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	DEPARTME	NT POOL CODE_	17647	40	Expires: February 28, 1995			
		OF L.EFF. DATE	12/28/99		5. LEASE DESIGNATION AND SERIAL NO.			
			-07 5-348	17	NM-88163			
	PLICATION FOR	PEFAPINO.	-/ 15 1711		G. IF INDIAN, ALLOTTER OR TRIBE NAME			
. TYPE OF WORK  TYPE OF WELL	DRILL X	DEEPEN			7. UNIT AGEREMENT NAME			
OIL WELL NAME OF OPERAT	GAS WELL OTHER		SINGLE MULT ZONE ZONE	TIPLE	8. FARM OR LEASE NAME, WELL NO.  Avion Federal #3			
Echo Produ	uction, Inc.				ON TIEM LEV . 6			
	10, Graham, TX 76 LL (Report location clearly	and in accordance with an			10. FIELD AND POOL OF WILDCAT Triste Draw Delaware			
	1880' FSL	& 1880' FEL	-		11. SEC., T., R., M., OR BLE. AND SURVEY OR AREA			
At proposed pro-			Unit J		Sec 22 T23S R32E			
	west of Jal, New		FICE.		12. COUNTY OR PARISH 13. STATE  Lea NM			
DISTANCE FROM	PROPOSED*		NO. OF ACRES IN LEASE	17. NO. OI	Lea NM			
PROPERTY OR LE	EASE LINE, FT.	760'	480.00	то тн	40.00			
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3668 GR	w whether DF, RT, GR, etc.)	)			22. APPROX. DATE WORK WILL START*  1/1/2000			
		PROPOSED CASING	AND CEMENTING PROGR	AM	· · · · · · · · · · · · · · · · · · ·			
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\*See Instructions On Reverse Side

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

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# HOLE PROGNOSIS FORM 3160-3 APPLICATION FOR PERMIT TO DRILL ECHO PRODUCTION, INC. AVION FEDERAL WELL #3 1880' FSL & 1880' FEL SECTION 22-23S-32E LEA COUNTY, NEW MEXICO

In conjunction with Form 3160-3 Application for Permit to Drill, Echo Production, Inc. submits the following items in accordance with Onshore Oil and Gas Order Numbers 1 and 2, and all other applicable federal and state regulations.

#### 1. Geological Name of Surface Formation:

Permian

#### 2. Estimated Tops of Geologic Markers:

Rustler	1200'	Cherry Canyon	6000'
T. Lamar	4890'	Bone Spring	8880'
Delaware	4930'	T.D.	9150'

#### 3. Estimated Depths of Anticipated Fresh Water, Oil or Gas:

Surface	150'	Fresh Water
Delaware	4930'-9150'	Oil or Gas

No other formations are expected to produce oil, gas or fresh water in measurable quantities. The surface fresh water sands will be protected by setting 13 3/8" casing at 600' and circulating cement back to surface. Any shallower zones above TD that contain commercial quantities of oil and/or gas will have cement circulated across the zone.

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#### 4. Casing Program:

Hole Size	<u>Interval</u>	OD Csg	Weight, Grade, JT. Cond, Type
17 ½"	0-600'	13 3/8"	48#, H-40, ST&C
11"	0-4900'	8 5/8"	24# & 32#, J-55, S-80, LT&C
7 7/8"	0-TD	4 ½"	10.5 & 11.6#

#### 5. Cementing Program:

Surface Casing: 13 3/8" casing will be set at approximately 600' and

cemented with approximately 650 sacks of Premium Plus cement with 2% CaCl and additives. The amount may be adjusted depending upon the fluid caliper results, however, cement in sufficient

quantities to circulate will be utilized.

Intermediate Casing: 8 5/8" casing will be set at approximately 4900' and

cemented with approximately 1500 sacks of 35/65 Poz "c" with additives. The amount may be adjusted dependent upon fluid caliper results, however, cement

in sufficient quantities to circulate will be utilized.

Production Casing: If appropriate, 4 ½" casing will be set at Total Depth.

Echo will utilize cement in sufficient quantities to tie back 600' above any Delaware pay. Top of pay in #2 was ±8160. Well will be cemented w/appropriate number of sacks of 50/50 POZ 'H' w/ additives and

100 sacks of 'C' Neat.

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HOLE PROGNOSIS AVION FEDERAL #3 PAGE 3

#### 6. Minimum Specifications for Pressure Control:

The blowout preventer equipment (BOP) show in Exhibit "A" will consist of a double ram-type (3000 psi WP) preventer and a bag-type (hydril) preventer (3000 psi WP). Both units will be hydraulically operated and the ram-type preventer will be equipped with blind rams on top and 4 ½" drill pipe rams on bottom. Both BOP's will be nippled up on the 13 3/8" surface casing and used continuously until TD is reached. All BOP's and accessory equipment will be tested to 1000 psi before drilling out of surface casing. Before drilling out of intermediate casing, the ram-type BOP and accessory equipment will be tested to 3000 psi and the hydril to 70% of rated working pressure (2100 psi).

#### 7. Types and Characteristics of the Proposed Mud System:

O' to 600' Fresh water with lime, gel paper and fiber will be used for

drilling purposes. Weight 8.4 - 8.6, Vis 29-36, PH > 8.

600' to 4900' Saturated brine water purchased from commercial sources

with paper and fiber will be utilized. Weight 8.6-10.5, Vis 32-

34, Ph 10.

4900' to 9150' Brine and fresh water purchased from commercial sources

with gel and starch, 3% KCl, 20-50 PPM Nitrates, Cl 30-75,000, caustic for control and paper for seepage will be utilized. Weight 8.5 – 8.9, Vis 29-34, Ph 9-10, WL 20-50.

Sufficient mud materials to maintain mud properties and meet minimum lost circulation and weight increase requirements will be available at the well site at all times.

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HOLE PROGNOSIS AVION FEDERAL #3 PAGE 4

#### 8. Auxiliary Well Control and Monitoring Equipment:

- A. A kelly cock will be kept in the drill string at all times.
- B. A full opening drill pipe stabbing valve (inside BOP) with proper drill pipe connections will be on the rig floor at all times.

#### 9. Testing, Logging and Coring Program:

A Mudlogging unit will be on location from top of Delaware formation to TD. Mudlogging unit will be employed from approximately 5050' (Top of Delaware) to 9150' (Total Depth).

If indicated, DLL-MSFL, CNL-Density, Gamma Ray logs and Caliper logs will be run at TD. The Gamma Ray Dual Laterolog will be run from TD back to the intermediate casing. The Gamma Ray Compensated Neutron Log will be run from TD back to surface. If indicated, Echo may elect to run rotary sidewall cores from selected intervals from approximately 5050' to 9150' dependent upon logging results.

#### 10. Abnormal Conditions, Pressures, Temperatures and Potential Hazards:

No abnormal pressures or temperatures are anticipated. Anticipated bottomhole pressure is 3600# PSI.

Loss of circulation is possible in the Delaware section of the hole, however, no major loss circulation zones have been reported in offsetting wells.

Six wells have been drilled and completed in the immediate area. To date, Hydrogen Sulfide has not been encountered. However, if Hydrogen Sulfide is encountered, a Hydrogen Sulfide training and appropriate breathing apparatus is located on site. If necessary, the well can be shut in utilizing the blow out preventer and other equipment to prevent the migration of Hydrogen Sulfide to the surface.

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HOLE PROGNOSIS AVION FEDERAL #3 PAGE 5

#### 11. Anticipated Starting Date and Duration of Operations:

Road and location work will not begin until approval has been received from the BLM. The anticipated spud date is January 1, 2000. Once commenced, the drilling operation will be completed in approximately 20 days. If the well is productive, an additional 15 days will be required for completion and testing before a decision is made to install permanent facilities. In conjunction with Form 3160-3, Application for Permit to Drill, Echo Production, Inc submits the following items in accordance with Onshore Oil and Gas Order Numbers 1 and 2, and all other applicable federal and state regulations.

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# SURFACE USE AND OPERATING PLAN FORM 3160-3 APPLICATION FOR PERMIT TO DRILL ECHO PRODUCTION, INC. AVION FEDERAL WELL #3 1880' FSL & 1880' FEL SECTION 22-23S-32E LEA COUNTY, NEW MEXICO

Submitted with Form 3160-5, Application For Permit to Drill covering the above proposed well. The purpose of the plan is to describe the location, the proposed construction activities, the operations, the surface disturbance involved, and the rehabilitation of the surface after completion of proposed well so that an appraisal can be made of the environment affected by the proposed well.

#### 1. Existing Roads:

- A. The Well Location and Acreage Dedication Plat for the proposed wellsite was staked by Dan R. Reddy, Registered Professional Engineer, Carlsbad, New Mexico and is attached.
- B. All roads to the location are shown on Exhibit "B". The existing roads are illustrated in red and are adequate for travel during drilling and production operations. Upgrading of the road prior to drilling will be completed where necessary as determined during the on-site inspection.
- C. Directions to location: From Carlsbad; ± 8 miles on Hwy 285 to Hwy 31, NW ± 8 miles to 128, West ± 18 miles to Pipeline Road & NE 5 ½ miles to lease road at well #2 on left.
- D. Routine grading and maintenance of existing roads will be conducted as necessary to maintain their condition as long as operations continue on the lease.

#### 2. Proposed Access Road:

A new access road of approximately 1800' will be required as illustrated in yellow on Exhibit "B".

A. The average grade will be less than 5%.

- B. No turnouts will be necessary.
- C. No culverts, gates, or low-water crossing will be necessary.
- D. Surfacing material will consist of native caliche. If required, road across pad will be surfaced with a minimum of 6" of caliche. Caliche will be obtained from the nearest BLM approved caliche pit. Any additional materials that are required will be purchased from the dirt contractor.

#### 3. Location of Existing Wells:

All existing wells within a one mile radius of proposed well are show on Exhibit "C".

#### 4. Location of Existing and/or Proposed Facilities:

In the event the proposed well proves to be productive a flow line will be installed along the lease road to Echo's production facility located in the SE/4 SE/4 Sec 22. Only a pumping unit will be required at the Avion #3 location.

#### 5. Location and Type of Water Supply:

The proposed well will be drilled with a combination of brine and fresh water mud systems as outlined in the Hole Prognosis. The water will be purchased from commercial water stations in the area and trucked to the location by transport over the existing and proposed access roads as indicated on Exhibit "B". No water well will be drilled on the location.

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#### 6. Source of Construction Materials:

All caliche required for construction of the drill pad will be obtained from a BLM approved caliche pit. All roads and pads will be constructed of 6" rolled and compacted caliche.

#### 7. Methods of Handling Water Disposal:

- A. Drill cuttings not retained for evaluation purposes will be disposed into the reserve pit.
- B. Drilling fluids will be contained in steel mud tanks. The reserve pit will contain any excess drilling fluid or flow from the well during drilling, cementing and completion operations. The reserve pit will be an earthen pit approximately 150' x 150' x 6' deep and fenced on three sides prior to drilling. The fourth side will be fenced immediately following rig removal. The reserve pit will be plastic lined (5-7 mil thickness) to minimize loss of drilling fluids and saturation of the ground with brine water. Drilling fluids will be allowed to evaporate in the reserve pits until dry.
- C. Water produced from the proposed well during completion may be disposed into the reserve pit or a steel tank (depending upon rates). After the proposed well is permanently placed on production, produced water will be collected in a fiberglass tank at the Avion Federal #2 and piped to an approved disposal system down already existing line. Produced oil will be collected in steel tanks until sold at the Avion Federal #2 facility.
- D. A portable chemical toilet will be provided on the location for human waste during the drilling and completion operations. Compliance with current laws and regulations will be followed pertaining to the disposal of human waste.
- E. Garbage and trash produced during drilling or completion operations will be disposed in a separate trash trailer on location. All waste material will be contained to prevent scattering by the wind. All water and fluids will be disposed of into the reserve pit. Salts and other chemicals produced during drilling or testing will be disposed into the reserve pit. No toxic waste or hazardous chemicals will be produced by the operation.

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F. After the rig is moved out and the proposed well is either completed or abandoned, all waste materials will be removed within 30 days. No adverse materials will be left on the location. The reserve pit will be completely fenced and kept closed until dried. When the reserve pit is dry enough to breakout and fill and, as weather permits, the unused portion of the well site will be leveled and reseeded as per BLM specifications. Only that portion of the pad required for production operations will remain in use. In the event of a dry hole, only a dry hole marker will remain.

#### 8. Ancillary Facilities:

No airstrip, campsite or other facility will be built as a result of the operations of the proposed well.

#### 9. Well Site Layout:

- A. The drill pad layout with elevations, as staked by Dan R. Reddy, Registered Professional Engineer, is shown on Exhibit "D". Dimensions of the pad, pits and location of major rig components are shown. Top soil, if available, will be stockpiled per BLM specifications as determined at the on-site inspection. Since the pad is fairly level no major cuts will be required.
- B. Planned orientation for the rig and associated drilling equipment, reserve pit, pipe racks, turn-around and parking areas, and access road are shown on Exhibit "D". No permanent living facilities are planned, however, a temporary foreman/toolpusher's trailer will be on location during drilling operations.

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C. The reserve pit will be lined with a high quality plastic sheeting (5-7 mil thickness).

#### 10. Plan for Restoration of the Surface:

- A. Upon completion of the proposed operations, should the proposed well be abandoned, the pit area, after allowed to dry, will be broken out and leveled. The original topsoil will be returned to the entire location, and leveled and contoured to the original topography as closely as possible.
  - All trash, garbage and pit lining will be removed in order to leave the location in an aesthetically pleasing condition. All pits will be filled and the location leveled with 120 days after abandonment.
- B. The disturbed area will be revegetated and reseeded during the proper growing season with a seed mixture of native grasses as recommended by the BLM.
- C. Three sides of the reserve pit will be fenced prior to and during drilling operations. At the time the rig is removed, the reserve pit will be fence on the rig (fourth) side to prevent livestock or wildlife from becoming entrapped. The fencing will remain in place until the pit area is cleaned and leveled. No oil will be left on the surface of the fluid in the pit.
- D. Upon completion of the proposed operations, should the proposed well be productive, the reserve pit area will be treated as outlined above within the same prescribed time. The caliche from an area of the original drillsite not needed for production operations or facilities will be removed and used for construction of thicker pads or firewalls for the tank batter installation. Any additional caliche required for facilities will be obtained from a BLM approved caliche pit. Topsoil removed from the drillsite will be used to recontour the pit area and unused portions of the drill pad to the original natural level and reseeded as per BLM specifications.

#### 11. Surface Ownership:

The wellsite and lease are located entirely on Federal surface.

#### 12. Other Information:

- A. The topography around the wellsite is rolling terrain with vegetation of sagebrush and native grass. The vegetation cover consists of prairie grasses and flowers. Wildlife in the area includes those typical of semiarid desert land.
- B. The soils are clayey sand over caliche base.
- C. There is no permanent or live water in the immediate area.
- D. There are no residences and other structures in the area.
- E. The land in the area is used primarily for grazing purposes.
- F. An archaeological study has been conducted for the location and access road. The report has been submitted separately.

#### 13. Lessee's and Operator's Representative:

Tom Golden PO Box 1210 Graham, Texas 76450

Phone Number: (940) 549-3292 – office

(940) 521-1045 – cellular (940) 549-3690 – home

#### 14. Certification:

I hereby certify that I, or persons under my direct supervision have inspected the proposed drillsite which currently exists; that the statements made in the plan are to the best of my knowledge, true and correct; and the work associated with the operations proposed herein will be performed by Echo Production, Inc. and its contractors and sub-contractors in conformity with the plan and the terms and conditions under which it is approved. This statement is subject to the provisions of 18 USC 1001 for the filing of a false statement.

ECHO PRODUCTION, INC.

Tom Golden

**Operations Manager** 

DATE: 11/19/99

#### EXHIBIT "A"

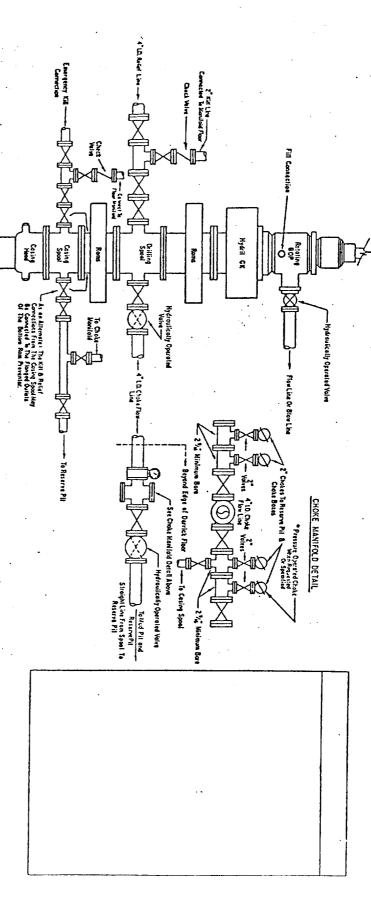
#### EQUIPMENT DESCRIPTION

All equipment should be at least 3,000 psi WP or higher unless otherwise specified.

- 1. Bell nipple
- 2. Hydril bag type preventer
- 3. Ram type pressure operated blowout preventer with blind rams.
- 4. Flanged spool with one 3"and one 2"(minimum) outlet.
- 5. 2"(minimum) flanged plug or gate valve.
- 6. 2"x 2"x 2"(minimum) flanged.
- 7. 3"gate valve.
- 8. Ram type pressure operated blowout preventer with pipe rams.
- 9. Flanged type casing head with one side outlet.
- 10. 2" threaded (or flanged) plug or gate valve. Flanged on 5000# WP, threaded on 3000# WP or less.
- 11. 3" flanged spacer spool.
- 12. 3"x 2"x 2"x 2" flanged cross.
- 13. 2" flanged plug or gate valve.
- 14. 2" flanged adjustable choke.
- 15. 2" threaded flange.
- 16. 2" XXH nipple.
- 17. 2" forged steel 90 Ell.
- 18. Cameron (or equal) threaded pressure gauge.
- 19. Threaded flange.
- 20. 2" flanged tee.
- 21. 2" flanged plug or gate valve.
- 22. 2 1/2" pipe, 300' to pit, anchored.
- 23. 2 1/2" SE valve.
- 24. 2 1/2" line to steel pit or separator.

#### NOTES:

- 1). Items 3,4 and 8 may be replaced with double ram type preventer with side outlets between the rams.
- 2). The two valves next tho the stack on the fill and kill line to be closed unless drill string is being pulled.
- 3). Kill line is for emergency use only. This connection shall not be used for filling.
- 4). Replacement pipe rams and blind rams shall be on location at all times.
- 5). Only type U, LSW and QRC ram type preventers with secondary seals are acceptable for 5000 psi WP and higher BOP stacks.
- 6). Type E ram-type BOP's with factory modified side outlets may be used on 3000 psi or lower WP BOP stacks.



### BLOWOUT PREVENTER HOOK-UP 3000 # PSI WORKING PRESSURE

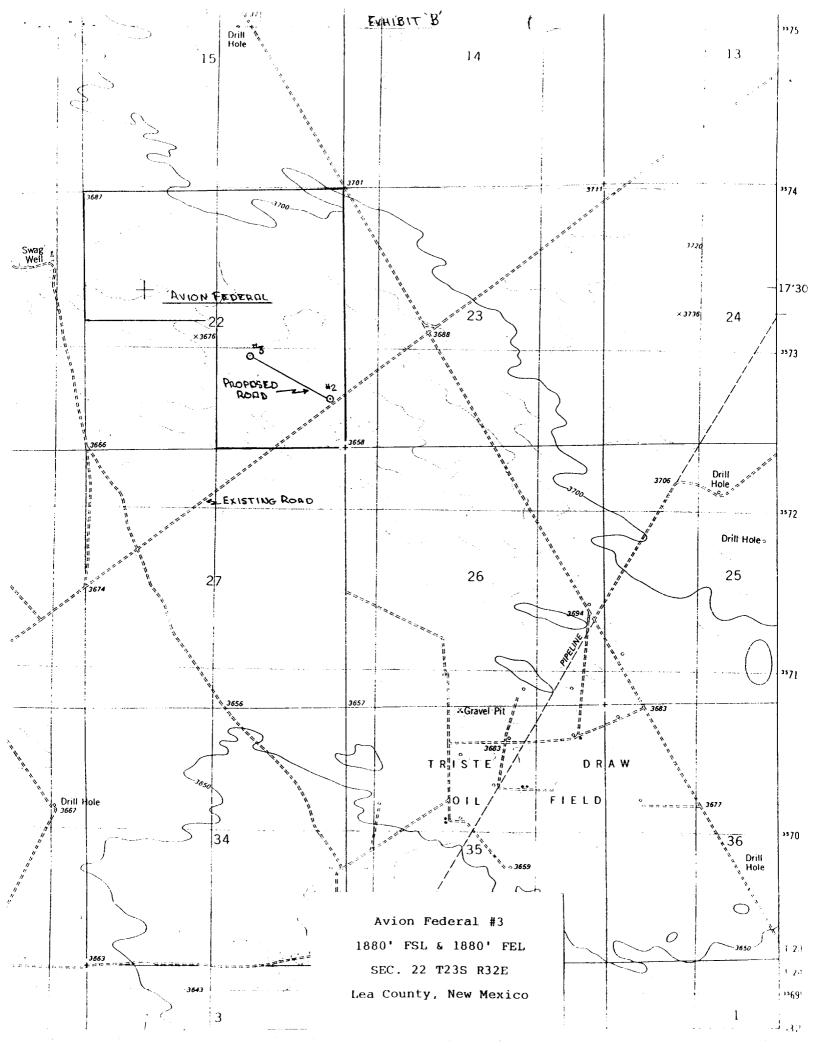
preventer, both hydraulically operated; a Hydril "GK" preventer; a rotating blowout preventer; valves; chokes and connections, as illustrated. If a toperad drill string is used, a rom preventer must be provided for each size flanged outlets of the ram preventer may be used far connecting to the 4-tach 1.D. choke flow line and 4-tach of drill pipe. Casing and tubing rams to fit the preventers are to be available as needed. If correct in size, the The blowout preventer assembly shall consist of one single type blind ram preventer and one single type pipe ram l.D. relief line, except when air or gas drilling. All preventer connections are to be open-face flanged.

Minimum operating equipment for the preventers and hydraulically operated valves shall be as follows: (1) Hautriple pumps, driven by a continuous source of power, capable of fluid charging the rotal accumulator valume from the

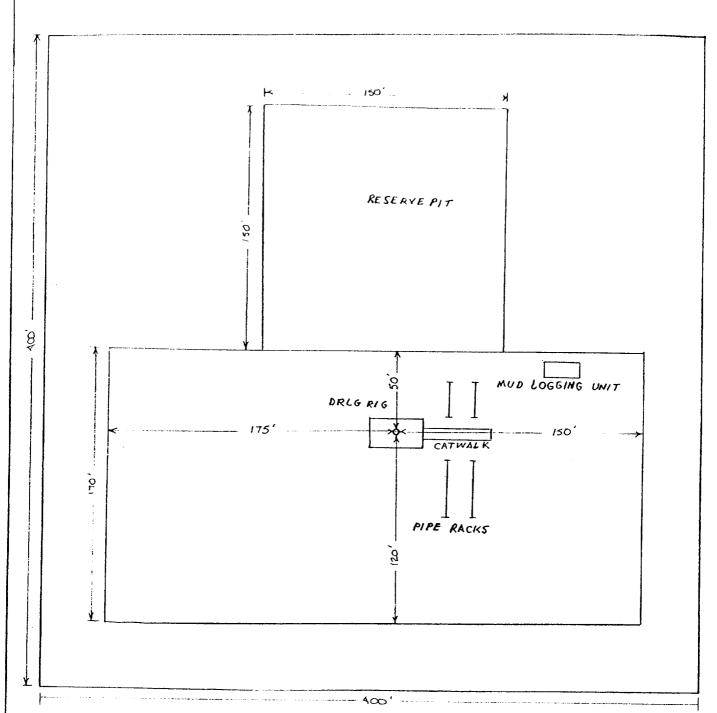
power, remote and equivalent, is to be available to operate the above pumps; or there shall be additional pumps operated by separate power and equal in performance capabilities. the charging pumps shut down, the pressurized fluid volume stored in the accumulators must be sufficient to close all the pressure-operated devices simultaneously within the remaining accumulator fluid volume at least \_\_\_\_\_\_percent of the original. (3) When requested hydroulle operating system which is to be a closed system. (2) Accumulators with a precharge of nitrogen of not less than 750 PSI and connected to as to receive the aforementioned incidence in the connected to the aforementioned incidence in the connected to the aforementioned incidence in the aforemention and the aforemention an percent of the original. (3) When requested, an additional source of \_ seconds, offer a signer

The cloting menifold and remote cloting monifold shall have a separate control for each prossure-operated device. Controls are to be labeled, with control handles indicating open and closed positions. A pressure reducer shall be available to limit decrating fluid pressures to ram proventen. Out beginn No. 38 hydraulic oit, an equivalent or better, is to be used as the fluid to operate the hydraulic equipment.

as straight at possible and without thorp bands. Easy and sole access is to be maintained to the choke manifold. If deemed necessary, walkways and stainways shall be excelled in and account the choke manifold. All valves are to be selected for operation in the presence of oil, gas, and drilling fluids. The choke flow line valves and relief line valves connected to the drilling spool and all ran 1,700 miles to be selected for operation in the presence of oil, gas, and drilling fluids. The choke flow line valves and relief line valves connected to the drilling spool and all ran 1,700 miles are to be selected for operation in the presence of oil, gas, and drilling fluids. The choke flow line valves and relief line valves connected to the drilling spool and all ran 1,700 miles are to be selected for operation in the presence of oil, gas, and drilling fluids. The choke flow line valves are to be selected for operation in the presence of oil, gas, and drilling fluids. The choke flow line valves are to be selected for operation in the presence of oil, gas, and drilling fluids. The choke flow line valves are to be selected for operation in the presence of oil, gas, and drilling fluids. The choke flow line valves are to be selected for operation in the presence of oil, gas, and drilling fluids. The choke flow line valves are to be selected for operation in the presence of oil, gas, and drilling fluids. proventers must be equipped with stem extensions, universal joints if needed, and hand wheels which are to extend beyond the edge of the derrick substructure. All other valves are to be equipped The choke monifoid, choke flow line, relief line, and choke lines are to be supported by metal stands and adequately anchored. The choke flow line, relief line, and choke lines shall be constructed



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ECHO PRODUCTION, INC.

#### **DRILLING RIG LAYOUT PLAN**

AVION FEDERAL #3 1880' FSL & 1880' FEL SEC. 22 T 23S R 32E LEA COUNTY, NEW MEXICO

**EXHIBIT "D"** 

**ROSWELL** 

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RECEIVED

District I

1625 N. French Dr., Hobbs, NM 88240

State of New Mexico Energy, Minerals & Natural Resources

Form C-102 Revised March 17, 1999

District II

811 South First, Artesia, NM 88210

District III

OIL CONSERVATION DIVISION 2040 South Pacheco

Submit to Appropriate District Office State Lease - 4 Copies

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I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief Signature :. Printed Namé Tom Golden <sup>Title</sup> Operations Manager 11/19/99 18SURVEYOR 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 1880 to the best of my belief.

PBOVE DATE DOES NO

ABOVE DATE DOES NOT INDICATE WHEN CONFIDENTIAL LOGS WILL BE RELEASED

