

DATE 1-28-87

TO: OPS-3-4

FROM: FO-2-1

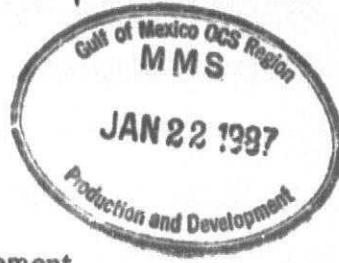
Unit ~~Plan of Exploration/DOCD and Environmental Report~~

Lease(s) OCS G1312 + OCS 0374 Control No. U- 474



**Chevron U.S.A. Inc.**  
935 Gravier Street, New Orleans, LA 70112

January 12, 1987



Annual Plan of Development  
Main Pass Block 40 Field Unit  
Agreement No. 14-08-001-3847

**Minerals Management Service**  
**Gulf of Mexico Region**  
**1201 Wholesalers Parkway**  
**New Orleans, LA 70123-2394**

**Attention Mr. Louis E. McBee**

**Gentlemen:**

Pursuant to the provision of the Main Pass Block 40 Field Unit, Agreement No. 14-08-001-3847, Chevron U.S.A. Inc. hereby submits for approval the Annual Plan of Development for the unit year commencing February 18, 1987 and ending February 17, 1988.

Summary of Preceding Unit Year

Wells Drilled

<u>Lease</u>	<u>Well No.</u>
OCS-G 1452	K-15

Wells Worked Over

OCS-G 0374	JA #27
OCS-G 0374	JA #6
OCS-G 0374	CC #25
OCS-G 0374	(OA) #3
OCS-G 0374	C-8
OCS-G 1452	K-13
OCS-G 0375	E-8
OCS-G 0375	E-9
OCS-G 1372	F-14
OCS-G 1452	KB-5
OCS-G 0375	HA-23D

Platforms Installed

No structures or caissons were added in the Unit Area during 1986.

17I13/2010

Proposed Activities - Current Unit Year

We desire to carry over the drilling of and the associated work for proposed Wells OCS-G 1372 #F-15 and OCS-G 1295 #9. Well #F-15 was proposed in last year's Annual Plan of Development, approved by the MMS on May 5, 1986. Well #9 was previously approved on the 1985-86 Annual Plan of Development and carried over on the plan submitted for the 1986-87 unit year.

As previously proposed, Well OCS-G 1372 #F-15 will be drilled adjacent to the "F" Platform with its conductor pipe strapped to the structure. Well OCS-G 1295 #9, if successfully drilled, will require the installation of a single well caisson, as previously proposed.

The following new wells are proposed for drilling during the 1987-88 unit year.

Well Name: OCS-G 1312 #6

Surface Location: 4375' FEL and 550' FNL of Main Pass Block 127.  
Water Depth: 55'  
Bottom Hole Location: Straight Hole  
Total Depth: -7,050' SS  
Objective: 6900' Sand  
Estimated Life of Reserves: 13 years

Well Name: OCS-G 0374 #38

Surface Location: 1400' FEL and 5400' FNL of Main Pass Block 41  
Water Depth: 51'  
Bottom Hole Location: Straight Hole  
Total Depth: -6500' SS  
Objective: 6700' Sand  
Estimated Life of Reserves: 10 years

A surface location plat for each of the two (2) proposed new wells is attached.

The drilling schedule for the two (2) carryover wells and the two (2) new wells is expected to be as follows:

Well Name	Estimated Spud Date	Drilling Time
OCS-G 1372 #F-15*	09-01-87	30 days
OCS-G 1312 #6	10-01-87	30 days
OCS-G 0374 #38	11-01-87	30 days
OCS-G 1295 #9*	12-01-87	40 days

\* Carryover from 1986-87 APOD.

All drilling activity should be completed by January 10, 1988.

Chevron plans to use Penrod Drilling Company's rig "Penrod 86" or a similar type jackup rig to drill the proposed wells. This drilling rig contains well control and containment, pollution control, firefighting and lifesaving equipment and a sewage treatment system to comply with Minerals Management Service and U.S. Coast Guard requirements. A sketch of this rig is attached hereto, along with general data sheets.

Onshore support and storage facilities required for the proposed well are Chevron's existing facilities located at Venice, Louisiana and Harvey, Louisiana. The existing base at Venice covers + 45 acres and is located adjacent to Grand Pass and Louisiana State Highway 23, and contains a dock with facilities for loading and unloading marine equipment, heliport, office and communication facilities. The Harvey base is small, 2.5 acres, and is used for temporary storage of casing and well equipment. This activity is not expected to increase base requirements.

Chevron U.S.A. Inc.'s Oil Spill Contingency Manual revisions were approved by the Minerals Management Service on November 10, 1986. Oil spill cleanup equipment is maintained at Venice, Louisiana, and time of deploying for equipment to the Main Pass Block 40 Field Unit is 4-6 hours.

One (1) of the four (4) wells will be drilled adjacent to existing platforms with its conductor pipe strapped to the platform. The remaining three (3) wells, if successfully drilled, will require the installation of a single well caisson over the conductor pipe. A drawing showing a typical caisson installation for the two (2) new wells is attached hereto. The installation schedule for the three (3) caissons is estimated as follows:

<u>Well Name</u>	<u>Estimated Commencement Date</u>	<u>Time Required</u>
OCS-G 1312 #6	11-15-87	5 days
OCS-G 0374 #38	12-15-87	5 days
OCS-G 1295 #9*	01-15-88	5 days

\* Carryover from 1986-87 APOD.

#### Other Activity

It is anticipated that six (6) major workovers will be performed in the unit area at an estimated cost of \$4.6 MM.

In accordance with 30 CFR 250.34-2, we are enclosing the following:

1. A copy of a plat showing the location of the lease with respect to the Louisiana shoreline.
2. A copy of a geological structure map and schematic cross section map for proposed Wells OCS-G 1312 #6 and OCS-G 0374 #38.
3. A copy of the Shallow Drilling Hazards Report for proposed Wells OCS-G 1312 #6 and OCS-G 0374 #38.

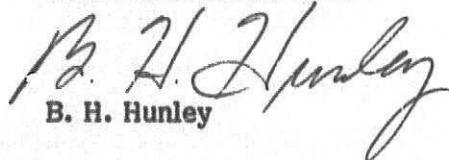
4. A copy of the Emissions Report for the proposed wells (new and carryover).

Chevron believes that the structure maps and schematic cross section maps submitted with this proposed Development Plan are exempt from disclosure under the Freedom of Information Act, and should therefore not be made available to the public or provided to any affected state or to the executive of any local government.

If any further information is needed, please contact Mark K. Gress at 592-6039.

Sincerely,

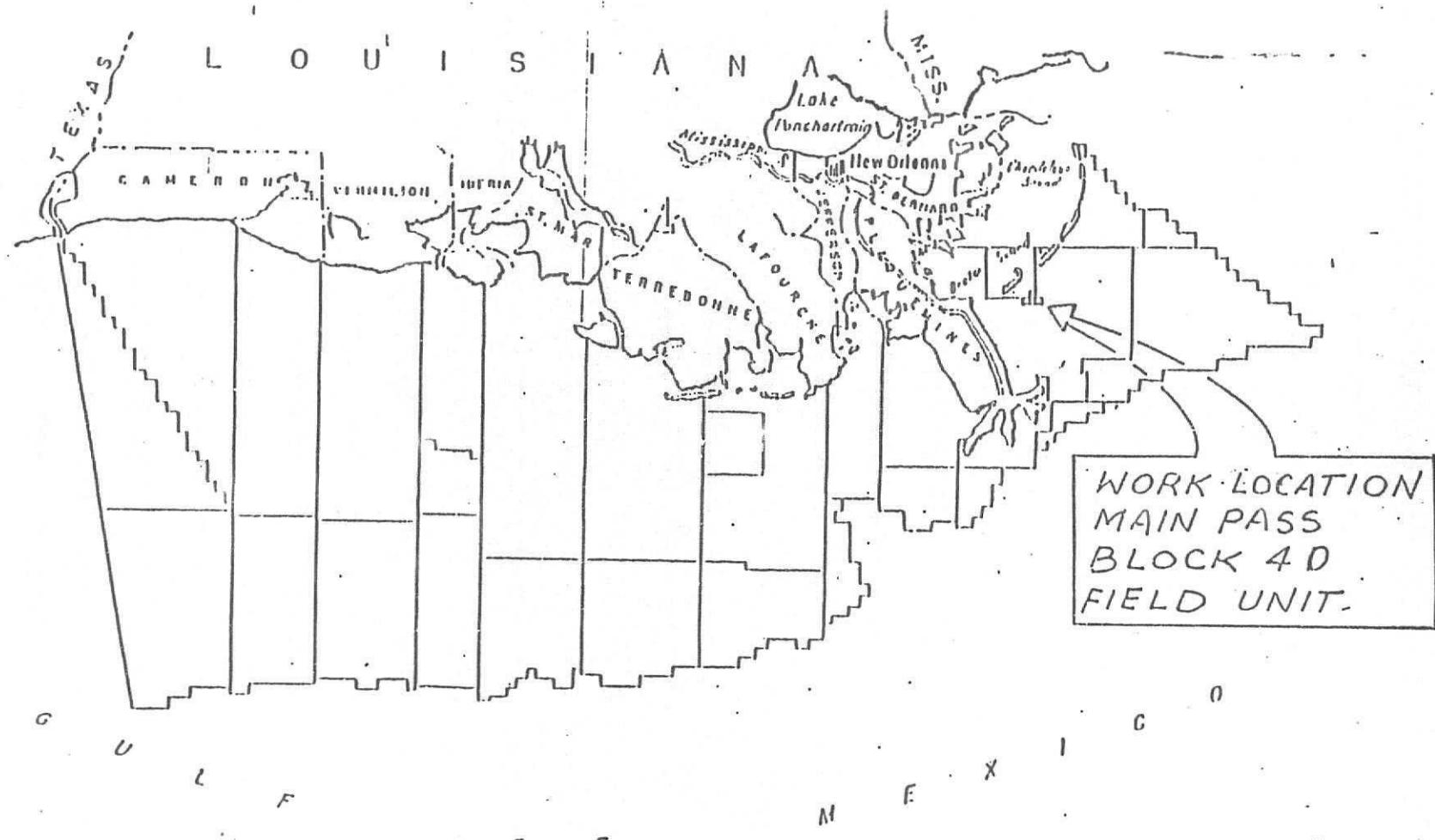
CHEVRON U.S.A. INC.



B. H. Hunley

MKG:17I13/2010  
Attachments

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REGIONAL MAP

N

050  
090

4375'

**PROPOSED SURFACE LOCATION  
OCS-G-1312 #6**

127

**LOCATION PLAT  
OFFSHORE LOUISIANA.  
MAIN PASS BLOCK 127 FIELD**

0' 2000'

SHALLOW DRILLING HAZARDS REPORT

DATE: December '19, 1986

AREA: Main Pass Block 41 Field

WELL: OCS-G-1312 #6

SURFACE LOCATION: 550' FNL and 4,375' FEL of Main Pass Block 127

GEOLOGIC EVALUATION: Drilling records and logs were reviewed for two wells in the proximity of the proposed surface location. These are the OCS-G-1312 #5 (1900' W of the proposed surface location) in Block 127 and OCS-G-1308 #1 in Block 116 (3600' NE of the proposed surface location). The logs do not indicate any shallow gas accumulations in either well. Nothing unusual was noted on the tour report for OCS-G-1312 #5, indicating normal drilling conditions in the shallow section.. No tour report was available for OCS-G-1308 #1. In addition, tour reports for OCS-G-1312 Well Nos. 1 through 4 were reviewed. The report for the #1 well (located 11,000' SW of the proposed #6 location) indicated lost returns at 516', 1330', and 1875'. No other difficulties were noted on the tour reports.

GEOPHYSICAL EVALUATION: Data reviewed included a hazard study by John E. Chance and Associates of Block 41 (October 1980) consisting of sparker lines along with side scan sonar, fathometer, and magnetometer. Two conventional CDPS lines LD520 and MP81-42 near the proposed location were reviewed.

The hazard report stated that the near surface was stable with gas saturated sediment near the mudline. Two sparker lines, one at the location and the other 400' west of the proposed location indicated no anomalies. Both seismic lines LD520 and MP81-42 indicate gas saturated near surface sediment and a high amplitude event is present at approximately 2000' (.4 sec.). Caution should be exercised when drilling in this zone.

No facilities, pipelines, or magnetic anomalies are noted within a 2000' radius of the proposed surface location.

CONCLUSIONS: Examination of geological and geophysical data indicates that no drilling hazard associated with shallow gas has been encountered in the area. Although near surface sediments appear gas saturated, no problems are anticipated here. However, caution is recommended at approximately 2000' (.4 sec.) where a high amplitude event was indicated.

*D.R. Warren*  
DISTRICT GEOLOGIST

*Michael D. DeBrook /emw*  
DIVISION GEOPHYSICIST

Proposed Surface Location (400' East)  
OCS-G 1B 12 #6

10ms

20ms

30ms

40ms

50ms

60ms

70ms

80ms

90ms

100ms

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Line 412  
63

27

30

14

10

55

21

23

22

21

20

19

18

E

10ms

20

30ms

40ms

50ms

60ms

70ms

80ms

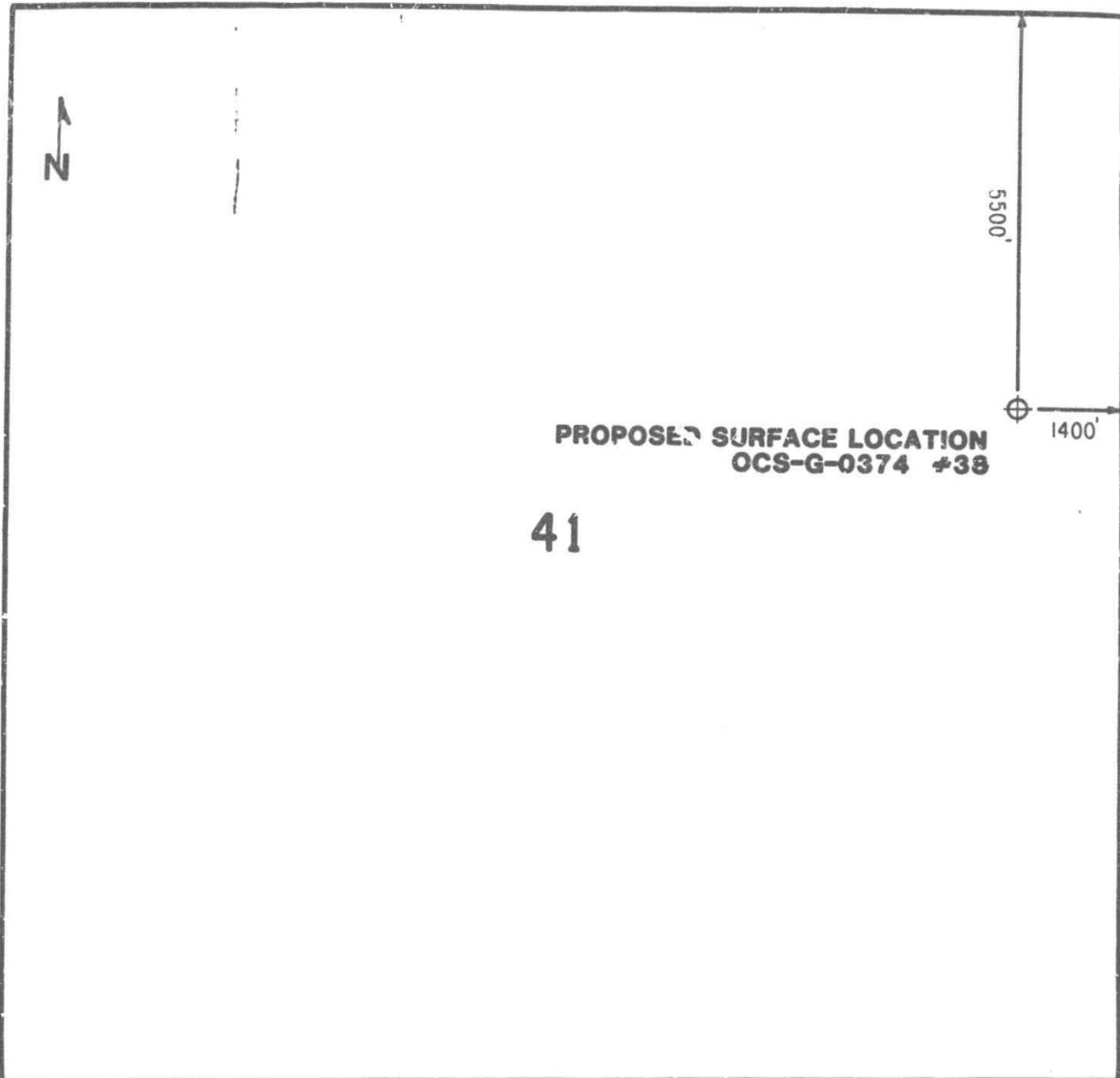
90ms

100ms

Proposed Surface Location

0058 1312 #6

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**LOCATION PLAT  
OFFSHORE LOUISIANA.  
MAIN PASS BLOCK 41 FIELD**

0' 2000'

SHALLOW DRILLING HAZARDS REPORT

DATE: December 19, 1986

AREA: Main Pass Block 41 Field

WELL: OCS-G-0374 #38

SURFACE LOCATION: 1,400' FEL and 5,500' FNL of Main Pass Block 41.

GEOLOGIC EVALUATION: The drilling records and logs for the following "B" Platform wells (1900' NNE of the #38 proposed surface location) were reviewed: OCS-G-0374 B-2, B-4, B-9, B-11, and B-12. Each well logged over 3000' and no problems associated with shallow gas were encountered.

GEOPHYSICAL EVALUATION: Data reviewed included a hazard study by John E. Chance and Associates of Block 41 (November 1980) consisting of sparker lines along with side scan sonar, fathometer, and magnetometer. A conventional CDPS line LD512 located near the proposed location was also reviewed.

The hazard report stated that the near surface was relatively stable with gas saturated sediment near the mudline. Two sparker lines, one 300' south of the location and the other 1,100' east of the proposed location indicated no anomalies. Seismic line LD512 showed no indication of shallow faulting or high amplitude events near the surface location.

The proposed surface location is 250' NW of a 4" pipeline and 450' SE of a 6" pipeline. Extra caution should be exercised in the placement of a rig in this area. No magnetic anomalies are present within the area of the proposed surface location.

CONCLUSIONS: Examination of geological and geophysical data indicates that no drilling hazard associated with shallow gas has been encountered in the area and none are expected at the proposed location. However, precautions should be taken to avoid existing facilities and pipelines in the area.

D. R. Warren  
DISTRICT GEOLOGIST

Michael S. DeRosa / rmw  
DIVISION GEOPHYSICIST

Proposed Surface Location (300' North)

OCS-3-374 #38N

2

67

104 E

3/16

Line 8ms

1

1

67

60

1

104 E

20ms

40ms

60ms

70ms

80ms

90ms

100ms

8ms

10ms

12ms

14ms

16ms

18ms

20ms

22ms

5  
10  
Line 52

10ms

20ms

30ms

40ms

50ms

60ms

70ms

80ms

90ms

100ms

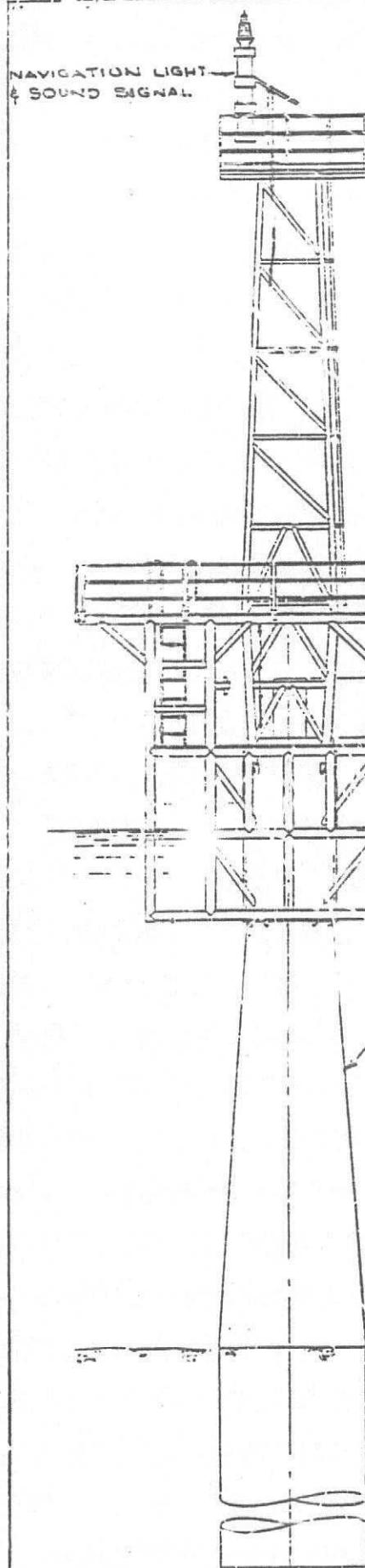
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19 18 17 16

15

148 13 Proposed Surface location. (1120' West)  
OCS-G-0374 # 38

N 0



8' x 10'  
NAV. AID TOWER DECK  
(EL. - 45.2)

11' x 19'  
PRODUCTION DECK  
(EL. - 14.5)

TOP OF COND. PIPE  
(EL. 10.0')

TOP OF CAISSON  
(EL. + 6.0')

M.L.W. (EL. C. 0')

G.O' TO 'B.C. DE.  
TAPERED CAISSON  
THICKNESS VARIATION  
0.500" TO 0.875

MUD LINE

(EL. - 55') #6  
(EL. - 50') #38

BOTTOM OF CAISSON  
(EL. - 24.0')

WELL #6, #38

FUTURES

11' x 15' DECK  
PLAN @ EL. + G.O'

CHEVRON U.S.A. Inc.  
MAIN PASS BLK. 41 F.D. UNIT  
OCT. G-1312 #6  
OCS-G-0574 #38

PROPOSED CAISSON

OFFSHORE, LA.

## AIR QUALITY CALCULATIONS

### MAIN PASS BLOCK 40 FIELD UNIT

Air quality calculations are based upon the drilling of four wells. Operations are expected to begin in February of 1987, require approximately 130 days to complete on or about December 31, 1987. Fuel consumption for the drilling rig is estimated at 1,500 gallons per day. Details of the calculations are presented in Tables 1 - 3. All projected emissions are well below maximum allowable limits and this operation is therefore exempt.

TABLE 2

AREA Main Pass BLOCK 40 WELLS 4

## PROJECTED EMISSIONS FROM EACH SOURCE

BY AIR POLLUTANT FOR 1986 Year

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## DRILLING OPERATIONS - WELLS

SOURCE	AIR POLLUTANT (T/yr)				
	SO <sub>2</sub>	NO <sub>x</sub>	CO	TSP	VOC
Drilling Rig Projected Emissions lb/day	46.8	704	153	50.3	56.3
Transportation-- Cargo Boat, Crew Boat, & Helicopter lb/day	0.9	6.1	23.8	1.2	2.4
SUB-TOTAL lb/day	47.7	710	177	51.5	58.7
Miscellaneous 25% of SUB-Total	13.5	177.5	44.3	12.9	14.7
TOTAL in lb/day	61.2	943.7	221	64.4	73.4
TOTAL DRILLING DAYS 1986	175				
TOTAL in Tons/year	5.4	83.0	19.3	5.6	6.42

TABLE 3

AREA Main Pass BLOCK 40 WELLS 4

EXEMPTION CALCULATIONS

$E = 3400 (D^{2/3})$  for carbon monoxide

$E = 33.3 D$  for sulfur dioxide, nitrogen oxides, total suspended particulates, and volatile organic compounds

$D = 10.5$  Statute Miles

$E = 16,303$  CO

$E = 350$  SO<sub>2</sub>, NOx, TSP, and VOC

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POLLUTANTS	"E" (T/YR.)	1986 HIGHEST YEAR	
		PROJECTED EMISSIONS (T/YR.)	EXEMPT (Yes or No)
SO <sub>2</sub>	350	5.4	Yes
NOx	350	83.0	Yes
CO	16,303	19.3	Yes
TSP	350	5.6	Yes
VOC	350	6.4	Yes

E = The emission exemption amount expressed in tons per year.

D = The distance of the facility from the closest onshore area of a state expressed in statute miles.

TABLE I

PROJECTED AIR EMISSION  
Wells  
Main Pass Blk. 40 Field Unit

EMISSION SOURCE	RUNNING TIME/DAY	TAKEOFF & LANDINGS/DAY	EMISSION FACTORS POUNDS/1,000 GALS.	EMISSION FACTORS AIRCRAFT TAKEOFF & LANDINGS						PROJECTED EMISSION 1-DAY PROJECTION IN /								
				SO <sub>2</sub>	NO <sub>x</sub>	CO	TSP	VOC	SO <sub>2</sub>	NO <sub>x</sub>	CO	TSP	VOC	SO <sub>2</sub>	NO <sub>x</sub>	CO	TSP	VOC
DRILLING RIG	24 hrs.	1500	31.2 469	102	33.5	37.5								46.0	704	151	50.3	56.1
CARGO BOAT (IN BERTH)	2 hrs.	4	31.2 469	102	33.5	37.5								0.1	1.9	0.4	0.1	0.2
CREW BOAT (IN BERTH)	2 hrs.	4	31.2 469	102	33.5	37.5								0.1	1.9	0.4	0.1	0.2
HELICOPTER TAKE-OFF & LANDINGS		4							.10	.57	5.7	.25	.52	0.7	2.3	23	1.0	2.0
														1-DAY TOTAL				
														47.7	710	177	51.5	50.7
														ABOVE NUMBERS IN POUNDS				

Projected emissions are based on data from "Compilation of Air Pollutant Emission Factors", 3rd Edition AP-42, EPA, 1977. Table 3.3.3.-1 and Table 3.2.1.-3.

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PENROD 86

OFFSHORE MOBILE DRILLING PLATFORM

INTRODUCTION

The Marathon LeTourneau Cantilevered Substructure Jack-Up is a triangular shaped hull with three legs and cylindrical pointed spud cans. The hull is raised and lowered by electrically driven rack and pinion gears. The platform is classed by the American Bureau of Shipping as a Self-Elevating Drilling Unit.

PRINCIPLE VESSEL DIMENSIONS:

Hull Length.....	207 feet
Hull Breadth.....	176 feet
Depth of Hull.....	20 feet
Gear Rack Height.....	24 feet
Overall Length of Spud Legs.....	360 feet
Aft Spud Centers.....	122 feet
Centerline of Aft Spuds to Centerline of Bow Spud.....	120 feet
Design Water Depth (Non-Hurricane with 25' penetration).....	250 feet
Rated Drilling Depth.....	25,000 feet
See Attached Grid for Cantilever Capacities	

LIQUID & DRY STORAGE CAPACITIES:

Drill Water.....	3,120 bbls.
Fresh Water.....	982 bbls.
Fuel Oil.....	1,958 bbls.
Bulk Mud/Cement.....	(4)...1,925 cu. ft. tanks
Liquid Mud.....	1,200 bbls.

CRANES:

Three Marathon LeTourneau Series PCM-120AS, 45 tons at 25 feet, boom length 100 feet.

QUARTERS:

Air conditioned accommodations for 72 men; two galleys and mess halls; five bed hospital.

ANCHORING SYSTEM:

Windlasses - (4) Marathon LeTourneau Series W-1500TS units with 2500' of 1 1/2" diameter wire rope.  
Anchors - (4) 10,000 lb. LWT type.

HELIPORT:

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Sikorsky S-61 capacity or equal.

EQUIPMENT AND DRILLING INVENTORY

DRAWWORKS:

National 1320-UE Drawworks with 20,500 feet capacity of 9/16 inch sandline, emergency rotary drive and a Baylor Model 6032 Eddy Current Brake. Drawworks driven by two D-79 electric motors rated at 2000 hoisting HP.

POWER:

Three EMD MD12E8 diesel engines. Each engine is rated at 1650 continuous HP and drives a 1050 KW 600 volt AC generator.

Five Baylor basic "Thyrig II" units are used to supply DC power for drilling equipment.

MUD PUMPS:

Two National Model 12P-160 Triplex Mud Pumps. Each independently driven by two EMD D-79 electric motors rated at 1600 HP and supercharged by electric driven 5" x 6" centrifugal pumps.

DERRICK, SUBSTRUCTURE AND ACCESSORIES:

Derricks Service 147' high x 30' wide derrick with a static hook load capacity of 1,044,000 lbs. with 12" lines strung. One hundred (100) MPH wind load capacity with 180 stands of 4 1/2" O.D. drill pipe. National type 760-F, 538 ton capacity Crown Block with seven 60" diameter sheaves grooved for 1 3/8" wire line.

Adjustable casing stabbing platform.

Two 20 ton hoists installed below the substructure for handling the B.O.P. equipment.

TRAVELING BLOCK:

National Type 660-H-500, 500 ton traveling block with 6 - 60" diameter sheaves grooved for 1 3/8" wire line.

HOOK:

National Type H-500, 500 ton capacity.

SWIVEL:

National Type P-650, 650 ton capacity.

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ROTARY EQUIPMENT:

National Type C-375 rotary with 37 1/2" table opening independently driven by an EMD D-79 electric motor through a National two speed transmission. Baash-Ross drive bushing. Baash-Ross Kelly bushing with wiper assembly.

MUD MIXING:

Two 6" x 5" centrifugal mud mixing pumps. Each pump driven by a 100 HP AC electric motor.

MUD SYSTEM:

Three 400 bbl. capacity liquid mud tanks and one 100 bbl. capacity slug tank. All active mud tanks equipped with Brandt Model MA-20 mud agitators. One P10C03 Sweco Desander Unit with three 10" cones. One P04C16 Sweco Desilter Unit with sixteen 5" cones. One Brandt high speed Dual Shaker. ~~Brandt Mud Cleaners~~

DRILL PIPE AND DRILL COLLARS:

9,765 ft. of 4 1/2" O.D. 16.60#/ft. Grade E, Range 2 Drill Pipe with 6 1/4" O.D. x 4 1/2" XH T.J.

4,960 ft. of 4 1/2" O.D. 20.00#/ft. Grade G, Range 2 Drill Pipe with 6 1/4" O.D. x 4 1/2" XH T.J.

24 - 7" O.D. drill collars 30' long.

12 - 8" O.D. drill collars 30' long.

1 - Kelly 5 1/4" HEX by 2 13/16" bore by 40' long with 4 1/2" I.F. RH pin.

1 (pair) Baash-Ross ST-60 rotary tongs 3 1/2" to 11 3/4" range.

2 - Byron-Jackson Type GG drill pipe elevators for 4 1/2" O.D. drill pipe.

1 - Baash-Ross 6 3/4" - 8 1/4" drill collar slip.

- 1 - Baash-Ross 4 1/2" - 9 5/8" safety clamp.
- 2 - Baash-Ross SDU rotary slips for 4 1/2" drill pipe.

BLOWOUT PREVENTERS:

One Hydril 21 1/4" - 2000 psi W.P. type MSP; One Hydril 13 5/8" - 5000 psi W.P. type GL; One Cameron 13 5/8" - 10,000 psi W.P. type "U" single; One Cameron 13 5/8" 10,000 psi " " type "U" double, One 5,000 psi W.P. choke manifold with two adjustable choke. All preventers and choke manifold treated for H<sub>2</sub>S service.

Blowout preventer control unit is a Koomey Model ET25160-3BTM, 3,000 psi W.P. accumuliator system.

COMMUNICATIONS EQUIPMENT:

55 Channel 25 watt VHF/FM Marine Transceiver  
1 - 350 watt FM Transceiver  
6 - 2 Channel VHF portable radios  
1 - 100 watt FM Transceiver  
1 - Inner Communication System

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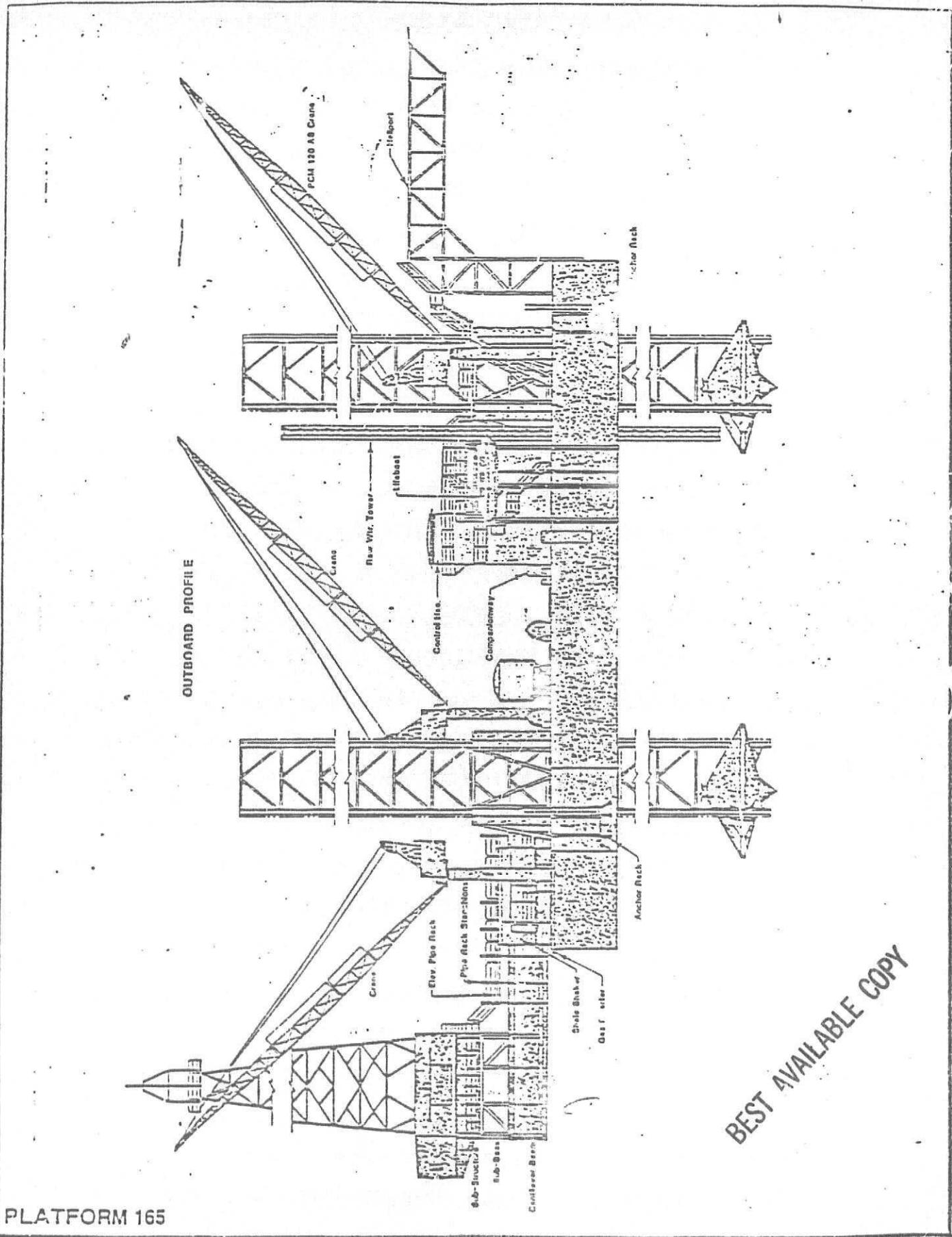
Geographically located

SPECIAL EQUIPMENT:

1. Baash-Ross Power Slips with 5 1/2" slip bodies and 4 1/2" slip inserts.
2. Automatic Driller.
3. Mud-Gas Separator.
4. Drilling Recorder.
5. Dual mud lines complete with dual standpipes and 3" x 60' - 10,000 psi test rotary hoses.
6. Halliburton HT-400 cement unit with recirculating mixer driven by two EMD D-79 electric motors.
7. Varco Model 6500 Power Sub.
8. Totco Pit Level and Flowline indicator.
9. Two Maxim TCF - 7.5 water distillation      llons per day total.
10. Two 400 amps. welding machines and oxygen-acetylene equipment.
11. Halliburton heavy duty electric powered wireline unit with 14,000' of .092" line.

12. OMSCO 6 5/8" 15,000 psi test upper Kelly valve.
13. TIW 10,000 psi test lower Kelly valve.
14. Gray inside B.O.P.
15. Drilco E-Z torque hydraulic cathead.
16. Fork lift truck for sack mud storage room.
17. Totco straight hole instrument 0 degrees - 8". "
18. Overshots and Taper Taps for contractor furnished drill string.
19. One 15,000 psi test drill pipe safety valve.
20. Totco type "E" WLA-75 weight indicator, DCT 20-25 tong torque gauge, MG50 Pump pressure gauge, 379-35 Rotary RPM indicator, and 379-31 pump stroke indicators.
21. Baroid 821 Mud test kit.
22. Air tuggers in various sizes for use on rig floor and cellar deck area.
23. One central air system with two 490 CFM air compressors, one cold start compressor and one water cooled after cooler.
24. Diesel engine driven 250 KW emergency AC generator.
25. Baylor Filteron sewage treatment plant.
26. Drilco degasser.
27. Spinner Hawk Spinning Wrench.
28. 2 - 44 man Watercraft - Shatz covered life boats.

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PLATFORM 165

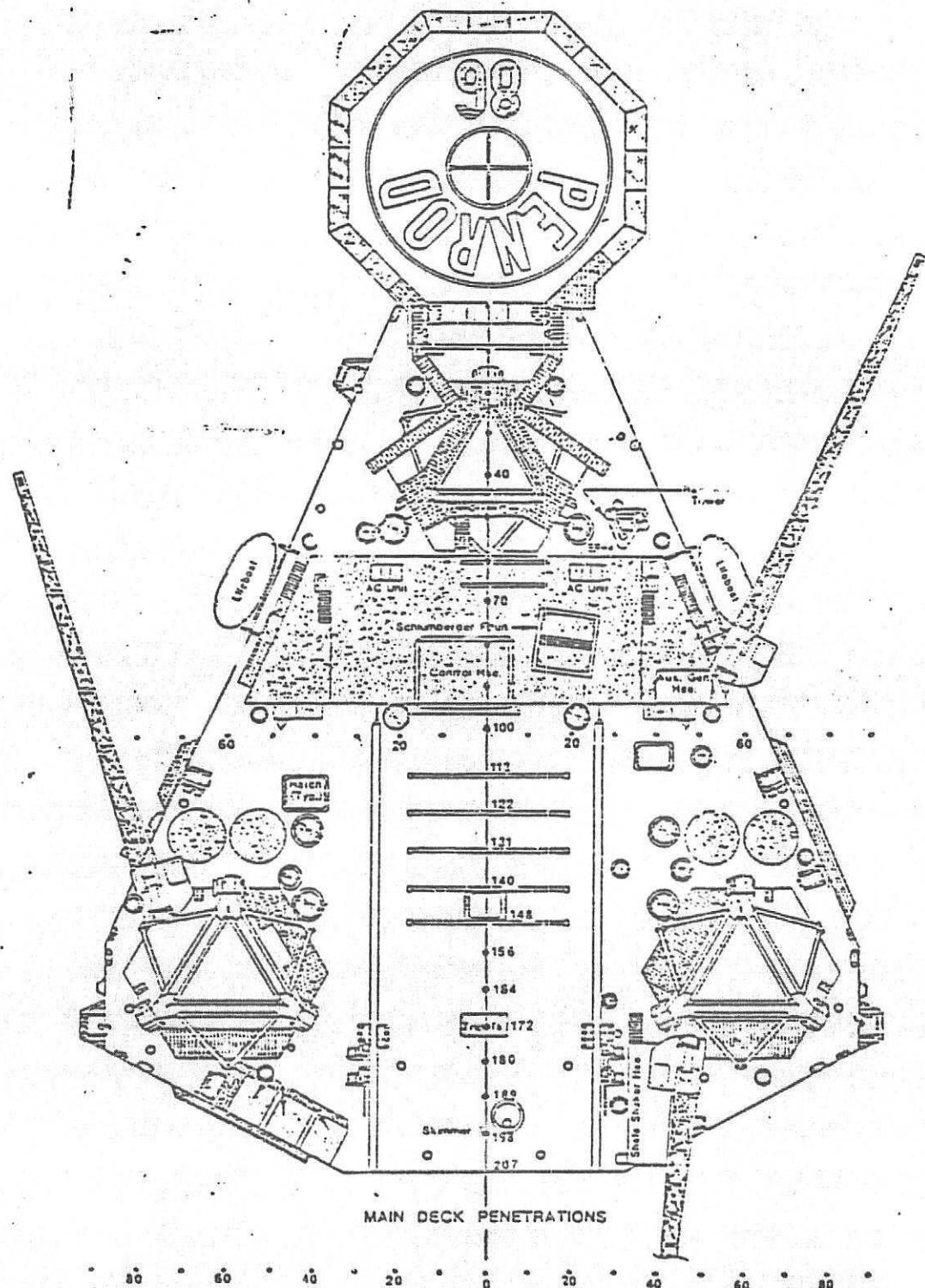
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Marathon LeTourneau Company  
Marine Division

## MAIN DECK LAYOUT



## PLATFORM 165

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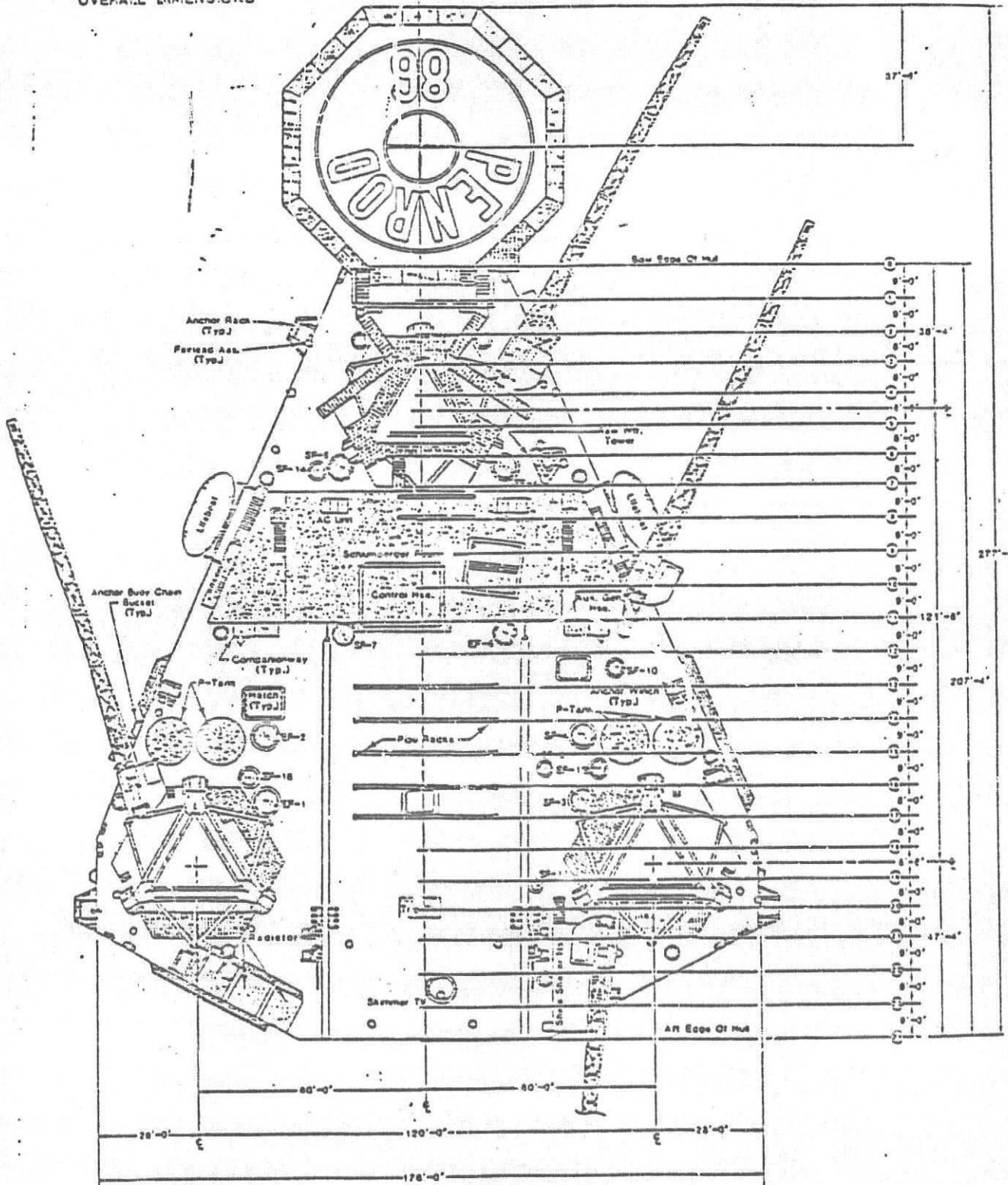
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# Marathon LeTourneau Company

## MAIN DECK LAYOUT

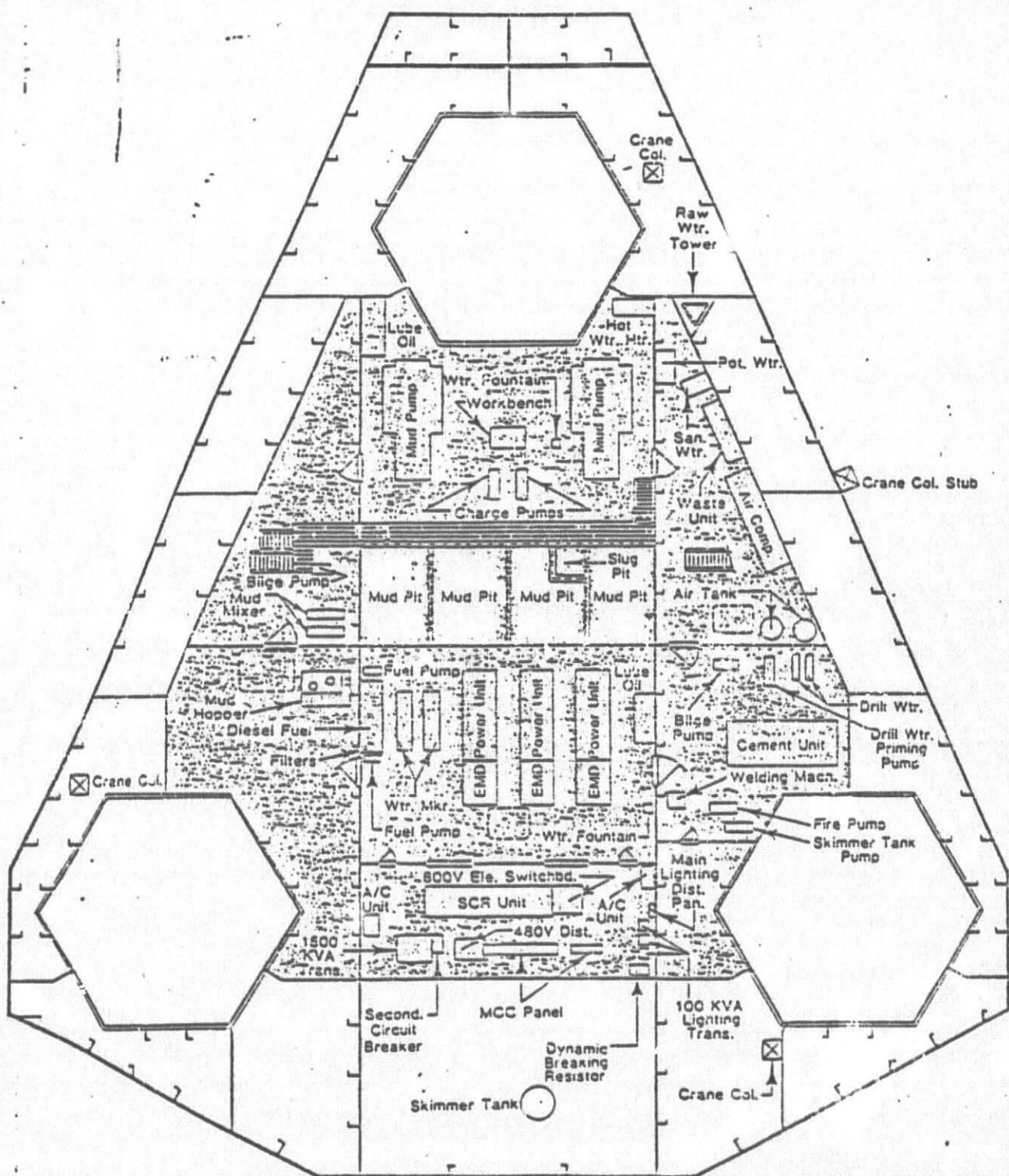
**OVERALL DIMENSIONS**



PLATFORM 165

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MACHINERY DECK LAYOUT



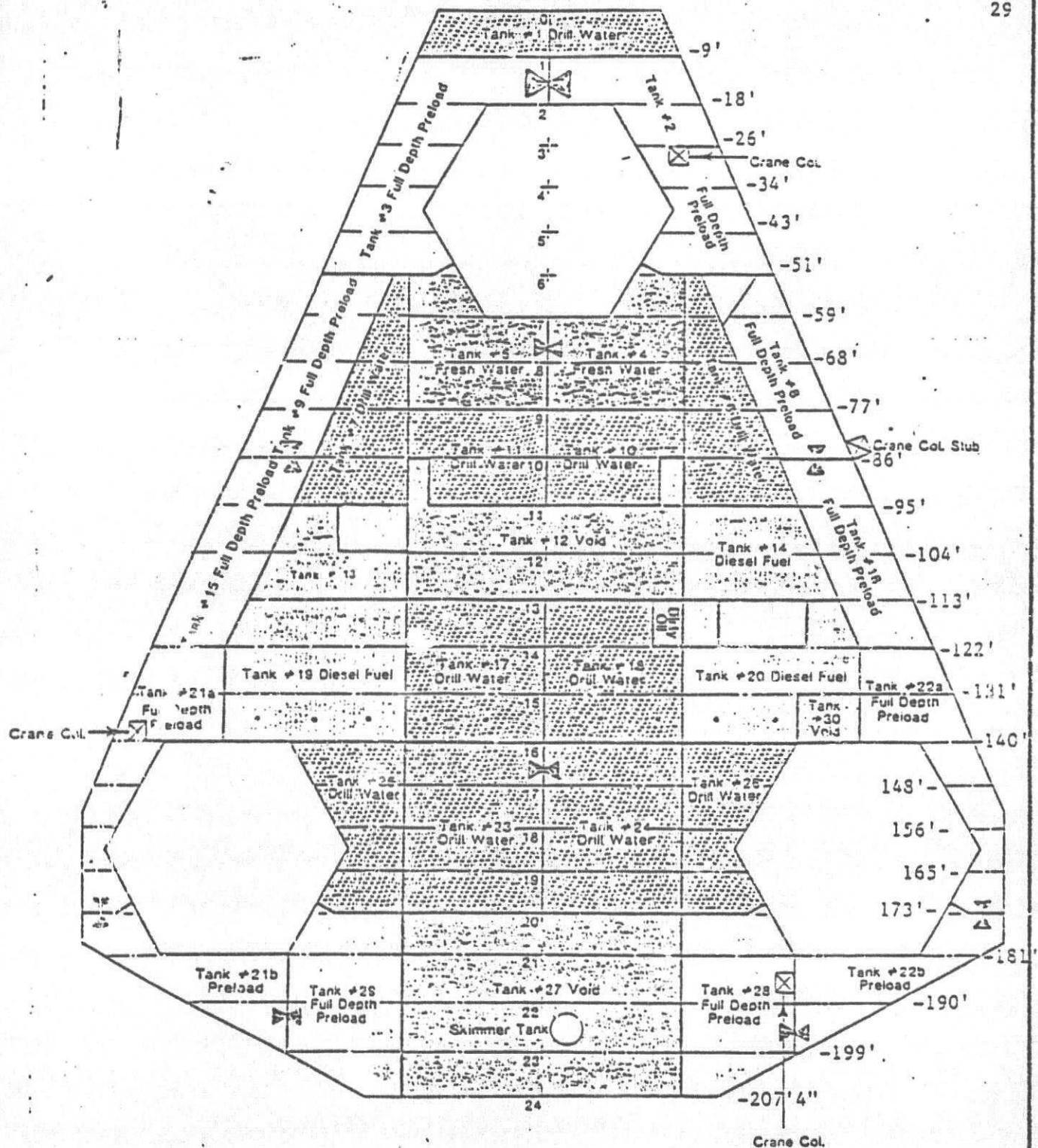
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PLATFORM 165

### INNER BOTTOM TANK LAYOUT

PRELOAD EQUALIZER VALVES = 8  
FRESH WATER EQUALIZER VALVE = 6"

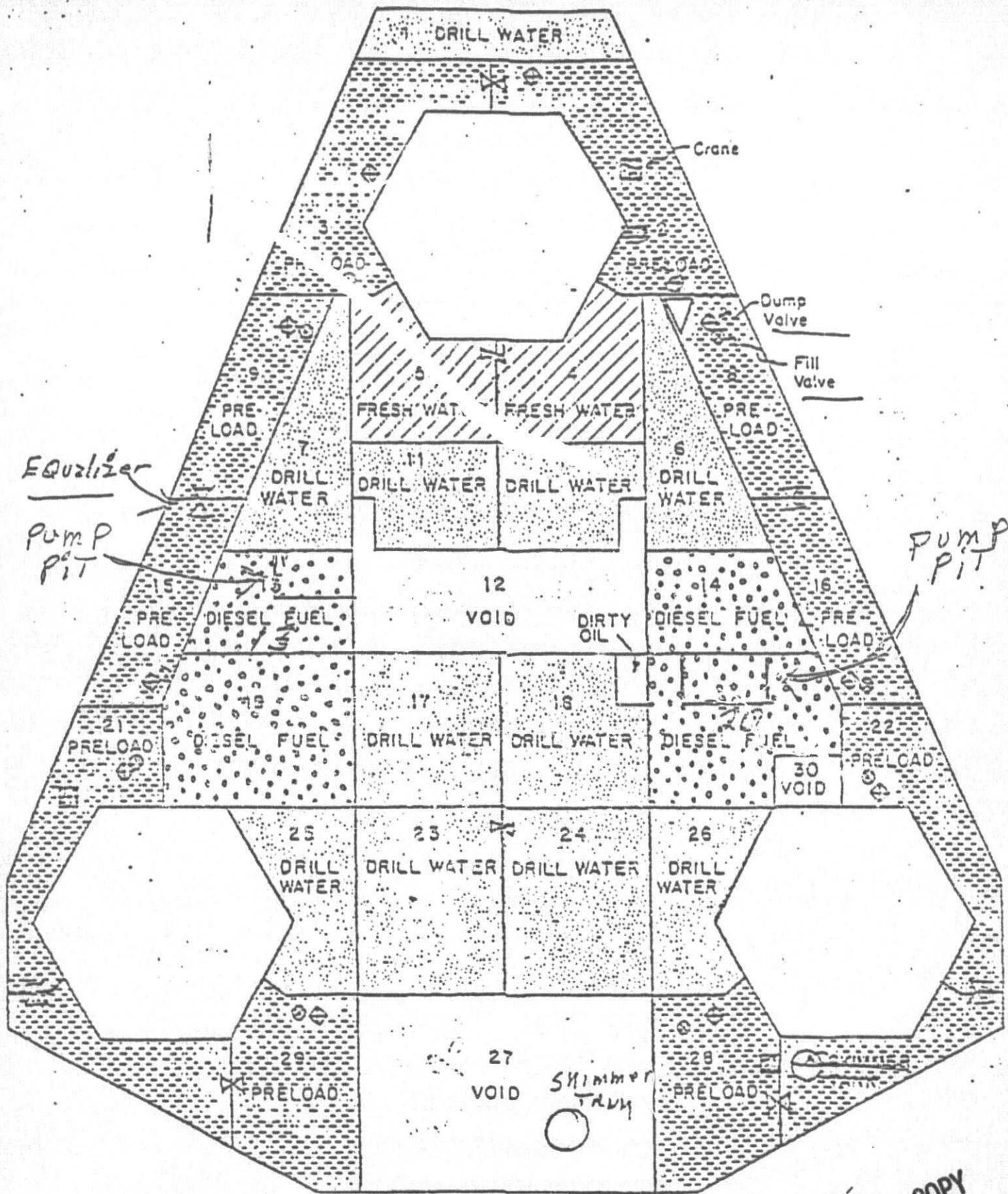
DUMP VALVES  
10" - Tanks 8,9,15,16  
12" - Tanks 2,3,21,22,286  
29



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PLATFORM 165

PENROD 86



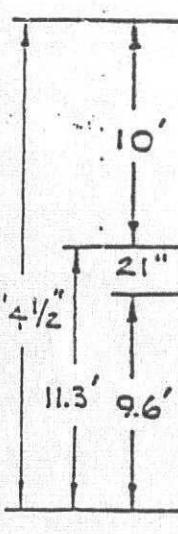
PENROD 86

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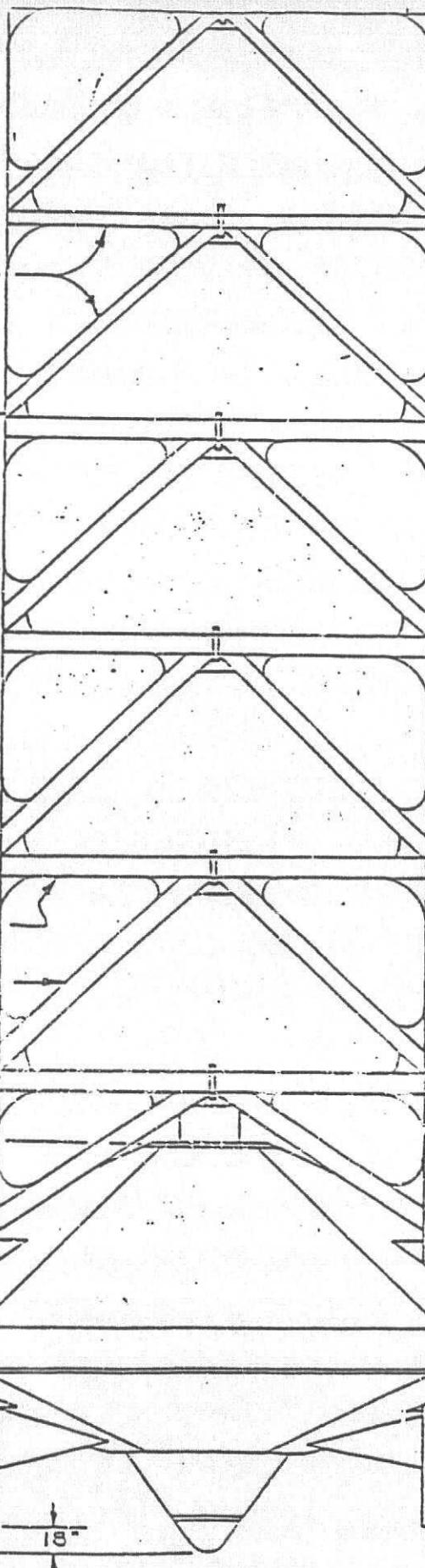
9" O.D. x 1/2" WALL  
HORIZ. & DIAG. LEG  
MEMBERS

2 3/4" O.D. x 1/2" WALL  
HORIZ. LEG MEMBERS.

2 3/4" O.D. x 3/4" WALL  
DIAG. LEG MEMBERS



(ACROSS FLAT POINTS)  
40' 1 1/2" DIAMETER ACROSS



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2 ND. TOW POSITION  
STABILIZER BILLET (UPPER)

1 ST. TOW POSITION  
STABILIZER BILLET (UPPER)

1 ST. TOW POSITION -  
CAN 2 7/8" BELOW HULL

2 ND. TOW POSITION -  
CAN 12' 4 5/8" BELOW HULL

LAST 18' 6" OF LEG POST  
HAS NO TEETH

2 ND. TOW POSITION  
STABILIZER BILLET  
(LOWER)

1 ST. TOW POSITION  
STABILIZER BILLET (LOWER)

PENROD 86  
LETOURNEAU HULL #165 OFFICIAL #643110  
LAST REVISION DATE - JAN '82 - BUILT 1981

ull Length & Width	207'4" X 176'	Basic Hull & Gear Units	4,423,650#
ull Length Inc. Heliport	279'	Leg Weight - 3 legs 360'	3,258,312#
ull Depth	20'	Lightship Less Fixed	7,681,962#
umber of Cranes	3	Total Fixed Load	3,994,075#
ear Rack	26'	Lightship & Fixed Less Cnt.	10,266,037#
ull & Gear Rack	46'	Max. Var. Load Allowed	2,505,925#
eg Length	360.33'	Max. Fixed & Var. Allowed	6,500,000#
st. Port-Stbd. Legs	120'	Preload	7,138,000#
st. Bow-Aft Legs	137.5'	Cantilever Weight	1,410,000#
ow Leg LCG	38'4"	Total Lightship	11,676,037#
ft Legs - LCG & VCG	160' - 60'	Max. Imposed Load Allowed	21,319,962# <sup>(2)</sup>
an Diameter (across Flats)	40'	Lightship Less Cnt. LCG	112.84'
an Diameter (across Points)	46'	Lightship VCG	51.38' <sup>(3)</sup>
earing Pressure (1 can)	5387 Lbs. Ft <sup>(1)</sup>	Lightship TCG	+1.20'
ances	9.6'	Leg VCG	136.24'
an Wall	21"	Leg GLC	119.44'
an Wall & Points	11'	LCB	119.44'
an Height Inc. Dome	21'4 $\frac{1}{2}$ "	Displacement Per Foot	1,301,098# <sup>(4)</sup>
eepwall Tower	127'	Total Independent Gear Unit Load w/ Max. Variable	303.435#
eepwall Below Hull	104'	Max. Crew Quarters	72 <sup>(5)</sup>
raft w/ Max. Variable	10.91'	Heliport Size	65'
isplacement (L.T.) Lightship	213 tons	Heliport Capacity	S-61
isplacement (L.T.) Max. Var	6331 tons	Total Potable Water Cap.	982 BBLS
in. ABS Load Line	10.9'	Total Drill Water Cap.	6651 BBLS
in. Water Depth	15'	Total Diesel Fuel Cap.	2036 BBLS
ex. Water Depth	250'	Min. Leg Below Hull	0'
fillable Area	27' X 20'W	1st Tow Position (Can Below Hull)	1.2' <sup>(6)</sup>
		2nd Tow Position (Can Below Hull)	12.5'

FOOTNOTES

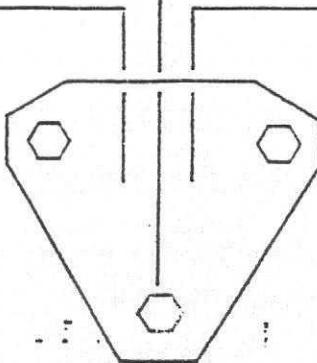
- <sup>(1)</sup> One Can - 1320 Ft. <sup>2</sup> - Assuming 25' Penetration, Max. Var. & Preload
- <sup>(2)</sup> w/ Max. Variable & Preload
- <sup>(3)</sup> Leg 12.38' Below Hull
- <sup>(4)</sup> Salt Water
- <sup>(5)</sup> Plus 6 Man Sick Bay
- <sup>(6)</sup> Leg 1.2' Below Hull

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10.0'	8.0'	6.0'	4.0'	2.0'	0'	2.0'	4.0'	6.0'	8.0'	10.0'
305	360	415	490	585	695	585	490	415	360	305
370	425	495	585	690	810	690	585	495	425	370
435	510	595	695	805	935	805	695	595	510	435
530	615	705	810	935	1000	935	810	705	615	530
640	730	850	945	1000	1000	1000	945	850	730	640
760	860	970	1000	1000	1000	1000	1000	970	860	760
900	1000	1000	1000	1000	1000	1000	1000	1000	900	280
1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	260
1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	240
10.0'	8.0'	6.0'	4.0'	2.0'	0'	2.0'	4.0'	6.0'	8.0'	10.0'

Distance Starboard of hull  
Centerline to Centerline of  
Rotary in feet.

Distance Port of hull  
Centerline to Centerline of  
Rotary in feet



Note: Weight is the  
combined allowable hook,  
rotary and setback (in kips)

#### LOAD LIMITATIONS

Within the limits shown above, the maximum component loadings are:

Hook Load	1000 kips
Rotary Load	750 kips
Setback	450 kips
Pipe Rack	500 kips (+)
Pipe Rack Decking	270 PSF
Individual Pipe Rack Beam	5 kips per linear ft.
Owner furnished equipment *	500 kips

(+) Loads in excess of this will result in a decrease of  
drilling load.

(\*) A pipe rack loading of 650 kips is permissible when the  
combined hook, setback, rotary and pipe rack load does  
not exceed 1500 kips. Pipe to be uniformly distributed  
in the rack area under all conditions.

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CANTILEVER BEAM LOAD CHART  
for  
82 SD  
(fixed subbase)

EMENT - Class M  
800 Sx. is considered  
completely full.

1925 Ft.<sup>3</sup>

Barite  
2450 Sx. is considered  
completely full.

1725 Sx.	1725.1 Ft. <sup>3</sup>	18'	2329 Sx.
1592 Sx.	1592.3 Ft. <sup>3</sup>	17'	2150 Sx.
1460 Sx.	1459.6 Ft. <sup>3</sup>	16'	1970 Sx.
1327 Sx.	1326.9 Ft. <sup>3</sup>	15'	1791 Sx.
1194 Sx.	1194.2 Ft. <sup>3</sup>	14'	1612 Sx.
1061 Sx.	1061.4 Ft. <sup>3</sup>	13'	1433 Sx.
924 Sx.	923.7 Ft. <sup>3</sup>	12'	1247 Sx.
796 Sx.	796.0 Ft. <sup>3</sup>	11'	1075 Sx.
663 Sx.	663.2 Ft. <sup>3</sup>	10'	895 Sx.
531 Sx.	530.5 Ft. <sup>3</sup>	9'	716 Sx.
398 Sx.	397.8 Ft. <sup>3</sup>	8'	537 Sx.
227 Sx.	276.7 Ft. <sup>3</sup>	7'	374 Sx.
183 Sx.	183.1 Ft. <sup>3</sup>	6'	247 Sx.
116 Sx.	116.1 Ft. <sup>3</sup>	5'	157 Sx.
69 Sx.	68.8 Ft. <sup>3</sup>	4'	93 Sx.
35 Sx.	34.6 Ft. <sup>3</sup>	3'	47 Sx.
15 Sx.	14.7 Ft. <sup>3</sup>	2'	20 Sx.

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