

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

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

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

APPLICATION FOR PERMIT TO DRILL OR REENTER RECEIVED

1a. Type of Work: <input checked="" type="checkbox"/> DRILL <input type="checkbox"/> REENTER		5. Lease Serial No. LC-028990-A	
1b. Type of Well: <input checked="" type="checkbox"/> Oil Well <input 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		8. Lease Name and Well No. Shugart West 13 Federal, #1	
3b. Phone No. (include area code) (432) 685-5001		9. API Well No. 30-015-33577	
4. Location of Well (Report location clearly and in accordance with any State requirements.) At surface 678' FSL & 1667' FEL At proposed prod. zone same (o)		10. Field and Pool, or Exploratory Shugart Bone Spring N.	
14. Distance in miles and direction from nearest town or post office* 16.5 road miles S. of Loco Hills, NM		11. Sec., T., R., M., or Blk. and Survey or Area Sec. 13-T18S-R30E	
15. Distance from proposed* location to nearest property or lease line, ft. (Also to nearest drig. unit line, if any) 667'		12. County or Parish Eddy	13. State NM
16. No. of Acres in lease 880		17. Spacing Unit dedicated to this well 40	
18. Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft. N/A		20. BLM/BIA Bond No. on file NM-1616	
19. Proposed Depth 8,300'		21. Estimated duration 3 - 4 weeks	
21. Elevations (Show whether DF, KDB, RT, GL, etc.) 3626' GL		22. Approximate date work will start* 06/21/04	
23. Estimated duration 3 - 4 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. | 4. Bond to cover the operations unless covered by an existing bond on file (see Item 20 above). |
| 2. A Drilling Plan. | 5. Operator certification. |
| 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). | 6. Such other site specific information and/or plans as may be required by the authorized officer. |

25. Signature <i>George R. Smith</i>	Name (Printed/Typed) George R. Smith	Date 5/24/04
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Title Agent for Chi Operating, Inc.		
Approved by (Signature) <i>151 JANICE L. GAMBY</i>	Name (Printed/Typed) <i>151 JANICE L. GAMBY</i>	Date AUG 16 2004
Title NM STATE DIRECTOR		
Office NM STATE 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 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.

Carbon Contained Water Risk

GRS.
George R. Smith, agent

APPROVAL SUBJECT TO
GENERAL REQUIREMENTS AND
SPECIAL STIPULATIONS
ATTACHED

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
March 12, 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: Chi Operating, Inc. Telephone: 1432-685-5001 e-mail address: _____
Address: P.O. Box 1799 Midland, TX 79702
Facility or well name: Shugart 13 Fed. Com., #1 API #: _____ U/L or Qtr/QtrSWSE Sec 13 T 18S R 30E
County: Eddy Latitude N32°44'31.3" Longitude W103°55'20.3" NAD: 1927 ☐ 1983 ☐ Surface Owner Federal ☒ State ☐ Private ☐
☐ Indian ☐

Pit Type: Drilling <input checked="" type="checkbox"/> Production <input type="checkbox"/> Disposal <input type="checkbox"/> Workover <input type="checkbox"/> Emergency <input type="checkbox"/> Lined <input checked="" type="checkbox"/> Unlined <input type="checkbox"/> Liner type: Synthetic <input checked="" type="checkbox"/> Thickness <u>.20</u> ^{BRINE P.T.} mil Clay <input type="checkbox"/> Volume _____ _____ bbl _{12- F/W P.T.}	Below-grade tank Volume: _____ bbl Type of fluid: _____ Construction material: _____ Double-walled, with leak detection? Yes <input type="checkbox"/> If not, explain why not. _____	
Depth to ground water (vertical distance from bottom of pit to seasonal high water elevation of ground water. Not Avail. Est. 200-300')	Less than 50 feet	(20 points)
	50 feet or more, but less than 100 feet	(10 points)
	100 feet or more	(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	(20 points)
	No	(0 points)
Distance to surface water: (horizontal distance to all wetlands, playas, irrigation canals, ditches, and perennial and ephemeral watercourses.)	Less than 200 feet	(20 points)
	200 feet or more, but less than 1000 feet	(10 points)
	1000 feet or more	(0 points)
Ranking Score (Total Points)		

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:

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.

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 according to NMOCD guidelines ☒, a general permit ☐, or an (attached) alternative OCD-approved plan ☐.

Date: June 11, 2004

Printed Name/Title George R. Smith, agent for Chi Operating, Inc.

Signature George R. Smith

Our 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: AUG 6 2004

Date: _____

Printed Name/Title _____

Signature _____

District I
1625 N. French Dr. Hobbs, NM 88240

District II
611 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

Form C-102

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 56405	Pool Name Shugart Bone Spring N.
Property Code	Property Name SHUGART WEST 13 FED COM	Well Number 1
OGRID No. 4378	Operation Name CHI OPERATING, INC.	Elevation 3626

Surface Location

UL or Lot No. 0	Section 13	Township 18-S	Range 30-E	Lot Idn.	Feet from the 678	North/South line SOUTH	Feet from the 1667	East/West line EAST	County EDDY
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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 40	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 for Chi Oper. Co.
	Date May 24, 2004
	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.
	APRIL 14, 2004 Date of Survey
	D. A. REDDY Signature and Seal of Professional Surveyor
	NEW MEXICO REGISTERED LAND SURVEYOR 5412
	NM PROFESSIONAL SURVEYOR 5412 Certificate Number

APPLICATION FOR DRILLING

CHI OPERATING, INC.

Shugart West 13 Federal Com., Well No. 1
678' FSL & 1667' FEL Sec. 13-T18S-R30E
Eddy County, New Mexico
Lease No.: NM-028990-A
(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	1,866'	Bone Spring	5,600'
7 - Rivers	2,096'	1 st Bone Spring Sand	7,520'
Queen	3,050'	2 nd Bone Spring Carb.	7,950'
Grayburg	3,320'	T.D.	8,300'
Delaware	4,450'		

3. The estimated depths at which water, oil or gas formations are anticipated to be encountered:

Water: Surface water between 100' - 300'.

Oil: In the Bone Spring below 5,600'.

Gas: None Expected.

4. Proposed Casing Program:

HOLE SIZE	CASING SIZE	WEIGHT	GRADE	JOINT	SETTING DEPTH	QUANTITY OF CEMENT	WITNESS
26"	20" (if necessary)				0' - 40'	Ready mix to surface	
17 1/2"	13 3/8"	48.0#	H-40	ST&C	0' - 760'	Circ. 650 sx "C" + add to surface	
11"	8 5/8"	32.0#	J-55	ST&C	0' - 2,800'	Circ. 600 sx "C" to surface.	
7 7/8"	5 1/2"	15.5#	J-55	LT&C	0' - 8,300'	300 sx "C" + add. TOC 5300'	

5. Minimum Specifications for Pressure Control Equipment:

A 12" 5000 psi WP Shaffer, LWS Double Gate BOP will be installed on the 13 3/8" casing and tested per order #2.

Request waiver to operate as a 3,000 psi WP system and test to the maximum expected surface pressure of 1,826 psi WP Casing and BOP will be tested before drilling out with the 11" and will be tested regularly.

6. MUD PROGRAM:	MUD WEIGHT	VIS.	W/L CONTROL
0' - 760': Fresh water spud:	8.4 - 8.6 ppg	32 - 38	No W/L control
760' - 2,800': Brine mud:	10.0 - 10.1 ppg	29	No W/L control
2,800' - 8,300': F. Water/C. Brine	8.4 - 8.6 ppg	28	No W/L control
8,300 F. Wtr/C. Brine/Starch	8.4 - 8.6 ppg	32 - 34	W/L control <12cc +/-

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.

T.D. - 2800': GR/CAL/CNL/LDT & GR/CAL/DLL/MSFL

2800' - 0': GR/CNL

Coring: As deemed necessary

Mud Logging: 10' samples: 4,000' to TD (2 sets of samples)

NOTE: DESIGN FACTOR FOR COLLAPSE
HAS BEEN EXCEEDED FOR 5.500" J-55 LT&C
CASING SET @ 8300', AS FOLLOWS:
COLLAPSE LOAD = 3708 PSI
COLLAPSE STRGTH = 4040 PSI
SAFETY FACTOR = 1.090 (1.125 RECOMMENDED)

Les Babyak 6/3/04
(ORIG. SGD.) LES BABYAK

CHI Operating, Inc.

Shugart West 13 Federal Com., Well No. 1

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 = 3652 psi and surface pressure of 1826 psi with a temperature of 143°.

10. H_2S : None expected.

11. Anticipated starting date: June 21, 2004.

Anticipated completion of drilling operations: Approximately 30 - 40days.

MULTI POINT SURFACE USE AND OPERATIONS PLAN

CHI OPERATING, INC

Shugart West 13 Federal Com., Well No. 1
678' FSL & 1667' FEL, Sec. 13 -T18S-R30E
Eddy County, New Mexico
Lease No.: LC-028990-A
(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 Hackberry Lake Topo map showing the location of the proposed well as staked. The well site location is approximately 36 road miles southeast of Artesia, NM or 16.5 road miles south of Loco Hills. Traveling east of Artesia on U.S. Highway 82, NM Highway 360 and County Roads No. 251 and 250, there will be 34 miles of paved highway and 3 miles of oilfield roads..
- B. Directions: Travel east from U. S. Highway #285 in Artesia, NM on U. S. Highway 82 for approximately 14 miles, turn southeast on NM Hwy 360 for approximately 13 miles to paved County Rd. #251. Turn northeast on #251 for 1.8 miles to County Rd. #250, then right on #250 for approximately 4.8 miles to Shugart Rd. Turn north on Shugart Rd. for .8 mile: west .1 mile: north .5 mile then west for .7 mile, turn north for .7 mile to the southwest corner of the Chi Operating Shugart West 24 Federal, #B5 well pad. The start of the proposed access road will be at the southwest corner of the pad and run west 100 feet to an existing two-track and then north for 1200 feet to the southwest corner of the proposed well site.

2. PLANNED ACCESS ROAD:

- A. Length and Width: The proposed (existing route) access road will be approximately 1200 feet in length, 12 feet wide (14' Max.). The proposed and existing roads are color coded on Exhibit "A".
- B. Construction: The existing access road will be constructed by grading and topping with compacted caliche.
- C. Turnouts: One will be required at the midpoint increasing the width to 20 feet for passing..
- D. Culverts: None required.
- E. Cuts and Fills: None required.
- F. Gates, Cattle guards: None will be required.
- G. Off Lease ROW: Right of Way is being applied for.

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. Chi Operating, Inc. has no production facilities on the lease at this time.
- B. If the well proves to be commercial, the necessary production facilities and gas production-process equipment and tank battery will be installed on the drilling pad. A flow line for gas production will be applied for under a separate Right of Way or Sundry Report.

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

6. SOURCE OF CONSTRUCTION MATERIALS:

- A. Caliche for surfacing the proposed access road and well site pad will be obtained from the location, if available, or from a Federal pit in the SE4NE4 Sec. 13-T-18S-R30E. No surface materials will be disturbed except those necessary for actual grading and leveling of the drill site and access roads.

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, 500' X 500'.
- B. Mat Size: 275' X 185', plus 130' X 135 reserve pits on the south.
- C. Cut & Fill: The location will require cutting 8 feet on the south where the pits will be located and fill to the north, northeast and northwest sides of the pad. The existing access road that crosses the pad area will be detoured around the pad.
- 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. Any unguarded pits containing fluids will be fenced 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 as soon as they are dry enough to be worked.

11. OTHER INFORMATION:

- A. Topography: The well site and access road are located in an area on Niminem Ridge. There is an overall 4.3% slope to the northwest from an elevation of 3626' GL.
- B. Soil: The topsoil at the well site is a dark brown colored sandy loam. The soil is of the Kermit Berino Fine Sands complex series.
- C. Flora and Fauna: The vegetation cover is a sparse grass cover of threeawn, grama, dropseed, along with plants of mesquite, sage, broomweed, yucca, cacti and miscellaneous weeds and wildflowers. The wildlife consists of rabbits, antelope, coyotes, rattlesnakes, lizards, dove, quail and other wildlife typical of the semi-arid desert land.
- D. Ponds and Streams: None in the immediate vicinity.
- E. Residences and Other Structures: None in the area except oil field equipment..
- 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 is conducting 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 use and operations plan is as follows:

John Qualls
Chi Operating, Inc.
P. O. Box 1799
Midland, Texas 79701
Office Phone: (432) 685-5001
Home Phone: (432) 684-6847

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.

May 24, 2004



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

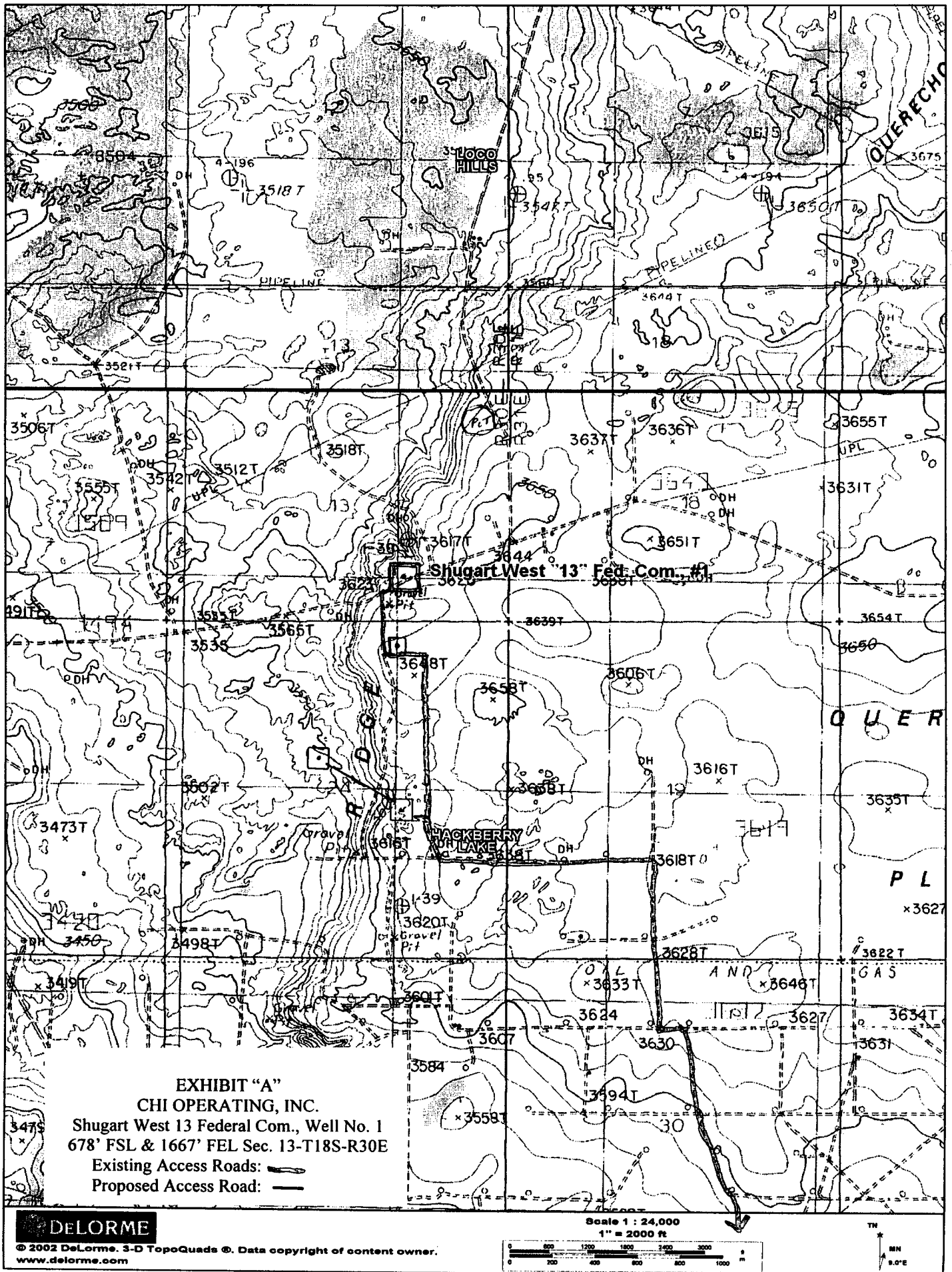
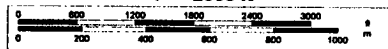


EXHIBIT "A"
CHI OPERATING, INC.
Shugart West 13 Federal Com., Well No. 1
678' FSL & 1667' FEL Sec. 13-T18S-R30E
Existing Access Roads:
Proposed Access Road:

DELORME

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www.delorme.com

Scale 1 : 24,000
1" = 2000 ft



TN
MN
S.0°E

THBRSharp Rig #22

ROUTE EXISTING ROAD

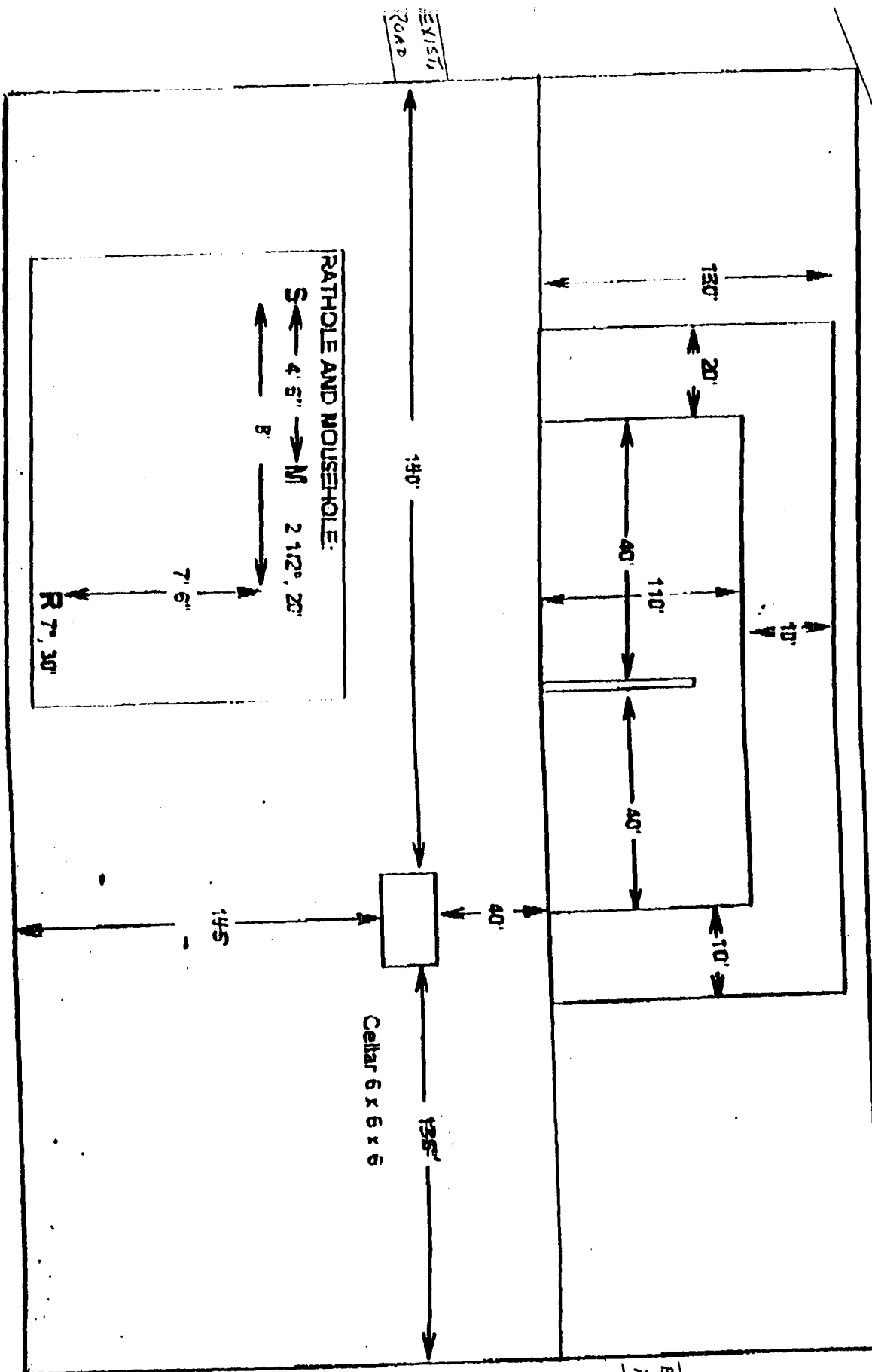


EXHIBIT "D"
CHI OPERATING, INC.
Shugart West 13 Federal Com., Well No. 1
Pad & Pit Layout

REV 2/7/95

TRIMBLE/SHARP DRILLING

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

Well To Be drilled for Trimble/Sharp

- * All B.O.P. equipment is H2S Trim *
- * All Accumulators are Koonsey 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 OK)

BOP Type Shaffer LWS

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

BOP Size: 13 5/8" - 5000 PSI

Rotating Head Type Smith

Rot-Head Furnished By Trimble

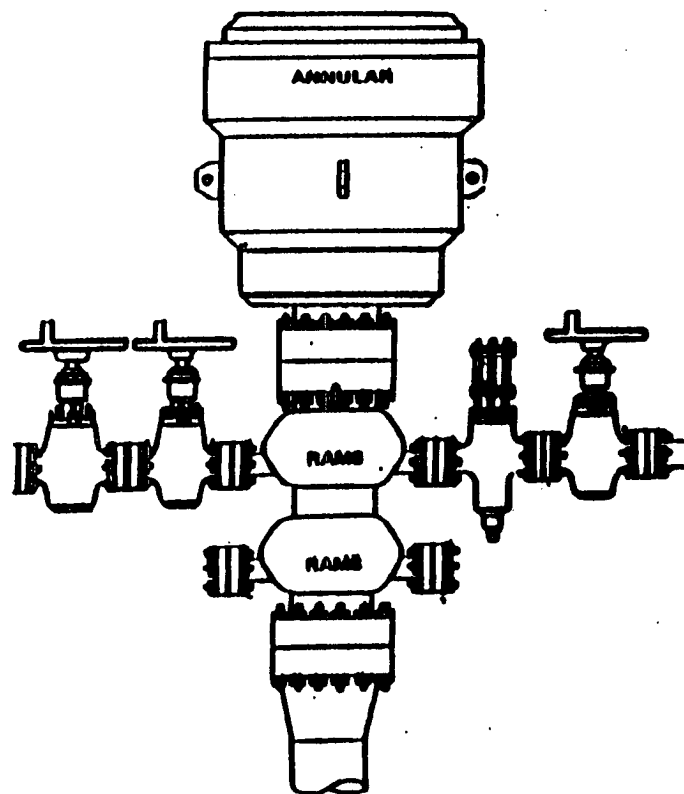
Rams in top gate: 4 1/2" pipe

Rams in bottom: Blinds

Side Outlets used:

Bottom X Top

4" Valves on Tee



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

Well To Be drilled for Trimble/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

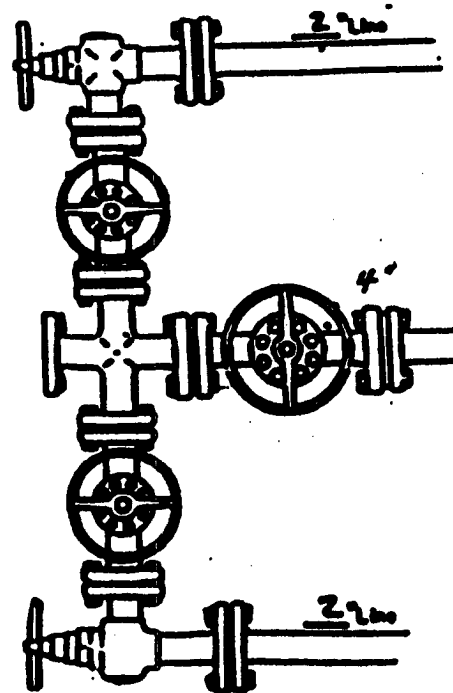


EXHIBIT "E"

CHI OPERATING, INC.

Shugart West 13 Federal Com., Well No. 1

BOP Specifications