

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

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

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

APPLICATION FOR PERMIT TO DRILL OR REENTER

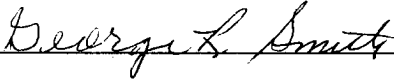
1a. Type of Work: <input checked="" type="checkbox"/> DRILL <input type="checkbox"/> REENTER		5. Lease Serial No. NM-0428657
1b. Type of Well: <input type="checkbox"/> Oil Well <input checked="" type="checkbox"/> Gas Well <input type="checkbox"/> Other <input type="checkbox"/> Single Zone <input type="checkbox"/> Multiple Zone		6. If Indian, Allottee or Tribe Name
2. Name of Operator Chi Operating, Inc.		7. If Unit or CA Agreement, Name and No.
3a. Address P.O. Box 1799 Midland, TX 79702	3b. Phone No. (include area code) (432) 685-5001	8. Lease Name and Well No. Arco Federal, Well No. <u>X 3</u>
4. Location of Well (Report location clearly and in accordance with any State requirements. *) At surface 1350' FSL & 1250' FWL At proposed prod. zone same		9. API Well No. 30-015-33162
14. Distance in miles and direction from nearest town or post office* 16 road miles NE. of Carlsbad, NM		10. Field and Pool, or Exploratory Winchester Morrow
15. Distance from proposed* location to nearest property or lease line, ft. (Also to nearest drig. unit line, if any) 1250'	16. No. of Acres in lease 640	11. Sec., T., R., M., or Blk. and Survey or Area Sec. 34-T19S-R28E
18. Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft. 784'	19. Proposed Depth 11,400'	12. County or Parish Eddy
21. Elevations (Show whether DF, KDB, RT, GL, etc.) 3303' GL	22. Approximate date work will start* 12/10/03	13. State NM
17. Spacing Unit dedicated to this well 320 (160)		
20. BLM/BIA Bond No. on file NM-1616		
23. Estimated duration 5 weeks		

24. Attachments

The following, completed in accordance with the requirements of Onshore Oil and Gas Order No. 1, shall be attached to this form:

1. Well plat certified by a registered surveyor.
2. A Drilling Plan.
3. A Surface Use Plan (if the location is on National Forest System Lands, the SUPO shall be filed with the appropriate Forest Service Office).

4. Bond to cover the operations unless covered by an existing bond on file (see Item 20 above).
5. Operator certification.
6. Such other site specific information and/or plans as may be required by the authorized officer.

25. Signature 	Name (Printed/Typed) George R. Smith	Date 11/20/03
Title Agent for Chi Operating, Inc.		
Approved by (Signature) /s/ Joe G. Lara	Name (Printed/Typed) /s/ Joe G. Lara	Date 11 JAN 2004

ACTING FIELD MANAGER	Office CARLSBAD FIELD OFFICE
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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 reverse)

Lease Responsibility Statement: Chi Operating, Inc. accepts all applicable terms, conditions, stipulations, and restrictions concerning operations conducted on the leased land or portion thereof.


George R. Smith, agent

APPROVAL SUBJECT TO
GENERAL REQUIREMENTS AND
SPECIAL STIPULATIONS
ATTACHED

Capitan Controlled Water Basin

District I
1825 N. French Dr. Hobbs, NM 88240

District II
811 South First, Artesia, NM 88210

District III
1000 Rio Brazos Rd., Aztec NM 87410

District IV
2040 South Pacheco, Santa Fe, NM 87505

State of New Mexico
Energy, Minerals & Natural Resources

OIL CONSERVATION DIVISION

2040 South Pacheco
Santa Fe, N M 87505

Revised March 17, 1999
Submit to Appropriate District Office
State Lease - 4 Copies
Fee Lease - 3 Copies

☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

API Number	Pool Code 87600	Pool Name Winchester Morrow
Property Code	Property Name ARCO FEDERAL	Well Number 3
OGRID No. 4378	Operation Name CHI OPERATING, INC.	Elevation 3303

Surface Location

UL or Lot No.	Section	Township	Range	Lot Idn.	Feet from the	North/South line	Feet from the	East/West line	County
L	34	19-S	28-E		1350	SOUTH	1250	WEST	EDDY

Bottom Hole Location If Different From Surface

UL or Lot No.	Section	Township	Range	Lot Idn.	Feet from the	North/South line	Feet from the	East/West line	County
Dedicated Acres 320	Joint or Infill	Consolidation Code	Order No.						

NO ALLOWABLE WILL BE ASSIGNED TO THIS COMPLETION UNTIL ALL INTEREST 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 CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF.	
	Signature <i>George R. Smith</i>	
	Printed Name George R. Smith	
	Title agent	
	Date 11/21/03	
	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 KNOWLEDGE AND BELIEF.	
	Date of Survey OCTOBER 28, 2003	
	Signature and Seal of Professional Surveyor	
	Certificate Number	

APPLICATION FOR DRILLING

CHI OPERATING, INC.
Arco Federal, Well No. 3
1350' FSL & 1250' FWL, Sec. 34-T19S-R28E
Eddy County, New Mexico
Lease No.: NM-0428657
(Development Well)

In conjunction with Form 3160-3, Application for Permit to Drill subject well, Chi Operating, Inc. submits the following items of pertinent information in accordance with BLM requirements:

1. The geologic surface formation is recent Permian with quaternary alluvium and other surficial deposits.
2. The estimated tops of geologic markers are as follows:

Yates	1200'	Cisco Canyon	9620'
Delaware	3150'	Strawn	9950'
1 st Bone Spring Carb.	5400'	Atoka	10,280'
2 nd Bone Spring Sand	7180'	Morrow. Clastic	10,870'
3 rd Bone Spring Sand	8555'	Lower Morrow	11,050'
Wolfcamp	8860'	T.D.	11,400'

3. The estimated depths at which water, oil or gas formations are anticipated to be encountered:
Water: Surface water between 100' - 300'.
Oil: Possible in the Cisco below 9620'.
Gas: Possible in the Atoka below 10,280' and the Morrow below 10,870'.

4. Proposed Casing Program:

HOLE SIZE	CASING SIZE	WEIGHT	GRADE	JOINT	SETTING DEPTH	QUANTITY OF CEMENT
17 1/2"	13 3/8"	54.5#	J-55	STC	300' ^{325'}	Circ. 300 sx "C"
11"	8 5/8"	32.0#	J-55	LTC	2,950'	Circ. 850 sx "C" + addit.
7 7/8"	5 1/2"	20.0#	N-80	LTC	0 - 100'	
7 7/8"	5 1/2"	17.0#	N-80	LTC	100 - 10,400'	
7 7/8"	5 1/2"	20.0#	N-80	LTC	10,400 - 11,400"	860 sx "H" TOC 500' above top prod zone

5. Proposed Control Equipment: A 12" 5000 psi wp Shaffer Type LWS Double Gate BOP will be installed on the 13 3/8" casing and operated as a 3000 psi system. Casing and BOP will be tested as per Onshore Oil & Gas Order #2 to the maximum of 1500 psi (IIIBh). Casing and BOP will be tested before drilling out with the 11" and 7 7/8". See Exhibit "E".

6. MUD PROGRAM:	MUD WEIGHT	VIS.	W/L CONTROL
0' - 300': Fresh water mud:	8.4 - 8.7 ppg	32 - 36	No W/L control
300' - 2,950': Brine mud:	10.0 - 10.1 ppg	29 - 30	No W/L control
2,950' - 8,800': Fresh water mud:	8.4 - 8.7 ppg	28 - 29	No W/L control
8,800' - 10,200': Brine mud:	10.0 - 10.1 ppg	29 - 30	No W/L control
10,200' - 10,800': Brine/C.Brine (starch)	9.5 - 10 + ppg	32 - 34	W/L control 12-15 cc +/-
10,800' - 11,400': (XCD-LSRV-20000) (XCD subject to change)	9.5 - 10 + ppg	32 - 34	W/L control 8 cc

7. Auxiliary Equipment: Blowout Preventer, gas detector, Kelly cock, pit level monitor, flow sensors and stabbing valve.
8. Testing, Logging, and Coring Program:
Drill Stem Tests: As deemed necessary.
Logging: T.D.to 2950': (GR-CAL-CNL-LDT)(GR-CAL-DLL-MICRO)
2950' to Surface: GR/CNL
Coring: Rotary Sidewall as dictated by logs.

Chi Operating, Inc.
Arco Federal, Well No.3
Page 2

9. No abnormal pressures or temperatures are anticipated. In the event abnormal pressures are encountered the proposed mud program will be modified to increase the mud weight. Estimated evacuated BHP = 5016 psi and surface Pressure of 2506 psi with a temperature of 174°.

10. H₂S: None expected.

11. Anticipated starting date: December 10, 2003.
Anticipated completion of drilling operations: Approximately 40 days.

MULTI POINT SURFACE USE AND OPERATIONS PLAN
CHI OPERATING, INC.
Arco Federal, Well No. 3
1350' FSL & 1250' FWL, Sec. 34-T19S-R28E
Eddy County, New Mexico
Lease No.: NM-0428657
(Development Well)

This plan is submitted with the Application for Permit to Drill the above described well. The purpose of the plan is to describe the location of the proposed well, the proposed construction activities and operations plan, to be followed in rehabilitating the surface environmental effects associated with the operations.

1. EXISTING ROADS:

- A. Exhibit "A" is a portion of a BLM Topographic Artesia Quadrangle map showing the location of the proposed well as staked. The well site location is approximately 35 road miles southeast of Artesia, NM or 11 miles northeast of Carlsbad, NM. Traveling east of Artesia on U.S. Highway 82 and county roads, there will be 30 miles of paved highway, plus 5.5 miles of existing gravel county and oilfield roads.
- B. Directions: Travel east from Artesia, NM on U. S. Highway 82 for approximately 8.5 miles to SPS power station. Turn southeast (right) onto county road #204 for 3 miles; then south on county road #206 for 12.7 miles to the Angel Ranch road (county road #237); then east on #237 for 3.4 miles to CR #238 to the east (left) side of the road. Turn east at this junction and continue northeast for 2.3 miles to CR #242 gravel road. Turn onto CR #242 and continue northeast for 3 miles, then turn west for 2 miles. Turn south for .2 mile; then west for .3 mile to the Arco Fed. #2 well site. The proposed access road will start on the northwest corner and will run northwest for approximately 600 feet to the southeast corner of the proposed location.

2. PLANNED ACCESS ROAD:

- A. Length and Width: There will be approximately 600 feet of new access road 12 feet wide (24' max.). The proposed and existing access roads are color coded on Exhibit "A".
- B. Construction: The new access road will be constructed by grading and topping with compacted caliche. The surface will be properly drained.
- C. Turnouts: None required.
- D. Culverts: None.
- E. Cuts and Fills: None required.
- F. Gates, Cattle guards: None required.
- G. Off Lease ROW: None required.

3. LOCATION OF EXISTING WELLS:

- A. Existing wells within a two-mile radius are shown on Exhibit "C".

4. LOCATION OF EXISTING AND/OR PROPOSED FACILITIES;

- A. There are production facilities on the lease at this time.
- B. If the well proves to be commercial, the necessary production facilities, gas separation process equipment and tank battery, if required, will be installed on the drilling pad. A 4" steel pipeline rated at 5000 psi to carry a maximum operating pressure of 600 psi will be buried five feet from the south side of the proposed access road

5. LOCATION AND TYPE OF WATER SUPPLY:

- A. It is planned to drill the proposed well with fresh water that will be obtained from private or commercial sources and will be transported over the existing and proposed access roads or a fast line beside existing roads may be used.

6. SOURCE OF CONSTRUCTION MATERIALS:

- A. Caliche for surfacing the proposed access road and well site pad will be obtained from materials on the location, if available, or from a Federal pit in the NE4SE4, Sec. 35-T19S-R28E, with permission from the county for use. No surface materials will be disturbed except those necessary for actual grading and leveling of the drill site and access road.

7. METHODS OF HANDLING WASTE DISPOSAL:

- A. Drill cuttings will be disposed of in the reserve pits.
- B. Drilling fluids will be allowed to evaporate in the reserve pits until the pits are dry.
- C. All pits will be fenced with normal fencing materials to prevent livestock from entering the area.
- D. Water produced during operations will be collected in tanks until hauled to an approved disposal system, or a separate disposal application will be submitted to the BLM for approval.
- E. Oil produced during operations will be stored in tanks until sold.
- F. Current laws and regulations pertaining to the disposal of human waste will be complied with.
- G. Trash, waste paper, garbage and junk will be contained in trash bins to prevent scattering by the wind and will be removed for deposit in an approved sanitary landfill within 30 days after finishing drilling and/or completion operations.

8. ANCILLARY FACILITIES:

- A. None required.

9. WELL SITE LAYOUT:

- A. Exhibit "D" shows the relative location and dimensions of the well pad, reserve pits, and major rig components. The pad and pit area has been staked and flagged, 400' X 400'.
- B. Mat Size: 250' X 175', plus 100' X 110' reserve pits on the north.
- C. Cut & Fill: There will be a 1'-2' cut on the southwest with fill to the northeast.
- D. The surface will be topped with compacted caliche and the reserve pits will be plastic lined.

10. PLANS FOR RESTORATION OF THE SURFACE:

- A. After completion of drilling and/or completion operations, all equipment and other material not required for operations will be removed. Pits will be filled and the location cleaned of all trash and junk to leave the well site in an aesthetically pleasing condition as possible.
- B. Unguarded pits containing fluids will be fenced and screened until they are filled.
- C. If the proposed well is non-productive, all rehabilitation and/or vegetation requirements of the Bureau of Land Management will be complied with and will be accomplished as expeditiously as possible. All pits will be filled and leveled within 90 days after abandonment or as soon as they are dry enough to be worked.

11. OTHER INFORMATION:

- A. Topography: The well site and access road are located north of the Burton Flats area and 1 mile east of the Palmilla Draw with an overall 1.3% slope to the southeast from an elevation of 3303' GL.
- B. Soil: The topsoil at the well site is a light colored, well drained, shallow calcareous soil with a surface scatter of caliche rock and is of the Pajarito loamy fine sands series.
- C. Flora and Fauna: The area vegetation cover is a sparse grass cover of threeawn, bush muhly, along with plants of mesquite, broomweed, yucca, Javelina, sage, cacti and miscellaneous weeds and wildflowers. The wildlife consists of rabbits, coyotes, rattlesnakes, lizards, dove, quail and other wildlife typical of the semi-arid desert land.
- D. Ponds and Streams: None in the area.
- E. Residences and Other Structures: None except production facilities.
- F. Land Use: Cattle grazing.
- G. Surface Ownership: The proposed well site and access road is on Federal surface and minerals.
- H. There is no evidence of any archaeological, historical or cultural sites in the area. Archaeological Survey Consultants, P.O. Box 2285, Roswell, NM 88202, conducted an archaeological survey and their report will be submitted to the appropriate government agencies.

12. OPERATOR'S REPRESENTATIVE:


- A. The field representative for assuring compliance with the approved surface use and operations plan is as follows:

John Qualls
Chi Operating, Inc.
P. O. Box 1799
Midland, Texas 79701
Office Phone: (915) 685-5001
Cell Phone: (915) 557-8774

13. CERTIFICATION:

I hereby certify that I have inspected the proposed drill site and access route; that I am familiar with the conditions which presently exist; that the statements made in the plan are, to the best of my knowledge, true and correct; and, that the work associated with the operations proposed herein will be performed by Chi Operating, Inc. 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.

November 20, 2003


George R. Smith
Agent for: Chi Operating, Inc.

ANGEL DRAW QUADRANGLE
NEW MEXICO-EDDY CO.
7.5 MINUTE SERIES (TOPOGRAPHIC)

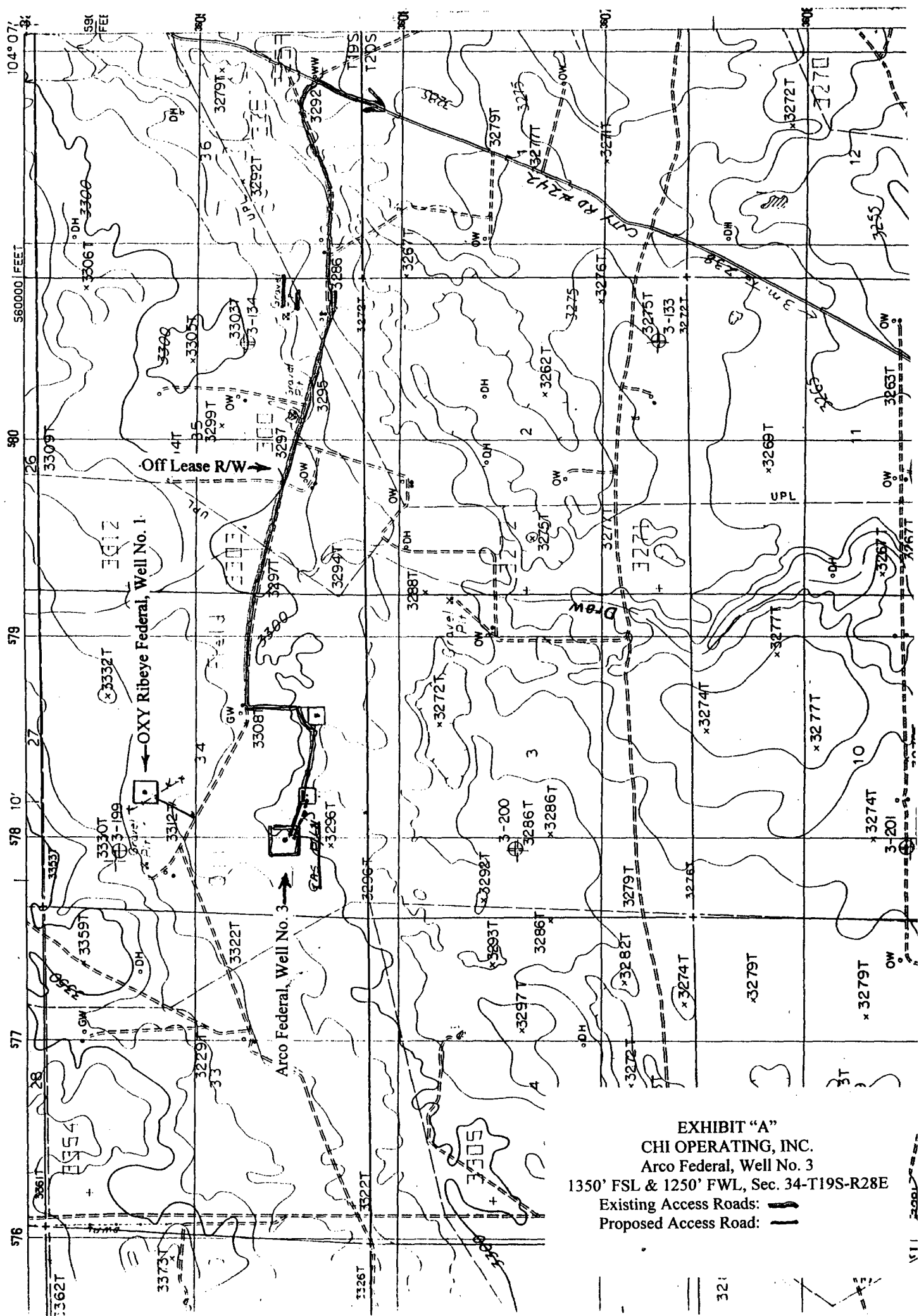




EXHIBIT "A"
CHI OPERATING, INC.
Arco Federal, Well No. 3
1350' FSL & 1250' FWL, Sec. 34-T19S-R28E
Existing Access Roads: 
Proposed Access Road: 

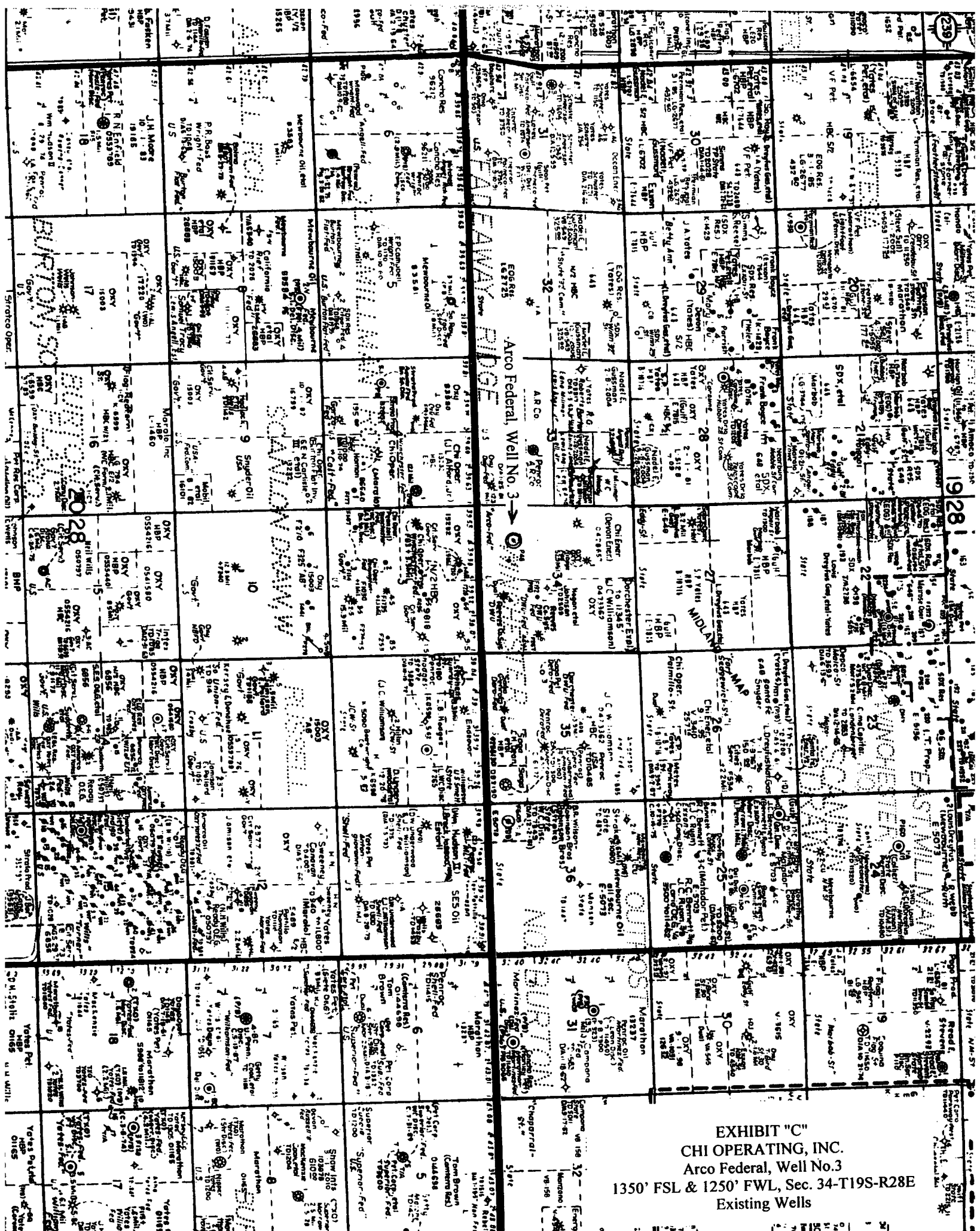


EXHIBIT "C"
CHI OPERATING, INC.
Arco Federal, Well No. 3
1350' FSL & 1250' FWL, Sec. 34-T19S-R28E
Existing Wells

TMBR/Sharp Rig #22

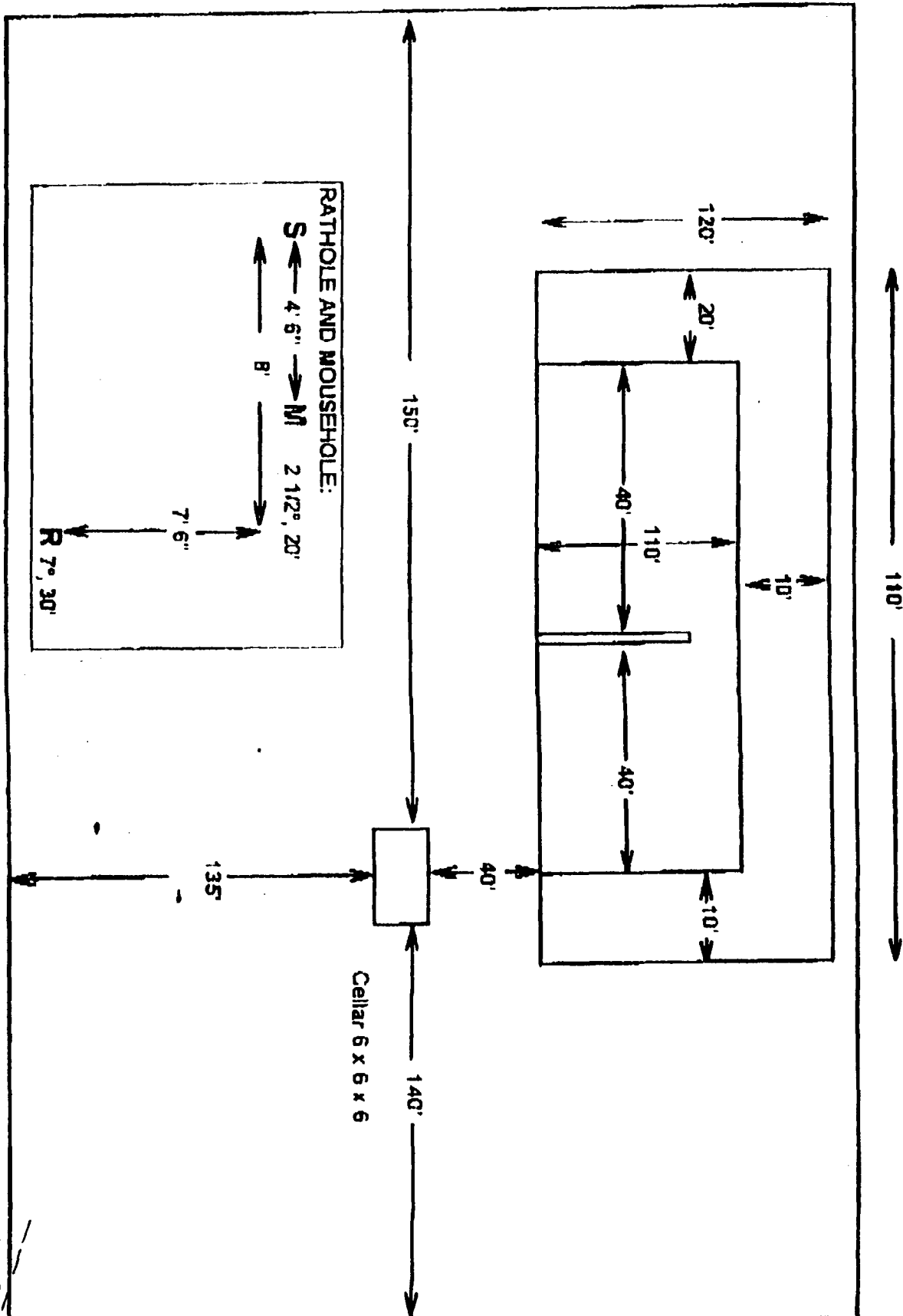


EXHIBIT "D"
CHI OPERATING, INC.
Arco Federal, Well No. 3
Pad & Pit Layout

REV 7/1/96

TIMEBIR//SHARP DRILLING

B.O.P. Equipment Intended for use on Rig # 24 + 22

Well To Be drilled for Time/Sharp

* All B.O.P. equipment is H2S Trim *

* All Accumulators are Kookey Type-80 : Dual Power Electric/Air *

* Choke Manifold: * See sheet 2

4" Valves : Cameron F/FC, Shaffer DB Hydraulic

2" Check Valve: Cameron Type R

2" Valves : Cameron or Shaffer

Annular Shaffer Type: Spherical

Annular PSI: 3000

(If Shaffer: Spherical , If Hydril: Type GK)

BOP Type Shaffer LWS

(If Shaffer: LWS or SL, If Cameron: Type U)

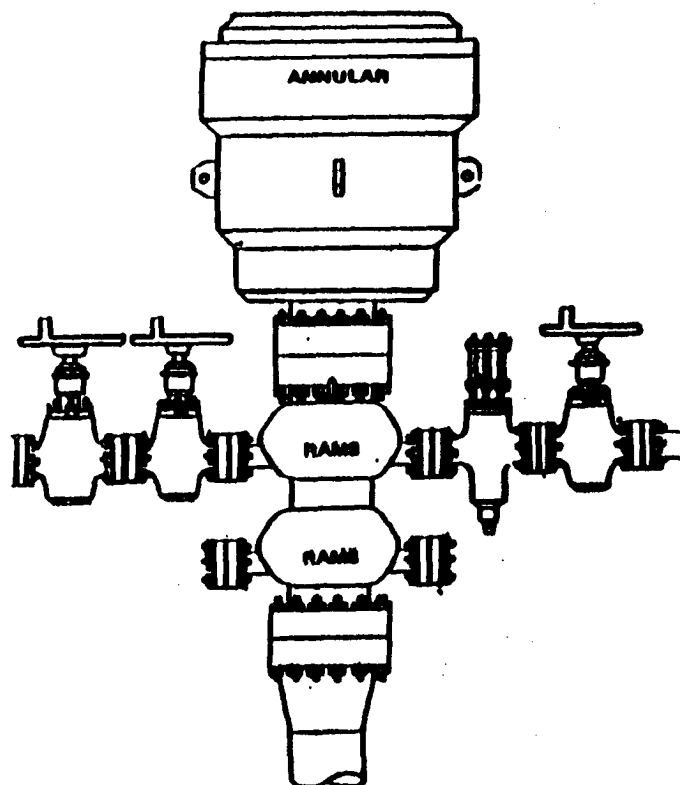
BOP Size: 13 7/8" - 5000 PSI

Rotating Head Type Smith

Rot-Head Furnished By Time

Rams in top gate: 4 1/2" pipe

Rams in bottom: Blinds



Side Outlets used:

Bottom X Top

4" Valves on Tee

B.O.P. Equipment Intended for use on Rig # 24 + 22

Well To Be drilled for Time/Sharp

* All Valves (H2S) *

Choke Manifold:

Pressure Rating 3,000 or 5,000 (as Req.)

1 - 4" Valves

2 - 2" Valves

2 - 2" Adjustable Chokes

Valve Types Used:

Cameron - F or FC

Shaffer - B Floseal

WKM - type 2

Chokes - Cameron H2 or TC unibolt

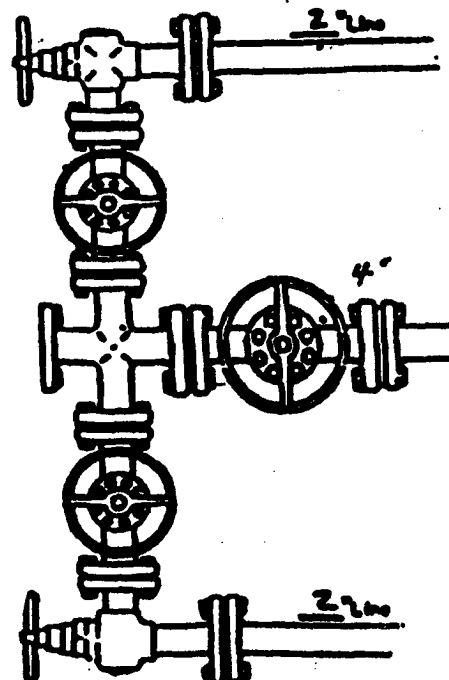


EXHIBIT "E"
CHI OPERATING, INC.
Arco Federal, Well No. 3
BOP Specifications