Form 9-331 C
(May 1963)

N.M.O.C.D. COPY

SUBMIT IN TRIPLICATE* (Other instructions on reverse side)

Form approved. Budget Bureau No. 42-R1425.

30-015-23824

C/SF

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

APPLICATION FOR PERMIT TO DRILL, DEEPEN, OR PLUG BACK

1a. TYPE OF WORK: DRILL [X] DEEPEN [ ] PLUG BACK [ ]

b. TYPE OF WELL: OIL WELL [X] GAS WELL [ ] OTHER — SINGLE ZONE [X] MULTIPLE ZONE [ ]

RECEIVED JUN 12 1981 O. C. D. ARTESIA, OFFICE

2. NAME OF OPERATOR: Delta Drilling Company

3. ADDRESS OF OPERATOR: 3100-C North "A" Midland, Texas

4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements.*)
At surface: 760' FNL and 1980' FWL
At proposed prod. zone

5. LEASE DESIGNATION AND SERIAL NO.: NM-0542015

6. IF INDIAN, ALLOTTEE OR TRIBE NAME:

7. UNIT AGREEMENT NAME: South Culebra Bluff

8. FARM OR LEASE NAME: South Culebra Bluff Unit

9. WELL NO.: 11

10. FIELD AND POOL, OR WILDCAT: South Culebra (Bone Spring

11. SEC., T., R., M., OR BLK. AND SURVEY OR AREA: Unit C 13, T-23S, R-28E

12. COUNTY OR PARISH: Eddy

13. STATE: NM

14. DISTANCE IN MILES AND DIRECTION FROM NEAREST TOWN OR POST OFFICE*: 2-1/2 miles SW to Loving, New Mexico

15. DISTANCE FROM PROPOSED* LOCATION TO NEAREST PROPERTY OR LEASE LINE, FT. (Also to nearest drlg. unit line, if any): 760'

16. NO. OF ACRES IN LEASE: 320

17. NO. OF ACRES ASSIGNED TO THIS WELL: 80

18. DISTANCE FROM PROPOSED LOCATION* TO NEAREST WELL, DRILLING, COMPLETED, OR APPLIED FOR, ON THIS LEASE, FT.: ½ Mile SW

19. PROPOSED DEPTH: 7200'

20. ROTARY OR CABLE TOOLS: Rotary

21. ELEVATIONS (Show whether DF, RT, GR, etc.): 2980 GR

22. APPROX. DATE WORK WILL START*: Sept. 1, 1981

23. PROPOSED CASING AND CEMENTING PROGRAM

SIZE OF HOLE	SIZE OF CASING	WEIGHT PER FOOT	SETTING DEPTH	QUANTITY OF CEMENT
11 "	8-5/8"	24#	500'	220 sx Class C
7-7/8"	5-1/2"	17#	7200'	1320 sx HLC&C

JUN 04 1981

Posted ID-1 API + NL Book 6-19-81

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 Ron Lechwar TITLE Division Project Manager DATE

(This space for Federal or State office use)

PERMIT NO. APPROVAL DATE

APPROVED BY TITLE DATE
CONDITIONS OF APPROVAL, IF ANY:

APPROVED
(Orig. Sgd.) GEORGE H. STEWART
JUN 11 1981
FOR
JAMES A. GILLHAM
DISTRICT SUPERVISOR

*See Instructions On Reverse Side

NEW MEXICO OIL CONSERVATION COMMISSION

WELL LOCATION AND ACREAGE DEDICATION PLAT

Form C-102
Supersedes C-128
Effective 1-1-65

All distances must be from the outer boundaries of the Section

Operator	Lease	Well No.
Delta Drlling Co.	South Culebra Bluff Unit	11

Unit Letter	Section	Township	Range	County
C	13	23 South	28 East	Eddy

Actual Footage Location of Well:
760 feet from the north line and 1980 feet from the west line

Ground Level Elev.	Producing Formation	Pool	Dedicated Acreage:
2980.0	Bone Spring	South Culebra Bone Spring	80 Acres

1. Outline the acreage dedicated to the subject well by colored pencil or hachure marks on the plat below.

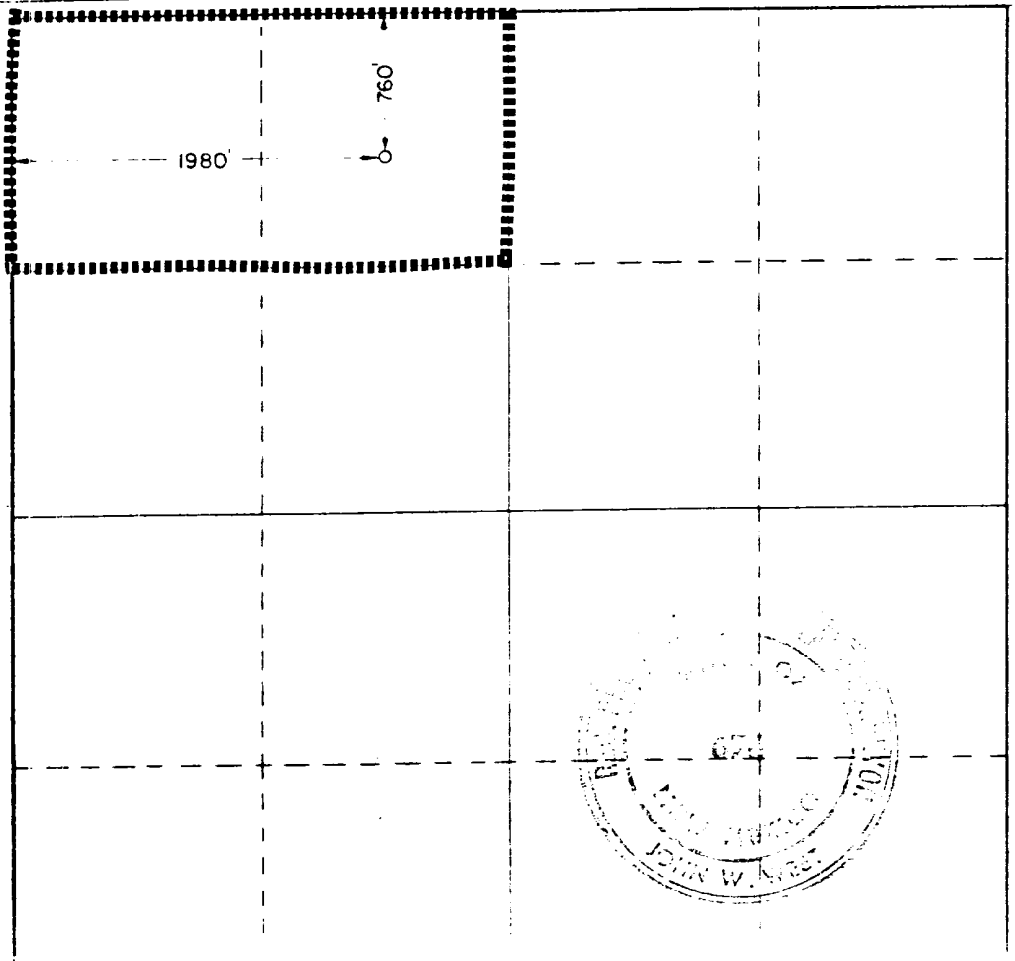
2. If more than one lease is dedicated to the well, outline each and identify the ownership thereof (both as to working interest and royalty).

3. If more than one lease of different ownership is dedicated to the well, have the interests of all owners been consolidated by communitization, unitization, force-pooling. etc?

[X] Yes [ ] No If answer is "yes," type of consolidation Unitization

If answer is "no," list the owners and tract descriptions which have actually been consolidated. (Use reverse side of this form if necessary.) _____

No allowable will be assigned to the well until all interests have been consolidated (by communitization, unitization, forced-pooling, or otherwise) or until a non-standard unit, eliminating such interests, has been approved by the Commission.



CERTIFICATION

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

Name: Ron Lechwar

Position: Division Project Manager

Company: Delta Drilling Company

Date: May 26, 1981

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 knowledge and belief.

Date Surveyed: 5/19/81

Registered Professional Engineer and/or Land Surveyor

APPLICATION FOR DRILLING
Delta Drilling Company
South Culebra Bluff Unit No. 11
1980' FWL and 760' FNL
Section 13, T-23S, R-28E
Eddy County, New Mexico

In conjunction with Form 9-331C, Application for Permit to Drill subject well, Delta Drilling Company submits the following ten items of pertinent information in accordance with USGS requirements:

1. The geologic surface formation is Permian.

2. The estimated tops of geologic markers are as follows:

   Delaware Sand 2700±
   Bone Spring Lime 6300±

3. The estimated depths at which anticipated water, oil, or gas formations are expected to be encountered:

   Water - No fresh water anticipated below 250' based on previous wells drilled in this area

   Oil or Gas - Bone Spring - 6300'-7200'

4. Proposed Casing Program: 8-5/8" to 500', 5-1/2" to 7200'

5. Pressure Control Equipment: See Exhibit E

6. Mud Program: Surface to 500' fresh water spud mud, 500-7200' 10# brine

7. Auxiliary Equipment: None

8. Testing, Logging, and Coring Programs: No DST's or cores

   Mud logging unit: 2700' to T.D.

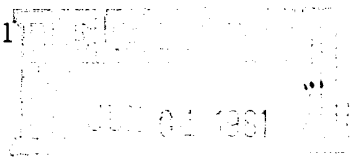
   Electric logging: CNL-FDC 2000' to T.D.
   DLL-Micro SFL 2700' to T.D.

9. No abnormal pressures or temperatures are anticipated.

10. Anticipated starting date: 9/1/81

MULTI-POINT SURFACE USE AND OPERATIONS PLAN

Delta Drilling Company
South Culebra Bluff Unit No. 11
1980' FWL and 760' FNL
Section 13, T-23S, R-28E
Eddy County, New Mexico



This plan is submitted with Form 9-331C, Application for Permit to Drill, covering the above described well. The purpose of this plan is to describe the location of the proposed well, the proposed construction activities and operations plan, the magnitude of necessary surface disturbance involved, and the procedures to be followed in rehabilitating the surface after completion of the operations, so that a complete appraisal can be made of the environmental effects associated with the operation.

1. EXISITING ROADS. Exhibit "A" is a portion of a 15-minute series topographic map showing the existing roads. Location is approximately 2-1/2 miles NE of Loving, New Mexico.

   DIRECTIONS: Proceed east on State Highway 31 to Pecos River Bridge (3-1/2 miles from 285-31 junction), proceed east 1.1 mile from Bridge, turn south on gravelled road 0.5 miles to R.R. tracks, keep to right 0.2 miles, turn west 0.1 mile, then north on location road to wellsite.

2. PLANNED ACCESS ROAD.
   A. The proposed new access will be approximately 0.2 miles in length from the existing roads suitable for use without alteration. The road from Highway 31 will lie in a north to south direction.

   B. The new road will be 12-14 feet in width (driving surface), except at the point of origin, adjacent to the existing road, at which point enough additional width will be provided to allow heavy trucks and equipment to turn.

   C. The new road will be covered with the necessary depth of caliche. The surface will be crowned, with drainage on both sides.

   D. The center line of the new road has been staked and flagged and its route is clearly visible.

3. LOCATION OF EXISTING WELLS. See Exhibit "B".

4. LOCATION OF EXISTING AND/OR PROPOSED FACILITIES.
   A. There is no producing well on this lease at the present time.

   B. In the event that the well is productive, the necessary production facilities will be installed on the drilling pad. If the well is productive of oil, a gas or diesel self-contained unit will be used to provide the necessary power. No power will be required if the well is productive of gas.

5. LOCATION AND TYPE OF WATER SUPPLY.

A. It is planned to drill the proposed well with a brine mud system. The water will be obtained from commercial sources and will be hauled to the location by truck over the existing and proposed roads shown in Exhibit "A".

6. SOURCES OF CONSTRUCTION MATERIALS.

A. Any caliche required for construction of the drilling pad and the new access road will be obtained from an existing pit on privately owned surface located off of this lease. Pit is located in SE/4 of SW/4 section 23, 23S, 28E.

7. METHODS OF HANDLING WASTE DISPOSAL.

A. Drill cuttings will be disposed of in the reserve pits.

B. Drilling fluids will be allowed to evaporate in the reserve pits until the pits are dry.

C. Water produced during operations will be collected in tanks until hauled to an approved disposal system or a separate disposal application will be submitted to the U.S.G.S. for appropriate approval.

D. Oil produced during operations will be stored in tanks until sold.

E. Current laws and regulations pertaining to the disposal of human waste will be complied with.

F. Trash, waste paper, garbage and junk will be buried in a separate trash pit and covered with a minimum of 24 inches of dirt. All waste material will be contained to prevent scattering by the wind.

G. All trash and debris will be buried or removed from the wellsite within 30 days after finishing drilling and/or completion operations.

8. ANCILLARY FACILITIES.

A. None required.

9. WELLSITE LAYOUT.

A. Exhibit "D" shows the dimensions of the well pad and reserve pits, and the location of major rig components.

B. The ground surface at the drilling location is relatively flat. Cutting will be required to level the pad area, which will be covered with at least six inches of compacted caliche.

C. The reserve pits will be double plastic lined.

D. The pad and pit area has been staked and flagged.

10. PLANS FOR RESTORATION OF THE SURFACE.

A. After finishing drilling and/or completion operations, all equipment and other material not needed for further operations will be removed. The location will be cleared of all trash and junk, to leave the wellsite in as aesthetically pleasing a condition as possible.

B. Unguarded pits, if any, containing fluids will be fenced until they have been filled.

C. If the proposed well is non-productive, all rehabilitation and/or vegetation requirements of the Bureau of Land Management and the United Stated Geological Survey will be complied with and will be accomplished as expeditiously as possible. All pits will be filled and leveled within 120 days after abandonment.

11. TOPOGRAPHY.

A. The wellsite and access route are located in a relatively level area.

B. The top soil at the wellsite is sandy.

C. The vegetation cover at the wellsite is moderately sparse, with prairie grasses, some yucca, and miscellaneous weeds.

D. No wildlife, with the exception of some ducks, was observed but it is likely that rabbits, lizards, insects, and rodents traverse the area. The area is suitable for cattle grazing.

E. There are no irrigation cannals, rivers, or creeks within the lease proper. The Pecos River is located approximately 2900' southwest of the drilling site.

F. The wellsite is located on privately owned surface, with Federal mineral ownership.

G. There is no evidence of any archaeological, historical, or cultural sites at this location.

12. OPERATOR'S REPRESENTATIVES.

Drilling Department

Joe Williams
(915) 332-7371

Production Department

Gary Pridemore
(915) 683-0000

Ron Lechwar
(915) 683-0000
(915) 694-0640

13. CERTIFICATION.

I hereby certify that I, or persons under my direct supervision, have inspected the proposed drillsite and access route; that I am familiar with the conditions which presently exist; that the statements made in this plan are, to the best of my knowledge, true and correct; and that the work associated with the operations proposed herein will be performed by Delta Drilling Company and its contractors and subcontractors in conformity with this plan and the terms and conditions under which it is approved.

MAY 28, 1981
Date

Ron Lech
Ron Lechwar

WELL DATA

Casing String:	Surface
Hole Depth:	500'
Casing Size:	8 5/8"
Casing Depth:	500'
Hole Size:	11"
Fill-up Required:	circulate

RECOMMENDATION

Install floating equipment, run casing to bottom and circulate required hours to cement.

Mix 220 sacks of the following cement blend:

Class "C" containing
2% Calcium Chloride/sk
1/4 lb. Flocele/sk

Slurry Weight	- 14.8	lb/gal
Slurry Volume	- 1.32	CF/sk
Water Ratio	- 6.3	gal/sk

This cement blend was designed to circulate. The calculations incorporate 100 percent excess.

Cement volumes and thickening times for the slurries recommended are based on field experience in the area. More exact volumes and pump times should be obtained from caliper logs and bottom hole temperature information when it becomes available.

Floating equipment should consist of:

1 Guide Shoe
1 Insert Float Valve
3 S-3 Centralizers
1 EZ Lok Limit Clamp
2 lbs. Halliburton Weld "A"
1 Top Wooden Plug

MULTIPLE STAGE CEMENTING

WELL DATA

Casing String:	Production
Hole Depth:	7,200'
Casing Size:	5 1/2"
Casing Depth:	7,200'
Hole Size:	7 7/8"
Fill-up Required:	circulate

RECOMMENDATION

We are recommending that this string be cemented in two (2) stages with a Multiple Stage Cementer placed at 3,000 feet.

Install floating equipment, run casing to bottom and circulate required hours to cement.

Precede cement with 500 gallons of Mud Flush.

FIRST STAGE:

Mix 610 sacks of the following cement blend:

50-50 Class "H"- Pozmix "A" containing
0.4% CFR-2/sk
2% Gel/sk
6 lbs. Salt/sk

Slurry Weight -	14.4	lb/gal
Slurry Volume -	1.29	CF/sk
Water Ratio -	5.75	gal/sk

This cement blend was designed to fill from 7,200 feet to 3,000 feet with the slurry top at ± 3,000 feet. The calculations incorporate 35 percent excess.

This well should be circulated 6 hours between stages and a fluid caliper run to check cement volume.

SECOND STAGE:

Mix 610 sacks of the following cement blend:

Halliburton "Light" containing
1/4 lb. Flocele/sk
8 lbs. Salt/sk

Slurry Weight	- 12.4	lb/gal
Slurry Volume	- 1.97	CF/sk
Water Ratio	- 10.7	gal/sk

Tail-in with 100 sacks of the following cement blend:

Class "C" containing
2% Calcium Chloride/sk

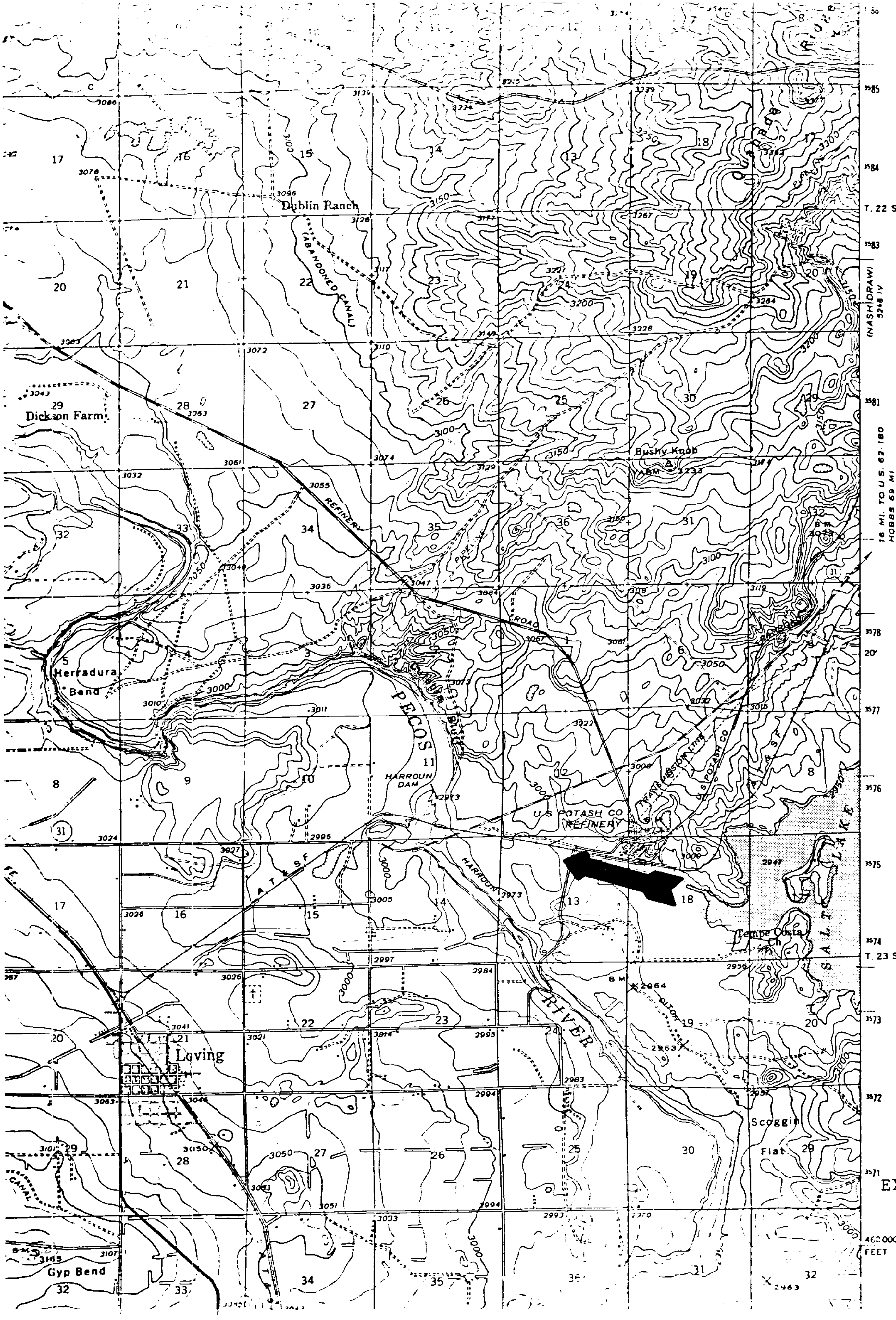
Slurry Weight	- 14.8	lb/gal
Slurry Volume	- 1.32	CF/sk
Water Ratio	- 6.3	gal/sk

These cement blends were designed to fill from 3,000 feet to surface with the taiil-in slurry top at ± surface. The calculations incorporate 150 percent excess.

Cement volumes and thickeniong times for the slurries recommended are based on field experience in the area. More exact volumes and pump times should be obtained from caliper logs and bottom hole temperature information when it becomes available.

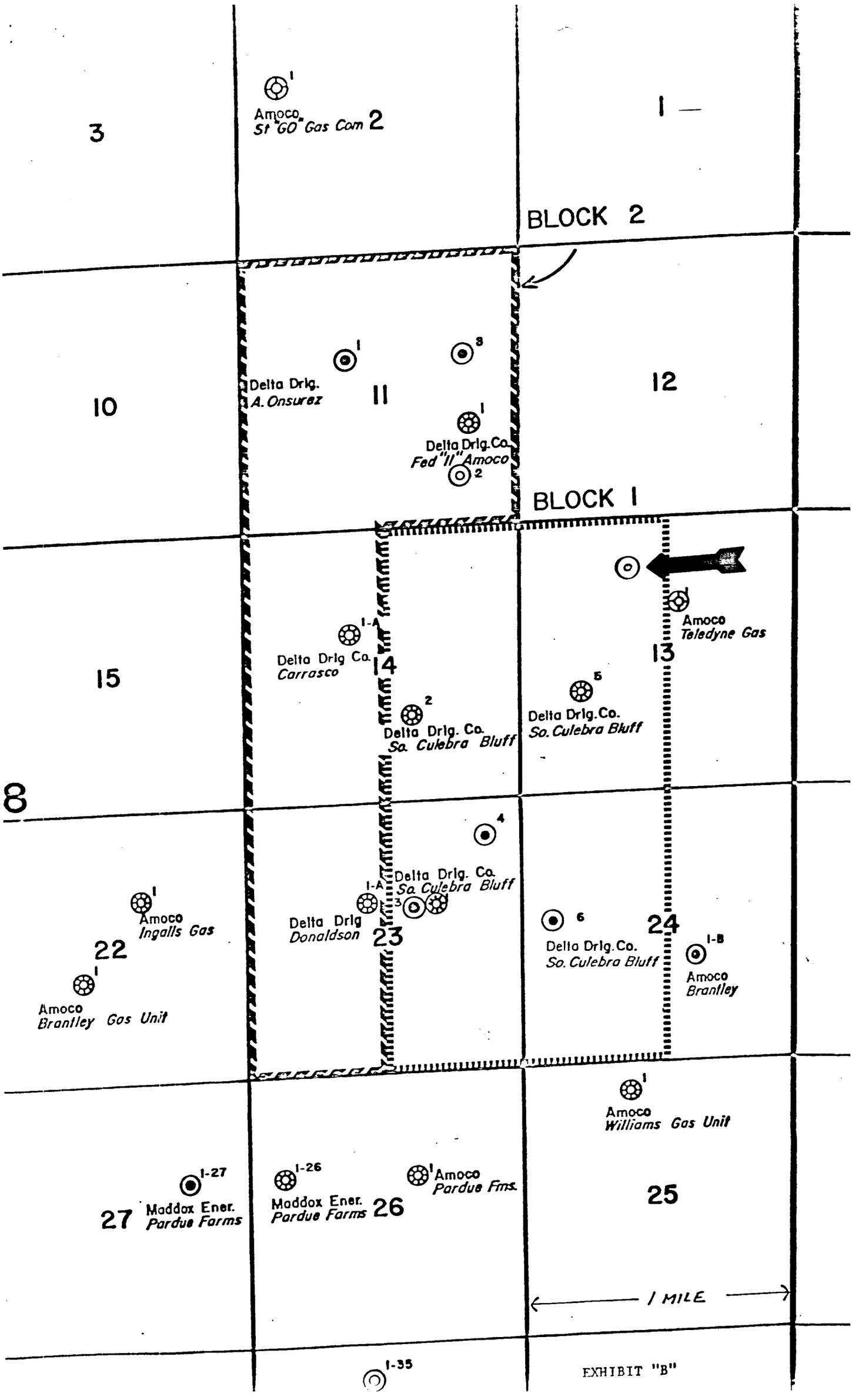
Floating equipment should consist of:

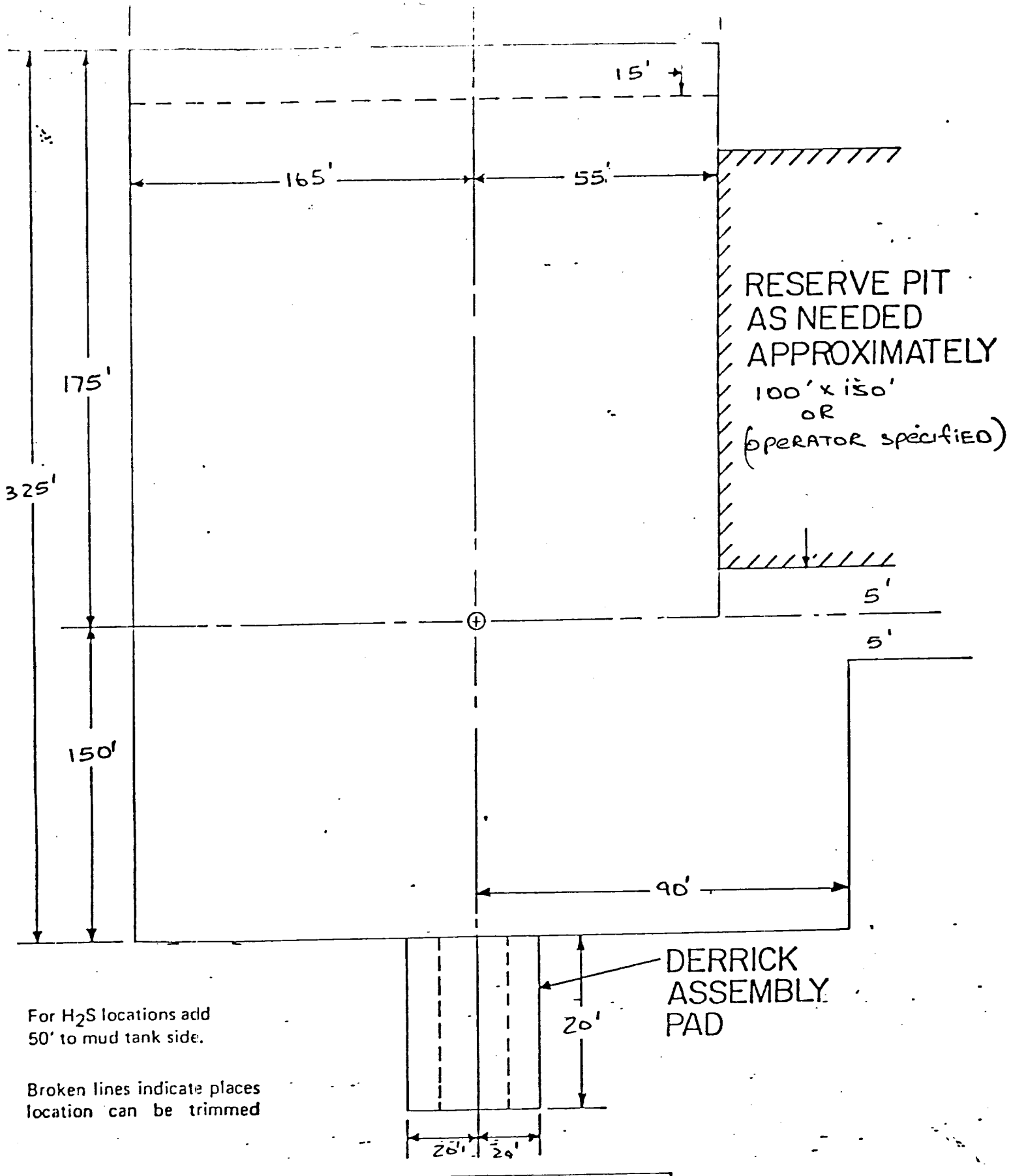
1 Float Shoe
1 Float Collar
1 Multiple Stage Cementer (free fall plug set)
20 S-3 Centralizers
2 lbs. Halliburton Weld "A"



Dublin Ranch
(ABANDONED CANAL)
Dickson Farm
Bushy Knob
REFINERY ROAD
Herradura Bend
PECOS RIVER
HARROUN DAM
U S POTASH CO REFINERY
TRANSMISSION LINE
A T & S F
HARROUN
SALT LAKE
Tempe Costa Ch
Loving
Scoggin Flat
Gyp Bend
T. 22 S.
T. 23 S.
(NASH DRAW)
16 MI. TO U.S. 62-180
HOBBS 69 MI.
460000 FEET

EXHIBIT "A"


3
Amoco
St "GO" Gas Com 2
1
BLOCK 2
10
Delta Drlg.
A. Onsurez
11
Delta Drlg. Co.
Fed "II" Amoco
2
12
BLOCK 1
Amoco
Teledyne Gas
13
15
Delta Drlg Co.
Carrasco
14
Delta Drlg. Co.
So. Culebra Bluff
Delta Drlg.Co.
So. Culebra Bluff
8
Delta Drlg. Co.
So. Culebra Bluff
Amoco
Ingalls Gas
22
Delta Drlg
Donaldson
23
Delta Drlg.Co.
So. Culebra Bluff
24
Amoco
Brantley
Amoco
Brantley Gas Unit
Amoco
Williams Gas Unit
Maddox Ener.
Pardue Farms
27
Maddox Ener.
Pardue Farms
26
Amoco
Pardue Fms.
25
1 MILE
EXHIBIT "B"



For H_2S locations add 50' to mud tank side.

Broken lines indicate places location can be trimmed

LOCATION DIMENSIONS
RIG 98
12/5/80

EXHIBIT "D"

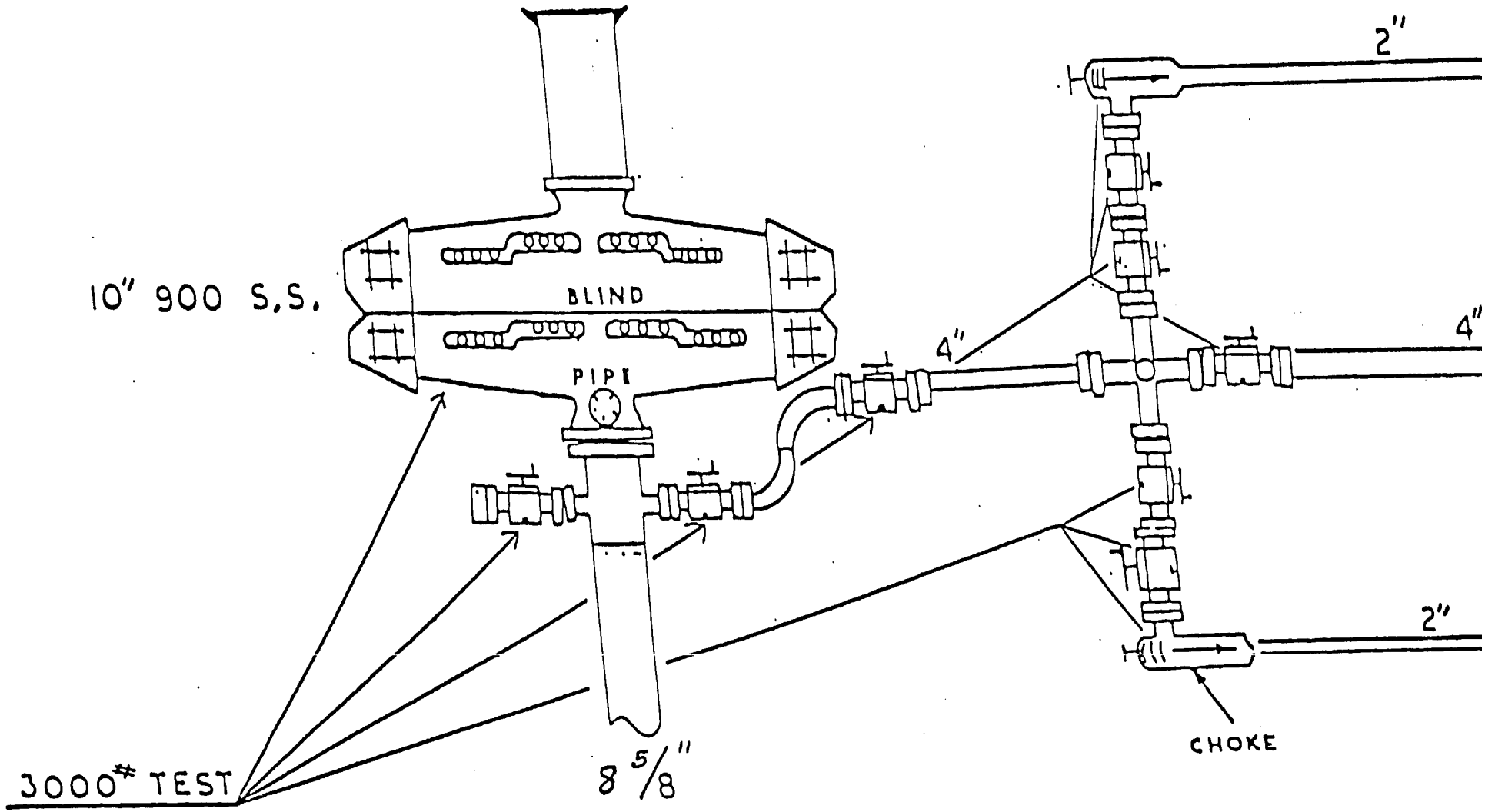


EXHIBIT "E"

DELTA DRILLING COMPANY

BOX 2012 TELEPHONE 214 595-1911

TYLER, TEXAS 75710

May 26, 1981

ADDRESS REPLY TO

West Texas Production Division
3100-C North "A"
P.O. Box 3467
MIDLAND, TEXAS 79702

US Department of the Interior
Geological Survey
P. O. Drawer 1857
Roswell, New Mexico

Re: Delta South Culebra Bluff Unit No. 11
Lease No. NM-0542015
South Culebra (Bone Spring) Field
Eddy County, New Mexico

Gentlemen:

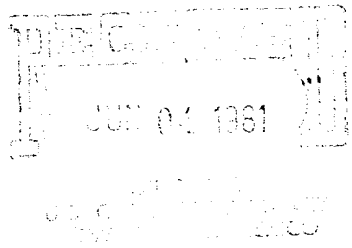
Attached is Form 9-331-C, Application for Permit to Drill, for the South Culebra Bluff Unit No. 11 well. Attached to the application are supporting documents required for approval of the permit.

Please review the attached data and contact us as soon as possible if you require additional information to process the application.

Very truly yours,

J. A. Coon
Division Production Manager

RFL/dz
Attachment
cc: Well File



DELTA DRILLING COMPANY

BOX 2012 TELEPHONE 214 595-1911

TYLER, TEXAS 75710

May 26, 1981

ADDRESS REPLY TO

West Texas Production Division
3100-C North "A"
P.O. Box 3467
MIDLAND, TEXAS 79702

United States Department of the Interior
Geological Survey
Oil and Gas Department
P. O. Drawer U
Artesia, New Mexico 88210

Re: Delta South Culebra Bluff Unit No. 11
South Culebra (Bone Spring) Field
Eddy County, New Mexico

Dear Sir:

Delta Drilling Company has filed a permit to drill South Culebra Bluff Unit No. 11. This well is located 760' FNL and 1980' FWL of Section 13, TWN-23-S, R-28-E, in Eddy County, New Mexico.

The surface acreage is owned by Mississippi Chemical Company. Delta Drilling Company will restore to Mississippi Chemical Company satisfactorily all areas to their condition prior to the occupancy of said land. There are no unusual surface restoration requirements set forth in the agreement between Mississippi Chemical Company and Delta Drilling Company.

All improvements such as roads, fences, cattleguards, etc., will be left in place if desired by Mississippi Chemical Company.

Delta agrees to pay Mississippi Chemical's fees for roads, location, caliche, water, or brine.

Yours truly,

J. A. Coon
Division Production Manager

JAC/dz
Attachment
cc: Well File