

UNITED STATES  
DEPARTMENT OF THE INTERIOR

## BUREAU OF LAND MANAGEMENT

Cons. Div-Dist. 2  
1201 W. Grand Ave.  
Albany, NM 87001  
FORM APPROVED  
OMB NO. 1004-0136  
Expires February 28, 1995LEASE DESIGNATION AND SERIAL NO.  
NMLC-066087A

## APPLICATION FOR PERMIT TO DRILL OR DEEPEN

## 1a. TYPE OF WORK

DRILL ☒DEEPEEN ☐

## b. TYPE OF WELL

OIL  
WELL ☒GAS  
WELL ☐

OTHER

SINGLE  
ZONE ☒MULTIPLE  
ZONE ☐

## 2. NAME OF OPERATOR

SDX Resources, Inc.

## 3. ADDRESS AND TELEPHONE NO.

PO Box 5061, Midland, TX 79704 915/685-1761

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

At surface 670' FNL 834' FWL

At proposed prod. zone

Same

R-111-P Potash

POTASH

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

35 miles SE of Artesia, NM

15. DISTANCE FROM PROPOSED\*  
LOCATION TO NEAREST  
PROPERTY OR LEASE LINE, FT.  
(Also to nearest drg. unit line, if any)330'  
(330')

## 16. NO. OF ACRES IN LEASE

200

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.

895'

## 19. PROPOSED DEPTH

5000'

## 20. ROTARY OR CABLE TOOLS

Rotary

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

3378' GR

Capitan Controlled Water Basin

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

09/01/02

## 23.

## PROPOSED CASING AND CEMENTING PROGRAM

SIZE OF HOLE	GRADE, SIZE OF CASING	WEIGHT PER FOOT	SETTING DEPTH	QUANTITY OF CEMENT
17-1/4"	J-55 13-3/8"	54-1/2#	250'	350 sx Class C
12-1/4"	J-55 8-5/8"	24#	1350'	700 sx Class C
7-7/8"	J-55 5-1/2"	14#	5000'	350 sx POZ, 500 sx Lite

Plan to drill a 17-1/4" hole to appx 350'. Set 13-3/8" surf cg. Circ C cmt.

Drill 12-1/4" hole to 1350'. Set 8-5/8" csg. Circ C cmt. Drill 7-7/8" hole to TD. Run OH logs (LDL-CNL-GR &amp; DLL). Run 5-1/2" csg 4-circ cmt. Perf the Santa Nina Delaware &amp; stimulate as necessary for optimum production. Specific program as per Onshore Oil &amp; Gas Order #1 are outlined in the following attachments:

## Drilling Program

## Surface Use &amp; Operating Plan

Exhibit #1: Location &amp; Elevation Plat (Orininal on File)

Exhibit #2: BOP Diagram

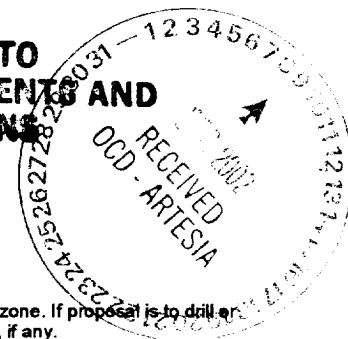
Exhibit #3: Planned Access Roads

Exhibit #4: One Mile Radius Map

Exhibit #5: Planned Production Facilities &amp; Access Roads

Exhibit #6A: Drilling Rig Layout

Exhibit #6B: Arch Site &amp; Location Map

APPROVAL SUBJECT TO  
GENERAL REQUIREMENTS AND  
SPECIAL STIPULATIONS  
ATTACHED

IN ABOVE SPACE DESCRIBE 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

Bonnie Atwater

TITLE Regulatory Tech

DATE

8/16/02

(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:

APPROVED BY

/s/ RICHARD A. WHITLEY

TITLE

STATE DIRECTOR

DATE

NOV 29 2002

\*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 United States any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction.

District I  
PO Box 1980, Hobbs, NM 88241-1980  
District II  
PO Drawer DD, Artesia, NM 88211-0719  
District III  
1000 Rio Brazos Rd., Aztec, NM 87410  
District IV  
PO Box 2088, Santa Fe, NM 87504-2088

State of New Mexico  
Energy, Minerals & Natural Resources Department

OIL CONSERVATION DIVISION  
PO Box 2088  
Santa Fe, NM 87504-2088

Form C-102  
Revised February 10, 1994  
Instructions on back  
Submit to Appropriate District Office  
State Lease - 4 Copies  
Fee Lease - 3 Copies

ORIGINAL ON FILE.

☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

API Number 30-015-		Pool Code	Pool Name Santa Nina Delaware
Property Code	Property Name SANTA NINA FEDERAL		Well Number 2
OGRD No. 020451	Operator Name SDX RESOURCES, INC.		Elevation 3380.

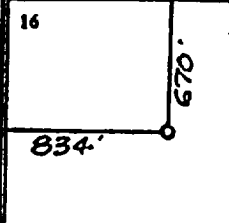
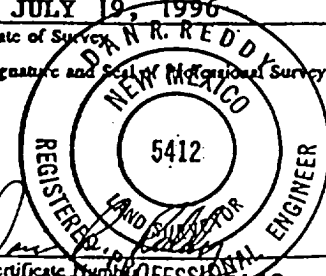
10 Surface Location

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
LOT 1	7	19-S	30-E		670	NORTH	834	WEST	EDDY

11 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 40		Joint or Infill		Consolidation Code		Order No.			

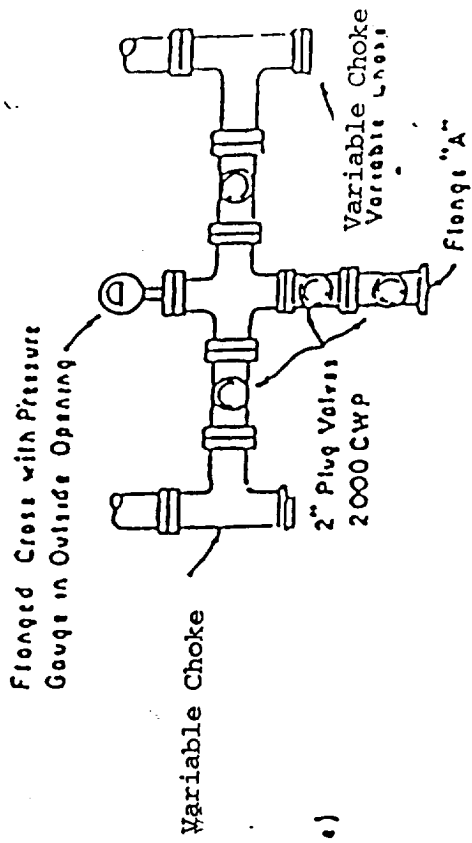
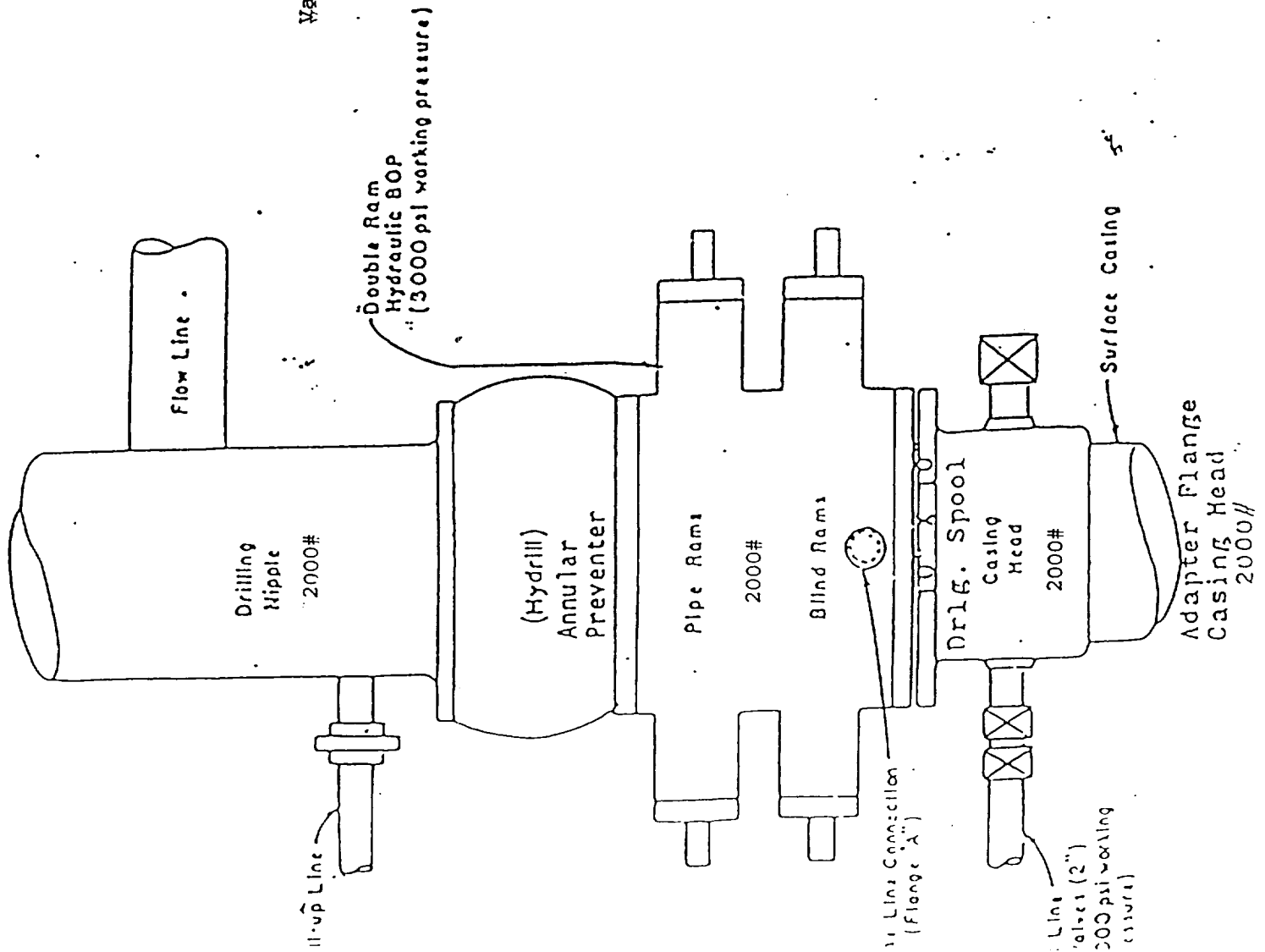
NO ALLOWABLE WILL BE ASSIGNED TO THIS COMPLETION UNTIL ALL INTERESTS HAVE BEEN CONSOLIDATED  
OR A NON-STANDARD UNIT HAS BEEN APPROVED BY THE DIVISION

<div>16</div> 					<div>17 OPERATOR CERTIFICATION</div> <p>I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief.</p> <p><u>Chuck Morgan</u> Signature Chuck Morgan Printed Name Engineer Title July 23, 1996 Date</p> <div>18 SURVEYOR CERTIFICATION</div> <p>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.</p> <p>JULY 19, 1996 Date of Survey Signature and Seal of Registered Surveyor:  Certificate No. 5412 NM P&amp;S</p>	

RECEIVED  
JAN 11 11:09  
BUREAU OF LAND MGMT.  
RESOURCES AREA

Original on file

EXHIBIT 2  
BLOWOUT PREVENTER  
DIAGRAM



PLAN VIEW - CHOKE MANIFOLD

PLANNED ACCESS ROADS

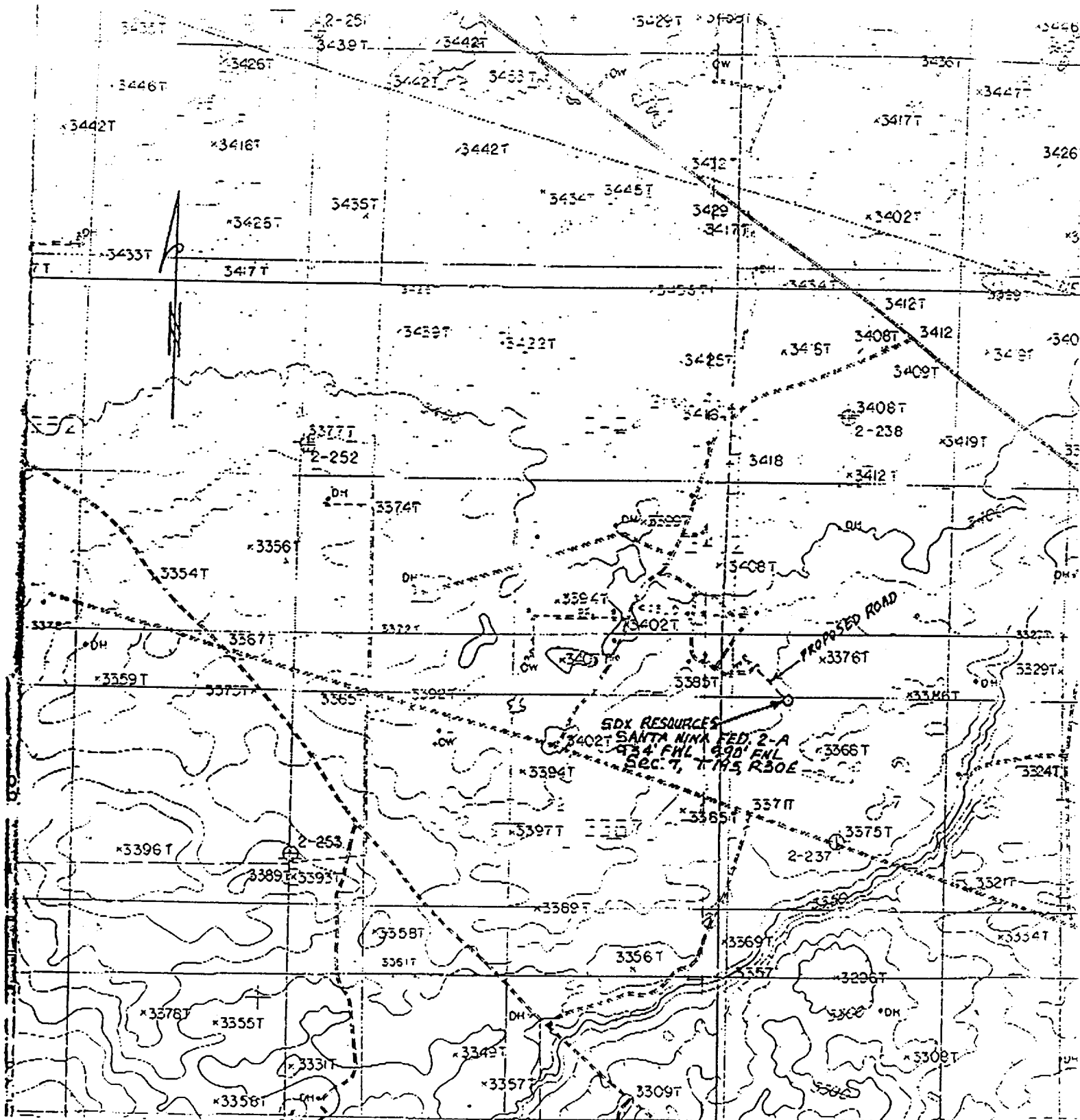


EXHIBIT 3

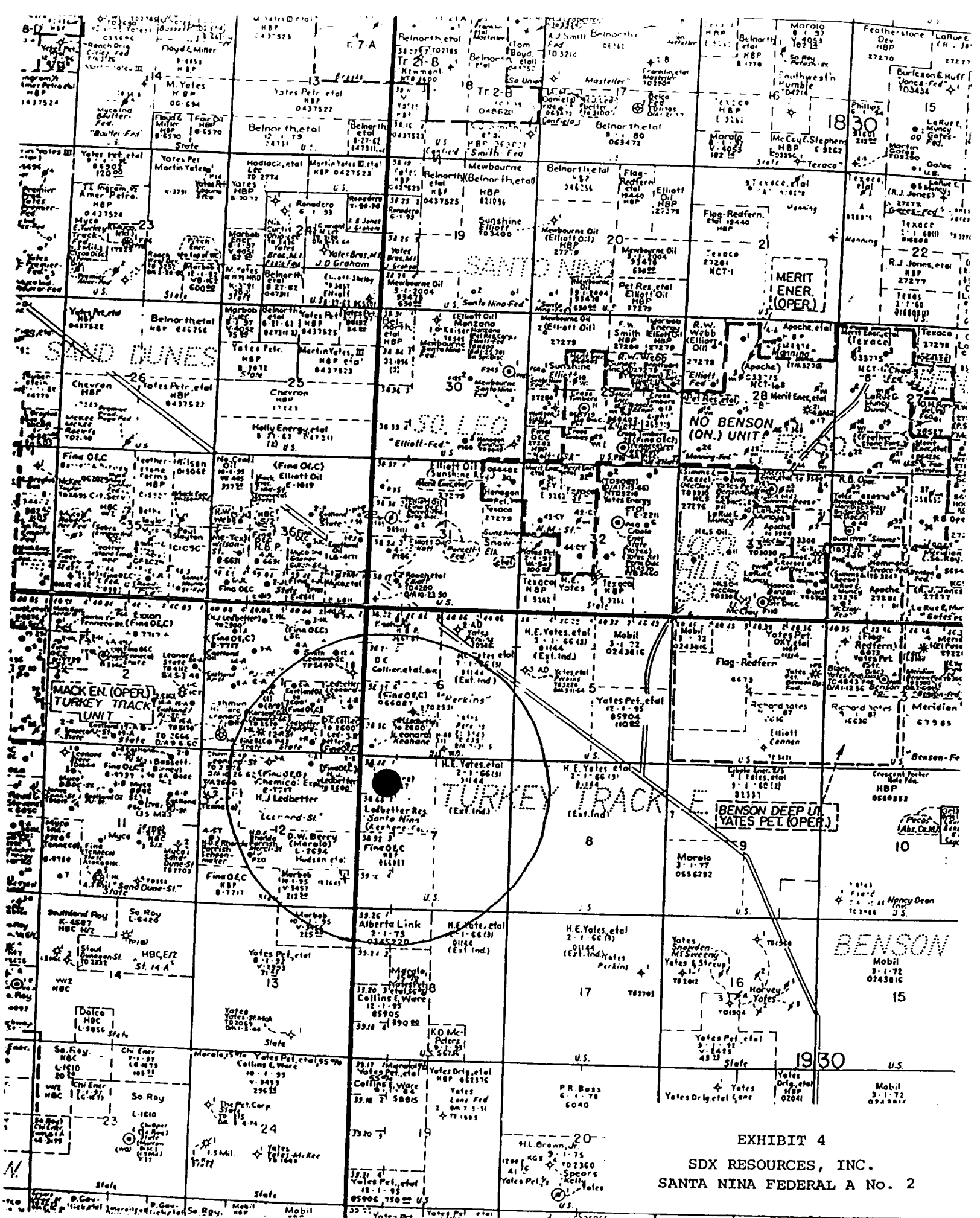
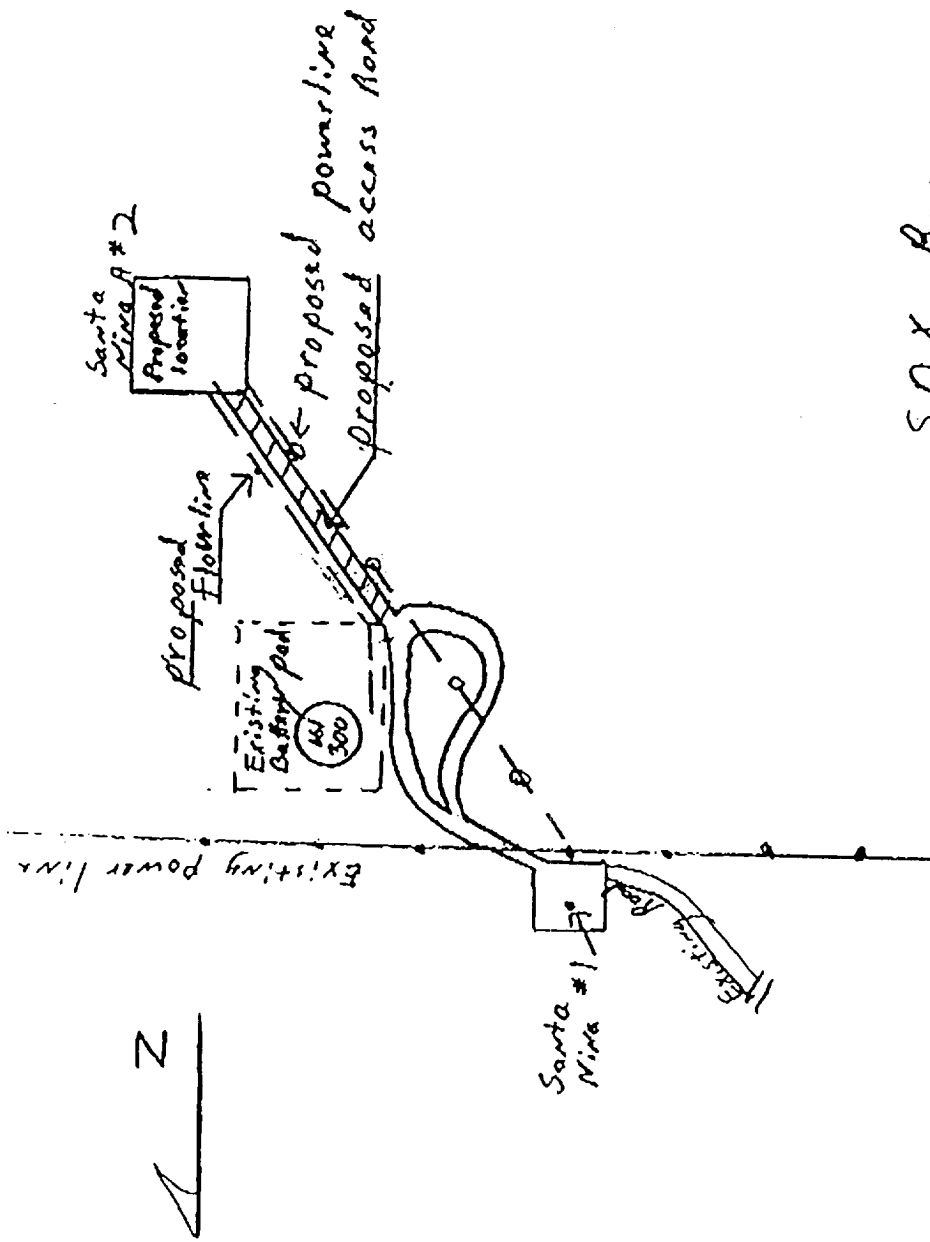
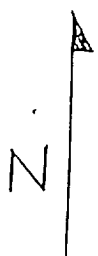
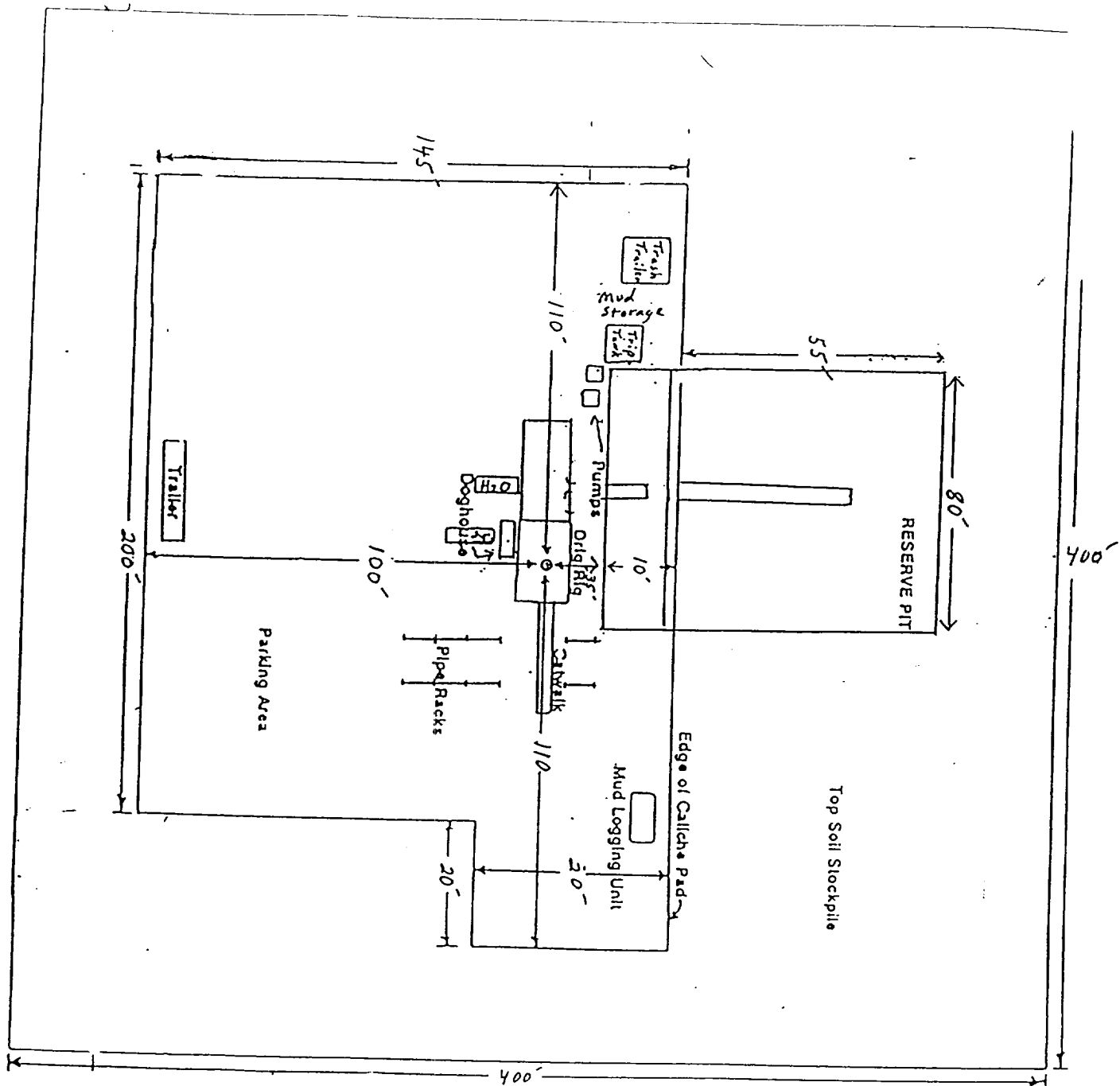


EXHIBIT 4  
SDX RESOURCES, INC.  
SANTA NINA FEDERAL A No. 2



SDX Resources  
Santa Nina A#2

Exhibit #5



SDX RESOURCES, INC

Drilling Rig Layout

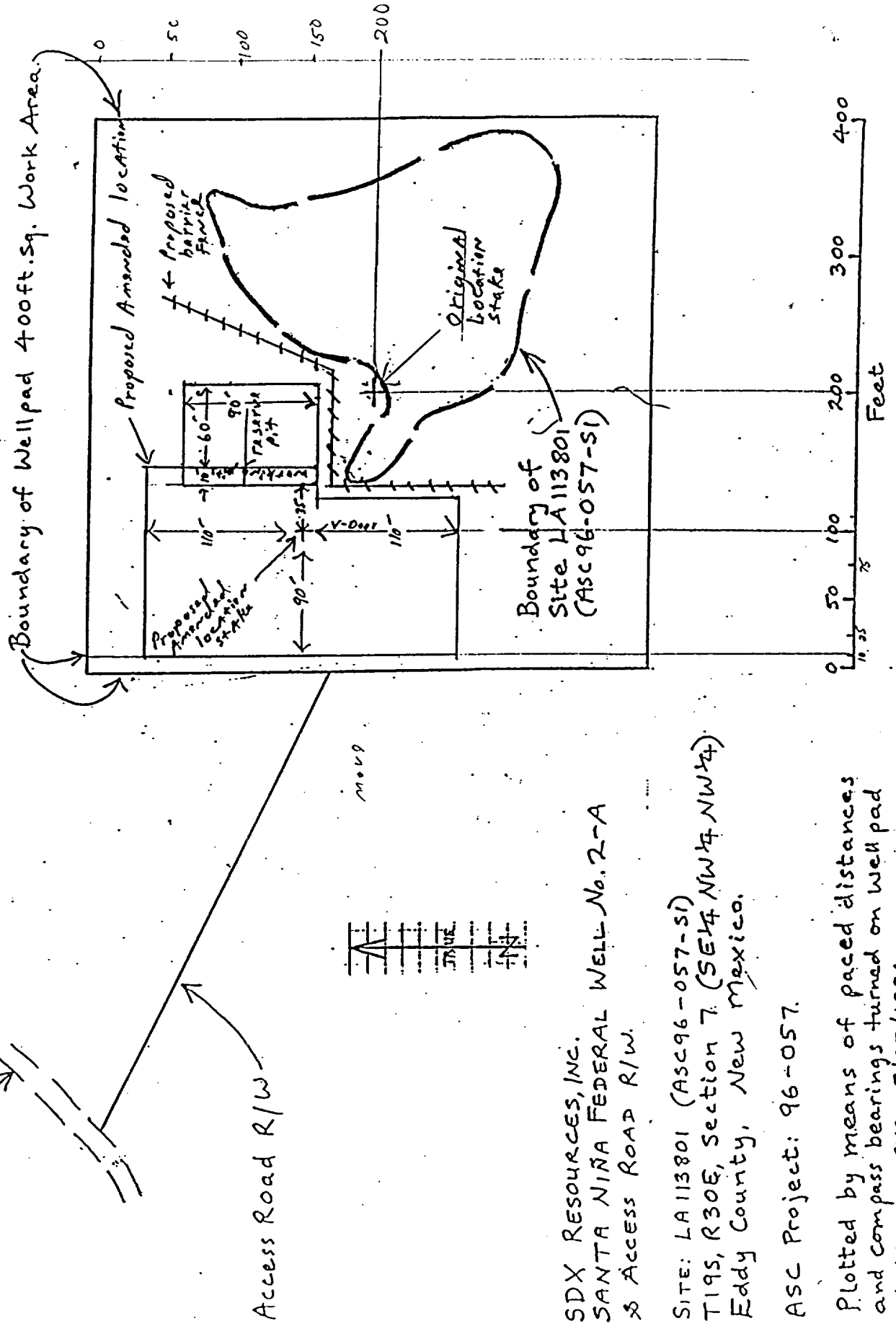
SANTA NINA FEDERAL A No. 2

EXHIBIT 6 "A"

# EXHIBIT #6B

## ARCHEOLOGICAL SITE & LOCATION MAP

Extant Caliche  
Oilfield Road



SDX RESOURCES, INC.  
SANTA NIÑA FEDERAL WELL No. 2-A  
Access Road R/W.

SITE: LA113801 (ASC96-057-S1)  
T19S, R30E, Section 7 (SE1/4 NW1/4 NW1/4)  
Eddy County, New Mexico.

ASC Project: 96-057.

Plotted by means of paced distances  
and compass bearings turned on well pad  
stations. JVS. 5/07/1996.



## DRILLING PROGRAM

SDX Resources, Inc.  
SANTA NINA A FEDERAL #2  
670' FNL 834' FWL  
Unit D, Sec 7, T19S, R30E  
Eddy Co., NM

1. Geologic Name of Surface Formation:

Permian

2. Estimated Tops of Important Geologic Markers:

Top of Salt	350'
Base of Salt	1245'
7-Rivers	1600'
Queen	2211'
Grayburg	2580'
San Andres	3100'
Delaware	3490'
Bone Springs	5000'

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

Water Sands	150' - 250'	Fresh Water
7-Rivers	1800'	Oil & Gas
Queen	2225'	Oil & Gas
Grayburg	2800'	Oil & Gas
San Andres	3180'	Oil & Gas
Delaware	3490'+	Oil & Gas

Fresh water sands will be protected by running 13-3/8" casing to a minimum depth of 325' and circulating cement. All other zones will be isolated by running 5-1/2" production casing and circulating cement.

4. Casing Program:

<u>Hole Size</u>	<u>Interval</u>	<u>OD Csg</u>	<u>Weight Grade It Cond Type</u>
17-1/4"	0-250'	13-3/8"	54-1/2#, J-55, New
12-1/4"	350-1350'	8-5/8"	24#, J-55, New
7-7/8"	1350-TD	5-1/2"	4#-15.5#, J-55, Used

Cement Program:

- 13-3/8" Surface Casing: Cemented to surface with 250 sx of Class C with 2% CaCl<sub>2</sub> and 1/4#/sx Flocele and 100 sx of Class C with 2% CaCl<sub>2</sub>.
- 8-5/8" Intermediate Csg: Cemented to surface with 700 sx of Class C with 2% CaCl<sub>2</sub>.
- 5-1/2" Production Casing: Cemented with 300 sx of 50/50 Class C POZ with 6% salt/sx and 3% Halad 322 and 500 sx of Lite C with 3# salt/sx and 1/4#/sx Flocele. This should circulate cement to the surface.

5. Minimum Specifications for Pressure Control:

The blowout preventer equipment (BOP) shown in Exhibit #1 will consist of a bag-type (hydrill) preventer with a double ram BOP (2000 psi WP). Unit will be hydraulically operated. BOP will be nipped up on the 13-3/8" surface csg and used continuously until TD is reached. BOP and accessory equipment will be tested to 1000 psi before drilling out of surface csg. A 2" kill line and a 2" choke line will be included in the drilling spool. Other accessories to the BOP equipment will include a kelly cock.

6. Types and Characteristics of the Proposed Mud System:

The well will be drilled to TD with a combination of fresh water and brine water mud system. The applicable depth and properties of this system are as follows:

<u>Depth</u>	<u>Type</u>	<u>Weight (ppg)</u>	<u>Viscosity (sec)</u>	<u>Waterloss (cc)</u>
0-250	Fresh Water (spud)	8.5	40-45	NC
250-TD	Brine Water SWG, Starch	10.0	30	24

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

7. Auxiliary Well Control and Monitoring Equipment:

- A. A Kelly cock will be kept in the drill string at all times.
- B. A mud logging unit complete with H<sub>2</sub>S detector will be continuously monitoring drilling penetration rate and hydrocarbon shows from 1000' to TD.

8. Logging, Testing and Coring Program:

- A. Drillstem tests will be run on the basis of drilling shows.
- B. The electric logging program will consist of GR-Dual Laterolog and GR-Compensated Neutron-Density from TD to 1000'.
- C. Conventional coring may be performed in select intervals in the Queen-Grayburg and/or San Andres.
- D. Further testing procedures will be determined after the 5-1/2" production casing has been cemented at TD based on drill shows and log evaluation.

9. Abnormal Conditions, Pressures, Temperatures, & Potential Hazards:

No abnormal pressure or temperatures are anticipated. The estimated bottom hole temperature (BHT) at TD is 124° F and estimated maximum bottom-hole pressure (BHP) is 1200 psig. No abnormal concentrations of hydrogen sulfide or other hazardous gases or fluids have been encountered, reported or are known to exist at this depth in this area. All H<sub>2</sub>S operations precautions will be followed (see attached H<sub>2</sub>S drilling operations plans).

10. 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 November 15, 2002. Once commenced, the drilling operation should be finished in approximately 10 days. If the well is productive, an additional 30 days will be required for completion and testing before a decision is made to install permanent facilities.

HYDROGEN SULFIDE DRILLING OPERATIONS PLAN

SDX RESOURCES, INC.  
SANTA NINA FEDERAL A #2  
670' FNL & 834' FWL  
Unit D Sec. 7 T19S R30E  
Eddy County, New Mexico

I. Hydrogen Sulfide Training

All personnel, whether regularly assigned, contracted, or employed on an unscheduled basis, will receive training from a qualified instructor in the following areas prior to commencing drilling operations on this well:

1. The hazards and characteristics of hydrogen sulfide (H<sub>2</sub>S).
2. The proper use and maintenance of personal protective equipment and life support system.
3. The proper use of H<sub>2</sub>S detectors, alarms, warning systems, briefing areas, evacuation procedures, and prevailing winds.
4. The proper techniques for first aid and rescue procedures.

In addition, supervisory personnel will be trained in the following areas:

1. The effects of H<sub>2</sub>S on metal components. If high tensile tubulars are to be used, personnel will be trained in their special maintenance requirements.
2. Corrective action and shut-in procedures when drilling or reworking a well and blowout prevention and well control procedures.
3. The contents and requirements of the H<sub>2</sub>S Drilling Operations Plan and the Public Protection Plan.

There will be an initial safety session just prior to commencing operations on the well. The initial session shall include a review of the site's specific H2S Drilling Operations Plan and the Public Protection Plan. This plan shall be available at the well site. All personnel will be required to carry documentation that they have received the proper training.

## II. H2S SAFETY EQUIPMENT AND SYSTEMS

Note: All H2S safety equipment and systems will be installed, tested, and operational when drilling reaches a depth of 500 feet.

1. Well Control Equipment:
  - A. Annular Preventer to accommodate all pipe sizes with properly sized closing unit.
2. Protective equipment for essential personnel:
  - A. Mark II Surviveair 30-minute units located in the dog house.
3. H2S detection and monitoring equipment:
  - A. 1 - portable H2S monitor positioned on location for best coverage and response.
  - B. Mud logging trailer shall have H2S monitoring equipment.
4. Visual warning systems:
  - A. Guy lines will be flagged and a wind sock will be positioned on location.
  - B. Caution/Danger signs shall be posted on roads providing direct access to location.

5. Mud program:

The mud program has been designed to minimize the volume of H2S circulated to the surface. Proper mud weight, safe drilling practices, will minimize hazards when penetrating H2S bearing zones.

6. Metallurgy:

All drill strings, casings, tubing, wellhead, blowout preventers, drilling spool, kill lines, choke manifold and lines, and valves shall be suitable for H2S service as necessary.

7. Communication:

Radio communications in company vehicles including cellular telephone and 2-way radio.

8. Well Testing:

No DST's are planned.

SURFACE USE AND OPERATING PLAN

SDX RESOURCES, INC.  
SANTA NINA FEDERAL A #2  
670' FNL & 834' FWL  
Unit D Sec. 7 T19S R30E

1. Existing Roads:

- A. The well site and elevation plat for the proposed well is shown in Exhibit #2. It was staked by Dan Reddy, Carlsbad, New Mexico.
- B. All roads to the location are shown in Exhibit #3. The existing roads are labeled and are adequate for travel during drilling and production operations. Upgrading of the road prior to drilling will be done where necessary as determined during the onsite inspection.
- C. Directions to location: Go east 13 miles from Artesia, New Mexico on Hwy 82, turn south on CR360. Go .15 miles past mile marker 14. Turn right through cattleguard. Go west 1 mile. Turn left & follow road 1/4 mile to Santa Nina #1 Battery. Turn right & follow road to location.
- D. Routine grading and maintenance of existing roads will be conducted as necessary to maintain their condition as long as any operations continue on this lease.

2. Proposed Access Road:

Exhibit #3 shows the existing road.

Exhibit #5 shows the new access road to be constructed. The road will be constructed as follows:

- A. The maximum width of the running surface will be 15'. The road will be crowned and ditched and constructed of 6" of rolled and compacted caliche. Water will be diverted where necessary to avoid ponding, prevent erosion, maintain good drainage, and to be consistent with local drainage patterns. BLM may specify any additions or changes during the onsite inspection.

- B. The average grade will be less than 1%.
- C. No turnouts are planned.
- D. No additional cattleguards or gates are needed.
- E. Surfacing material will consist of native caliche. Caliche will be obtained from the nearest approved caliche pit. Any additional materials that are required will be purchased from the dirt contractor.
- F. The proposed access road is shown in Exhibit #3. It is +/- 500' long and will be included in the archeological survey.

3. Location of Existing Wells:

Exhibit #4 shows all existing wells within a one-mile radius of this well.

4. Location of Existing and/or Proposed Facilities:

- A. If the well is productive, contemplated facilities will be constructed on the existing site of the Santa Nina Federal #1 Battery.
- B. If the well is productive, contemplated facilities will be as follows:
  - 1. Two inch (2") SDR-11 plastic flowline will be laid beside proposed access road to the existing battery as shown in Exhibit #5.
  - 2. Power will be required if the well is productive. Proposed powerline right-of-way is shown on Exhibit #5.
- C. If the well is productive, rehabilitation plans are as follows:
  - 1. The reserve pit will be back-filled after the contents of the pit are dry (within 120 days after the well is complete).
  - 2. Topsoil removed from the drill site will be used to re-contour the pit area to the original natural level, as nearly as possible, and re-seeded as per BLM specifications.



5. Location and Type of Water Supply:

The well will be drilled with a combination brine and fresh water mud systems as outlined in the drilling program. The brine and fresh water will be obtained from commercial water stations in the area and hauled to the location by transport truck over the existing and proposed access roads shown in Exhibit #3. No water well will be drilled on the location.

6. Source of Construction Materials:

All caliche required for construction of the drill pad and any new access road will be obtained from the drilling pits and/or on site when possible. Any additional caliche will be obtained from approved caliche pits. All roads and pads will be constructed of 6" of 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 plastic lined pits. 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 80' x 55' x 6' deep and fenced. 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.
- C. Water produced from the well during completion may be disposed into the reserve pit. After the well is permanently placed on production, produced water will be hauled to an approved SWD facility.
- D. Garbage and trash produced during drilling or completion operations will be collected in a trash trailer by a contractor. 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 this operation.

- E. After the rig is moved out and the well is either completed or abandoned, all waste materials will be cleaned-up within 90 days. No adverse materials will be left on the location. The reserve pit will be completely fenced and kept closed until it has 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 re-seeded as per BLM specifications. Only that part of the pad required for production facilities will be kept in use.
8. Ancillary Facilities:
- None
9. Well Site Layout:
- A. The drill pad layout is shown in Exhibit #6. Dimensions of the pad and 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. Because the pad is almost level no major cuts will be required.
  - B. Exhibit #6 shows the planned orientation for the rig and associated drilling equipment, reserve pit, trash pit, pipe racks, turn-around, parking areas and access road. No permanent living facilities are planned but a temporary foreman/toolpusher's trailer will be on location during the drilling operations.
  - C. The reserve pit will be lined with high-quality plastic sheeting (5-7 mil thickness).
10. Plan for Restoration of the Surface:
- A. Upon completion of the proposed operation, if the well is to be abandoned, the pit area, after allowing to dry, will be broken out and leveled. The original top soil will be returned to the entire location which will be leveled and contoured to as nearly the original topography as possible.
- All trash and garbage will be hauled away in order to leave the location in an aesthetically pleasing condition. All pits will be filled and the location leveled within 120 days after abandonment.

- B. The disturbed area will be re-vegetated by re-seeding during the proper growing season with a seed mixture of native grasses as recommended by the BLM.
- C. The reserve pit will be fenced prior to and during drilling operations. The fencing will remain in place until the pit area is cleaned-up and leveled. No oil will be left on the surface of the fluid in the pit.
- D. Upon completion of the proposed operations, if the well is completed, the reserve pit area will be treated as outlined above within the same prescribed time. The caliche from any area of the original drill site not needed for production operations or facilities will be removed and used for construction of thicker pads. Any additional caliche required for facilities will be obtained from an approved caliche pit. Topsoil removed from the drill site will be used to re-contour the pit area and any unused portions of the drill pad to the original natural level and re-seeded as per BLM specifications.

11. Surface Ownership:

The location is located on Federal surface. The surface is leased by JR Engineering, PO Box 12237, Odessa, TX 79768. Their representative has been contacted.

12. Other Information:

- A. The area around the well site is sandy grassland. The vegetation is native scrub grasses with abundant catclaw and mesquite.
- B. There is no permanent or live water in the immediate area.
- C. An Archaeological Survey has been requested and will be forwarded to your office in the near future.

Lessee's and Operator's Representative:

The SDX Resources, Inc. representative for assuring compliance with the surface use plan is as follows:

Chuck Morgan  
SDX Resources, Inc.  
PO Box 5061  
Midland, TX 79704  
915/685-1761 Office  
915/559-4667 Mobile

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 the work associated with the operations proposed herein will be performed by SDX Resources, Inc. and its contractors and subcontractors in conformity with this plan and the terms and conditions which it is approved.

Date: 8/16/02

SDX Resources, Inc.

  
\_\_\_\_\_  
John Pool  
Vice President

**STATEMENT ACCEPTING RESPONSIBILITY FOR OPERATIONS**

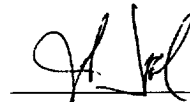
SDX Resources Inc.  
PO Box 5061  
Midland, TX 79704

August 16, 2002

The undersigned accepts all applicable terms, conditions, stipulations and restrictions concerning operations conducted on the leased land or portion thereof, as described below:

Lease No.:	NMLC-066087
Lease Name:	Santa Nina A Federal #2
Legal Description of Land:	Unit D, 670' FNL 834' FWL Sec. 7, T19S, R30E Eddy Co., NM
Formation (s):	Und - Santa Nina Delaware
Bond Coverage:	Statewide Bond - State of New Mexico
BLM Bond File No.:	NM2307

Authorized Signature:



John Pool  
Vice-President