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	BUREAU OF LAND MANAGEMENT						5. LEASE DEBIGNATION AND BERIAL T NM-86193		
AP 1a. TYPE OF WORK	APPLICATION FOR PERMIT TO DRILL OR DEEPEN							DIAN, ALLOT	TEE OR TRIBE N
b. TIPE OF WELL OIL WELL								ACREEMENT	NAMB
2. NAME OF OPERATOR	WELL OWNER SISGLE							R L PASE MALIE	
CONCHO RESO	CONCHO RECOURCES						S. FARM OR LEASE NAME WELL NO. TOMCAT "20" FEDERAL #		
J. ADDRESS AND TELETHONE	INO.		UNT)	915-683-7443			9. API WEL		
At surface	UISIANA SUITE 4 (Report location clearly a	nd in accordance w		XAS 79702 (915 State requirements.	<u>5-683-</u>	-7443	10. FIELD	AND POOL	352
1980' FNL & At proposed prod.	1980' FEL SEC.	20 T23S-R3	2E	LEA CO. NM		-	BB	T., H., M., OR	NE SPRING BLE. 23S-R32E
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13. DISTANCE FROM PRO LOCATION TO NEAR		OI JAI New	_				LEA CO.		NM
Also to Dearest d	LINE, FT.	1980'	10.			DF	ACRES ASS S WELL	SIGNED	1 111
TO NEAREST WELL	OFOSED LOCATION*		<u>19.</u> г	320 ROPOSED DEPTH				40	
The set was yor, on 1		1320'		9100'	20	ROTARY	OR CABLE	TOULS	
3.	nether DF. RT. GR. etc.)	3677' 0	GR.				22. APPRO	DI. DATE WO	EX WILL STAR
		PROPOSED CASE	NG AN	D CEMEN					
SIZE OF HOLE	GRADE, SIZE OF CASING	WEIGHT PER FO		CHRILDE	MD C	UNIR	OLLED	VATE	
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25"	Conductor	NA	ют	SETTING DEPTH			QUANTIT	Y OF CEMEN	1
25'' 175''	Conductor H-40 13 3/8"	<u>NA</u>	ют 	40' 1250'	Cem	ent t	0 surf	ace wir	h Redi-m
25'' 175''	<u>Conductor</u> <u>H-40 13 3/8"</u> J-55_ <u>S-80 8 5/8</u>	<u>NA</u> 48 '' 32		40' 1250' 4900'	Cem 100 140	ent t 00 Sx. 00 Sx.	surf د circu	ace wit	h Redi-m
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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

4

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 Pool Code Pool Name API Number 32 225. 53800 SAND DUNES-BONE SPRING Property Name Well Number **Property** Code TOMCAT "20" FEDERAL 4 24854 OGRID No. Operator Name Elevation CONCHO RESOURCES, INC. 3677 166111 Surface Location East/West line UL or lot No. Section Township Range Lot Idn Feet from the North/South line Feet from the County NORTH 1980 1980 EAST 23 S 32 E LEA G 20 Bottom Hole Location If Different From Surface Lot Idn Feet from the North/South line Feet from the East/West line UL or lot No. Section Township Range County Order No. Dedicated Acres Joint or Infill **Consolidation** Code 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 d herein is true and complete to the immulados and belief. of me °.

$ \begin{array}{c} 3676.3' \\ 3676.3' \\ 3679.9' \\ 3679.9' \\ 3673.5' $	Menetica Bignature Joe T. Janica Printed Name Agent Title 09/16/00 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 supervison and that the same is true and correct to the best of my behinf.
	SEPTEMBER 6, 2000 Date Surveyed Bignature & Geal of Professional Surveyor Control of Control of
	Certificate No. RONALD J. EIDSON 3239 GARY EIDSON 12641

VICINITY MAP



SEC. <u>20</u> TWP. <u>23–S</u> RGE. <u>32–E</u> SURVEY______N.M.P.M. COUNTY______LEA DESCRIPTION <u>1980' FNL & 1980' FEL</u> ELEVATION______3677 OPERATOR_<u>CONCHO_RESOURCES, IN</u>C. LEASE_____TOMCAT_"20"_FEDERAL

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

LOCATION VERIFICATION MAP



SCALE: 1" = 2000'

SEC. <u>20</u> TWP.<u>23</u>–<u>S</u> RGE. <u>32</u>–<u>E</u> SURVEY <u>N.M.P.M.</u> COUNTY <u>LEA</u> DESCRIPTION <u>1980' FNL & 1980' FEL</u> ELEVATION <u>3677</u> OPERATOR <u>CONCHO RESOURCES, INC</u>. LEASE <u>TOMCAT "20" FEDERAL</u>

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

.

CONTOUR INTERVAL: BOOTLEG RIDGE - 10'

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

APPLICATION TO DRILL

CONCHO RESOURCES, INC. TOMCAT "20" FEDERAL # 4 UNIT "G" SECTION 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: 1980' FNL & 1980' FEL SEC. 20 T235-R32E LEA CO NM

2. Elevation above Sea Level: 3677' GR.

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

- 4. <u>Drilling tools and associated equipment:</u> 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	73591
Bell Canyon	48501	Bone Spring	86501
Manzanita	5900'		

7. Possible mineral	bearing formations:
Delaware	Oil
Bone Spring	071

8. Casing program:

<u> Eole size</u>	Interval	OD of casing	Weight	Thread	Cullar	Grade
25"	0-40	20"	NA	NA	NA	Conductor
17±"	0-1250*	13 3/8"	48	8-R	ST&C	E=40
11"	0-4900'	8 5/8"	32 <i>#</i>	8-R	LT&C	K-55 S-80
7 8/7"	0-91001	5±"	15.5# 17#	8-R	LT&C	K-55

APPLICATION TO DRILL

CONCHO RESOURCES, INC. TOMCAT "20" FEDERAL # 4 UNIT "G" SECTION 20 T23S-R32E LEA CO. NM

9. <u>CEMENTING & SETTING DEPTE:</u>

20"	Conductor	Drill 25"	hole to	40'.	Set 40'	of 20"	conductor
		Cement to					

- 13 3/8" SurfaceDrill 17½" hole to 1250'. Run and set 1250' of 13 3/8" 48#H-40 ST&C casing. Cement with 750 Sx. of Halco Light, 250 Sx.
of Class "C" Premium + 2% CaCl 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.
- 5¹/₂" Production Drill 7 7/8" hole to 9100'. Run and set 9100' of 5¹/₂" K-55 17 & 15.5# LT&C casing. Cement with 550 Sx.of Class "H" cement + additives estimated top of cement 7600'.
- 10. <u>PRESSURE CONTROL FOULPMENT:</u> 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
40-1250	8.6-9	32-34	N/C	Fresh water system use paper to control seepage
1250-4900'	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.
8900-91001	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 logs 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 <u>30</u> 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 <u>Bone Spring</u> 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 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. 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, 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. All testing will be done in daylight hours.
 - B. Exhausts will be watered
 - C. Flare line will be equipped with an electric ignitor or a propane pilot light in case gas reaches the surface.
 - D. If location is near any dwelling a closed D.S.T. will be performed.

- 8. Drilling contractor supervisor will be required to be familiar with the effects H2S has on tubular goods and other mechanical equipment.
- 9. If H₂S 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 H₂S scavengers if necessary.

- 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 existed prior to start of construction.
 - A. Exhibit "A" shows the proposed developement well as staked.
 - B. From Jal New Mexico take New Mexico State Hi-way 128 West for 32 miles turn Right on to Elpaso Pipeline Road follow road 3.8 miles. turn left (Northwest) go .7 miles turn North go 1+ miles, turn West go .5 miles, turn South go .25 miles, turn West go .25 miles to location.
 - C. Lay pipelines and construct powerlines along roads and existing R-O-W's that will be required to produce this well. The route of pipelines and powerlines are shown on Exhibit "F" attached with this APD.
- 2. PLANNED ACCESS ROADS : Approximately .25 miles 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 tha 5.00%.
 - C. Turn outs along road will be constructed as 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 Lopography.
- 3. LOCATION OF EXISTING WELLS IN A ONE-MILE RADIUS EXHIBIT "A-1"

A.	Water wells -	One approximately 1.2 miles Northeast.
в.	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 this well is completed as a producer Concho Resources, Inc. will furnish maps and/or plats showing on site facilities and if necessary off site facilities. Exhibit "F" shows existing roads known pipelines & powerlines. Pipelines and powerlines necessary to produce this well will be laid and constructed along these roads and R-O-W's.

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. Sawage from living quaters 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 Porta-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 timelymanner 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 inumdation 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.

- 11. OTHER INFORMATION:
 - A. Topography consists of sand dunes with a slight dip to the West. Deep sandy soil supports Mesquite, Shinnery Oak, Sage Brush, Thin Leaf Yucca, and other native grasses.
 - B. The surface is owned by The U.S. Department of Interior, administered by The Bureau of Reclamation & The Bureau Of Land Management. Use of the land is limited livestock grazing & production of oil & gas.
 - C. An archaeological survey will be conducted and filed with the Bureau of Land Management Carlsbad Field Office.
 - D. Ther are no dwillings within one mile of 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 79702 OFFICE PHONE 915-683-7443 JIM BLOUNT

13. <u>CERTIFICATION:</u> - 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 proposedherein 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 DATE TITLE

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- 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 # 4 UNIT "G" SECTION 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 # 4 UNIT "G" SECTION 20

> > T23S-R32E

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WILL BE RELEASED CONFIDENTIAL LOGS ABOVE DATE DOES NOT INDICATE WHEN ELF 7