

(July 1992)

DEPAF  
BUF

## APPLICATION

## 1a. TYPE OF WORK

DRILL ☒

## b. TYPE OF WELL

OIL  
WELL ☐GAS  
WELL ☒OTHER ☐SINGLE  
ZONE ☒MULTIPLE  
ZONE ☐HEC PETROLEUM INC  
500 WEST ILLINOIS  
MIDLAND TX 79701

KRAWIETZ 432-498-2655)

KAS 79701 432-498-2655

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

At surface

1310' FSL &amp; 1210' FWL SECTION 35 T21S-R25E EDDY CO. NM

At proposed prod. zone SAME

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

Approximately 12 miles Northwest of Carlsbad New Mexico

## 15. DISTANCE FROM PROPOSED\*

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

1310'

## 16. NO. OF ACRES IN LEASE

5120 Acres in unit

17. NO. OF ACRES ASSIGNED  
TO THIS WELL

640

## 18. DISTANCE FROM PROPOSED LOCATION\*

TO NEAREST WELL, DRILLING, COMPLETED,  
OR APPLIED FOR, ON THIS LEASE, FT.

2500'

## 19. PROPOSED DEPTH

10,600'

## 20. ROTARY OR CABLE TOOLS

ROTARY

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

3577' GR.

## 22. APPROX. DATE WORK WILL START\*

WHEN APPROVED

## 23. 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 W/Redi-mix.
17½"	H-40 13 3/8"	48	350'	350 Sx. circulate cement
12½"	J-55 9 5/8"	36	1750'	750 Sx. " "
7 7/8"	N-80 5½"	17	10,600'	2000 Sx. 2300' or surface

CARLSBAD CONTROLLED WATER BASIN

1. Drill 25" hole to 40'. Set 40' of 20" conductor pipe and cement to surface with Redi-mix.
2. Drill 17½" hole to 350'. Run and set 350' of 13 3/8" 48# H-40 ST&C casing. Cement with 350 Sx. of Class "C" cement + 2% CaCl, + ¼# Flocele/Sx. circulate cement to surface.
3. Drill 12½" hole to 1750'. Run and set 1750' of 9 5/8" 36# J-55 ST&C casing. Cement with 700 Sx. of Class "C" cement + additives, circulate cement to surface.
4. Drill 7 7/8" hole to 10,600'. Run and set 10,600' of 5½" N-80 17# LT&C casing. Cement with 1500 Sx. of Class "H" POZ + additives, tail in with 500 Sx. of Class "H" Premium POZ cement + additives estimate top of cement 2300' from surface.

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

TITLE

Agent

APPROVAL SUBJECT TO 07/25/04  
GENERAL REQUIREMENTS

(This space for Federal or State office use)

AND SPECIAL STIPULATIONS  
ATTACHED

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:

ACTING

/s/ Joe G. Lara

TITLE

FIELD MANAGER

DATE

17 DEC 2004

\*See Instructions On Reverse Side

APPROVAL 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

DISTRICT I  
1625 N. FRENCH DR., HOBBS, NM 88240

DISTRICT II  
1301 W. GRAND AVENUE, ARTESIA, NM 88210

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

DISTRICT IV  
1220 S. ST. FRANCIS DR., SANTA FE, NM 87505

State of New Mexico  
Energy, Minerals and Natural Resources Department

OIL CONSERVATION DIVISION  
1220 SOUTH ST. FRANCIS DR.  
Santa Fe, New Mexico 87505

Form C-102  
Revised JUNE 10, 2003  
Submit to Appropriate District Office  
State Lease - 4 Copies  
Fee Lease - 3 Copies

WELL LOCATION AND ACREAGE DEDICATION PLAT

☐ AMENDED REPORT

API Number	Pool Code 74320	Pool Name CATCLAW DRAW-MORROW (PRORATED GAS)
Property Code 4876	Property Name CATCLAW DRAW FEDERAL	Well Number 20
OGRID No. 150628	Operator Name PURE RESOURCES, L.P.	Elevation 3577'

Surface Location

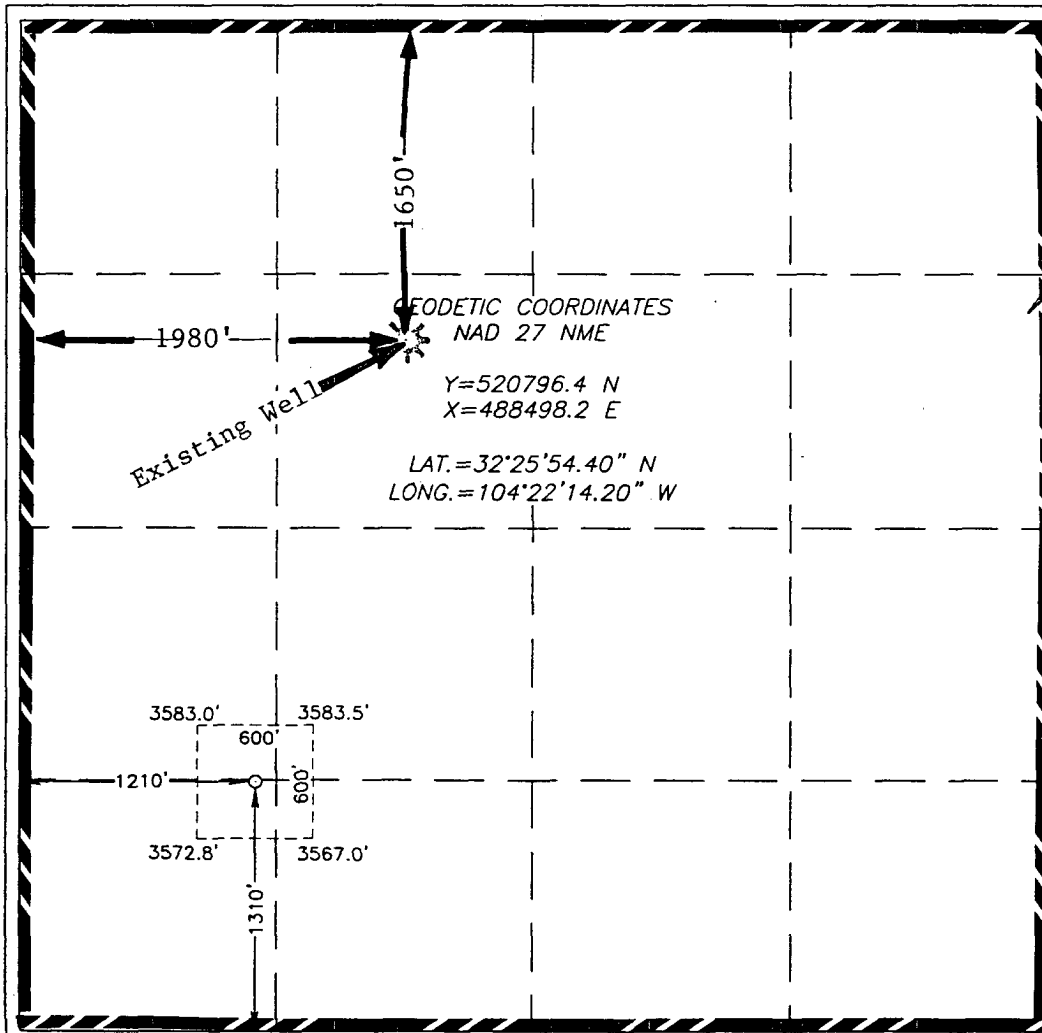
UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
M	35	21-S	25-E		1310'	SOUTH	1210'	WEST	EDDY

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

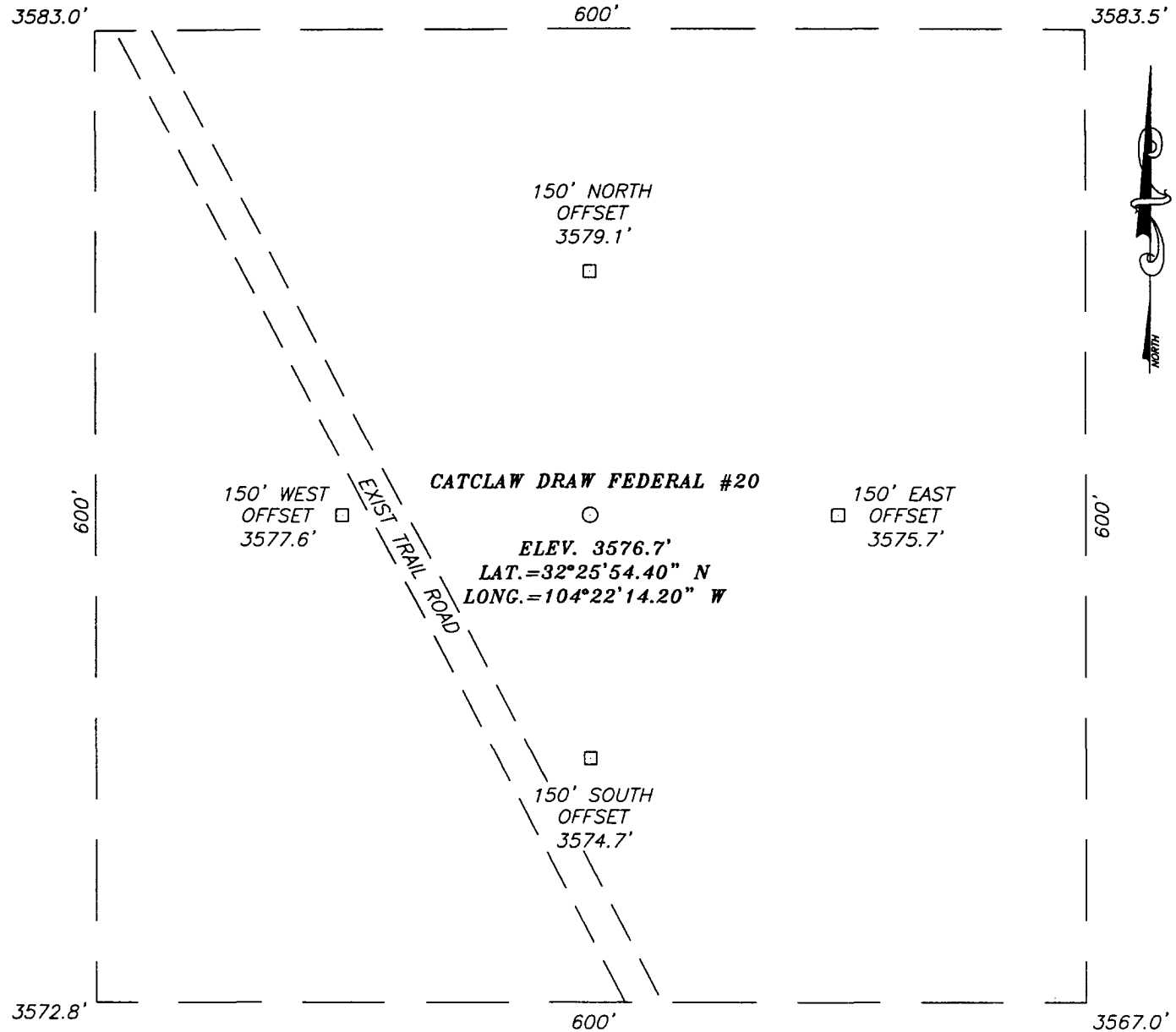
Dedicated Acres	Joint or Infill	Consolidation Code	Order No.
640			

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



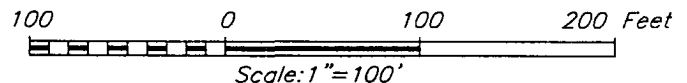
<b>OPERATOR CERTIFICATION</b>	
I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief.	
<i>Joe T. Janica</i>	
Signature	
Joe T. Janica	
Printed Name	
Agent	
Title	
07/25/04	
Date	
<b>SURVEYOR CERTIFICATION</b>	
I hereby certify that the well 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.	
JUNE 10, 2004	
Date Surveyed	
Signature & Seal of Professional Surveyor	
<i>GARY EIDSON</i> 6/16/04	
04.11.0693	
Certificate No. GARY EIDSON	
12841	

**SECTION 35, TOWNSHIP 21 SOUTH, RANGE 25 EAST, N.M.P.M.,**  
EDDY COUNTY, NEW MEXICO



**DIRECTIONS TO LOCATION**

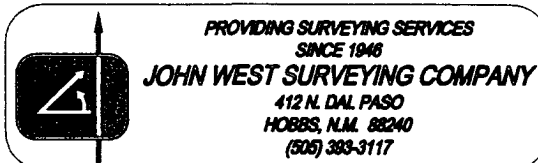
FROM THE INTERSECTION OF U.S. HWY #285 AND CO. RD. #407 (DOUGLAS FIR) TURN SOUTHWEST ON CO. RD. #407 AND GO 0.8 MILES, TURN LEFT (SOUTH) AND GO 0.9 MILES TO INTERSECTION. TURN RIGHT (WEST) AND GO 1 MILE TO INTERSECTION, TURN LEFT (SOUTH) AND GO 0.2 MILES TO ROAD INTERSECTION, TURN LEFT (SOUTHWEST) AND GO 1.4 MILES TO ROAD INTERSECTION, TURN RIGHT (WEST) AND GO 0.7 MILES, ROAD TURNS INTO A TRAIL ROAD. CONTINUE 0.3 MILES, ROAD TURNS SOUTHWEST, GO 0.4 MILES TO TRAIL ROAD. TURN LEFT (SOUTHEAST) FOLLOW TRAIL ROAD FOR 0.6 MILES TO AN EAST AND WEST TRAIL. TURN LEFT (EAST) AND GO 0.2 MILES. TURN LEFT AND GO 0.2 MILES TO THIS LOCATION.



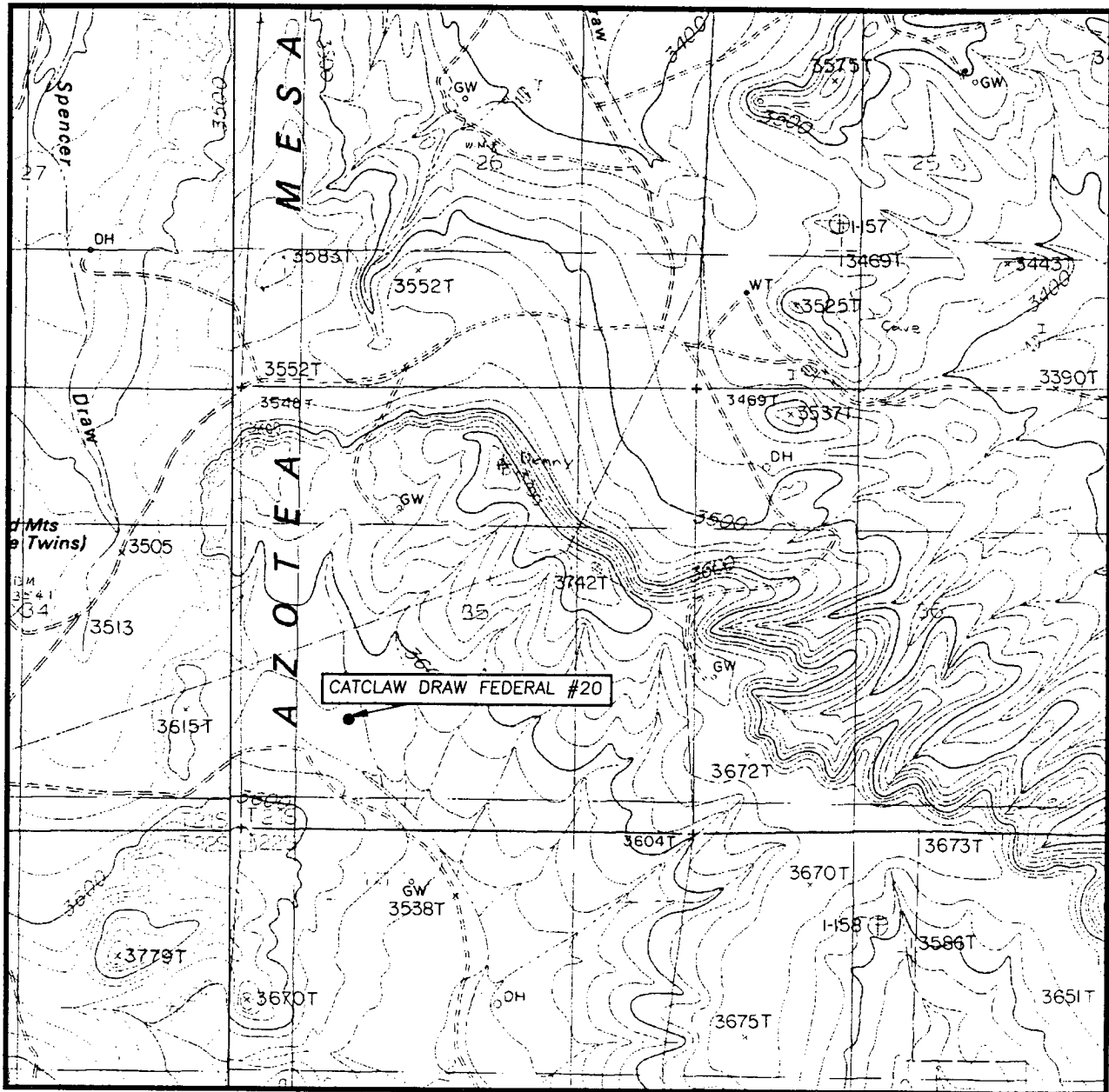
**PURE RESOURCES, L.P.**

CATCLAW DRAW FEDERAL #20 WELL  
LOCATED 1310 FEET FROM THE SOUTH LINE  
AND 1210 FEET FROM THE WEST LINE OF SECTION 35,  
TOWNSHIP 21 SOUTH, RANGE 25 EAST, N.M.P.M.,  
EDDY COUNTY, NEW MEXICO.

Survey Date: 06/10/04	Sheet 1 of 1 Sheets		
W.O. Number: 04.11.0693	Dr By: J. RIVERO	Rev 1:N/A	
Date: 06/14/04	Disk: CD#10	04110693	Scale: 1"=100'



# LOCATION VERIFICATION MAP



SCALE: 1" = 2000'

CONTOUR INTERVAL:  
CARLSBAD WEST, N.M. - 20'

SEC. 35 TWP. 21-S RGE. 25-E

SURVEY N.M.P.M.

COUNTY EDDY

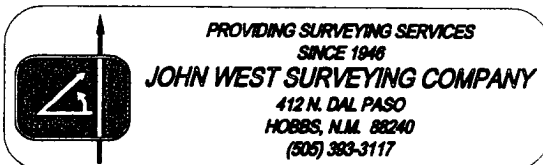
DESCRIPTION 1310' FSL & 1210' FWL

ELEVATION 3577'

OPERATOR PURE RESOURCES, L.P.

LEASE CATCLAW DRAW FEDERAL

U.S.G.S. TOPOGRAPHIC MAP  
CARLSBAD WEST, N.M.



# APPLICATION TO DRILL

PURE RESOURCES, L.P.  
CATCLAW DRAW UNIT # 20  
UNIT "M" SECTION 35  
T21S-R25E EDDY 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: 1310' FSL & 1210' FWL SECTION 35 T21S-R25E
2. Elevation above Sea Level: 3577' 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: 10,600'

## 6. Estimated tops of geological markers:

Delaware	1591'	Strawn	9166'
Bone Spring	3966'	Atoka	9586'
Wolfcamp	7691'	Morrow	9966'
Penn	8626'	Barnett	10491'

## 7. Possible mineral bearing formations:

Wolfcamp	Gas	Atoka	Gas
Strawn	Gas	Morrow	Gas

## 8. Casing program:

Hole size	Interval	OD of casing	Weight	Thread	Collar	Grade
25"	0-40'	20"	NA	NA	NA	Conductor
17½"	0-350'	13 3/8"	48	8-R	ST&C	H-40
12½"	0-1750'	9 5/8"	36	8-R	ST&C	J-55
8 3/4"	0-10,600'	5½"	17	8-R	LT&C	N-80

# APPLICATION TO DRILL

PURE RESOURCES, L.P.  
CATCLAW DRAW UNIT # 20  
UNIT "M" SECTION 35  
T21S-R25E EDDY CO. NM

## 9. CEMENTING & CASING SETTING DEPTH:

20"	Conductor	Set 40' of 20" conductor and cement to surface with Redi-mix.
13 3/8"	Surface	Set 350' of 13 3/8" 48# H-40 ST&C casing. Cement with 350 Sx. of Class "C" cement + additives, circulate cement to surface.
9 5/8"	Intermediate	Set 1750' of 9 5/8" 36# J-55 ST&C casing. Cement with 500 Sx. of 35/65 POZ + 1/4# Flocele/Sx. + 6% Bentonite, tail in with 200 Sx. of Class "C" cement + 2% CaCl, circulate cement to surface.
5 1/2"	Production	Set 10,600' of 5 1/2" 17# P-110 LT&C casing. Cement with 1500 Sx. of 50/50/10 Class "H" POZ + additives, tail in with 500 Sx. of Class "H" 50/50/10 + additives, estimate top of cement 2300' from surface.

10. PRESSURE CONTROL EQUIPMENT: Exhibit "E" shows a Series 1500 5000 PSI working pressure B.O.P. consisting of a annular bag type preventor with middle blind rams, and bottom pipe rams. This B.O.P. will be nipped up on the 13 3/8" casing and tested to API specifications. The B.O.P. will be operated at least once each 24 hour period, and blind rams will be worked when drill pipe is out of hole. Exhibit "E-1" shows a hydraulically operated closing unit with a 3" 5000 PSI choke manifold with dual adjustable chokes. No abnormal pressures are expected in this well as knowledge of pressures present in this area is well known.

## 11. PROPOSED MUD CIRCULATING SYSTEM"

DEPTH	MUD WT.	VISC.	FLUID LOSS	TYPE MUD SYSTEM
40-350'	8.4-8.7	29-34	NC	Fresh water add paper to control seepage.
350-1750'	8.4-8.8	28-32	NC	Fresh water use paper to control seepage and use high viscosity sweeps to clean hole.
1750-10,000'	8.4-9.0	28-40		Same as above.
10,000-10,600	8.8-9.2	32-38	6-8 cc or less	Cut brine use a Dris-pac system to control water loss & use high viscosity

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, logs, and casing viscosity and water loss may have to be adjusted to meet these needs.

APPLICATION TO DRILL

PURE RESOURCES, L.P.  
CATCLAW DRAW UNIT # 20  
UNIT "M" SECTION 35  
T21S-R25E EDDY CO. NM

12. LOGGING, CORING, AND TESTING PROGRAM:

- A. Open hole logs: Run Dual Induction logs, CNL, LDT, Gamma Ray, Caliper from TD bsck to 1750'. or 9 5/8" casing shoe.
- B. Run Gamma Ray, CNL from 9 5/8" casing shoe back to surface.
- C. No cores or DST's are planned at this time.

13. POTENTIAL HAZARDS:

No abnormal pressures or temperatures are expected. There is no known presence of H<sup>2</sup>S in this area. If H<sup>2</sup>S is encountered the operator will comply with the provisions of Onshore Oil and Gas Order No. 6. No lost circulation is expected to occur. All personnel will be familiar with all aspects of safe operation of equipment being used to drill this well. Estimated BHP 6500 PSI, and Estimated BHT 190°.

14. ANTICIPATED STARTING DATE AND DURATION OF OPERATION:

Road and location construction will begin after the BLM has approved the APD. Anticipated spud date will be as soon after BLM approval and as soon as a rig will be available. Move in operation and drilling is expected to take 27 days. If production casing is run then an additional 30 days will be needed to complete well and construct surface facilities and/or lay flowlines in order to place well on production.

15. OTHER FACETS OF OPERATIONS:

After running casing, cased hole Gamma Ray, Neutron Collar logs will be run from TD back to all possible productive zones. The MORROW formation will be perforated and stimulated in order to establish production. The well will be swab tested and potentialied as a gas well.

## HYDROGEN SULFIDE DRILLING OPERATIONS PLAN

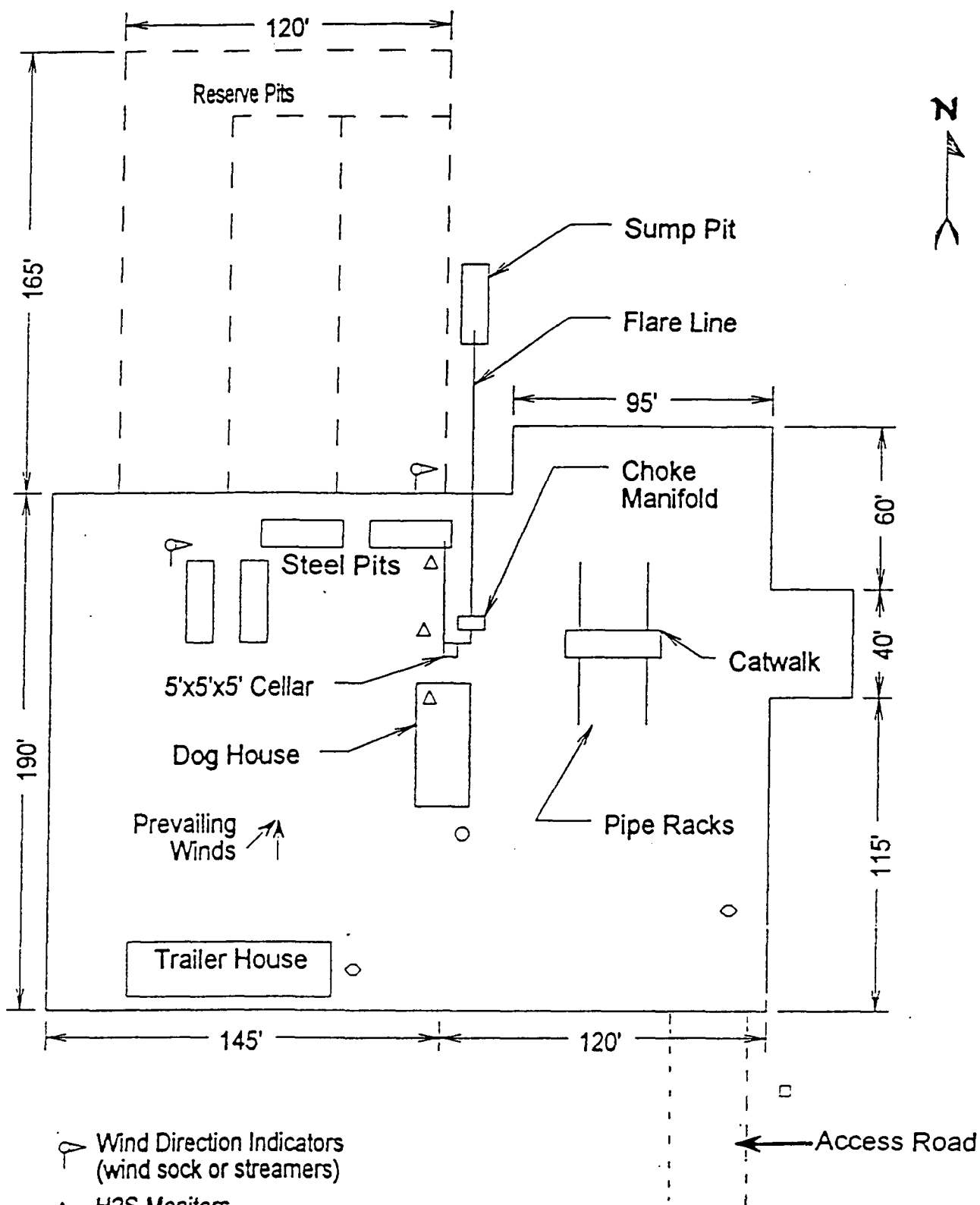
1. All Company and Contract personnel admitted on location must be trained by a qualified H<sub>2</sub>S safety instructor to the following:
  - A. Characteristics of H<sub>2</sub>S
  - B. Physical effects and hazards
  - C. Proper use of safety equipment and life support systems.
  - D. Principle and operation of H<sub>2</sub>S 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<sub>2</sub>S Detection and Alarm Systems
  - A. H<sub>2</sub>S 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, H<sub>2</sub>S 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.



## HYDROGEN SULFIDE DRILLING OPERATIONS PLAN

8. Drilling contractor supervisor will be required to be familiar with the effects H<sub>2</sub>S has on tubular goods and other mechanical equipment.
9. If H<sub>2</sub>S 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<sub>2</sub>S scavengers if necessary.

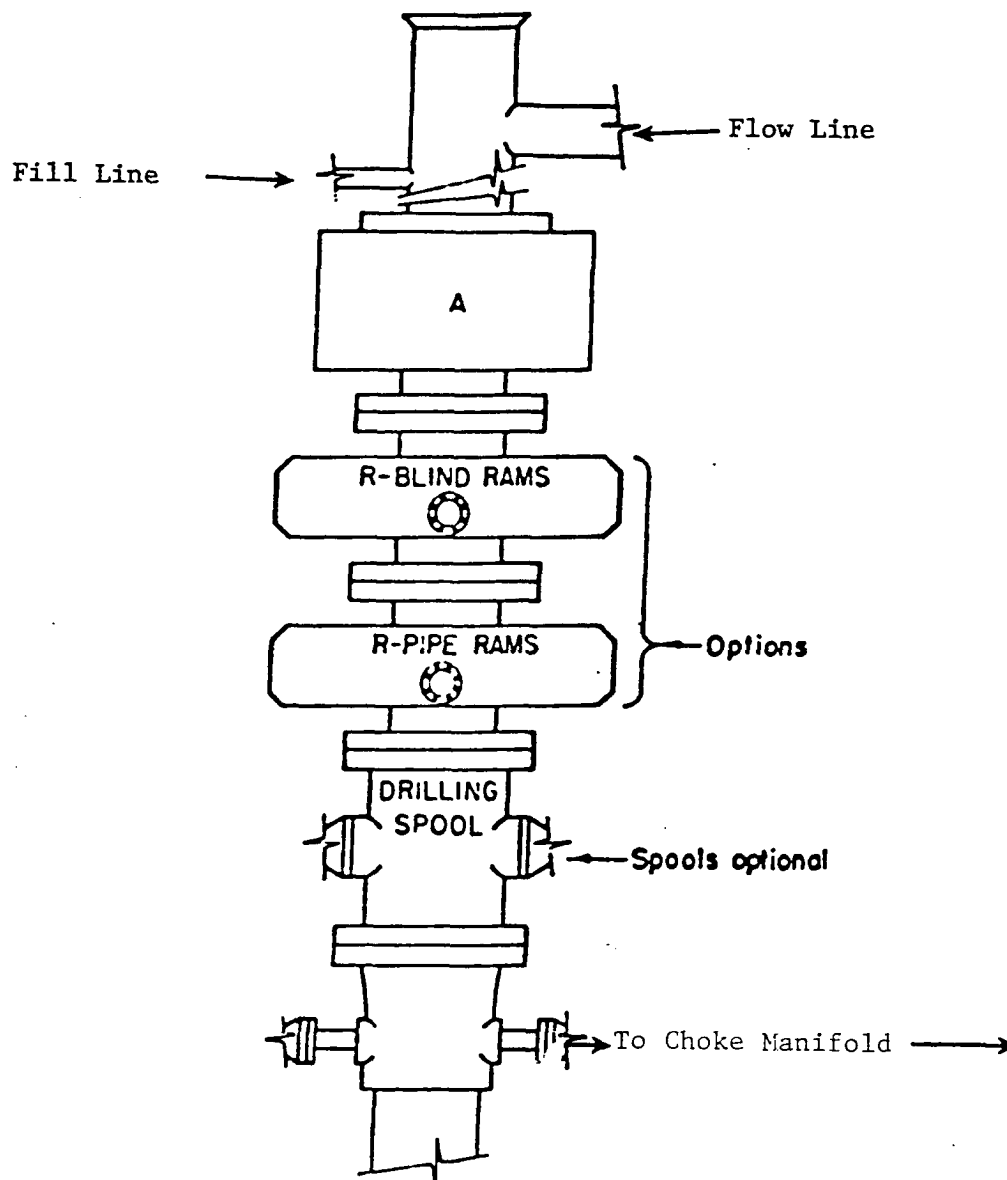




- ⊙ Wind Direction Indicators (wind sock or streamers)
- △ H<sub>2</sub>S Monitors (alarms at bell nipple and shale shaker)
- Briefing Areas
- Remote BOP Closing Unit
- Sign and Condition Flags

EXHIBIT "D"  
RIG-LAY OUT PLAT

PURE RESOURCES, L.P.  
CATCLAW DRAW UNIT # 20  
UNIT "M" SECTION 35  
T21S-R25E EDDY CO. NM



# **ARRANGEMENT SRRA**

1500 Series  
5000# Working Pressure

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

PURE RESOURCES, L.P.  
CATCLAW DRAW UNIT # 20  
UNIT "M" SECTION 35  
T21S-R25E EDDY CO. NM

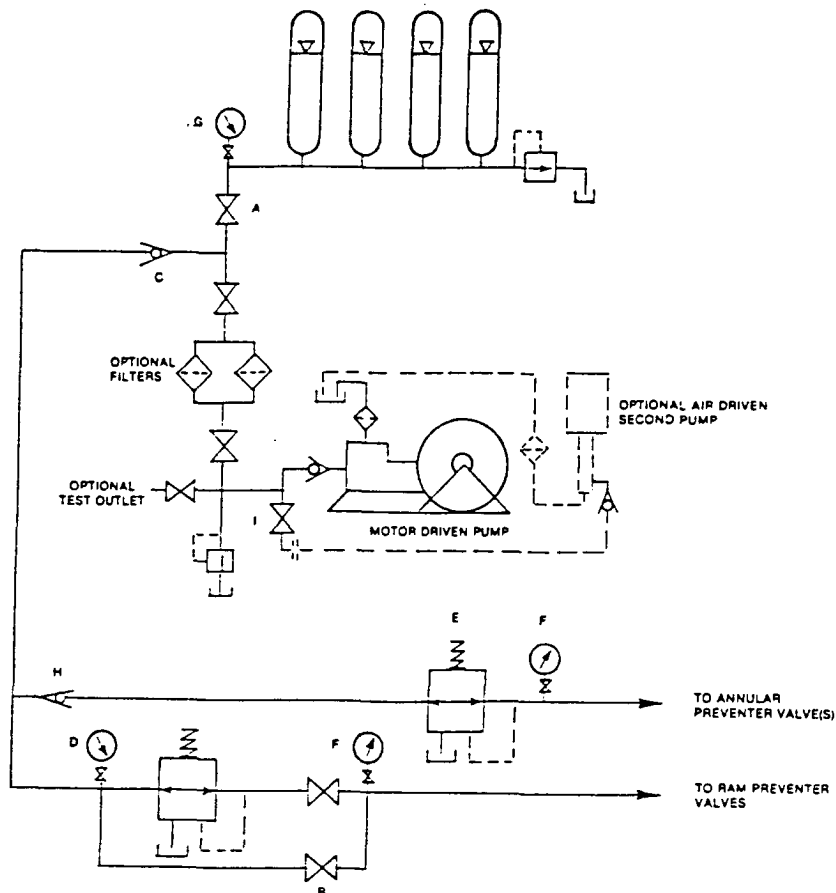


FIGURE K6-1. The schematic sketch of an accumulator system shows required and optional components.

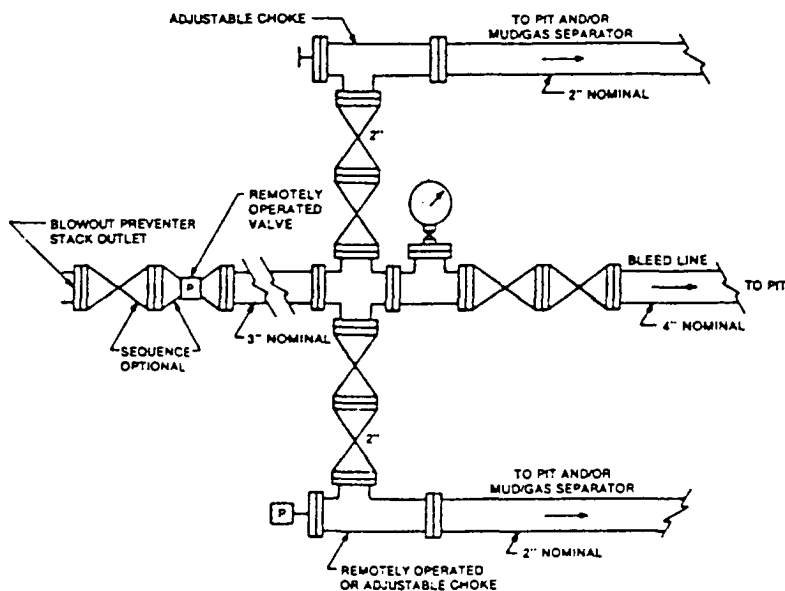


FIGURE K4-2. Typical choke manifold assembly for 5M rated working pressure service — surface installation.

EXHIBIT "E-1"  
CHOLE MANIFOLD & CLOSING UNIT

PURE RESOURCES, L.P.  
CATCLAW DRAW UNIT #20  
UNIT "M" SECTION 35  
T21S-R25E EDDY CO. NM



# NEW MEXICO ENERGY, MINERALS and NATURAL RESOURCES DEPARTMENT

**BILL RICHARDSON**

Governor

**Joanna Prukop**

Cabinet Secretary

**Mark E. Fesmire, P.E.**

Director

**Oil Conservation Division**

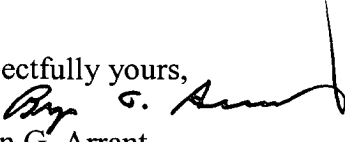
January 11, 2005  
HEC Petroleum Corporation  
500 West Illinois  
Midland, TX 79701  
Attn: Mr. Ken Krawietz

**RE: HEC Petroleum Corporation: Catchlaw Draw Unit # 20, located in Unit M  
(1310' FSL & 1210' FWL) of Section 35, Township 21 South Range 25 East Eddy  
County, New Mexico.  
API # 30-015-33883**

Dear Mr. Krawietz,

In regards to our phone conversation this morning I would like to recap the New Mexico Oil Conservation Divisions' (NMOCD) requirement for approval to drill for the above captioned well. This is for HEC Petroleum Corporation to take samples of the drilling mud every 100' in order to determine the chloride levels from surface casing setting depth of @ 350' down to the intermediate casing point, which is on the drilling prognosis to be @ 1750'. Please give our office a call if you have any questions regarding this matter.

Respectfully yours,

  
Bryan G. Arrant  
PES

CC: Tim Gum-District Supervisor-Artesia  
Bureau of Land Management-Roswell