

Case 8914

APPLICATION FOR AUTHORIZATION TO INJECT

- I. Purpose:  Secondary Recovery  Pressure Maintenance  Disposal  Storage  
Application qualifies for administrative approval?  yes  no
- II. Operator: Chase Energy, Inc.  
Address: 2501 East 20th Street Farmington, New Mexico 87401
- M Contact party: Bob Allen Phone: (505) 326-6574
- III. Well data: Complete the data required on the reverse side of this form for each well proposed for injection. Additional sheets may be attached if necessary.
- IV. Is this an expansion of an existing project?  yes  no  
If yes, give the Division order number authorizing the project \_\_\_\_\_.
- V. Attach a map that identifies all wells and leases within two miles of any proposed injection well with a one-half mile radius circle drawn around each proposed injection well. This circle identifies the well's area of review.
- \* VI. Attach a tabulation of data on all wells of public record within the area of review which penetrate the proposed injection zone. Such data shall include a description of each well's type, construction, date drilled, location, depth, record of completion, and a schematic of any plugged well illustrating all plugging detail.
- VII. Attach data on the proposed operation, including:
1. Proposed average and maximum daily rate and volume of fluids to be injected;
  2. Whether the system is open or closed;
  3. Proposed average and maximum injection pressure;
  4. Sources and an appropriate analysis of injection fluid and compatibility with the receiving formation if other than reinjected produced water; and
  5. If injection is for disposal purposes into a zone not productive of oil or gas at or within one mile of the proposed well, attach a chemical analysis of the disposal zone formation water (may be measured or inferred from existing literature, studies, nearby wells, etc.).
- \*VIII. Attach appropriate geological data on the injection zone including appropriate lithologic detail, geological name, thickness, and depth. Give the geologic name, and depth to bottom of all underground sources of drinking water (aquifers containing waters with total dissolved solids concentrations of 10,000 mg/l or less) overlying the proposed injection zone as well as any such source known to be immediately underlying the injection interval.
- IX. Describe the proposed stimulation program, if any.
- \* X. Attach appropriate logging and test data on the well. (If well logs have been filed with the Division they need not be resubmitted.)
- \* XI. Attach a chemical analysis of fresh water from two or more fresh water wells (if available and producing) within one mile of any injection or disposal well showing location of wells and dates samples were taken.
- XII. Applicants for disposal wells must make an affirmative statement that they have examined available geologic and engineering data and find no evidence of open faults or any other hydrologic connection between the disposal zone and any underground source of drinking water.
- XIII. Applicants must complete the "Proof of Notice" section on the reverse side of this form.
- XIV. Certification

I hereby certify that the information submitted with this application is true and correct to the best of my knowledge and belief.

Name: Bob Allen Title Field Superintendent

Signature: Bob Allen Date: 3-10-86

\* If the information required under Sections VI, VIII, X, and XI above has been previously submitted, it need not be duplicated and resubmitted. Please show the date and circumstance of the earlier submittal.

## III. WELL DATA

A. The following well data must be submitted for each injection well covered by this application. The data must be both in tabular and schematic form and shall include:

- (1) Lease name; Well No.; location by Section, Township, and Range; and footage location within the section.
- (2) Each casing string used with its size, setting depth, sacks of cement used, hole size, top of cement, and how such top was determined.
- (3) A description of the tubing to be used including its size, lining material, and setting depth.
- (4) The name, model, and setting depth of the packer used or a description of any other seal system or assembly used.

Division District offices have supplies of Well Data Sheets which may be used or which may be used as models for this purpose. Applicants for several identical wells may submit a "typical data sheet" rather than submitting the data for each well.

B. The following must be submitted for each injection well covered by this application. All items must be addressed for the initial well. Responses for additional wells need be shown only when different. Information shown on schematics need not be repeated.

- (1) The name of the injection formation and, if applicable, the field or pool name.
- (2) The injection interval and whether it is perforated or open-hole.
- (3) State if the well was drilled for injection or, if not, the original purpose of the well.
- (4) Give the depths of any other perforated intervals and detail on the sacks of cement or bridge plugs used to seal off such perforations.
- (5) Give the depth to and name of the next higher and next lower oil or gas zone in the area of the well, if any.

## XIV. PROOF OF NOTICE

All applicants must furnish proof that a copy of the application has been furnished, by certified or registered mail, to the owner of the surface of the land on which the well is to be located and to each leasehold operator within one-half mile of the well location.

Where an application is subject to administrative approval, a proof of publication must be submitted. Such proof shall consist of a copy of the legal advertisement which was published in the county in which the well is located. The contents of such advertisement must include:

- (1) The name, address, phone number, and contact party for the applicant;
- (2) the intended purpose of the injection well; with the exact location of single wells or the section, township, and range location of multiple wells;
- (3) the formation name and depth with expected maximum injection rates and pressures; and
- (4) a notation that interested parties must file objections or requests for hearing with the Oil Conservation Division, P. O. Box 2088, Santa Fe, New Mexico 87501 within 15 days.

NO ACTION WILL BE TAKEN ON THE APPLICATION UNTIL PROPER PROOF OF NOTICE HAS BEEN SUBMITTED.

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NOTICE: Surface owners or offset operators must file any objections or requests for hearing of administrative applications within 15 days from the date this application was mailed to them.

DATA SHEET ON WELLS IN THE AREA OF REVIEW

NORTH HOGBACK 1 # 24 Duncan  
Water disposal well,

*P-5525  
6/18*

Location: Section 1 29N 17W 1600' fsl - 2530' fe1  
4981' Ground elevation

Date drilled: 8-18-76

Completion Data:

7" - 20 lbs. per foot to 25' cemented with 5 sacks

4 1/2" - 10.5 lbs. per foot to 675' cemented with 75 sacks

Baker "Model A" packer set at 635'

DEB #2X Chase Energy, Inc.

Producing oil well

Location: Section 36 30N 17W 360' fsl - 690' fe1

5041' Ground elevation

Date drilled: 11-27-66

Completion Data:

5 1/2" - 14 lbs per foot to 45' cemented with 10 sacks

2 7/8" - 6.5 lbs per foot to 750' cemented with 25 sacks

Larkin packer 750' to 752'

Perforated nipple 752' to 760'

DEB #15 Chase Energy, Inc.

Producing oil well

Location: Section 36 30N 17W 350' fsl - 1080 fe1

5033' Ground elevation

Date drilled: 9-26-67

Completion data:

7" - 20 lbs per foot to 30' cemented with 15 sacks

2 3/8" - 4.6 lbs per foot to 752' cemented with 35 sacks

open hole 752' to 757'

DEB # 17 Chase Energy, Inc.

Producing oil well

Location: Section 36 30N 17W 2000' fsl - 420' fe1

5066' Ground elevation

Date drilled: 2-2-69

Completion data:

7" - 20 lbs per foot to 55' cemented with 15 sacks

4 1/2" - 11.6 lbs per foot to 852' cemented with 25 sacks

2 3/8" to 844'

WELL DATA SHEET (CONTINUED)

DEB # 40 Chase Energy, Inc.

Producing oil well

Location: Section 36 30N 17W 264'fs) - 780' fw)

Date drilled: 3-14-85

Completion data:

7 5/8" - 24 lbs per foot to 24' cemented with 20 sacks

5 1/2" - 14 lbs per foot to 750' cemented with 20 sacks

open hole 750' to 754'

NAVAJO TRIBAL # 1 Chase Energy, Inc.

Producing oil well

Location: Section 31 30N 16W 330'fs) - 170'fw)

5037' Ground elevation

Date drilled: 9-12-67

Completion data:

7 5/8" - 22 lbs per foot to 30' cemented with 15 sacks

4 1/2" - 9.5 lbs per foot to 745' cemented with 95 sacks

open hole 745' to 790'

NAVAJO TRIBAL #8 Chase Energy, Inc.

Producing oil well

Location: Section 31 30N 16W 640'fs) - 165'fw)

5043' Ground elevation

Date drilled: 9-22-68

Completion data:

7 5/8" - 11.5 lbs per foot to 33' cemented with 15 sacks

2 7/8" - 6.4 lbs per foot to 778' cemented with 30 sacks

open hole 778' to 783.5'

NAVAJO TRIBAL # 12 Chase Energy, Inc.

Water injection well (pressure maintenance)

Location: Section 31 30N 16W 2475'fs) - 700'fw)

5089' Ground elevation

Date drilled: 10-4-70

Completion data:

7 5/8" - 17.5 lbs per foot to 30' cemented with 15 sacks

4 1/2" - 9.5 lbs per foot to 887' cemented with 70 sacks

open hole 887' to 899'

WELL DATA SHEET (Continued)

NAVAJO TRIBAL # 13 Chase Energy, Inc.

Temporarily abandoned oil well

Location: Section 31 30N 16W 2475' fs1 - 1135' fw1

5096' Ground elevation

Date drilled: 10-11-70

Completion data:

7 5/8" - 17.5 lbs per foot to 44' cemented with 30 sacks

4 1/2" - 9.5 lbs per foot to 853' cemented with 60 sacks

2 3/8" to 878'

open hole 878' to 901'

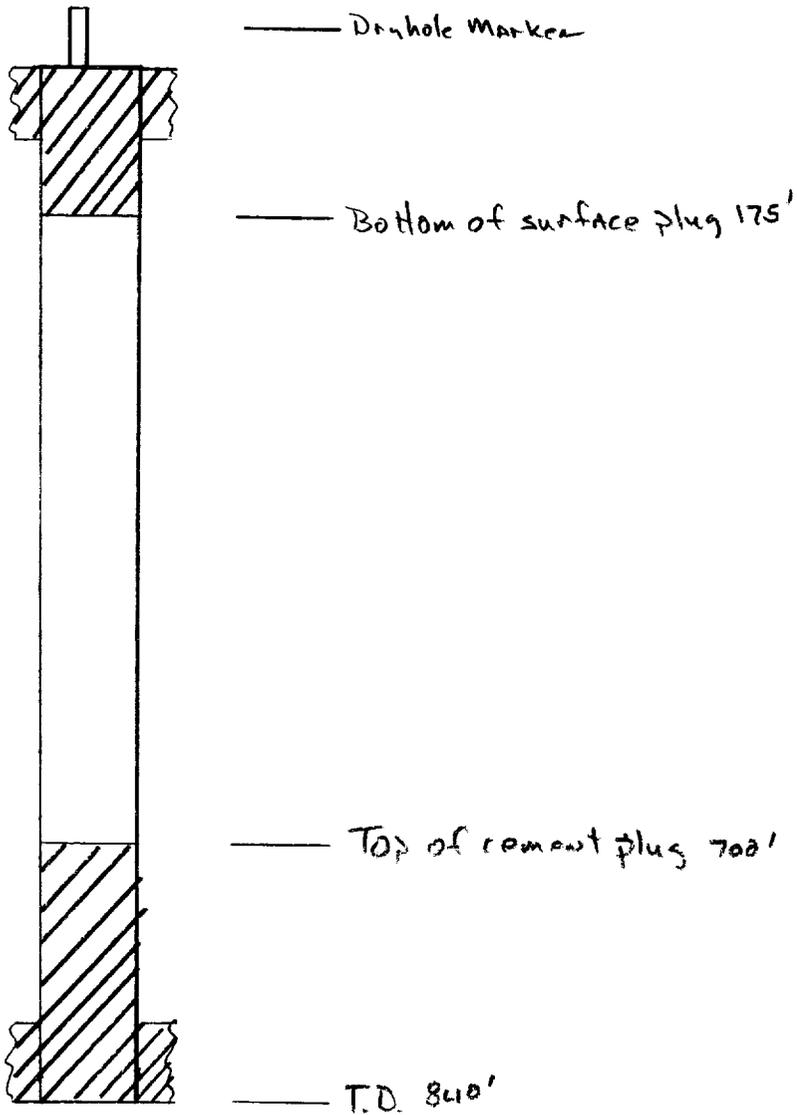
SCHEMATIC AND DETAILS OF PLUGGED WELLS

NORTH HOGBACK # 3 DUNCAN

Date plugged: 1-3-67

Location: Section 1 29N 17W 352'fnl - 716'fel

Spotted cement plugs from 840' to 700' and 175' to surface;  
erected dry hole marker.

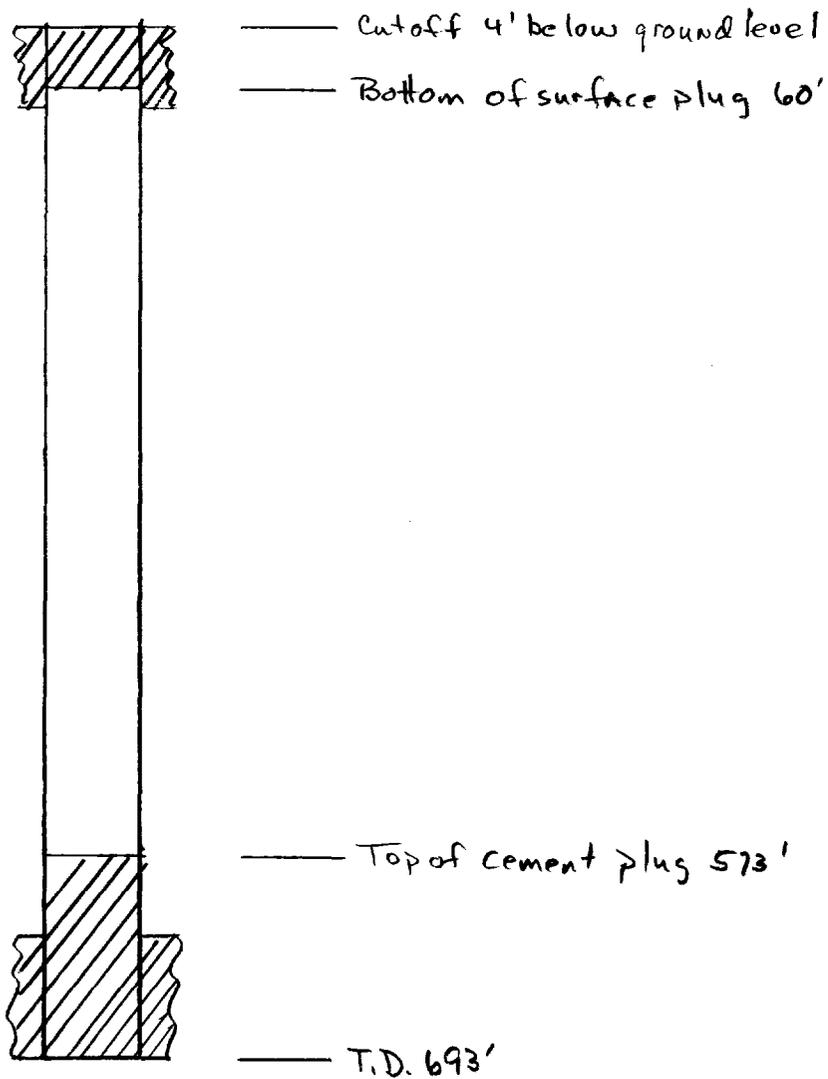


NORTH HOGBACK # 9 DUNCAN

Date plugged: 5-16-85

Location: Section 1 29N 17W 1800' fnl - 800' fe1

Spotted cement plugs from 693' to 573' and 60' to surface; cut off dry hole marker 4' below ground.

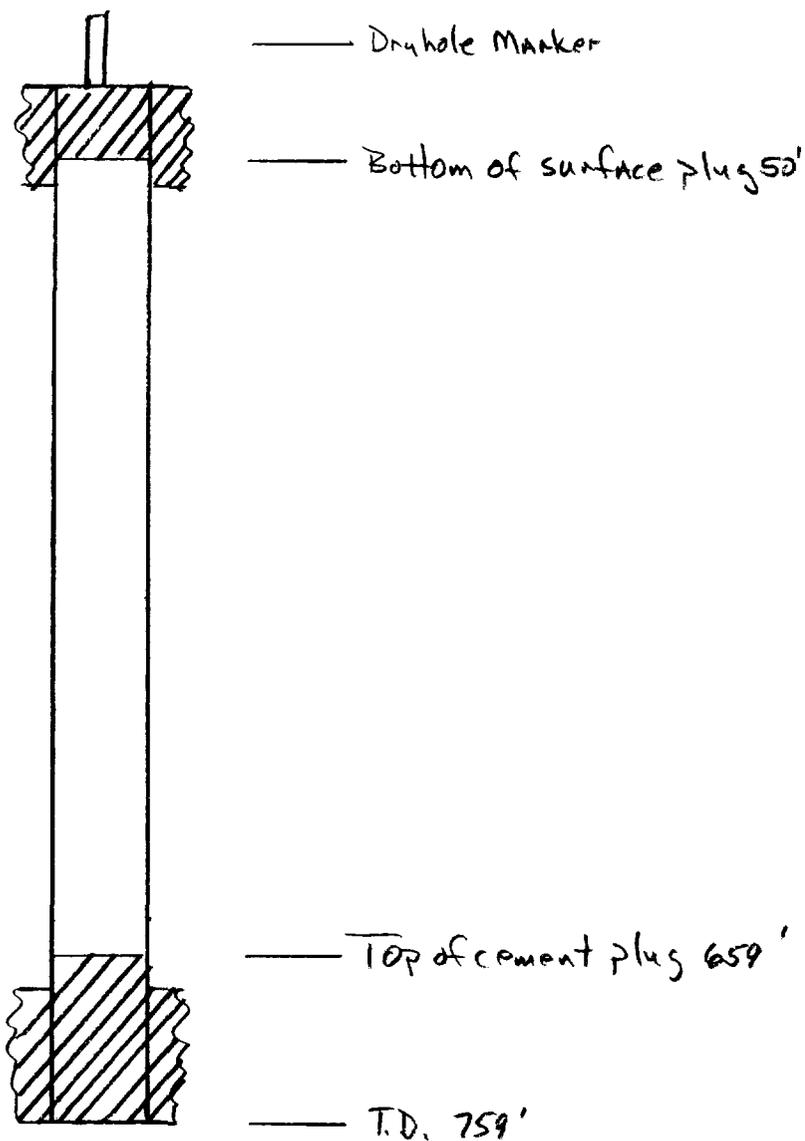


NORTH HOGBACK # 14 DUNCAN

Date plugged: 3-14-72

Location: Section 1 29N 17W 286'fnl - 166'fel

Spotted cement plugs from 759' to 659' and 50' to surface;  
erected dry hole marker.

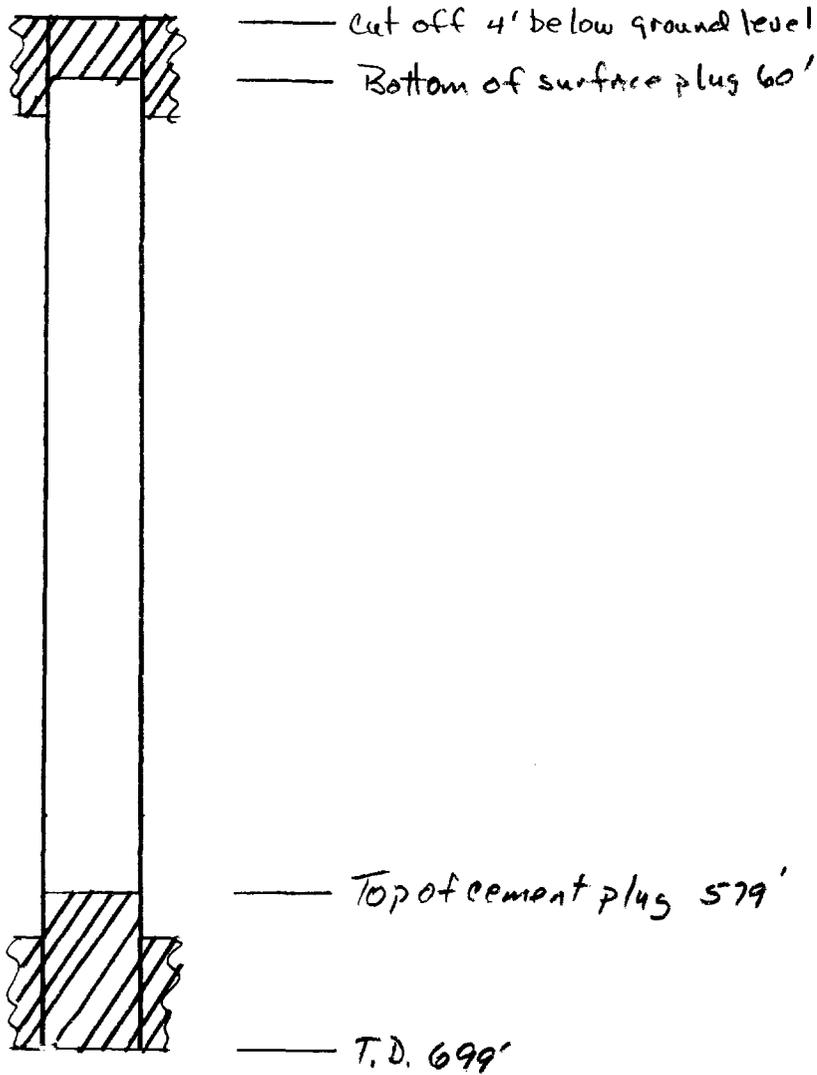


NORTH HOGBACK # 20 WALTER DUNCAN

Date plugged: 5-16-85

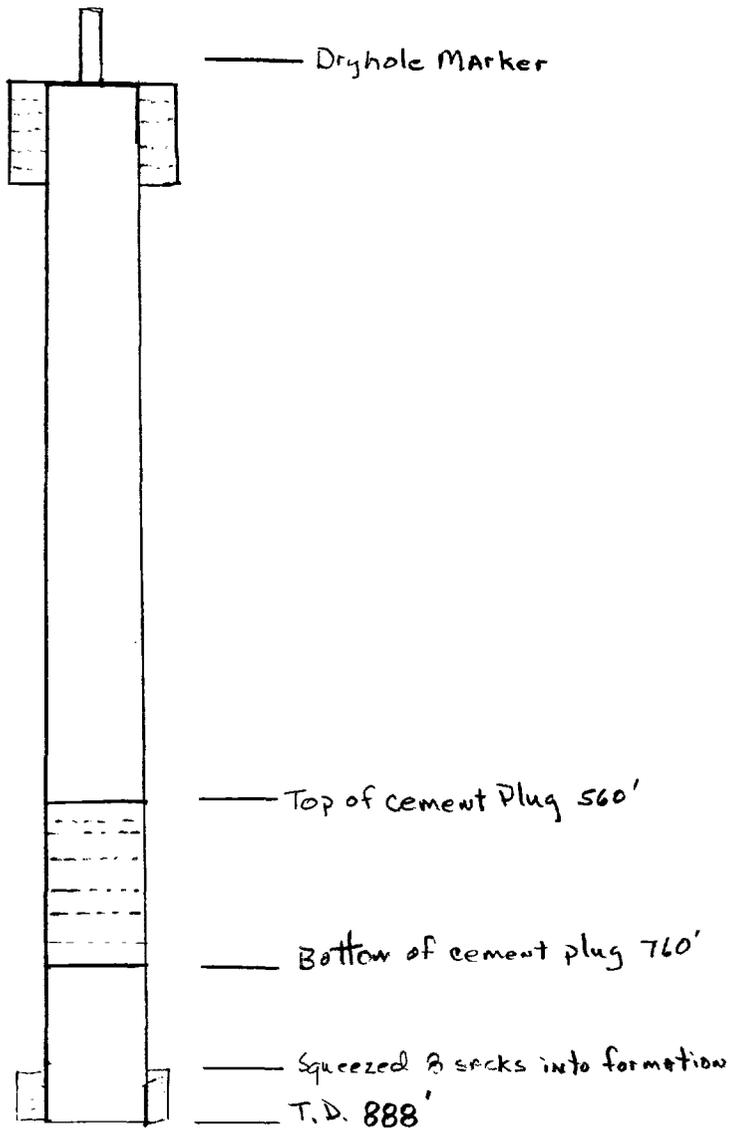
Location: Section 1 29N 16W 2770'fnl - 900'fel

Spotted cement plugs from 699' to 579' and 50' to surface; cut off dry hole marker 4' under ground.



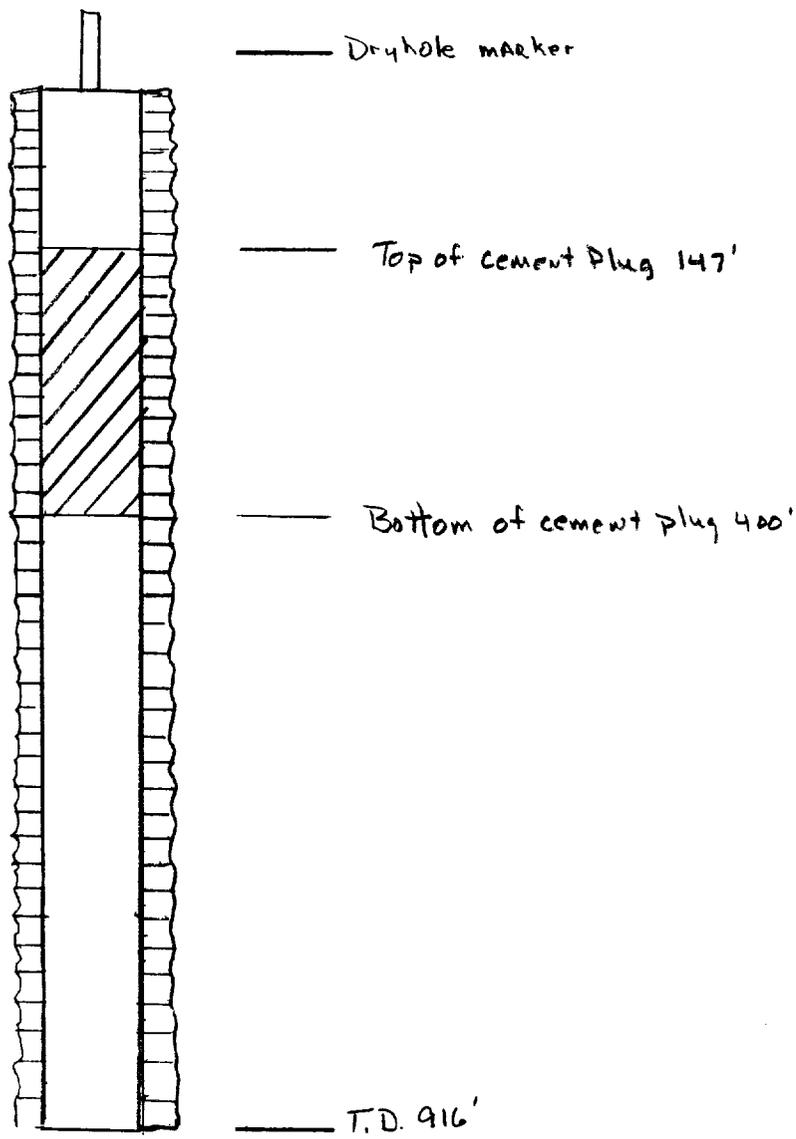
NAVAJO TRIBAL #3 CHASE ENERGY, INC.  
Date plugged: 11-5-67  
Location: Section 31 30N 16W 1155'fwl - 1485'fsl

Squeezed 8 sacks into formation; spotted 20 sacks at 760' to 560'  
erected dry hole marker.



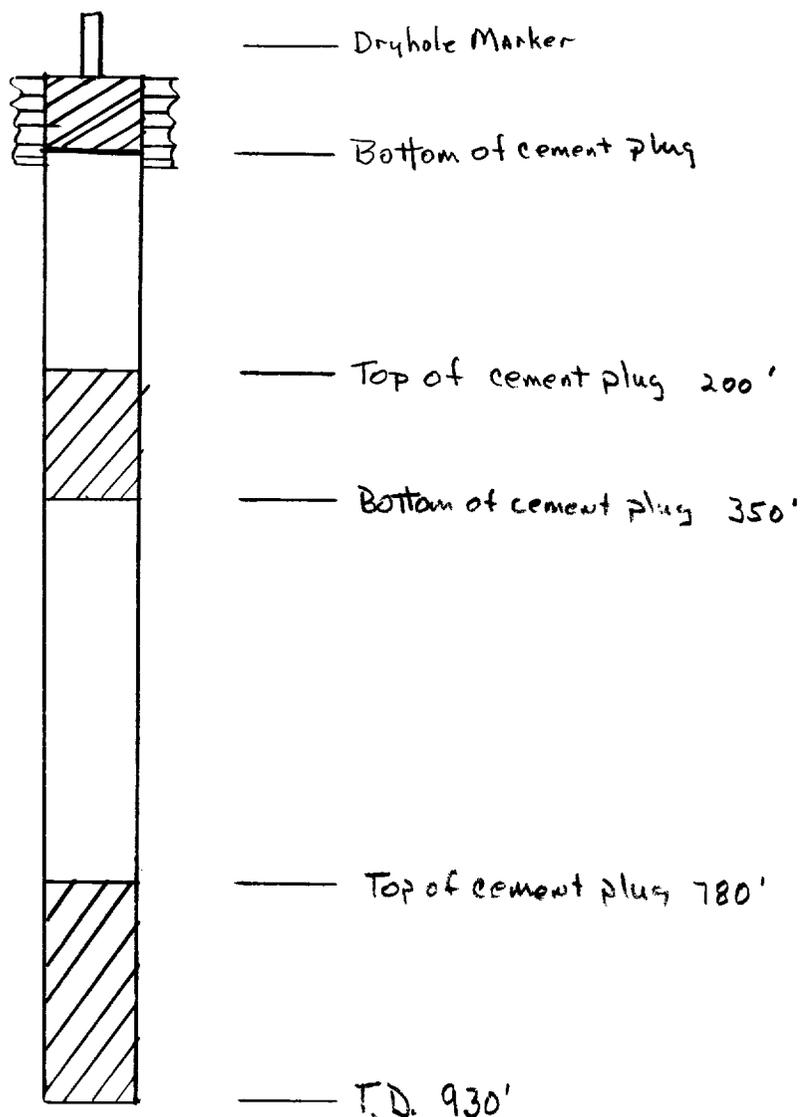
NAVAJO TRIBAL # 4 CHASE ENERGY, INC.  
Date plugged: 11-5-67  
Location: Section 31 30N 16W 2575' (sl) - 165' (fwl)

Spotted 20 sacks from 400' to 147'; erected dry hole marker.



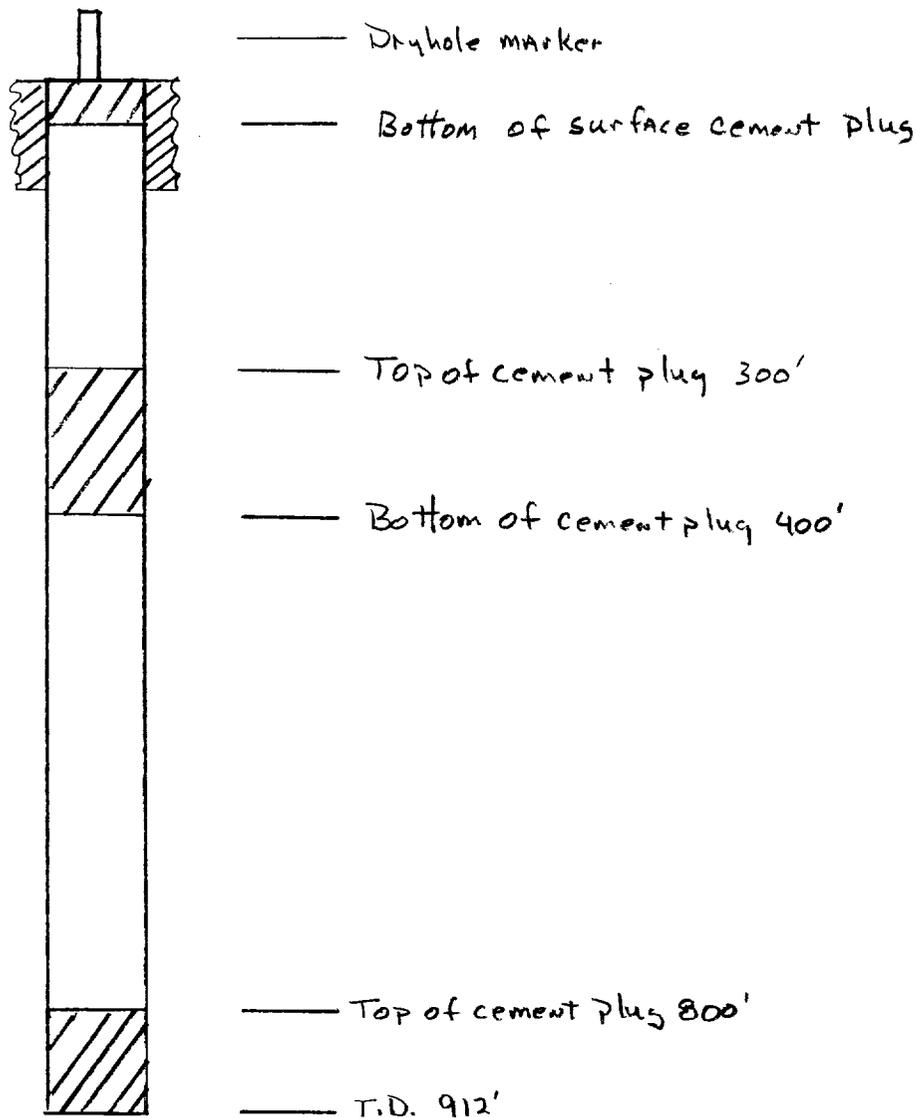
NAVAJO TRIBAL # 17 CHASE ENERGY, INC.  
Date plugged: 3-4-71  
Location: Section 31 30N 16W 2020'fs) - 1380'fw)

Spotted 20 sacks from 930' to 780'; 20 sacks 350' to 200'; 10 sacks at surface; erected dry hole marker.



NAVAJO TRIBAL # 25 CHASE ENERGY, INC.  
Date plugged: 3-7-77  
Location: Section 31 30N 16W 910'fwl - 2615'fnl

Spotted cement plug from 921' to 800'; 400' to 300'; plug in surface casing; erected dry hole marker.

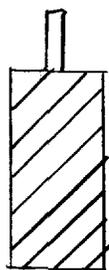


DEB # 2 CHASE ENERGY, INC.

Date plugged: 12-3-65

Location: Section 36 30N 17W 330'fs) - 660'fe)

Could not get below 60' due to Junk encountered, filled hole with cement, set dry hole marker.



—— Dryhole Marker

—— Hole filled with cement

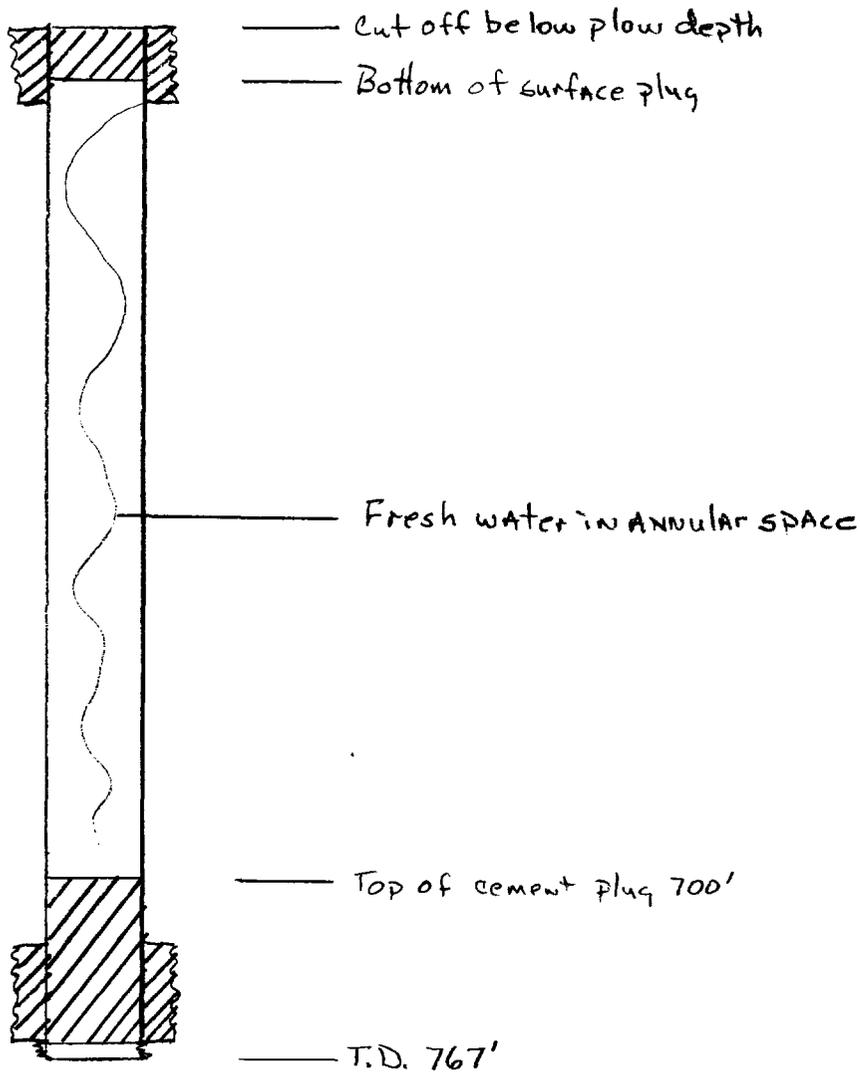
—— T.D. 60'

DEB #3 CHASE ENERGY, INC.

Date plugged: 6-30-72

Location: Section 36 30N 17W 1730'fe1 - 330'fs1

Set cement plug inside 4 1/2" casing from 767' to 700'; set second plug in surface with fresh water in annular spaces between, both plugs held, cut off marker below plug depth.

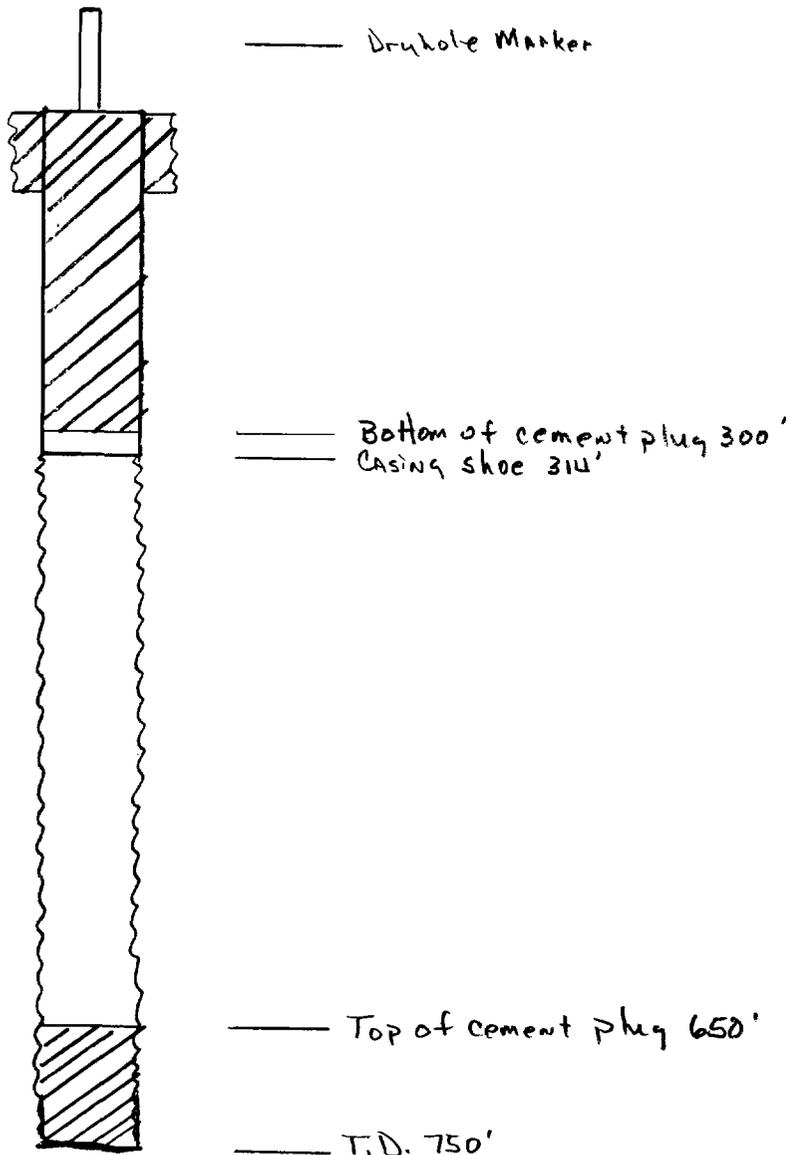


DEB # 5X CHASE ENERGY, INC.

Date plugged: 12-10-68

Location: Section 36 30N 16W 300'fs1 - 770'fw1

Plug Dakota 750' to 550' with 10 sacks; filled hole with 20 sacks from 300' to surface; erected dry hole marker.

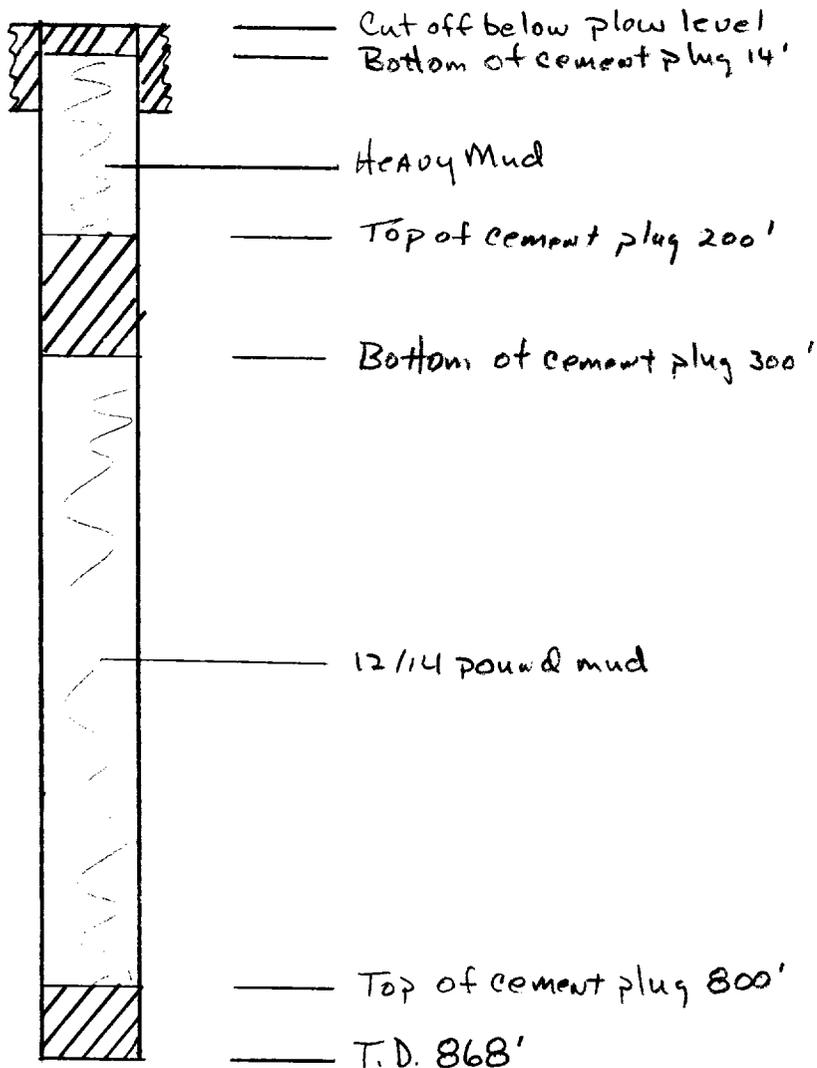


DEB #6 CHASE ENERGY, INC.

Date plugged: 3-3-67

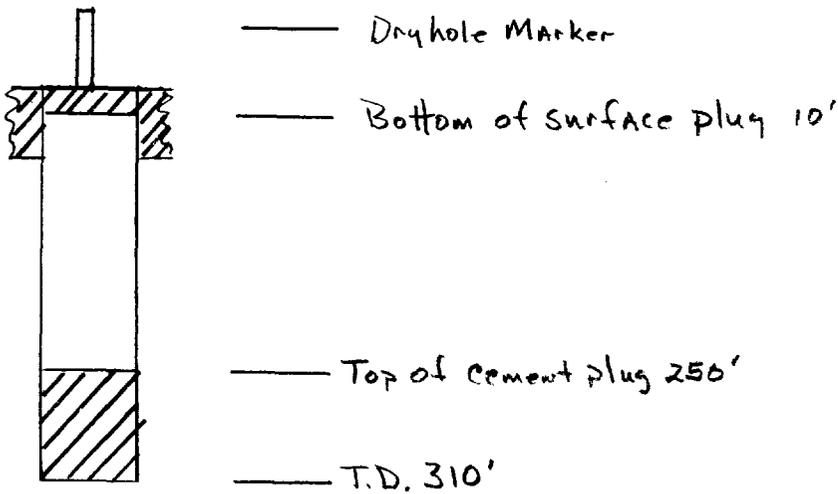
Location: Section 36 30N 17W 1650'fs1 - 330'fe1

Set plugs at 868' to 800' (15 sacks); 800' to 300' 12/14 pound mud; 300' to 200' (20 sacks); 200' to 14' heavy mud; 14' to 4' (2 sacks); cut off and welded cap on surface 4' plow level.



DEB # 7 CHASE ENERGY, INC.  
Date plugged: 3-27-67  
Location: Section 36 30N 17W 2310'fnl - 330'fel

Bottom plug 310' to 250' 10 sacks; surface plug 10' to 0' 2 sacks; erected dry hole marker.

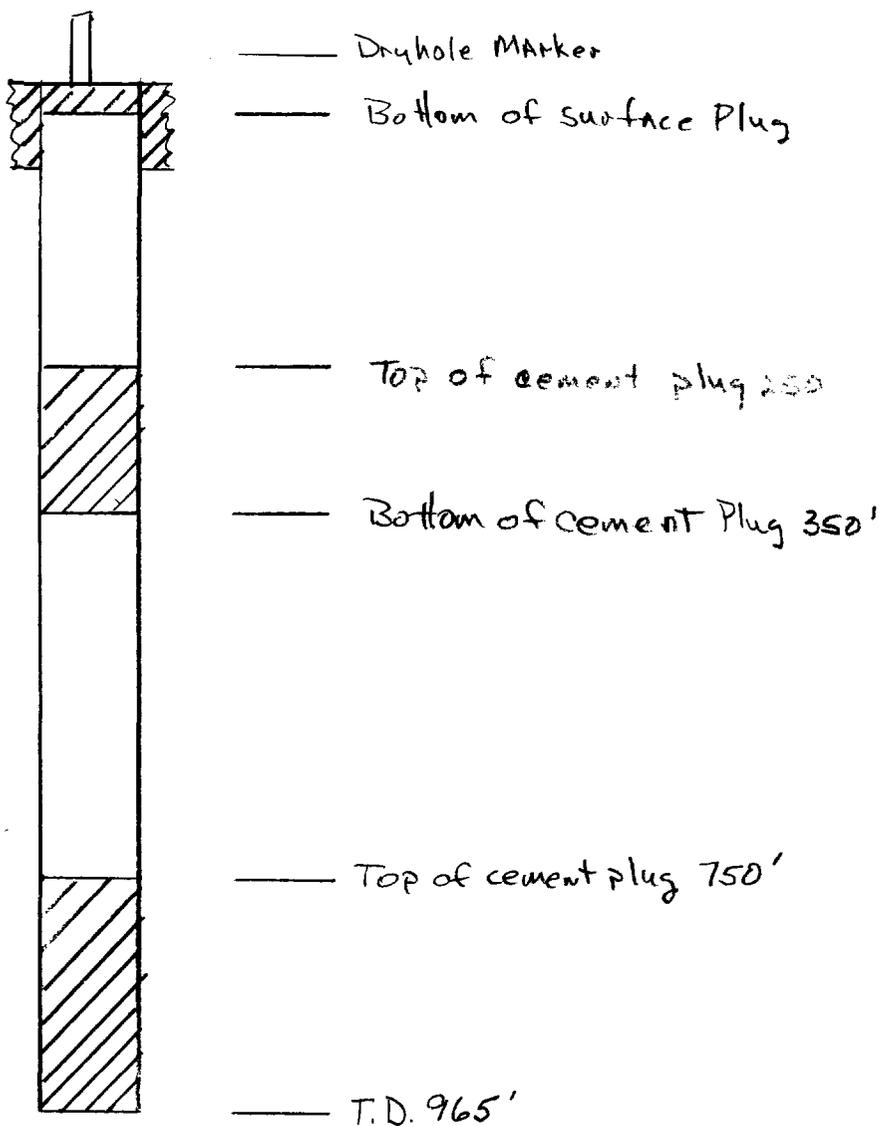


DEB # 8 CHASE ENERGY, INC.

Date plugged: 7-6-68

Location: Section 36 30N 17W 2475' fsl - 825' fe1

Dakota plug 965' to 750' 20 sacks; Gallup plug 350' to 250' 7 sacks; surface plug 3 sacks; erected dry hole marker.

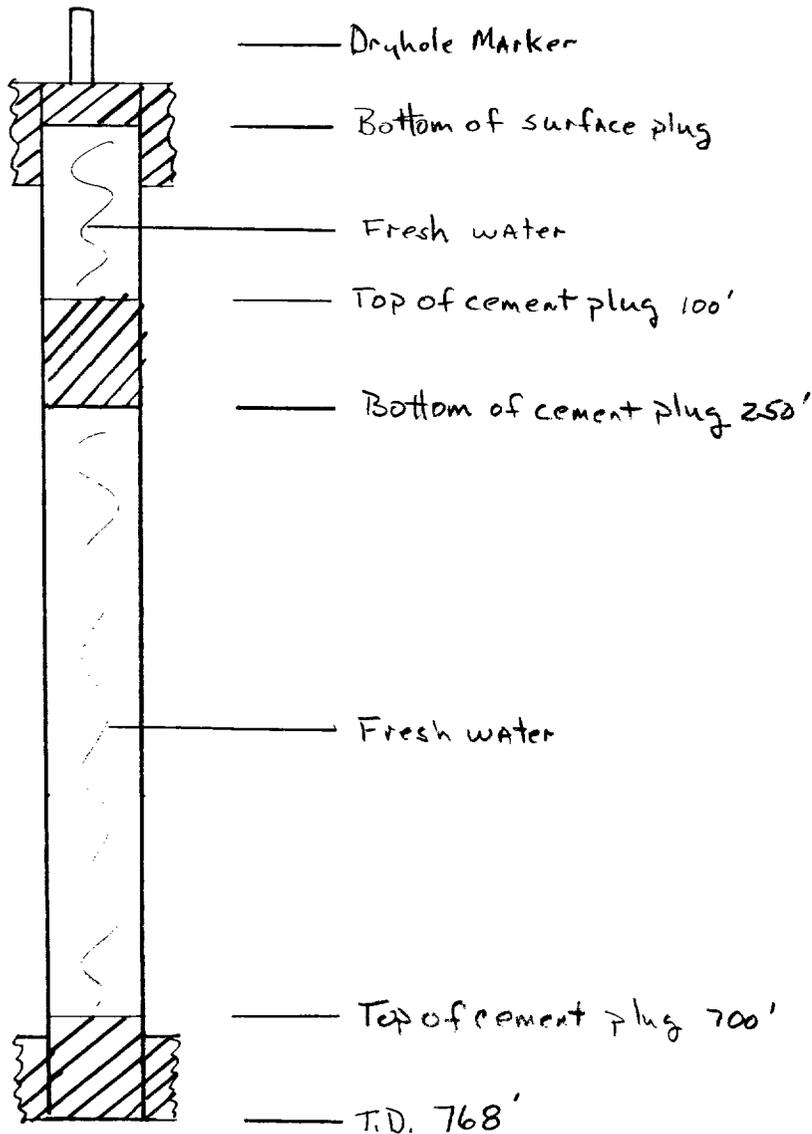


DEB # 9 CHASE ENERGY, INC.

Date plugged: 6-30-72

Location: Section 36 30N 17W 210' fsl - 420' fe1

Set cement plug in open hole 768' to 700'; set second plug 250' to 100'; set plug in surface pipe; all plugs held with fresh water in annular spaces; erected dry hole marker.

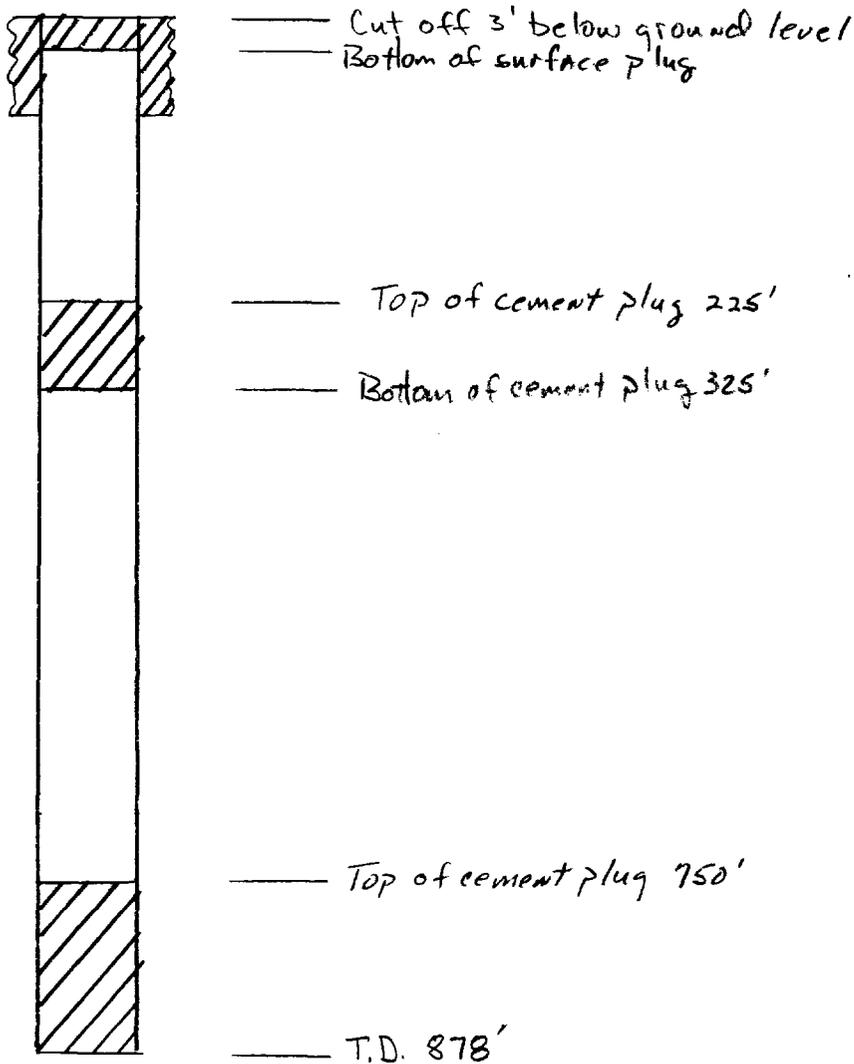


DEB # 10 CHASE ENERGY, INC.

Date plugged: 4-27-68

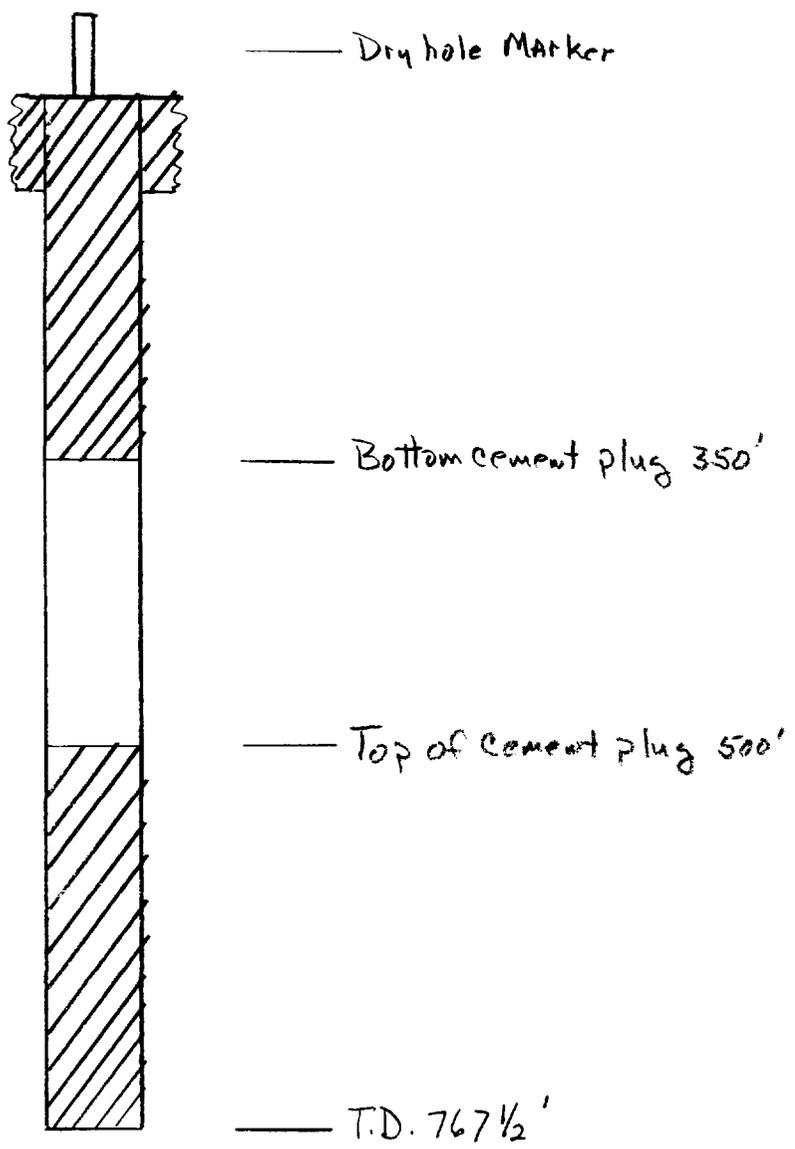
Location: Section 36 30N 17W 1915'fs1 - 235'fe1

Dakota plug 878' to 750' 15 sacks; Gallup plug 325' to 225' 10 sacks; surface plug 5 sacks; cut surface casing 3' below ground welded on cap in alfalfa field.



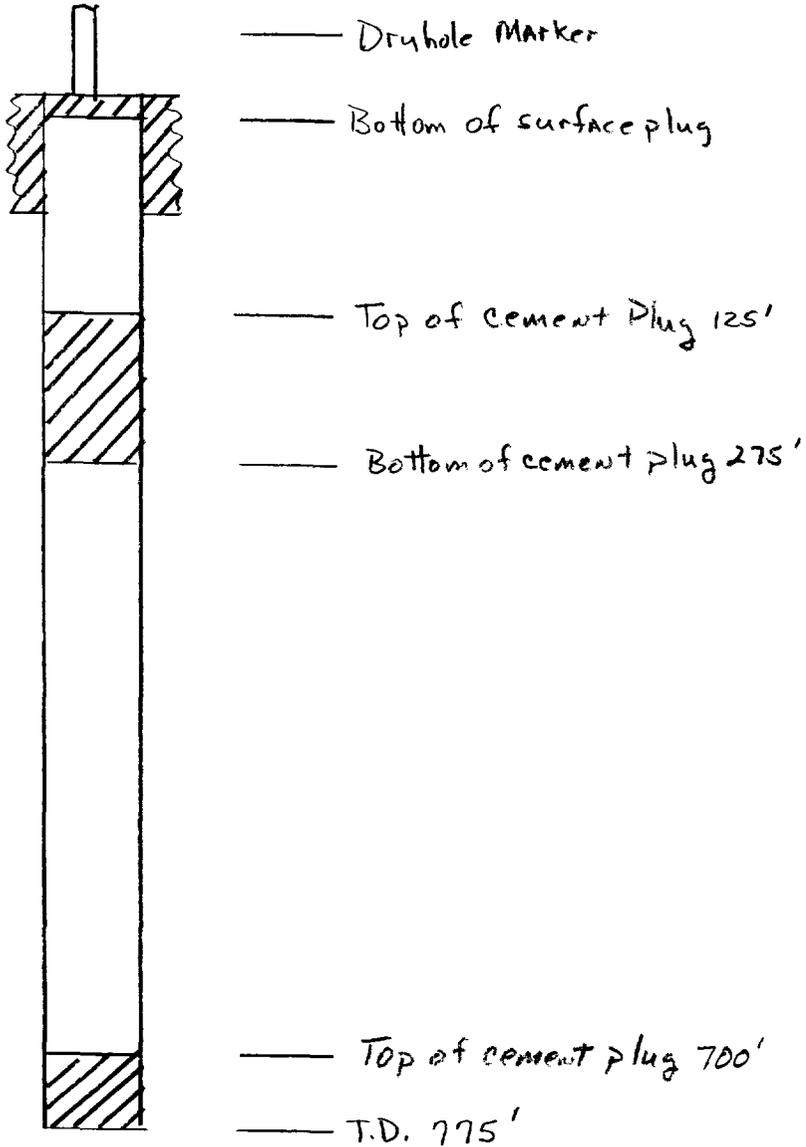
DEB # 1 X CHASE ENERGY, INC.  
Date plugged: 3-30-67  
Location: Section 36 30N 17W 2280'fwl - 330'fsl

Bottom plug 767 1/2' to 500'; top plug 350' to 0'; erected dry hole marker.



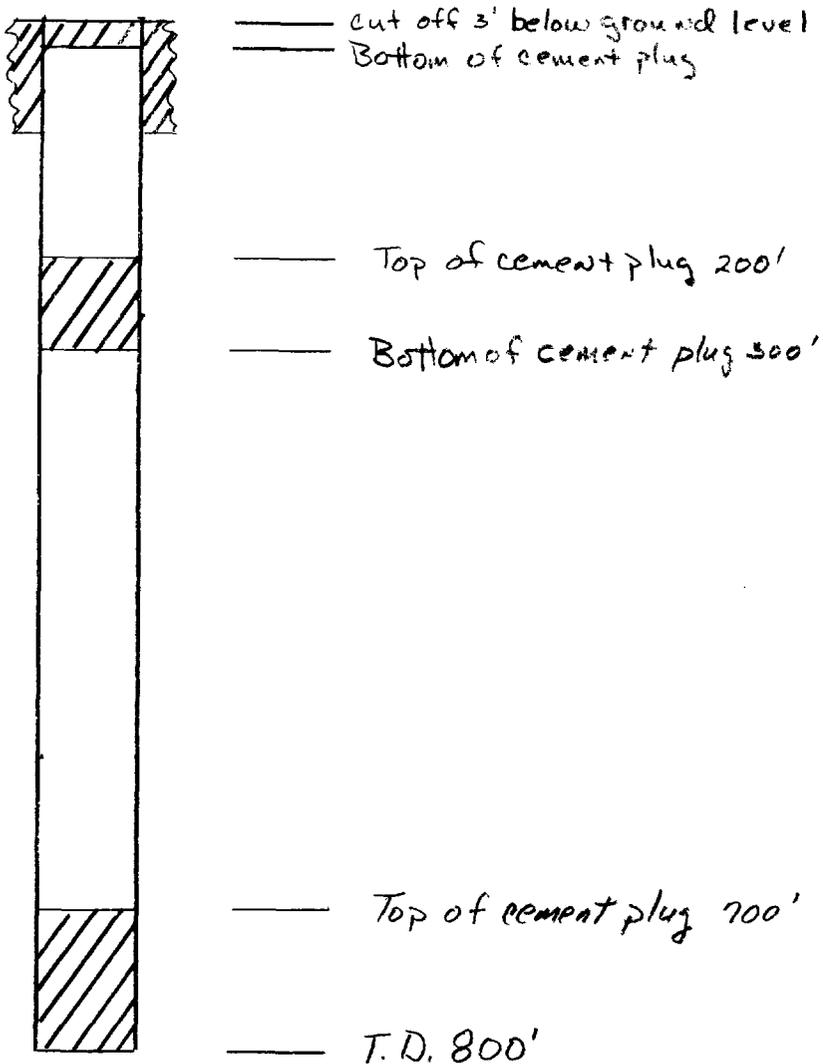
DEB # 1 XX CHASE ENERGY, INC.  
Date plugged: 8-18-67  
Location: Section 36 30N 17W 2475'fwl - 300'fsl

Plug 775' to 700' with 10 sacks; plug 275' to 125' with 15 sacks;  
surface plug with 3 sacks; erected dry hole marker.



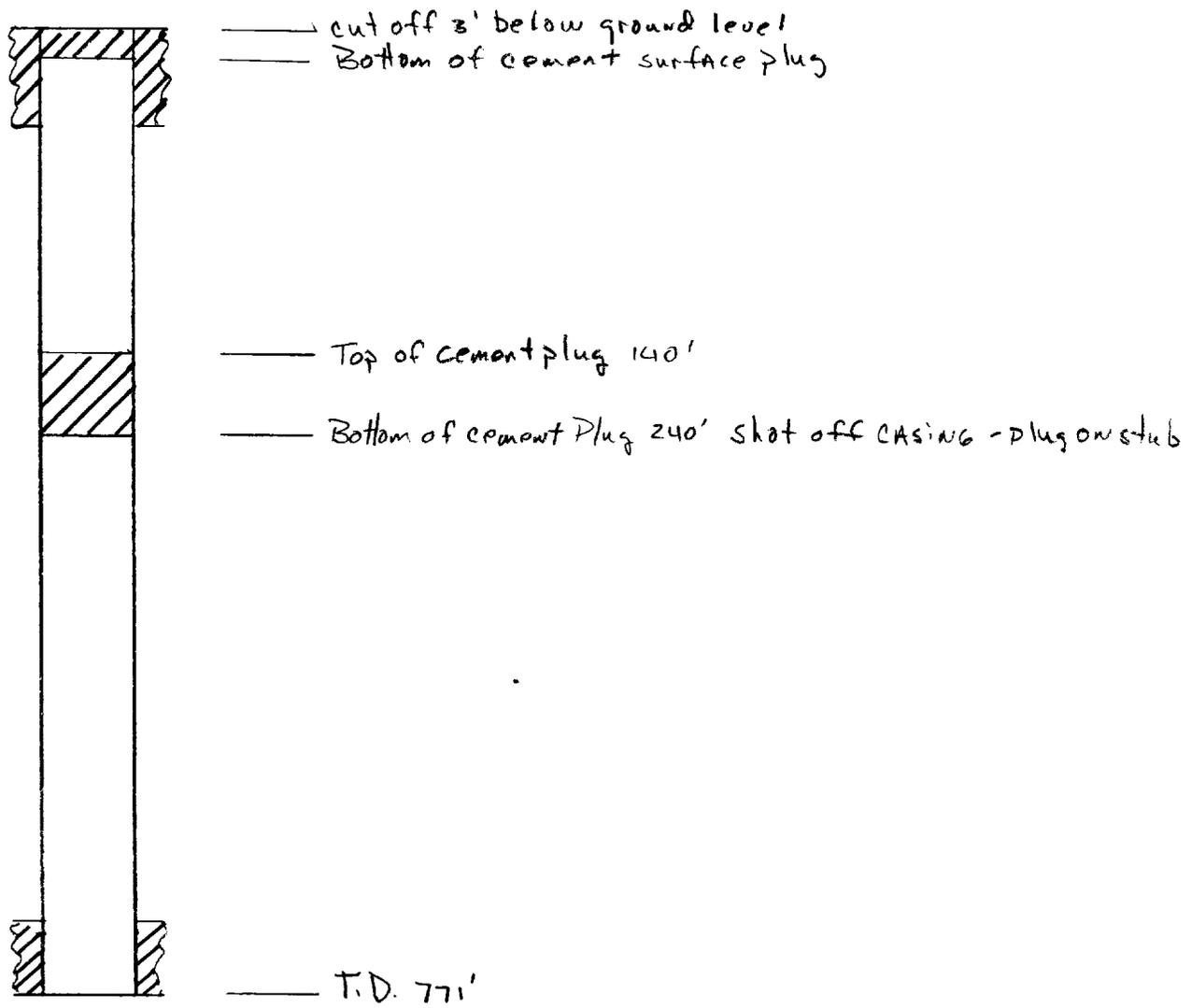
DEB # 11 CHASE ENERGY, INC.  
Date plugged: 11-12-67  
Location: Section 36 30N 17W 825'fs) - 825'fe)

Bottom plug 800' to 700' 10 sacks; top plug 300' to 200' 10 sacks; 2 sack plug in surface; cut off 3' below ground level in cultivated field.



DEB # 12 CHASE ENERGY, INC.  
Date plugged: 3-19-69  
Location: Section 36 30N 17W 495' (s) - 1485' (e)

Swabbed dry and filled casing with 350' (2bbls) cement; spotted 100' cement plug on casing stub; placed plug in surface; cut off and welded on cap in alfalfa field.

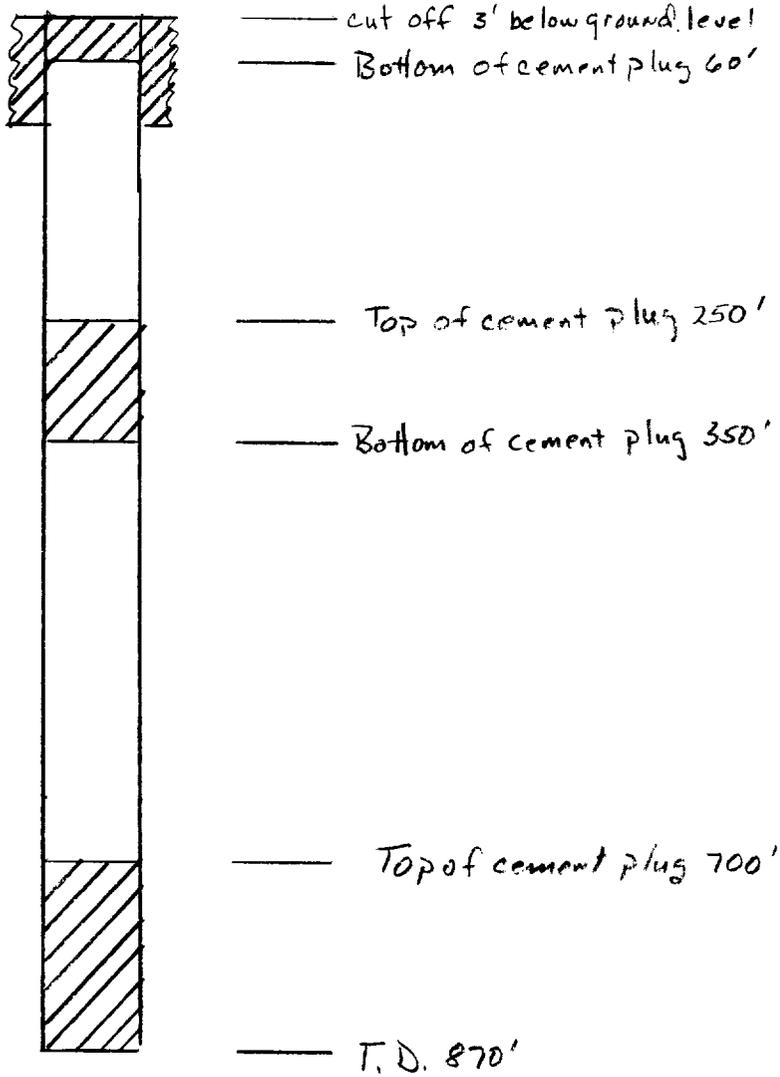


DEB # 13 CHASE ENERGY, INC.

Date plugged: 6-21-67

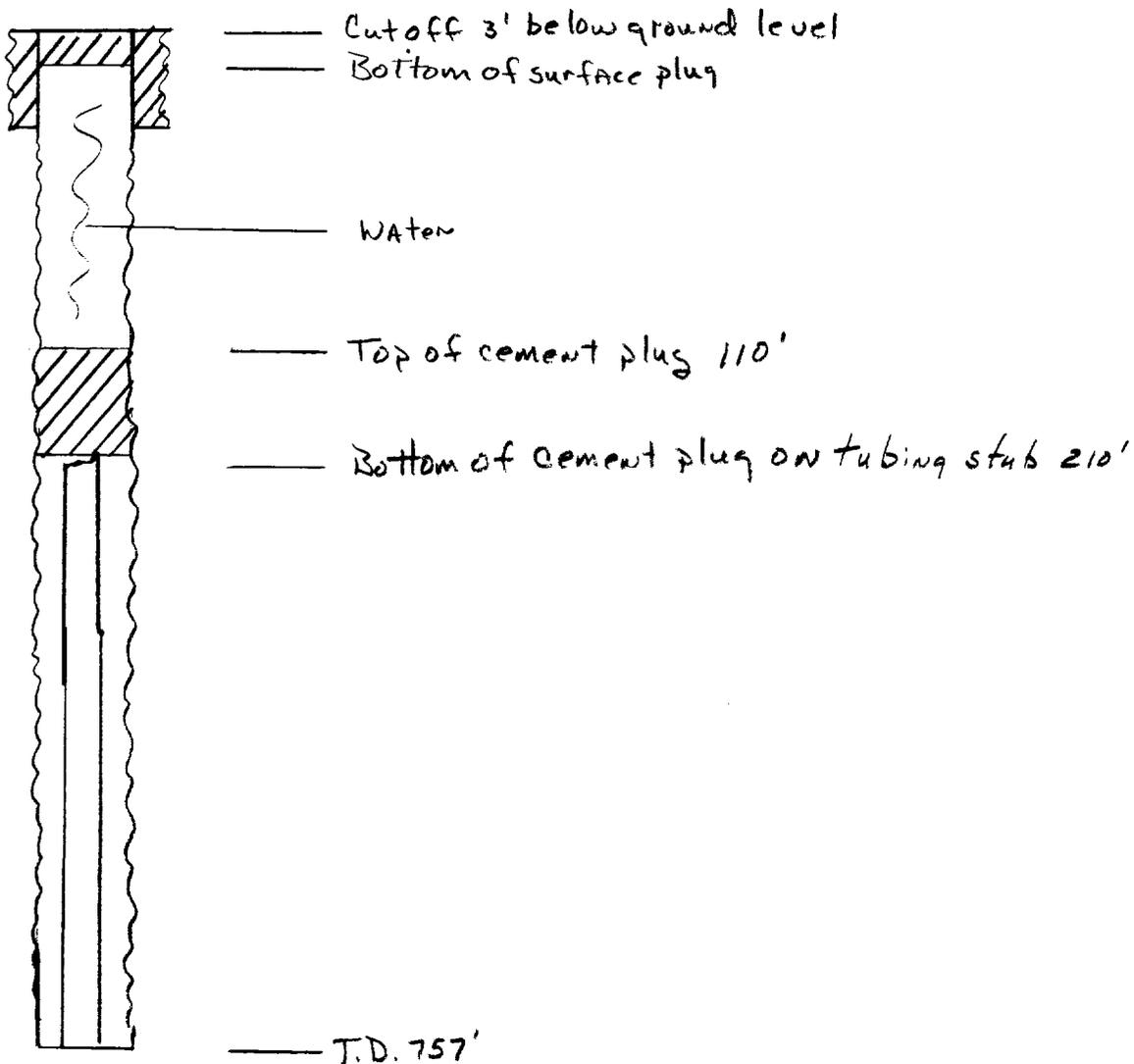
Location: Section 36 30N 17W 2030' fsl - 165' fl

Bottom plug 870' to 700' 10 sacks; gallup plug 350' to 250' 10 sacks; surface plug 60' to 0' 5 sacks; cut surface pipe off 3' below ground level and welded on cap.



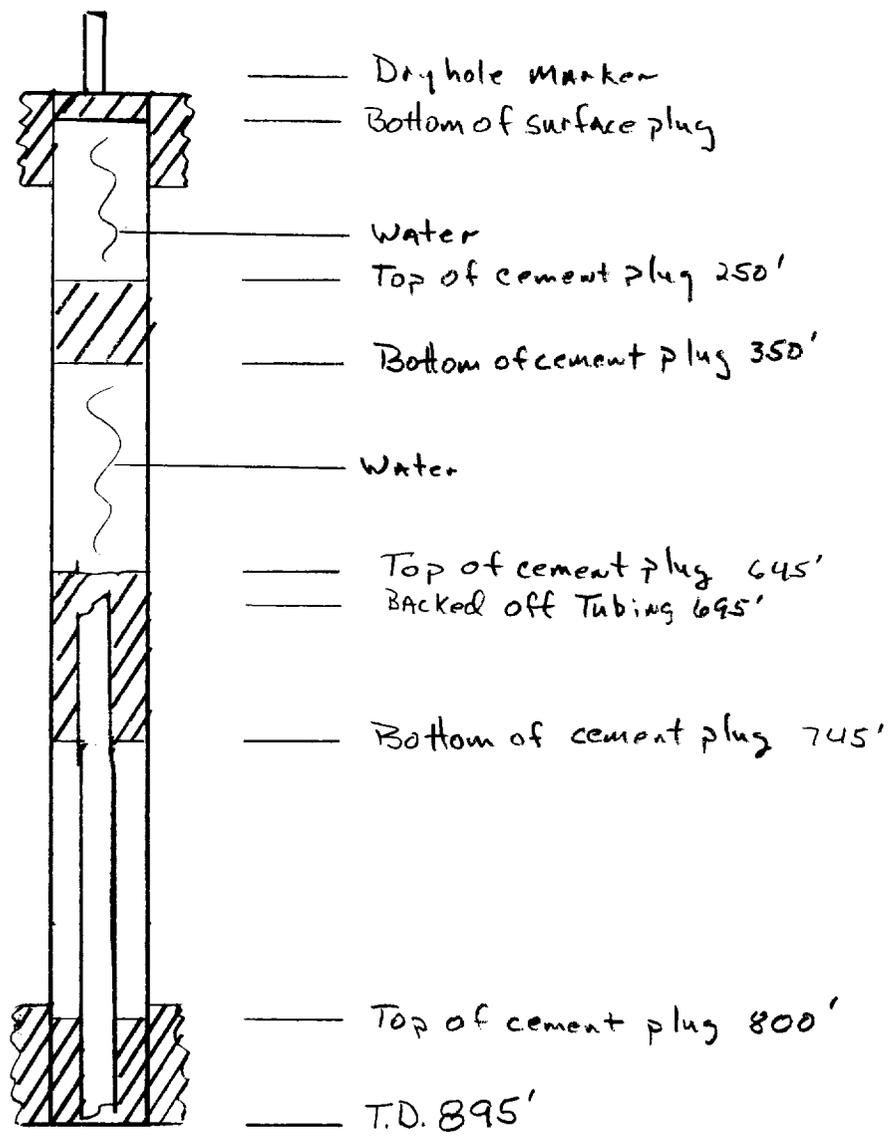
DEB # 16 CHASE ENERGY, INC.  
Date plugged: 3-21-69  
Location: Section 36 30N 17W 165'fs1 - 1485'fe1

Swab 2 2/8" production casing dry, tested entry @ 1.2 bbl sulphur water per hour. Swab dry and filled casing with 500' (2 bbls) cement. Backed off casing at 210' and spot 100' cement plug on stub. Hole filled with fluid and well was dead. Place 2 sacks in surface. Cut off surface 3' below ground level and welded on cap in alfalfa field.



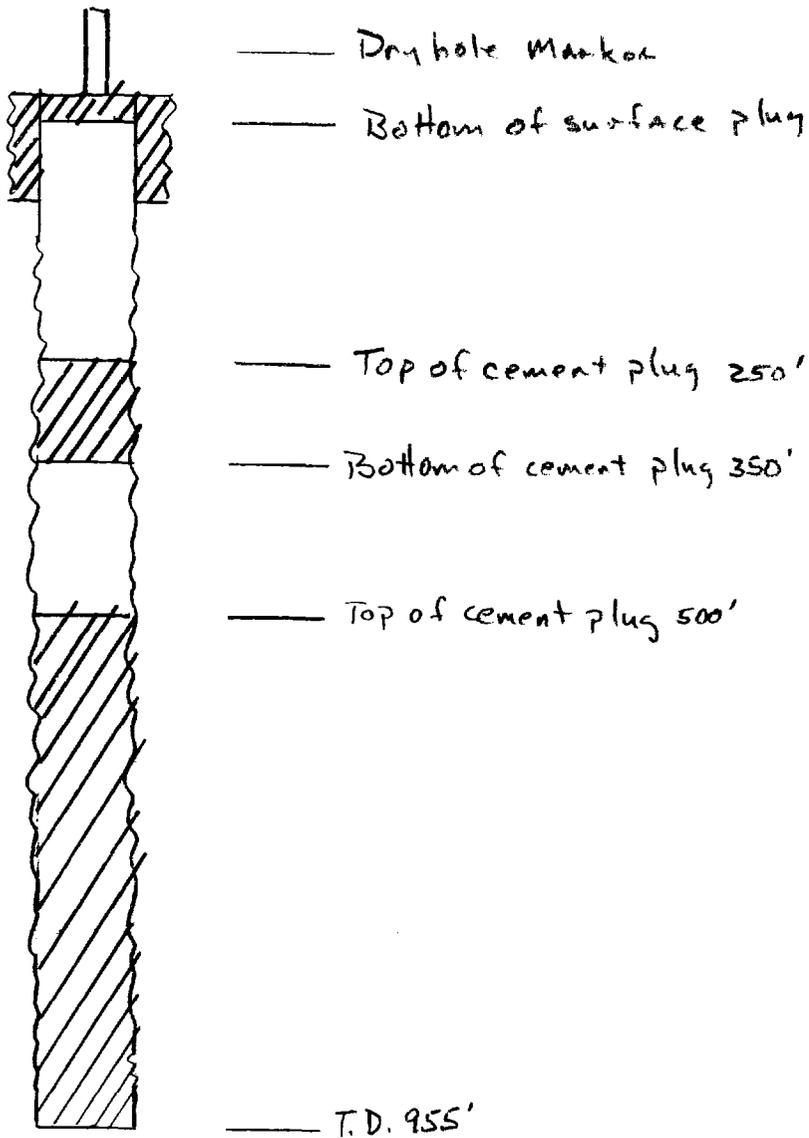
DEB # 31 CHASE ENERGY, INC.  
 Date plugged: 6-30-72  
 Location: Section 36 30N 17W 2475'fnl - 165'fel

Set cement plug through 2 3/8" production string from 895' to 800'; backed off tubing at 695'; set 100' cement plug across backed off tubing from 745' to 645'; set third plug across Gallup from 350' to 250'; all plugs held with fresh water in annular spaces; set cement plug in surface pipe; erected dry hole marker.



DEB # 33 CHASE ENERGY, INC.  
Date plugged: 6-8-68  
Location: Section 36 30N 17W 2475'fnl - 365'fel

Dakota plug 955' to 500' 20 sacks; Gallup plug 350' to 250' 8 sacks; surface plug 3 sacks; erected dry hole marker/.



**SALT CREEK DAKOTA**

(Oil)

T. 30 N., R. 17 W., NMPM  
San Juan County, New MexicoBy: Jim Jacobs and Kurt Fagrelus  
Dugan Production Corporation**GEOLOGY**

**Regional Setting:** Northwest edge, San Juan Basin  
**Surface Formations:** Cretaceous, Mancos Shale  
**Exploration Method Leading to Discovery:** Surface geology, mapped by Marland Oil Co. in 1925  
**Type of Trap:** Fault trap, east trending, up on the south side  
**Producing Formation:** Cretaceous, Dakota Sandstone  
**Gross Thickness and Lithology of Reservoir Rocks:** 100 feet, sandstone interbedded with shale  
**Geometry of Reservoir Rock:** Sheet sandstone  
**Other Significant Shows:** Possible "Gallup" sandstone  
**Oldest Stratigraphic Horizon Penetrated:** Cretaceous, Dakota Sandstone

**DISCOVERY WELL**

**Name:** King Oil Co. C No. 1X Navajo  
**Location:** SW NW (1530' FNL and 610' FWL) sec. 4, T. 30 N., R. 17 W.  
**Elevation (KB):** Unknown  
**Date of Completion:** July 21, 1958  
**Total Depth:** 1,043 feet  
**Production Casing:** 4½" set at 1,039 feet with 65 sacks of cement  
**Perforations:** Open hole 1,039 to 1,043 feet  
**Stimulation:** Natural  
**Initial Potential:** Pump 192 BOD  
**Bottom Hole Pressure:** Unknown

**DRILLING AND COMPLETION PRACTICES**

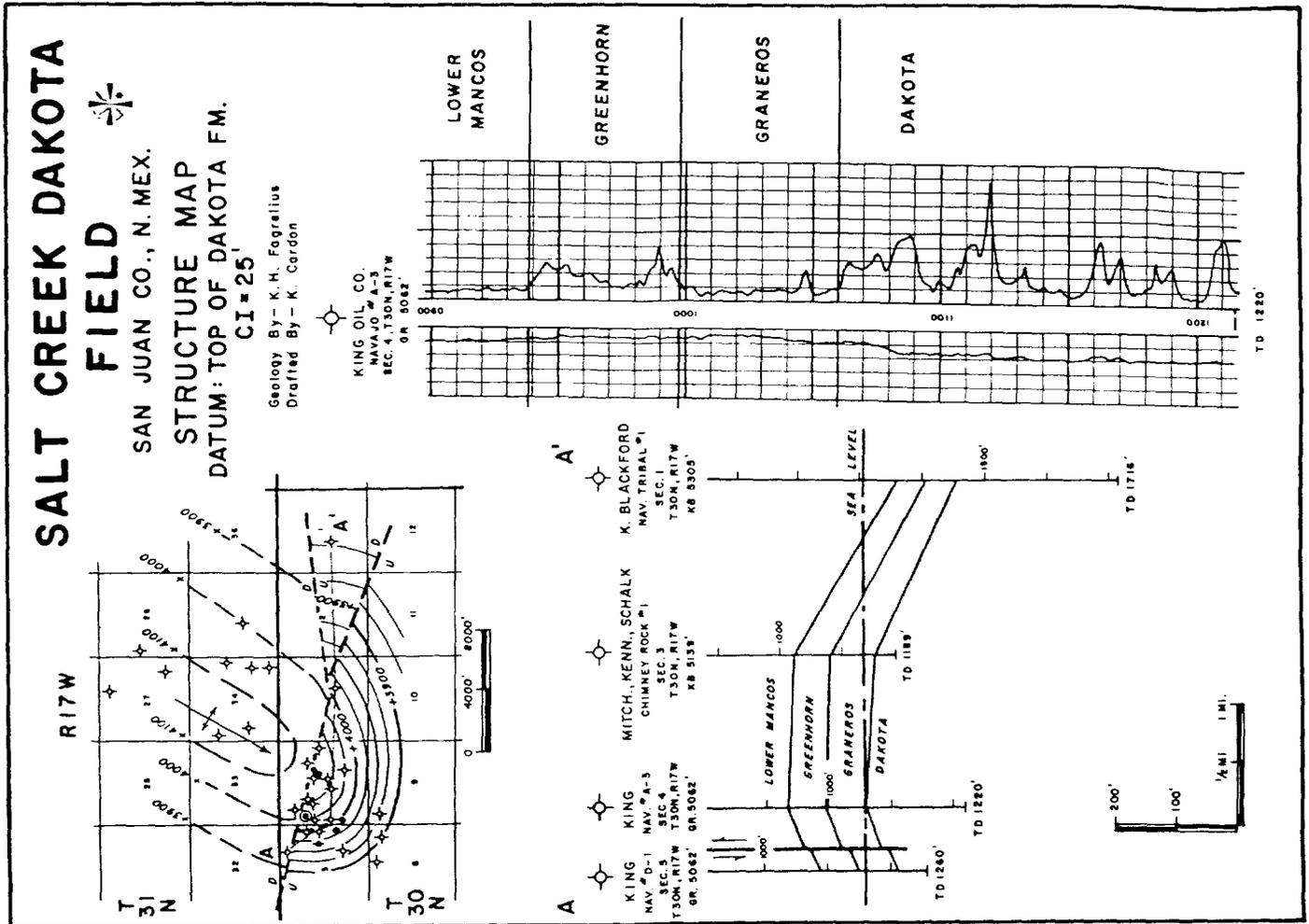
Spud 9" surface hole, run 7" surface pipe set at 88 feet with 75 sacks of cement. Drilled 6¼" hole to 1,039 feet. Ran 4½" casing and set at 1,039 feet with 90 sacks of cement. Drill with cable tools to 1,043 feet, run 2 3/8" tubing and set at 1,022 feet. Complete open hole with no stimulation.

**RESERVOIR DATA**

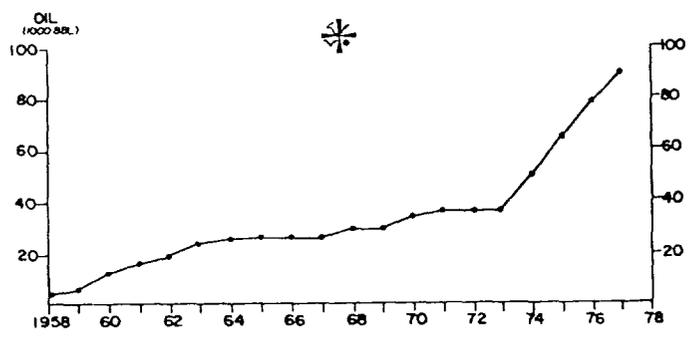
**Productive Area:**  
 Proved (as determined geologically): 15 acres  
 Unproved: None  
 Approved Spacing: 2½ acres  
 No. of Producing Wells: 6  
 No. of Abandoned Wells: 3  
 No. of Dry Holes: 41  
**Average Net Pay:** 30 to 40 feet  
**Porosity:** 16 percent (estimate)  
**Permeability:** .80 millidarcy (estimate)  
**Water Saturation:** 75 percent (estimate)  
**Initial Field Pressure:** Unknown  
**Type of Drive:** Water drive  
**Gas Characteristics and Analysis:** Unknown  
**Oil Characteristics and Analysis:** 51.8° API gravity  
**Associated Water Characteristics and Analysis:** Unknown  
**Original Gas, Oil, and Water Contact Datums:** Unknown  
**Estimated Primary Recovery:** 170,000 BO (30 percent of oil in place)  
**Type of Secondary Recovery:** None  
**Estimated Ultimate Recovery:** 170,000 BO  
**Present Daily Average Production:** 26 BOD  
**Market Outlets:** McDougald Company

**FIELD COMMENTARY**

The Salt Creek Dakota field is located in secs. 4 and 5, T. 30 N., R. 17 W., San Juan County, New Mexico. The field consists of only a very small portion of these two sections and is located four miles north and two miles east of Shiprock. The area is fairly flat and very sandy with many gullies and arroyos, the main one being Salt Creek Wash, hence the field name. The Salt Creek field is located on the southwest end of the Chimney Rock Dome. This structure was mapped by the Marland Oil Co. in 1925. The trapping mechanism for Dakota oil at Salt Creek consists of at least two east trending, up to the south, normal faults. The northernmost of these faults has a displacement of approximately 150 feet, while the one to the south is more in the range of 10 feet. The Dakota sandstone that produces oil at Salt Creek is medium-grained, sub-rounded and well sorted.



NUMBER OF WELLS AT YEARS END				- PRODUCTION - OIL IN BARRELS GAS IN MCF	
YEAR	TYPE	PROD.	SIZE/ERN	ANNUAL	CUMULATIVE
1958	Oil	3		4,567	4,567
1959	Oil	3		2,081	6,648
1960	Oil	3		6,092	12,740
1961	Oil	3		4,296	17,036
1962	Oil	3		3,014	20,050
1963	Oil	3		4,163	24,213
1964	Oil	3		1,641	25,854
1965	Oil		3	687	26,541
1966	Oil		0	0	26,541
1967	Oil		0	0	26,541
1968	Oil	3		3,205	29,746
1969	Oil	3		739	30,485
1970	Oil	4		2,497	32,982
1971	Oil	4		1,811	34,793
1972	Oil	4		516	35,309
1973	Oil	4		73	35,382
1974	Oil	6		14,083	49,465
1975	Oil	6		16,036	65,501
1976	Oil	6		13,169	78,670
1977	Oil	6		9,929	88,600



Oil and Gas Fields of the Four Corners Area

## VII PROPOSED OPERATIONS FOR DISPOSAL WELL

1. THE DAILY RATE OF INJECTION OF WATER WILL BE BETWEEN 25 AND 150 BARRELS PER DAY.
2. THE SYSTEM IS CLOSED, THERE IS A 210 BARREL SETTLING TANK AND A 210 BARREL WATER STORAGE TANK ON SITE WITH FLOW LINES RUNNING TO DISPOSAL WELL.
3. THE AVERAGE INJECTION PRESSURE IS 150 P.S.I.
4. THE FLUID TO BE INJECTED IS PRODUCED WATER FROM THE SLICKROCK DAKOTA FORMATION AND WILL BE INJECTED BACK INTO THE SAME FORMATION.
5. THE SLICKROCK DAKOTA FORMATION IS OIL PRODUCING.

## IX PROPOSED STIMULATION

THERE IS NO PROPOSED STIMULATION PROGRAM FOR THIS DISPOSAL WELL.

## XII STATEMENT

CHASE ENERGY, INC. HAS EXAMINED AVAILABLE GEOLOGIC AND ENGINEERING DATA AND FIND NO EVIDENCE OF OPEN FAULTS OR ANY OTHER HYDROLOGIC CONNECTION BETWEEN THE DISPOSAL ZONE AND ANY UNDERGROUND SOURCE OF DRINKING WATER.



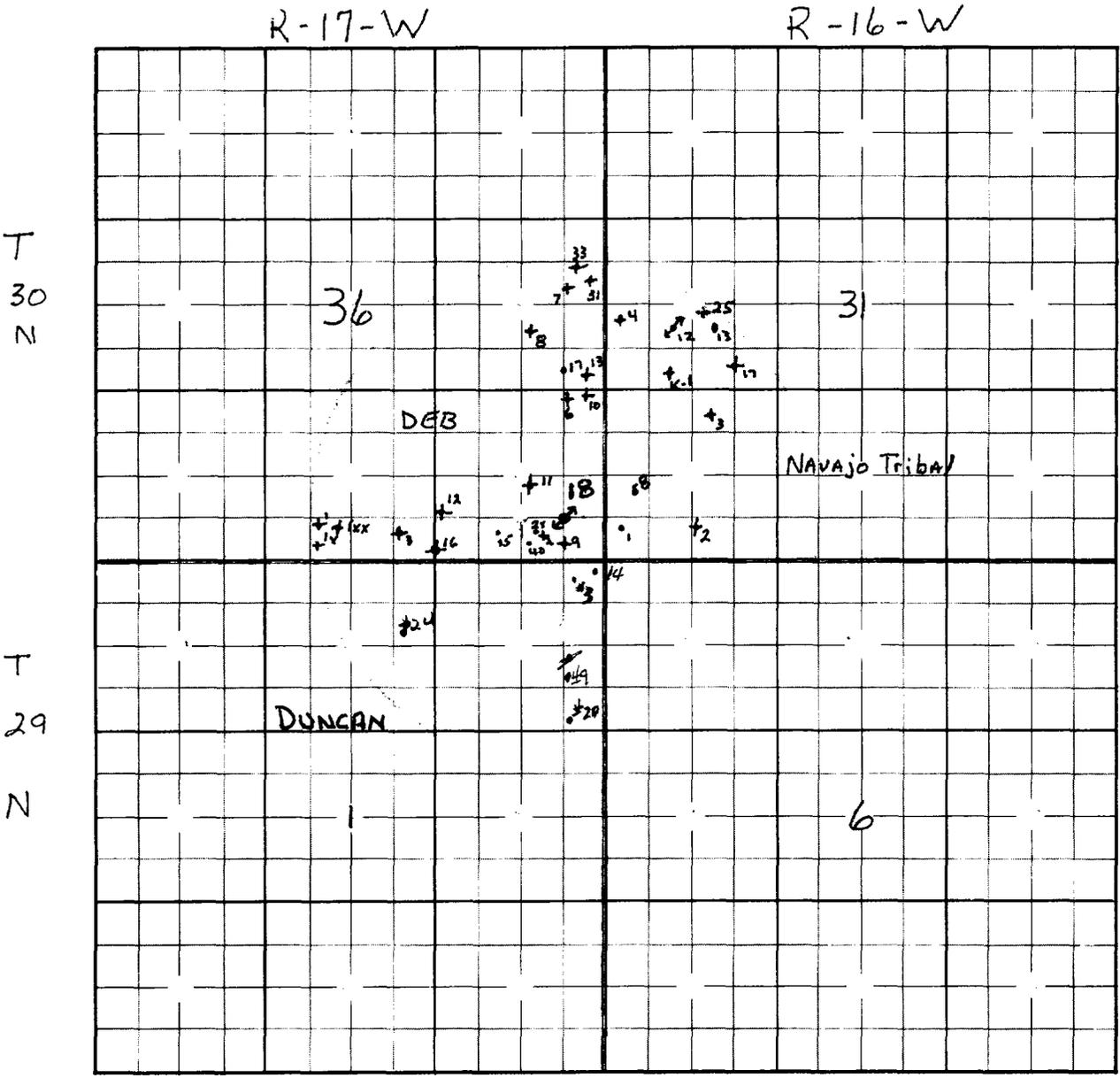
PLAT

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TOWNSHIP 29 & 30 N RANGE 16-17 W COUNTY SAN JUAN STATE New Mexico

REMARKS:

COMPANY



3 in. = 1 mile