008-G-2645, 2646
N-0554

JUN 30 1980

In Reply Refer To: OS-7-1

Federal Programs Office
Office of Coastal Zone Management
3000 White Haven Street
Washington, D.C. 20235

Gentlemen:

In accordance with 30 CFR 250.34, revised December 13, 1979, enclosed is a copy of a proposed Development/Production Plan submitted by Union Oil Company of California for Leases OCS-G 2645 and OCS-G 2646, Blocks 158 and 159, East Breaks Area, Control No. N-0554.

Sincerely yours,

(Orig. Sgd.) D. W. Solanas

D. W. Solanas
Deputy Conservation Manager
Offshore Operations Support
Gulf of Mexico OCS Region

Enclosure

cc: Lease OCS-G 2645 (OMS-2-3)
Lease OCS-G 2646 (OMS-2-3)
OMS-2-5 w/enclosure

AAlvarado:jsm:6/24/80

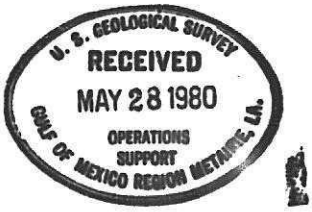
Union Oil and Gas Division: Gulf Region

Union Oil Company of California
500 Executive Plaza East
4615 Southwest Freeway
Houston, Texas 77027
Telephone: (713) 621-7600

UNION 76

John R. Murphey, Jr.
District Operations Manager

May 22, 1980



United States Geological Survey
P. O. Box 7944
Metairie, LA 70010

Attention: Mr. D. W. Solanas

East Breaks Area, Offshore, Texas
Development and Production Plan
OCS-G-2645, Block 158
OCS-G-2646, Block 159

Gentlemen:

Enclosed in this package are seventeen (17) copies of Union Oil Company of California's Development and Production Plan outlining the proposed plan for the subject leases in accordance with 30 CFR 250.34. Five (5) of the copies contain proprietary data and are so marked.

If additional information is required, please advise.

Yours very truly,

UNION OIL COMPANY OF CALIFORNIA

J. R. Murphey, Jr.
District Operations Manager
Houston District

JRM/db
Enclosures

UNION OIL COMPANY OF CALIFORNIA

DEVELOPMENT AND PRODUCTION PLAN

OCS-G-2645 - BLOCK 158, EAST BREAKS AREA

OCS-G-2646 - BLOCK 159, EAST BREAKS AREA

OFFSHORE, TEXAS

UNION OIL COMPANY OF CALIFORNIA
DEVELOPMENT AND PRODUCTION PLAN
OCS-G-2645, BLOCK 158
AND
OCS-G-2646, BLOCK 159

Union Oil Company of California has been designated as operator of the subject blocks by mutual consent of the joint interest owners. Union Oil filed for a suspension of production for Block 158 on June 26, 1979, and has been granted a suspension through September 1, 1984. A suspension of production for Block 159 was filed on May 7, 1979, and a suspension was granted through February 1, 1983. These suspensions were granted under provisions of 30 CFR 250.12 (d) (1) with the understanding that production be initiated as early as possible but no later than December 1, 1985. Union fully intends to comply with the approved Activity Schedule.

Exploration of the subject blocks was completed after the drilling of three exploratory tests on Block 159 and one exploratory test on Block 158. Sufficient reserves were discovered to establish the producibility and feasibility of development of the subject leases. None of the exploratory tests will be tied back to the platform and are not included in the proposed development plan.

Union now plans to set an 8-pile, 21-slot production/development platform on lease OCS-G-2646, Block 159, at a location 4350' south of the north line and 6250' east of the west line of Block 159 (Exhibit No. 1 and 2). Union plans to drill 14 wells to develop potential reserves in both blocks. The location of the platform and the 14 proposed development wells is shown on Exhibit No. 3 in accordance with 30 CFR 250.34 2 (a) (3).

The following is a brief description of the work already performed in accordance with the Activity Schedule returned with the approval for suspension of production for Blocks 158 and 159 as filed by Union Oil Company of California.

1. Geotechnical investigation completed 10-1-79.
2. Commenced drilling OCS-G-2646 Exploratory Well #3 on 12-14-79.
3. Ceased drilling on 1-26-80.
4. Bids for fabrication of platform requested on 4-4-80.
5. Bids for fabrication of platform received by 5-5-80.

The following is a brief description of the specific work to be performed in our production and development plan and the schedule which we will follow.

A graphic display of the proposed Activity Schedule (Exhibit No. 4) is attached in compliance with 30 CFR 250.34 (a) (1).

1. Apply for approval of Development and Production Plan, complete platform design, and bid and award fabrication contract by 6-1-80.

2. Complete platform fabrication and commence installation by 10-1-82.

3. Complete platform installation, rig up drilling rig, and begin drilling development wells on OCS-G-2646 by 2-1-83.

4. Begin design and fabrication of production equipment by 2-1-83.

5. Drill nine and complete seven of the OCS-G-2646 proposed wells, and commence drilling operations on Lease OCS-G-2645 by 9-1-84.

6. Drill and complete two wells on OCS-G-2645 by 1-1-85.

7. Drill and complete three wells on OCS-G-2646 by 6-1-85.

8. Receive FERC certifications to lay gas pipeline and sell gas by 4-1-85.

9. Rig down and complete installation of gas pipeline and production equipment by 11-30-85.

10. Commence production by 12-1-85.

A change from the approved Activity Schedule for East Breaks Blocks 158 and 159 is the addition of the drilling of three (3) wells on Lease OCS-G-2646 from 1-1-85 to 6-1-85. Union feels that fourteen (14) wells will be necessary for development at this time, and that the additional three (3) wells can be drilled in the five month period. The pipeline and production facilities installation is postponed but completed by the end of November 1985 so that production can still commence at the proposed start-up of 12-1-85. The graph showing the Activity Schedule with the three (3) additional wells is the exhibit referenced to previously (Exhibit No. 4). Again, Union feels that the drilling of the three (3) additional wells can be done within the time frame allowing for production start-up to proceed on 12-1-85 as had been previously proposed.

The actual number of wells may be less, if productive area is smaller than anticipated; or more, to a maximum of 21, if necessary. We anticipate that the wells will average 52 days each to drill and complete. Current plans are to use the drilling rig for completion of the wells, eliminating time lost due to rig transfer. Production facilities will be designed, fabricated, and ready for installation once the drilling and completion phase is finished. After drilling and completion of the wells, the rig must be removed and the platform cleaned, cleared and stripped of all drilling equipment. The production facilities will be placed on the platform, tied together, and connected to the pipeline. We anticipate that the production facilities will be in place and operable approximately six months following the drilling and completion phase.

Production operations will begin prior to December, 1985, if at all possible. The productive life of the field is estimated at twenty years. This time estimate depends on successful completion of wells in unproven fault blocks and establishment of productive limits currently estimated.

The geological structure on which the development plan is based is illustrated with two structure maps constructed on the top of the principal reservoirs, the AB-2 and CS-3 sands. Both seismic and well control have been employed to construct the structure maps and the cross-section. The following exhibits are attached in partial fulfillment of the requirements of 30 CFR 250.34 2 (a) (4):

1. Structure Map contoured on top of the AB-2 Reservoir Sand (Exhibit No. 5).

2. Structure Map contoured on top of the CS-3 Reservoir (Exhibit No. 6).

3. Structural Cross-Section A-A' (Exhibit No. 7).

The above exhibits are marked "CONFIDENTIAL" since they contain proprietary data. Union asks that these exhibits have limited circulation under the Freedom of Information Act and implementing regulations (43 CFR Part 2).

In compliance with 30 CFR 250.34 2 (a) (4), a survey of drilling and construction hazards, a shallow structure map, and bathymetric map of the vicinity of the proposed platform location are offered as exhibits (8, 9, and 10). The survey was conducted by BBN Geomarine Services which utilized the Acoustipulse system for the bathymetry survey, a sparker and Acoustipulse systems for the shallow structure map and soil borings to 1500' plus the other surveys for the Drilling and Construction Hazards survey. The shallow drilling hazards noted in the text of the report filed with the U. S. Geological Survey are not present in the vicinity

of the proposed platform location. The first well drilled on Block 159 by Mobil Oil Corporation had a surface location 5475' south of the north line and 7966' east of the west line. The proposed platform location is 1125' north and 1716' west of the Mobil, OCS-G-2646 #1. No shallow gas zones were noted above 2650' during the drilling of the #1 well.

Union Oil Company of California's plan of development consists of construction and setting of a platform and utilizing a compact, self-contained platform drilling rig for development of the leases.

The platform will be fabricated at a contractor's facility to Union's specifications and in accordance with the Department of the Interior's OCS Order No. 8.

The platform will be an eight-pile, 21-well drilling and production platform with 151' x 75' main and cellar decks. Curbs, gutters and drains will be installed in all deck areas in a manner necessary to collect all runoff and contaminants not normally collected in equipment drip pans and piped to a sump. The collected liquids will be skimmed and pollutants stored for disposal onshore. The platform will be equipped with two survival capsules and all necessary railings and safety devices. It will also be equipped with all mandatory navigational aids.

Union plans to tie into the HIOS gas gathering system that will terminate at the East Breaks 160 Platform with a 12" pipeline. This pipeline will be approximately 4-1/2 miles in length, and will be routed in as straight a line as practical to the platform (Exhibit No. 11). If commercial oil is discovered, the oil will probably be transported through the HIGS oil gathering system that will terminate at the East Breaks 160 Platform with a 6" pipeline. Union would probably run a 6" line in as straight a line as practical to the East Breaks Block 160 Platform from the East Breaks 159 Platform. This line will be approximately 4-1/2 miles in length (Exhibit No. 12).

After the platform is set, it will be equipped with one compact, self-contained drilling rig. The rig will be a diesel-electric drilling rig with the flexibility to fit on most any type and size platform. Exhibit No. 13 shows a schematic of the proposed platform.

All wells drilled for oil and gas will be drilled in accordance with 30 CFR 250.34, 250.41, 250.91, the provisions of OCS Order No. 2, and the stipulations of the oil and gas lease covering the block until field drilling rules are issued.

Blowout preventers and related well-control equipment will be installed, used, and tested in a manner necessary to prevent blowouts. Prior to drilling below drive pipe or conductor casing, a remotely controlled, annular-type blowout preventer and diverter system will be installed. This will consist of the remotely controlled annular BOP, two remotely controlled full-opening eight-inch diverter valves, and two eight-inch diverter lines directed to opposite sides of the platform (see Exhibit No. 14). The remotely controlled diverter valves will be designed so that the valves must open before the annular preventer will close.

Prior to drilling below surface or intermediate casing, a remotely controlled blowout preventer and choke manifold system will be installed (see Exhibit No. 15). This will consist of a minimum of four remote-controlled, hydraulically operated blowout preventers with a working pressure which exceeds the maximum anticipated surface pressure. The preventers will be equipped with three rams and one annular type, a drilling spool with side outlets for a choke line and a kill line, and a fill-up line. Also, a choke manifold with a minimum of at least one remote-controlled adjustable choke and a manual choke will be installed (see Exhibit No. 16).

In addition, an outside BOP assembly and an essentially full-opening drill string safety valve in the open position will be maintained on the rig floor to fit all pipe in the drill string.

The following pollution control measures will be required of all drilling rigs used during the development/production drilling program to prevent spills of oil or waste materials.

1. All engines and pumps of the drilling rig will be equipped with drip pans or sumps. The collected liquids will be skimmed; pollutants will be stored in oil drums for disposal onshore.

2. The rotary table and draw works will have drip pans to divert any oil, grease or other pollutants into the mud system.

3. Oil changes will be performed under close supervision and in such a manner as not to cause any pollutants to spill overboard.

All solid combustible waste products will be incinerated, taking great care not to endanger the rig. All noncombustible material will be collected and transported to shore for disposal at our Freeport facility. None of this material will enter the water at any time.

In the event of a spill during the development drilling or the production period of the program, Union's Offshore and Coastal Waters Oil and Hazardous Substances Spill Contingency Plan will be actuated. This plan was filed with the USGS on January 10, 1977 and approved on February 8, 1977. The plan was revised in April, 1979. Union is a member of Clean Gulf Associates.

During drilling and producing operations all applicable safety standards established by the U. S. Coast Guard and Department of Interior (U. S. Geological Survey) will be strictly complied with to insure the safety of life and property in the offshore environment.

In addition to Federal requirements, safety standards encompass applicable API Recommended Practices and the Offshore Operators Committee's Manual of Safe Practices in Offshore Operations.

An effective safety program will be followed which includes, but is not limited to the following:

1. Training in safety aspects of each job, fire fighting, first aid, survival, etc.
2. Regular periodic safety meetings.
3. Safety inspections of facilities.
4. Enforcement of Union's safe practices.
5. Investigation of all accidents with recommendations for corrective action.

Personnel safety is covered in a multitude of governmental and industry standards such as:

1. U. S. Coast Guard - Rules and Re tions for Artificial Islands and Fixed Structures on the OCS.
2. GSS-OCS-1, Safety Requirements for Drilling Operations in Hydrogen Sulfide Environment.
3. GSS-OCS-B, Platforms, Structures and Associated Equipment.
4. GSS-OCS-T1, Training and Qualifications of Personnel in Well Control Equipment and Techniques for Drilling on Offshore Location.

5. API RPT-1, Orientation Program for Personnel Going Offshore for the First Time.

6. API RPT-3, Training and Qualification of Personnel in Well Control Equipment and Techniques for Drilling on Offshore Location.

7. API Bul. T-5, Employee Motivation Programs for Safety and Prevention of Pollution in Offshore Operations.

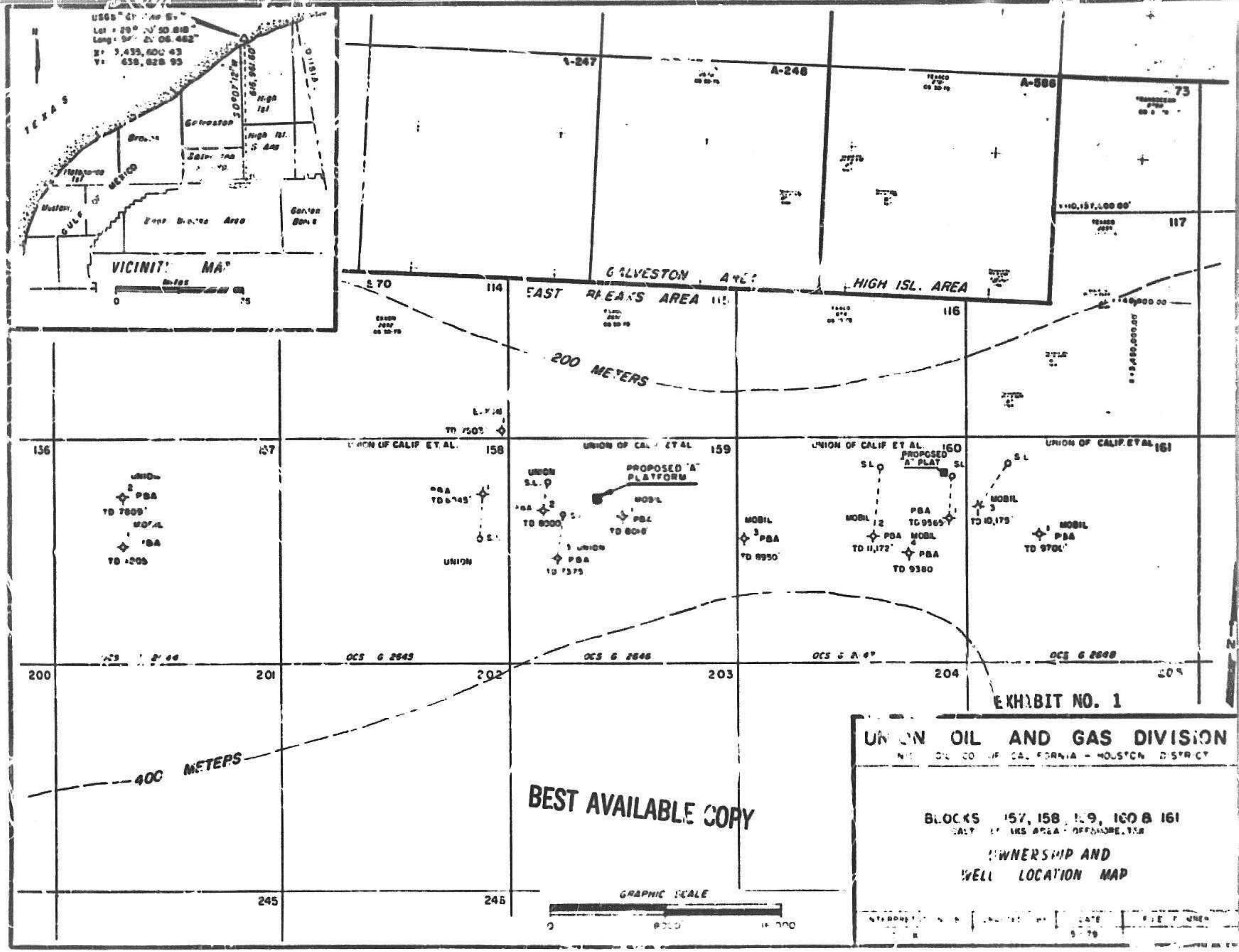
8. API RP14G, Fire Prevention and Control on Open Type Offshore Production Platforms.

9. OCC - Crane Manual

10. OOC - Manual of Safe Practices in Offshore Operations

The following is a list of the mud components and additives that may be used in the drilling of these wells.

PRODUCT NAME	PHYSICAL OR CHEMICAL COMPOSITION
Barite	Barium Sulfate
Gel	Bentonite Clay
Saltwater Gel	Attapulgite Clay
Caustic Soda	Sodium Hydroxide
Soda	Sodium Bicarbonate
Flosal	Inorganic Viscosifier
Spersene	Chrome Lignosulfonate
XP-20	Chrome Lignite
Lime	Calcium Oxide
Drispac	Polyanionic Cellulose
Aluminum Stearate	Aluminum Stearate
Nut Plug	Ground Walnut Shells
Mica	Mica Flakes
Bit Lube 2	Biodegradable High Pressure Lubricant
Soda Ash	Sodium Carbonate
Benex	Anhydride Copolymer


VICINITY MAP
TEXAS
GULF
MEXICO
Galveston
High Isl.
East Breaks Area
A-247
A-248
A-586
GALVESTON AREA
HIGH ISL. AREA
EAST BREAKS AREA
114
115
116
117
200 METERS
400 METERS
136
157
158
159
160
161
UNION OF CALIF ET AL.
PROPOSED "A" PLATFORM
PROPOSED "A" PLAT
MOBIL
UNION
PBA
S.L.
TD 7609'
TD 9380
TD 10,175'
TD 11,172'
TD 9565'
TD 8950'
TD 9700'
OCS G 2645
OCS G 2646
OCS G 2648
200
201
202
203
204
245
246
EXHIBIT NO. 1
UNION OIL AND GAS DIVISION
HOUSTON DISTRICT
BLOCKS 157, 158, 159, 160 & 161
OWNERSHIP AND
WELL LOCATION MAP
GRAPHIC SCALE
0
8000
16,000
BEST AVAILABLE COPY

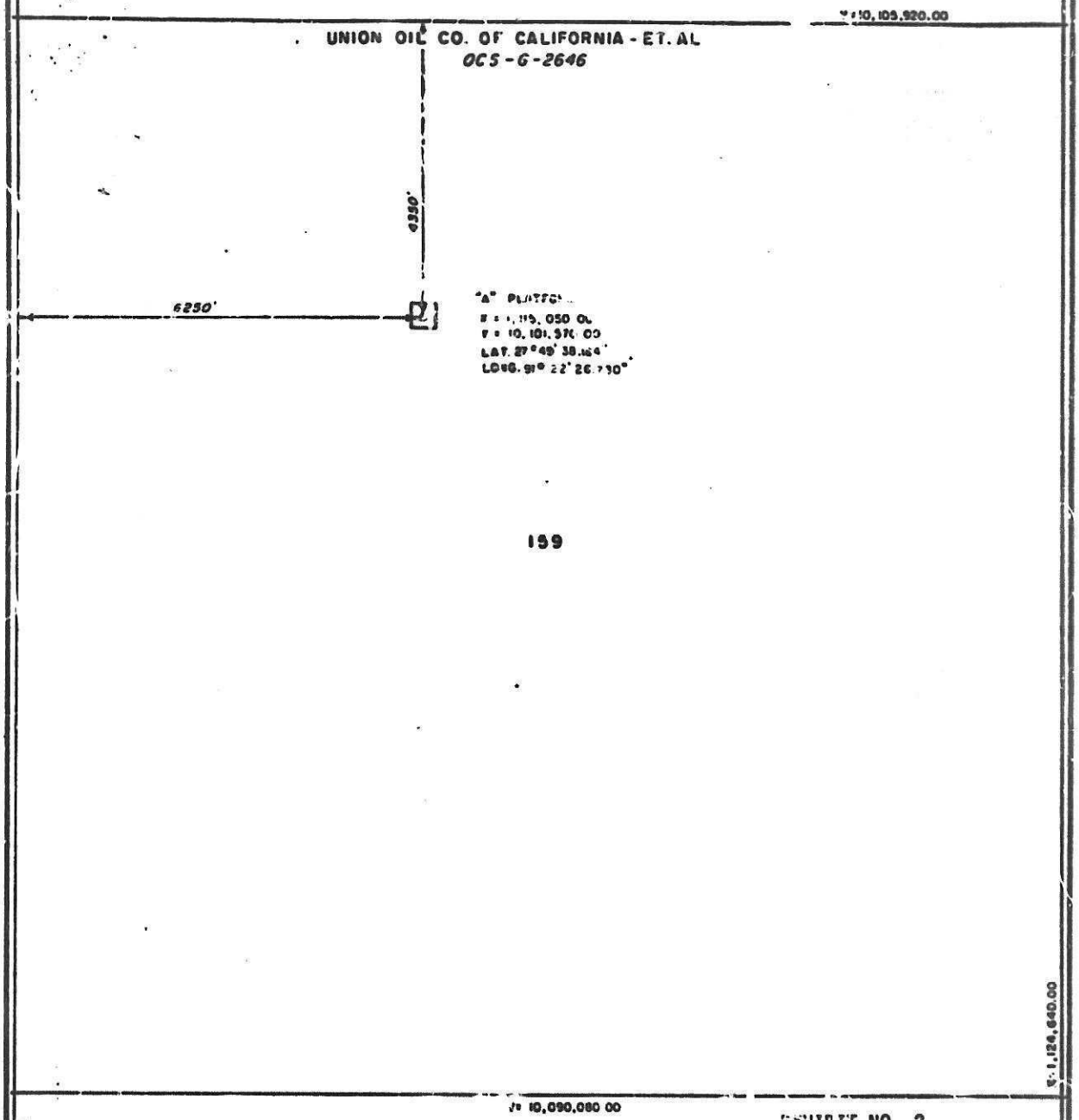


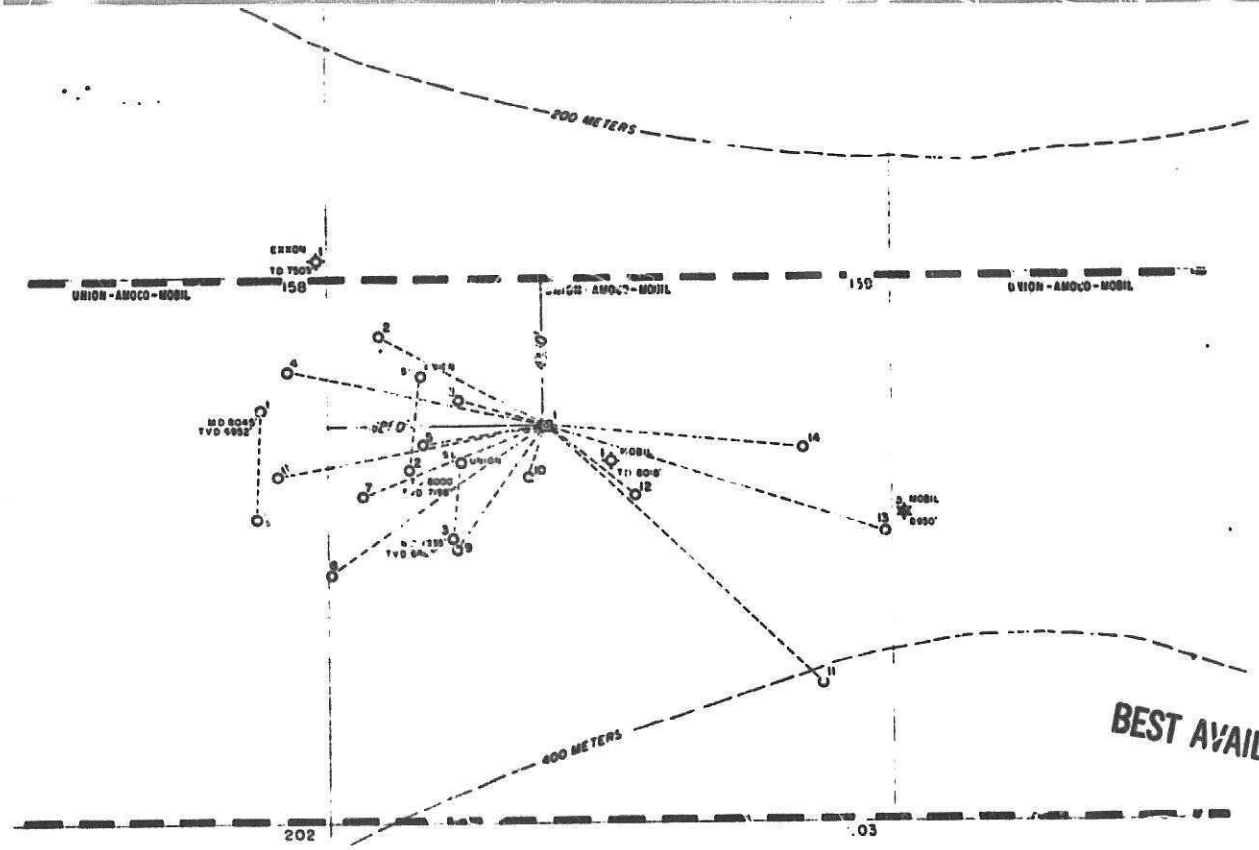
EXHIBIT NO. 2

UNION OIL AND GAS DIVISION
UNION OIL CO. OF CALIFORNIA - HOUSTON DISTRICT

EAST BREAKS AREA, BLOCK 159
EAST BREAKS AREA, OFFSHORE, TEXAS

"A" PLATFORM LOCATION MAP

INTERPRETATION BY	DRAFTED BY	DATE	FILE NO.
	D A	5-10-80	



WELL NO	INITIAL ZONE OF COMPLETION	P.B.H.L.	
		M.D.	T.V.D.
1	CS-3	7000'	7000'
2	AB-2	7400'	4800'
3	AB-2	5650'	5000'
4	CS-2	10,100'	6500'
5	CS-3	7900'	7000'
6	CS-2	11,800'	7000'
7	CS-3	10,100'	7500'
8	CS-3	10,400'	7500'
9	CS-3	8800'	7500'
10	CS-3	7900'	7500'
11	CS-2	14,500'	8500'
12	CS-3	8800'	8000'
13	GA-1	14,400'	9000'
14	CS-3	11,250'	7500'

EXHIBIT NO. 3

BLOCKS 158 & 159

EAST BREAKS AREA - OFFSHORE TEXAS

WELL LOCATION PLAT

1 MILE

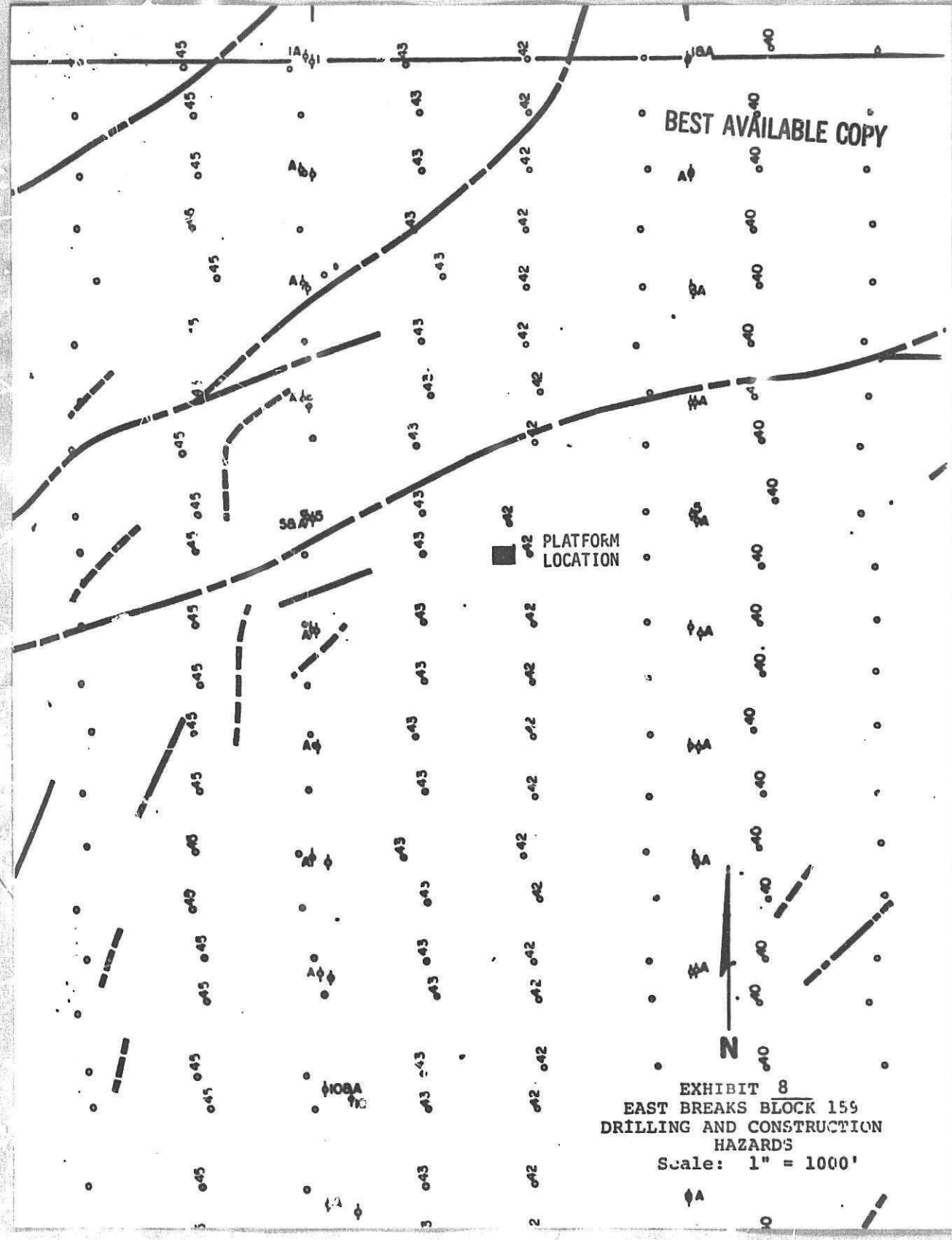


EXHIBIT 8
EAST BREAKS BLOCK 159
DRILLING AND CONSTRUCTION HAZARDS
Scale: 1" = 1000'

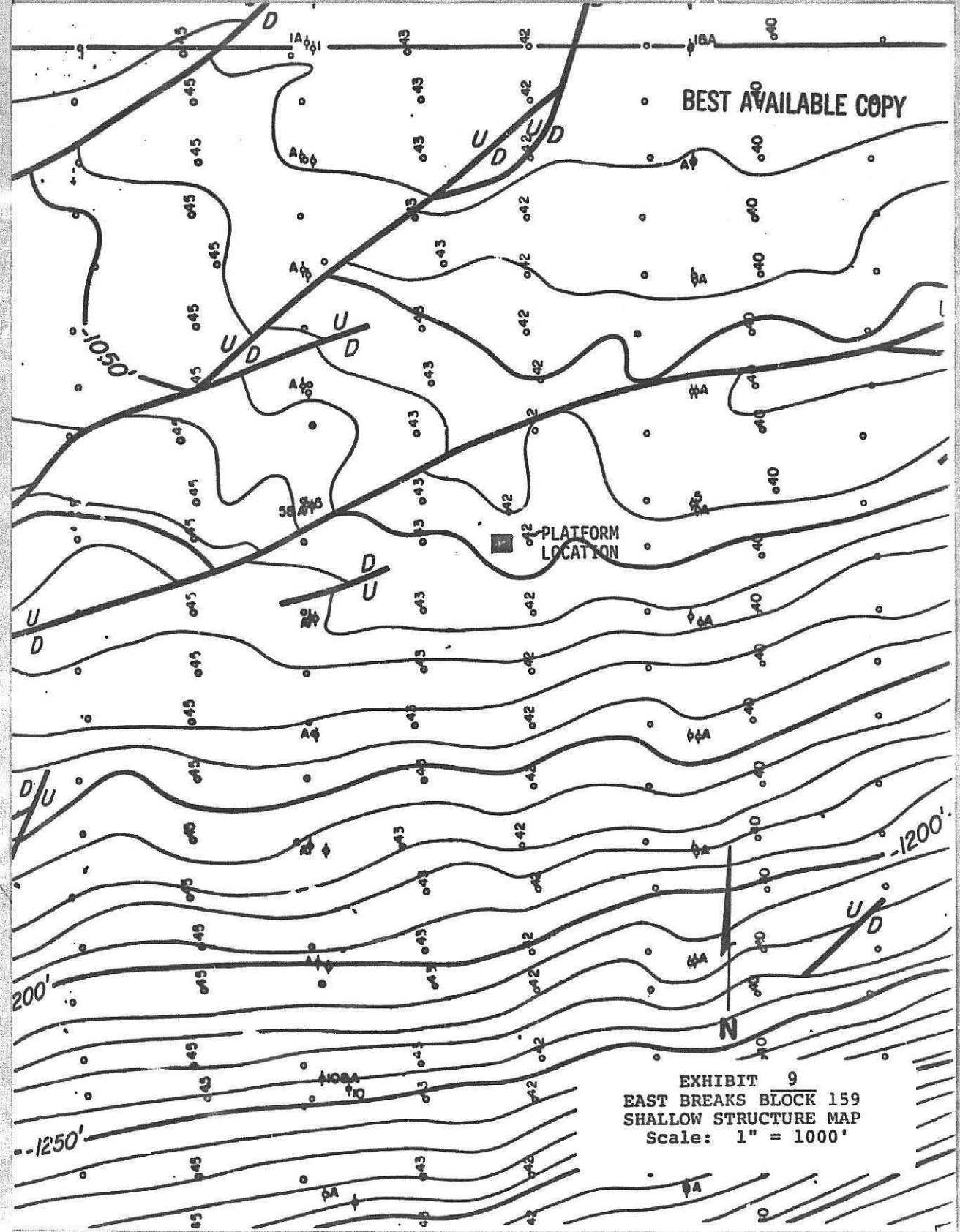


EXHIBIT 9
EAST BREAKS BLOCK 159
SHALLOW STRUCTURE MAP
Scale: 1" = 1000'

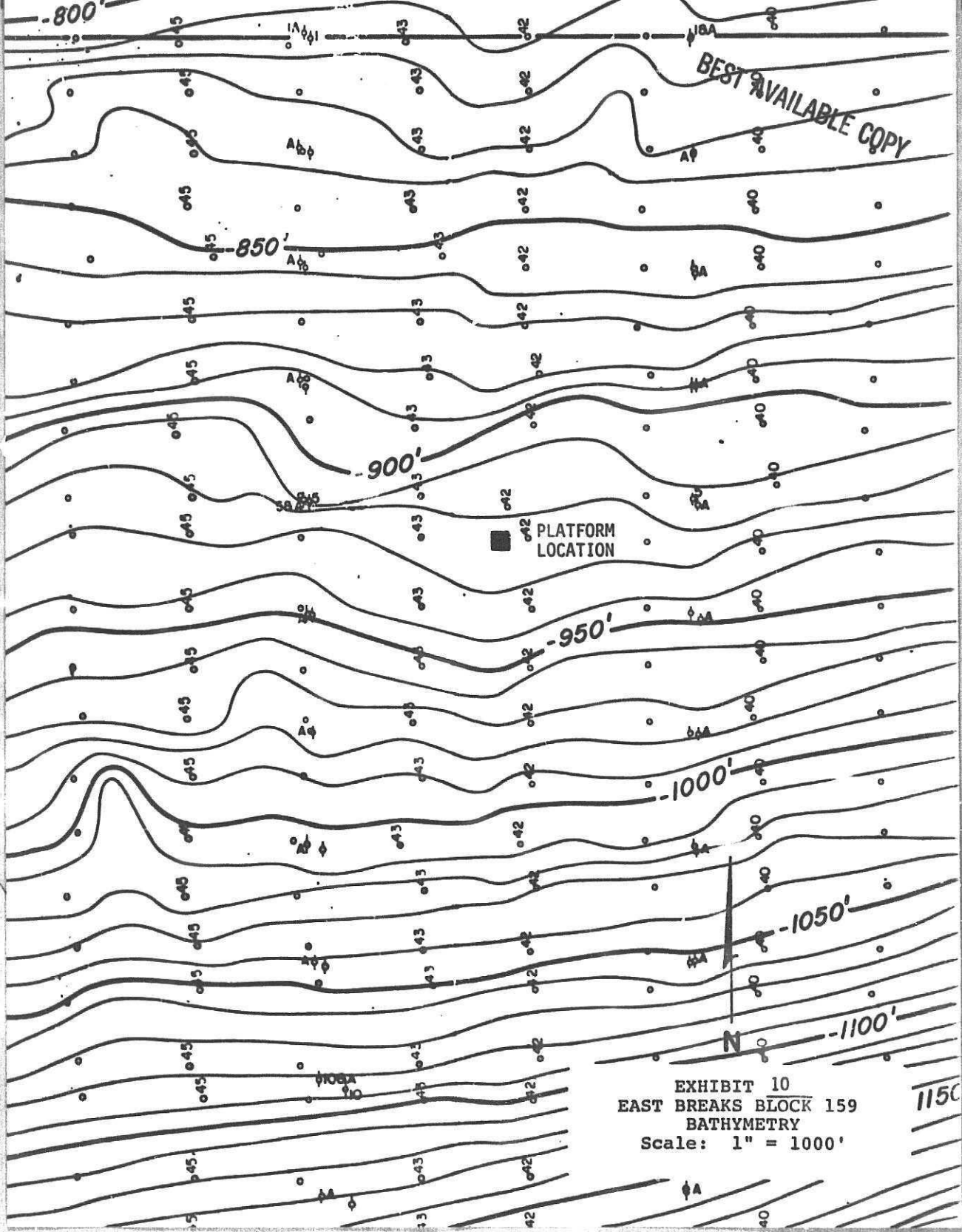


EXHIBIT 10
EAST BREAKS BLOCK 159
BATHYMETRY
Scale: 1" = 1000'

1150

EXHIBIT 11

PROPOSED PIPELINE
UNION OIL CO. OF CALIFORNIA

12" GAS PIPELINE
FROM
EAST BREAKS AREA - BLOCK 159 (UOCO Platform)
TO
EAST BREAKS AREA BLOCK 160 (UOCO Platform)
(HIOS Gathering System)

OFFSHORE TEXAS - GULF OF MEXICO
Application By UNION OIL CO. OF CALIFORNIA - Houston, Texas

GRAPHIC SCALE

0 16,000' 32,000'

EXHIBIT NO. 4

DEVELOPMENT & PRODUCTION SCHEDULE

EAST BREAKS 158 - 159 FACILITIES

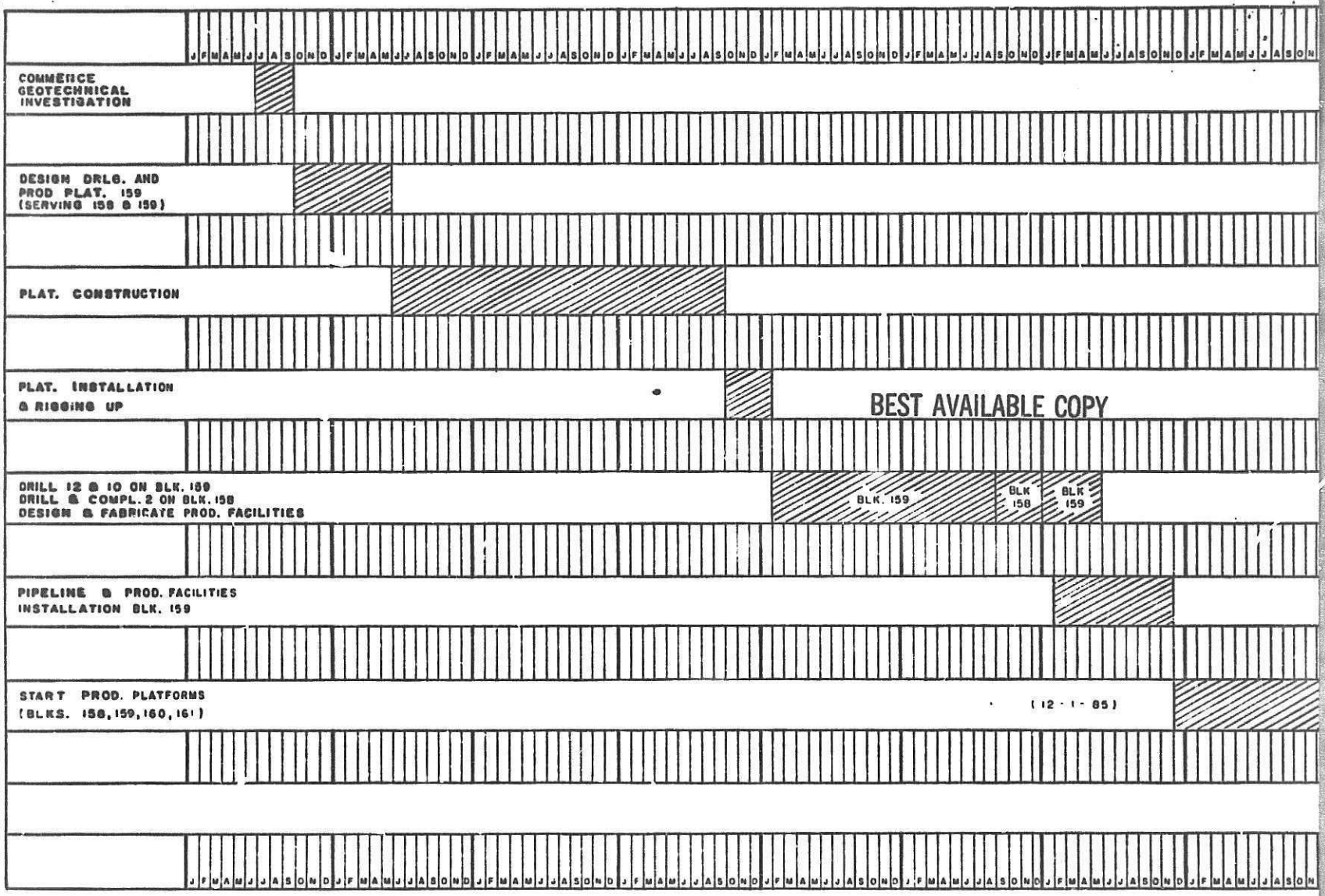
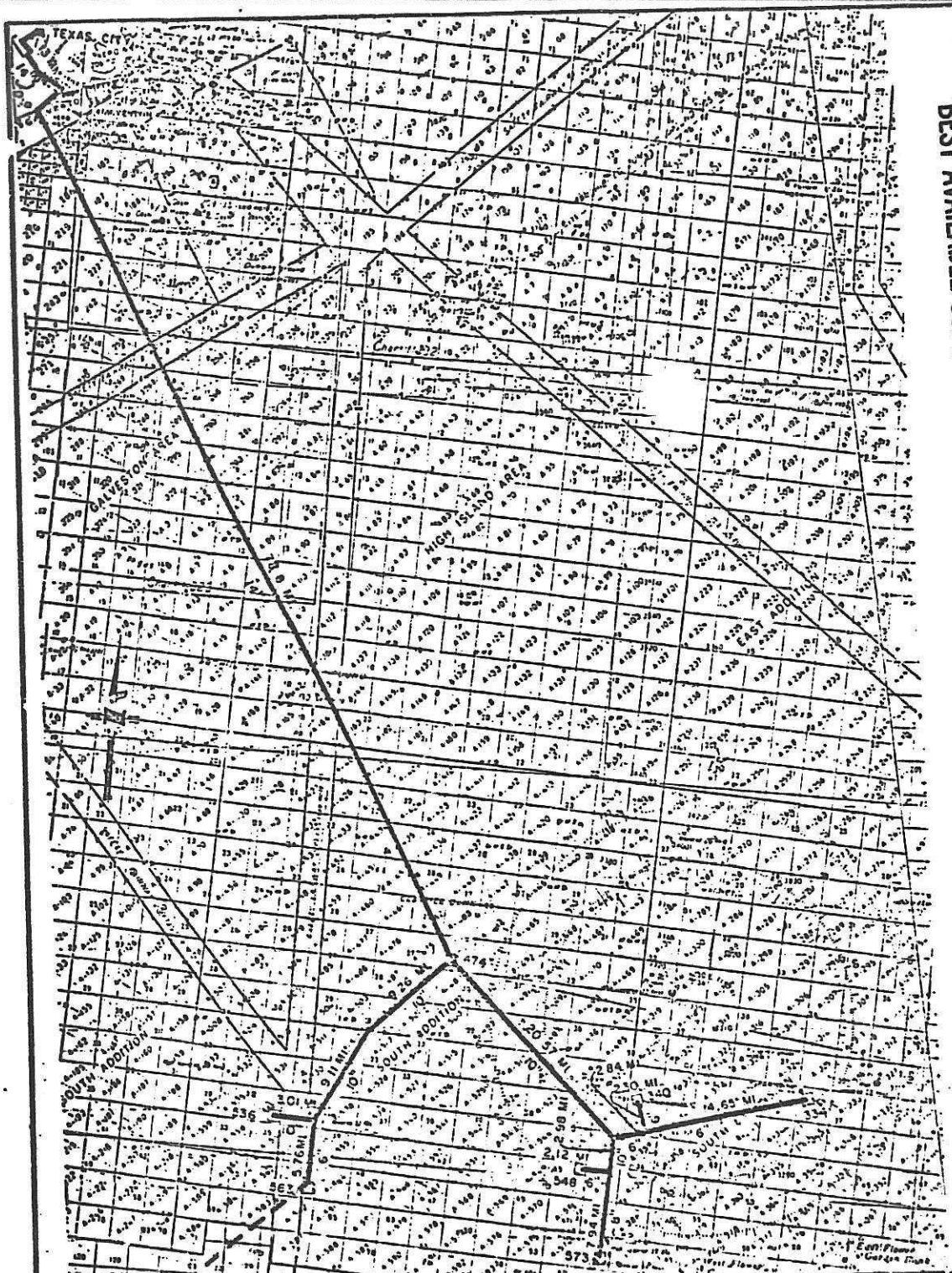


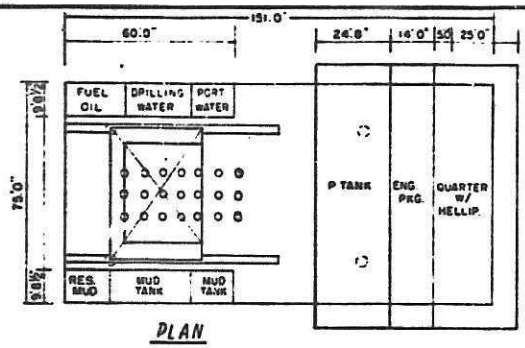
EXHIBIT NO. 4

1979 1980 1931 1982 1983 1984 1985 1986



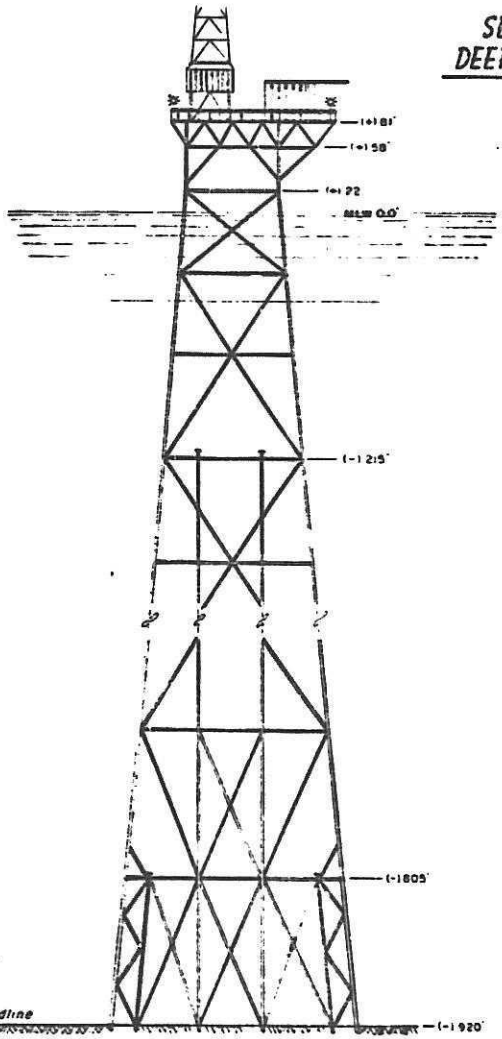
UNION OIL COMPANY OF CALIF.
PROPOSED 6" OIL PIPELINE
EAST BREAKS BLOCK 159
C. DUHON EXHIBIT NO. 12

SCALE	DRAWING NUMBER	
NONE	A-1073-7810	4-30-80



PLAN

SELF-CONTAINED DEEPWATER PLATFORM



ELEVATION

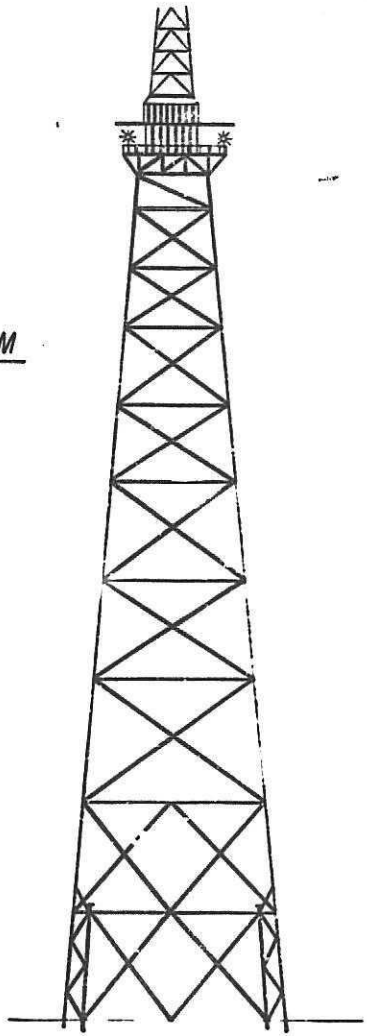


EXHIBIT NO. 13

PROPOSED DRILLING & PRODUCTION OPERATIONS
UNION OIL COMPANY OF CALIFORNIA, et al

PROPOSED PLATFORM
BLOCK 159 OCS-G-2646
EAST BREAKS AREA
OFFSHORE TEXAS - GULF OF MEXICO
Application By: UNION OIL CO OF CALIFORNIA - Houston, Texas

DATE: APRIL, 1980 SCALE: NTS SHEET 1 OF 1

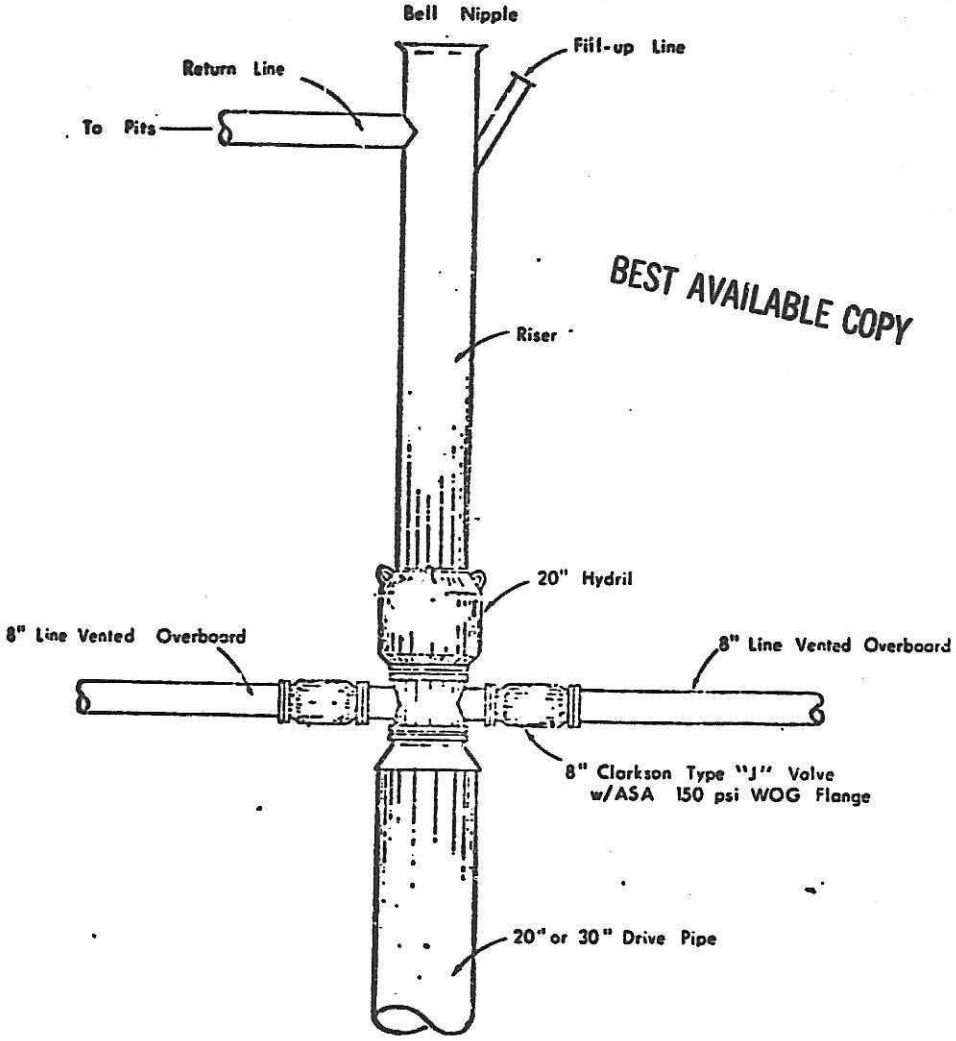


EXHIBIT NO. 14

REV	DATE

PROPOSED DIVERTER SYSTEM

OCS-G-2646 - BLOCK 159 EAST BREAKS AREA

UNION OIL COMPANY OF CALIFORNIA

DRAWN ____ CK'D ____
APP'D ____
SCALE ____
DATE ____

SHEETS | SHEET

Form 247 GR

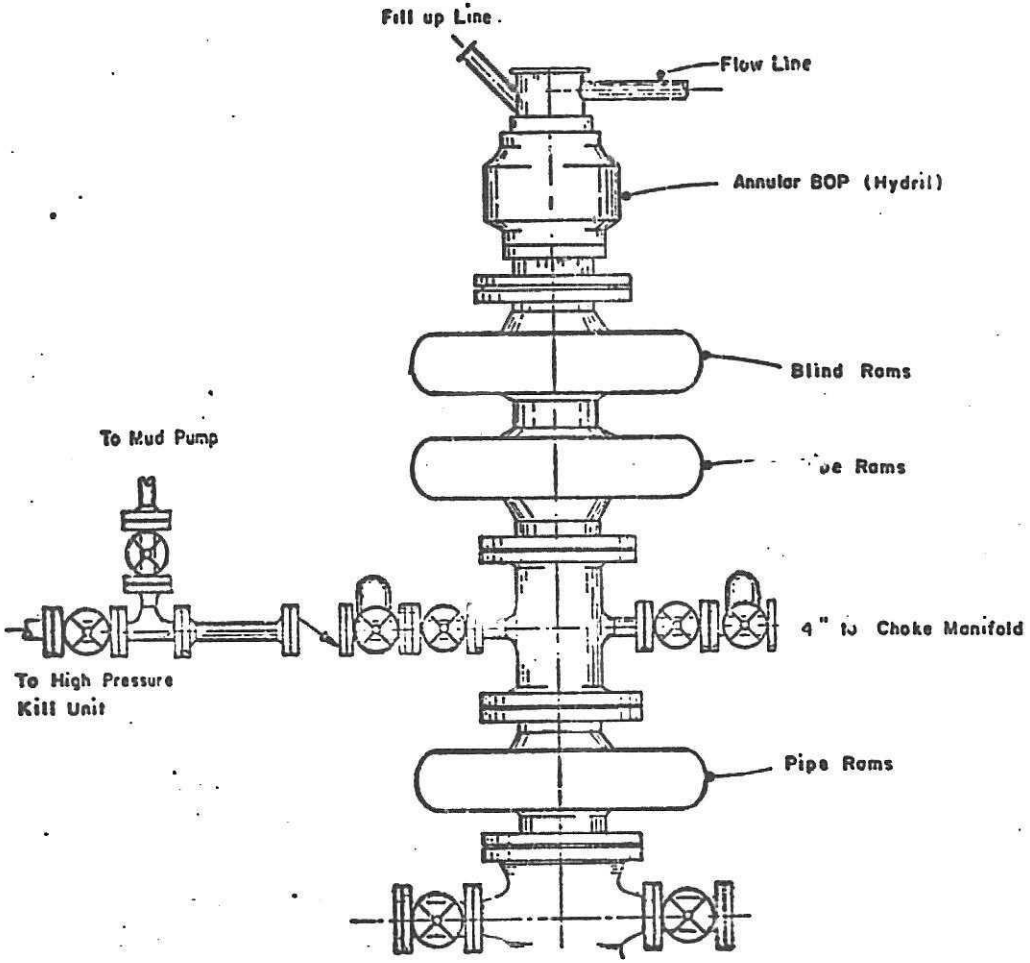


EXHIBIT NO. 15

REV.	DATE

STANDARD 4 PREVENTER ASSEMBLY

OCS-G-2646 - BLOCK 159 EAST BREAKS AREA

UNION OIL COMPANY OF CALIFORNIA

DRAWN _____ CK'D. _____
APP'D _____
SCALE _____
DATE _____

SHEETS | SHEET

Form 247 GR

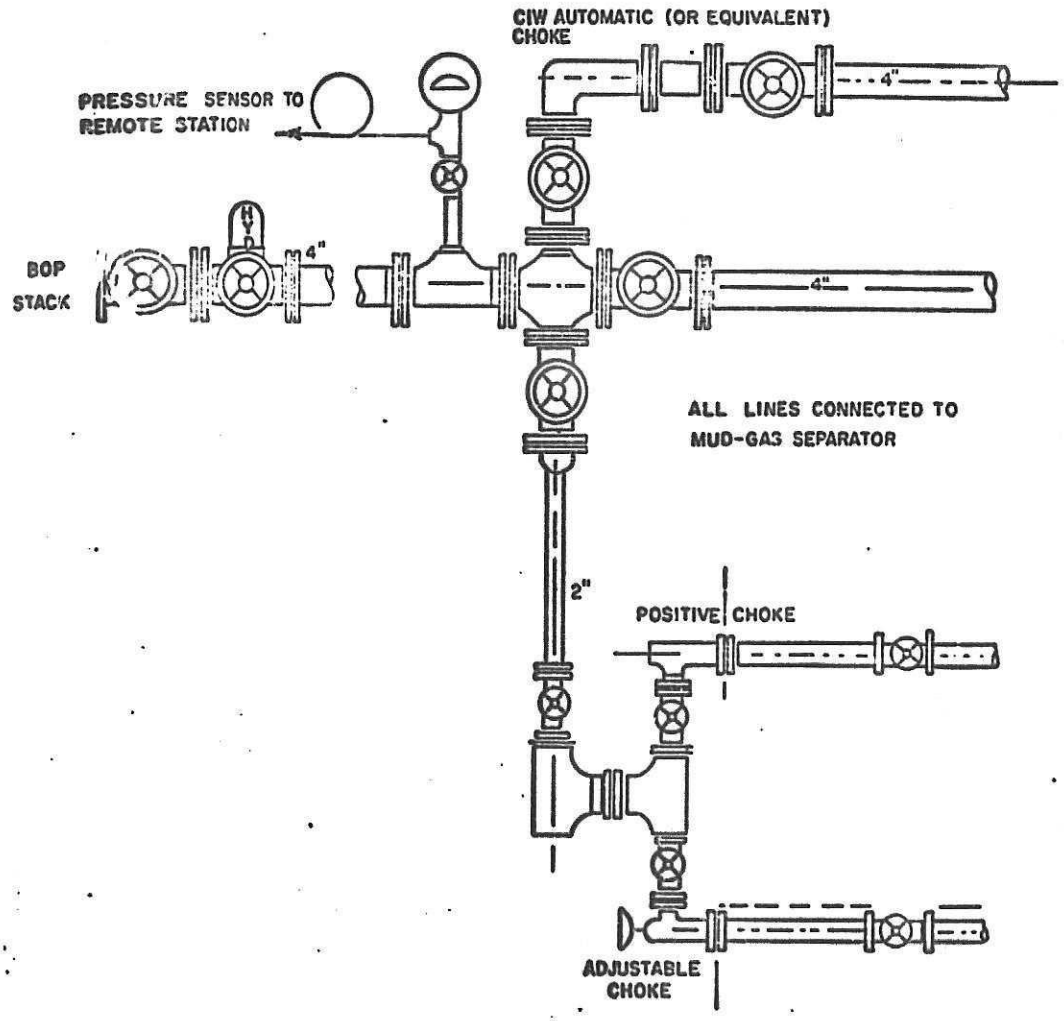


EXHIBIT NO. 16

REV.	DATE

PROPOSED CHOKE MANIFOLD

OCS-G-2646 - BLOCK 159 EAST BREAKS AREA

UNION OIL COMPANY OF CALIFORNIA

DRAWN _____ CKD. _____
APP'D. _____
SCALE _____
DATE _____

SHEETS | SHEET