J-06-12

OCD-HOBBS

1035

Form 3160-3
(April 2004)

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

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

APPLICATION FOR PERMIT TO DRILL OR REENTER

5. Lease Serial No.: NMNM-40449

6. If Indian, Allotee or Tribe Name:

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.: WALKER 18 FED COM #1 <35935>

2. Name of Operator: HARVEY E. YATES COMPANY <10179>

9. API Well No.: 30 - 025 - 38081

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

3b. Phone No. (include area code): 505.623.6601

10. Field and Pool, or Exploratory: ~~Wildcat~~ MORROW NORTH LUSK

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

At surface: 1650' FNL & 660' FWL (SW NW) Unit E

At proposed prod. zone: LAT. = 32°45'00.79" N, LONG. = 103°48'42.36" W

11. Sec., T. R. M. or BLK. and Survey or Area: Sec 18, T-18S, R-32E

14. Distance in miles and direction from nearest town or post office*: 16 miles Southeast of Loco Hills, NM

12. County or Parish: Lea County

13. State: NM

15. Distance from proposed* location to nearest property or lease line, ft. (Also to nearest drig. unit line, if any)	16. No. of acres in lease	17. Spacing Unit dedicated to this well
660'	241 Acres	N½ Sec 2, 321.89 Acres
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**
2,000'	12,700'	NMB000317
21. Elevations (Show whether DF, KDB, RT, GL, etc.)	**22. Approximate date work will start***	**23. Estimated duration**
3,743' GL	11/01/2006	50 days after construction

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
Jen Serrano	JEN SERRANO	06/26/2006

Title: ENGINEERING TECH

Approved by (Signature)	Name (Printed Typed)	Date
/s/ James Stovall	/s/ James Stovall	AUG 11 2006

Title: ACTING FIELD MANAGER

Office: CARLSBAD FIELD OFFICE

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

APPROVAL FOR 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 page 2)

Witness Surface & Intermediate Casing

APPROVAL SUBJECT TO GENERAL REQUIREMENTS AND SPECIAL STIPULATIONS ATTACHED

KZ

Form 3160-5
(April 2004)

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

FORM APPROVED
OM B No. 1004-0137
Expires: March 31, 2007

SUNDRY NOTICES AND REPORTS ON WELLS

Do not use this form for proposals to drill or to re-enter an abandoned well. Use Form 3160 - 3 (APD) for such proposals.

SUBMIT IN TRIPLICATE- Other instructions on reverse side.

5. Lease Serial No.
NM-40449

6. If Indian, Allottee or Tribe Name

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

1. Type of Well
☐ Oil Well ☑ Gas Well ☐ Other

8. Well Name and No.
WALKER 18 FED COM #1

2. Name of Operator **HARVEY E. YATES COMPANY**

9. API Well No.
30-025-38081

3a. Address
PO BOX 1933 ~ ROSWELL NM 88202-1930

3b. Phone No. *(include area code)*
505.623.6601

10. Field and Pool, or Exploratory Area
MORROW

4. Location of Well *(Footage, Sec., T., R., M., or Survey Description)*
Surf Loc: 1650' FNL & 660' FWL (SWNW) Unit E

11. County or Parish, State
LEA COUNTY, NM

12. CHECK APPROPRIATE BOX(ES) TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA

TYPE OF SUBMISSION	TYPE OF ACTION			
☑ Notice of Intent	☐ Acidize	☐ Deepen	☐ Production (Start/Resume)	☐ Water Shut-Off
☐ Subsequent Report	☐ Alter Casing	☐ Fracture Treat	☐ Reclamation	☐ Well Integrity
☐ Final Abandonment Notice	☐ Casing Repair	☐ New Construction	☐ Recomplete	☑ Other **request variance on BOP for drlg 12 1/4" intermediate hole**
	☐ Change Plans	☐ Plug and Abandon	☐ Temporarily Abandon	
	☐ Convert to Injection	☐ Plug Back	☐ Water Disposal	

13. Describe Proposed or Completed Operation (clearly state all pertinent details, including estimated starting date of any proposed work and approximate duration thereof. If the proposal is to deepen directionally or recomplete horizontally, give subsurface locations and measured and true vertical depths of all pertinent markers and zones. Attach the Bond under which the work will be performed or provide the Bond No. on file with BLM/BIA. Required subsequent reports shall be filed within 30 days following completion of the involved operations. If the operation results in a multiple completion or recompletion in a new interval, a Form 3160-4 shall be filed once testing has been completed. Final Abandonment Notices shall be filed only after all requirements, including reclamation, have been completed, and the operator has determined that the site is ready for final inspection.)

Request for variance on BOP for drilling 12 1/4" intermediate hole.
Due to no pressured formations from base of surface to TD of 12 1/4" hole @ 3,350', we propose to:

1. **Use a 3,000 psi BOP with one set of pipe rams and one set of blind rams.**
2. **Test the 13 3/8" casing and BOP stack to 1,000 psi with rig pump prior to drilling 13 3/8" casing shoe.**
3. **Change pipe rams to 8 5/8" rams prior to running 8 5/8" casing.**

APPROVED
AUG 10 2006
LES BABYAK
PETROLEUM ENGINEER

14. I hereby certify that the foregoing is true and correct
Name *(Printed/Typed)* **Keith Cannon** Title **Drilling Superintendent**

Signature Keith Cannon Date **06/28/2006**

THIS SPACE FOR FEDERAL OR STATE OFFICE USE

Approved by _____ Title _____ Date _____

Conditions of approval, if any, are attached. Approval of this notice 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. Office

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

(Instructions on page 2)

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

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

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

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

State of New Mexico
Energy, Minerals and Natural Resources Department

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

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

WELL LOCATION AND ACREAGE DEDICATION PLAT

☐ AMENDED REPORT

API Number	Pool Code	Pool Name
30-025-39091	80800	~~WILDCAT~~ Morrow NORTH LUSK

Property Code	Property Name	Well Number
35933	WALKER 18 FEDERAL COM.	1

OGRID No.	Operator Name	Elevation
10179	HARVEY E. YATES COMPANY	3743'

Surface Location

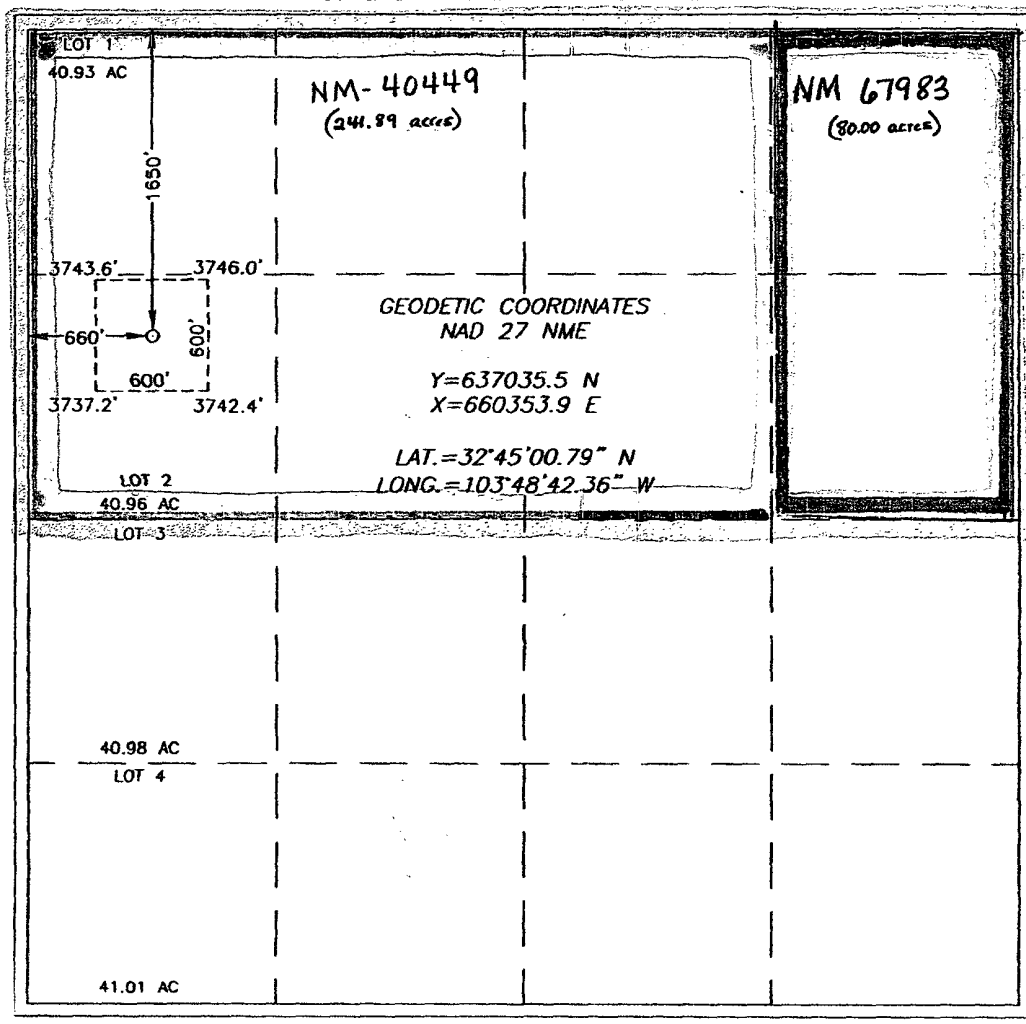
UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
2	18	18-S	32-E		1650	NORTH	660	WEST	LEA

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.
321.89			

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



OPERATOR CERTIFICATION

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

Keith Cannon 6-28-06
Signature Date

Printed Name
Keith Cannon

SURVEYOR CERTIFICATION

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

MAY 23, 2006
Date Surveyed MR

Signature & Seal of Professional Surveyor

Gary B Eidson 6/2/06
06.11.0872

Certificate No. GARY EIDSON 12641

Application
Harvey E. Yates Company
Walker 18 Fed Com #1
1650' FNL & 660' FWL
Sec. 18, T18S, R32E
Lea 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	925'
Yates	2470'
Seven Rivers	2865'
Bowers	3325'
Queen	3550'
Penrose	3780'
Grayburg	4120'
Premier	4360'
San Andres	4650'
Delware	4925'
Bone Spring	6350'
1st Sand	7925'
B-Zone	8180'
2nd Sand	8475'
C-zone	9160'
3rd Sand	9340'
Wolfcamp	9720'
Penn Shale	10,620'
Strawn	11,300'
Atoka	11,760'
Morrow Clastics	12,225'
Lower Morrow	12,530'
U. Miss	12,650'
PTD	12,700"

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

Formation	Depth	Remarks
BSPG 2nd sand	6350'	

4. Proposed Casing Program:

Hole size	Grade, size Csg	Wt/ft	Depth	Quantity of cement
17 ½"	13 3/8 J-55	54.5#	400'	circ to surface
12 ¼"	8 5/8" J-55	32.0#	3350'	circ to surface
7 7/8"	5 ½" N-80 & P-110	17.0#	12,700'	cmt up into 8 5/8 csg

5. Pressure Control Equipment:
   This well will be 5M BOP
   970'

6. Drilling Fluid Program:
   0' – ~~400~~' Fresh water w/ paper & Shale guard. MW 9.0 Vis 31
   970' ~~400~~' – 3350' Brine water w/ paper & Shale guard MW 10.0 Vis 31
   3350' – 9700' Fresh water, paper, Actguard & Ammonia Nitrate
   9700 -12,700' Mud up w/ Barazan , 30-60,00 Chlorides, MW 9.6-9.8, Vis 34, WL 5- 10
   Mud Program Sudject to change due to hole conditions.

7. Auxiliary Equipment:
   N/A

8. Testing, Logging, & Coring Program:
   Mud log, 2 DST- Possible, Platform Express w/HALS, BHC Sonic and Rotary sidewall coring.

9. Abnormal Conditions, Pressures, Temperature, or Potential Hazards:
   No abnormal conditions are anticipated in this well bore.

9. 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

Surface Use Plan
Harvey E. Yates Company
Walker 18 Fed Com #1
1650' FNL & 660' FWL
Section 18, T18S, R32E
Lea 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 10 miles South of ,Maljamar NM. Leave Artesia on US 82 & travel east 31 miles & turn east on NM 529. Go 7.0 mile & turn right on Co road 126 . Go 4.3 mile turn Right. Go 1.1 miles turn right. Go 0.4 mile into location.

2. **Planned Access Roads:**
   0.4 Miles new road will be built to access this location come in from the south

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.

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

6. **Source of Construction Material:**
   We will use materials from reserve pit or a State, 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.

11. **Other Information:**

a. The mineral and surface owner is the Federal Government, Grazing leasing Faye Klein had been contacted.

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.

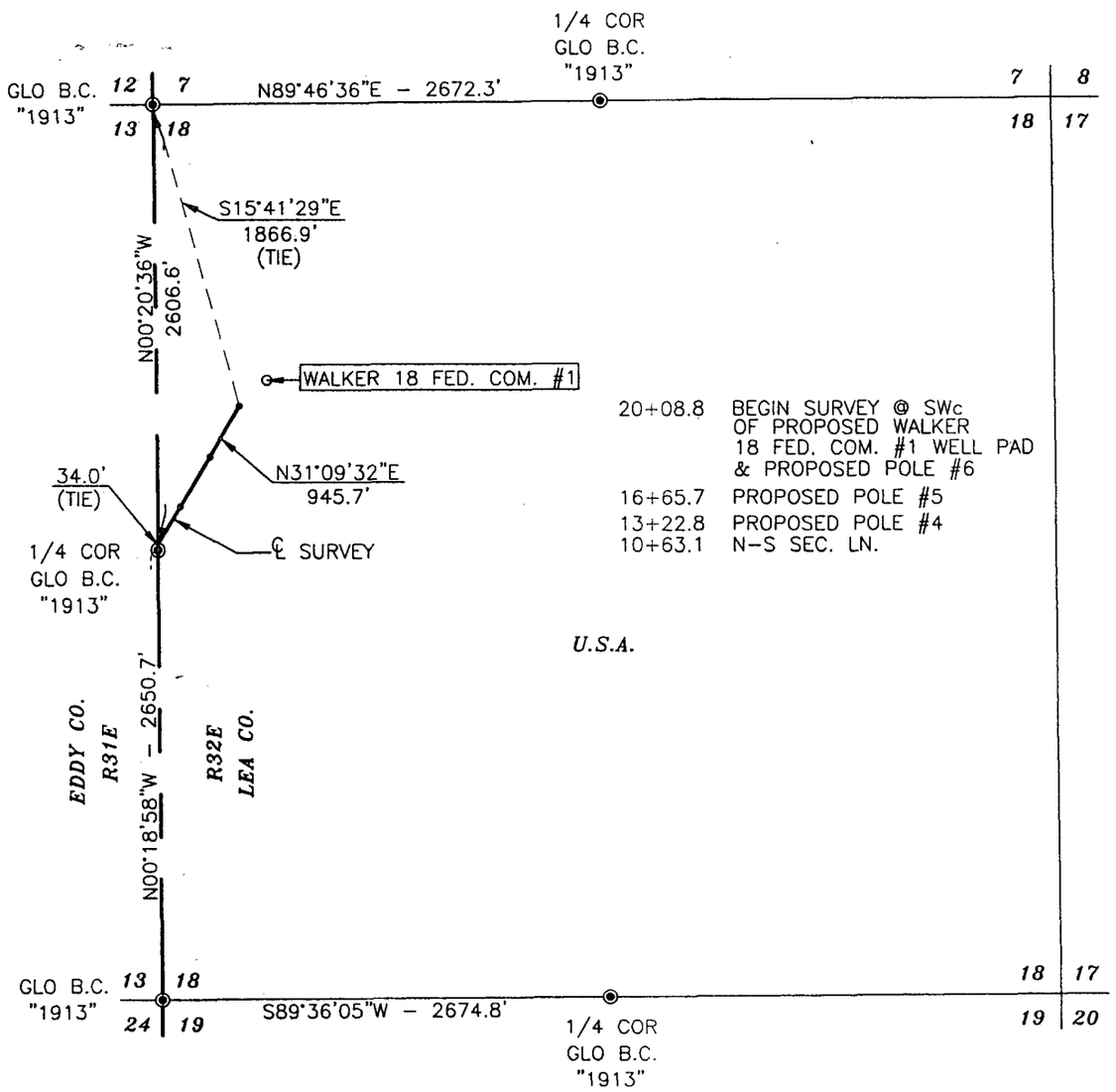
12. **Operator's Representative:**

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

June 1, 2006

SECTION 18, TOWNSHIP 18 SOUTH, RANGE 32 EAST, N.M.P.M.,
LEA COUNTY, NEW MEXICO.



DESCRIPTION

A STRIP OF LAND 50.0 FEET WIDE AND 945.7 FEET OR 0.179 MILES IN LENGTH CROSSING USA LAND IN SECTION 18, TOWNSHIP 18 SOUTH, RANGE 32 EAST, NMPM, LEA COUNTY, NEW MEXICO AND BEING 25.0 FEET LEFT AND 25.0 FEET RIGHT OF THE ABOVE PLATTED CENTERLINE SURVEY.

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

I HEREBY CERTIFY THAT I DIRECTED AND AM RESPONSIBLE FOR THIS SURVEY, THAT THIS SURVEY IS TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF, AND THAT THIS SURVEY AND PLAT MEET THE MINIMUM STANDARDS FOR SURVEYING IN NEW MEXICO.

GARY G. EIDSON NEW MEXICO

6/1/06

GARY G. EIDSON N.M. P.S. No. 12641

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

1000 0 1000 2000 FEET

Scale: 1"=1000'

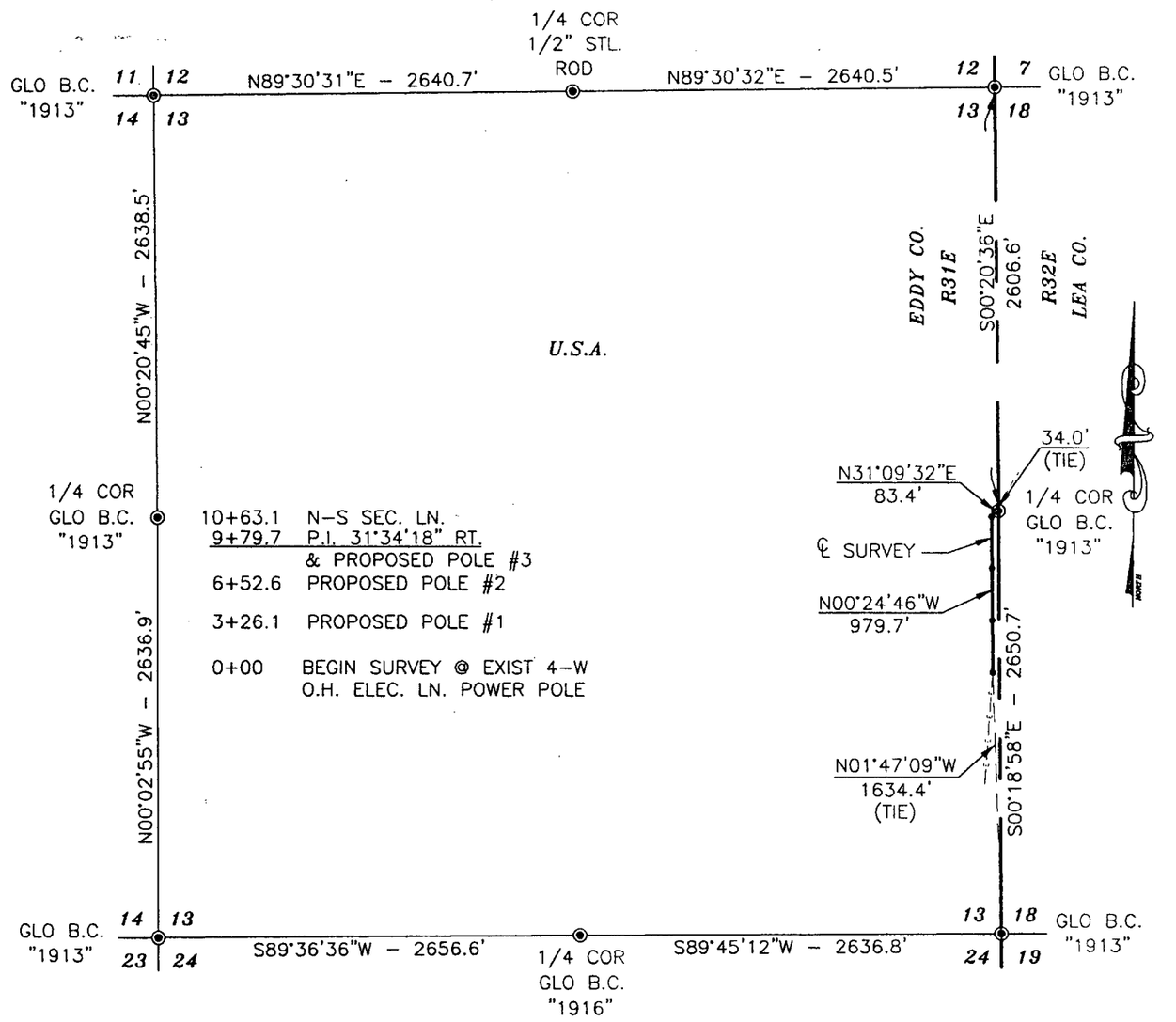
HARVEY E. YATES COMPANY

SURVEY OF AN ELECTRIC LINE CROSSING
SECTION 18, TOWNSHIP 18 SOUTH, RANGE 32 EAST, N.M.P.M., LEA COUNTY, NEW MEXICO

Survey Date: 05/22/06		Sheet 1 of 1 Sheets	
W.O. Number: 06.11.0872		Drawn By: J.R.	
Date: 06/01/06	DISK:CD#6	06110872_ELEC	

SECTION 13, TOWNSHIP 18 SOUTH, RANGE 31 EAST, N.M.P.M.,

EDDY COUNTY, NEW MEXICO.



DESCRIPTION

A STRIP OF LAND 50.0 FEET WIDE AND 1063.1 FEET OR 0.201 MILES IN LENGTH CROSSING USA LAND IN SECTION 13, TOWNSHIP 18 SOUTH, RANGE 31 EAST, NMPM, EDDY COUNTY, NEW MEXICO AND BEING 25.0 FEET LEFT AND 25.0 FEET RIGHT OF THE ABOVE PLATTED CENTERLINE SURVEY.

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

I HEREBY CERTIFY THAT I DIRECTED AND AM RESPONSIBLE FOR THIS SURVEY, THAT THIS SURVEY IS TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF, AND THAT THIS SURVEY AND PLAT MEET THE MINIMUM STANDARDS FOR SURVEYING IN NEW MEXICO.

GARY G. EIDSON NEW MEXICO

6/1/06

GARY G. EIDSON N.M. P.S. No. 12641

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

1000 0 1000 2000 FEET

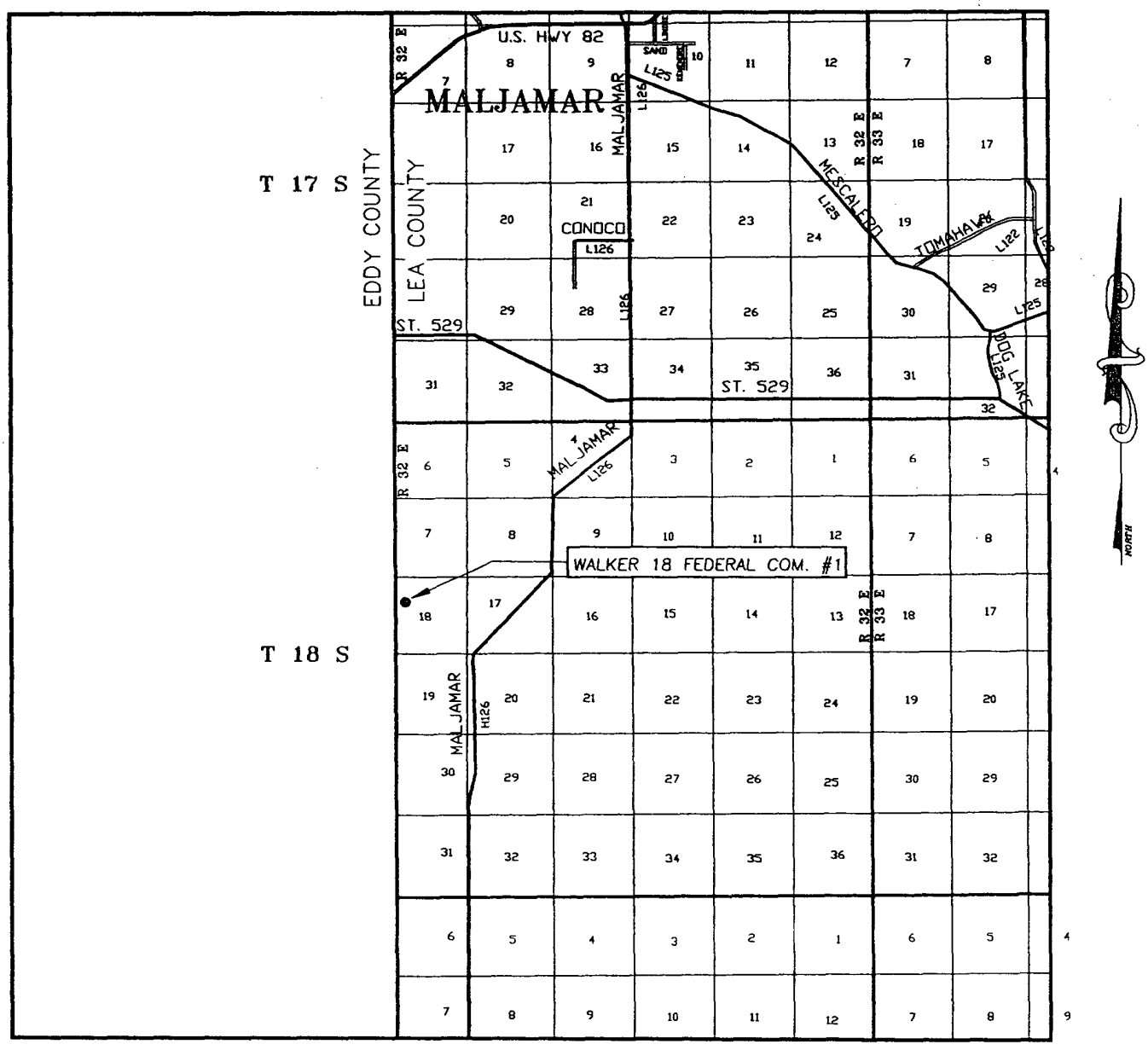
Scale:1"=1000'

HARVEY E. YATES COMPANY

SURVEY OF AN ELECTRIC LINE CROSSING
SECTION 13, TOWNSHIP 18 SOUTH, RANGE 31 EAST,
N.M.P.M., EDDY COUNTY, NEW MEXICO

Survey Date: 05/22/06		Sheet 1 of 1 Sheets	
W.O. Number: 06.11.0872		Drawn By: J.R.	
Date: 06/01/06	DISK:CD#6	06110872_ELEC	

VICINITY MAP



SCALE: 1" = 2 MILES

SEC. 18 TWP. 18-S RGE. 32-E

SURVEY N.M.P.M.

COUNTY LEA STATE NEW MEXICO

DESCRIPTION 1650' FNL & 660' FWL

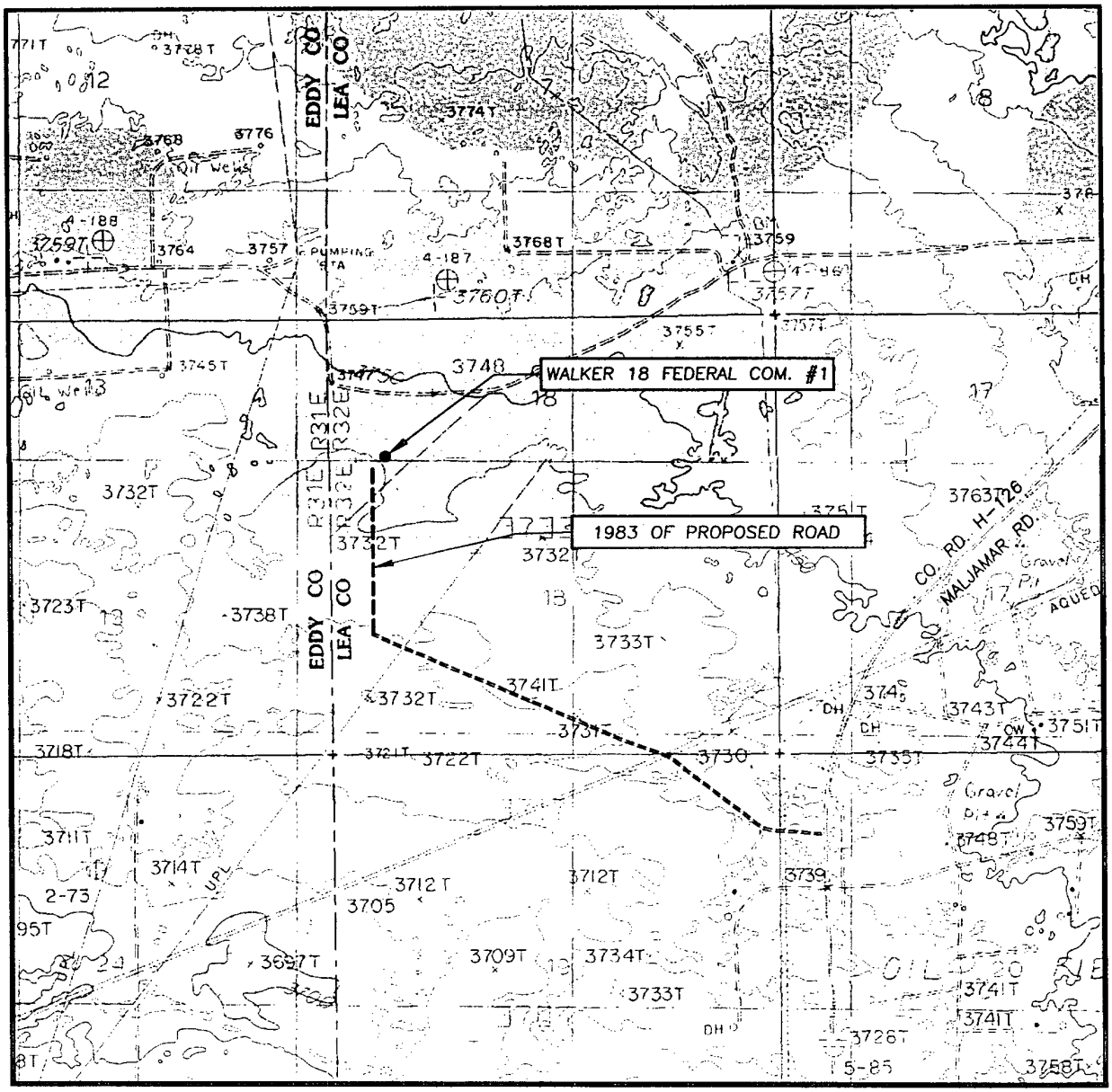
ELEVATION 3743'

OPERATOR HARVEY E. YATES COMPANY

LEASE WALKER 18 FEDERAL COM.

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

LOCATION VERIFICATION MAP



SCALE: 1" = 2000'

CONTOUR INTERVAL:
MALJAMAR, N.M. – 10'
GREENWOOD LAKE, N.M. – 10'

SEC. 18 TWP. 18-S RGE. 32-E

SURVEY N.M.P.M.

COUNTY LEA STATE NEW MEXICO

DESCRIPTION 1650' FNL & 660' FWL

ELEVATION 3743'

OPERATOR HARVEY E. YATES COMPANY

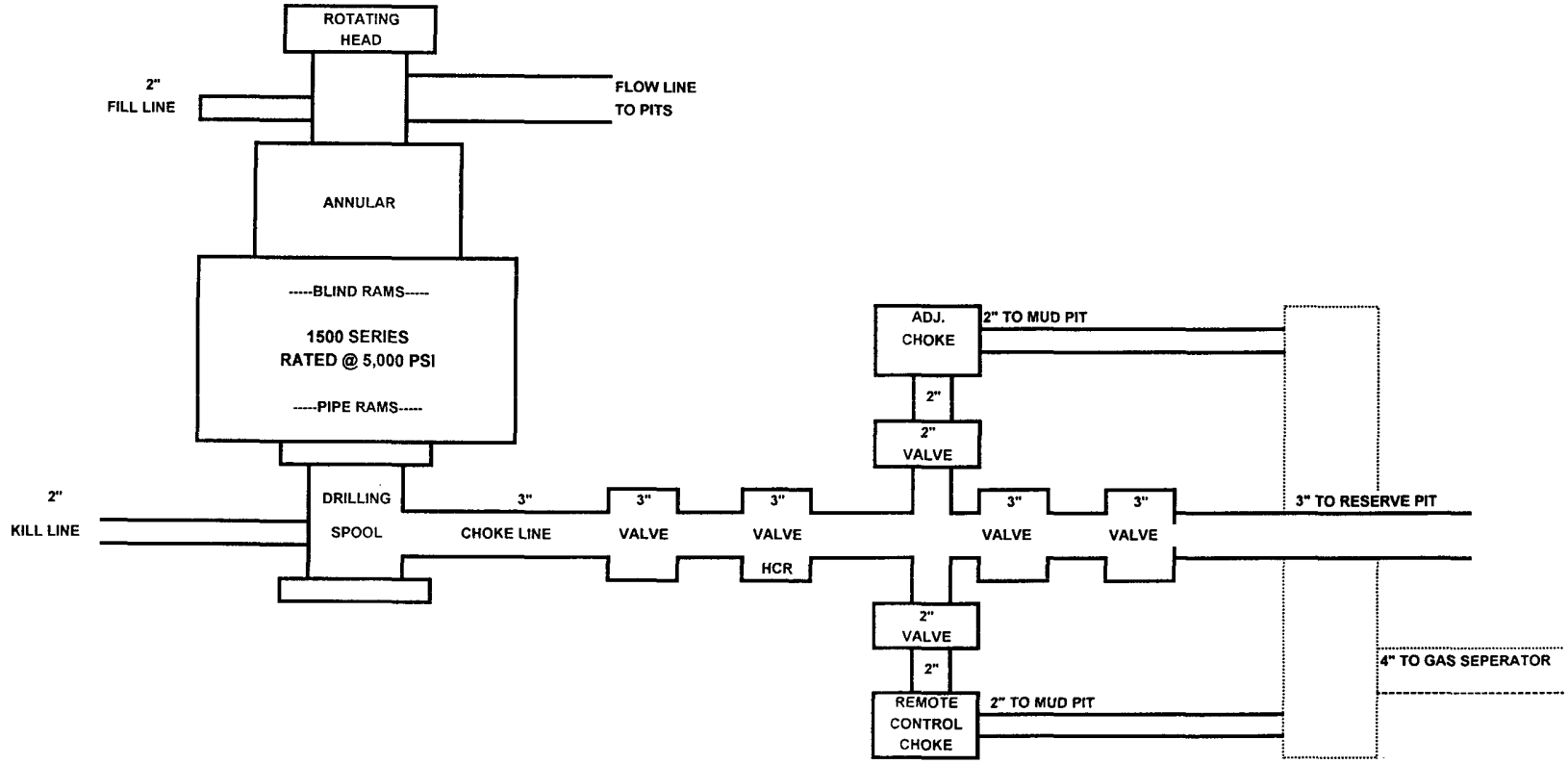
LEASE WALKER 18 FEDERAL COM.

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

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

EXHIBIT "C" BOP STACK

Walker 18 Fed Com #1
1650' FNL & 660' FWL
Sec. 18, T18S, R32E
Lea Co. N.M.



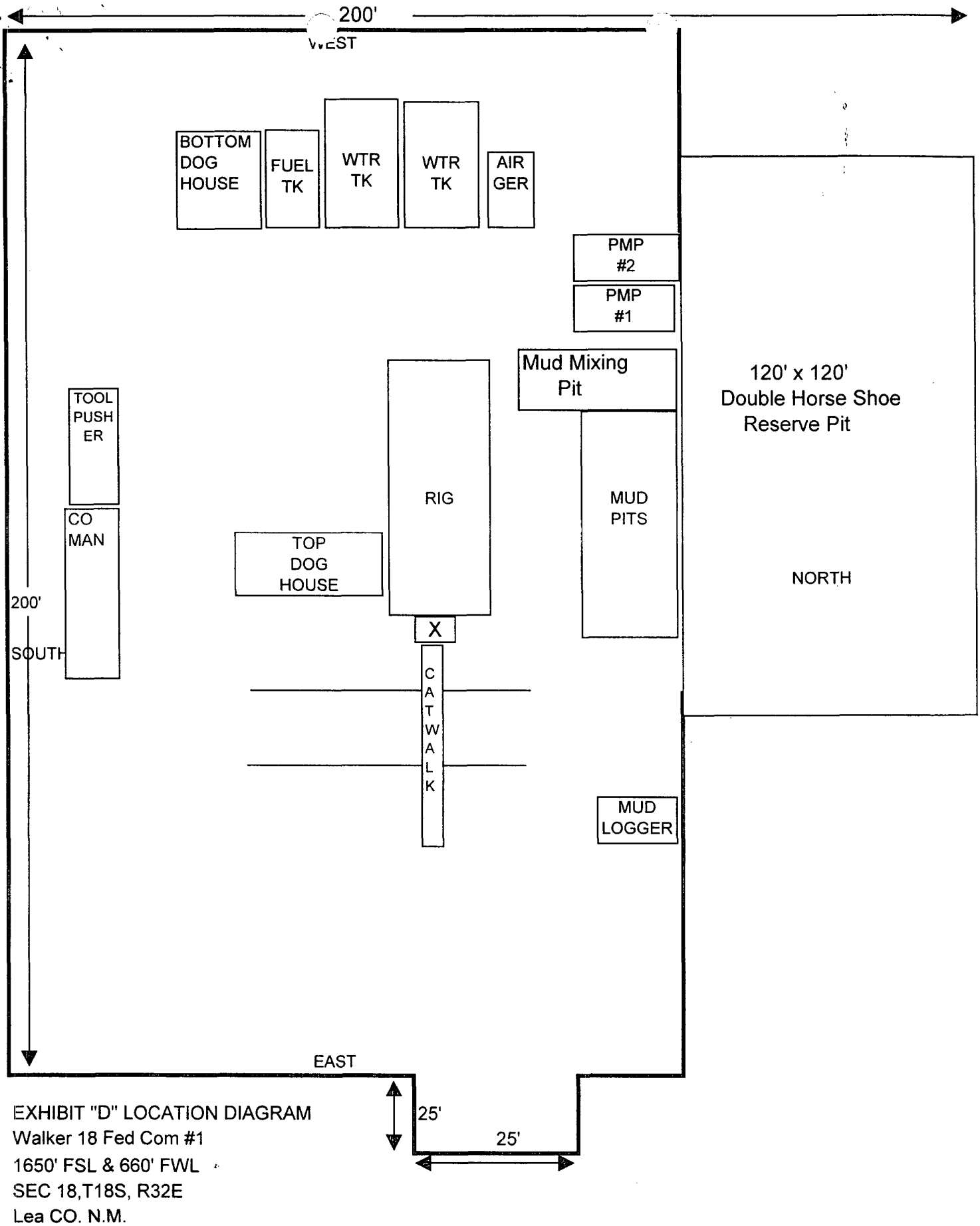
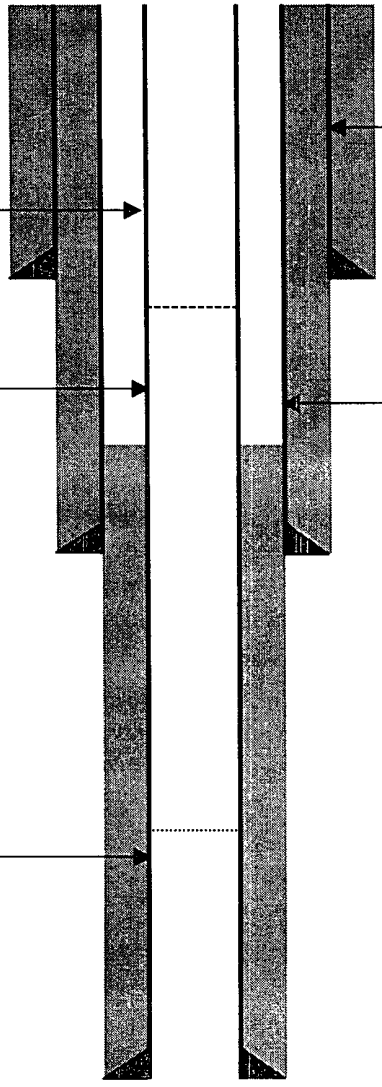


EXHIBIT "D" LOCATION DIAGRAM
Walker 18 Fed Com #1
1650' FSL & 660' FWL
SEC 18,T18S, R32E
Lea CO. N.M.

EXHIBIT "E" CASING DESIGN

WALKER 18 FED COM #1
1650' FNL & 660' FWL
SEC. 18, T18S, R32E
LEA CO. N.M.



From surface to 400'
400' 13 3/8", 48#/Ft, ST&C, H-40 Casing.
Cement circulated to surface

From surface to 2,000'
2,000', 5 1/2", 17#/Ft, LT&C, P-110 Casing

From 2,000' to 9,800'
7,800', 5 1/2", 17#/Ft, LT&C, N-80 Casing

From surface to 3,350'
3,350' 8 5/8", 32#/Ft, ST&C, J-55 Casing
Cement circulated to surface

TO REDUCE RISK OF COLLAPSE OF 5 1/2" CASING, WE WILL STOP AND FILL CASING WITH DRILLING MUD EVERY 50 JOINTS WHILE RUNNING CASING.

From 9,800' to 12,700'
2,900', 5 1/2", 17#/Ft, LT&C, P-110 Casing
Cement tied back into 8 5/8" Casing

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

PERCENT (%)	PPM	CONCENTRATION GRAINS 100 STD. FT3*	PHYSICAL EFFECTS
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.

CONDITIONS OF APPROVAL - DRILLING

Operator's Name:	**HARVEY E. YATES COMPANY**
Well Name & No.	**1 – WALKER 18 FEDERAL COM**
Location:	**1650' FNL & 660' FWL – SEC 18 – T18S – R32E – LEA COUNTY**
Lease:	**NM-40449**

I. DRILLING OPERATIONS REQUIREMENTS:

1. The Bureau of Land Management (BLM) is to be notified at the Roswell Field Office, 2909 West Second St., Roswell NM 88201, (505) 627-0272 for wells in Chaves and Roosevelt Counties; the Carlsbad Field Office, 620 East Greene St., Carlsbad, NM 88220, (505) 234-5909 or (505) 361-2822 (After hours) - for wells in Eddy County; and the Hobbs Field Station, 414 West Taylor, Hobbs NM 88240, (505) 393-3612 for wells in Lea County, in sufficient time for a representative to witness:

A. Spudding

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

C. BOP tests

2. A Hydrogen Sulfide (H2S) Drilling Plan will be in effect at the well site should H2S gas be encountered. There are random reports of H2S in the area however no specific locations are listed in the literature.

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 **13-3/8** inch surface casing shall be set at **400 feet** and cement circulated to the surface. If cement does not circulate to the surface the appropriate BLM office shall be notified and a temperature survey or cement bond log shall be run to verify the top of the cement. Remedial cementing shall be completed prior to drilling out that string. **Note: Operator will use the Lea County Alternative – Drilling (attached). Fresh water or fresh water mud shall be used when drilling out of surface down to 970 feet.**

2. The minimum required fill of cement behind **8-5/8** inch salt protection casing is **circulate cement to the surface.**

3. The minimum required fill of cement behind the **5-1/2** inch production casing is **cement shall extend upward a minimum of 500 feet above the uppermost hydrocarbon bearing interval.**

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 **13-3/8** 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) required for drilling the surface and intermediate casing shall be **2000** psi. Minimum working pressure of the blowout preventer and related equipment (BOPE) required for drilling below the **8-5/8** inch casing shall be **5000** psi.

3. The appropriate BLM office shall be notified in sufficient time for a representative to witness the tests.
- A variance to test the **13-3/8 inch surface casing and BOPE** to the reduced pressure **1000** psi with the rig pump is approved.
- 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.
- BOPE must be tested prior to drilling into the **Wolfcamp** Formation by an independent service company.

IV. DRILLING MUD:

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

1. Recording pit level indicator to indicate volume gains and losses.
2. Mud measuring device for accurately determining the mud volumes necessary to fill the hole during trips.
3. Flow-sensor on the flow line to warn of abnormal mud returns from the well.

ALTERNATIVE CONDITIONS OF APPROVAL - DRILLING

Drilling Fluids, Casing and Cementing Requirements for Most of Lea County:

Casing and Cementing

Surface casing is to be set at a sufficient depth to protect useable water zones and cement circulated to surface. In areas where the salt section (Salado) is present, surface casing should be set at least 25 feet into the top of the Rustler Anhydrite and cement circulated to the surface.

As an alternative, surface casing may be set through the Santa Rosa Formation or other potable water bearing zones and circulate cement to surface. For wells requiring an intermediate casing string, such string shall be cemented to the ground surface. In the case where intermediate casing is not required the operator shall case and cement the production hole to the ground surface.

While drilling from the surface casing to the Rustler formation it is recommended that operators periodically sweep the hole with viscous low water loss pills to help build a filter cake across useable water zones in the redbeds.

Drilling Fluid

Fresh water or fresh water spud mud shall be used to drill to surface casing depth. If surface casing is set at a lesser depth than the top of the Rustler formation., fresh water spud mud may be used to drill down to the first salt in the Rustler Formation. after which brine or fresh water may be used.

Non-toxic or biodegradable water based polymers, drilling paper, starch and gels may be used in the mud system in order to retard seepage into the redbeds.

Two to five percent diesel or crude oil may be used in the redbed section in order to control heaving shales and mudstones.

Caustics and Lime shall not be used in the red beds but may be added when the Rustler formation is reached. However, sodium carbonate maybe used for alkalinity or ph control while drilling the redbeds above the Rustler formation.

Additionally, questions of whether an additive may be used should be referred to the Roswell Field office.

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

State of New Mexico
Energy Minerals and Natural Resources

Oil Conservation Division
1220 South St. Francis Dr.
Santa Fe, NM 87505

Form C-144
June 1, 2004

For drilling and production facilities, submit to appropriate NMOCD District Office.
For downstream facilities, submit to Santa Fe office

Pit or Below-Grade Tank Registration or Closure

Is pit or below-grade tank covered by a "general plan"? Yes ☒ No ☐ Type of action: Registration of a pit or below-grade tank ☒ Closure of a pit or below-grade tank ☐

Operator: Harvey E. Yates Company Telephone: (505) 623-6601 e-mail address: kcannon@heycoenergy.com

Address: P.O. Box 1933

Roswell N.M. 88202

Facility or well name: Walker 18 Federal Com #1 API #: 30-025-38081 U/L or Qtr/Qtr SW/NW Unit – E Sec 18. T18S, R R32E

County: Lea Co Latitude Longitude 32-45'00.79''N, / 103-48'42.36W NAD: 1927 ☒ 1983 ☐

Surface Owner: Federal ☒ State ☐ Private ☐ Indian ☐

Pit	**Below-grade tank**	
Type: Drilling ☒ Production ☐ Disposal ☐ Workover ☐ Emergency ☐ Lined ☒ Unlined ☐ Liner type: Synthetic ☒ Thickness 12 mil Clay ☐ Pit Volume 2550bbl	Volume: ____bbl Type of fluid: _____ Construction material: _____ Double-walled, with leak detection? Yes ☐ If not, explain why not.	
Depth to ground water (vertical distance from bottom of pit to seasonal high water elevation of ground water.)	Less than 50 feet 50 feet or more, but less than 100 feet 100 feet or more	(20 points) (10 points) (0 points)
Wellhead protection area: (Less than 200 feet from a private domestic water source, or less than 1000 feet from all other water sources.)	Yes No	(20 points) (0 points)
Distance to surface water: (horizontal distance to all wetlands, playas, irrigation canals, ditches, and perennial and ephemeral watercourses.)	Less than 200 feet 200 feet or more, but less than 1000 feet 1000 feet or more	(20 points) (10 points) (0 points)
	Ranking Score (Total Points)	0

If this is a pit closure: (1) Attach a diagram of the facility showing the pit's relationship to other equipment and tanks. (2) Indicate disposal location: (check the onsite box if your are burying in place) onsite ☐ offsite ☐ If offsite, name of facility_____. (3) Attach a general description of remedial action taken including remediation start date and end date. (4) Groundwater encountered: No ☐ Yes ☐ If yes, show depth below ground surface_____ft. and attach sample results. (5) Attach soil sample results and a diagram of sample locations and excavations.

Additional Comments:

I hereby certify that the information above is true and complete to the best of my knowledge and belief. **I further certify that the above-described pit or below-grade tank has been/will be constructed or closed according to NMOCD guidelines ☒, a general permit ☐, or an (attached) alternative OCD-approved plan ☐.**

Date: 8/17/06

Printed Name/Title Keith Cannon – Drilling Superintendent Signature Keith Cannon

Your certification and NMOCD approval of this application/closure does not relieve the operator of liability should the contents of the pit or tank contaminate ground water or otherwise endanger public health or the environment. Nor does it relieve the operator of its responsibility for compliance with any other federal, state, or local laws and/or regulations.

Approval:

Printed Name/Title PETROLEUM ENGINEER Signature _____ Date: AUG 22 2006