

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

APPLICATION FOR PERMIT TO DRILL OR DEEPEN

1a. TYPE OF WORK

DRILL ☒

DEEPEN ☐

b. TYPE OF WELL

OIL WELL ☐

GAS WELL ☒

OTHER

SINGLE ZONE ☒

MULTIPLE ZONE ☐

2. NAME OF OPERATOR

CONCHO RESOURCES, INC.

(JIM BLOUNT) 915-683-7443

3. ADDRESS AND TELEPHONE NO.

110 WEST LOUISIANA SUITE 410 MIDLAND, TEXAS 79702 (915-683-7443)

4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements.)

650' FSL & 710' FWL SEC. 21 T18S-R24E EDDY CO. NM
At proposed prod. zone SAME

14. DISTANCE IN MILES AND DIRECTION FROM NEAREST TOWN OR POST OFFICE*

Approximately 15 miles Southwest of Artesia New Mexico

15. DISTANCE FROM PROPOSED*

LOCATION TO NEAREST
PROPERTY OR LEASE LINE, FT.
(Also to nearest drlg. unit line, if any)

660'

16. NO. OF ACRES IN LEASE

320

17. NO. OF ACRES ASSIGNED
TO THIS WELL

320

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

NA

19. PROPOSED DEPTH

9000'

20. ROTARY OR CABLE TOOLS

ROTARY

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

3802' GR.

22. APPROX. DATE WORK WILL START*
When Approved

PROPOSED CASING AND CEMENTING PROGRAM

SIZE OF HOLE	GRADE SIZE OF CASING	WEIGHT PER FOOT	SETTING DEPTH	QUANTITY OF CEMENT
25"	Conductor	NA	40'	Cement to surface with Redi-mix
12 1/2"	J-55 8 5/8"	24	1200'	Cement to surface with 1000 Sx.
7 7/8"	N-80, J-55 5 1/2"	17 & 15.5	9000'	300 Sx. top of cement (7250')

Cement To cover all oil, gas, water bearing zones.

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

2. Drill 12 1/2" hole to 1200'. Run and set 1200' of 8 5/8" 24# J-55 ST&C casing. Cement with 500 Sx. of Halco Light Class "C" cement + additives, tail in with 500 Sx. of Class "C" cement + additives, circulate cement to surface.

3. Drill 7 7/8" hole to 9000'. Run and set 9000' of 5 1/2" casing as follows: 1500' of 5 1/2" 17# N-80 LT&C, 6500' of 5 1/2" 15.5# J-55 LT&C, 1000' of 5 1/2" 17# N-80 LT&C casing. Cement with 150 Sx. of Class "H" Halco Light + additives, tail in with 150 Sx. of Premium Plus Class "H" cement + additives. Estimate top of cement AND'.

Notify OCD at SPUD & TIME

to witness cementing the

8 3/8"

casing.

APPROVAL SUBMIT
GENERAL REQUIREMENT
SPECIAL STIPULATION

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

Joe T. Januca

TITLE

Agent

DATE

05/30/00

(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:

Assistant Field Manager
Lands And Minerals

APPROVED BY

TITLE

DATE

*See Instructions On Reverse Side

APPROVED FOR 1 YEAR

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

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

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

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 70480	Pool Name ANTELOPE SINK NORTH-MORROW
Property Code	Property Name SOUTHERN CROSS "21" FED. COM.	Well Number 1
OGRID No. 166111	Operator Name CONCHO RESOURCES, INC.	Elevation 3802

Surface Location

UL or lot No. M	Section 21	Township 18 S	Range 24 E	Lot Idn	Feet from the 660	North/South line SOUTH	Feet from the 710	East/West line WEST	County EDDY
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Bottom Hole Location If Different From Surface

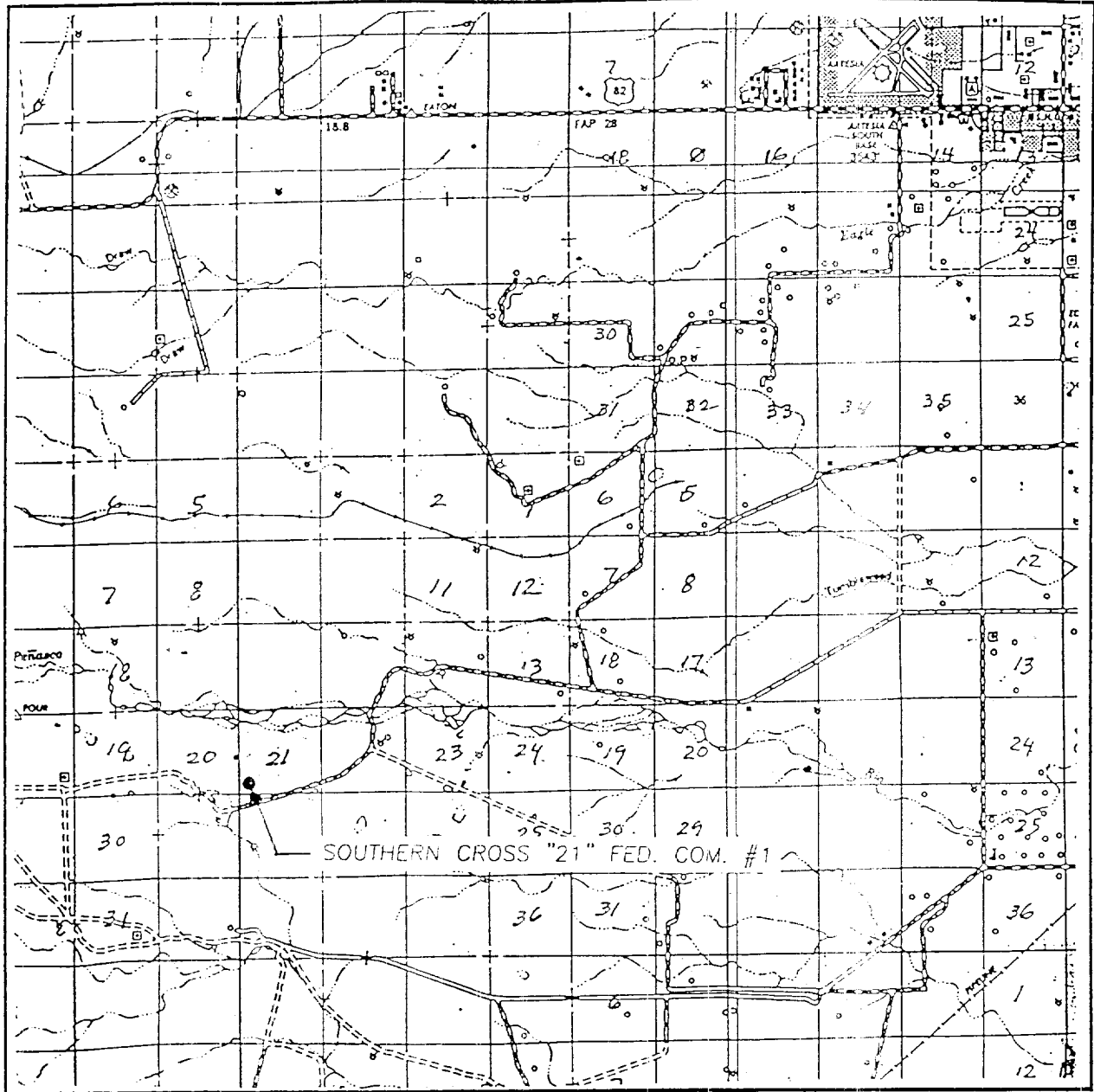
UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
Dedicated Acres 320	Joint or Infill	Consolidation Code	Order No.						

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 contained herein is true and complete to the best of my knowledge and belief. Signature Joe T. Janica Printed Name Agent Title 05/30/00 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 supervision and that the same is true and correct to the best of my belief. MAY 9, 2000 Date Surveyed Signature & Seal of Professional Surveyor Certificate No. RONALD T. EDSON 3239 GARY EDSON 12641 MACON McDONALD 12185	

EXHIBIT "A"

VICINITY MAP



SCALE 1" = 2 MILES

SEC. 21 TWP. 18-S RGE. 24-E

SURVEY N.M.P.M.

COUNTY EDDY

DESCRIPTION 660' FS. & 710' FWL

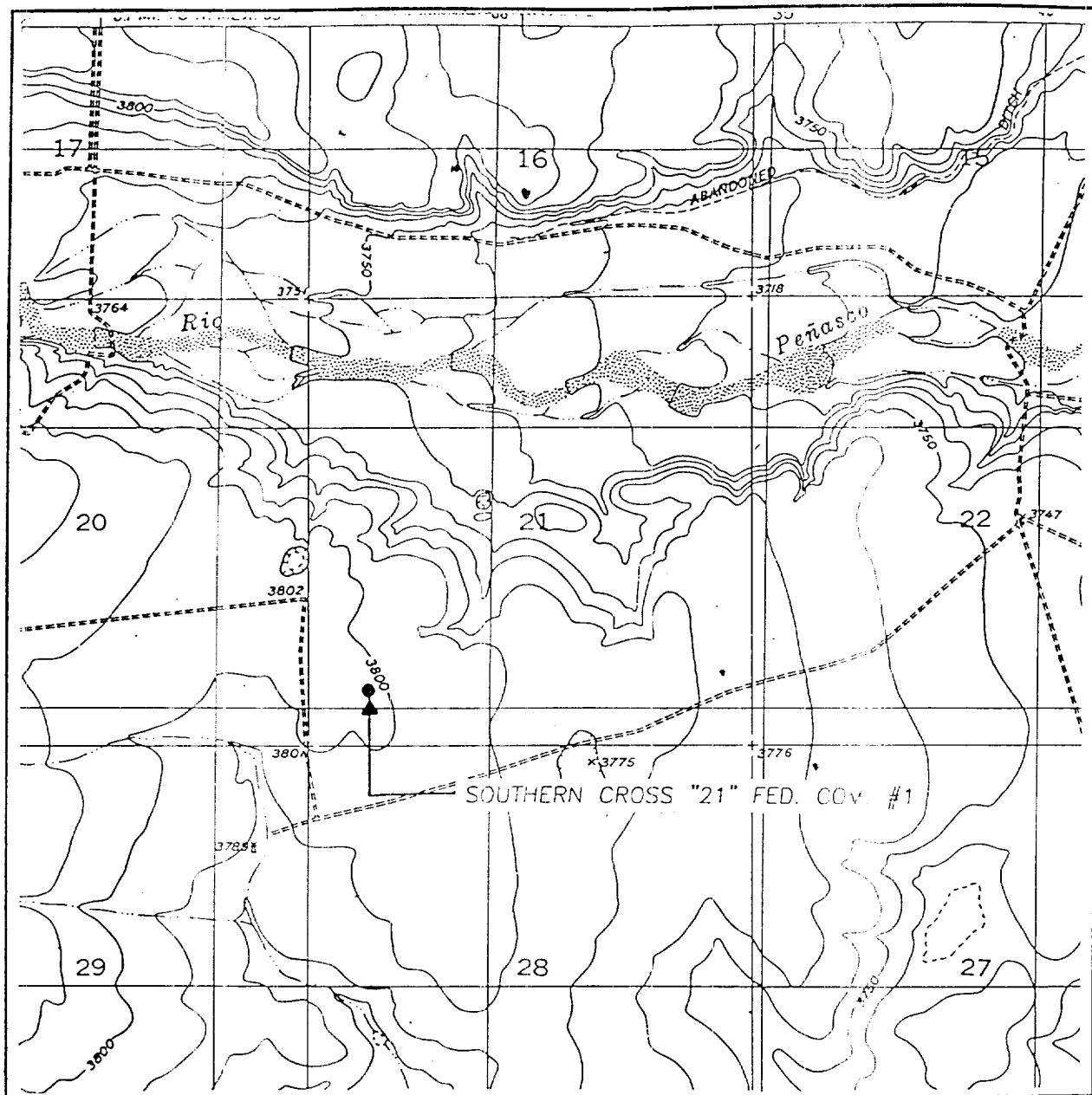
ELEVATION 3802

OPERATOR CONCHO RESOURCES, INC.

LEASE SOUTHERN CROSS "21" FED. COM.

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

LOCATION VERIFICATION MAP



SCALE: 1" = 2000'

CONTOUR INTERVAL:
PARISH RANCH - 10'

SEC. 21 TWP. 18-S RGE. 24-E

SURVEY N.M.P.M.

COUNTY EDDY

DESCRIPTION 660' FSL & 710' FWL

ELEVATION 3802

OPERATOR CONCHO RESOURCES, INC.

LEASE SOUTHERN CROSS "21" FED. COM.

U.S.G.S. TOPOGRAPHIC MAP

PARISH RANCH, N.M.

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

CONCHO RESOURCES, INC.
SOUTHERN CROSS "21" FEDERAL # 1
UNIT "M" SECTION 21
T18S-R24E EDDY CO. NM

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

1. Location: 660' FSL & 710' FWL SEC. 21 T18S-R24E EDDY CO. NM
2. Elevation above Sea Level: 3802' GR.
3. Geologic name of surface formation: Quaternary 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: 9000'
6. Estimated tops of geological markers:

Abo	3800'	Atoka	8100'
Wolfcamp	5000'	Mississippian	8400'
Cisco	6250'		
7. Possible mineral bearing formations:

Cisco	Gas	Mississippian	Gas
Atoka	Gas		
8. Casing program:

Hole size	Interval	OD of casing	Weight	Thread	Collar	Grade
25"	0-40	20"	NA	NA	NA	Conductor
12½"	0-1200'	8 5/8"	24	8-R	ST&C	J-55
7 7/8"	0-9000'	5½"	15.5 & 17	8-R	LT&C	N-80 J-55

CONCHO RESOURCES, INC.
SOUTHERN CROSS "21" FEDERAL # 1
UNIT "M" SECTION 21
T18S-R24E EDDY CO. NM

9. Cementing and Setting Depth:

20"	Conductor	Set 40' of 20" conductor pipe and cement to surface with Redi-mix.
8 5/8"	Surface	Set 1200' of 8 5/8" 24# J-55 S&C casing. Cement with 500 Sx. of Halco Light Class "C" cement + additives, tail in with 500 Sx. of Class "C" cement + 2% CaCl, + 1/2# flocele/Sx. Circulate cement to surface.
5 1/2"	Production	Set 9000' of 5 1/2" casing as follows: 1500' of 5 1/2" 17# N-80 LT&C, 6500' of 5 1/2" 15.5# J-55 LT&C, 1000' of 5 1/2" 17# N-80 LT&C casing. Cement with 150 Sx. of Class "H" Halco Light + additives, tail in with 150 Sx. of Premium Plus Class "H" cement + additives, Estimate top of cement 7250' from surface.

10. Pressure Control Equipment: Exhibit "E". A 900 Series 3000 PSI working pressure B.O.P. consisting of a double ram type preventor with a bag type annular preventor. BOP un-t will be hydraulically operated. Exhibit "E-1". Choke manifold and closing unit. BOP will be nipped up on 8 5/8" casing and will be operated at least once each 24 Hr. period while drilling and blind rams will be operated when out of hole during trips. Flow sensor, PVT, 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
40-1200'	8.6-8.8	29-34	NC	Fresh water spud mud add paper to control seepage, and fresh Gel for viscosity control.
1200-5000'	8.4-8.5	28-29	NC	Fresh water
5000-7750'	9.0-9.2	30-35	NC	Cut brine
7750-8290'	9.2-9.5	30-35	8-12 cc or less	Cut brine
8290-9000'	9.2-9.5	30-35	8 cc or less	Driscap/Starch

Sufficient mud materials to maintain mud properties, meet lost circulation and weight increase requirements will be kept at well site at all times. In order to log well and run casing the viscosity may have to be raised and the water loss lowered in order to do so.

CONCHO RESOURCES, INC.
SOUTHERN CROSS "21" FEDERAL # 1
UNIT "M" SECTION 21
T18S-R24E EDDY CO. NM

12. Testing, Logging and Coring Program:

- A. Open hole logs: Gamma Ray, Caliper, Neutron Density, Laterolog-MSFL, Sonic from TD to 1200'. Bring Gamma Ray, Neutron back to surface.
- B. Mud logger will be on hole from 3500' to TD.
- C. Sidewall cores will be taken at the Geologists discretion.
- D. Two DST's may be taken one in the Cisco and one in the Morrow and others if shows dictate.

13. Potential Hazards:

No abnormal pressures or temperatures are expected. Hydrogen Sulfide gas may be encountered, H₂S 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 4000 PSI, estimated BHT 140°.

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 25 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 MORROW pay will be perforated and stimulated. The well will be swab tested and potentialized as a gas well.

HYDROGEN SULFIDE DRILLING OPERATIONS PLAN

1. All Company and Contract personnel admitted on location must be trained by a qualified H₂S safety instructor to the following:
 - A. Characteristics of H₂S
 - B. Physical effects and hazards
 - C. Proper use of safety equipment and life support systems.
 - D. Principle and operation of H₂S detectors, warning system and briefing areas.
 - E. Evacuation procedure, routes and first aid.
 - F. Proper use of 30 minute pressure demand air pack.
2. H₂S Detection and Alarm Systems
 - A. H₂S detectors and audio alarm system to be located at bell nipple, end of blooie line (mud pit) and on derrick floor or doghouse.
3. Windsack and/or wind streamers
 - A. Windsack at mudpit area should be high enough to be visible.
 - B. Windsack at briefing area should be high enough to be visible.
 - C. There should be a windsack 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, H₂S present in dangerous concentration. Only emergency personnel admitted to location.
5. Well control equipment
 - A. See exhibit "E"
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 location is near any dwelling a closed D.S.T. will be performed.

HYDROGEN SULFIDE DRILLING OPERATIONS PLAN

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 separator will be brought into service along with H_2S scavengers if necessary.

SURFACE USE PLAN

CONCHO RESOURCES, INC.
SOUTHERN CROSS "21" FEDERAL # 1
UNIT "M" SECTION 21
T18S-R24E EDDY CO. NM

1. EXISTING ROADS. Area map, Exhibit "B" is a reproduction of the New Mexico General Hi-way Co. Map. Exhibit "C" is a reproduction of a topographic map. Existing roads and proposed roads are shown on each exhibit. All roads will be maintained in a condition equal to or better than of construction.
 - A. Exhibit "A" shows the proposed well site as staked.
 - B. From the junction of U.S. Hi-way 82 and U.S. Hi-way 285 in Artesia New Mexico go South 6 miles to Co. Road 39 (Four Dinkus Road) turn West go 7.4 miles turn South (Left) go 1 mile turn Southwest go 2± miles turn Right and follow road to location.
2. PLANNED ACCESS ROADS : No new road will be required upgrade current road.
 - A. The access road will be crowned and ditched to a 12'00" wide travel surface with 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 - One approximately .5 miles Southwest 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"

CONCHO RESOURCES, INC.
SOUTHERN CROSS "21" FEDERAL # 1
UNIT "M" SECTION 21
T18S-R24E EDDY CO. NM

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 minimum 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. ANCELLARY FACILITIES:
 - A. No camps or airstrips to be constructed.

CONCHO RESOURCES, INC.
SOUTHERN CROSS "21" FEDERAL # 1
UNIT "M" SECTION 21
T18S-R24E EDDY CO. NM

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 extend a minimum 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 7.3 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.

CONCHO RESOURCES, INC.
SOUTHERN CROSS "21" FEDERAL # 1
UNIT "M" SECTION 21
T18S-R24E EDDY CO. NM

11. OTHER INFORMATION:

- A. Topography consists of rolling plains with limestone and caliche hills, Drainage is toward Dog Canyon. Vegetation consists of mesquite, snakeweed javelina bush, cholla, acacia, tarbush and other native grasses.
- B. The surface is owned by the Bureau of Land Management The U.S. Department of Interior, and is used by ranchers for grazing of livestock.
- C. An archaeological survey will be conducted of the location and roads. This will be submitted to the Bureau of Land Management when it is completed. There maybe a cultural survey on file with the BLM.
- D. There are no dwellings within 2 miles of location.

12. OPERATORS REPRESENTATIVE:

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:

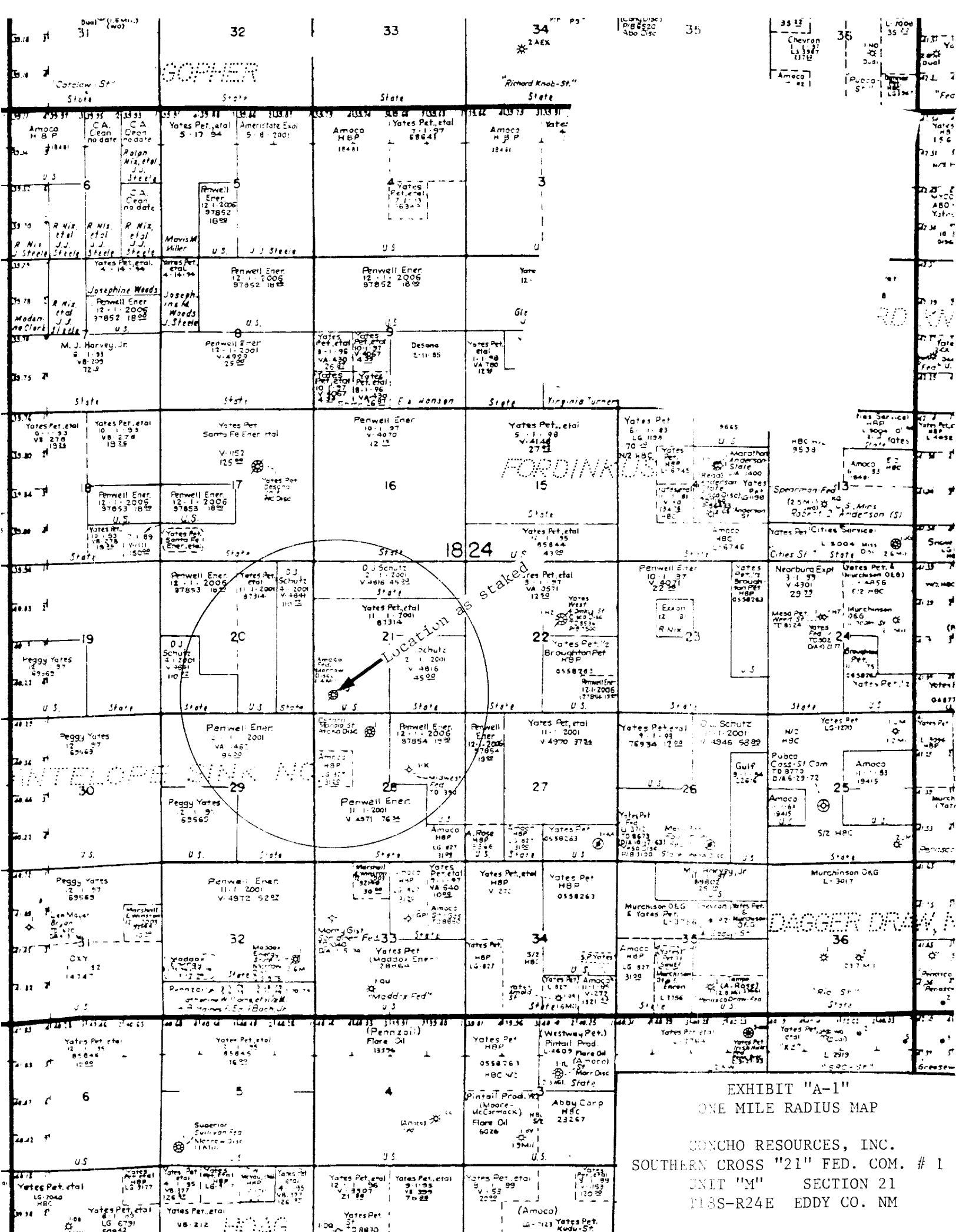
CONCHO RESOURCES, INC.
110 WEST LOUISIANA SUITE 410
MIDLAND, TEXAS 79702
OFFICE PHONE 915-688-7443
JIM BLOUNT

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. & it's 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 : 05/30/00

TITLE : Agent



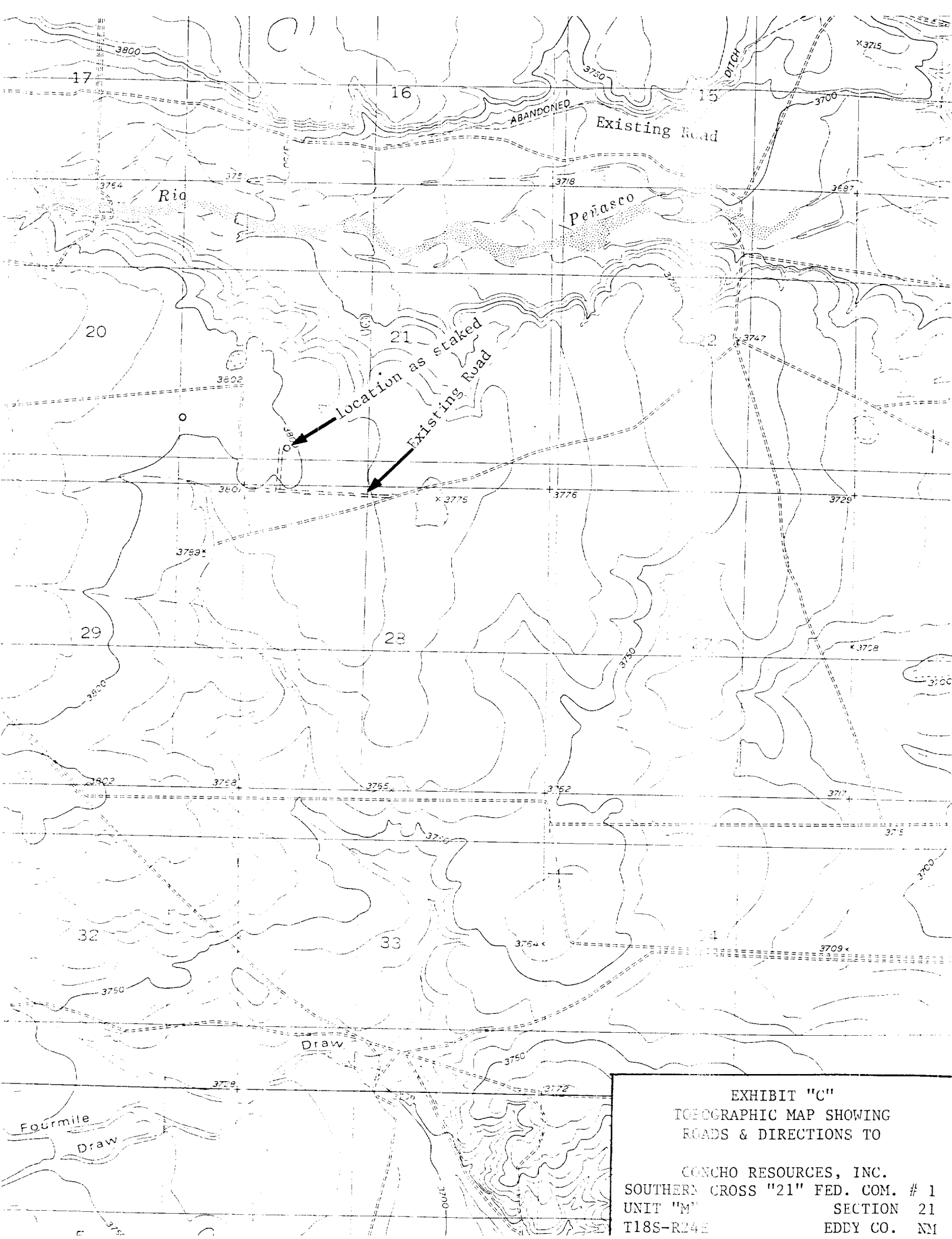
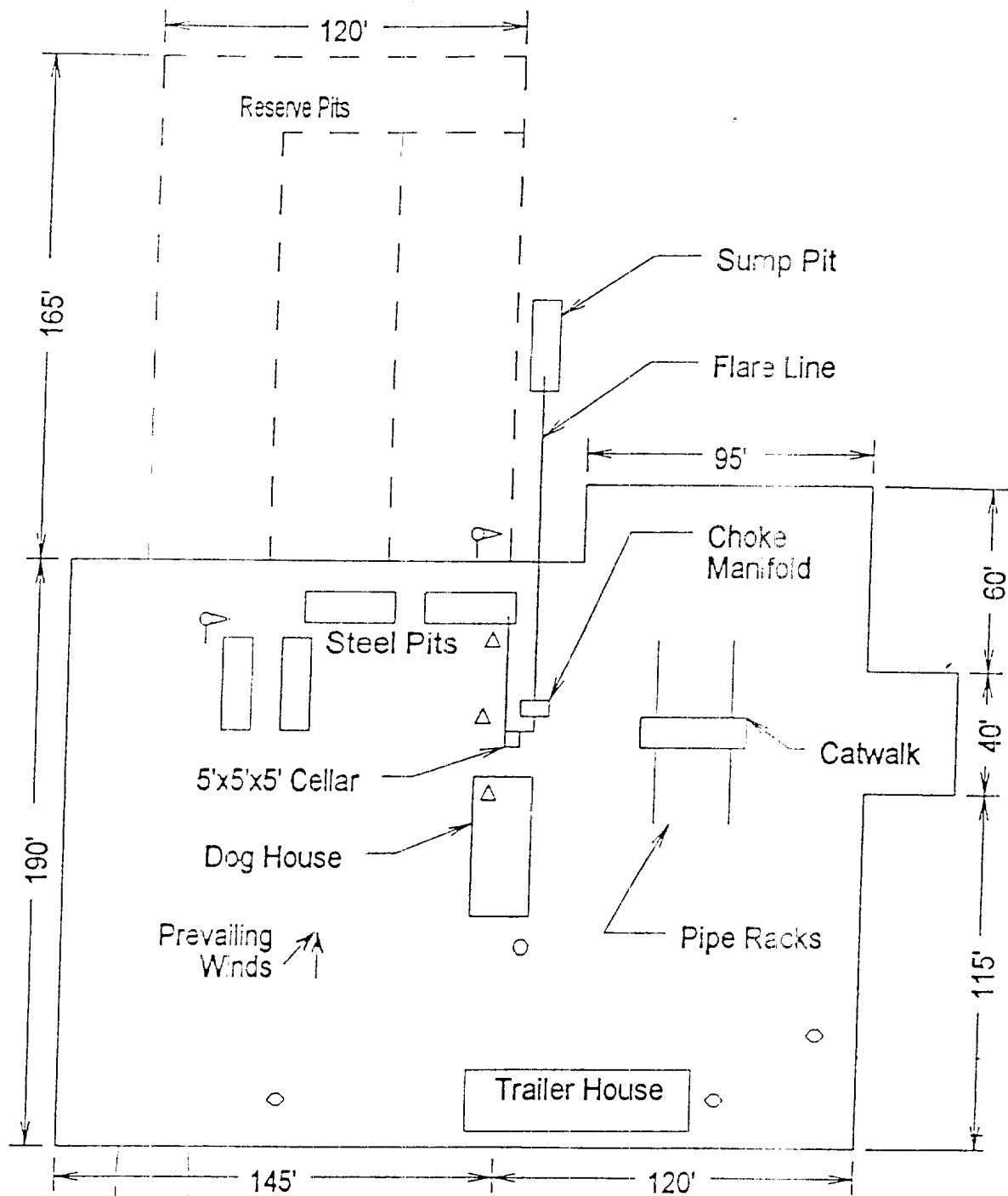


EXHIBIT "C"
TOPOGRAPHIC MAP SHOWING
ROADS & DIRECTIONS TO

CONCHO RESOURCES, INC.
SOUTHERN CROSS "21" FED. COM. # 1
UNIT "M" SECTION 21
T18S-R24E EDDY CO. NM

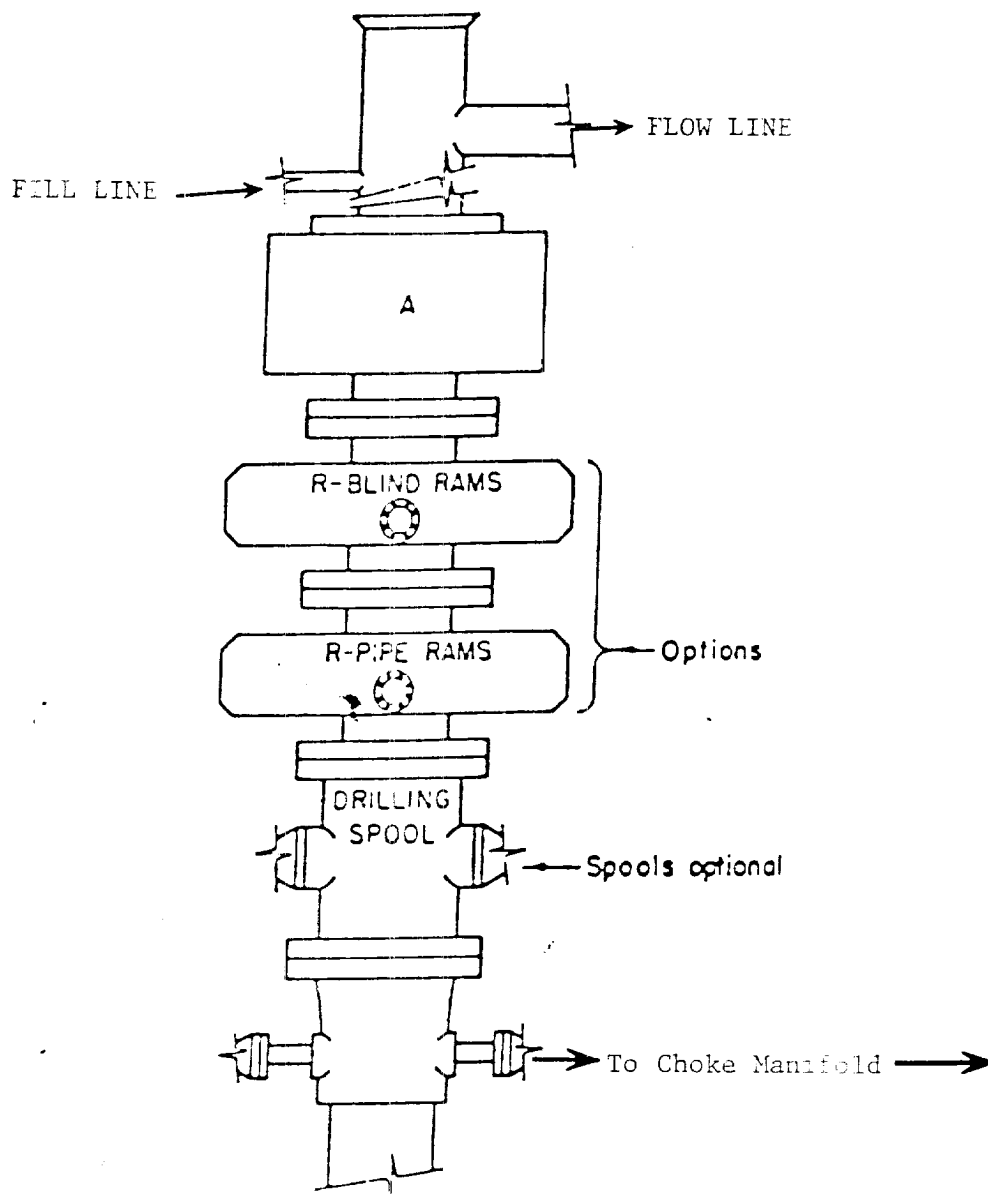


Access Road

- 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.
SOUTHERN CROSS '21" FED. COM. # 1
UNIT "N" SECTION 21
T18S-R24E EDDY CO. NM

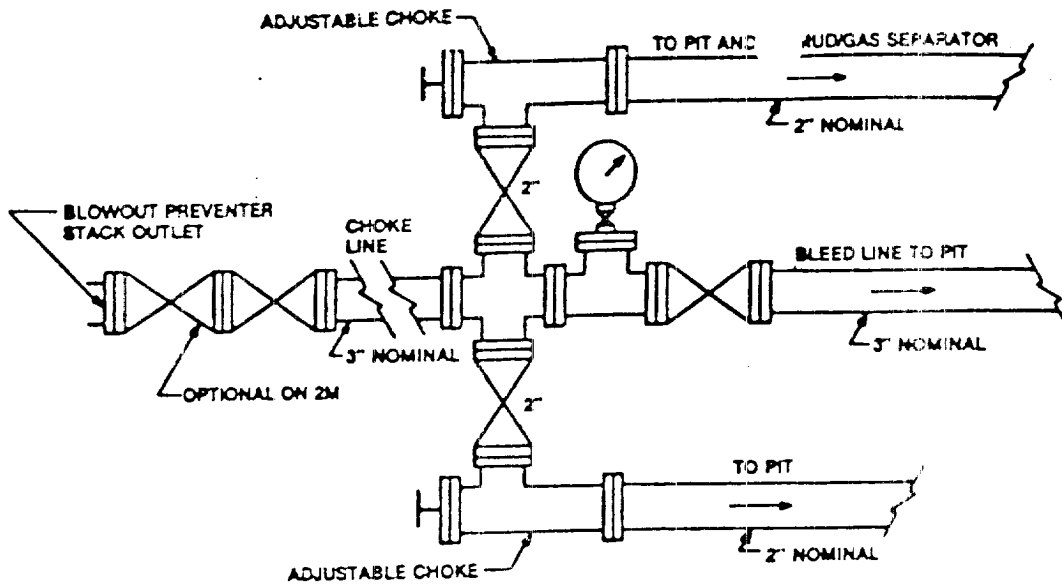


ARRANGEMENT SRRA

900 Series
3000 PSI WP

EXHIBIT "E"
SKETCH OF B.O.P. TO BEUSED ON

CONCHO RESOURCES, INC.
SOUTHERN CROSS "21" FED. COM. # 1
UNIT "M" SECTION 21
T18S-R.4E EDDY CO. NM



Typical choke manifold assembly for 3M WP system.

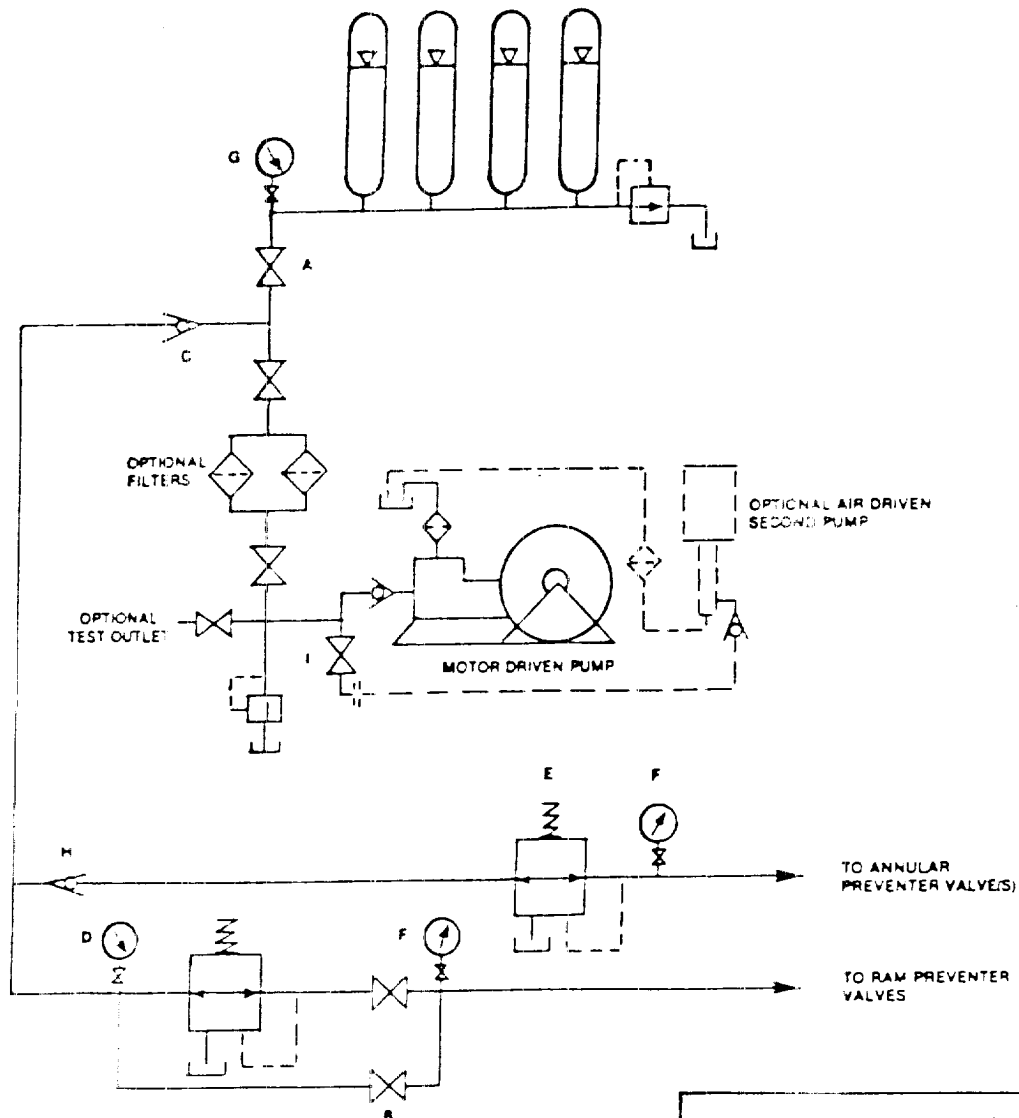


EXHIBIT "E-1"
CHOKE MANIFOLD & CLOSING UNIT

CONCHO RESOURCES, INC.
SOUTHERN CROSS "21" FED. COM. # 1
UNIT "M" SECTION 21
T18S-R24E EDDY CO. NM