
Issued
November 1977

Supplement 1
to
API Spec 2E (First Edition)
Specification
for
DRILLING RIG PACKAGING
for
MINIMUM SELF-CONTAINED
PLATFORMS

Foreword

This supplement covers the addition of package arrangement on a 95 x 88 ft. platform to API Spec 2E (First Edition, May 1973), adopted at the 1977 Standardization Conference.

Issued by
AMERICAN PETROLEUM INSTITUTE
Production Department
211 N. Ervay, Suite 1700
Dallas TX 75201

API Spec 2E
First Edition
May 1973

API
SPECIFICATION
for
DRILLING RIG PACKAGING
for
MINIMUM SELF-CONTAINED
PLATFORMS

OFFICIAL PUBLICATION



REG. U.S. PATENT OFFICE

AMERICAN PETROLEUM INSTITUTE
Washington, D. C.

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AS AT... Dec 1980

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Users of this publication should become completely familiar with its scope and content, including any provisions it may have regarding marking of manufactured products. This document is intended to supplement rather than replace individual engineering judgment.

SECTION 3 MODULAR WEIGHTS

3.1 The Maximum module lifting weight shall not exceed 350 tons.

3.2 Each module shall be designed to support its combined fixed weight and maximum anticipated variable weight in accordance with Par. 2.4 and 2.5.

SECTION 4 MARKING

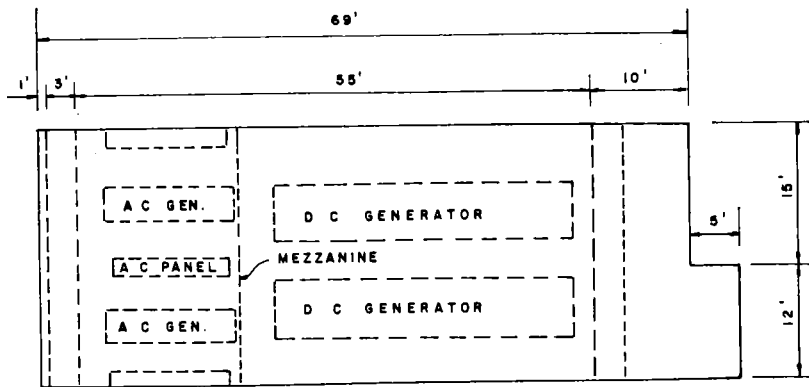
4.1 Name plate for modules. Modules manufactured in accordance with this specification shall be identified by a name plate bearing the information specified below. Markings shall be either raised or stamped. The API monogram shall be at least $\frac{1}{2}$ inch high; other markings shall be at least $\frac{1}{4}$ in. high. The name plate shall be securely attached to the module in a conspicuous place.

- a. Manufacturer's name.
- b. Manufacturer's address.

- c. API monogram.
- d. Module designation (i. e. engine package, etc.)*
- e. Module dimensions, feet.
- f. Maximum rated self supported span, feet.
- g. Designed gross weight tons.

* Operator furnished information

** Contractor furnished information



PLAN

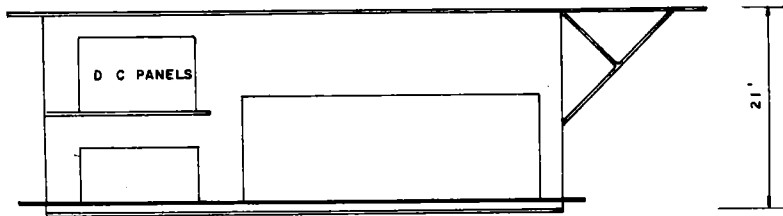
Major equipment used to establish dimensions*

- 2—2,200 HP DC electric power units
- 2—500 KW diesel power AC electric generator units

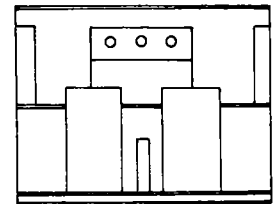
Estimated lift weight of package = 300 tons

In each arrangement shown in Fig. 5.1 thru 3.7 the two 1,230 cu ft P-tanks for cement are located on the engine generator packages. Necessary support members must be included in the design of this module to carry the additional load.

*Note: The size of equipment displayed is to provide a frame of reference for equipment that will fit into the space available. It does not constitute a recommended size for drilling machinery.

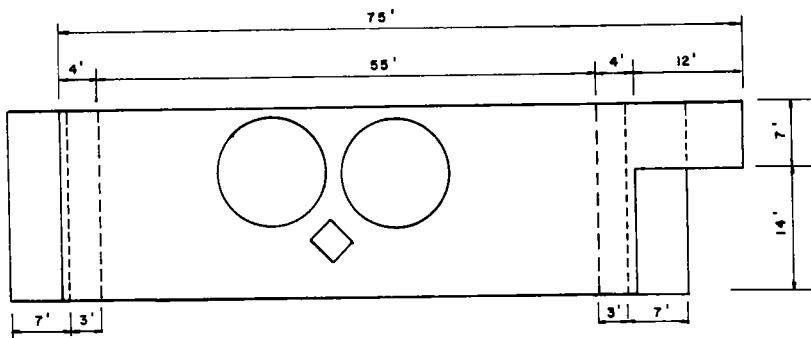


SIDE ELEVATION



END ELEVATION

FIG 2.1
ENGINE GENERATOR PACKAGE



PLAN

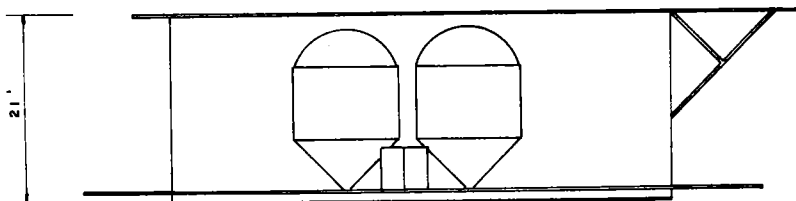
Major equipment used to establish dimensions*

- 2—1,000 cu ft P-tanks for dry barite
- Estimated lift weight of package = 175 tons

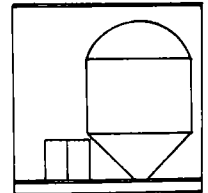
*Note: The size of equipment displayed is to provide a frame of reference for equipment that will fit into the space available. It does not constitute a recommended size for drilling machinery.

Removable Cantilever
Extensions

Cantilever For Offloading
Mud Pallets

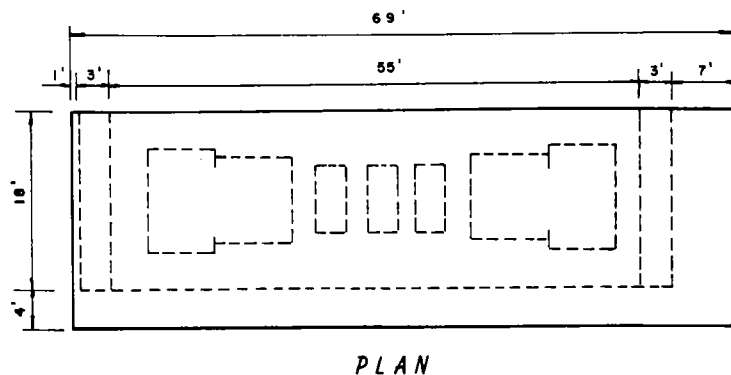


SIDE ELEVATION



END ELEVATION

FIG 2.2
DRY STORAGE PACKAGE



Major equipment used to establish dimensions*

2—1,300 HP triplex mud pumps powered by electric motors

3—60 HP mud mix and charge pumps

Estimated lift weight of package = 350 tons (includes crane weights)

Cranes shall comply with API Spec 2C.

*Note: The size of equipment displayed is to provide a frame of reference for equipment that will fit into the space available. It does not constitute a recommended size for drilling machinery.

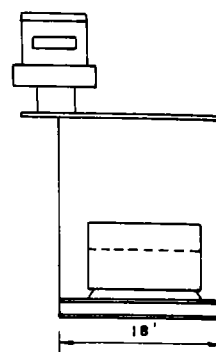
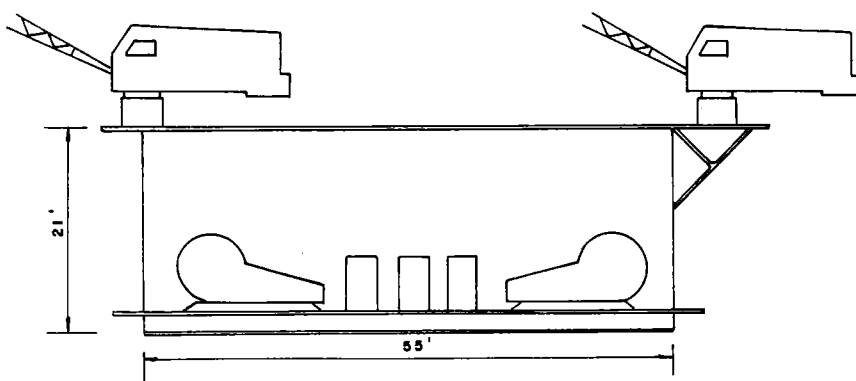
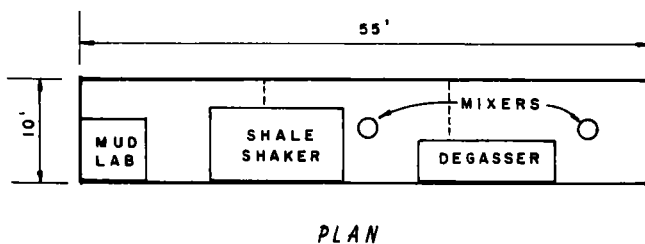


FIG 2.3

PUMP PACKAGE



Volume: 2—300 bbl active mud tanks

1—300 bbl reserve tanks

Estimated lift weight = 100 tons

Mud processing and lab equipment mounted on top of tanks.

Tanks may be compartmented to accommodate different volumes needed for flexibility.

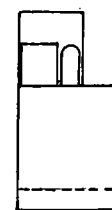
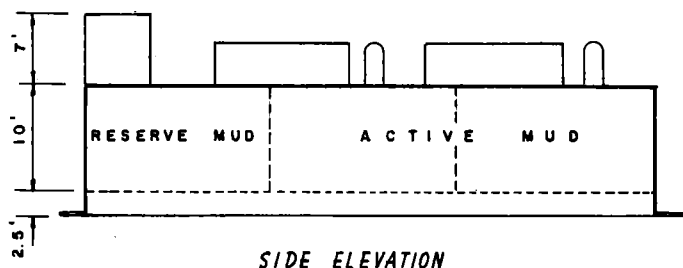
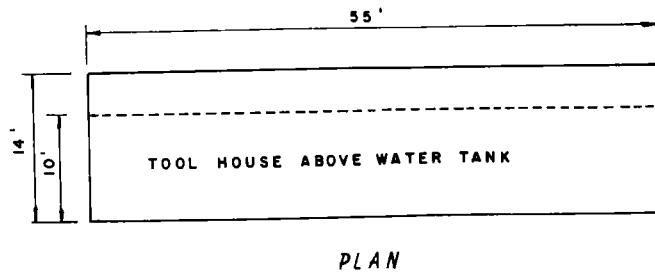


FIG 2.4

ACTIVE MUD SYSTEM PACKAGE



Volume: 1200 bbl capacity compartmented water tank for potable, drilling, and cooling water.

Estimated lift weight = 75 tons

Tool house located above water tank.

Tanks may be compartmented to accommodate different volumes needed for flexibility.

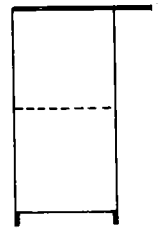
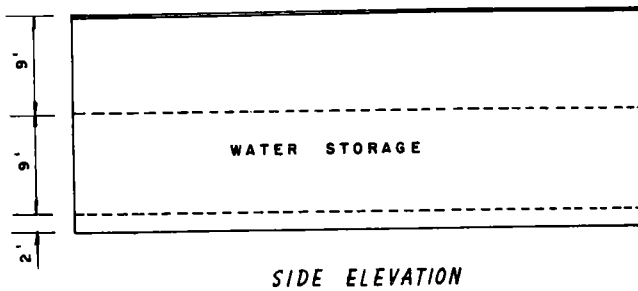
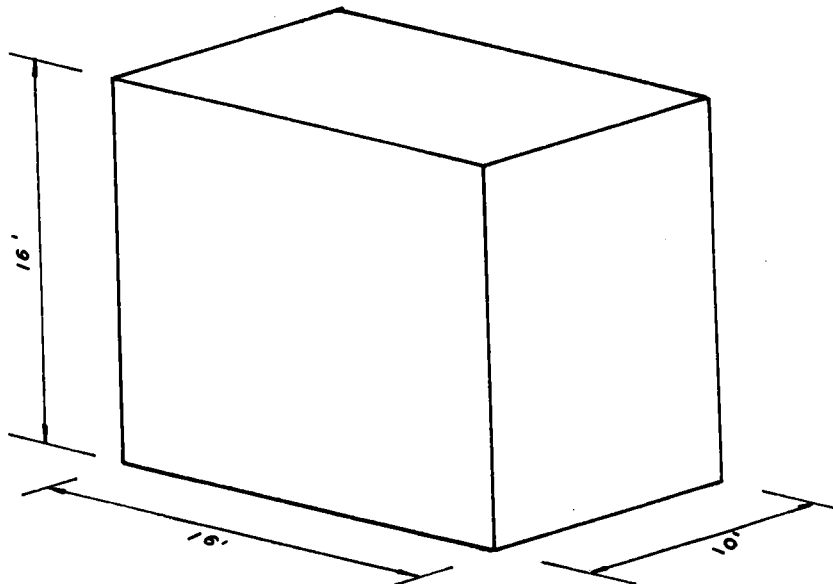


FIG 2.5
DRILLING, COOLING & POTABLE WATER



Volume: 450 bbl

Estimated lift weight = 20 tons

Designed to stand or lie flat on cellar deck as need arises.

FIG 2.6
FUEL TANK

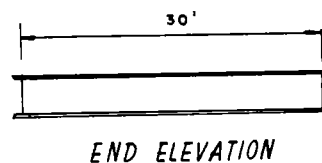
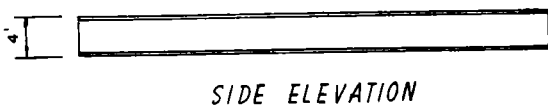
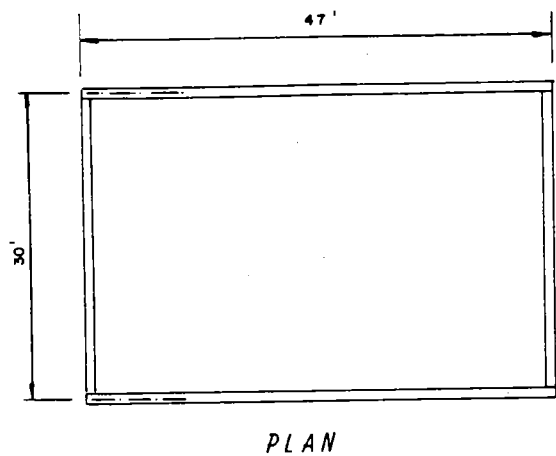
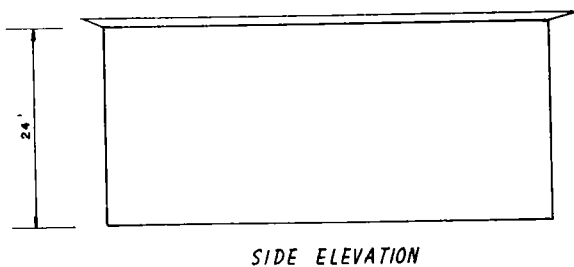
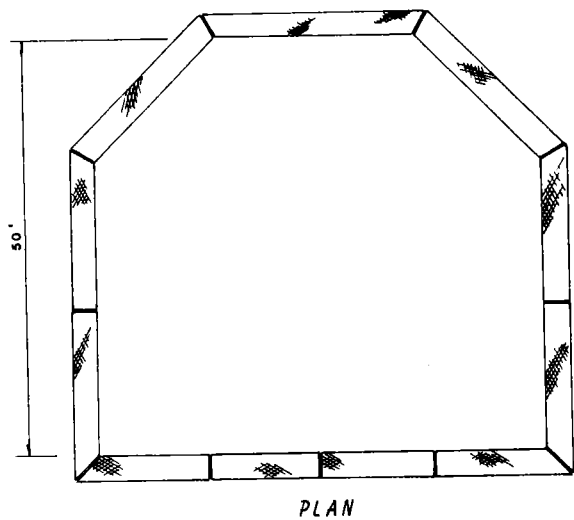


FIG 2.7
SKID FRAME

Skid frame may be boxed to provide for additional liquid storage at Drilling Contractor option.

Sufficient bottom skid flange bearing width should be provided so as to preclude the need for special web stiffeners on the platform members supporting the skid frame.
Frame is illustrated without intermediate bracing.
Estimated lift weight = 75 tons



Estimated lift weight = 350 tons

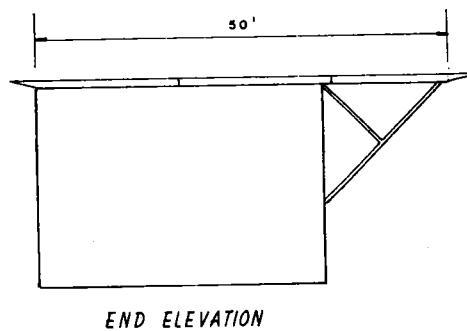
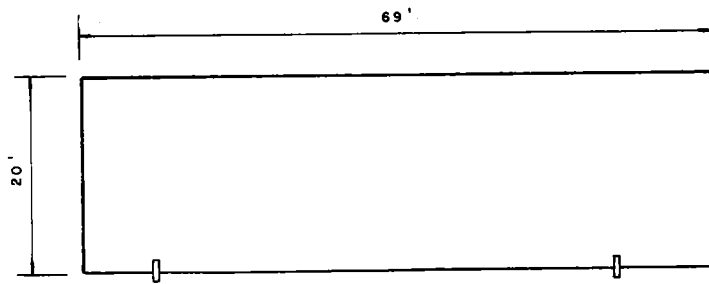
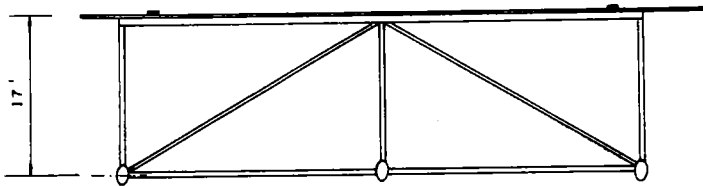


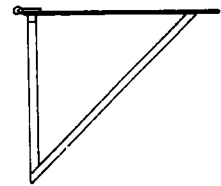
FIG 2.8
QUARTERS WITH HELIPORT



PLAN

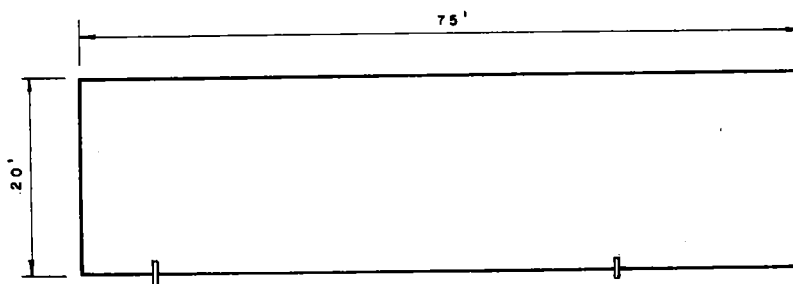


SIDE ELEVATION

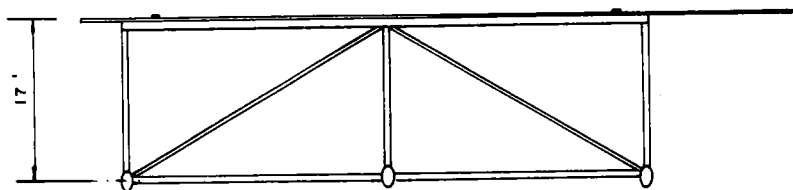


END ELEVATION

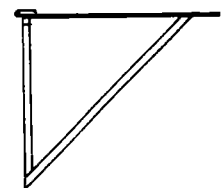
FIG 2.9
REMOVABLE DECK EXTENSION
FOR QUARTERS SUPPORT



PLAN



SIDE ELEVATION



END ELEVATION

FIG 2.10
REMOVABLE DECK EXTENSION
FOR PIPE RACKS

This extension is not required on all plate arrangements.

SECTION 5

ARRANGEMENTS

5.1 Flexibility of the modular packages is shown in Figs 5.1 thru 5.7. These are typical arrangements on different currently used minimum self-contained platforms.

5.2 Additional active-mud, water, fuel, and dry storage space may be provided by the platform de-

signer without requiring alteration of the standardized rig packages.

5.3 Auxiliary mud handling pumps, such as the charge pumps and mixing pumps shown in the pump package, may be installed on, or attached to, the active mud package.

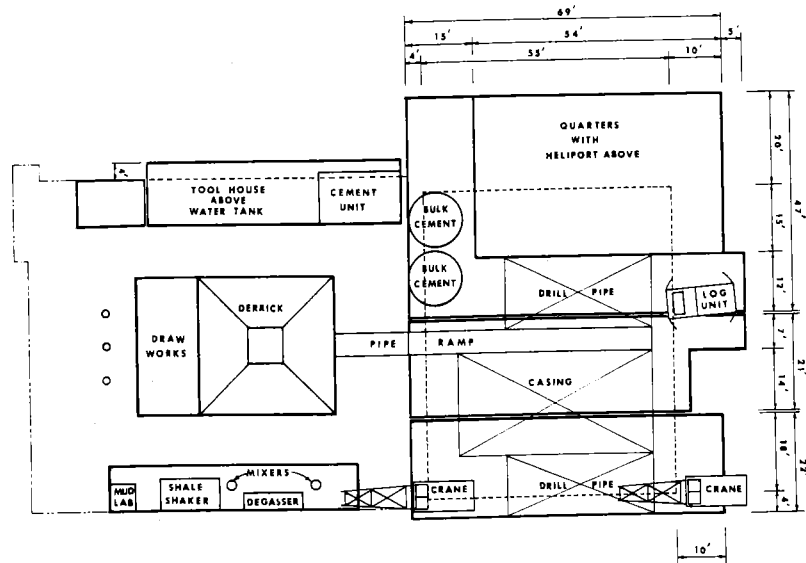
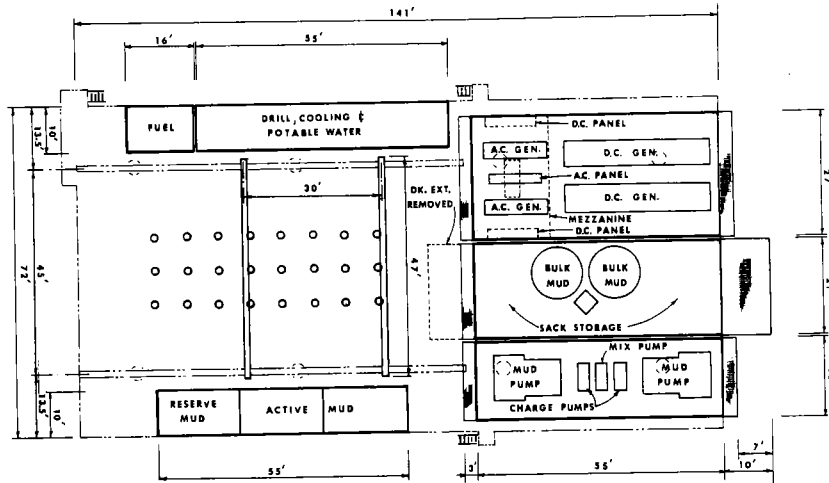
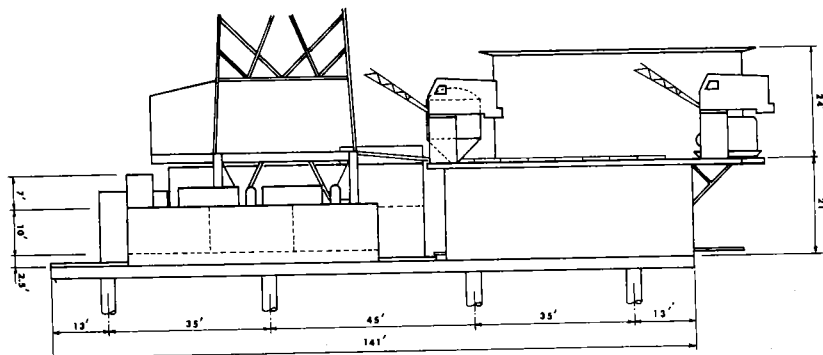
**PACKAGE TOP PLAN****PACKAGE SKID PLAN****ELEVATION**

FIG. 5.1
PACKAGE ARRANGEMENT ON 72 x 141 FT
PLATFORM
24 WELLS IN 3 ROWS

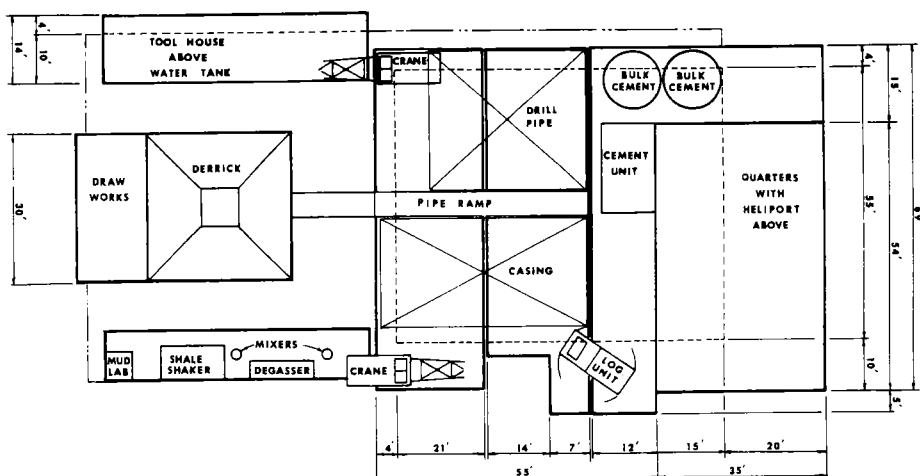
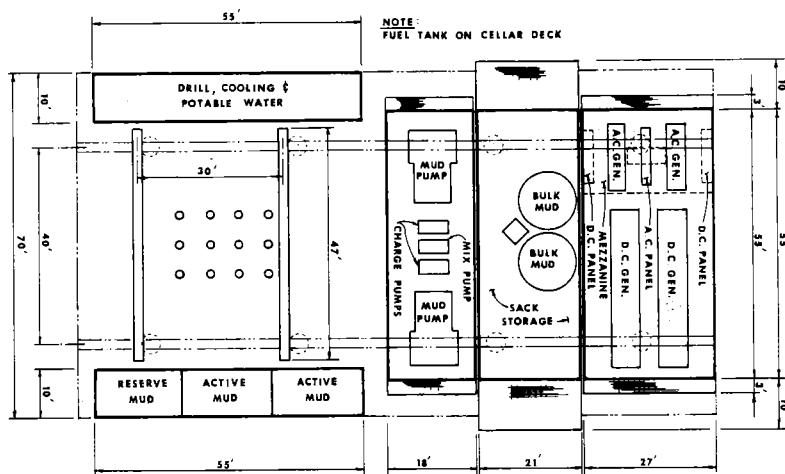
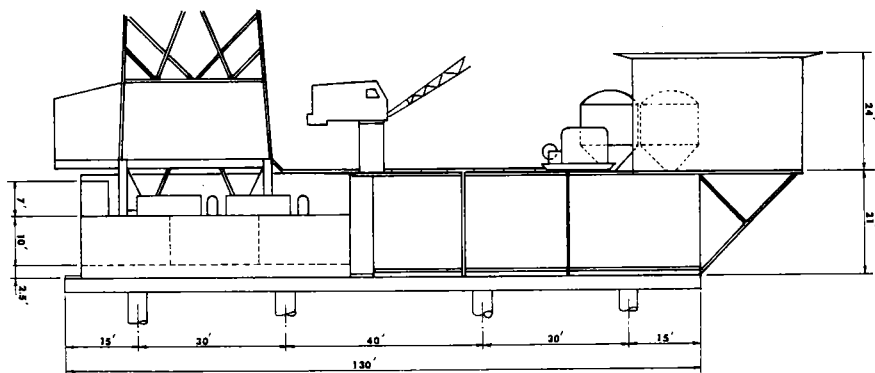
**PACKAGE TOP PLAN****PACKAGE SKID PLAN****ELEVATION**

FIG. 5.2
PACKAGE ARRANGEMENT ON 70 x 130 FT
PLATFORM
12 WELLS IN 3 ROWS

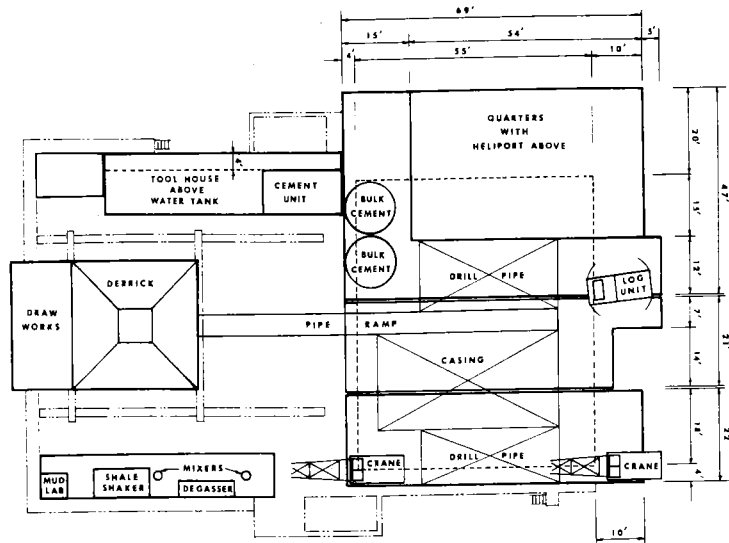
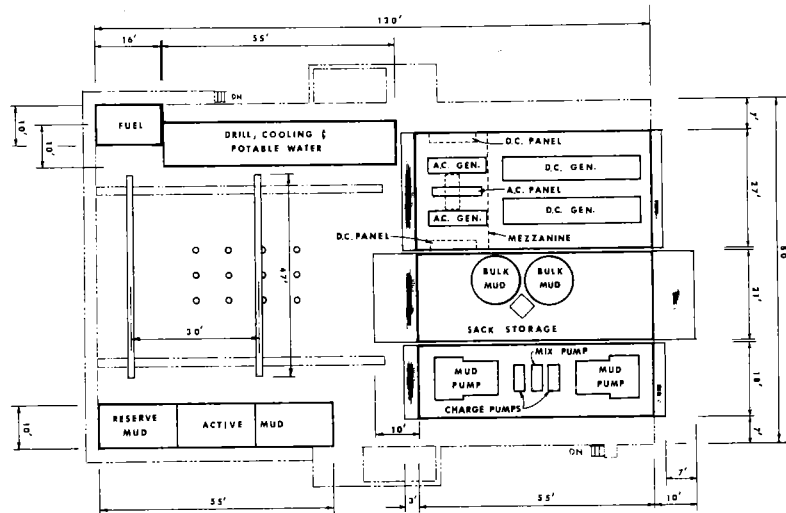
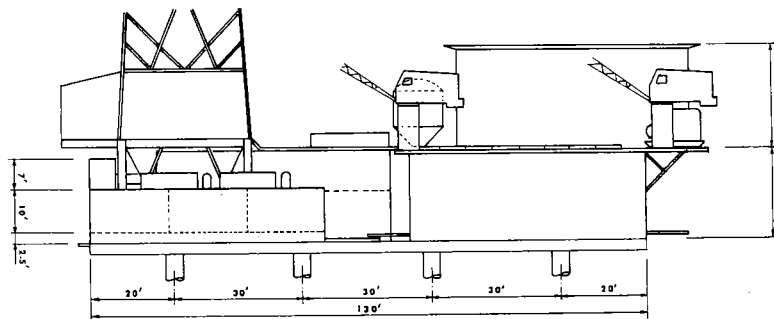
**PACKAGE TOP PLAN****PACKAGE SKID PLAN****ELEVATION**

FIG. 5.3
PACKAGE ARRANGEMENT ON 80 x 130 FT
PLATFORM
12 WELLS IN 3 ROWS

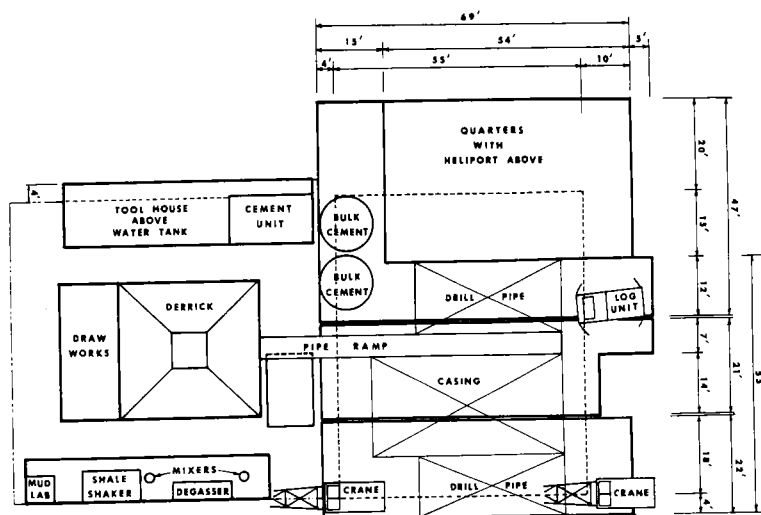
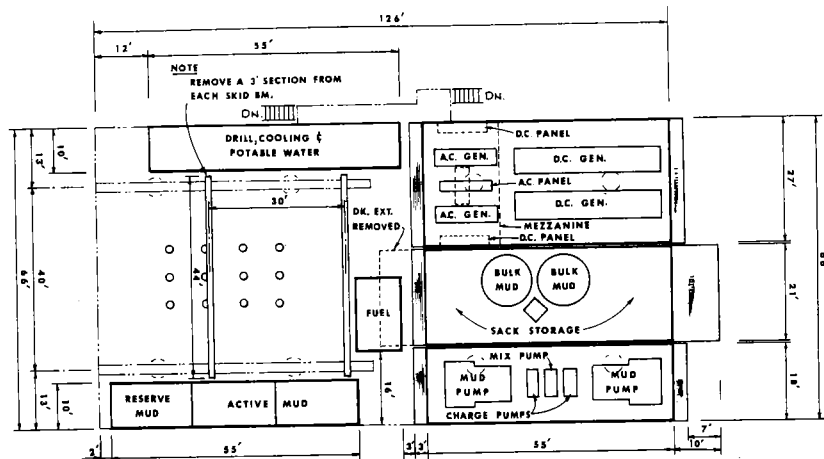
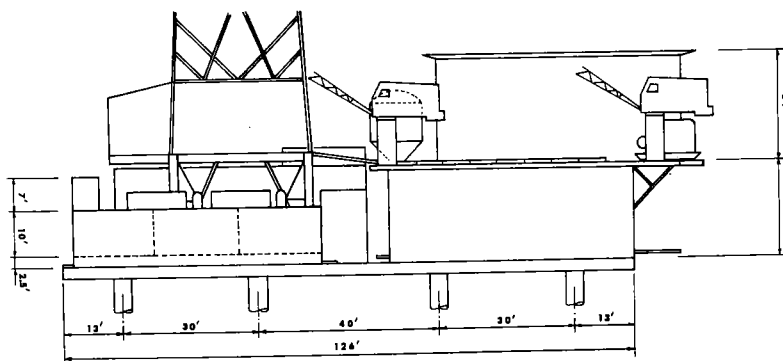
PACKAGE TOP PLANPACKAGE SKID PLANELEVATION

FIG. 5.4
PACKAGE ARRANGEMENT ON 66 x 126 FT
PLATFORM
12 WELLS IN 3 ROWS

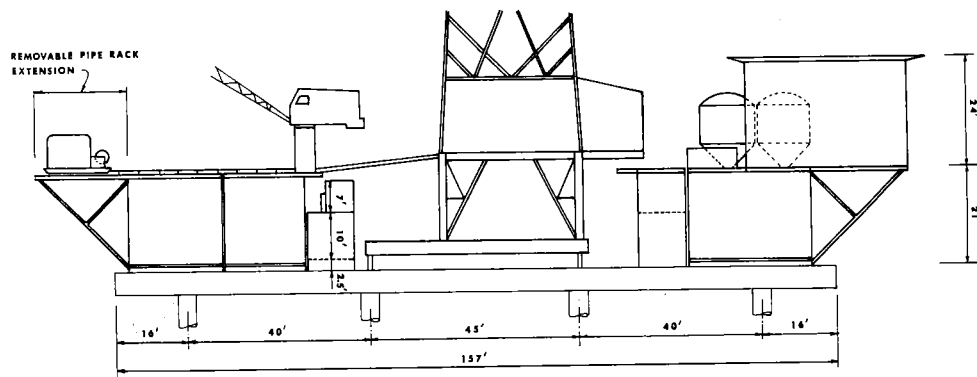
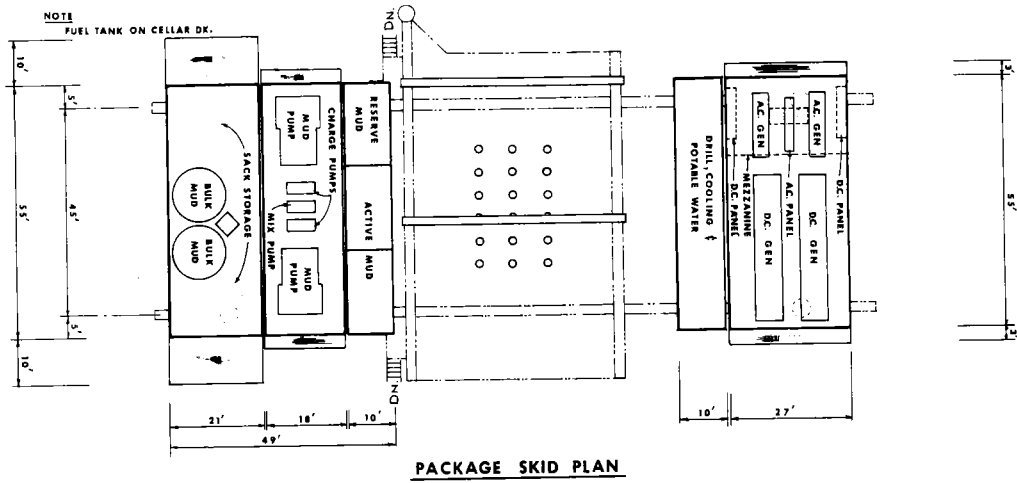
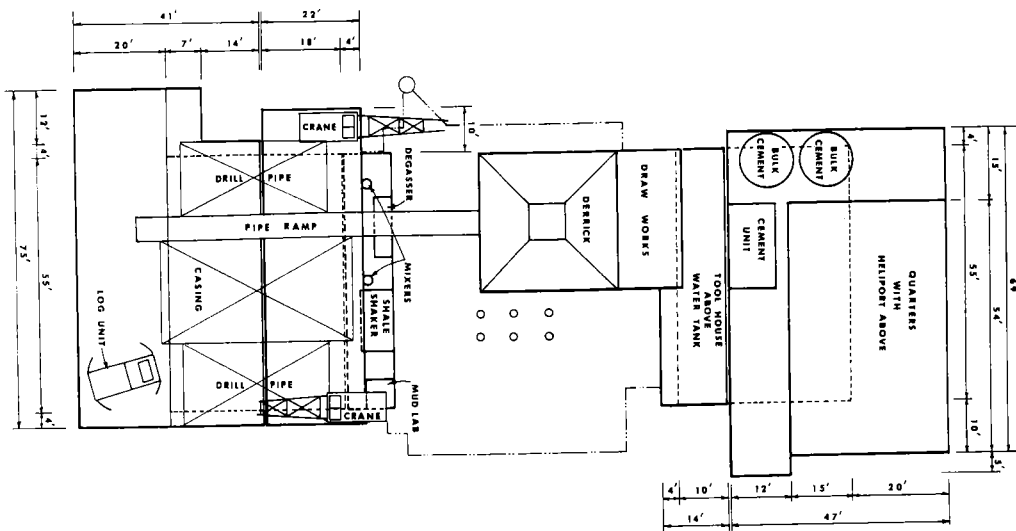


FIG. 5.5
PACKAGE ARRANGEMENT ON 45 x 157 FT
SKID BEAMS
24 WELLS IN CENTER BAY

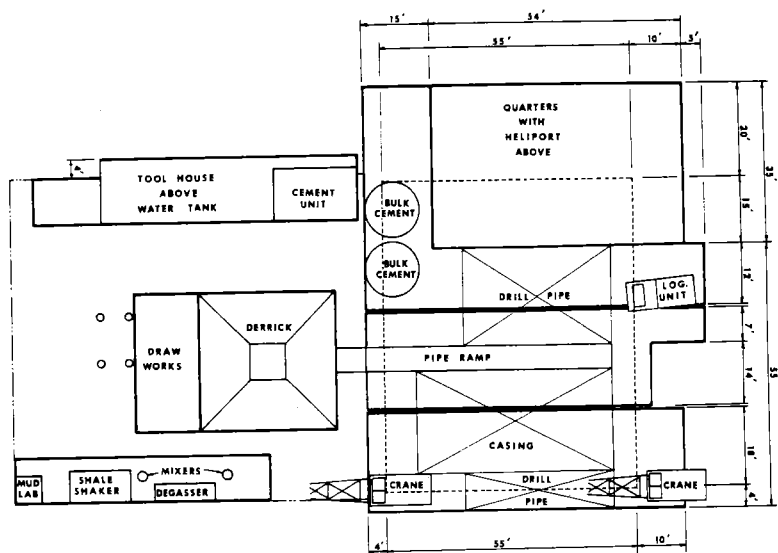
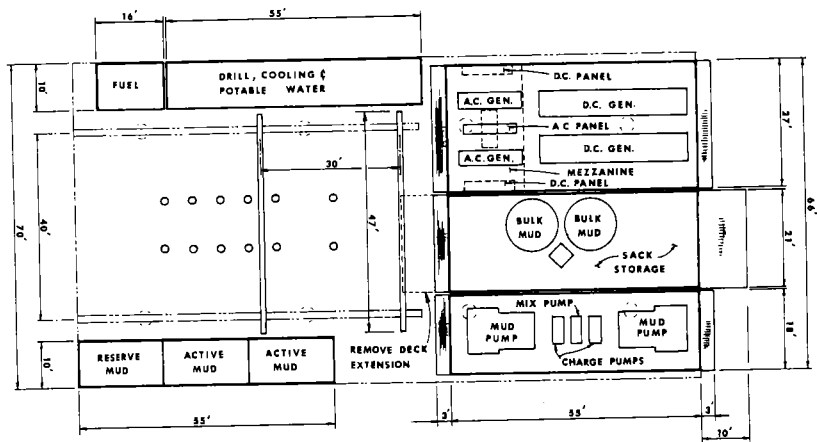
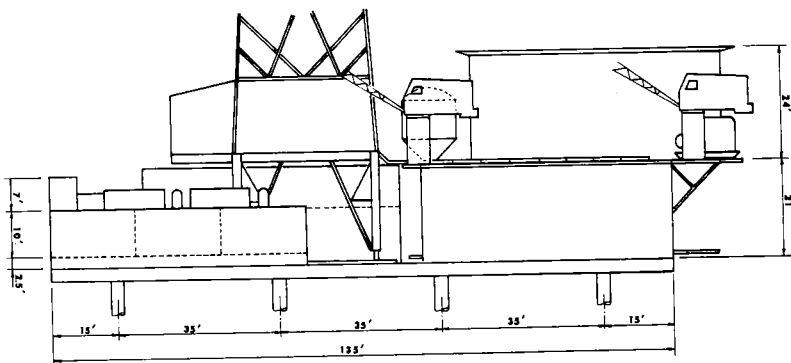
**PACKAGE TOP PLAN****PACKAGE SKID PLAN****ELEVATION**

FIG. 5.6
PACKAGE ARRANGEMENT ON 70 x 135 FT
PLATFORM
12 WELLS IN 2 ROWS

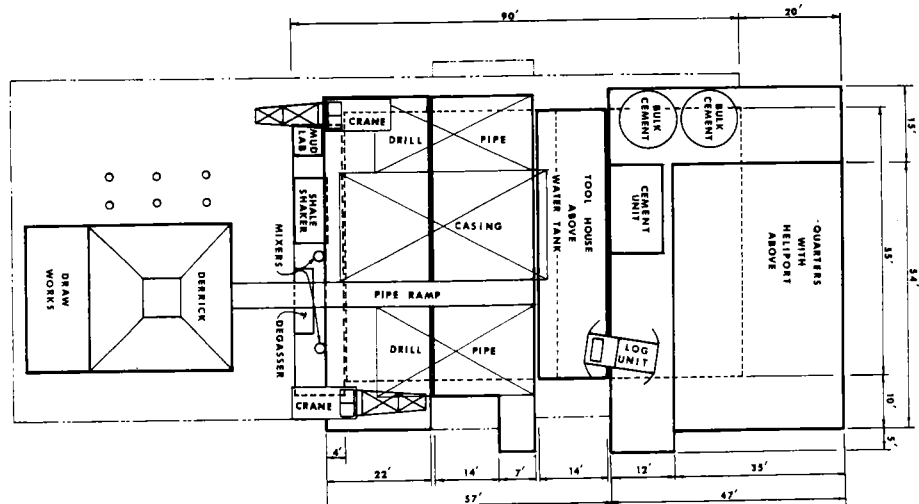
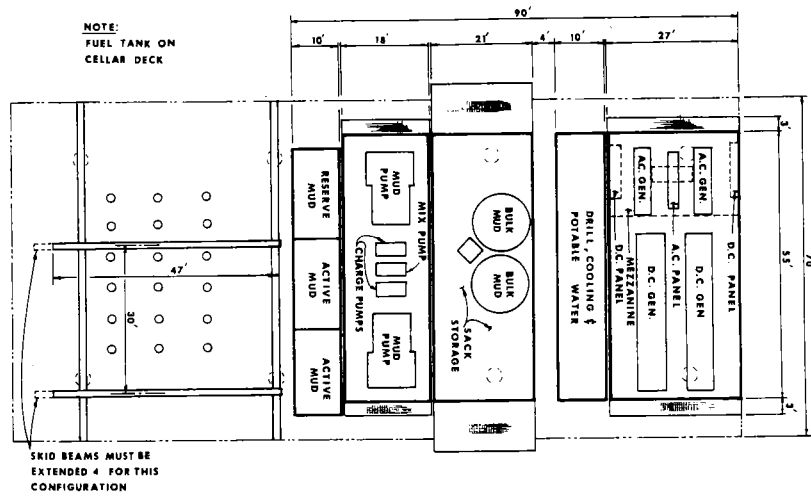
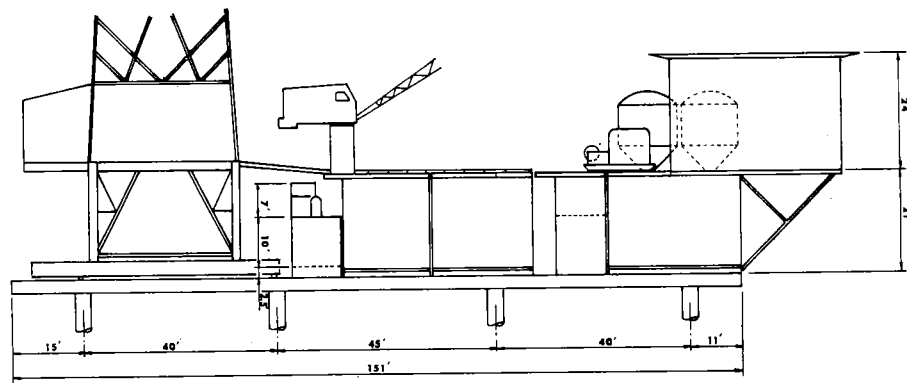
**PACKAGE TOP PLAN****PACKAGE SKID PLAN****ELEVATION**

FIG. 5.7
PACKAGE ARRANGEMENT ON 70 x 151 FT
PLATFORM WITH
TRANSVERSE SKID BEAMS
18 WELLS IN 3 ROWS

APPENDIX A

PLATFORM-RIG INTERACTING CHECK LIST

A.1 INTRODUCTION

- a. The good working relationship between a marine oil operator and the platform drilling rig contractor is often seriously weakened by a lack of definition between the parties of how the rig will interface with the supporting offshore platform.
- b. Many items such as piping, stairways, etc., can be placed in a variety of positions on a platform. Early definitions of contractor requirements can lead to these detail items being placed in the optimum position, thus avoiding costly field modifications of rig and/or platform.
- c. It is recommended that the following items be defined to the satisfaction of operator and contractor prior to completion of their contractual negotiations. Items on which the operator should initially furnish information are marked by an asterisk (*). Items requiring initial information from the rig supplier are marked by a double asterisk (**).
- d. The platform designer's task will be materially eased by using API specifications on future rig construction.
- e. It is recommended that the drilling contractor furnish the operator with a detailed set of drawings for the rig packages as part of his reply to a solicitation for a job.

A.2 STRUCTURAL & LAYOUT:

- a. **Design Considerations:***
 1. Position and strength of beams and trusses on both (if applicable) platform decks.
 2. Allowable areal loadings for deck areas between major support members.
 3. Deck layout for open areas.
 4. Design loads due to wind on rig packages.
- b. **Rig Skid Beams:***
 1. Spacing, position, and strength (also if they can take concentrated derrick reactions only at certain points).
 2. Raised or not, amenable to slotting for jacking purposes.
 3. Jacking systems that can be accommodated.
- c. **Wellhead Area:***
 1. Probable elevation of well heads.
 2. Strength and layout of local beams around wellhead area.

3. Access — hatches, etc., between deck levels.
4. Preinstalled production piping around wellhead area.
5. Pollution containment means in wellhead area.
6. Strength points available for pulling heavy loads; e. g., hanging BOP units.
7. Availability of below-cellar deck work platform.
8. Position of rat and mouse holes, including tolerances.
- d. **Cellar Deck Availability (if applicable):***
 1. For storage of fuel, water, and other expendables.
 2. Means of access.
- e. **Rig Packages:****
 1. True out-to-out dimensions and exact planned location of each package.
 2. Location, type, loads, and description of structural supports.
 3. Location and complete description of pickup points (to include shackles, pins, and pad eyes).
 4. Minimum interpackage clearance requirements.
 5. Distributed and concentrated package weights under all loading conditions.
 6. Special piping and electrical cable requirements.
 7. Walkway and access means.
 8. Rig package tie-down.
 9. Sling and spreader-bar requirements.

A.3 APPURTENANCES:

- a. **Pre Installed Platform Cranes (if applicable):***
 1. Size, location, and number.
 2. Limitations on strength and coverage.
- b. **Owner-Furnished Helicopter Deck (if applicable):***
 1. Size, strength, and sufficiency
 2. Safety appurtenances including lights, safety nets, and stairs.
- c. **Deep Well Cooling Pump Support Caissons:**
 1. Location and number.**
 2. Electrical requirements.**
 3. Pump unit description.**
 4. Support points.*

* Operator furnished information

** Contractor furnished information

d. Downcomers for Overboard Disposal of Sewage (if applicable): Cuttings, etc. from the Bottom of Shale Shakers, Desilters, Desanders, and Sandtraps; Drilling Mud from Active and Reserve Mud Pits; Cement Units; and Cooling Water.*

1. Location, size, number, and type.
2. Availability of pneumatic lines.

e. Drilling Sumps:*

1. Location, number, and type.
2. Ability to handle various amounts of drilling solids.
3. Ability to handle both oil-base and water-base muds.

f. Supply Barge Attachments Points (if any):*

1. Location (both on platform and buoys), number, and type.
2. Limitations on usage.

g. Lines for Fuel, Water, etc. Transfer To and Along the Platform:*

1. Location, distribution, size, and number.
2. Access points.

h. Electrical and Other Cables for Communications, Power, and Safety Reasons:*

1. Number, distribution, and location.
2. Availability of outlets, junction boxes.
3. Remote BOP control points (including prerun hydraulic lines).

A.4 OWNER'S POWER REQUIREMENTS THAT CONTRACTOR IS TO SUPPLY:

- a. Power Usage.*
- b. Voltage Needs.*
- c. Transformer Availability.**
- d. Power air for pneumatic pumps, etc.*

A.5 SAFETY:

- a. Stairs — location and number.*
- b. Handrails — location and number.*
- c. Emergency Escapes (hatches, latches, etc.) — location and number.*

d. Devices:

1. Fire:
 - a. Water — location, distribution, and number of pumps, lines, and supply points.*
 - b. Chemical — location, distribution, and number of pumps, lines, and supply points.
2. Survival:
 - a. Survival capsules — location, number, and access.*
 - b. Liferafts and vests — location, number, and access.*
3. Nav aids: foghorns and lights — location, number, and access.*

A.6 POLLUTION CONTROL:


- a. Deck Type — solid or not.*
- b. Sumps and Cleanup Equipment Furnished by Owner — complete description including location.*
- c. Atmospheric Drains — locations, cleanout provisions, etc.*
- d. Owner-Furnished Sewage Plant, if any; if not — Owner Requirements for Contractor-Furnished Units.*
- e. Splash curbing (kick rail around deck) — Type, extent at time of rig placement, and amount to be added later.*

* Operator furnished information

** Contractor furnished information

APPENDIX B

USE OF API MONOGRAM

The API monogram  is a registered trademark of the American Petroleum Institute.

Manufacturers desiring to warrant that articles manufactured or sold by them conform with this specification shall obtain the license to use the Official API Monogram.

The original resolutions adopted by the Board of Directors of the American Petroleum Institute on Oct. 20, 1924, embodied the purpose and conditions under which such official monogram may be used.

The following restatement of the resolution was adopted by the Board of Directors on November 14, 1977.

WHEREAS, The Board of Directors of the American Petroleum Institute has caused a review of the Institute's program for licensing the use of the API monogram and

WHEREAS, It now appears desirable to restate and clarify such licensing policy and to confirm and make explicitly clear that it is the licensees, not API, who make the representation and warranty that the equipment or material on which they have affixed the API monogram meets the applicable standards and specifications prescribed by the Institute;

NOW, THEREFORE, BE IT RESOLVED, That the purpose of the voluntary Standardization Program and the Monogram Program of the American Petroleum Institute is to establish a procedure by which purchasers of petroleum equipment and material may identify such equipment and materials as are represented and warranted by the manufacturers thereof to conform to applicable standards and specifications of the American Petroleum Institute; and be it further

RESOLVED, That the previous action under which the following monogram was adopted as the official monogram of the American Petroleum Institute is reaffirmed;



BE IT FURTHER RESOLVED, That the American Petroleum Institute's monogram and standardization programs have been beneficial to the general public as well as the petroleum industry and should be continued and the Secretary is hereby authorized to license the use of the monogram to anyone desiring to do so under such terms and conditions as may be authorized by the Board of Directors of the American Petroleum Institute, provided that the licensee shall agree that the use of the monogram by such licensee shall constitute the licensee's representation and warranty that equipment and materials bearing such monogram complies with the applicable standards and specifications of the American Petroleum Institute; and that licensee shall affix the monogram in the following manner;



BE IT FURTHER RESOLVED, That the words "Official Publication" shall be incorporated with said monogram on all such standards and specifications that may hereafter be adopted and published by the American Petroleum Institute, as follows:

OFFICIAL PUBLICATION



REG. U. S. PATENT OFFICE

Application and Agreement for Use of Monogram. Anyone desiring to use the monogram of the American Petroleum Institute shall apply to the American Petroleum Institute, using the application and agreement form shown in the specification under which application is made. Upon receipt of this form, properly acknowledged, and accompanied by a statement satisfactory to the Institute of the applicant's qualifications to comply with the relevant specification, the Secretary shall issue a "Certificate of Authority to use Official Monogram of the American Petroleum Institute." Applicants shall submit a separate application and agreement form for each specification under which authorization is desired. The Institute will issue a certificate for each specification under which authorization is granted.

Fees for Use of Monogram. Applicants determined by the Institute to be eligible for authorization to use the monogram shall be charged an initial fee of \$200.00 for the first authorization, and \$100.00 for each additional authorization.

In addition to the initial authorization fee, manufacturers will be assessed an annual renewal fee of \$100.00 for each specification under which he is authorized to use the monogram. Manufacturers issued monogram certificates November 1 through December 31 shall not be required to pay a renewal fee for the following year.

Cancellation of Monogram Rights. The right to use the monogram is subject to cancellation for the following causes:

- a. Using the monogram on material that does not meet the specification.
- b. Failure to maintain reference master gages in accordance with the specification.
- c. Failure to pay annual renewal fee for use of the monogram.
- d. For any other reason satisfactory to the Executive Committee on Standardization of Oilfield Equipment and Materials.

Reinstatement of Monogram Rights. Manufacturers whose authorization to use the monogram has been cancelled may request reinstatement at any time. If a request for reinstatement is made within 5 years after cancellation, and if reason for cancellation has been corrected, no new application is necessary. A certificate will be reissued upon payment of \$100.00 renewal fee. Requests for reinstatement made 5 years or more after cancellation shall be treated as a new application.

APPLICATION AND AGREEMENT FOR USE OF OFFICIAL MONOGRAM OF THE AMERICAN PETROLEUM INSTITUTE

AMERICAN PETROLEUM INSTITUTE
PRODUCTION DEPARTMENT
211 N. ERVAY, SUITE 1700
DALLAS TX 75201

Gentlemen:

Application is hereby made for authorization to use the official monogram of the American Petroleum Institute in the manufacture of

(Type of Product)

in accordance with the official publication of the Institute entitled

(Number and Title of Specification)

including any amendments or modifications that may hereafter be adopted.

If and when granted license to use the monogram the licensee agrees that use of the monogram on equipment or material manufactured by the licensee shall constitute a representation and warranty by the licensee to the American Petroleum Institute and to the purchasers of such equipment or material that it complies with the applicable standards and specifications of the Institute; and licensee agrees to hold harmless and indemnify API for any and all liability, loss, damage, cost and expense which API may suffer, incur, or be put to by reason of any claim, suit or proceeding, for personal injury, property damage or economic loss based on the failure of such equipment or material to comply with such standards and specifications; and licensee further agrees to defend API, at licensee's expense, against any and all such suits, claims or proceedings.

COUNTY OF _____

STATE OF _____

ss.: }

(Authorized Agent or Officer)

(Date)

(Name of Company)

Acknowledged and sworn to before me

this _____ day of _____, 19 _____

Notary Public

(Address)

(City and Country)

AMERICAN PETROLEUM INSTITUTE
PRODUCTION DEPARTMENT
211 N. ERVAY, SUITE 1700
DALLAS TX 75201

STATEMENT OF MANUFACTURER'S QUALIFICATIONS
TO USE API MONOGRAM

The information indicated below, when requested by the Institute, must accompany all applications to use the API monogram. All such information is subject to investigation and applications must be rejected if the information supplied so warrants.

Material: _____
(List here the equipment on which applicant desires to apply the monogram.)

API specification designation: _____

1. Name of applicant: _____

2. Location of principal office: _____

3. Where will equipment be manufactured? _____

4. Class of ownership: _____
(Corporation, partnership, or individual)

5. Capital invested: _____ 6. Year organized: _____

7. Is the applicant thoroughly familiar with all stipulations given in the API specification covering this material? _____

8. Is the applicant actually manufacturing this material now? _____

a. State the length of time applicant has made the material and supplied it to the oil industry: _____

(Years and Months)

b. State the approximate percentage of production of this material to applicant's total production: _____

9. Give the names and addresses of five representative users in the oil industry to whom applicant has sold this material (give name of company, complete street address, and name of company representative to whom inquiries should be addressed):

10. If applicant has not supplied this material to the oil industry and cannot furnish the five references under item 9, give the names and addresses of five representative users in other industries to whom applicant has sold similar equipment (give name of company, complete street address, and name of company representative to whom inquiries should be addressed):

11. If the applicant is not now manufacturing this material, when does he expect to begin production? _____

12. If the applicant has not previously made this material, state fully (on an attached sheet) the experience of any members of applicant's present organization in the manufacture of this material, giving names of organizations where such experience was obtained.

Questions 13, 14, and 15 need be answered only if the specification requires testing or possession of API reference master gages.

13. Does the applicant now possess the necessary equipment and personnel for conducting all tests required in the API specification covering this material? _____

14. Does the applicant now possess such API reference master thread gages as required by the specification covering this material? _____

If applicant possesses such gages, give full information (on separate sheet) on types, sizes, certifying agency, and certification dates.

15. If the applicant does not now possess such gages, have they been ordered? _____

If so, give full information (on separate sheet) on types, sizes, and from whom ordered.

16. Give names of five responsible business men as references regarding applicant's general character, integrity, and reputation (give complete mailing address and name of organization with which each is affiliated):

17. Name and address of applicant's representative to whom API correspondence should be directed:

(Signature and title of authorized officer)

Date _____

(Name of organization, company, or individual)

(The above statement to be signed in the name of the applicant by an authorized officer)