

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

APPLICATION FOR PERMIT TO DRILL, DEEPEN, OR PLUG BACK

1a. TYPE OF WORK

DRILL ☒

DEEPEN ☐

PLUG BACK ☐

b. TYPE OF WELL

OIL
WELL ☒

GAS
WELL ☐

OTHER

SINGLE
ZONE ☐

MULTIPLE
ZONE ☐

2. NAME OF OPERATOR

St. Mary Land & Exploration Co. - c/o Nance Petroleum Corp.

3. ADDRESS OF OPERATOR

P. O. Box 7168 - Billings, MT 59103

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

At surface

1695' FNL & 470' FWL

UL:E Lot 2

At proposed prod. zone

Same

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

14.75 miles SE of Loco Hills

15. DISTANCE FROM PROPOSED*

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

470'

16. NO. OF ACRES IN LEASE

1004.23

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.

150' ESDU #11

19. PROPOSED DEPTH

4450

20. ROTARY OR CABLE TOOLS

Rotary

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

3711' GR

22. APPROX. DATE WORK WILL START*

10/25/00

23.

PROPOSED CASING AND CEMENTING PROGRAM

25' into Rustler

SIZE OF HOLE	SIZE OF CASING	WEIGHT PER FOOT	SETTING DEPTH	QUANTITY OF CEMENT
12 1/4	8-5/8"	24#	860' 905	540 sx circ.
7 7/8"	5-1/2"	15.5#	4450'	540 sx circ.

8-5/8": Circulate to surface with 540 sx Premium Plus cement w/2% CaCl₂

5-1/2": Circulate to surface with 300 sx Interfill C lead cement and tail in with
240 sx Super H w/2.5 lbm salt, 0.3% CFR-3, 0.3% Lap-1 & 5 lbm Gilsonite.

OPER. GRID NO. 154903
PROPERTY NO. 19225
POOL CODE 56439
EFF. DATE 10-31-00
APP. NO. 30-C25-35229

APPROVAL SUBJECT
GENERAL REQUIREMENTS AND
SPECIAL CONDITIONS

IN ABOVE SPACE DESCRIBE PROPOSED PROGRAM: If proposal is to deepen or plug back, 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

Robert R. Thackray

TITLE

Operations Engineer

DATE

9/25/00

(This space for Federal or State office use)

PERMIT NO.

APPROVAL DATE

APPROVED BY

W. D. BRAY

TITLE

Assistant Field Manager
Lands And Minerals

DATE

CONDITIONS OF APPROVAL, IF ANY:

GMW

*See Instructions On Reverse Side

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., Artesia, NM 87410

DISTRICT IV
P.O. Box 2088, Santa Fe, NM 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 30-025-35229	Pool Code 56439	Pool Name Shugart Yates Seven Rivers Queen Grayburg
Property Code 19225	Property Name INCA FEDERAL	Well Number 5
OGRID No. 154903	Operator Name ST. MARY LAND & EXPLORATION CO.	Elevation 3711

Surface Location

UL or lot No. LOT 2	Section 19	Township 18 S	Range 32 E	Lot Idn	Feet from the 1695	North/South line NORTH	Feet from the 470	East/West line WEST	County LEA
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UL E

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
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Dedicated Acres 40	Joint or Infill	Consolidation Code	Order No.
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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

LOT 1 41.03 AC. 1695' 3709.6' 470' 3707.8' 3714.0'	LOT 2 41.04 AC. 3715.2'	LOT 3 41.04 AC.	LOT 4 41.05 AC.
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OPERATOR CERTIFICATION

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

Herb Thackeray
Signature
Herb Thackeray
Printed Name
Operations Engineer
Title
9/25/00
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.

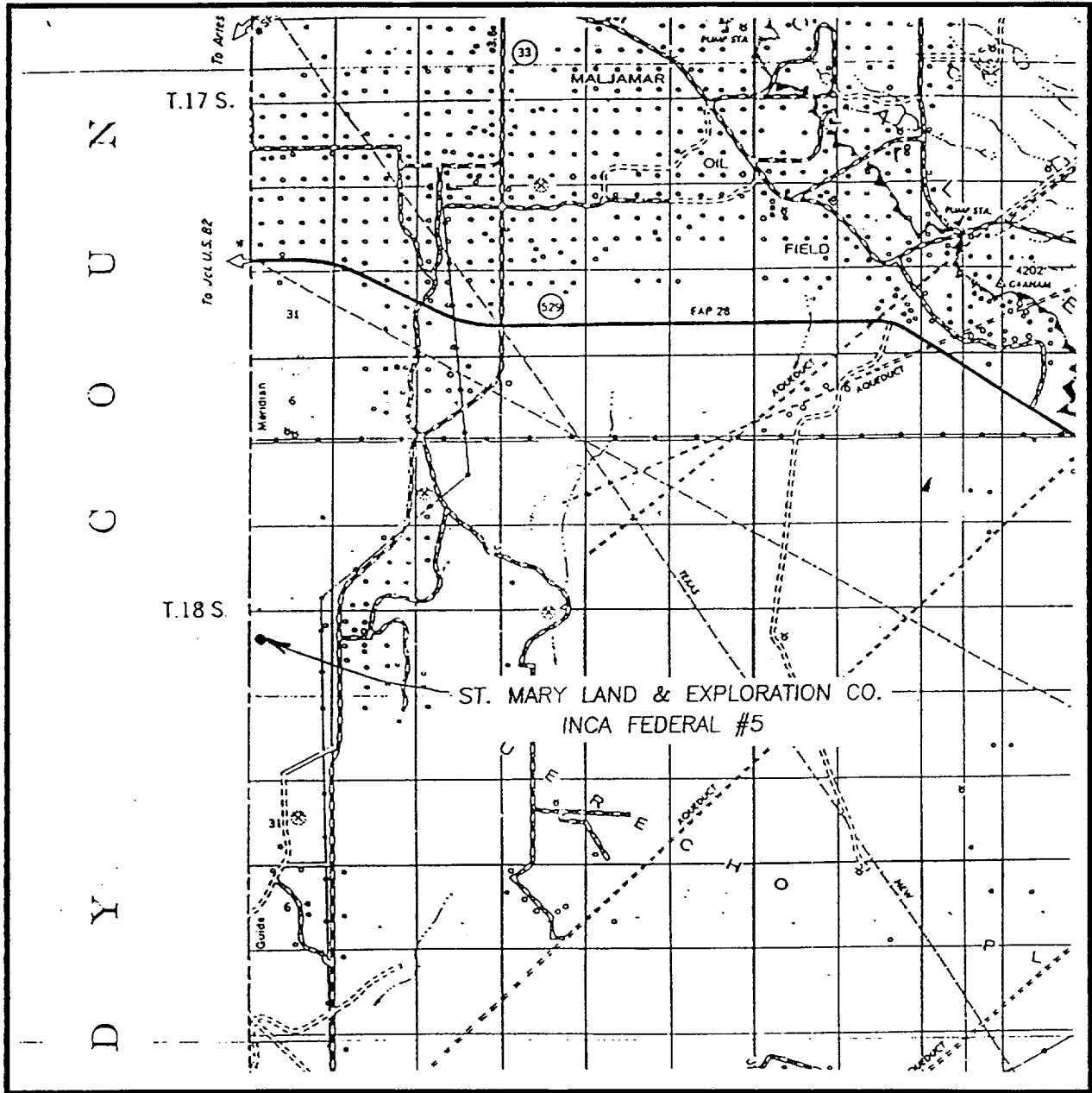
SEPTEMBER 20, 2000

Date Surveyed JLP

Signature & Seal of Professional Surveyor
Ronald J. Edson 9/21/00
W.O. Num. 00-11-1147

Certificate No. RONALD J. EDSON, 3239
GARY G. EDSON, 12641

VICINITY MAP



SCALE: 1" = 2 MILES

SEC. 19 TWP. 18-S RGE. 32-E

SURVEY N.M.P.M.

COUNTY LEA

DESCRIPTION 1695' FNL & 470' FWL

ELEVATION 3711

OPERATOR ST. MARY LAND & EXPLORATION CO.

LEASE INCA FEDERAL

JOHN WEST SURVEYING
HOBBS, NEW MEXICO

(505) 393-3117

THE NORTH



CONTOUR INTERVAL - 10'

GREENWOOD LAKE, N.M.

(505) 393-3117

**Nine Point Drilling Plan
(supplement to BLM 3160-3)**

St. Mary Land and Exploration Co.
Inca Federal #5
1695' FNL, 470' FWL; Sec 19, T18S, R32E
Shugart (Yates-Seven Rivers-Queen-Grayburg) Field
Lea Co., NM
NM-9016

1. The geologic surface formation is quaternary.
2. Name and estimated tops of geologic horizons

Yates	2400'
Queen	3500'
Grayburg	4020'
San Andres	4420'

3. Protection of possible useable water will be achieved by setting 8.625" surface casing @ 860' and cementing it to surface. The Queen is oil and gas productive in this area in addition to the targeted Penrose-Grayburg. Isolation will be achieved by setting 5.5" casing @ 4450' +/-, and cementing back to surface.
4. Specifically the casing strings referenced in #3 above will consist of the following:

Surface:	8.625" OD, 24#/ft, J55, STC, new pipe @ 860' + in 12.25" hole
Production:	5.50" OD, 15.5#/ft, J55, LTC, new pipe @ 4450' +/- in 7.875" hole

Cementing programs for the above casing strings are:

Surface:	540 sx Premium Plus w/ 2% CaCl ₂ mixed at 14.8 ppg, and having a yield of 1.34 cu ft/sk
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The above volume represents 100% excess over calculated hole volume, and will be adjusted to actual setting depth of casing. The slurries will be preceded by a fresh water spacer, and displaced with brine water.

Production:	(a) 300 sx Interfill C cement mixed @ 11.9 ppg and having a yield of 2.45 cu ft/sk
	(b) 240 sx Super H cement w/2.5 lbm salt, 0.3% CFR-3, 0.3% Lap-1, 5 lbm Gilsonite mixed @ 13.2 ppg, and having a yield of 1.63 cu ft/sk

The above are Halliburton products with 50% excess volume - actual volumes will be adjusted to the open hole caliper of this wellbore. The cement slurries will be preceded by 12 bbls cement wash for mud removal and displaced with fresh water. Equivalent products from

another vendor may be substituted for Halliburton depending on price/availability.

5. The well control equipment to be employed during the drilling of this well is as illustrated on EXHIBIT A. This equipment includes a pipe and blind rams, an annular preventer and a choke manifold of comparable pressure rating. Equipment will be rated for a minimum of 3000 psi, and will be tested to 80% of that pressure rating prior to drilling out the 8.625" surface casing.
6. It is anticipated that this well will be drilled to TD utilizing fluids shown below
 - 0-860' NewGel/Lime "spud mud" 8.6-9.0 ppg Utilize native solids to maintain sufficient viscosity to clean hole. Mix paper as required to control seepage loss.
 - 860-3800' Brine 9.9-10.0 ppg Circulate thru reserve pit for gravitational solids removal. Add paper as required to control seepage loss. Maintain pH using Lime.
 - 3800-4450' Salt gel 10-10.1 ppg Confine circulation to steel pits. Discontinue Lime, mix starch for filtration control. Maintain water loss @ 10-15 cc. Sweep hole with Lohoss at TD to clean hole for logging operations.
7. Auxiliary equipment will include an upper kelly cock valve, safety valve to fit drill pipe and pressure gauges.
8. No drill stem testing is planned for this wellbore. A mud logger will be used from 3200'-TD. GR/Caliper, Density Neutron and Dual Induction Laterologs will be run at TD to evaluate porosity and saturations. A cased hole GR/CBL/CCL will be run during the completion for correlation and to evaluate cement quality.
9. The expected BHP at TD is not expected to exceed 1500 psi, and a BHT of 100 F is anticipated. There is no H₂S present in the hydrocarbons being produced from the other wells that the company operates in this section. Should such unexpected circumstances be encountered the operator and drilling contractor are prepared to take necessary steps to ensure safety of all personnel, and environment. Likewise, if water flow is experienced while drilling through the Penrose-Grayburg which has an active waterflood. Lost circulation is not expected to be a serious problem in this area, and hole seepage will be compensated for by additions of small amounts of LCM in the drilling fluid.

It is estimated that this well will be drilled and cased in 9-10 days. A drilling rig has been contracted and this will be the third well of a 3 well program in the area. The first well should spud ~ Oct. 5 and this well will be spudded +/- 20 days later.

**Thirteen Point Plan for Surface Use
(additional data for form 3160-3)**

St. Mary Land and Exploration Co.
Inca Federal #5
1695' FNL, 470' FWL; Sec 19, T18S, R32E
Shugart (Yates-Seven Rivers-Queen-Grayburg) Field
Lea Co., NM
NM-9016

1. **EXISTING ROADS** – A “VICINITY MAP” and a “LOCATION VERIFICATION MAP” by John West Surveying are attached which show the location of existing roads and the area topography.

The road log to the location is as follows (the roads are better coming in from the east):

- a) Entrance to the lease is from County Road 126, +/- 4 miles south of the junction of 126 & US 529.
- b) Proceed west through cattleguard for +/- 1 mile to the Conoco Federal Battery.
- c) Follow road through battery heading SW to next intersection at well pad for Geronimo Fed. #6 and ESDU #6.
- d) Turn right and head east toward Inca Federal Battery.
- e) Turn south at the Inca battery to ESDU #11.
- f) The Inca Federal #5 location stake is 140' east of the ESDU #11.

2. **PLANNED ACCESS ROADS** – None – existing road runs right along south side of proposed pad.
3. **LOCATION OF EXISTING WELLS** – EXHIBIT B shows the location of other wells within a mile radius of the proposed location.
4. **LOCATION OF EXISTING OR PROPOSED FACILITIES** – A flow line will be laid to existing facilities at the Inca battery in NWNW of Section 19. Currently all the wells producing to this facility are ESDU wells but it was previously commingled prior to Inca Federal #4 being converted to injection. This battery has sufficient test facilities to measure production of oil, gas and water and allocate based on well tests. The line will parallel the ESDU #11 (formerly Inca Federal #2) flowline which is on the same pad as the proposed well.
5. **LOCATION AND TYPE OF WATER SUPPLY** - All water (fresh or otherwise) needed for the drilling and completion of this well will be purchased from a commercial source and trucked to the location via the existing and proposed access road. No water source wells will be drilled, and no surface water will be utilized.
6. **SOURCE OF CONSTRUCTION MATERIALS** - Construction material (caliche) required for the preparation of the drill site is available from a local source 3 ½ miles away. It is not anticipated that a significant amount of material will be required as the terrain is relatively flat. Transportation will be over the existing roads. The existing pad for the ESDU #11 will be extended 115' to the East to accommodate the drilling rig.

7. **METHODS FOR HANDLING WASTE DISPOSAL -**

- Drill cuttings will be disposed into drilling pits after fluids have evaporated .
- The drilling pits will be lined with a biodegradable plastic liner, and buried as per regulatory requirements.
- Receptacles for solid wastes (paper, plastic, etc) will be provided and equipped to prevent scattering by wind, animals, etc. This waste will be hauled to an approved landfill site.
- Any other waste generated by the drilling, completion, testing of this well will be removed from the site within 30 days of the completion of drilling or testing operations.
- A Porta-John will be provided for the crews. This will be properly maintained during the drilling operations and removed upon completion of the well.

8. **ANCILLARY FACILITIES -** The drilling, completion, and/or testing of this well will require no ancillary facilities.

9. **WELLSITE LAYOUT -** Attached as EXHIBITS C & D are plats showing the anticipated orientation of the drilling rig and the pad. A similar rig may have to be substituted for Big Dog Rig #3 if it is no longer available when approval is granted for this application. Material moved to create the drilling pits will be utilized in the dike around the pits so as to facilitate restoration of the area when operations are completed.

10. **PLANS FOR SURFACE RESTORATION -** Reclamation of the surface location will be in accordance with the requirements set forth by the BLM. As stated earlier all waste generated by this operation will be disposed of in an approved manner, and the site restored as closely as possible to its pre-operation appearance. Due to the topography of the area no problems are anticipated in achieving this status and no erosion or other detrimental effects are expected as a result of this operation.

11. **OTHER INFORMATION -** This well was previously proposed but not drilled by Siete Oil & Gas in 1987. However, an archaeological survey was done and found no cultural materials. A copy of that report, #87-211 by James Sciscenti of Archaeological Survey Consultants Inc., is attached to this application. Since the current proposed location is 40' from the 1987 location another survey is unnecessary.

The current The surface ownership of the drill site and the access routes are under the control/ownership of :

Bureau of Land Management
P.O. Box 1778
Carlsbad, New Mexico 88221-1778
505-234-5972

The BLM representative for this area is Barry Hunt who can be reached at the above number, or 505-369-4046.

12. **OPERATORS REPRESENTATIVE -** St. Mary Land and Exploration is covered by Nationwide Bond No. 6041872. Nance Petroleum Corporation is a wholly owned subsidiary of St. Mary represented by:

Robert L. Nance, President

Gary L. Evertz, Operations Manager

Herb Thackeray, Operations Engineer
550 North 31st Street, Suite 500
P.O. Box 7168
Billings, MT 59103
406-245-8627 (o)
406-861-7372 (m)
406-656-7250 (h)

Jackie Herron, Contract Pumper
Hagerman, NM
505-746-7601 (m)
505-752-2701 (h)

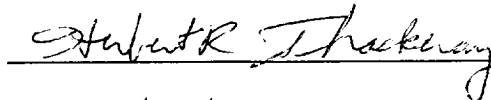
13. OPERATORS CERTIFICATION

I hereby certify that I, Herb Thackeray-Operations Engineer, have inspected the proposed drill site and access route and that I am familiar with the conditions that currently exist; that the statements made in the APD package are to the best of my knowledge true and correct; and that the work associated with operations herein will be performed by ST. MARY L&E/NANCE PETROLEUM CORP and it's contractors and subcontractors in conformity with the terms and conditions of this APD package. I also certify responsibility for the operations conducted on that portion of the leased lands associated with this application with bond coverage being provided under a BLM nationwide bond.

This statement is subject to the provisions of 18 U.S.C. 1001 for the filing of a false statement.

Name and title: Herb Thackeray, Operations Engineer for Nance Petroleum Corp.
A wholly owned subsidiary of St. Mary Land & Exploration Co.

Signature:



Date:

9/25/00

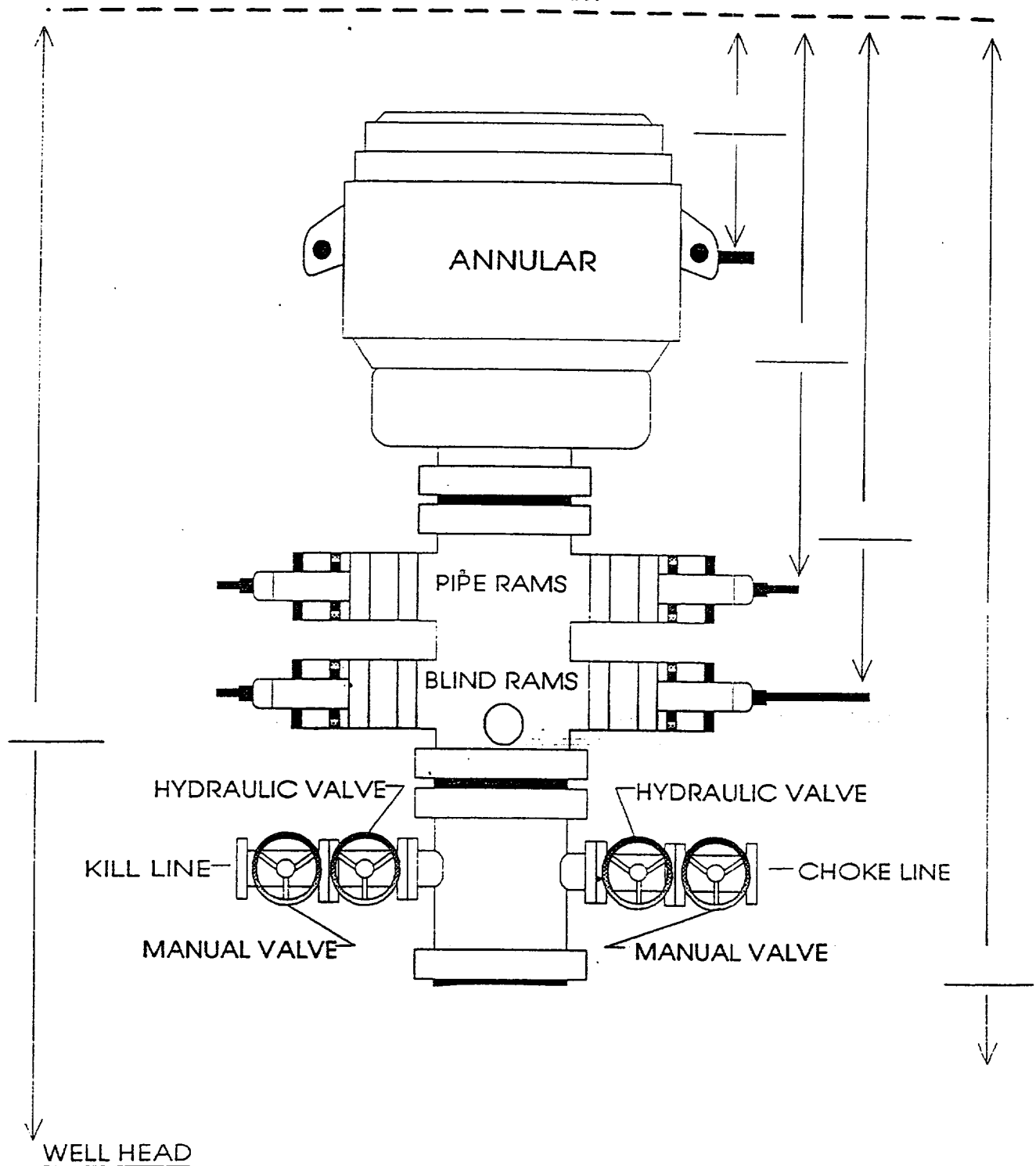
EXHIBIT A

B.O.P. STACK SPACING

AHEP-3187

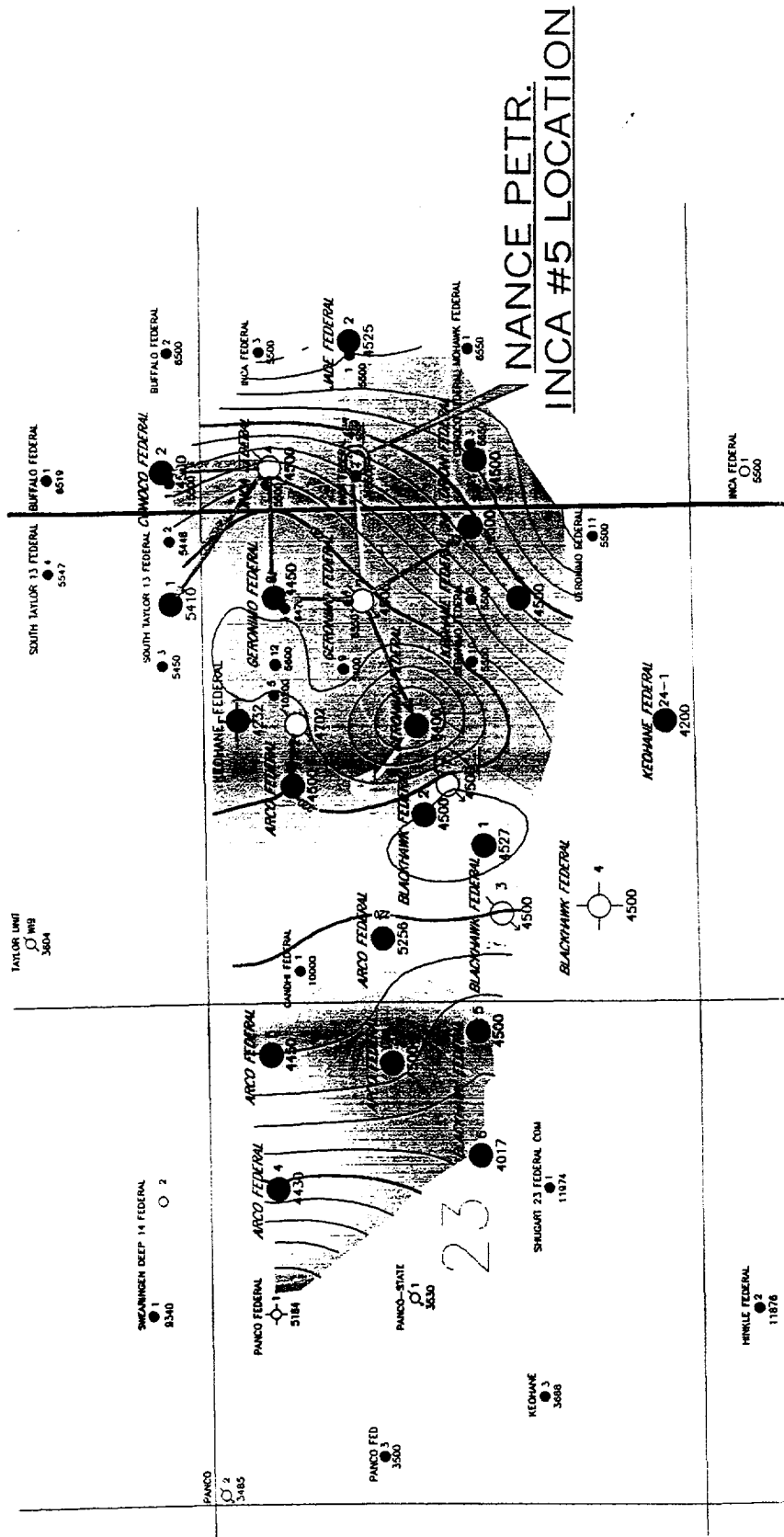
SIZE: **11" 3000#**

TOP OF ROTARY



WELL **INCA FED #5** CONTRACTOR **BIG DOG DRILLING**

EXHIBIT B



NANCE PETR.
INCA #5 LOCATION

Nance Petroleum Corporation	
EAST SHUGART WATERFLOOD Eddy & Lea Counties, NM GRAYBURG	
Sub Division	9/23/2000

EXHIBIT C



Rig #3 Rig Plan

*Or Equivalent

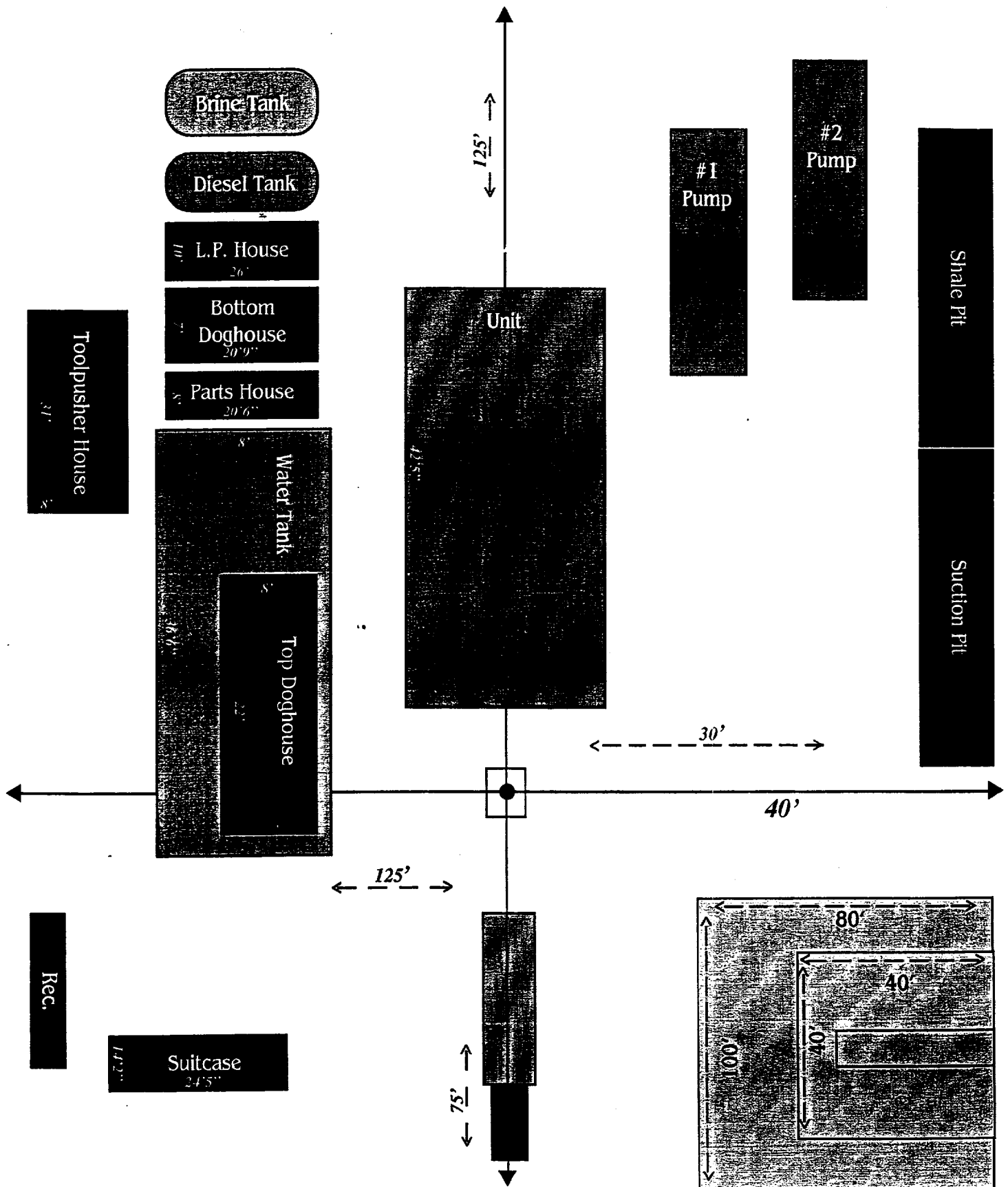
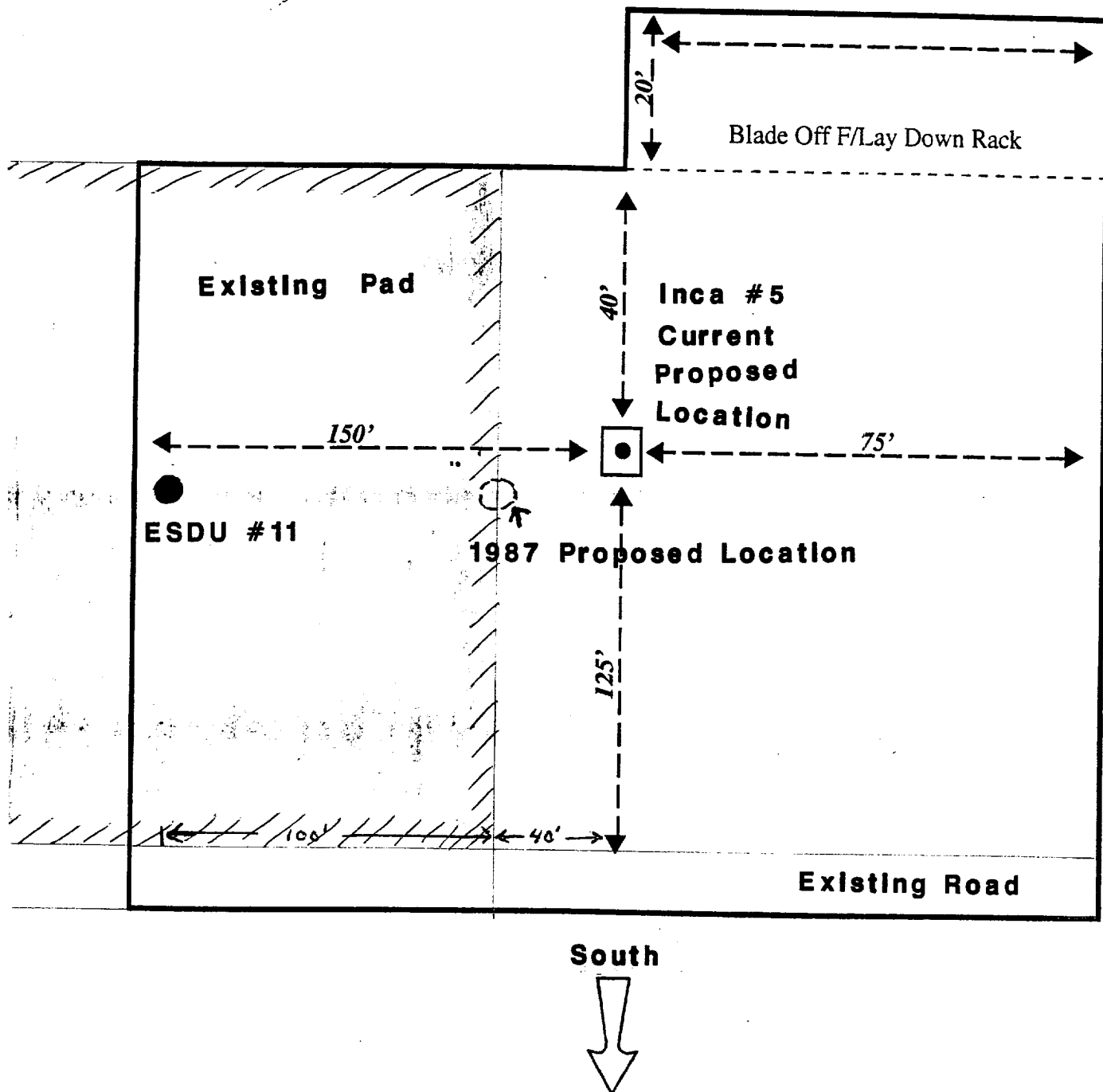


EXHIBIT D

**Big Dog
Drilling**

Rig #3



ARCHAEOLOGICAL SURVEY of the SIETE OIL & GAS CORPORATION
INCA FEDERAL WELL No. 5
T18S, R32E, SECTION 19, NW/4SW/4NW/4
[1700 FNL, 430 FWL]. LEA COUNTY, NEW MEXICO

★ Note: Current staked location is 1695' FNL + 470' FWL (9/00) To allow
FEDERAL LAND SURFACE (USGS 7.5', GREENWOOD LAKE, N.M., 1985) room for rig
east of
ESDA #11.

ASC Report 87-211

by James V. Sciscenti, Principal Investigator

ARCHAEOLOGICAL SURVEY CONSULTANTS
P.O. Drawer D, Roswell, New Mexico 88202
[505] 623-5012

PERMIT NO.: 18-2920-84-B

August 16, 1987

Prepared for:

Siete Oil & Gas Corporation
P.O. Box 2523
Roswell, New Mexico 88202

Attention: Harold D. Justice

Distribution:

~~Siete Oil & Gas Corporation (1)~~
Oil & Gas Administrative Services (1)
BLM - Carlsbad Resource Area (2)
New Mexico SHPO (1)
Sciscenti (1)

w/50'

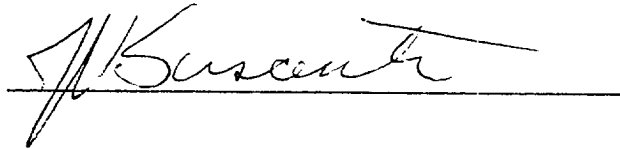
5. **FINDINGS:** BLM records do not indicate the recording of cultural materials within Section 19 (T18S, R32E) [Keyser, 8/12/1987, phone communication].

Archaeological survey of the proposed Siete Oil & Gas Corporation INCA Federal Well No. 5 did **not** reveal any cultural resources.

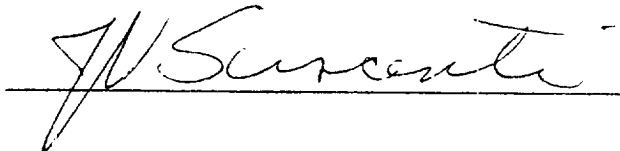
6. **RECOMMENDATIONS:** Since archaeological survey did **not** reveal any cultural resources, archaeological CLEARANCE for the Siete Oil & Gas Corporation INCA Federal Well No. 5, on **federal land surface**, is RECOMMENDED.

Date of Examination: August 13, 1987.

Project Archaeologist:

A handwritten signature in dark ink, appearing to read "J. V. Surcanti", written over a horizontal line.

Principal Investigator:

A handwritten signature in dark ink, appearing to read "J. V. Surcanti", written over a horizontal line.

5. **FINDINGS:** BLM records do not indicate the recording of cultural materials within Section 19 (T18S, R32E) [Keyser, 8/12/1987, phone communication].

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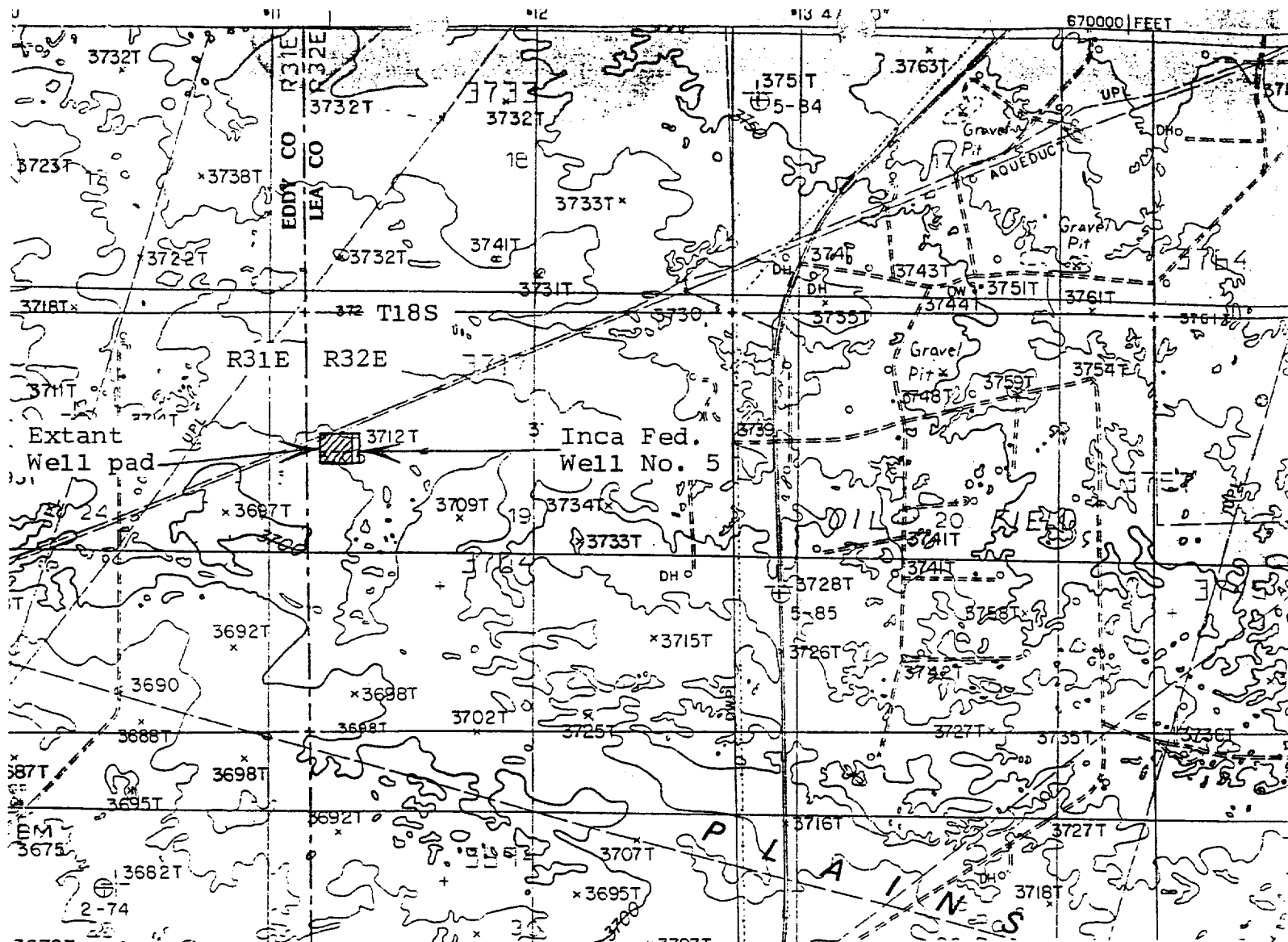
Date of Examination: August 13, 1987.

Project Archaeologist:

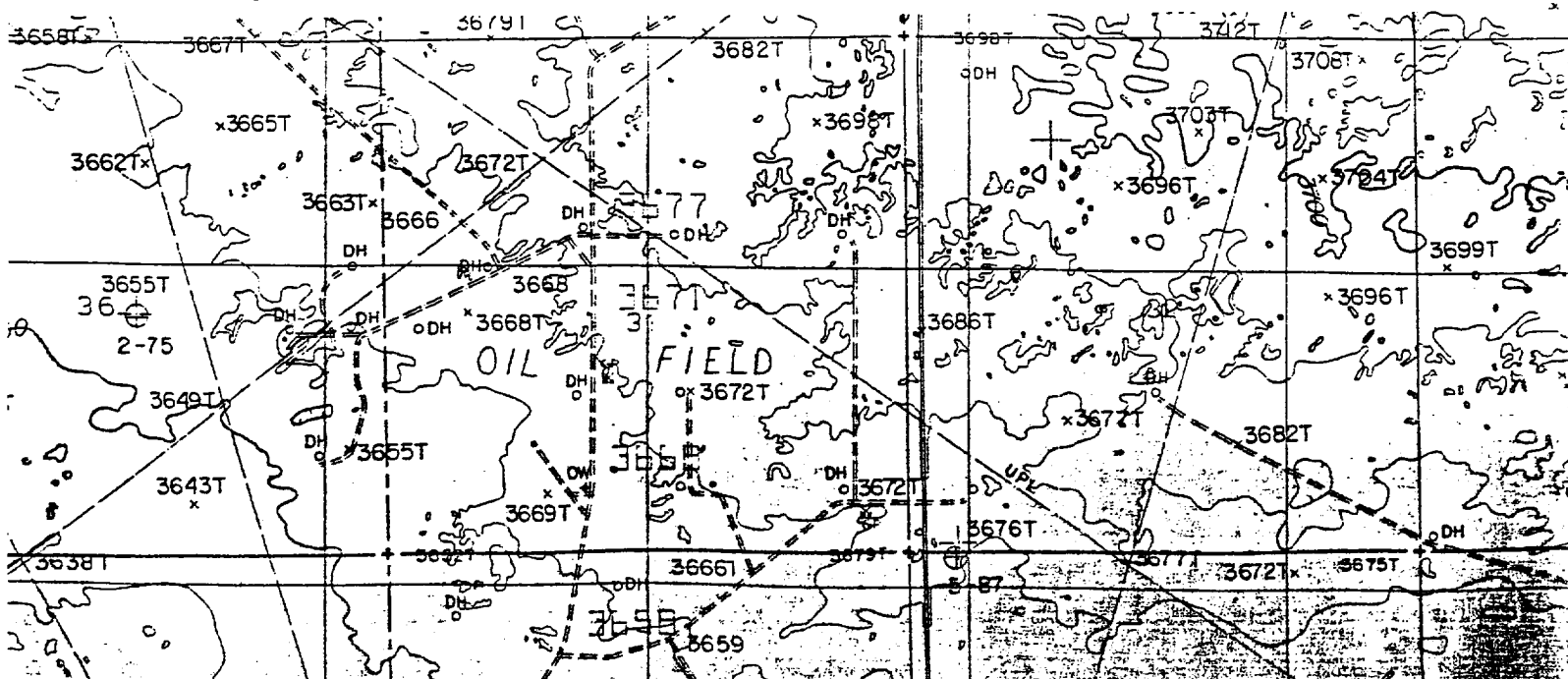
J. V. Suscanti

Principal Investigator:

J. V. Suscanti



Map showing the location of the Siete Oil & Gas Corporation Inca Federal Well No. 5 (offset from Inca Federal Well No. 2). T18S, R32E, Section 19, NW/4SW/4 NW/4 [1700 FNL, 430 FWL], Lea County, New Mexico. Hatchured square shows location of extant well pad (Inca Federal Well No. 2); small rectangle shows location of well pad. U.S.G.S. 7.5 minute series, GREENWOOD LAKE, NEW MEXICO, 1985. ASC project: 87-211.





A Subsidiary of
St. Mary Land & Exploration Co.

NANCE PETROLEUM CORPORATION FAX TRANSMITTAL FORM

P.O. BOX 7168 BILLINGS, MT 59103
PHONE (406)245-6248 FAX(406)245-9106

DATE: 10/26/00

TO: Barry Hunt - BLM

RE: APD Inca Federal #5

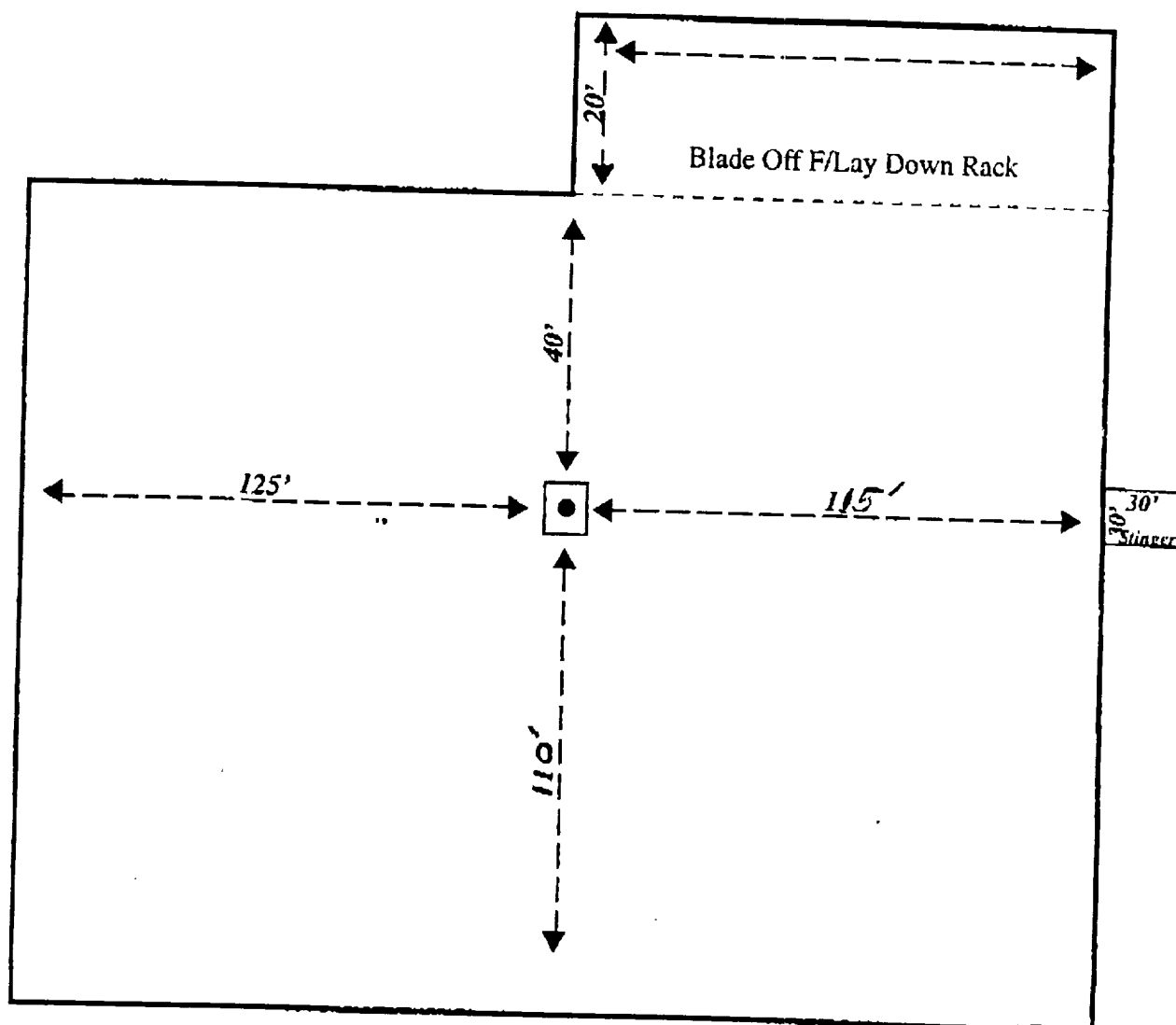
FAX #: (505) 885-9264

NO. PAGES: 3
(including cover sheet)

FROM: Herb Thackeray

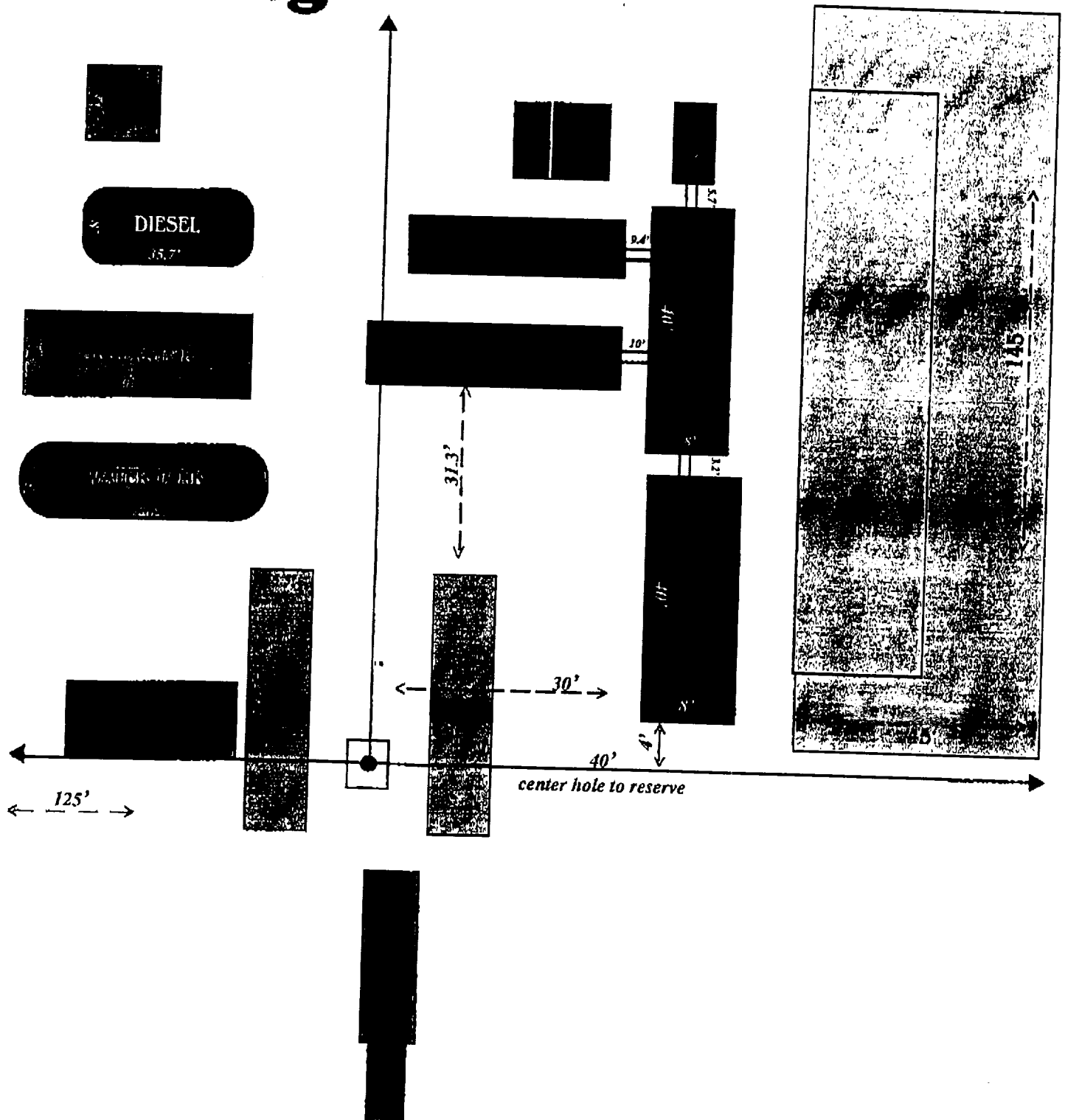
We've had to switch from Rig #3 to #5. Since we had extra room to the left (150' Rig#3 vs. 125' Rig#5) they've shortened the necessary pad to 115' to right and 110' to bottom. Also if I'm reading the rig set up correctly the pit would go 45' to north which may actually fit better with aqueduct. I'll confer with contractor in a.m.

Herb



Big Dog Drilling

Rig #5 Rig Plan



ELF 2/2/71
ABOVE DATE DOES NOT
INDICATE WHEN
CONFIDENTIAL LOGS
WILL BE RELEASED

