Form 3160-3
(July 1992)

828

SUBMIT IN TRIPLICATE*
(Other instructions on reverse side)

OCD District I
1625 N. French Drive
Hobbs, NM 88240

FORM APPROVED
OMB NO. 1004-0136
Expires: February 28, 1995

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

APPLICATION FOR PERMIT TO DRILL OR DEEPEN

5. LEASE DESIGNATION AND SERIAL NO.: NM- 86153

6. IF INDIAN, ALLOTTEE OR TRIBE NAME: ---------

7. UNIT AGREEMENT NAME: ----------

1a. TYPE OF WORK: DRILL [X] DEEPEN [ ]

b. TYPE OF WELL: OIL WELL [X] GAS WELL [ ] OTHER; SINGLE ZONE [X] MULTIPLE ZONE [ ]

8. FARM OR LEASE NAME, WELL NO.: TOMCAT "20"FED.# 1

2. NAME OF OPERATOR: CONCHO RESOURCES INC. (JIM BLOUNT) 915-683-7443

9. API WELL NO.: 30-025-34693

3. ADDRESS AND TELEPHONE NO.: 110 WEST LOUISIANA SUITE 410 MIDLAND, TEXAS 79701

10. FIELD AND POOL, OR WILDCAT: SAND DUNES-BONE SPRI

4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements.*)
At surface: 560' FNL & 560' FEL SEC. 20 T23S-R32E LEA CO. NM
At proposed prod. zone: SAME
A

11. SEC., T., R., M., OR BLK. AND SURVEY OR AREA: Sec. 20 T23S-R32E

14. DISTANCE IN MILES AND DIRECTION FROM NEAREST TOWN OR POST OFFICE*: Approximately 33 miles West of Jal New Mexico

12. COUNTY OR PARISH: LEA CO. | 13. STATE: NEW MEXI

15. DISTANCE FROM PROPOSED* LOCATION TO NEAREST PROPERTY OR LEASE LINE, FT. (Also to nearest drlg. unit line, if any): 560'

16. NO. OF ACRES IN LEASE: 320

17. NO. OF ACRES ASSIGNED TO THIS WELL: 40

18. DISTANCE FROM PROPOSED LOCATION* TO NEAREST WELL, DRILLING, COMPLETED, OR APPLIED FOR, ON THIS LEASE, FT.: NA

19. PROPOSED DEPTH: 9100'

20. ROTARY OR CABLE TOOLS: ROTARY

21. ELEVATIONS (Show whether DF, RT, GR, etc.)

22. APPROX. DATE WORK WILL START*: As soon as approved

23.

PROPOSED CASING AND CEMENTING PROGRAM

SIZE OF HOLE	GRADE, SIZE OF CASING	WEIGHT PER FOOT	SETTING DEPTH	QUANTITY OF CEMENT
25"	20" Cond.	NA	40'	Redi-mix Cement to surface
17½"	H-40 13 3/8"	48	650	550 Sx. Circulate to surf.
11"	K-55 8 5/8"	32	4900'	1400 Sx. Top of cement 450
7 7/8"	K-55 5½"	15.5 & 17	9100'	550 Sx.Top of cement 6400'

1. Drill 25" hole to 40'. Set 40' of 20" conductor pipe. Cement to surface with Redi-mix.

2. Drill 17½" hole to 650'. Run and set 650' of 13 3/8" 48# H-40 ST&C casing. Cement with 300 Sx. of Halco Light + 2% CaCl + ¼# of flocele/Sx., tail in with 250 Sx. of Premium Plus cement + 2% CaCl + ¼# of flocele/Sx., circulate cement to surface.

3. Drill 11" hole to 4900'. Runand set 4900' of 8 5/8" casing as follows: 700' 32# S-80 LT&C, 4200' of 32# K-55 LT&C. Cement with 1200 Sx.of Class "C" + ¼# flocele/Sx., tail in with 200 Sx. of Premium Plus cement + 2% CaCl + ¼# flocele/Sx. Circulate cement to surface or at least 200' into 13 3/8" 450'.

4. Drill 7 7/8" hole to 9100'. Run ans set 9100' of 5½" casing as follows: 1500' of 5½" 17# K-55 LT&C, 7600' of 5½" 15.5# K-55 LT&C casing. Cement with 350 Sx. of Class "H" + additives tail in with 200 Sx. ofSuper Class "H" + .4% CFR-3 + .5% Halad 322 + 5# gilsonite/Sx. + 3# salt/Sx. TOC 6400'

IN ABOVE SPACE DESCRIBE PROPOSED PROGRAM: If proposal is to deepen, give data on present productive zone and proposed new productive zone. If proposal is to drill or deepen directionally, give pertinent data on subsurface locations and measured and true vertical depths. Give blowout preventer program, if any.

24. SIGNED [signature] TITLE Agent DATE 08/24/99

(This space for Federal or State office use)

PERMIT NO. ____ APPROVAL DATE ____

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:

APPROVED BY /S/ [illegible] TITLE Acting Assistant Field Office Manager, Lands and Minerals DATE 9-1-99

*See Instructions On Reverse Side

APPROVED FOR 1 YEAR

Title 18 U.S.C. Section 1001, makes 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.

OGRID NO. 166111
PROPERTY NO. 24854
POOL CODE 53800
EFF. DATE 9-3-99
API NO. 30-025-34693


AUG 2 5 1999
ROSWELL, N.M.

DISTRICT I
P.O. Box 1980, Hobbs, NM 88241-1980

DISTRICT II
P.O. Drawer DD, Artesia, NM 88211-0719

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

DISTRICT IV
P.O. BOX 2088, SANTA FE, N.M. 87504-2088

State of New Mexico
Energy, Minerals and Natural Resources Department

Form C-102
Revised February 10, 1994
Submit to Appropriate District Office
State Lease - 4 Copies
Fee Lease - 3 Copies

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

☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

API Number	Pool Code	Pool Name
30-025-34693	53800	SAND DUNES - ~~DELAWARE~~ Bone Spring

Property Code	Property Name	Well Number
24854	TOMCAT 20 FEDERAL	1

OGRID No.	Operator Name	Elevation
166111	CONCHO RESOURCES INC.	3657

Surface Location

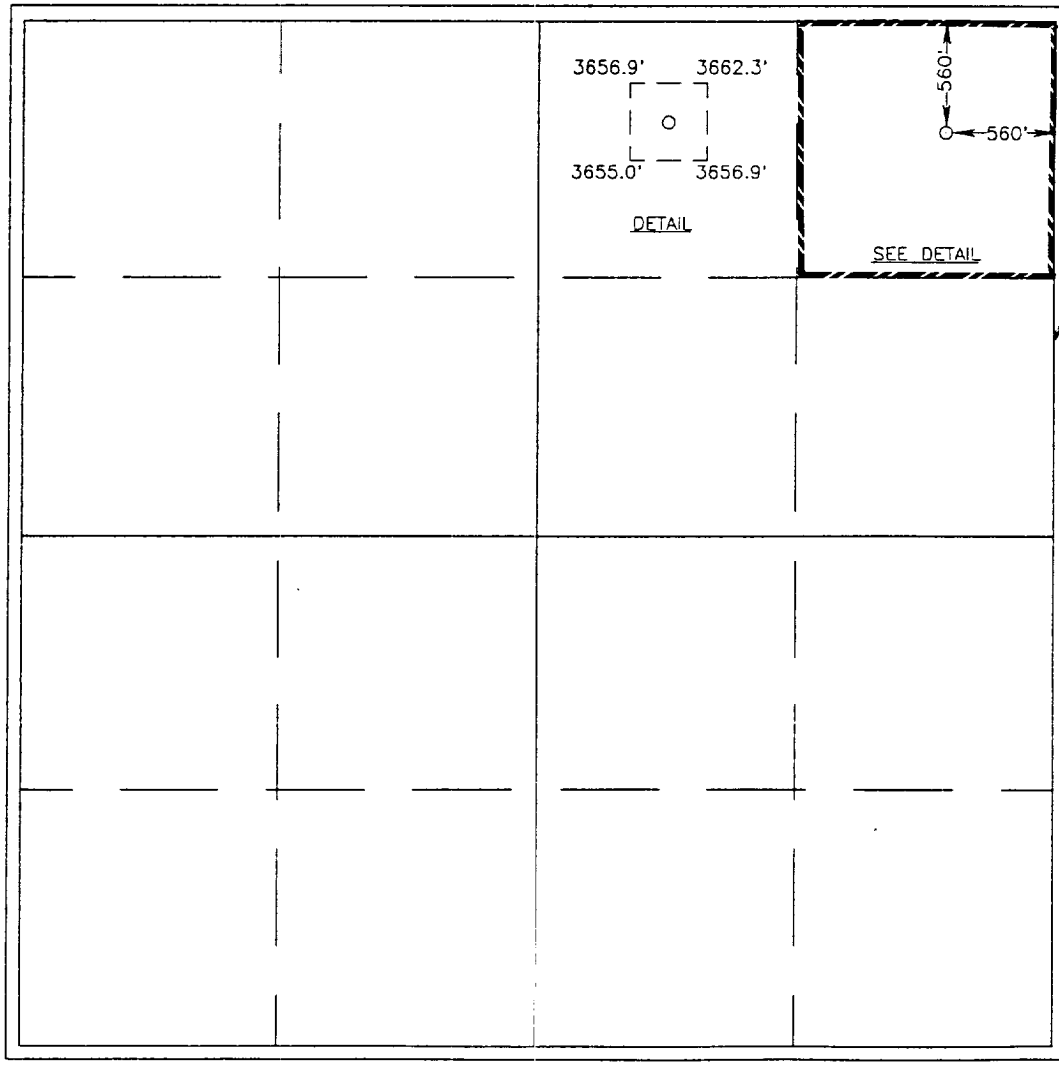
UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
A	20	23 S	32 E		560	NORTH	560	EAST	LEA

Bottom Hole Location If Different From Surface

UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County

Dedicated Acres	Joint or Infill	Consolidation Code	Order No.
40			

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



OPERATOR CERTIFICATION

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

Joe T. Janica
Signature

Joe T. Janica
Printed Name

Agent
Title

08/24/99
Date

SURVEYOR CERTIFICATION

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

AUGUST 20, 1999
Date Surveyed

DMCC

Signature & Seal of Professional Surveyor

RONALD J. EIDSON
NEW MEXICO
3239
REGISTERED PROFESSIONAL SURVEYOR

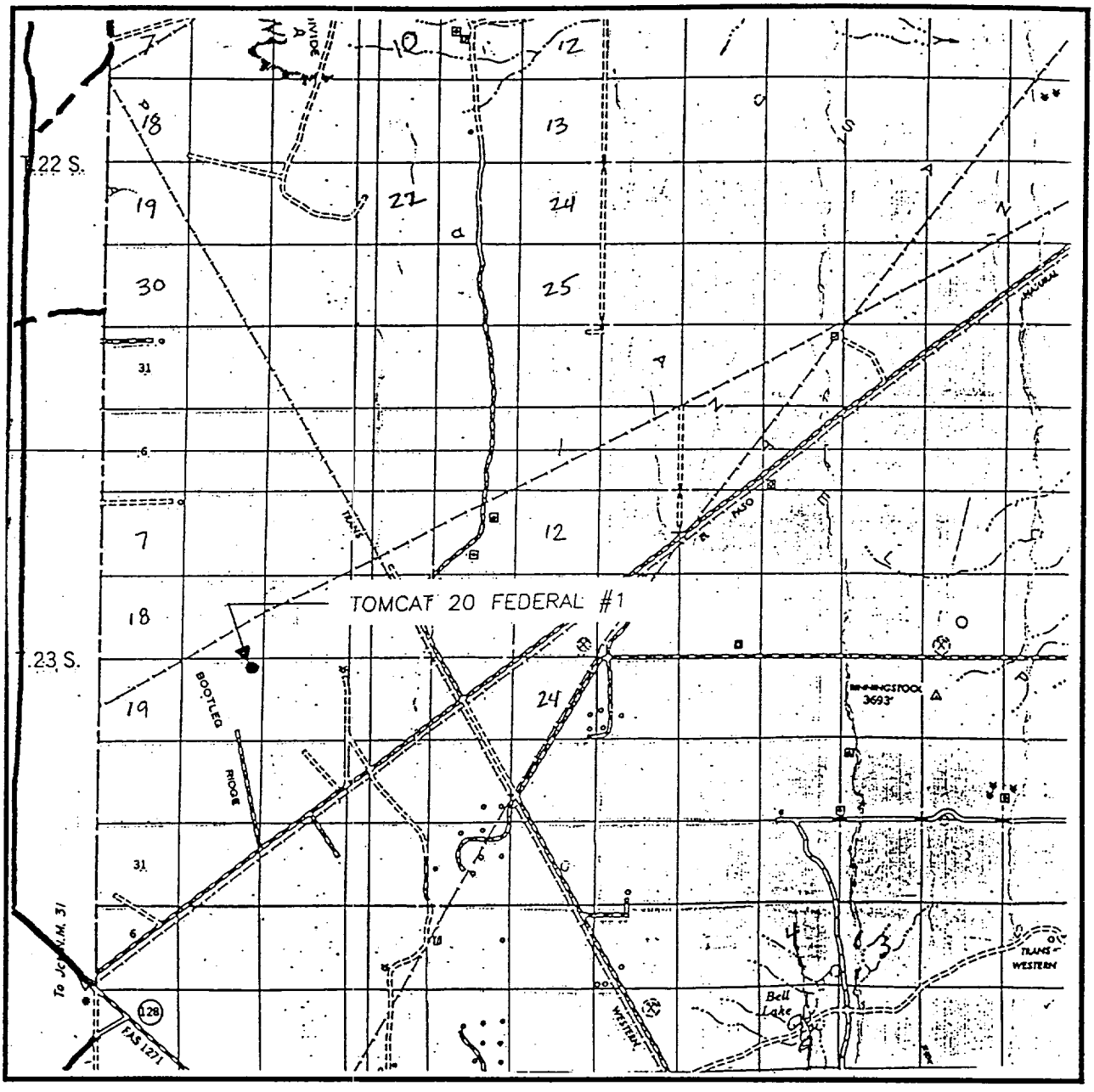
8-23-99

99-11-0682

Certificate No. RONALD J. EIDSON 3239
GARY L. EIDSON 12641
JOHN W. MCDONALD 12185

EXHIBIT "A"

VICINITY MAP



SCALE: 1" = 2 MILES

SEC. 20 TWP. 23-S RGE. 32-E

SURVEY N.M.P.M.

COUNTY LEA

DESCRIPTION 560' FNL & 560' FEL

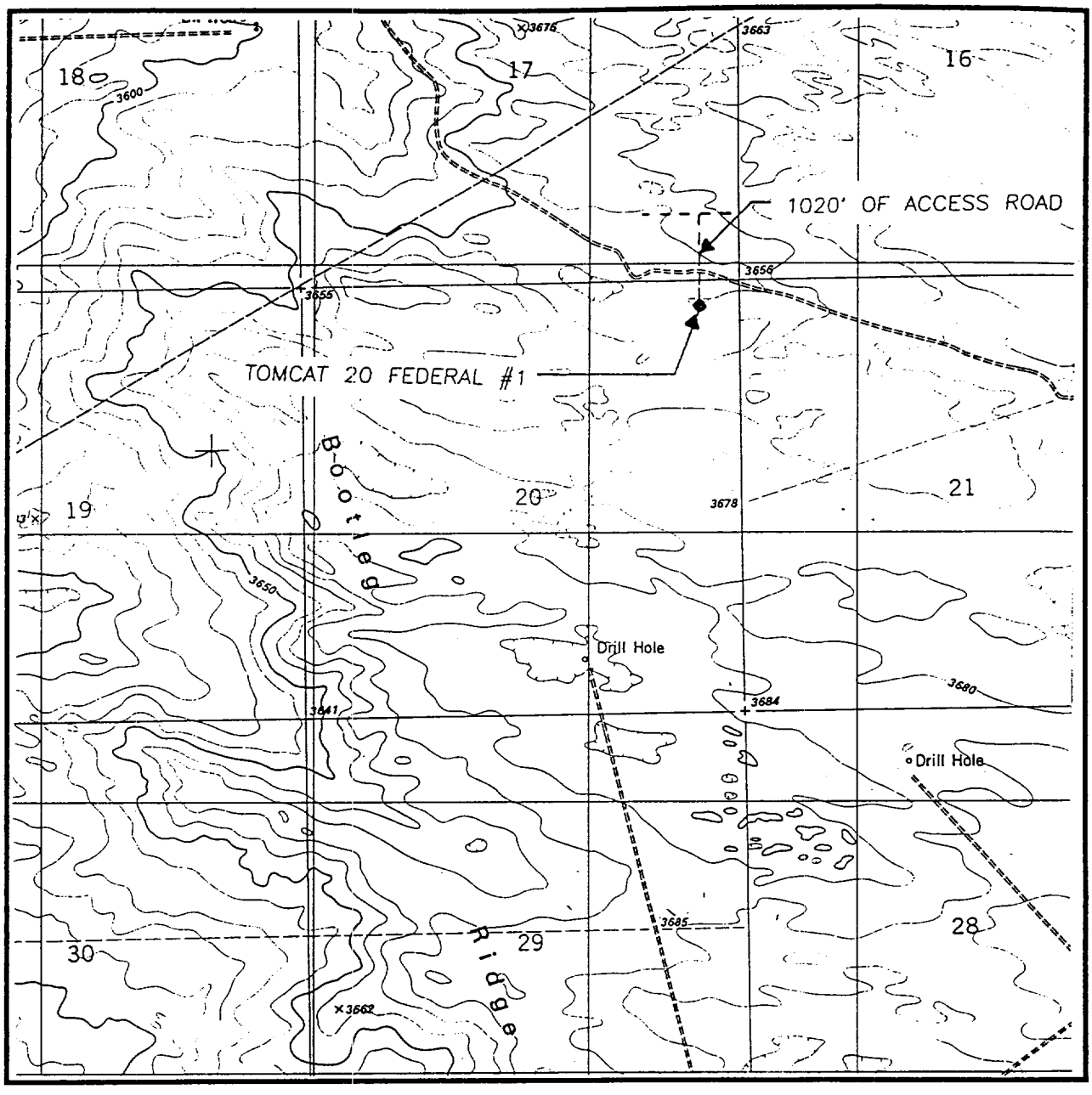
ELEVATION 3657

OPERATOR CONCHO RESOURCES INC.

LEASE TOMCAT 20 FEDERAL

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

LOCATION VERIFICATION MAP



SCALE: 1" = 2000'

CONTOUR INTERVAL:
BOOTLEG RIDGE – 10'

SEC. 20 TWP. 23-S RGE. 32-E

SURVEY N.M.P.M.

COUNTY LEA

DESCRIPTION 560' FNL & 560' FEL

ELEVATION 3657

OPERATOR CONCHO RESOURCES INC.

LEASE TOMCAT 20 FEDERAL

U.S.G.S. TOPOGRAPHIC MAP
BOOTLEG RIDGE, N.M.

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

APPLICATION TO DRILL

CONCHO RESOURCES, INC.
TOMCAT "20" FEDERAL # 1
UNIT "A" SEC. 20
T23S-R32E LEA CO. NM

In response to questions asked under Section II of Bulletin NTL-6 the following information on the above well is provided for your consideration.

1. Location:

2. Elevation above Sea Level:

3. Geologic name of surface formation: Quaternery Aeolian Deposits.

4. Drilling tools and associated equipment: Conventional rotary drilling rig using drilling mud as a circulating medium for solids removal from hole.

5. Proposed drilling depth: 9100'

6. Estimated tops of geological markers:

Lamar	4820'	Brushy Canyon	7359'
Bell Canyon	4850'	Bone Spring	8650'
Manzanita	5900'		

7. Possible mineral bearing formations:

Delaware	Oil
Bone Spring	Oil

8. Casing program:

Hole size	Interval	OD of casing	Weight	Thread	Collar	Grade
25"	0-40	20"	NA	NA	NA	Conductor
17½"	0-650'	13 3/8"	48#	8-R	ST&C	H-40
11"	0-4900'	8 5/8"	32#	8-R	LT&C	K-55 S-80
7 8/7"	0-9100'	5½"	15.5# 17#	8-R	LT&C	K-55

APPLICATION TO DRILL

CONCHO RESOURCES, INC.
TOMCAT "20" FEDERAL # 1
UNIT "A" SEC. 20
T23S-R32E LEA CO. NM

9. CEMENTING & SETTING DEPTH:

20"	Conductor	Drill 25" hole to 40'. Set 40' of 20" conductor Cement to surface with Redi-mix.
13 3/8"	Surface	Drill 17½" hole to 650'. Run and set 650' of 13 3/8" 48# H-40 ST&C casing. Cement with 550 Sx. of Class "C" Premium cement + additives circulate Cement to surface.
8 5/8"	Intermediate	Drill 11" hole to 4900'. Run and set 4900' of 8 5/8" K-55 & S-80 32# LT&C casing. Cement with 1400 Sx. of Premium Plus Class "C"cement + additives circulate cement or at least 200' above 13 3/8 CS.
5½"	Production	Drill 7 7/8" hole to 9100'. Run and set 9100' of 5½" K-55 17 & 15.5# LT&C casing. Cement with 550 Sx.of Class "H" cement + additives estimated top of cement 6400'.

10. PRESSURE CONTROL EQUIPMENT: Exhibit "E". A Series 900 3000 PSI working pressure B.O.P. consting of a double ram type preventor with a bag type annular preventor. The B.O.P. unit will be hydraulically operated. Exhibit "E-1". Choke manifold and closing unit. The B.O.P. will be nippled up on 13 3/8" casing and will be operated at least once each 24 hour period while drilling and blind rams will be operated when out of hole on trips. Full opening stabbing valve and upper kelly cock will be utilized. No abnormal pressure or temperature is expected while drilling.

11. PROPOSED MUD CIRCULATING SYSTEM:

Depth	Mud Wt.	Visc.	Fluid Loss	Type Mud System
40-650'	8.6-9	32-34	N/C	Fresh water system use paper to control seepage
650-4900'	10-10.1	29-34	N/C	Brine water use lime for pH control and paper to control seepage.
4900-8900'	8.4-8.5	28-34	N/C	Fresh water use Gel & paper to control seepage and clean hole.
8900-9100'	8.5-9.0	32-34	10-15 cc or less	Fersh water with Gel/Pac Clean hole with high viscosity sweeps.

Sufficient mud materials will be kept on location at all times in order to combat lost circulation, or unexpected kicks. In order to run DST's, open hole logs, and casing the viscosity and/or water loss may have to be adjusted to meet these needs.

12. Testing, Logging and Coring Program:

A. Open hole lags will be run. Dual Induction , Density, compensated Neutron, Gamma Ray, Caliper. from TD to 4900'. Neutron Gamma Ray from 4900' to surface.

B. Two man mud logging unit will be on hole from 4700' to TD.

C. Side wall cores may be taken at the request of Geologist.

13. Potential Hazards:

No abnormal pressures or temperatures are expected. Hydrogen Sulfide gas may be encountered, H_2S detectors will be in place to detect any presence. No lost circulation is expected to occur. All personnel will be familiar with all aspects of safe operation of equipment being used. Estimated BHP 4500 PSI, estimated BHT 170° .

14. Anticipated Starting Date and Duration of Operation:

Road and location construction will begin after BLM approval of APD. Anticipated spud date as soon as approved. Drilling expected to take 30 days. If production casing is run an additional 30 days will be required to complete and construct surface facilities.

15. Other Facets of Operations:

After running casing, cased hole gamma ray neutron collar logs will be run from total depth over possible pay intervals. The Bone Spring pay will be perforated and stimulated. The well will be swab tested and potentialed as an Oil well.

HYDROGEN SULFIDE DRILLING OPERATIONS PLAN

1. All Company and Contract personnel admitted on location must be trained by a qualified H_2S safety instructor to the following:

   A. Characteristics of H_2S
   B. Physical effects and hazzards
   C. Proper use of safety equipment and life support systems.
   D. Principle and operation of H_2S detectors, warning system and briefing areas.
   E. Evacuation procedure, routes and first aid.
   F. Proper use of 30 minute pressure demand air pack.

2. H_2S Detection and Alarm Systems

   A. H_2S detectors and audio alarm system to be located at bell nipple, end of blooie line (mud pit) and on derrick floor or doghouse.

3. Windsock and/or wind streamers

   A. Windsock at mudpit area should be high enough to be visible.
   B. Windsock at briefing area should be high enough to be visible.
   C. There should be a windsock at entrance to location.

4. Condition Flags and Signs

   A. Warning sign on access road to location.
   B. Flags to be displayed on sign at entrance to location. Green flag, normal safe condition. Yellow flag indicates potential pressure and danger. Red flag, danger, H_2S present in dangerous concentration. Only emergency personnel admitted to location.

5. Well control equipment

   A. See exhibit "E" & "E-1"

6. Communication

   A. While working under masks chalkboards will be used for communication.
   B. Hand signals will be used where chalk board is inappropriate.
   C. Two way radio will be used to communicate off location in case of emergency help is required. In most cases cellular telephoned will be available at most drilling foreman's trailer or living quarters.

7. Drillstem Testing

   A. Exhausts will be watered.
   B. Flare line will be equipped with an electric ignitor or a propane pilot light in case gas reaches the surface.
   C. If the location is near to a dwelling a closed DST will be performed.

8. Drilling contractor supervisor will be required to be familiar with the effects H_2S has on tubular goods and other mechanical equipment.

9. If H_2S is encountered, mud system will be altered if necessary to maintain control of formation. A mud gas seperator will be brought into service along with H_2S scavengers if necessary.

SURFACE USE PLAN

CONCHO RESOURCES, INC.
TOMCAT "20" FEDERAL # 1
UNIT "A" SEC. 20
T23S-R32E LEA CO. NM

1. EXISTING ROADS: Area maps, Exhibit "B" is a reproduction of a County General Highway Map. Exhibit "C" is a reproduction of a USGS Topographic Map, showing existing roads and proposed roads. All existing roads will be maintained in a condition equal to or better than current conditions. Any new roads will be constructed to BLM specifications.

A. Exhibit "A" shows the proposed well site as staked.

B. From junction of Hi-way 8 < 128 in Jal New Mexico go North-West on New Mexico Hi-way 128 for 32 miles turn right on to Elpaso Pipeline road go 3.8 miles. Turn left and follow lease road 1.5 miles turn left go .5 miles turn South go 1000' to location.

C. Lay necessary Pipelines and construct required Powerlines that will be necessary to deliver produced fluids to a central collection point on this lease for sale to purchasers. These Pipelines & Powerlines will be laid along existing road R-O-W.

2. PLANNED ACCESS ROADS: Approximately 1000' of new road will be constructed.

A. The access road will be crowned and ditched to a 12'00" wide travel surface with a 40' right-of-way.

B. Gradient on all roads will be less than 5.00%.

C. No turnouts will be necessary.

D. If needed, road will be surfaced with a minimum of 4" of caliche. This material will be obtained from a local source.

E. Centerline for the new access road has been flagged. Earthwork will be as required by field conditions.

F. Culverts in the access road will not be used. The road will be constructed to utilize low water crossings for drainage as required by the Topography.

3. LOCATION OF EXISTING WELLS IN A ONE-MILE RADIUS EXHIBIT "A-1"

A. Water wells	-	Water well in NE/4 of Sec.21 1+ mile Southeast of location.
B. Disposal wells	-	None known
C. Drilling wells	-	None Known
D. Producing wells	-	As shown on Exhibit "A-1"
E. Abandoned wells	-	As shown on Exhibit "A-1"

4. If, upon completion this well is a producer Concho Resources Inc. will furnish maps and/or plats showing on site facilities or off site facilities if needed. This will be accompanied with a Sundry Notice.

5. LOCATION AND TYPE OF WATER SUPPLY:

Water will be purchased locally from a commercial source and trucked over the access roads or piped in flexible lines laid on top of the ground.

6. SOURCE OF CONSTRUCTION MATERIAL:

If possible construction will be obtained from the excavation of drill site, if additional material is needed it will be purchased from a local source and transported over the access route as shown on Exhibit "C".

7. METHODS OF HANDLING WASTE MATERIAL:

A. Drill cuttings will be disposed of in the reserve pit.

B. All trash, junk and other waste material will be contained in trash cages or bins to prevent scattering. When the job is completed all contents will be removed and disposed of in a approved sanitary land fill.

C. Salts remaining after completion of well will be picked up by supplier including broken sacks.

D. Sewage from living quarters will drain into holes with a minium depth of 10'. These holes will be covered during drilling and will be back filled upon completion. A Ports-John will be provided for the rig crews. This equipment will be properly maintained during the drilling operations and removed upon completion of the well.

E. Remaining drilling fluids will be allowed to evaporate in the reserve pit until the pit is dry enough for breaking out. In the event that drilling fluids do not evaporate in a reasonable time they will be hauled off by transports and be disposed of at a state approved disposal facility. Later pits will be broken out to speed drying. Water produced during testing will be put in reserve pits. Any oil or condensate produced will be stored in test tanks until sold and hauled from the site.

8. ANCILLARY FACILITIES:

A. No camps or airstrips to be constructed.

9. WELL SITE LAYOUT:

A. Exhibit "D" shows the proposed well site layout.

B. This exhibit indicated proposed location of reserve and sump pits and living facilities.

C. Mud pits in the active circulating system will be steel pits & the reserve pit is proposed to be unlined unless subsurface condition encountered during pit construction indicate that lining is needed for lateral containment of fluids.

D. If needed, the reserve pit is to be lined with polyethelene. The pit liner will be 6 mils thick. Pit liner will entend a minimum of 2'00" over the reserve pits dikes where the liner will be anchored down.

E. The reserve pit will be fenced on three sides with four strands of barbed wire during drilling and completion phases. The fourth side will be fenced after all drilling operations have ceased. If the well is a producer, the reserve pit fence will be torn down. The reserve pit and those areas of the location not essential to production facilities will be reclaimed and seeded per BLM requirements.

10. PLANS FOR RESTORATION OF SURFACE:

Rehabilitation of the location and reserve pit will start in a timely manner after all drilling operations cease. The type of reclamation will depend on whether the well is a producer or a dry hole.

However, in either event, the reserve pit will be allowed to dry properly, and fluid removed and disposed of in accordance with Article 7.B as previously noted. The pit area will then be leveled and contoured to conform to the original and surrounding area. Drainage systems, if any, will be reshaped to the original configuration with provisions made to alleviate erosion. These may need to be modified in certain circumstances to prevent inundation of the location's pad and surface facilities. After the area has been shaped and contoured, topsoil from the spoil pile will be placed over the disturbed area to the extent possible. Revegetation procedures will comply with BLM standards.

If the well is a dry hole, the pad and road area will be contoured to match the existing terrain. Topsoil will be spread to the extent possible. Revegetation will comply with BLM standards.

Should the well be a producer, the previously noted procedures will apply to those areas which are not required for production facilities.

SURFACE USE PLAN

CONCHO RESOURCES, INC.
TOMCAT "20" FEDERAL # 1
UNIT "A" SEC. 20
T23S-R32E LEA CO. NM

11. OTHER INFORMATION:

A. Topography consists of sand dunes with a slight dip toward the West. Deep sandy soil supports native grasses, mesquite, and shinnery Oak.

B. Surface is owned by the Bureau of Land Management U.S. Department of Interior. Surface is used for grazing of livestock and is leased to ranchers for this purpose.

C. An archaeological survey will be conducted and copies of the survey will be filed in the Carlsbad Office of The Bureau of Land Management.

D. There are no dwellings or habitation within three miles of this location.

12. OPERATORS REPRESENTIVE:

Before construction:

TIERRA EXPLORATION INC.
P.O. BOX 2188
HOBBS, NEW MEXICO 88241
OFFICE PHONE 505-392-2112
JOE T. JANICA

During and after construction:

CONCHO RESOURCES INC.
110 WEST LOUISIANA
SUITE 410
MIDLAND, TEXAS
JIM BLOUNT 915-683-7334

13. CERTIFICATION: - I hereby 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; and that the work associated with the operations proposed herein will be performed by Concho Resources Inc, its contractors/subcontractors is in the conformity with this plan and the terms and conditions under which it is approved. This statement is subject to the provision of U.S.C. 1001 for the filing of a false statement.

NAME : Joe T. Janica
DATE : 08/24/99
TITLE : Agent

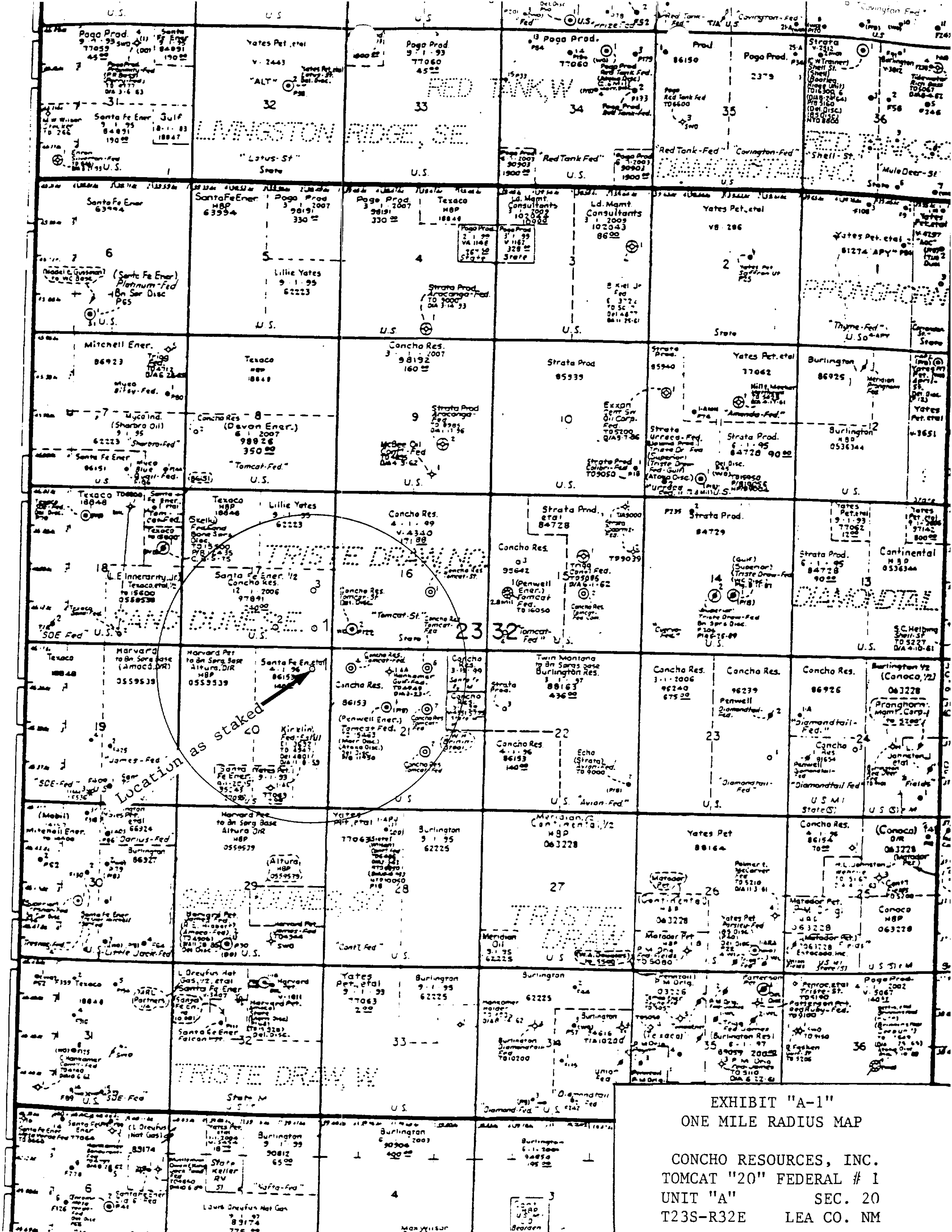


EXHIBIT "A-1"
ONE MILE RADIUS MAP

CONCHO RESOURCES, INC.
TOMCAT "20" FEDERAL # 1
UNIT "A" SEC. 20
T23S-R32E LEA CO. NM

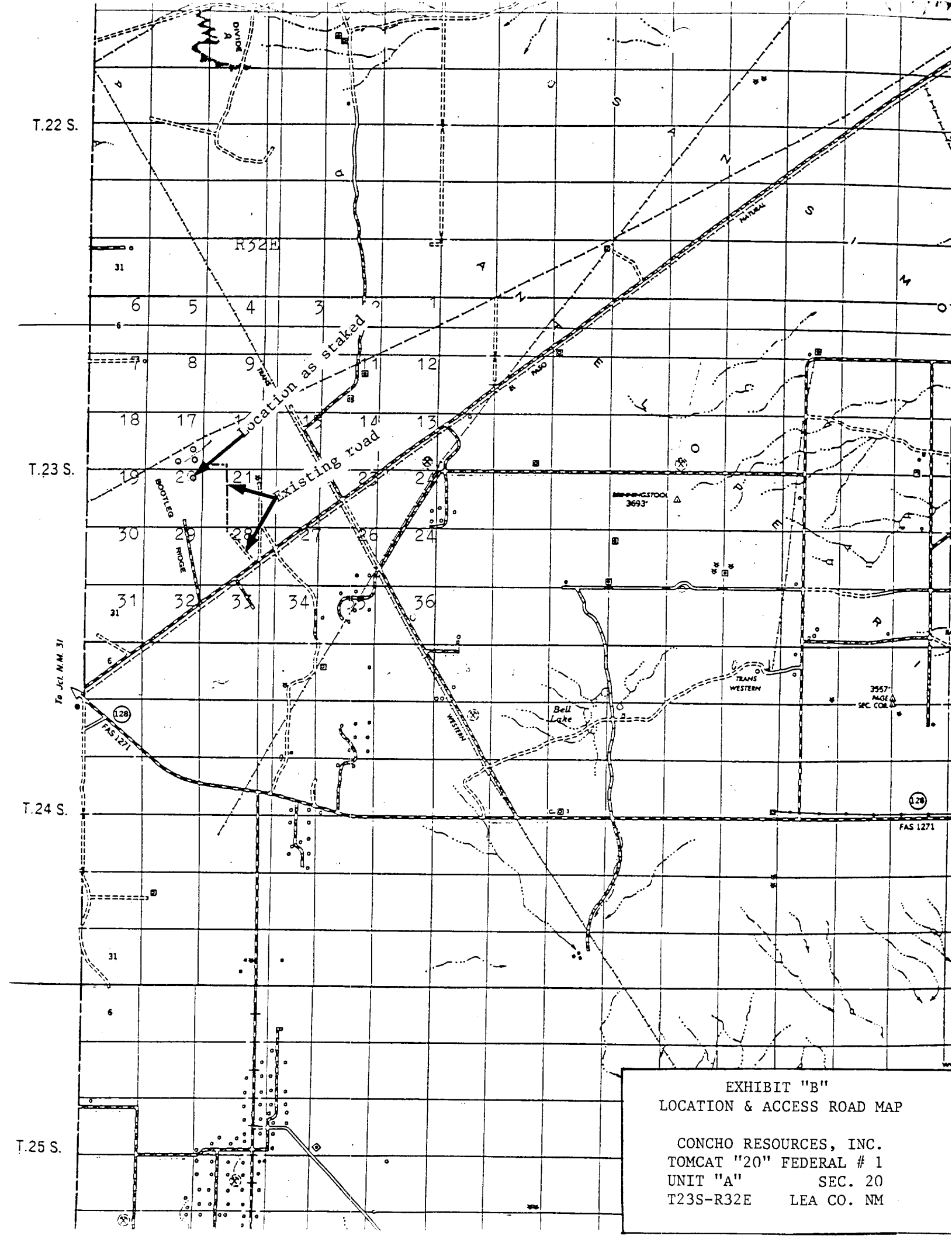
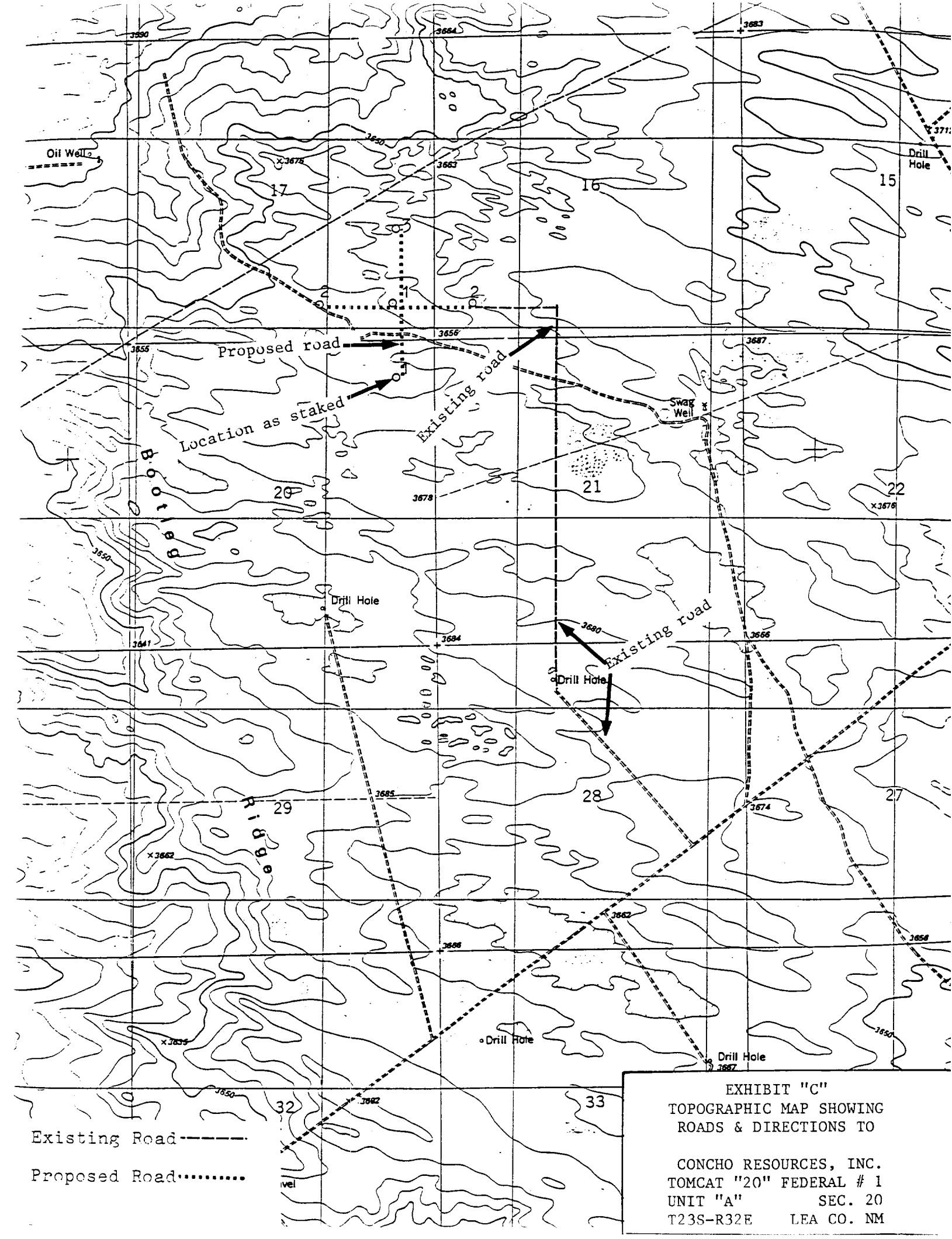


EXHIBIT "B"
LOCATION & ACCESS ROAD MAP

CONCHO RESOURCES, INC.
TOMCAT "20" FEDERAL # 1
UNIT "A" SEC. 20
T23S-R32E LEA CO. NM

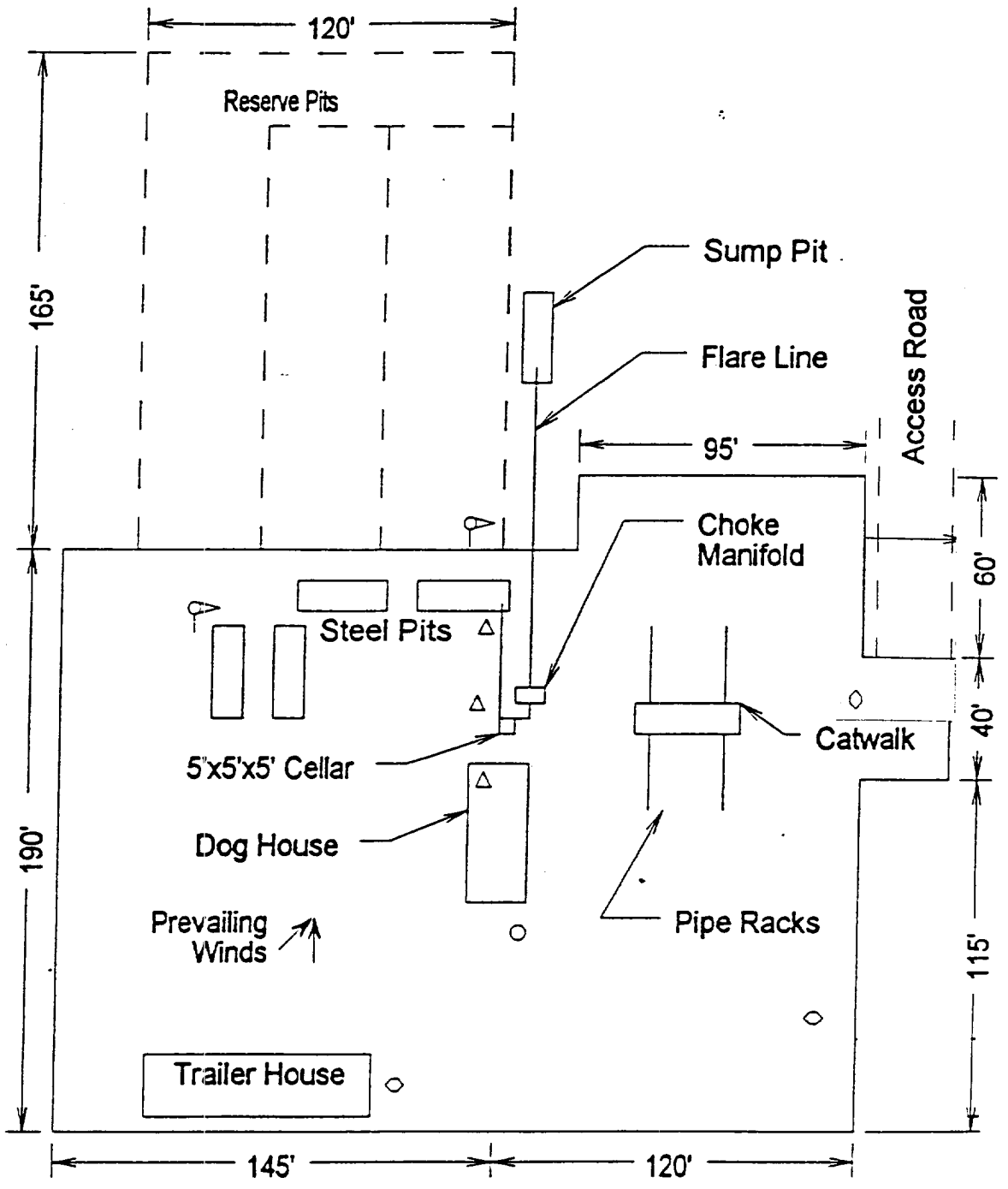


Existing Road ———

Proposed Road .....

EXHIBIT "C"
TOPOGRAPHIC MAP SHOWING
ROADS & DIRECTIONS TO

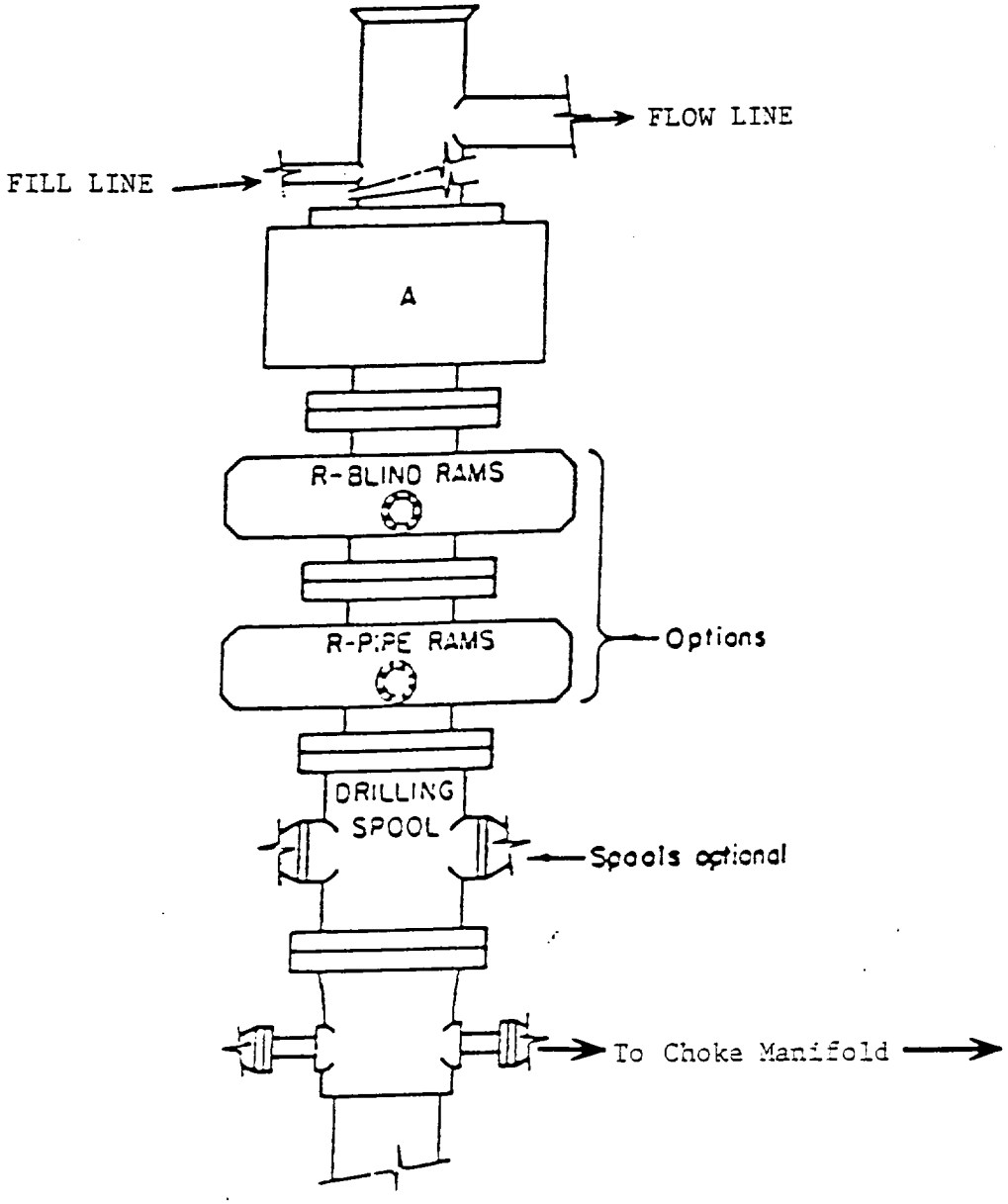
CONCHO RESOURCES, INC.
TOMCAT "20" FEDERAL # 1
UNIT "A" SEC. 20
T23S-R32E LEA CO. NM



- Wind Direction Indicators (wind sock or streamers)
- △ H2S Monitors (alarms at bell nipple and shale shaker)
- ◇ Briefing Areas
- ○ Remote BOP Closing Unit
- □ Sign and Condition Flags

EXHIBIT "D"
RIG LAYOUT PLAT

CONCHO RESOURCES, INC.
TOMCAT "20" FEDERAL # 1
UNIT "A" SEC. 20
T23S-R32E LEA CO. NM

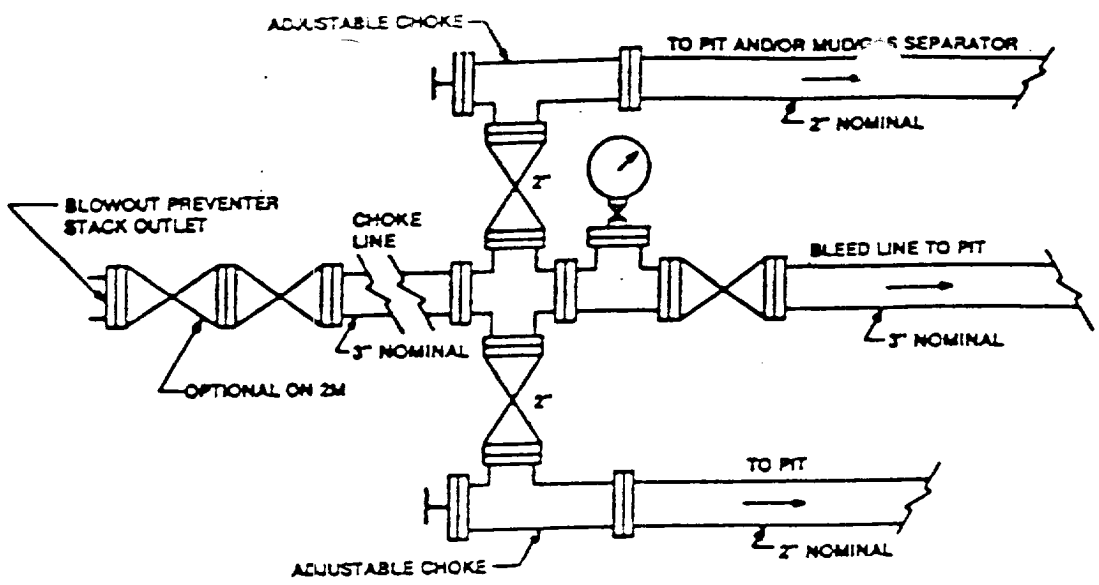


ARRANGEMENT SRRA

900 Series
3000 PSI WP

EXHIBIT "E"
SKETCH OF B.O.P. TO BE USED ON

CONCHO RESOURCES, INC.
TOMCAT "20" FEDERAL # 1
UNIT "A" SEC. 20
T23S-R32E LEA CO. NM



Typical choke manifold assembly for 3M WP system

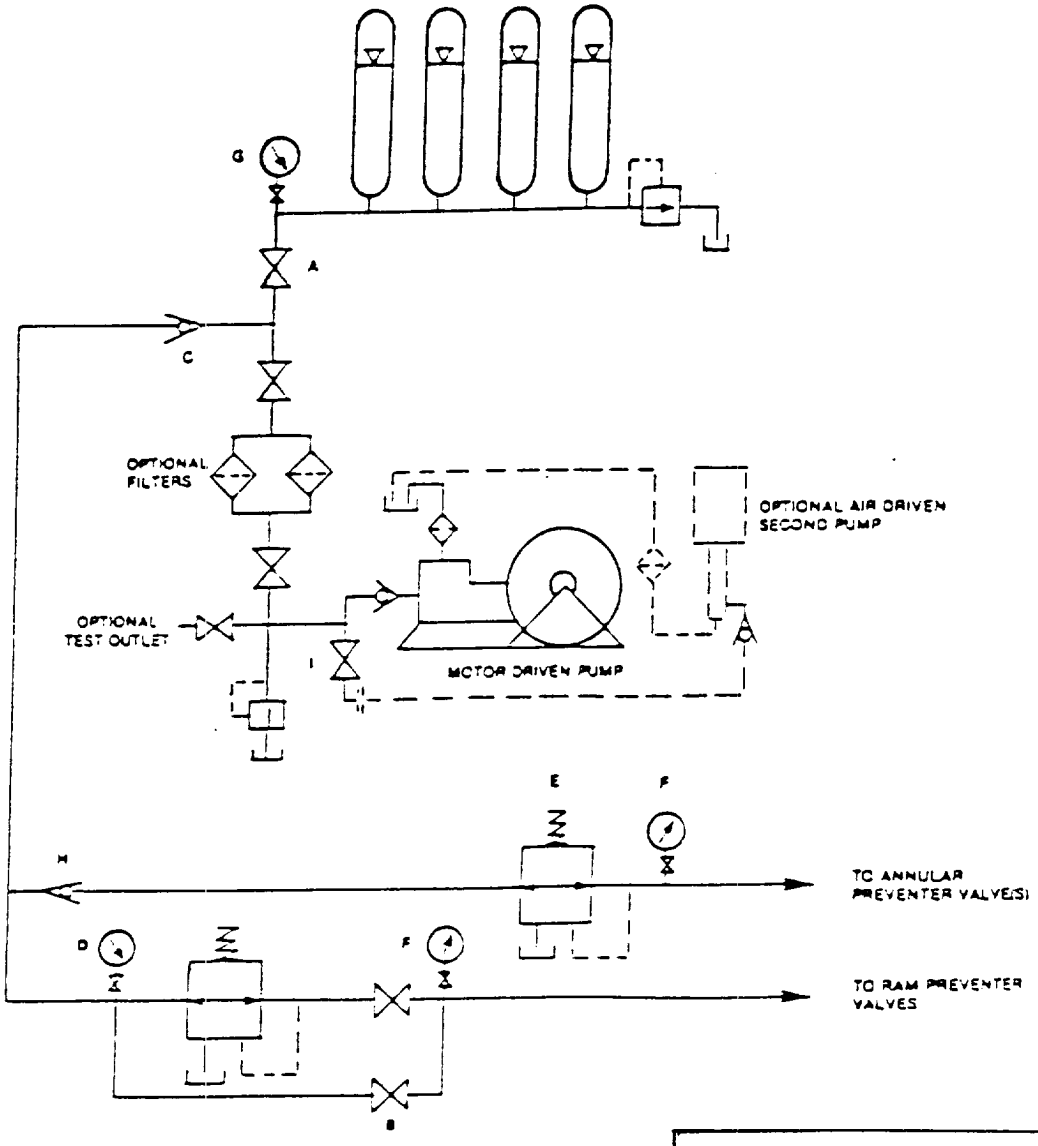


EXHIBIT "E-1"
CHOKE MANIFOLD & CLOSING UNIT

CONCHO RESOURCES, INC.
TOMCAT "20" FEDERAL # 1
UNIT "A" SEC. 20
T23S-R32E LEA CO. NM