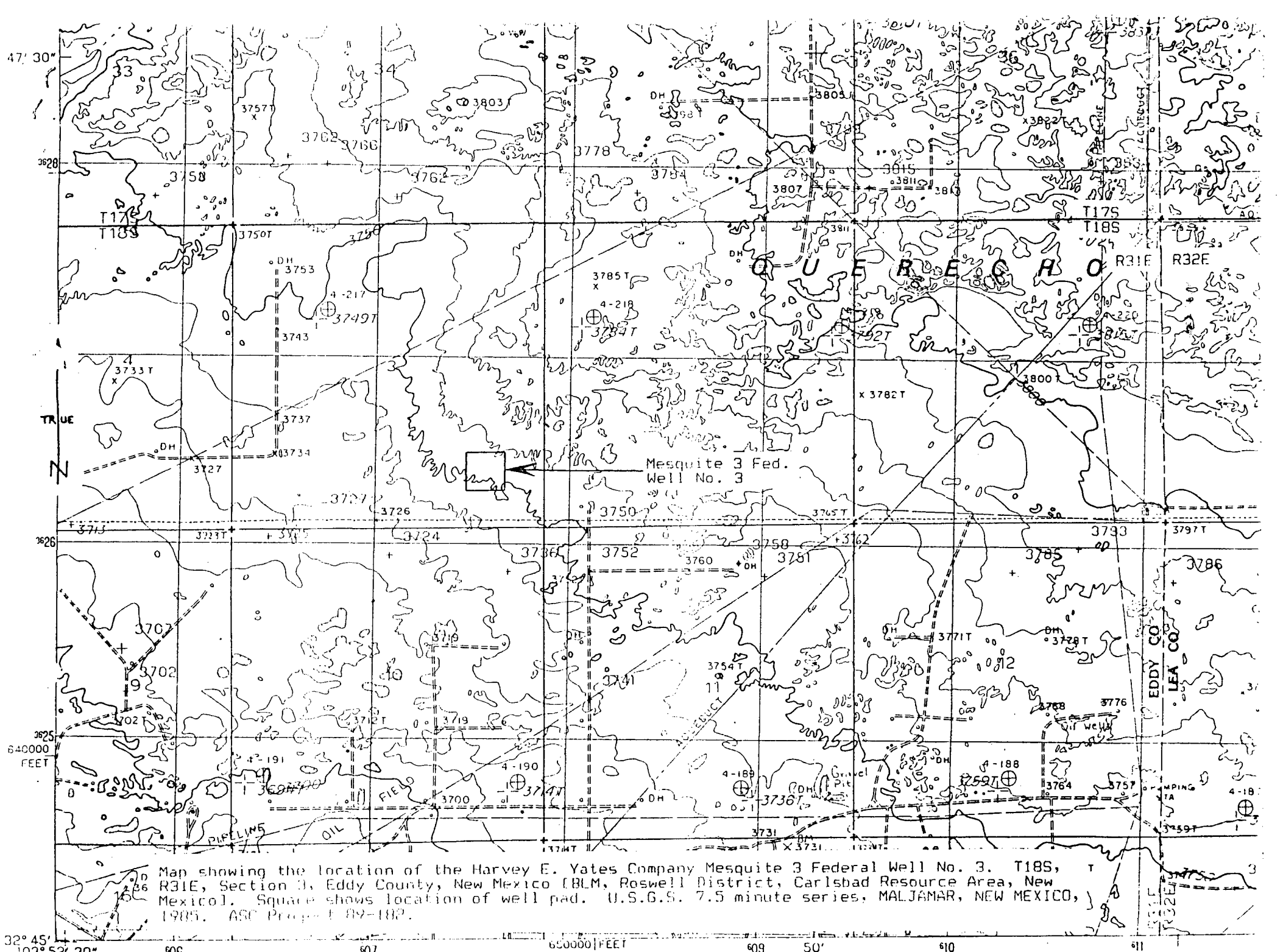
Title: Drilling Superintendent

Date: March 8, 2006



Map showing the location of the Harvey E. Yates Co., Mesquite 3 Federal Well No. 3 T18S, R31E, Section 3 , Centre, North 1/2, SE/4 SE/4(990'FSL & 990'FEL) , Eddy County, New Mexico. Open square shows location of well pad; U.S.G.S. 7.5 minute series, MALJAMAR, NEW MEXICO, 1985. ASC project: 87-56.

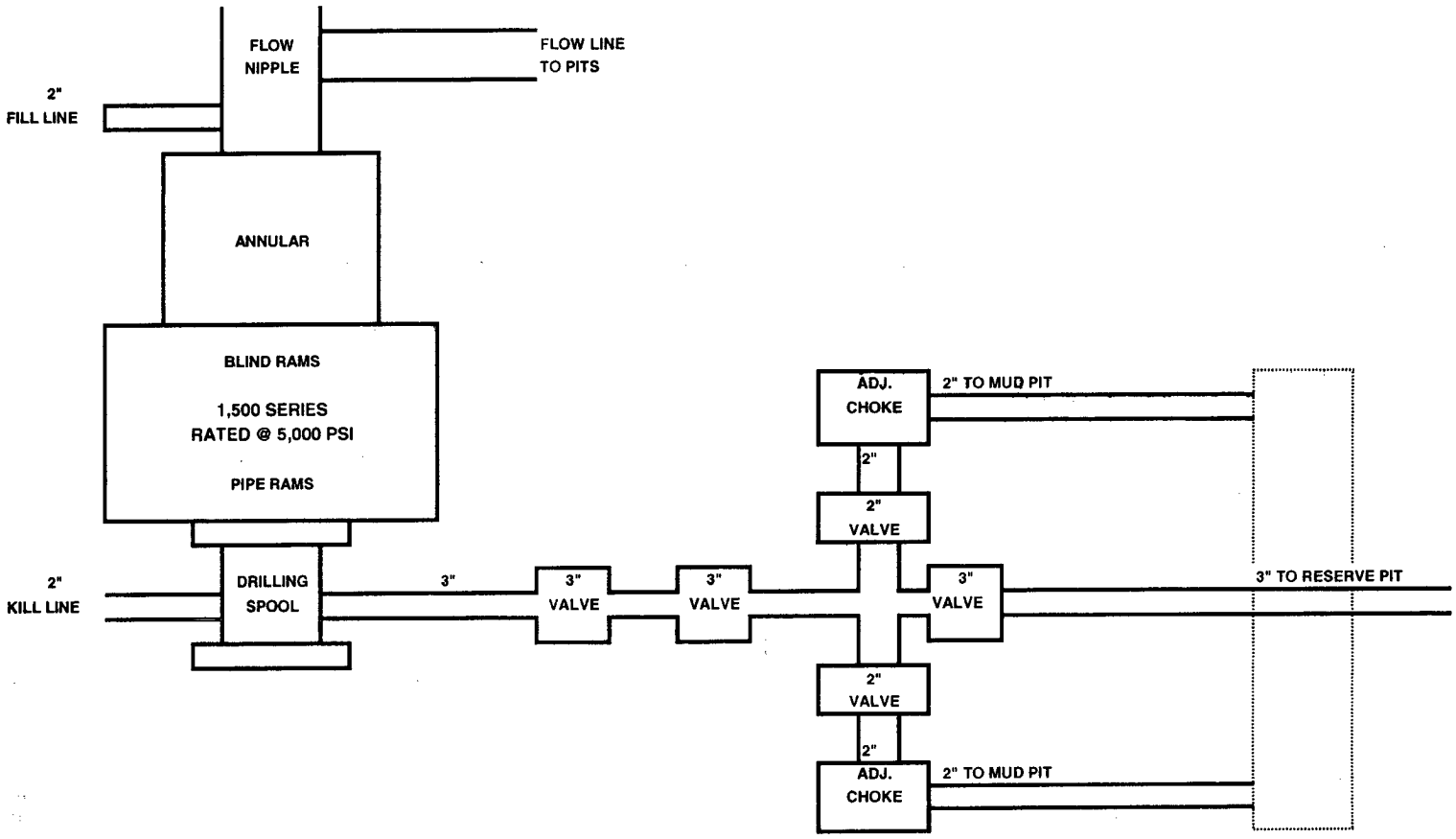
EXHIBIT A



Map showing the location of the Harvey E. Yates Company Mesquite 3 Federal Well No. 3. T18S, R31E, Section 3, Eddy County, New Mexico [BLM, Roswell District, Carlsbad Resource Area, New Mexico]. Square shows location of well pad. U.S.G.S. 7.5 minute series, MALJAMAR, NEW MEXICO, 1985. ASC Proj. # 87-182.

EXHIBIT "C" BOP STACK

Mesquite 3 Fed #3
990' FSL & 990' FEL
Sec 3, T18S, R31E
Eddy County, NM



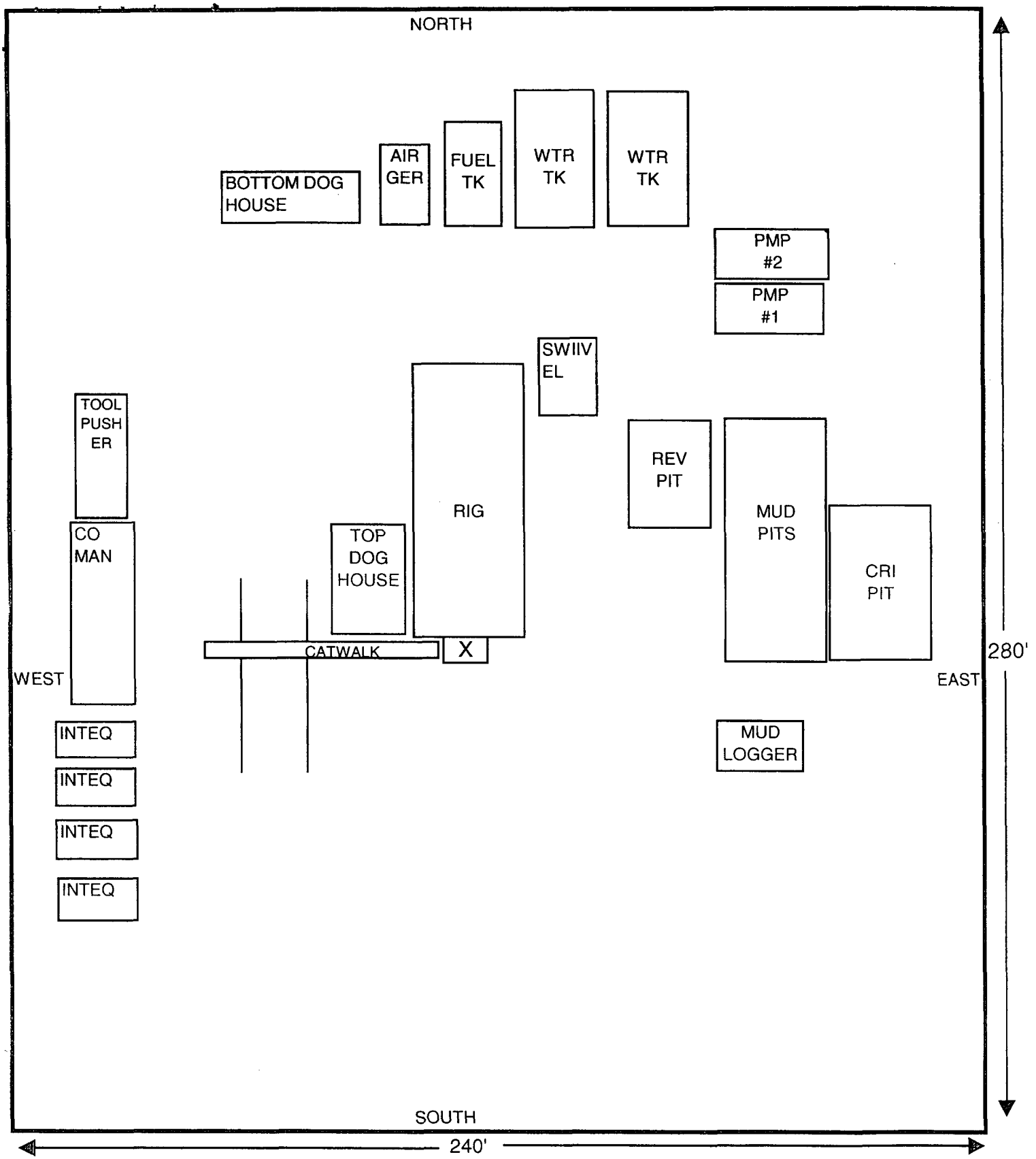
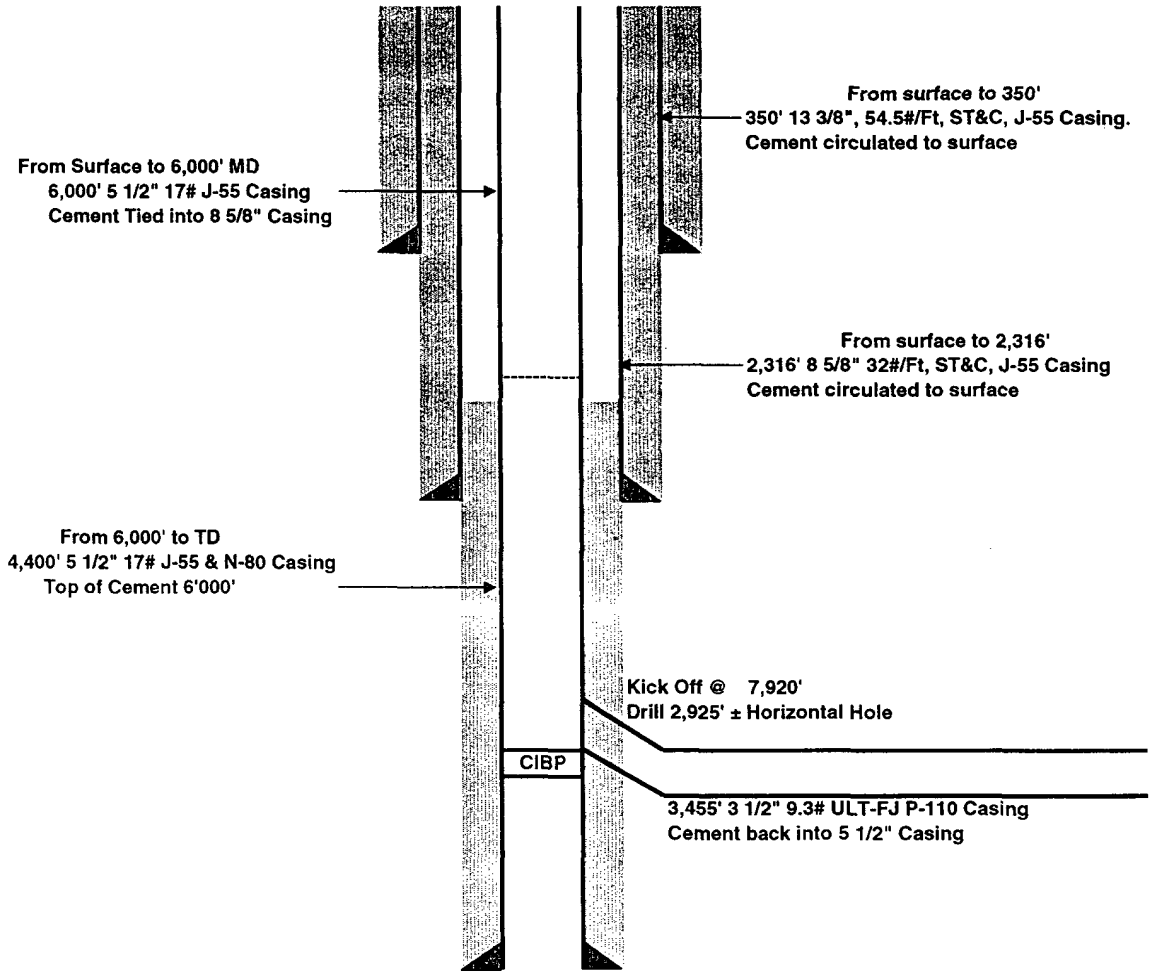


EXHIBIT "D" LOCATION DIAGRAM
MESQUITE 3 FED #3H
990' FSL & 990' FEL
SEC 3,T18S, R31E
EDDY CO. N.M.

EXHIBIT "E" CASING DESIGN

Mesquite 3 Fed #3
990' FSL & 990' FEL
Sec 3, T18S, R31E
Eddy County, NM

13 3/8", 8 5/8" Casings are in place and cemented.



HYDROGEN SULFIDE CONTINGENCY PLAN

SCOPE

THIS CONTINGENCY PLAN ESTABLISHES GUIDELINES FOR THE PUBLIC, ALL COMPANY EMPLOYEES WHO'S WORK ACTIVITIES MAY INVOLVE EXPOSURE TO HYDROGEN SULFIDE (H2S) GAS.

OBJECTIVE

1. **PREVENT ANY AND ALL ACCIDENTS, AND PREVENT THE UNCONTROLLED RELEASE OF HYDROGEN SULFIDE INTO THE ATMOSPHERE.**

2. **PROVIDE PROPER EVACUATION PROCEDURES TO COPE WITH EMERGENCIES.**

3. **PROVIDE IMMEDIATE AND ADEQUATE MEDICAL ATTENTION SHOULD AN INJURY OCCUR.**

H2S CONTINGENCY PLAN

DISCUSSION

GEOLOGICAL PROGNOSIS

IMPLEMENTATION:	**THIS PLAN WITH ALL DETAILS IS TO BE FULLY IMPLEMENTED AFTER DRILLING TO INTERMEDIATE CASING POINT.**
EMERGENCY RESPONSE PROCEDURE:	**THIS SECTION OUTLINES THE CONDITIONS AND DENOTES STEPS TO BE TAKEN IN THE EVENT OF AN EMERGENCY.**
EMERGENCY EQUIPMENT PROCEDURE:	**THIS SECTION OUTLINES THE SAFETY AND EMERGENCY EQUIPMENT THAT WILL BE REQUIRED FOR THE DRILLING OF THIS WELL.**
TRAINING PROVISIONS:	**THIS SECTION OUTLINES THE TRAINING PROVISIONS THAT MUST BE ADHERED TO PRIOR TO DRILLING TO INTERMEDIATE CASING POINT.**
DRILLING EMERGENCY CALL LISTS:	**INCLUDED ARE THE TELEPHONE NUMBERS OF ALL PERSONS TO BE CONTACTED SHOULD AN EMERGENCY EXIST.**
BRIEFING:	**THIS SECTION DEALS WITH THE BRIEFING OF ALL PEOPLE INVOLVED IN THE DRILLING OPERATION.**
PUBLIC SAFETY:	**PUBLIC SAFETY PERSONNEL WILL BE MADE AWARE OF THE DRILLING OF THIS WELL.**
CHECK LISTS:	**STATUS CHECK LISTS AND PROCEDURAL CHECK LISTS HAVE BEEN INCLUDED TO INSURE ADHERENCE TO THE PLAN.**
GENERAL INFORMATION:	**A GENERAL INFORMATION SECTION HAS BEEN INCLUDED**

TO SUPPLY SUPPORT INFORMATION.

EMERGENCY PROCEDURES

A. IN THE EVENT OF ANY EVIDENCE OF H2S LEVEL ABOVE 10 PPM, TAKE THE FOLLOWING STEPS:

1. SECURE BREATHING EQUIPMENT.

2. ORDER NON-ESSENTIAL PERSONNEL OUT OF DANGER ZONE.

3. TAKE STEPS TO DETERMINE IF THE H2S LEVEL CAN BE CORRECTED OR SUPPRESSED AND, IF SO, PROCEED IN NORMAL OPERATION.

B. IF UNCONTROLLABLE CONDITIONS OCCUR:

1. TAKE STEPS TO PROTECT AND/OR REMOVE ANY PUBLIC IN THE DOWN-WIND AREA FROM THE RIG – PARTIAL EVACUATION AND ISOLATION. NOTIFY NECESSARY PUBLIC SAFETY PERSONNEL AND THE BUREAU OF LAND MANAGEMENT OF THE SITUATION.

2. REMOVE ALL PERSONNEL TO SAFE BREATHING AREA.

3. NOTIFY PUBLIC SAFETY PERSONNEL TO SAFE BREATHING AREA.

4. PROCEED WITH BEST PLAN (AT THE TIME) TO REGAIN CONTROL OF THE WELL. MAINTAIN TIGHT SECURITY AND SAFETY PROCEDURES.

C. RESPONSIBILITY:

1. DESIGNATED PERSONNEL.

   a. SHALL BE RESPONSIBLE FOR THE TOTAL IMPLEMENTATION OF THIS PLAN.

   b. SHALL BE IN COMPLETE COMMAND DURING ANY EMERGENCY.

   c. SHALL DESIGNATE A BACK-UP.

EMERGENCY PROCEDURES

*(Procedures are the same for both Drilling and Tripping)

ALL PERSONNEL:

1. ON ALARM, DON ESCAPE UNIT AND REPORT IN UP WIND BRIEFING AREA.
2. CHECK STATUS OF PERSONNEL (BUDDY SYSTEM).
3. SECURE BREATHING EQUIPMENT.
4. AWAIT ORDERS FROM SUPERVISOR.

DRILLING FOREMAN:

1. REPORT TO UP WIND BRIEFING AREA.
2. DON BREATHING EQUIPMENT AND RETURN TO POINT OF RELEASE WITH TOOL PUSHER OR DRILLER (BUDDY SYSTEM).
3. DETERMINE H2S CONCENTRATIONS.
4. ASSESS SITUATION AND TAKE CONTROL MEASURES.

TOOL PUSHER:

1. REPORT TO UP WIND BRIEFING AREA.
2. DON BREATHING EQUIPMENT AND RETURN TO POINT OF RELEASE WITH DRILLING FOREMAN OR DRILLER (BUDDY SYSTEM).
3. DETERMINE H2S CONCENTRATION.
4. ASSESS SITUATION AND TAKE CONTROL MEASURES.

DRILLER:

1. DON ESCAPE UNIT.
2. CHECK MONITOR FOR POINT OF RELEASE.
3. REPORT TO BRIEFING AREA.
4. CHECK STATUS OF PERSONNEL (IN AN ATTEMPT TO RESCUE, USE THE BUDDY SYSTEM).
5. ASSIGNS LEAST ESSENTIAL PERSON TO NOTIFY DRILLING FOREMAN AND TOOL PUSHER BY QUICKEST MEANS IN CASE OF THEIR ABSENCE.
6. ASSUMES THE RESPONSIBILITIES OF THE DRILLING FORMAN AND TOOL PUSHER UNTIL THEY ARRIVE SHOULD THEY BE ABSENT.

EMERGENCY PROCEDURES

DERRICK MAN FLOOR MAN #1 FLOOR MAN #2	1.	WILL REMAIN IN BRIEFING AREA UNTIL INSTRUCTED BY SUPERVISOR.
MUD ENGINEER:	1.	REPORT TO BRIEFING AREA.
	2.	WHEN INSTRUCTED, BEGIN CHECK OF MUD FOR PH AND H2S LEVEL. (GARETT GAS TRAIN.)
SAFETY PERSONNEL:	1.	MASK UP AND CHECK STATUS OF ALL PERSONNEL AND SECURE OPERATIONS AS INSTRUCTED BY DRILLING FOREMAN AND REPORT TO BRIEFING AREA.

TAKING A KICK

WHEN TAKING A KICK DURING AN H2S EMERGENCY, ALL PERSONNEL WILL FOLLOW STANDARD BOP PROCEDURES AFTER REPORTING TO BRIEFING AREA AND MASKING UP.

OPEN-HOLE LOGGING

ALL UNNECESSARY PERSONNEL OFF FLOOR. DRILLING FOREMAN AND SAFETY PERSONNEL SHOULD MONITOR CONDITION, ADVISE STATUS AND DETERMINE NEED FOR USE OF AID EQUIPMENT.

RUNNING CASING OR PLUGGING

FOLLOWING HE AME "TRIPPING" PROCEDURE AS ABOVE. DRILLING FOREMAN AND SAFETY PERSONNEL SHOULD DETERMINE IF ALL PERSONNEL HAVE ACCESS TO PROTECTIVE EQUIPMENT.

IGNITION PROCEDURES

THE DECISION TO IGNITE THE WELL IS THE RESPONSIBILITY OF COMPANY FOREMAN. IN THE EVENT HE IS INCAPACITATED, IT BECOMES THE RESPONSIBILITY OF THE CONTRACT RIG TOOL PUSHER. THE DECISION SHOULD BE MADE ONLY AS A LAST RESORT AND IN A SITUATION WHERE IT IS CLEAR THAT:

1. HUMAN LIFE AND PROPERTY ARE ENDANGERED.
2. THERE IS NO HOPE CONTROLLING THE BLOWOUT UNDER THE PREVAILING CONDITIONS AT THE WELL.

NOTIFY THE DISTRICT OFFICE IF TIME PERMITS, BUT DO NOT DELAY IF HUMAN LIFE IS IN DANGER.

INITIATE FIRST PHASE OF EVACUATION PLAN.

IGNITION PROCEDURES

INSTRUCTIONS FOR IGNITING THE WELL

1. TWO PEOPLE ARE REQUIRED FOR THE ACTUAL IGNITING OPERATION. THEY MUST WEAR SELF-CONTAINED BREATHING UNITS AND HAVE SAFETY ROPE ATTACHED. ONE MAN (TOOL PUSHER OR SAFETY ENGINEER) WILL CHECK THE ATMOSPHERE FOR EXPLOSIVE GASES WITH THE EXPLOSIMETER. THE OTHER MAN (DRILLING FOREMAN) IS RESPONSIBLE FOR IGNITING THE WELL.
2. PRIMARY METHOD TO IGNITE: 25 MM FLARE GUN WITH RANGE OF APPROXIMATELY 500 FEET.
3. IGNITE UP WIND AND DO NOT APPROACH ANY CLOSER THAN IS WARRANTED.
4. SELECT THE IGNITION SITE BEST FOR PROTECTION, AND WHICH OFFERS AN EASY ESCAPE ROUTE.
5. BEFORE FIRING, CHECK FOR PRESENCE OF COMBUSTIBLE GAS.
6. AFTER LIGHTING, CONTINUE EMERGENCY ACTION AND PROCEDURE AS BEFORE.
7. ALL UNASSIGNED PERSONNEL WILL LIMIT THEIR ACTIONS TO THOSE DIRECTED BY THE DRILLING FOREMAN.

REMEMBER: AFTER WELL IS IGNITED, BURNING HYDROGEN SULFIDE WILL CONVERT TO SULFUR DIOXIDE, WHICH IS ALSO HIGHLY TOXIC. DO NOT ASSUME THE AREA IS SAFE AFTER THE WELL IS IGNITED.

TRAINING REQUIREMENTS

WHEN WORKING IN AN AREA WHERE HYDROGEN SULFIDE GAS (H2S) MIGHT BE ENCOUNTERED, DEFINITE TRAINING REQUIREMENTS MUST BE CARRIED OUT. ALL COMPANIES WILL INSURE THAT ALL PERSONNEL AT THE WELL SITE WILL HAVE HAD ADEQUATE TRAINING IN THE FOLLOWING:

1. **HAZARDS AND CHARACTERISTICS OF H2S.**
2. **PHYSICAL EFFECTS OF HYDROGEN SULFIDE ON THE HUMAN BODY.**
3. **TOXICITY OF HYDROGEN SULFIDE AND SULFUR DIOXIDE.**
4. **H2S DETECTION.**
5. **EMERGENCY RESCUE.**
6. **RESUSCITATORS.**
7. **FIRST AID AND ARTIFICIAL RESPIRATION.**
8. **EFFECTS OF H2S ON METALS.**
9. **LOCATION SAFETY.**

SERVICE COMPANY AND VISITING PERSONNEL

A. **EACH SERVICE COMPANY THAT WILL BE ON THIS WELL WILL BE NOTIFIED IF THE ZONE CONTAINS H2S.**

B. **EACH SERVICE COMPANY MUST PROVIDE FOR THE TRAINING AND EQUIPMENT OF THEIR EMPLOYEES BEFORE THEY ARRIVE AT THE WELL SITE.**

C. **EACH SERVICE COMPANY WILL BE EXPECTED TO ATTEND A WELL SITE BRIEFING.**

EMERGENCY EQUIPMENT REQUIREMENTS

1. **SIGNS**

A. **ONE SIGN LOCATED AT LOCATION ENTRANCE WITH THE FOLLOWING LANGUAGE:**

(LEASE)

CAUTION – POTENTIAL POISON GAS

HYDROGEN SULFIDE

NO ADMITTANCE WITHOUT AUTHORIZATION

2. **WIND SOCK – WIND STREAMERS**

A. **ONE 36" (IN LENGTH) WIND SOCK LOCATED AT PROTECTION CENTER, AT HEIGHT VISIBLE FROM RIG FLOOR.**

B. **ONE 36" (IN LENGTH) WIND SOCK LOCATED AT HEIGHT VISIBLE FROM PIT AREAS.**

3. HYDROGEN - SULFIDE DETECTOR AND ALARMS

A. H2S MONITORS WITH ALARMS WILL BE LOCATED ON THE RIG FLOOR, AT THE BELL NIPPLE, AND AT THE FLOW LINE. THESE MONITORS WILL BE SET TO ALARM AT 10 PPM WITH RED LIGHT, AND TO ALARM AT 15 PPM WITH RED LIGHT AND AUDIBLE ALARM.
B. HAND OPERATED DETECTORS WITH TUBES.
C. H2S MONITOR TESTER.

4. CONDITION FLAGS

A. ONE EACH OF GREEN, YELLOW, AND RED CONDITION FLAGS TO BE DISPLAYED TO DENOTE CONDITIONS.

GREEN – NORMAL CONDITIONS

YELLOW – POTENTIAL DANGER

RED – DANGER, H2S PRESENT

B. CONDITION FLAG SHALL BE POSTED AT LOCATION SIGN ENTRANCE.

5. AUXILIARY RESCUE EQUIPMENT

A. STRETCHER
B. 100' LENGTH OF 5/8" NYLON ROPE.

6. MUD INSPECTION DEVICES

GARRETT GAS TRAIN OR HACH TESTER FOR INSPECTION OF SULFIDE CONCENTRATION IN MUD SYSTEM.

7. FIRE EXTINGUISHER

ADEQUATE FIRE EXTINGUISHERS SHALL BE LOCATED AT STRATEGIC LOCATIONS.

8. BLOW OUT PREVENTION EQUIPMENT

THE WELL SHALL HAVE HYDRAULIC BOP EQUIPMENT FOR THE ANTICIPATED BHP OF 1500 PSI. EQUIPMENT IS TO BE TESTED ON INSTALLATION.

9. COMBUSTIBLE GAS DETECTOR

THERE SHALL BE ONE COMBUSTIBLE GAS DETECTOR ON LOCATION AT ALL TIMES.

10. **BOP TESTING**

BOP AND CHOKE LINE AND KILL LINE WILL BE TESTED.

11. **AUDIO SYSTEM**

RADIO COMMUNICATION WILL BE AVAILABLE AT THE RIG.

A. RIG FLOOR OR TRAILER
B. VEHICLE

12. **SPECIAL CONTROL EQUIPMENT**

A. HYDRAULIC BOP EQUIPMENT WITH REMOTE CONTROL ON GROUND.
B. ROTATING HEAD

EMERGENCY EQUIPMENT REQUIREMENTS

13. **EVACUATION PLAN**

EVACUATION ROUTES SHOULD BE ESTABLISHED PRIOR TO SPUDDING EACH WELL AND DISCUSSED WITH ALL RIG PERSONNEL.

14. **DESIGNATED AREA**

A. PARKING AND VISITOR AREA: ALL VEHICLES ARE TO BE PARKED AT A PREDETERMINED SAFE DISTANCE FROM THE WELLHEAD. THIS WILL BE THE DESIGNATED SMOKING AREA.
B. TWO BRIEFING AREAS ON EITHER SIDE OF THE LOCATION AT THE MAXIMUM ALLOWABLE DISTANCE FROM THE WELL BORE SO THEY OFFSET PREVAILING WINDS PERPENDICULARLY, OR AT A 45-DEGREE ANGLE IF WIND DIRECTION TENDS TO SHIFT IN THE AREA.
C. PROTECTION CENTERS OR IF A MOVABLE TRAILER IS USED, IT SHOULD BE DEPT UPWIND OF EXISTING WINDS. WHEN WIND IS FROM THE PREVAILING DIRECTIONS, BOTH PROTECTION CENTERS SHOULD BE ACCESSIBLE.

STATUS CHECK LIST

NOTE: ALL ITEMS ON THIS LIST MUST BE COMPLETED BEFORE DRILLING TO POSSIBLE FORMATIONS CONTAINING H2S.

1. SIGN AT LOCATION ENTRANCE.

2. TWO (2) WIND SOCKS LOCATED AS REQUIRED.

3. TWO (2) 30-MINUTE PRESSURE DEMAND AIR PACKS ON LOCATION FOR ALL RIG PERSONNEL AND MUD LOGGERS.

4. AIR PACK INSPECTED FOR READY USE.

5. SAFE BREATHING AREAS SET UP.

6. CONDITION FLAG ON LOCATION AND READY FOR USE.

7. H2S DETECTION SYSTEM HOOKED UP.

8. H2S ALARM SYSTEM HOOKED UP AND READY.

9. ALL RIG CREW AND SUPERVISORS TRAINED AS REQUIRED.

10. ALL OUTSIDE SERVICE CONTRACTORS ADVISED OF POTENTIAL H2S HAZARD ON WELL.

11. NO SMOKING SIGN POSTED.

12. HAND OPERATED H2S DETECTOR WITH TUBES ON LOCATION.

CHECKED BY:_____DATE:_____

PROCEDURAL CHECK LIST

PERFORM EACH TOUR:

1. CHECK FIRE EXTINGUISHERS TO SEE THAT THEY HAVE THE PROPER CHARGE.

2. CHECK BREATHING EQUIPMENT TO ENSURE THAT IT HAS NOT BEEN TAMPERED WITH.

3. MAKE SURE ALL THE H2S DETECTION SYSTEM IS OPERATIVE.

PERFORM EACH WEEK:

1. CHECK EACH PIECE OF BREATHING EQUIPMENT TO MAKE SURE THAT DEMAND REGULATOR IS WORKING. THIS REQUIRES THAT THE BOTTLE BE OPENED AND THE MASK ASSEMBLY BE PUT ON TIGHT ENOUGH SO THAT WHEN YOU INHALE, YOU RECEIVE AIR.

2. BLOW OUT PREVENTER SKILLS.

3. CHECK SUPPLY PRESSURE ON BOP ACCUMULATOR STAND BY SOURCE.

4. CHECK ALL SKA-PAC UNITS FOR OPERATION: DEMAND REGULATOR, ESCAPE BOTTLE AIR VOLUMES, SUPPLY BOTTLE OF AIR VOLUME.

5. CHECK BREATHING EQUIPMENT MASK ASSEMBLY TO SEE THAT STRAPS ARE LOOSENED AND TURNED BACK, READY TO PUT ON.

6. CHECK PRESSURE ON BREATHING EQUIPMENT AIR BOTTLES TO MAKE SURE THEY ARE CHARGED TO FULL VOLUME.

7. CONFIRM PRESSURE ON ALL SUPPLY AIR BOTTLES.

8. PERFORM BREATHING EQUIPMENT DRILLS WITH ON-SITE PERSONNEL.

9. CHECK THE FOLLOWING SUPPLIES FOR AVAILABILITY.

   A. EMERGENCY TELEPHONE LIST.
   B. HAND OPERATED H2S DETECTORS AND TUBES.

GENERAL EVACUATION PLAN

THE DIRECT LINES OF ACTION PREPARED BY INDIAN FIRE & SAFETY, INC. TO PROTECT THE PUBLIC FROM HAZARDOUS GAS SITUATIONS ARE AS FOLLOWS:

1. WHEN THE COMPANY APPROVED SUPERVISOR (DRILLING FOREMAN, CONSULTANT, RIG PUSHER, OR DRILLER) DETERMINES THE H2S GAS CANNOT BE LIMITED TO THE WELL LOCATION AND THE PUBLIC WILL BE INVOLVED, HE WILL ACTIVATE THE EVACUATION PLAN. ESCAPE ROUTES ARE NOTED ON AREA MAP.

2. "COMPANY MAN" OR DESIGNEE WILL NOTIFY LOCAL GOVERNMENT AGENCY THAT A HAZARDOUS CONDITION EXISTS AND EVACUATION NEEDS TO BE IMPLEMENTED.

3. COMPANY SAFETY PERSONNEL THAT HAVE BEEN TRAINED IN THE USE OF H2S DETECTION EQUIPMENT AND SELF-CONTAINED BREATHING EQUIPMENT WILL MONITOR H2S CONCENTRATIONS, WIND DIRECTIONS, AND AREA OF EXPOSURE. THEY WILL DELINEATE THE OUTER PERIMETER OF THE HAZARDOUS GAS AREA. EXTENSION TO THE EVACUATION AREA WILL BE DETERMINED FROM INFORMATION GATHERED.

4. LAW ENFORCEMENT PERSONNEL (STATE POLICE, POLICE DEPT., FIRE DEPT., AND SHERIFF'S DEPT.) WILL BE CALLED TO AID IN SETTING UP AND MAINTAINING ROAD BLOCKS. ALSO, THEY WILL AID IN EVACUATION OF THE PUBLIC IF NECESSARY.

IMPORTANT: LAW ENFORCEMENT PERSONNEL WILL NOT BE ASKED TO COME INTO A CONTAMINATED AREA. THEIR ASSISTANCE WILL BE LIMITED TO UNCONTAMINATED AREAS. CONSTANT RADIO CONTACT WILL BE MAINTAINED WITH THEM.

5. AFTER THE DISCHARGE OF GAS HAS BEEN CONTROLLED, COMPANY SAFETY PERSONNEL WILL DETERMINE WHEN THE AREA IS SAFE FOR RE-ENTRY.

EMERGENCY ACTIONS

WELL BLOWOUT – IF EMERGENCY

1. EVACUATE ALL PERSONNEL IF POSSIBLE.
2. IF SOUR GAS – EVACUATE RIG PERSONNEL.
3. IF SOUR GAS – EVACUATE PUBLIC WITHIN 1 HOUR RADIUS OF EXPOSURE.
4. DON SCBA AND RESCUE.
5. CALL 911 FOR EMERGENCY HELP (FIRE DEPT AND AMBULANCE) AND NOTIFY SR. DRILLING FOREMAN AND DISTRICT FOREMAN.
6. GIVE FIRST AID.

PERSON DOWN LOCATION/FACILITY

1. IF IMMEDIATELY POSSIBLE, CONTACT 911. GIVE LOCATION AND WAIT FOR CONFIRMATION.

2. DON SCBA AND RESCUE.

TOXIC EFFECTS OF HYDROGEN SULFIDE

HYDROGEN SULFIDE IS EXTREMELY TOXIC. THE ACCEPTABLE CEILING CONCENTRATION FOR EIGHT-HOUR EXPOSURE IS 10 PPM, WHICH IS .001% BY VOLUME. HYDROGEN SULFIDE IS HEAVIER THAN AIR (SPECIFIC GRAVITY – 1.192) AND COLORLESS. IT FORMS AN EXPLOSIVE MIXTURE WITH AIR BETWEEN 4.3 AND 46.0 PERCENT BY VOLUME. HYDROGEN SULFIDE IS ALMOST AS TOXIC AS HYDROGEN CYANIDE AND IS BETWEEN FIVE AND SIX TIMES MORE TOXIC THAN CARBON MONOXIDE. TOXICITY DATA FOR HYDROGEN SULFIDE AND VARIOUS OTHER GASES ARE COMPARED IN TABLE I. PHYSICAL EFFECTS AT VARIOUS HYDROGEN SULFIDE EXPOSURE LEVELS ARE SHOWN IN TABLE II.

TABLE I

TOXICITY OF VARIOUS GASES

COMMON NAME	CHEMICAL FORMULA	SPECIFIC GRAVITY (SC=1)	THRESHOLD LIMIT (1)	HAZARDOUS LIMIT (2)	LETHAL CONCENTRATION (3)
HYDROGEN CYANIDE	HCN	0.94	10 PPM	150 PPM/HR	300 PPM
HYDROGEN SULFIDE	H2S	1.18	10 PPM	250 PPM/HR	600 PPM
SULFUR DIOXIDE	SO2	2.21	5 PPM	-	1000 PPM
CHLORINE	CL2	2.45	1 PPM	4 PPM/HR	1000 PPM
CARBON MONOXIDE	CO	0.97	50 PPM	400 PPM/HR	1000 PPM
CARBON DIOXIDE	CO2	1.52	5000 PPM	5%	10%
METHANE	CH4	0.55	90,000 PPM	COMBUSTIBLE ABOVE 5% IN AIR	

1) THRESHOLD LIMIT – CONCENTRATION AT WHICH IT IS BELIEVED THAT ALL WORKERS MAY BE REPEATEDLY EXPOSED DAY AFTER DAY WITHOUT ADVERSE EFFECTS.

2) HAZARDOUS LIMIT – CONCENTRATION THAT WILL CAUSE DEATH WITH SHORT-TERM EXPOSURE.

3) LETHAL CONCENTRATION – CONCENTRATION THAT WILL CAUSE DEATH WITH SHORT-TERM EXPOSURE.

TOXIC EFFECTS OF HYDROGEN SULFIDE

TABLE II

PHYSICAL EFFECTS OF HYDROGEN SULFIDE

CONCENTRATION			PHYSICAL EFFECTS
PERCENT (%)	PPM	GRAINS 100 STD. FT3*	
0.001	10	00.65	Obvious and unpleasant odor.
0.002	20	01.30	Safe for 8 hours of exposure.
0.010	100	06.48	Kill smell in 3 – 15 minutes. May sting eyes and throat.
0.020	200	12.96	Kills smell shortly; Stings eyes and throat.
0.050	500	32.96	Dizziness; Breathing ceases in a few minutes; Needs prompt artificial respiration.
0.070	700	45.36	Unconscious quickly; Death will result if not rescued promptly.
0.100	1000	64.30	Unconscious at once; Followed by death within minutes.

*AT 15.00 PSIA AND 60'F.

USE OF SELF-CONTAINED BREATHING EQUIPMENT

1. WRITTEN PROCEDURES SHALL BE PREPARED COVERING SAFE USE OF SCBA'S IN DANGEROUS ATMOSPHERE, WHICH MIGHT BE ENCOUNTERED IN NORMAL OPERATIONS OR IN EMERGENCIES. PERSONNEL SHALL BE FAMILIAR WITH THESE PROCEDURES AND THE AVAILABLE SCBA.

2. SCBA'S SHALL BE INSPECTED FREQUENTLY AT RANDOM TO INSURE HAT THEY ARE PROPERLY USED, CLEANED, AND MAINTAINED.

3. ANYONE WHO MAY USE THE SCBA'S SHALL BE TRAINED IN HOW TO INSURE PROPER FACE-PIECE TO FACE SEAL. THEY SHALL WEAR SCBA'S IN NORMAL AIR AND THEN WEAR THEM IN A TEST ATMOSPHERE. (NOTE: SUCH ITEMS AS FACIAL HAIR {BEARD OR SIDEBURNS} AND EYEGLASSES WILL NOT ALLOW PROPER SEAL.) ANYONE THAT MAY BE REASONABLY EXPECTED TO WEAR SCBA'S SHOULD HAVE THESE ITEMS REMOVED BEFORE ENTERING A TOXIC ATMOSPHERE. A SPECIAL MASK MUST BE OBTAINED FOR ANYONE WHO MUST WEAR EYEGLASSES OR CONTACT LENSES.

4. MAINTENANCE AND CARE OF SCBA'S:

A. A PROGRAM FOR MAINTENANCE AND CARE OF SCBA'S SHALL INCLUDE THE FOLLOWING:

1. INSPECTION FOR DEFECTS, INCLUDING LEAK CHECKS.
2. CLEANING AND DISINFECTING.
3. REPAIR.
4. STORAGE.

B. INSPECTION; SELF-CONTAINED BREATHING APPARATUS FOR EMERGENCY USE SHALL BE INSPECTED MONTHLY FOR THE FOLLOWING PERMANENT RECORDS KEPT OF THESE INSPECTIONS.

1. FULLY CHARGED CYLINDERS.
2. REGULATOR AND WARNING DEVICE OPERATION.
3. CONDITION OF FACE PIECE AND CONNECTIONS.
4. ELASTOMER OR RUBBER PARTS SHALL BE STRETCHED OR MASSAGED TO KEEP THEM PLIABLE AND PREVENT DETERIORATION.

C. ROUTINELYUSED SCBA'S SHALL BE COLLECTED, CLEANED AND DISINFECTED AS FREQUENTLY AS NECESSARY TO INSURE PROPER PROTECTION IS PROVIDED.

USE OF SELF-CONTAINED BREATHING EQUIPMENT

5. PERSONS ASSIGNED TASKS THAT REQUIRES USE OF SELF- CONTAINED BREATHING EQUIPMENT SHALL BE CERTIFIED PHYSICALLY FIT FOR BREATHING EQUIPMENT USAGE BY THE LOCAL COMPANY PHYSICIAN AT LEAST ANNUALLY.

6. SCBA'S SHOULD BE WORN WHEN:

A. ANY EMPLOYEE WORKS NEAR THE TOP OR ON TOP OF ANY TANK UNLESS TEST REVEALS LESS THAN 10 PPM OF H2S.

B. WHEN BREAKING OUT ANY LINE WHERE H2S CAN REASONABLY BE EXPECTED.

C. WHEN SAMPLING AIR IN AREAS TO DETERMINE IF TOXIC CONCENTRATIONS OF H2S EXISTS.

D. WHEN WORKING IN AREAS WHERE OVER 10 PPM H2S HAS BEEN DETECTED.

E. AT ANY TIME THERE IS A DOUBT AS TO THE H2S LEVEL IN THE AREA TO BE ENTERED.

RESCUE

FIRST AID FOR H2S POISONING

DO NOT PANIC!

REMAIN CALM – THINK!

1. **HOLD YOUR BREATH. (DO NOT INHALE FIRST; STOP BREATHING.)**

2. **PUT ON BREATHING APPARATUS.**

3. **REMOVE VICTIM(S) TO FRESH AIR AS QUICKLY AS POSSIBLE. (GO UP-WIND FROM SOURCE OR AT RIGHT ANGLE TO THE WIND. NOT DOWN WIND.)**

4. **BRIEFLY APPLY CHEST PRESSURE – ARM LIFT METHOD OF ARTIFICIAL RESPIRATION TO CLEAN THE VICTIM'S LUNGS AND TO AVOID INHALING ANY TOXIC GAS DIRECTLY FROM THE VICTIM'S LUNGS.**

5. **PROVIDE FOR PROMPT TRANSPORTATION TO THE HOSPITAL, AND CONTINUE GIVING ARTIFICIAL RESPIRATION IF NEEDED.**

6. **HOSPITAL(S) OR MEDICAL FACILITIES NEED TO BE INFORMED, BEFORE-HAND, OF THE POSSIBILITY OF H2S GAS POISONING – NO MATTER HOW REMOTE THE POSSIBILITY IS.**

7. **NOTIFY EMERGENCY ROOM PERSONNEL THAT THE VICTIM(S) HAS BEEN EXPOSED TO H2S GAS.**

BESIDES BASIC FIRST AID, EVERYONE ON LOCATION SHOULD HAVE A GOOD WORKING KNOWLEDGE OF ARTIFICIAL RESPIRATION, AS WELL AS FIRST AID FOR EYES AND SKIN CONTACT WITH LIQUID H2S. EVERYONE NEEDS TO MASTER THESE NECESSARY SKILLS.

Mesquite 3 Fed #3H – Procedure

1. **Build Location.**
2. **Dig out cellar and weld on 8-5/8" head.**
3. **NU BOP & RU reverse equipment.**
4. **Drill out surface plug. Pressure test.**
5. **Drill out cmt plug @ 400'. Pressure test.**
6. **Drill out 5-1/2" csg stub plug.**
7. **Change out to 4-3/4" bit.**
8. **Attempt to enter 5-1/2" csg stub.**
9. **If successful, POOH & GIH w/ csg spear. Set spear inside csg stub. Pull to check casing.**
10. **If okay, release spear & POOH. GIH and drill out plug @ 3,470-3,685' & plug @ 5,987'-6,237'. POOH.**
11. **GIH to approx. 6000' and chemical cut.**
12. **POOH and lay down csg.**
13. **GIH w/ slipover jt & 5-1/2" csg. Circulate cement.**
14. **Drill out CIBP @ 7424'.**
15. **Test CIBP @ 7700'.**
16. **Cmt squeeze perfs @ 7467' – 7481'.**
17. **Drill out & test squeezed perfs.**
18. **Drill out CIBP @ 7700'.**
19. **Set new CIBP @ 7900' +/-.**
20. **Set whipstock on CIBP @ 7900', kick off, build curve and be horizontal in accordance with geoprog and drill lateral.**

BAKER HUGHES

INTEQ

2105 market Street Midland, TX 79703 Ph. (432)694-9517 Fax. (432)694-5648

Directional/Horizontal Plan Report

Heyco Energy

Mesquite 3 Federal #3

Eddy County, NM

Plan #1

Prepared By Oscar Gomez
Friday, February 24, 2006

Heyco Energy
Mesquite 3 Federal #3,slot #1
,Eddy County New Mexico

PROPOSAL LISTING Page 1
Your ref : Plan 1
Last revised : 24-Feb-2006

Measured Depth	Inclin. Degrees	Azimuth Degrees	True Vert Depth	RECTANGULAR COORDINATES		Dogleg Deg/100ft	Vert Sect
0.00	0.00	12.28	0.00	0.00 N	0.00 E	0.00	0.00
100.00	0.00	12.29	100.00	0.00 N	0.00 E	0.00	0.00
200.00	0.00	12.29	200.00	0.00 N	0.00 E	0.00	0.00
300.00	0.00	12.29	300.00	0.00 N	0.00 E	0.00	0.00
400.00	0.00	12.29	400.00	0.00 N	0.00 E	0.00	0.00
500.00	0.00	12.29	500.00	0.00 N	0.00 E	0.00	0.00
600.00	0.00	12.29	600.00	0.00 N	0.00 E	0.00	0.00
700.00	0.00	12.29	700.00	0.00 N	0.00 E	0.00	0.00
800.00	0.00	12.29	800.00	0.00 N	0.00 E	0.00	0.00
900.00	0.00	12.29	900.00	0.00 N	0.00 E	0.00	0.00
1000.00	0.00	12.29	1000.00	0.00 N	0.00 E	0.00	0.00
1100.00	0.00	12.29	1100.00	0.00 N	0.00 E	0.00	0.00
1200.00	0.00	12.29	1200.00	0.00 N	0.00 E	0.00	0.00
1300.00	0.00	12.29	1300.00	0.00 N	0.00 E	0.00	0.00
1400.00	0.00	12.29	1400.00	0.00 N	0.00 E	0.00	0.00
1500.00	0.00	12.29	1500.00	0.00 N	0.00 E	0.00	0.00
1600.00	0.00	12.29	1600.00	0.00 N	0.00 E	0.00	0.00
1700.00	0.00	12.29	1700.00	0.00 N	0.00 E	0.00	0.00
1800.00	0.00	12.29	1800.00	0.00 N	0.00 E	0.00	0.00
1900.00	0.00	12.29	1900.00	0.00 N	0.00 E	0.00	0.00
2000.00	0.00	12.29	2000.00	0.00 N	0.00 E	0.00	0.00
2100.00	0.00	12.29	2100.00	0.00 N	0.00 E	0.00	0.00
2200.00	0.00	12.29	2200.00	0.00 N	0.00 E	0.00	0.00
2300.00	0.00	12.29	2300.00	0.00 N	0.00 E	0.00	0.00
2400.00	0.00	12.29	2400.00	0.00 N	0.00 E	0.00	0.00
2500.00	0.00	12.29	2500.00	0.00 N	0.00 E	0.00	0.00
2600.00	0.00	12.29	2600.00	0.00 N	0.00 E	0.00	0.00
2700.00	0.00	12.29	2700.00	0.00 N	0.00 E	0.00	0.00
2800.00	0.00	12.29	2800.00	0.00 N	0.00 E	0.00	0.00
2900.00	0.00	12.29	2900.00	0.00 N	0.00 E	0.00	0.00
3000.00	0.00	12.29	3000.00	0.00 N	0.00 E	0.00	0.00
3100.00	0.00	12.29	3100.00	0.00 N	0.00 E	0.00	0.00
3200.00	0.00	12.29	3200.00	0.00 N	0.00 E	0.00	0.00
3300.00	0.00	12.29	3300.00	0.00 N	0.00 E	0.00	0.00
3400.00	0.00	12.29	3400.00	0.00 N	0.00 E	0.00	0.00
3500.00	0.00	12.29	3500.00	0.00 N	0.00 E	0.00	0.00
3600.00	0.00	12.29	3600.00	0.00 N	0.00 E	0.00	0.00
3700.00	0.00	12.29	3700.00	0.00 N	0.00 E	0.00	0.00
3800.00	0.00	12.29	3800.00	0.00 N	0.00 E	0.00	0.00
3900.00	0.00	12.29	3900.00	0.00 N	0.00 E	0.00	0.00
4000.00	0.00	12.29	4000.00	0.00 N	0.00 E	0.00	0.00
4100.00	0.00	12.29	4100.00	0.00 N	0.00 E	0.00	0.00
4200.00	0.00	12.29	4200.00	0.00 N	0.00 E	0.00	0.00
4300.00	0.00	12.29	4300.00	0.00 N	0.00 E	0.00	0.00
4400.00	0.00	12.29	4400.00	0.00 N	0.00 E	0.00	0.00
4500.00	0.00	12.29	4500.00	0.00 N	0.00 E	0.00	0.00
4600.00	0.00	12.29	4600.00	0.00 N	0.00 E	0.00	0.00
4700.00	0.00	12.29	4700.00	0.00 N	0.00 E	0.00	0.00
4800.00	0.00	12.29	4800.00	0.00 N	0.00 E	0.00	0.00
4900.00	0.00	12.29	4900.00	0.00 N	0.00 E	0.00	0.00

All data is in feet unless otherwise stated.
Coordinates from structure and TVD from rotary table.
Bottom hole distance is 3101.00 on azimuth 12.29 degrees from wellhead.
Vertical section is from N 0.00 E 0.00 on azimuth 12.29 degrees.
Calculation uses the minimum curvature method.
Presented by Baker Hughes INTEQ

Comments in wellpath

MD	TVD	Rectangular Coords.	Comment
7920.00	7920.00	0.00 N 0.00 E	KOP
8020.92	8020.00	11.48 N 2.50 E	Top BSPG 2nd Sand
8139.33	8130.00	53.31 N 11.61 E	Base BSPG2 'A' Sand
8384.87	8300.00	221.93 N 48.35 E	Top BSPG2 'B' Sand
8630.41	8350.21	453.48 N 98.79 E	EOC
11274.88	8150.00	3029.93 N 660.08 E	TD

Targets associated with this wellpath

Target name	Geographic Location	T.V.D.	Rectangular Coordinates		Revised
TD		8150.00	3029.93N	660.08E	6-Sep-2005

Measured Depth	Inclin. Degrees	Azimuth Degrees	True Vert Depth	RECTANGULAR COORDINATES		Dogleg Deg/100ft	Vert Sect	
5000.00	0.00	12.29	5000.00	0.00 N	0.00 E	0.00	0.00	
5100.00	0.00	12.29	5100.00	0.00 N	0.00 E	0.00	0.00	
5200.00	0.00	12.29	5200.00	0.00 N	0.00 E	0.00	0.00	
5300.00	0.00	12.29	5300.00	0.00 N	0.00 E	0.00	0.00	
5400.00	0.00	12.29	5400.00	0.00 N	0.00 E	0.00	0.00	
5500.00	0.00	12.29	5500.00	0.00 N	0.00 E	0.00	0.00	
5600.00	0.00	12.29	5600.00	0.00 N	0.00 E	0.00	0.00	
5700.00	0.00	12.29	5700.00	0.00 N	0.00 E	0.00	0.00	
5800.00	0.00	12.29	5800.00	0.00 N	0.00 E	0.00	0.00	
5900.00	0.00	12.29	5900.00	0.00 N	0.00 E	0.00	0.00	
6000.00	0.00	12.29	6000.00	0.00 N	0.00 E	0.00	0.00	
6100.00	0.00	12.29	6100.00	0.00 N	0.00 E	0.00	0.00	
6200.00	0.00	12.29	6200.00	0.00 N	0.00 E	0.00	0.00	
6300.00	0.00	12.29	6300.00	0.00 N	0.00 E	0.00	0.00	
6400.00	0.00	12.29	6400.00	0.00 N	0.00 E	0.00	0.00	
6500.00	0.00	12.29	6500.00	0.00 N	0.00 E	0.00	0.00	
6600.00	0.00	12.29	6600.00	0.00 N	0.00 E	0.00	0.00	
6700.00	0.00	12.29	6700.00	0.00 N	0.00 E	0.00	0.00	
6800.00	0.00	12.29	6800.00	0.00 N	0.00 E	0.00	0.00	
6900.00	0.00	12.29	6900.00	0.00 N	0.00 E	0.00	0.00	
7000.00	0.00	12.29	7000.00	0.00 N	0.00 E	0.00	0.00	
7100.00	0.00	12.29	7100.00	0.00 N	0.00 E	0.00	0.00	
7200.00	0.00	12.29	7200.00	0.00 N	0.00 E	0.00	0.00	
7300.00	0.00	12.29	7300.00	0.00 N	0.00 E	0.00	0.00	
7400.00	0.00	12.29	7400.00	0.00 N	0.00 E	0.00	0.00	
7500.00	0.00	12.29	7500.00	0.00 N	0.00 E	0.00	0.00	
7600.00	0.00	12.29	7600.00	0.00 N	0.00 E	0.00	0.00	
7700.00	0.00	12.29	7700.00	0.00 N	0.00 E	0.00	0.00	
7800.00	0.00	12.29	7800.00	0.00 N	0.00 E	0.00	0.00	
7900.00	0.00	12.29	7900.00	0.00 N	0.00 E	0.00	0.00	
7920.00	0.00	12.29	7920.00	0.00 N	0.00 E	0.00	0.00	KOP
8000.00	10.62	12.29	7999.54	7.23 N	1.58 E	13.28	7.40	
[illegible]								
8100.00	23.90	12.29	8094.82	36.16 N	7.88 E	13.28	37.01	
[illegible]								
8200.00	37.18	12.29	8180.75	85.71 N	18.67 E	13.28	87.72	
8300.00	50.46	12.29	8252.74	153.21 N	33.38 E	13.28	156.81	
[illegible]								
8400.00	63.74	12.29	8306.93	235.07 N	51.21 E	13.28	240.59	
8500.00	77.02	12.29	8340.43	326.90 N	71.22 E	13.28	334.57	
8600.00	90.30	12.29	8351.44	423.80 N	92.33 E	13.28	433.74	
8630.41	94.34	12.29	8350.21	453.48 N	98.79 E	13.28	464.01	EOC
9000.00	94.34	12.29	8322.22	813.56 N	177.24 E	0.00	832.65	
9500.00	94.34	12.29	8284.37	1300.70 N	283.36 E	0.00	1331.21	
10000.00	94.34	12.29	8246.52	1787.84 N	389.49 E	0.00	1829.78	
10500.00	94.34	12.29	8208.66	2274.98 N	495.61 E	0.00	2328.34	
11000.00	94.34	12.29	8170.81	2762.12 N	601.73 E	0.00	2826.91	
11274.88	94.34	12.29	8150.00	3029.93 N	660.08 E	0.00	3101.00	TD

All data is in feet unless otherwise stated.
Coordinates from structure and TVD from rotary table.
Bottom hole distance is 3101.00 on azimuth 12.29 degrees from wellhead.
Vertical section is from N 0.00 E 0.00 on azimuth 12.29 degrees.
Calculation uses the minimum curvature method.
Presented by Baker Hughes INTEQ

BAKER HUGHES

INTEQ

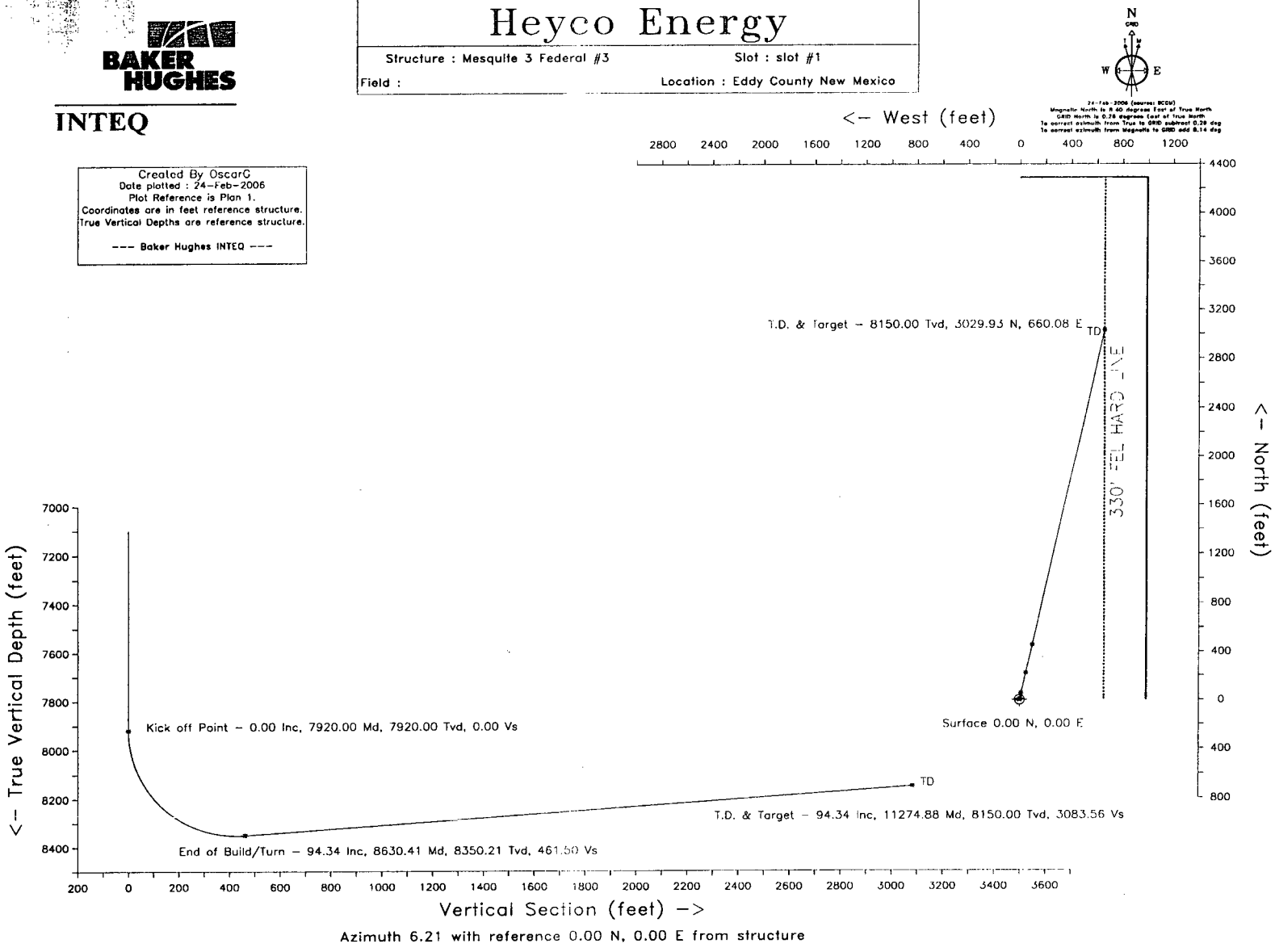
Heyco Energy

Structure : Mesquite 3 Federal #3 Slot : slot #1

Field : Location : Eddy County New Mexico

Created By OscarC
Date plotted : 24-Feb-2006
Plot Reference is Plan 1.
Coordinates are in feet reference structure.
True Vertical Depths are reference structure.

--- Baker Hughes INTEQ ---



Azimuth 6.21 with reference 0.00 N, 0.00 E from structure

CONDITIONS OF APPROVAL - DRILLING

Operator's Name:	**Harvey E Yates Company**
Well Name & No.	**Mesquite 3 Federal #3H - REENTRY**
SH Location:	**990' FSL, 990 FEL, Section 3, T. 18 S., R. 31 E., Eddy County, New Mexico**
BH Location:	**1260' FNL, 330' FEL, Section 3, T. 18 S., R. 31 E., Eddy County, New Mexico**
Lease:	**NM-89879**

I. DRILLING OPERATIONS REQUIREMENTS:

1. The Bureau of Land Management (BLM) is to be notified at the Carlsbad Field Office, 620 East Greene St., Carlsbad, NM 88220, (505) 361-2822 for wells in Eddy County in sufficient time for a representative to witness:

   A. Well spud

   B. Casing in place: **13-3/8** inch at 350', cement circulated
   8-5/8 inch at 2316', cement circulated
   5-1/2 inch from approximately 1428' to 10,400', TOC @ 6000'

   C. BOP tests

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

3. 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.

4. Submit a Sundry Notice (Form 3160-5, one original and five copies) for each casing string, describing the casing and cementing operations. Include pertinent information such as; spud date, hole size, casing (size, weight, grade and thread type), cement (type, quantity and top), water zones and problems or hazards encountered. The Sundry shall be submitted within 15 days of completion of each casing string. The reports may be combined into the same Sundry if they fall within the same 15-day time frame.

5. The API No. assigned to the well by NMOCD shall be included on the subsequent report of setting the first casing string.

6. A Communitization Agreement covering the acreage dedicated to this well must be filed for approval with the BLM. The effective date of the agreement shall be prior to any sales.

II. CASING:

1. The minimum required fill of cement behind the **5-1/2** inch production casing is **to reach at least 500 feet above the top of the uppermost hydrocarbon productive interval**.

2. the minimum required fill of cement behind the **3-1/2** inch production liner is **to reach the top of the liner**.

III. PRESSURE CONTROL:

1. All BOP systems and related equipment shall comply with well control requirements as described in Onshore Oil and Gas Order No. 2. The BOP and related equipment shall be installed and operational before drilling below the **8-5/8** inch casing shoe and shall be tested as described in Onshore Order No. 2. Any equipment failing to test satisfactorily shall be repaired or replaced.

2. Minimum working pressure of the blowout preventer and related equipment (BOPE) shall be **2000** psi.

3. The appropriate BLM office shall be notified in sufficient time for a representative to witness the tests.

- The tests shall be done by an independent service company.
- The results of the test shall be reported to the appropriate BLM office.
- Testing fluid must be water or an appropriate clear liquid suitable for sub-freezing temperatures. Use of drilling mud for testing is not permitted since it can mask small leaks.
- Testing must be done in a safe workman-like manner. Hard line connections shall be required.

3/27/2006
acs