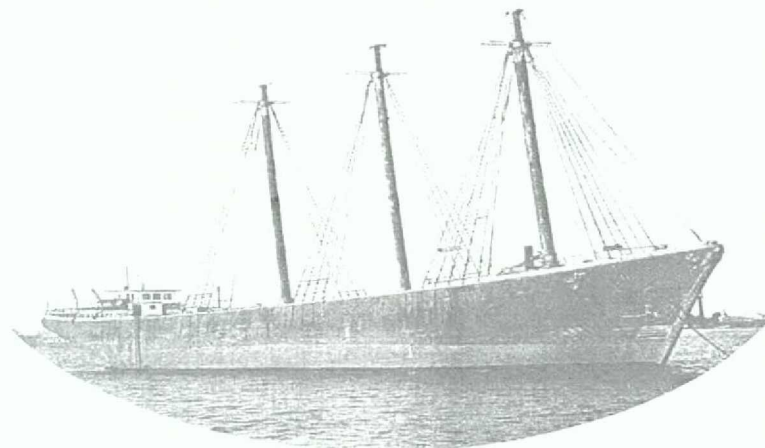


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Contract No. DACW51-01-D-0015-8a
Delivery Order No. 0023

U.S. Army Corps of Engineers
New York District

**RECORDATION OF SIX (6) VESSELS
IN CONNECTION WITH THE
NEW YORK AND NEW JERSEY HARBOR NAVIGATION STUDY
UPPER AND LOWER BAY
PORT OF NEW YORK AND NEW JERSEY
STATEN ISLAND, RICHMOND COUNTY, NEW YORK
ELIZABETH, UNION COUNTY AND
BAYONNE, HUDSON COUNTY, NEW JERSEY**



PREPARED FOR:
U.S. Army Corps of Engineers
New York District
New York, New York

UNDER SUBCONTRACT TO:
Matrix Environmental and
Geotechnical Services, Inc.
East Hanover, New Jersey

PREPARED BY:
Panamerican Consultants, Inc.
Memphis, Tennessee

**VOLUME II: APPENDICES
MAY 2007**

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VOLUME II: APPENDICES

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IN CONNECTION WITH THE
NEW YORK AND NEW JERSEY HARBOR NAVIGATION STUDY
UPPER AND LOWER BAY
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ELIZABETH, UNION COUNTY
AND BAYONNE, HUDSON COUNTY, NEW JERSEY**

Authored by:
Andrew Lydecker

Prepared for:
**U.S. Army Corps of Engineers,
New York District**

**Contract No. DACW51-01-D-0015
Delivery Order No. 0023**

Under Subcontract to:
**Matrix Environmental and Geotechnical Services, Inc.
120 Eagle Rock Ave., Suite 207
East Hanover, New Jersey 07936**

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**Andrew Lydecker, RPA
Principal Investigator**

MAY 2007

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APPENDIX A: SCOPE OF WORK

**Scope of Work
and
Request for Proposal
For
Recordation of Six (6) Vessels
In Connection with the
New York and New Jersey Harbor Navigation Study
Upper and Lower Bay
Port of New York and New Jersey
Staten Island, Richmond County, New York
Elizabeth, Union County and Bayonne, Hudson County, New Jersey**

I. Introduction

The New York District, U.S. Army Corps of Engineers (Corps), is proceeding with studies in connection with the New York and New Jersey Harbor Navigation Study. As per stipulation I (A) of the signed Memorandum of Agreement (MOA) a remote sensing survey was conducted along the channel edge of the Ambrose, Anchorage, Kill Van Kull, Arthur Kill And Newark Bay Channels. The remote sensing survey identified 93 magnetic anomalies and 24 sidescan sonar images (Lydecker and James 2003a). Of those targets, just 28 magnetic anomalies and 11 sidescan images were determined to be potential cultural resources. The nature and National Register of Historic Places (NRHP) eligibility of the 39 targets were evaluated through a diving survey and five vessels were determined to be eligible resources. Vessel SS16b was not initially considered eligible but based on a request by the New York State Historic Preservation Office to reconsider the evaluation this vessel was also determined significant bringing the total to six eligible vessels. Due to the nature of this project these resources cannot be avoid through project redesign and mitigation must be undertaken. Based on recommendations offered in the evaluation report, a Standard Mitigation Agreement was developed that outlines the mitigation measures the Corps must undertake (Attachment 1). This scope of work addresses those mitigation measures.

As reflected in this scope of work, the Corps' will record the six vessels determined to be NRHP eligible (Attachment 2). This mitigation will be accomplished by recording each vessel through diving, if necessary, or recording the vessels at low tide, by an experienced maritime archaeologist. Also included in this scope is the task to determine if portions of Vessel SS16b, based on research and field investigations, are suitable for salvaging and curating for display in a maritime museum. If determined appropriate for salvaging, recommendations will be made as to the parts to be salvaged and conserved. Preliminary plans and associated costs will be developed to undertake a salvage and conservation effort.

II. Project Background

A. Project Area

The overall plan is to deepen the main channels in the Harbor to 50 feet. To do so will require widening of the channels. This action has the potential to impact any shipwrecks that might be located along the current channel edges. The widening is anticipated to be approximately 30 feet on each side of the channel but 100 feet on each side of channel was surveyed for cultural resources. Dredging in Ambrose Channel will extend to 2500 feet east of the channel's current terminus. Two eligible resources, Shooters Island V2 and Shooters Island SS16b, are located on Shooters Island. The remaining resources, KVK V33, KVK V36, KVK V37 and KVK V38 are located on the Kill Van Kull shoreline of Staten Island. Only Vessel Shooters Island V2 is located in the waters of the State of New Jersey, the rest lie within New York State.

III. Previous Research

The six vessels to be recorded under this scope of work were evaluated through an underwater survey by Panamerican Consultants, Inc. in the summer of 2003 (Lydecker and James 2003b). Vessels KVK V33, KVK V36 and KVK V37 were also surveyed as part of the Corps' Collection and Removal of Drift Project and were determined significant (Raber, et al, 1996; James 1999). Vessel KVK38 was not evaluated through the previous surveys. Shooters Island V2, a floating dry dock, was evaluated in the late 1970s and early 1980s (Brouwer 1981; Kardas and Larabee 1985) and was at that time determined not significant, but as twenty years have passed, the vessel was reevaluated and determined significant. Shooters Island SS16b was not previously studied.

The remote sensing survey that identified the potential resources later examined through diving was conducted in 2002 along all channels considered for deepening. In most locations, the survey area covered from channel edge to 100 feet landward of the edge. In certain areas the 100-foot coverage was not possible due to shallow water depth or the presence of moored vessels. Two small areas, one near the Bayonne Bridge and the other at the entrance to Newark Bay, were not surveyed at all due to on going blasting by the Corps that presented a safety issue. The report containing the results of the remote sensing work is listed below. The report also includes a summary of previous work conducted in the Harbor, in particular cultural resource studies that were conducted as part of the Corps' Collection and Removal of Drift Project.

Brouwer, Norman

1981 Survey of Cultural Resources in the Form of Derelict Ships and Barges, Area II (Completion) of Shooters Island, New Jersey and New York Harbor Collection and Removal of Drift Project.

Kardas, Susan and Edward Larabee

1985 Historic American Buildings Survey/Historic American Engineering Record Level

Recordation at the Ships Graveyards at Shooters Island, Staten Island, Richmond County, New York and Bayonne, Elizabeth, Hudson and Union Counties, New Jersey.

Lydecker, Andrew D.W. and Stephen R. James, Jr.

2003a Remote Sensing Survey in Connection with the New York and New Jersey Harbor Navigation Study, Upper and Lower Bay, Port of New York and New Jersey, Kings, Queens and Richmond Counties, New York; Essex, Hudson, Monmouth and Union Counties, New Jersey.

Lydecker, Andrew D.W. and Stephen R. James

2003b Target Investigations in Connection with the New York and New Jersey Harbor Navigation Study, Upper and Lower Bay, Port of New York and New Jersey, Kings, Queens and Richmond Counties, New York; Essex, Hudson, Monmouth and Union Counties, New Jersey. Draft Report.

Raber, Michael S., T.R. Flagg, Gerald Weinstein and Norman Brouwer

1996 Cultural Resources Reconnaissance of the Kill Van Kull Reach: New York Harbor Collection and Removal of Drift Project.

IV. Contractor Services and Required Investigations

A. The general services to be provided under this contract are those required to conduct, in the timetable and areas specified below, recording of six historic vessels located along the Staten Island and Shooter's Island shorelines, New York and New Jersey Harbor to satisfy the Corps' Section 106 requirements.

B. The Contractor shall be responsible for conducting in the manner prescribed, the investigation detailed below. Failure to fully meet the fieldwork and reporting requirements of this Scope of Work may be cause for termination of work for default of the contract, or for an evaluation of unsatisfactory upon completion of the project.

C. This Work Order requires the completion of the following tasks:

Task 1. - Background Research:

The Contractor shall conduct background archival research on the six (6) resources under study. This research shall be conducted to ascertain the history of the individual vessel as well as a history of the vessel type to determine how the example under study fits within a historic context. This work may include consulting with individual knowledgeable about maritime resources such as staff at the South Street Seaport Museum.

Task 2. - Develop a Dive Plan and Health and Safety Plan:

a. The Dive Plan and Health and Safety Plan shall serve as a safety plan and research

strategy for the underwater water work as well as the work on vessels accessible at low tide. The Dive Plan and all diving will comply with Regulation No. 385-1-93 of the Safety Contract Diving Operations Requirements (Corps 1991; Appendix A), Occupations Safety and Health Standards 29 CFR 1910, EM 385-1-1, "Safety and Health Requirements Manual" dated 3 November 2003 (Section 30 and Appendix O) and the U.S. Diving Manuals, Volume I and II, and all other applicable regulations and guidelines.

b. The Dive Plan will be reviewed by the District's Agency Diving Coordinator (ADC) and the Health and Safety Plan will be reviewed by the District's Health and Safety Officer. **District acceptance of the Dive Plan and Health and Safety Plan must be obtained before any fieldwork is undertaken.**

c. Both Plans will also indicate the location of the resources to be recorded and provide an overall research strategy for conducting the work.

Task 3. - Recordation of Vessels:

This task includes the mobilization and demobilization for the survey.

I. The vessels to be recorded, and level of recordation, are as follows:

a. KVK Vessel 33. Menhaden Fishing Trawler. Accessible only by water and best at low tide, it is recommended that Vessel 33 receive complete recordation. Architectural documentation should include the profile, the plan view of the deck, and the longitudinal cross section of the vessel, all of which can be obtained during low tide by non-diving personnel. Diving aspects of the recordation should include recordation of the stern, including rudder and propulsion, and the bow. Photo documentation in the form of 35 mm and video should also be undertaken. Archival research specific to Vessel 33 should also be included.

b. KVK Vessel 36. Wooden Hydraulic Dredge. Accessible only by water and best at low tide, it is recommended that Vessel 36 receive partial recordation. Architectural documentation should include recordation of basic dimensions. Photo documentation in the form of 35 mm and video.

c. KVK Vessel 37. *Paul E. Thurlow*. Four-Masted Schooner. Accessible only by water and best at low tide, it is recommended that Vessel 37 receive complete recordation. Architectural documentation should include a plan view of the hull outline, deck stanchions, and holds. Diving aspects of the recordation should include recordation of the stern, including rudder, and the bow. Photo documentation in the form of 35 mm and video should also be undertaken.

d. KVK Vessel 38. Floating Drydock. Accessible only by water and best at low tide, it is

recommended that Vessel 38 receive complete recordation. Architectural documentation should include major dimensions, a plan view of the remaining hull, deck stanchions, bulkheads, framing, and the location of any remaining machinery. Since most of the original deck planking is no longer in place, thus allowing access to the internal structure of the pontoon, at least one cross section including internal strengthening of the pontoon should be included. Photo documentation in the form of 35 mm and video should also be undertaken.

e. Shooters Island Vessel 2. Floating Drydock. Accessible only by water, it is recommended that Vessel 2 receive complete recordation. Architectural documentation should include the profile, the plan view of the deck, and longitudinal cross sections of the vessel along both the centerline and through at least one of the wings. Also, at least one cross section should be obtained including both wings and the location of internal bracing, and remaining machinery, if safe access is possible. Most of the above documentation should be obtainable by non-diving personnel. Photo documentation in the form of 35 mm and video should also be undertaken.

f. Shooters Island Vessel SS16b: Unidentified Type; Composite Construction. Accessible only by water, it is recommended that Vessel SS16b should be fully recorded. Photo documentation in the form of 35 mm and video should also be undertaken.

Task 4. – Prepare Salvage and Conservation Plan:

Should research and field investigations undertaken as per Tasks 1 and 3 conclude that Shooters Island Vessel SS16b in fact represents a unique and innovative technology as suggested by evidence so far, the Corps will undertake an effort to identify a repository interested in curating selected portions of the vessel, if found to be salvageable through further field investigations. The Contractor shall determine if any portions of the vessel, such as propeller or section of the composite construction, are worthy of salvage. If such sections are identified, the sections should be clearly marked on drawings. A verbal description of the sections shall be included and justification as to why the pieces should be saved. Based on field conditions a plan should be developed to guide the salvaging and storage of such pieces. A plan should also be developed that describes the process and time needed to conserve the selected pieces and provides a range of costs associated with the conservation effort.

Task 5. – Data Analysis:

Conduct data analyses in order to synthesize the results of the recordation.

In addition to discussions in the text of the report, the data will be presented as follows:

- a. A project area base map, outlining clearly and accurately, the inspection area on the appropriate portion of the relevant USGS 7.5' topographic quad sheet, with the name of the quad sheet clearly indicated in the map title and year of issue.
- b. Base map(s), delineating the location of all underwater inspections conducted, and the project baseline.
- c. Drawings of all vessels shall be presented at a scale appropriate to convey the required detail and information. Photographs of the vessels shall include overview shots as well as close-up views of key features.
- d. An exact navigational record of the location and water depth of the targets will be made.

Task 6. - Report Preparation

a. The Contractor will prepare a detailed draft and final report to the standards specified in Section V below. The New York District's Environmental Analysis Branch will be provided with four copies of the draft report for review. The draft reports should include scanned or digital photographs. The District, New Jersey Historic Preservation Office (NJHPO), New York State Office of Parks, Recreation and Historic Preservation (NYSOPRHP), and New York City Landmarks Preservation Commission (NYCLP) will review the draft report. All comments on the report will be transmitted to the Contractor for incorporation into the final report. The Contractor will submit (fifteen) 15 copies of the final report, including five copies, with original photographs (one copy with original photographs will be unbound), the photographic negatives and a list identifying each, a copy of all notes and data, and any reports provided by the New York District to the Contractor. If digital photography is employed, CD ROMs containing files of all images must be included in a pocket bound to three (3) copies of the final report.

CD ROMs containing files of all DRAWINGS and PHOTOGRAPHS must be included in a pocket bound to three (3) copies of the final report.

- b. The Dive Plan and Health and Safety Plan, prepared as Task 2, and the interim report, prepared as Task 3(f), will be included in the Draft and Final Reports as Appendices.
- c. The draft reports will be reviewed by the New York District, NJHPO, NYSOPRHP and NYCLPC. All comments will be provided to the Contractor, who will make revisions to the Draft. The Final Report will address all comments received from the

District.

Task 7. – Project Management:

Project Management will ensure that all requirements of this Scope of Work are fulfilled and that there is timely submission of all reports.

D. The Contractor will provide a safe working environment for all persons in his/her employ as prescribed by 29 CFR 1910 EM 385-1-1, "Safety and Health Requirements Manual" dated 3 November 2003; the U.S. Navy Diving Manuals, Volumes I and II; and applicable U.S. Army Corps of Engineers regulations. The Contractor will be responsible for all damages to persons and property that occur in connection with the work and services under this Contract, without recourse against the Government. The Contractor is responsible for having adequate insurance coverage for all activities required under this Contract. The dates for the dives must be coordinated with the New York District. A New York District Dive Coordinator may be required to be on site during the investigations.

E. The Contractor will provide the Corps with an interim report upon conclusion of the underwater investigations. This update will summarize the results of the investigations based upon field observations and brief the District on the data gathered by this fieldwork. This interim report should include the evaluation of the feasibility of salvaging portions of vessel SS16b.

V. Report Format and Content

A. The draft and final reports will have the following characteristics:

1. Draft and final copies of the report of investigations shall reflect and report the analysis outlined in the Required Investigations section above (Section IV). They shall be suitable for publication and be prepared in a format reflecting contemporary organizational and illustrative standards of professional archaeological journals. The draft report will be revised to address all review comments.
2. The report produced by a cultural resources investigation is of potential value not only for its specific recommendations, but also as a reference document. To this end, the report must be a scholarly statement that can be used as a basis for any future cultural resource protection.

B. The draft and final reports shall contain the following components:

1. The **Title Page** of the report will state the title of the cultural resource study and the study level as indicated in the title of this Scope. The report title will specify whether the report is draft, revised draft, or final. The **Title Page** will also

bear an appropriate inscription indicating authorship, the name and organizational affiliation of the Principal Investigator, and that the report was prepared for the U.S. Army Corps of Engineers, New York District. The source of funds used to conduct the reported work, the title and number of the contract and work order, and the date (month, year) the report was submitted will also be inscribed.

2. If the report has been written by someone other than the contract Principal Investigator, the cover and title page of the publishable report must bear the author's name and organizational affiliation as well as the inscription "**Prepared Under the Supervision of (Name), Principal Investigator**". The Principal Investigator is required to sign the original copy of the report. In addition, the Principal Investigator must at least prepare a forward describing the overall research context of the report, the significance of the work, and any other related background circumstances relating to the manner in which the work was undertaken.

3. A **Management Summary** of the findings, conclusions and recommendations of the study, appearing in front of the report and suitable for publication as an abstract. This should consist of a brief, quotable summary useful for informing the technically-oriented professional public of what the author considers to be the contributions of the investigations. The summary will also include the project name, type, location [county(ies) and municipality(ies) involved], and size as well as the review authority. The location of the report copies should also be indicated. This will minimally be the files of U.S. Army Corps of Engineers, New York District, New Jersey State Historic Preservation Office, the New York State Office of Parks, Recreation and Historic Preservation, and the New York City Landmarks Preservation Commission.

4. A **Table of Contents**, including lists of all figures, plates, and tables presented in the report.

5. An **Introduction** stating the purpose of the cultural resources investigation and containing a general statement as to the type of evaluation conducted, regulatory authorities, and a summary of the findings and recommendations.

6. **Background Research** sufficient to assess potential eligibility and provide an historic context for wrecks. This section will include, but not be limited to the following elements:

a. A **Brief Description of the Environmental Setting**, relating specifically to historic or environmental factors affecting the location of submerged objects, such as military ordinance or shipwrecks, in the project area.

b. **A Critical Review of Documentary and Background Research**, including a brief summary of relevant historic events and sites in the project area vicinity and previous archaeological and historical research conducted in this area.

7. **Research Design**, which will include a description of the objectives and theoretical context, and any specific research questions. The Dive Plan will be referenced in this section.

8. **Methods**, which will make explicit the manner in which data were collected and analyzed and the identifications of any problems encountered during the investigations.

9. **Field Results** synthesizing all findings and the results of analyses. To the extent possible, the reasons for further investigation of a resource should be stated. If cultural resources are located which are not worthy of additional investigation to the National Register, then these reasons should also be stated.

10. **Recommendations** discussing the need for, or lack of need for, further cultural resources assessment, and the appropriate means of performing that assessment.

11. **Sources** section listing all references, citations, and consulted sources both within the text and within any appendices. This list must be in the format used by professional North American archaeological journals (i.e. *American Antiquity*). Primary sources, personal communications, and other pertinent sources shall be annotated.

12. **Appendices** consisting of the Dive Plan, Health and Safety Plan, the interim report, instrument logs, and relevant field records.

C. The draft and final reports shall comply with the following format requirements:

1. Page size and format. Each report shall be produced on 8 1/2 x 11 inch paper, single spaced, with double spacing between paragraphs.

2. All text pages, figures, tables, and appendices must be consecutively numbered.

3. The text print must be letter quality printed on archivally stable paper.

4. Graphic presentation format:

a. All pages, including graphic presentations, will be numbered sequentially. All figures, maps, tables, etc., will follow their reference in the text.

b. All tables shall have a number, title, appropriate explanatory notes and a source note.

c. All figures shall have a title block containing the name of the project, county, and state.

d. All maps shall display a north arrow, title, graphical scale, year of publication (and year of revision, if appropriate) and key, whenever applicable.

e. All graphic presentation, including maps, charts, and diagrams, shall be referred to as "Figures". All figures must be numbered and cited by number within the body of the text. All figures, etc., will follow their references within the text.

f. Graphic presentations will include, but not be limited to,

1. a portion of the appropriate U.S.G.S. quadrangle showing the limits of the project area; and

2. sketch drawings and photographs showing the visible targets as they appear.

5. **Photographs** will be glossy black and white prints, no smaller than 5 x 7 inches. Photographic illustrations should be securely mounted by use of an archivally stable mounting medium. They should be fully captioned on the reverse in case they should be removed from the report. Photographs should appear on the facing page of the subject they illustrate. Photographs should be counted as "Figures" in a single running series of illustrations.

VI. Project Schedule

A. The Contractor will contact the New York District upon official notice of work order award. The Contractor shall submit the dive plan to the New York District ten working days after the award of the work order is issued. Fieldwork will begin within ten working days of the Districts' approval of the dive plan. The Contractor shall furnish three copies of the interim report to the District ten working days after the completion of the underwater inspections. This report will briefly detail the results of this work and include an analysis of the feasibility of salvaging portions of SS16b.

B. Four copies of the draft report, complete with all necessary maps and figures shall be submitted 90 working days after the Contractor's receipt of the approval of the dive plan.

C. The draft report will be reviewed by the New York District, NJHPO, NYSOPRHP, and the NYCLPC. Comments from these agencies shall be returned to the Contractor, along with any comments pertinent to textual changes or deficiencies. Upon receipt of review comments from the New York District, the Contractor will have 30 working days to incorporate the comments into the final report.

D. The Contractor will submit (fifteen) 15 copies of the final report, including five copies, with original photographs (one copy with original photographs will be unbound), the photographic negatives and a list identifying each, a copy of all notes and data, and any reports provided by the New York District to the Contractor. If digital photography is employed, CD ROMs containing files of all images must be included in a pocket bound to three (3) copies of

the final report. CD ROMs containing files of all DRAWINGS must be included in a pocket bound to three (3) copies of the final report.

VII. Fiscal Arrangements

A. Partial payment of the total amount allocated will be dispersed upon the receipt and acceptance of invoices. Invoices will be submitted monthly and with the Dive Plan, the Interim Report and the Draft Report. The total amount of these invoices shall not total more than 90% of the agreed work order amount. The remaining 10% of the agreed work order amount shall be paid upon the receipt and approval of the final report, photographs, original figures, etc. and the receipt of the final invoice.

B. Payments will be made in accordance with the "Prompt Payment" section in the base contract.

C. Scheduled completion date for the work specified in this Scope of Work is 30 September, 2004.

VIII. Additional Work Order Requirements

A. Agencies, institutions, corporations, associations, or individuals will be considered qualified when they meet the minimum criteria given below. In addition to the cost proposal, vitae for the Principal Investigator and main supervisory personnel must be submitted in support of their academic and experiential qualifications for their intended positions, if they have not been included in the original contract proposal.

1. **Archaeological Project Director or Principal Investigator (PI).** For investigations required by this Scope, the Principal Investigator position must be filled by an archaeologist who specializes in underwater/nautical archaeology as defined below. Persons in charge of an archaeological project or research investigation contract, in addition to meeting the appropriate standards for archaeologist, must have a doctorate or an equivalent level of professional experience as evidenced by a publication record that demonstrates experience in project formulation, execution, and technical monograph reporting. Suitable professional references may also be made available to obtain estimates regarding the adequacy of prior work. If prior projects were of a sort not ordinarily resulting in a publishable report, a narrative should be included detailing the proposed project director's previous experience along with references suitable to obtain opinions regarding the adequacy of this earlier work. The Principal Investigator must have at least one (1) year supervisory experience in underwater archaeology.

2. Underwater/Nautical Archaeologists. In addition to meeting the formal qualifications for an underwater or nautical archaeologist specified here, individuals filling this position must also meet the qualifications for divers as defined below. The underwater/nautical archaeologist will have at least one (1) year of supervised experience in marine archaeology, including extensive underwater training. The individual must have a demonstrated knowledge and at least six (6) months experience in the methods, techniques, and use of equipment required for archaeological survey and data recovery at submerged shipwreck sites. The minimum formal qualifications for individuals practicing archaeology as a profession are a B.A. or B.S. degree from an accredited college or university, followed by 2 years of graduate study with a concentration in anthropology and specialization in archaeology during one of these programs, and at least two summer field schools or their equivalent under the supervision of an archaeologist of recognized competence; a Master's thesis or its equivalent in research and publications is highly recommended, as is the Ph.D. degree. Individuals lacking such formal qualifications may present evidence of a publication records and references from archaeologists who do meet these qualifications.

3. Standards for Consultants. Personnel hired or subcontracted for their special knowledge and expertise must carry academic and experiential qualifications in their own fields of competence. Such qualifications are to be documented by means of vitae attachments to the proposal or at a later time if the consultant has not been retained at the time of proposal.

4. Institutional or Corporation Qualifications. Any institution, organization, etc., obtaining the contract, and sponsoring the Principal Investigator meeting the previously given requirements, must also provide, or demonstrate access to the following capabilities:

a. Adequate field equipment necessary to conduct whatever operations are defined in this Scope.

b. Adequate facilities necessary for proper analysis and storage of records likely to be obtained from the project.

C. Principal Investigators shall be responsible for the validity of material presented in their reports. In the event of a controversy or court challenge, the Principal Investigators shall be required to testify on behalf of the Government in support of findings presented in their records. An equitable adjustment will be negotiated at that time, if warranted.

D. Neither the Contractor nor his representatives shall release any sketch, photograph, report, or other data, or material of any nature obtained or prepared under this contract without the specific written approval of the New York District prior to the time of final acceptance of the government.

E. The Contractor shall furnish all labor, transportation, instruments, diving equipment, boats and other associated materials to perform the work required by this Scope.

APPENDIX B: SALVAGE AND CONSERVATION PLAN FOR SS16B

September 30th, 2004

Ms. Lynn Rakos
Environmental Analysis Section
U.S. Army Corps of Engineers
New York District
Jacob K. Javits Federal Building
26 Federal Plaza
New York, New York 10278-0090

RE: Contract No. DACW51-01-D-0015, Delivery Order No. 0023
Recordation of Six (6) Vessels in Connection with the New York And New Jersey Harbor Navigation Study Upper and Lower Bay, Port of New York and New Jersey Staten Island, Richmond County, New York, and Elizabeth, Union County and Bayonne, Hudson County, New Jersey.

Dear Ms. Rakos:

The following summary discusses the feasibility of artifact and/or hull and machinery component recovery and conservation pursuant to vessel SS16B as part of the above-referenced project.

INTRODUCTION

From September 15th - 21st, 2004, Panamerican Consultants, Inc. (PCI) of Memphis, Tennessee conducted an underwater archaeological investigation of Shooter's Island vessel SS16B, as part of our response to the U.S. Army Corps of Engineers Scope of Work for the above-referenced project. This investigation was performed in accordance with Section 110 of the National Historic Preservation Act of 1966, as amended through 1992, and the Advisory Council on Historic Preservation Guidelines for the Protection of Cultural and Historic Properties (36 CFR Part 800). The purpose of this investigation was to record the extant remains of SS16B and to determine the feasibility of recovering and conserving portions of the machinery and framing. Vessel SS16B was determined during previous investigations (Lydecker and James 2002) to be a 70 foot long vessel of composite construction (wooden hull planking and iron framing) with a five-bladed propeller. Recommendations of the original 2002 study did not include further work for SS16B. However, during subsequent discussions with Mark Peckham of the New York SHPO, it was determined that SS16B represents a potentially significant vessel whose construction represents a transition between wooden and iron hull types. Also, it was suggested that the five-bladed propeller might represent a possible European influence on local shipbuilding, as that type of propeller is not common on locally built vessels.

PRELIMINARY STUDY RESULTS

The study examined the vessel in its entirety, evaluating both construction methods and general condition. Specific attention was paid initially to the existing machinery and the condition of the

hull and framing. The vessel has deteriorated considerably, and very little framing exists above the turn of the bilge. What little framing remains exposed is considerably concreted, and has deteriorated to the point where it is easily broken by hand (Figure 1). The same is true for the outer hull planking; what is exposed above the bottom is heavily damaged by marine borers (Figure 2). There is no exposed portion of the framing with hull planks attached that is intact enough to warrant recovery. It is possible that portions of the vessel that remain buried are in better condition, but it is not likely that the effort required to recover buried remains is justifiable given the historical value of the hull structure. The vessel's machinery was also examined. Very little remains of what was probably a steam powerplant, reduced basically to a portion of the drive shaft and the propeller. The propeller was examined, and determined to have four blades, not five as was originally determined. There are two reasons for the original misidentification. 1) The propeller was considerably more exposed during the 2004 investigation. In 2002, the aft end of the vessel was covered by a greater amount of debris than in 2004, and three blades were fully exposed in 2004 versus two blades in 2002. 2) The visibility was considerably greater in 2004, being at least three feet for most of the investigation. Visibility was near zero during the 2002 project. The condition of the propeller was also assessed, and it was found to be in less than desirable condition, with eight to twelve inches of two exposed blades broken off (Figure 3).



Figure 1. Video frame of deteriorated iron framing of SS16B.



Figure 2. Video frame showing deteriorated hull planking.



Figure 3. Video frame showing broken end of propeller.

While the structure of the vessel and machinery is less than ideal from a recovery and conservation standpoint, there are artifacts present which could be of interest to a local museum. Specifically, the project recovered three fire bricks (Figure 4) of interesting design which can be conserved with minimum expense. Preliminary discussions with the Haverstraw Brick Museum, in Haverstraw, New York, indicated that institution showed an interest in the bricks.

Three bricks were recovered from the wreck. Two are of the tongue and groove type and have LEMB-A-PAT'D pressed into the top (Figure 4), while the third is a standard 9 inch fire brick with MONARCH pressed into the top (Figure 4). It is possible that neither brick type is associated with SS16B, as the only place on the wreck that would have fire brick is the boiler base, and it is primarily constructed of iron and mortar. At least one other vessel nearby has a brick boiler base, although additional diving will be required to confirm that the bricks on either vessel are identical to these. No company has yet been associated with the first bricks, but according to Gurcke (1987:266), a Monarch brick was manufactured by the North American Refractories Company from 1930 to 1935. This date further suggests that the bricks are intrusive, as the late date seems to postdate this type of vessel. With that said, there were a large number of brick companies, and it is certainly possible that a common name like Monarch has been used more than once. For now, the origin of the bricks remains inconclusive.



Figure 4. Tongue and groove brick recovered from SS16B.

Given the condition of both machinery and hull, it is the opinion of the Principal Investigator that there are no sections of hull or pieces of machinery whose historical value justifies the expense of recovery and conservation. In all, taking both the condition of the wreck structure, and the recovered bricks, the maximum return on effort has been acquired through the complete recordation of the vessel accomplished during the project and no further recovery is recommended.

Once the vessel's condition was determined and the potential for artifact recovery had been assessed, recordation efforts began. A base line was laid, with BL 0:0 (Baseline 0' 0") at the stern and the bow at BL 71:6 (Baseline 71' 6"). A site plan was created, showing the locations of key remaining vessel features (Figure 5). Several interesting features were noted, including the aforementioned drive shaft and propeller, along with the mounting base for the engine, the fire resistant base for the boiler, several athwartships bulkheads, and several fuel and/or water bunkers. Also noted were additional details on the composite construction. It was determined that the keelson and ceiling planks were of wood, and the hull was double planked, making the actual frames the only apparent portion of the hull constructed of iron.

Among the remaining vessel components was the drive shaft and propeller. Beginning at the stern and extending to 16:2 on the baseline, the shaft is eight inches in diameter and appears to be cut at the forward end. Several shaft bearings and pieces of support structure are extant at BL 6:0 and 7:0, while at BL 14:6 is a heavily concreted object which is probably the thrust block.

Beginning at BL 18:11 and ending at BL 22:0 is what appears to be the bed plate for a steam engine. While nothing else remains of the engine, which was likely salvaged, the base consists of a rectangular iron box measuring 6' 4" wide, 3' 1" long, and one foot tall, with sides measuring six inches thick (Figure 6). Midships and in line with the drive shaft are two round bottom grooves of a similar inner diameter to the drive shaft. These likely represent the bearing seats of the engine's crankshaft. Given the size and shape of the bed plate, it is likely that the engine was a single cylinder upright marine of the type discussed by Hawkins (1904:400). Such an engine was used in small pleasure craft and harbor tugs due to its greater economy and smaller floor space.

Several items lead to the conclusion regarding the size and type of the engine. The size of the bed plate, with its inner chamber being roughly a foot wide, contains room for a crank with only one journal. Also, the boiler is large in size compared to the engine, but according to Hawkins, single cylinder upright marine engines of the type used in this boat require more steam than a compound engine of similar horsepower (1904:400):

"These engines require very little floor space in the boat, but on account of their greater steam consumption, need a larger boiler than compound engines." (Hawkins 1904:400)

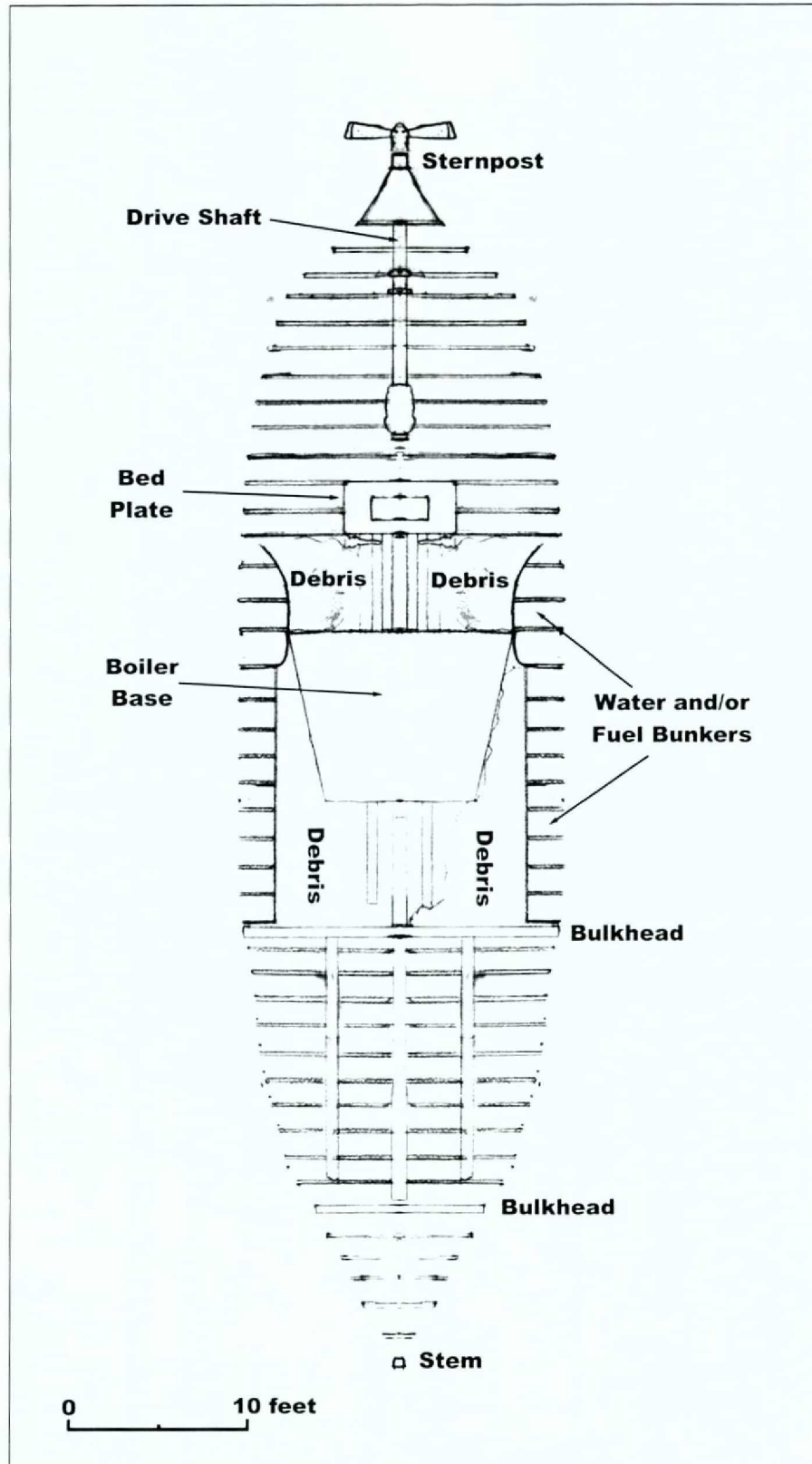


Figure 5. Preliminary site plan of SS16B



Figure 6. Video frame of starboard side of engine bed plate.

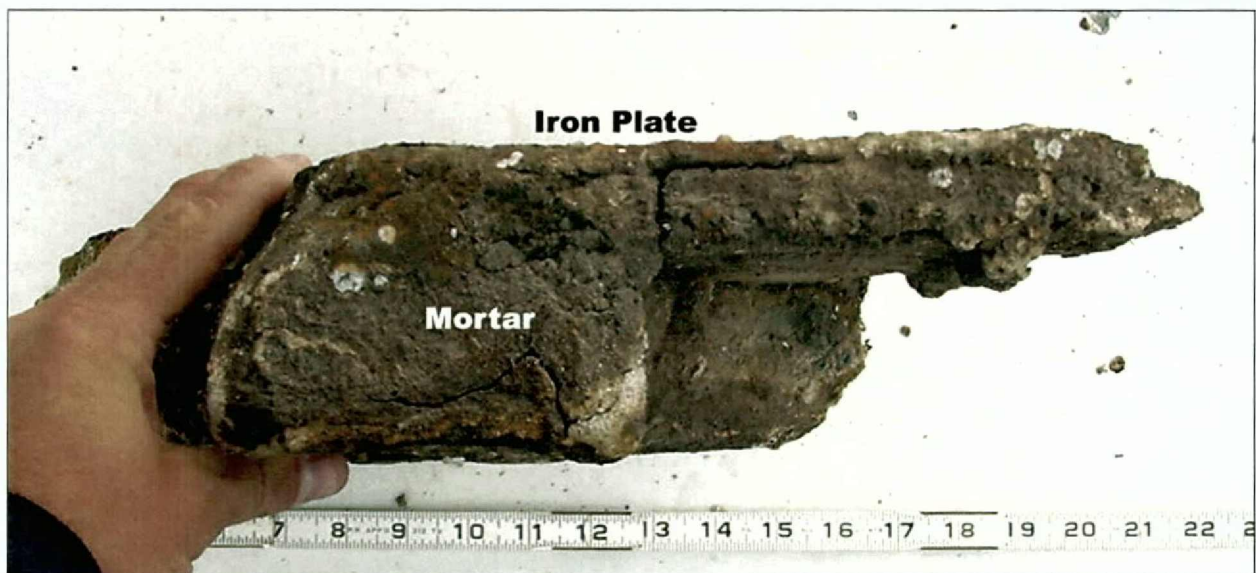


Figure 7. Section of boiler base showing top iron plate and mortar or concrete composition. Void on right side of section contained a brick.

The case for the engine being a single cylinder vertical engine is further strengthened:

"In small pleasure boats and small harbor tugs, which have to stop and start at short intervals, there is not much advantage to using a compound engine, as many times live steam has to be admitted to the low pressure cylinder in starting, which decreases their economy, and the single engine...would be most desirable, their first cost being much lower than the compound, and they are of extreme simplicity" (Hawkins 1904:400)

The use of such engines in harbor tugs and other small harbor craft is well documented. The 19th century wooden hulled tug boat documented at Hutchinson Island in Savannah, Georgia in 1992 is an example (Watts 1992). Examination of the site plan of this 77-foot-long vessel (Figure 8) shows a very similar layout to that of SS16B, including the size and placement of the boiler base, steam engine, thrust block, and shaft bearings. Also, description of the remaining steam engine (Figure 9) indicated a striking similarity to that of SS16B. An important difference was noted in the placement of the condenser and air pump cylinder and lever, which were mounted on the port side of the Hutchinson Island vessel. While the condenser and air pump cylinder are absent from SS16B, the remains of what appear to be the pivot for the air pump and other control levers are present on the forward side of the bed plate. The difference between the two vessels can easily be accounted for by a difference in steam engine design.

Forward of the engine bed plate and stretching between BL 28:0 and 38:0, is the base that supported the boiler. It consists of a large flat iron plate mounted atop a composite brick and concrete structure (Figure 7), the whole of which is supported by a wooden frame.

Immediately outboard of the boiler base on each side of the vessel is what appears to be a series of fuel or water bunkers. Heavily deteriorated, they stretch from BL 22:0 to BL 45:3 and are approximately 2 feet wide at ceiling plank level. The inner bulkhead is vertical, and the outer bulkhead is formed by the outer hull. The entire bunker area apparently was divided into three sections, as the remains of two inner bulkheads were noted at BL 36:0 and BL 30:0. The aft compartment of the bunker appears to be a separate entity, as it is wider and the inner bulkhead has a different shape than the forward bunker. The forward bunker corresponds in location to the side coal bunkers illustrated in Paasch (Plate 44), (Figure 10). Its location also makes sense from a functional standpoint, as coal would have been added to the forward end of the boiler. The aft bunker, being different in construction and location is likely a tank holding water for the boiler although no plumbing or other evidence exists to indicate such.

Forward of the boiler base, between BL 28:0 and BL 45:6, is an area of partially exposed keelson and ceiling. The keelson measures 0:8 sided while the molded dimension is unknown, but likely the same. The ceiling planks are 0:5 to 0:6 sided and probably 0:3 molded, although this was not directly confirmed. Ceiling planks are exposed approximately 3:0 to either side of the keelson, where they become covered with gravel and debris.

The remains of two athwartships bulkheads were recorded at BL 46:0 and BL 62:6. Both bulkheads have similar construction of wood timber fastened to the iron framing (Figure 11). remains of both extend only 8-12 inches up from the floors.

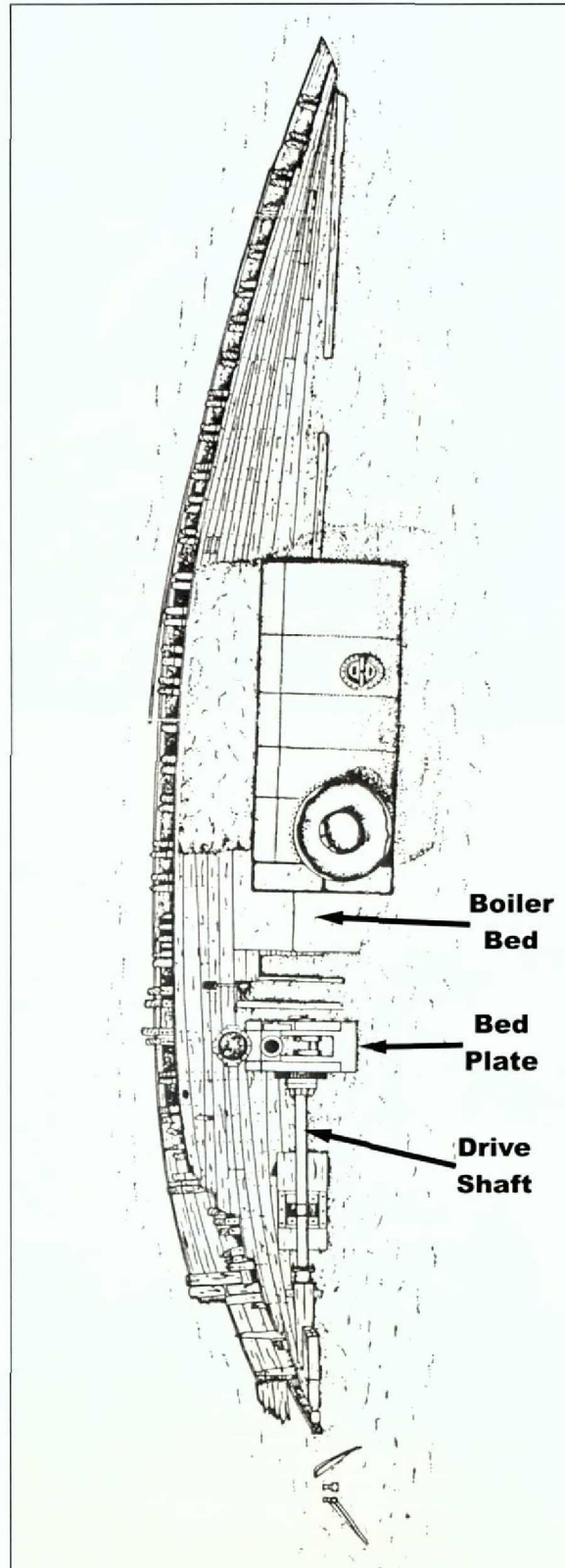


Figure 8. Site plan of Hutchinson Island tug wreck
(as presented in Watts 1992)

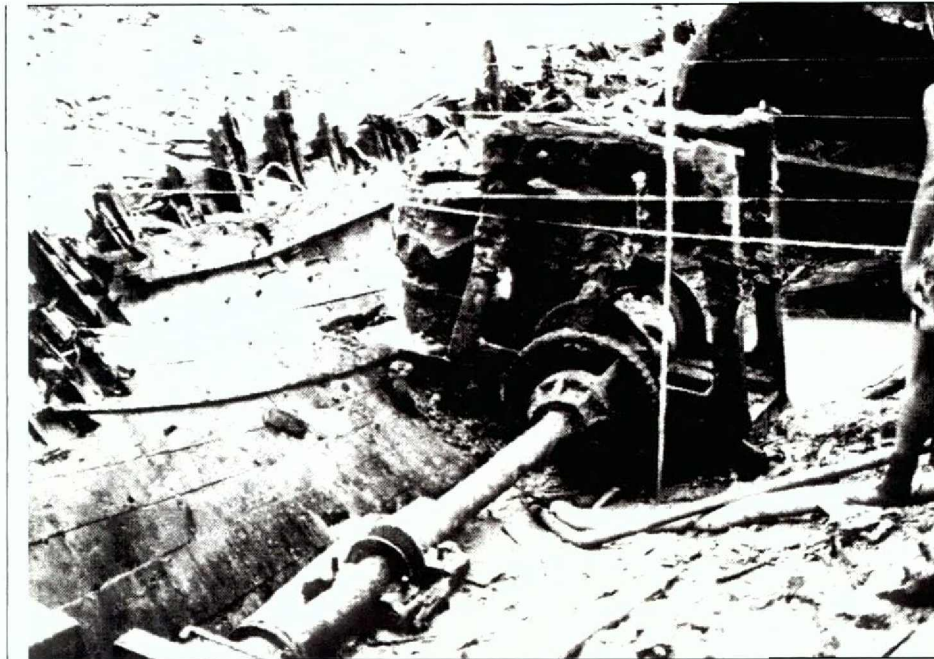


Figure 9. Boiler and bed plate on Hutchinson Island tug wreck (as presented in Watts 1992).

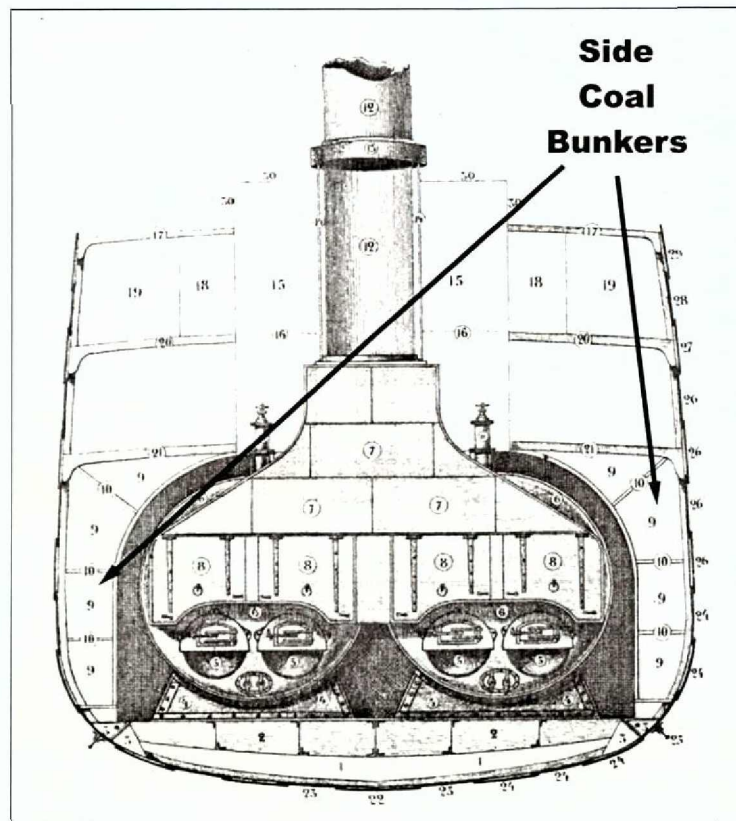


Figure 10. Illustration showing side coal bunkers on typical steamship (after Paasch 1890:Plate 44)



Figure 11. Video frame showing construction of athwartships bulkheads.

The stem consists of a wooden timber of 8 inch sided and 8 inch molded dimensions, and extends to approximately three feet off the bottom.

As previously mentioned, outer hull planking is highly deteriorated, with very little being both in good shape and attached to the framing. Much of the intact hull planking is at the bow and stern of the vessel, and has parted from the vessel frames and is either lying on the bottom next to the vessel or is attached on one or two frames only. Enough is extant for some basic observations to be taken, including scantlings. The hull appears to be truly double planked as opposed to initially single planked with sacrificial planking or repairs added later. Although highly eroded, scantlings appear to be 8 inches sided and 3 inches molded, while the outer planking is 8 inches sided and 2 1/2 inches molded.

Interesting details of the framing construction were noted. Initially thought to consist of I-beams, the frames were discovered to consist of a combination of sheet and angle iron fastened with rivets. Such construction is illustrated by Paasch (1890:Plate 38, Plate 29)(Figure 12), with the only difference being the use of a wooden keelson in place of the iron keelsons shown in the illustration. In addition to the framing shown in Paasch Plate 38, framing exposed at the stern of SS16B revealed side girders like those shown in Paasch Plate 29 (Figure 13). Both the side girders and the frames followed the Z-bar pattern (Paasch Plate 29-Z, Figure 13). Two-inch rivets were used to fasten the framing components. One important difference between the Paasch illustrations and SS16B is the existence of an additional longitudinal stringer placed across the frames directly above the side girder. This stringer was of composite wood and

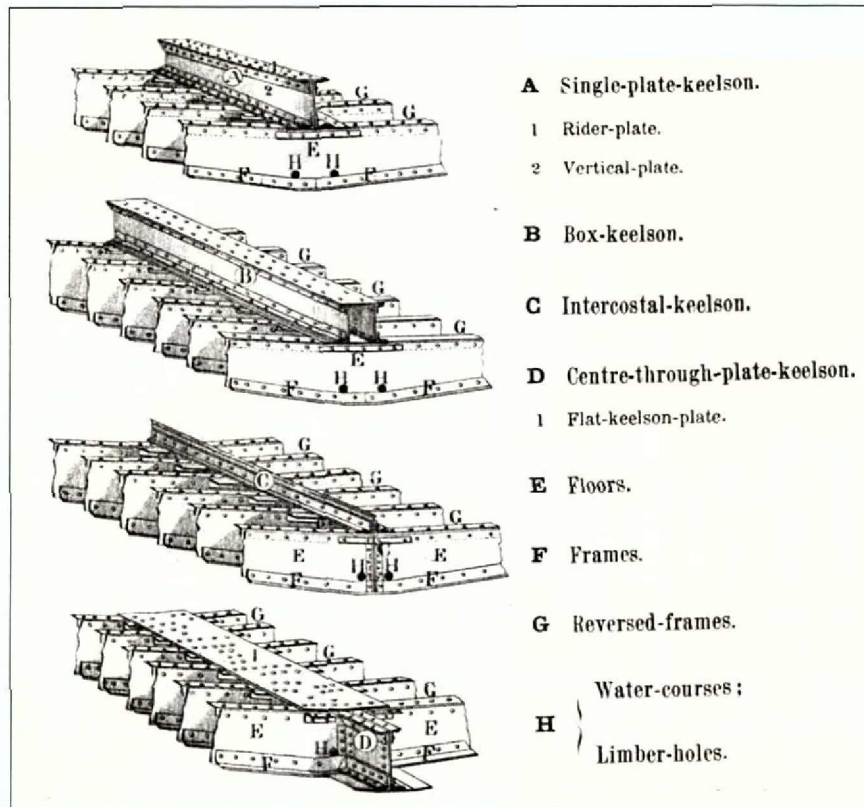


Figure 12. Illustration showing frame construction present in SS16B (after Paasch 1890 Plate 38)

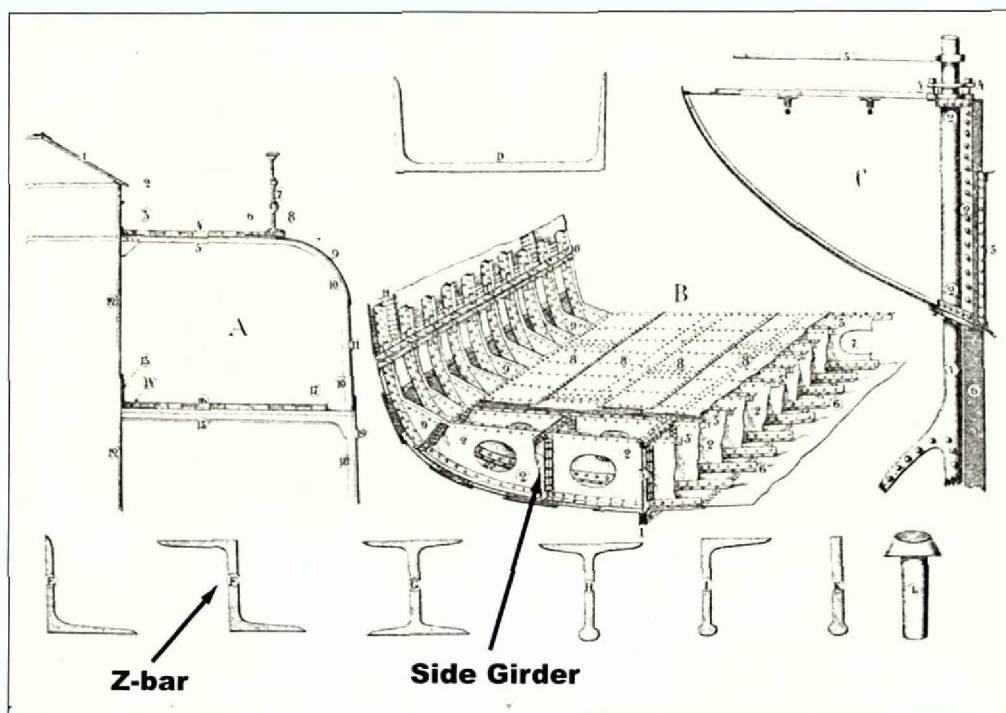


Figure 13. Illustration showing side girder framing and Z-bar like that found on SS16B (after Paasch 1890 Plate 29)

concrete construction, consisting of two 8 inch molded and 6 inch sided timbers with two inches of concrete sandwiched between. This stringer ran from BL 3:8 to BL 15:0 where it disappeared under debris. A similar stringer was noted on the starboard side.

Evidence of repairs to the fabric of the vessel in the form of a number of lead patches was also noted. These patches averaged 2 feet by 6-12 inches and were fastened to the inner side of the outer hull planking with fasteners of undetermined material. Many of the fasteners were missing or had been removed.

While considerable work has been completed on vessel SS16B, there is still data that need to be collected, including a number of cross sections as well as a profile of the wreck site. Also, the origin of the bricks discovered on the wreck needs to be further investigated. These will be accomplished as fieldwork progresses.

With regard to the recovery of hull sections and/or machinery components, it is the opinion of the Principal Investigator that, given the deteriorated condition of the hull and machinery, the historical value of the salvaged components would not justify the expense of recovery and conservation. Further archival research regarding composite construction tugs in general and this vessel in particular, as well as documentation of the extant remains of the vessel will serve to obtain the greatest amount of historical information for the time spent.

Sincerely,

Andrew D. W. Lydecker

cc: Steven R. James, Jr., Underwater Projects Manager
Dennis Petrocelli

APPENDIX C: MEMORANDUM OF AGREEMENT

**STANDARD MITIGATION AGREEMENT
AMONG
THE U. S. ARMY CORPS OF ENGINEERS, NEW YORK DISTRICT,
THE NEW JERSEY STATE HISTORIC PRESERVATION OFFICER
AND
THE NEW YORK STATE HISTORIC PRESERVATION OFFICER
REGARDING
SIX HISTORIC VESSELS
NEW YORK AND NEW JERSEY HARBOR NAVIGATION PROJECT
RICHMOND COUNTY, NEW YORK AND UNION COUNTY, NEW JERSEY**

WHEREAS, a Programmatic Agreement (PA) was executed on 12 April 2000 among the United States Army Corps of Engineers, New York District (New York District), the New Jersey State Historic Preservation Officer (NJSHPO) and the New York State Historic Preservation Officer (NYSHPO) for the New York and New Jersey Harbor Navigation Study (Study) and an amendment to the PA was executed on 21 April 2003 which now defines the study as the New York and New Jersey Harbor Navigation Project (Project); and

WHEREAS, the New York District has identified six (6) historic wrecks eligible for the National Register of Historic Places (NRHP) (Vessel KVK 33, KVK 36, KVK37, KVK38 and Shooters Island V2 and SS16b); within the Area of Potential Effects (APE) through investigations conducted under the Stipulation I (A) of the original PA; and

WHEREAS, Vessels KVK 33, KVK 36, KVK 37 and KVK 38 are on the Staten Island shoreline in New York State and Shooters Island Vessel SS16b is located just within the state line of New York State; and Shooters Island Vessel 2 is located just within the state line of New Jersey; and

WHEREAS, the New York District cannot re-design the Project to avoid the historic resources; and

WHEREAS, all parties have determined that additional measures shall be carried out;

NOW, THEREFORE, the New York District, the NJSHPO, and the NYSHPO agree that the undertaking shall be administered in accordance with the following stipulations to satisfy the New York District's responsibilities under Section 106 of the National Historic Preservation Act of 1966, as amended.

STIPULATIONS

I. The New York District shall ensure that the mitigation for the impact to these six historic vessels is undertaken as follows:

a. KVK Vessel 33. Menhaden Fishing Trawler. Accessible only by water and best at low tide, it is recommended that Vessel 33 receive complete recordation. Architectural documentation should include the profile, the plan view of the deck, and the longitudinal cross section of the vessel, all of which can be obtained during low tide by non-diving personnel. Diving aspects of the recordation should include recordation of the stern, including rudder and propulsion, and the bow. Photo documentation in the form of 35 mm and video should also be undertaken. Archival research specific to Vessel 33 should also be included.

b. KVK Vessel 36. Wooden Hydraulic Dredge. Accessible only by water and best at low tide, it is recommended that Vessel 36 receive partial recordation. Architectural documentation should include recordation of basic dimensions. Photo documentation in the form of 35 mm and video. Archival research specific to Vessel 36 should also be included.

c. KVK Vessel 37. *Paul E. Thurlow*. Four-Masted Schooner. Accessible only by water and best at low tide, it is recommended that Vessel 37 receive complete recordation. Architectural documentation should include a plan view of the hull outline, deck stanchions, and holds. Diving aspects of the recordation should include recordation of the stern, including rudder, and the bow. Photo documentation in the form of 35 mm and video should also be undertaken. Archival research specific to Vessel 37 should also be included.

d. KVK Vessel 38. Floating Drydock. Accessible only by water and best at low tide, it is recommended that Vessel 38 receive complete recordation. Architectural documentation should include major dimensions, a plan view of the remaining hull, deck stanchions, bulkheads, framing, and the location of any remaining machinery. Since most of the original deck planking is no longer in place, thus allowing access to the internal structure of the pontoon, at least one cross section including internal strengthening of the pontoon should be included. Photo documentation in the form of 35 mm and video should also be undertaken. Archival research specific to Vessel 38 should also be included.

e. Shooters Island Vessel 2. Floating Drydock. Accessible only by water, it is recommended that Vessel 2 receive complete recordation. Architectural documentation should include the profile, the plan view of the deck, and longitudinal cross sections of the vessel along both the centerline and through at least one of the wings. Also, at least one cross section should be obtained including both wings and the location of internal bracing, and remaining machinery, if safe access is possible. Most of the above documentation should be obtainable by non-diving personnel. Photo documentation in the form of 35 mm and video should also be undertaken. Archival research specific to Vessel 2 should also be included.

f. Shooters Island Vessel SS16b: Unidentified Type; Composite Construction. Accessible only by water, it is recommended that Vessel SS16b should receive archival research and be fully recorded. Photo documentation in the form of 35 mm and video should also be undertaken.

II. Public access to the information generated from this project is desired and as such the report generated through the recordation described in Stipulation I shall be distributed to local repositories. A list of up to 10 appropriate repositories will be generated by the New York District and will be provided to the NY and NJ SHPO for review and approval. The New York District shall distribute this document to the repositories on the approved list.

III. Should research and field investigations undertaken as per Stipulation I conclude that Shooters Island Vessel SS16b in fact represents a unique and innovative technology as suggested by evidence so far, the Corps will undertake an effort to identify a repository interested in curating selected portions of the vessel, if found to be salvageable through further field investigations. This effort will include contacting up to 10 appropriate institutions. A list of such institutions will be generated by the Corps and submitted to the NY and NJ SHPO for review and approval. If an institution willing to accession such item(s) is found, the Corps will salvage and conserve up to two diagnostic artifacts such as the propeller and possibly a section of the frame with attached wood planking and provide them to the institution for their collection.

IV. The New York District shall ensure that qualified professionals meeting the National Park Service professional qualifications for the appropriate discipline [National Park Service Professional Qualification Standards, Secretary of the Interior's Standards and Guidelines for Archaeology and Historic Preservation (48 FR 44738-39)] are used to complete this work.

V. TERMINATION

Any signatory to this Standard Mitigation Agreement may terminate it by providing thirty days notice to the other parties, provided that the parties will consult during the period prior to termination by certified mail to seek agreement on amendments or other actions that would avoid termination. In the event of termination, the New York District will comply with 36 CFR Parts 800.4 through 800.6 with regard to individual undertakings covered by this Agreement.

VI. SUNSET CLAUSE.

This SMA will continue in full force and effect until the construction of the Project is complete and all terms of this SMA are met, unless the Project is terminated or authorization is rescinded.

Execution and implementation of this SMA evidences that the New York District has *satisfied* its Section 106 responsibilities for all individual Project undertakings stipulated in this agreement, and that the New York District has afforded the Council and the SHPO an opportunity to comment on the undertaking and its effects on historic properties.

NEW JERSEY STATE HISTORIC PRESERVATION OFFICE

By: _____ Date: _____
Dorothy P. Guzzo, Deputy State Historic Preservation Officer

NEW YORK STATE HISTORIC PRESERVATION OFFICE

By: _____ Date: _____
Bernadette Castro, Deputy Commissioner for Historic Preservation

U.S. ARMY CORPS OF ENGINEERS

By: _____ Date: _____
John B. O'Dowd
Colonel, Corps of Engineers
District Engineer

APPENDIX D: DIVE LOGS AND FIELD NOTES

6 VESSELS/24242-MAR

SS16B

Panamerican Consultants

P.O. Box 050623

Tuscaloosa, Al. 35405

Project 6 WBS

Location Shantis SS163

Vessel Smith-McKee

Dive # 1

Date 9/15/2004

DIVE LOG

DIVER D.F.

STANDBY DIVER Rhodes

Dives in 12 Hr. Period 1

PURPOSE assess current condition of SS163

ENVIRONMENTAL CONDITIONS:

Current SW

Visibility 0

Temperature 73

Bottom Type silt/clay

Other

MODE AND EQUIPMENT:

Tank type T

OTHER DIVERS DOWN:

TENDER Elliott

LEAVE SURFACE 12:48

RISE SURFACE 2:23

TOTAL TIME 1:35

MAXIMUM DEPTH 20'

MAXIMUM PLANNED TIME AND DEPTH

TANK PRESSURE START 2500

TANK PRESSURE RETURN 1

TOTAL AIR USED

TIMEKEEPER Lydecker

ONE-HOUR CHECKBACK OK

WORK ACCOMPLISHED AND REMARKS:

- found wreck beam in - diver on stern

- corral blades - missing 4 blades

- 2 broken blades

heavily encrusted, but solid

- keel exposed

- rudder not intact - pieces on bottom possibly parts of rudder

- nothing clearly identifiable as rudder

- possible skag

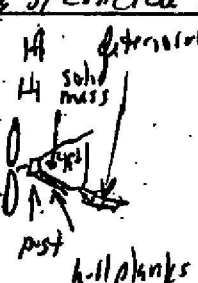
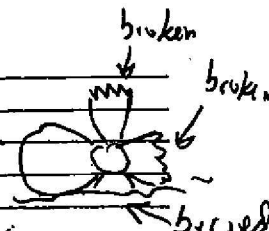
- possible stern post is wood

- hull planks deteriorated - next to stern post is better

- deteriorated hull planks on bottom

- only 2 courses of hull plank on bottom

- solid mass of concrete filling partly end of stern to 9' 8" - drive shaft goes through concrete and face of concrete is iron plate



Panamerican Consultants

P.O. Box 050623 Tuscaloosa, Al. 35405

Project 615505
Location P-55/66
Vessel SSA-4000

Dive # 2
Date 9/16/70

DIVE LOG

DIVER Elliott STANDBY DIVER Rhodes
Dives in 12 Hr. Period 1 PURPOSE leg baseline, take measurements

ENVIRONMENTAL CONDITIONS:

Current 1 kt
Visibility 0
Temperature 23°
Bottom Type soft mud
Other _____

MODE AND EQUIPMENT:

SSA
Tank type T 320 ft²

TENDER Diff
LEAVE SURFACE 9:38
RISE SURFACE 11:01
TOTAL TIME 1:23
MAXIMUM DEPTH 8'

OTHER DIVERS DOWN:

N/A

MAXIMUM PLANNED TIME AND DEPTH 2 hr / 10 ft
TANK PRESSURE START 1300 TANK PRESSURE RETURN 600
TOTAL AIR USED 700

TIMEKEEPER Lydick ONE-HOUR CHECKBACK OK

WORK ACCOMPLISHED AND REMARKS:

See attached sheet

Grasse 9/16/2004
Dive 2

1300 psi in
600 psi out
9:38 in
11:01 out

Diver - Elliott
Tender - Duff
Safety - Rhodes
Timekeeper - Lydell

~~objective~~

- video if possible
- place base line

Dive in, heading to wreck. Placing baseline to stern post. Check weight belt
placed B/L ~~bow~~ Stern stem to bow. Boat approx 70' long

Brick swap
Oct 18th

LEMB-A-PAT

Brick
Horse + 5000

Emiline

Left with
my Se
For Por O

Wed -
Sat -
Sun -

Paul

732 928 4519

Nancy Brighton

212-264-2198

Sat 10th

Navaltron Brick Museum
12 Main St.
845 947 3505

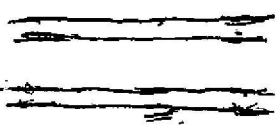
Pat Gordon

10 ft

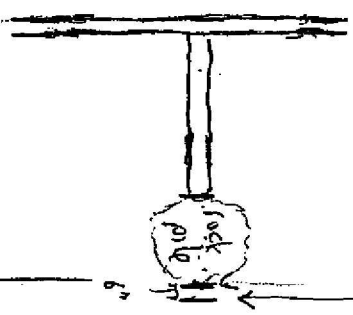
9/16/2004
 R. L. Decker
 ME/1107 - DNR

turns for
 concrete bed

broken
 end of shaft (8" diameter)



jumbled
 iron



iron
 wood

71.6
 72' side of stem

57:0 62:3

11:1 11:1 11:1 11:1 11:1
 6:4 7:3 13:0 15:0 16:2 18:3 21:22
 15:22 1
 18:11
 3:2

left
 8'

39 45:6

broken
 8" wide

Panamerican Consultants

P.O. Box 050623

Tuscaloosa, Al. 35405

Project 6 vessels
Location SS 16 B
Vessel Southern Yankee

Dive # 3
Date 9/16/04

DIVE LOG

DIVER Ludwick STANDBY DIVER Rhodes
Dives in 12 Hr. Period 0 PURPOSE off set measurements

ENVIRONMENTAL CONDITIONS:

Current < 1/4
Visibility 3 ft
Temperature 73°
Bottom Type silt / debris
Other _____

MODE AND EQUIPMENT:

SSA

Tank type 7 - 320 PSI

TENDER DLF
LEAVE SURFACE 12:00
RISE SURFACE 2:00
TOTAL TIME 2:00
MAXIMUM DEPTH 8'

OTHER DIVERS DOWN:

N/A

MAXIMUM PLANNED TIME AND DEPTH 2 hrs / 110 ft
TANK PRESSURE START 600 TANK PRESSURE RETURN 1950 hrs 110 ft
TOTAL AIR USED 1150

TIMEKEEPER Elliott ONE-HOUR CHECKBACK OK

WORK ACCOMPLISHED AND REMARKS:

see attached sheets

Date 9/16/04
Dive 3

6 vessels

Diver - Lidecker
Tender - Duff
Safety - Rhodes
Timekeeper - Elliott

Objective - measure offsets / possible video

600 PSI start switched @ 300 PSI @ 1235pm New Bottle 2500 PSI
PSI finish ~~1950~~ PSI Bottle 2

Time in - 12:00

Time out - 2:05

38ft - wood framing Brick & B.R.C.L

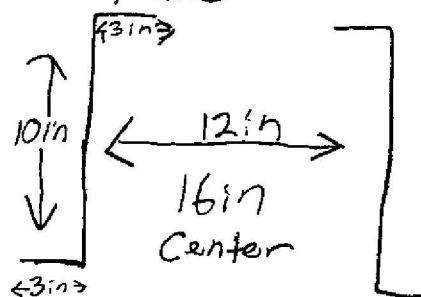
68ft - 2x4 in to frame
66ft 6in - 2x4 in to outer Hull
64ft 4in - 4x4 in frame to outer Hull
62ft 5in - 6ft to outer Hull
62ft 5in - Forward Bulkhead transverse
60ft - 6ft 7in to outer Hull
55ft - 8ft 3in to outer Hull
45ft 6in - 9ft 3in to outer Hull
45ft 6in - Edge of Bulkhead
38ft - stringer makes 90° turn to port
38ft - Edge of B.P. to outer Hull
38ft - 4ft 5in port Edge of B.P.
38ft - Fore Edge of Boiler Plate
27ft 10in 3x4 in stringer to outer Hull
27ft 10in 6ft 2in to Long stringer
27ft 10in - start of Boiler plate
21ft 10in - End of Iron Box
22ft 9in - 4th port ship's timber
21ft 8in - 9ft 2in outer hull offset
21ft 9in - 3ft 2in outboard Edge of Box
21ft - 1ft 7in
19ft 9in - 1ft 7in inboard side of Hole
19ft - 3ft 2in outboard Edge of Box
16ft 10in - frame 9ft 1in TOB
9ft 11in - 2ft 10in stringer TOB
9ft 11in - frame 4ft 5in stringer
7ft 7in - Long stringer turn of B.P. 2x6 in
7ft 7in - Frame longitudinal 4ft 2in
6ft 2in - Longitudinal from 3ft 2in
6ft 2in - frame - 5ft 9in turn of B.P.
4ft 7in - 4ft Hull planking
4ft 7in - frame
3ft 1in - frame
3ft - 2ft 7in Hull planking
Baseline -

TOB - Turn of B.P.
BP = Boiler plate

60ft
→ outer Hull planking 3in &
2nd outer later 2 1/2 thick

★ Double Later outer
Hull planking

★ ROOM & SPACE
- 3x4 in -
Frame



Frame count

43 @ 68ft 4in

39 @ forward transverse Bulk Head

1-26 uniform H spread 16in centers

1-3ft 11in -

Frames

5

Panamerican Consultants

P.O. Box 050623

Tuscaloosa, Al. 35405

Project 6 W. 1st

Location 5316 B

Vessel Southern Tankers

Dive # 4

Date 9/20/2004

DIVE LOG

DIVER DAF

STANDBY DIVER Elliot

Dives in 12 Hr. Period 1

PURPOSE Examine scum

ENVIRONMENTAL CONDITIONS:

Current 21 kt

Visibility 7 ft

Temperature 73

Bottom Type 30215. H 2015

Other _____

MODE AND EQUIPMENT:

SSA

Tank type T

TENDER Boat

OTHER DIVERS DOWN:

LEAVE SURFACE 956

RISE SURFACE 12:44

TOTAL TIME 2:48

MAXIMUM DEPTH 8'

MAXIMUM PLANNED TIME AND DEPTH 2h13 / 8 ft

TANK PRESSURE START 2350 TANK PRESSURE RETURN 1000

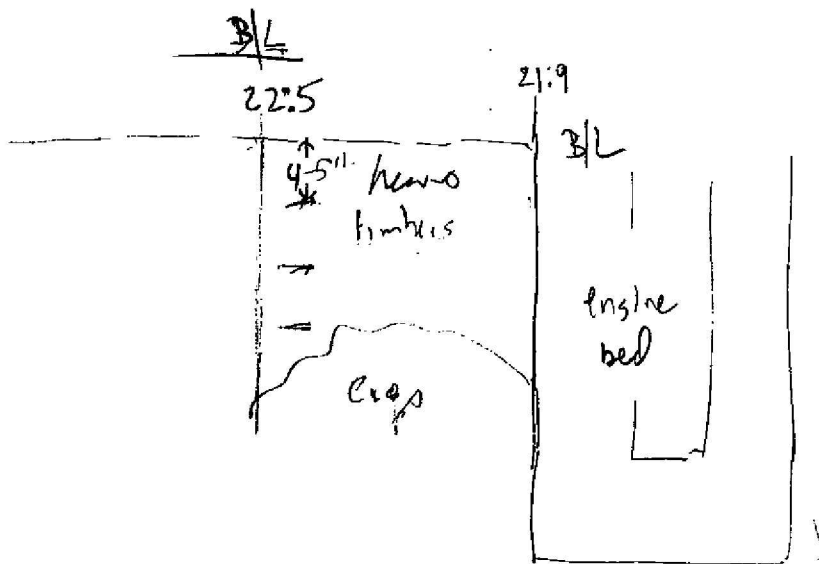
TOTAL AIR USED 1350

TIMEKEEPER L. J. J. J. ONE-HOUR CHECKBACK OK

WORK ACCOMPLISHED AND REMARKS:

Examine scum

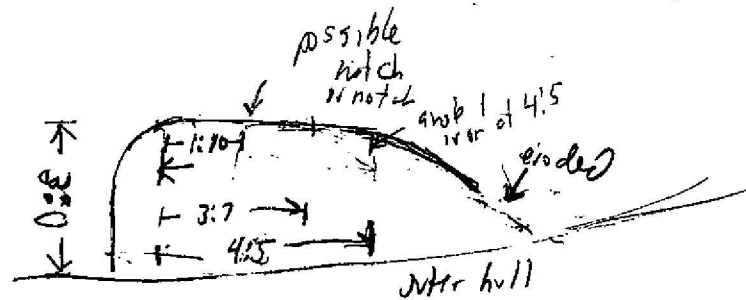
b.ick @ 28th



engine bed sitting on heavy
timber base

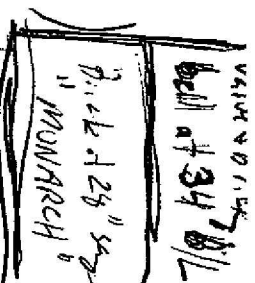
23.0

bulwark
plate



value 0.15
cell at 34 b/l

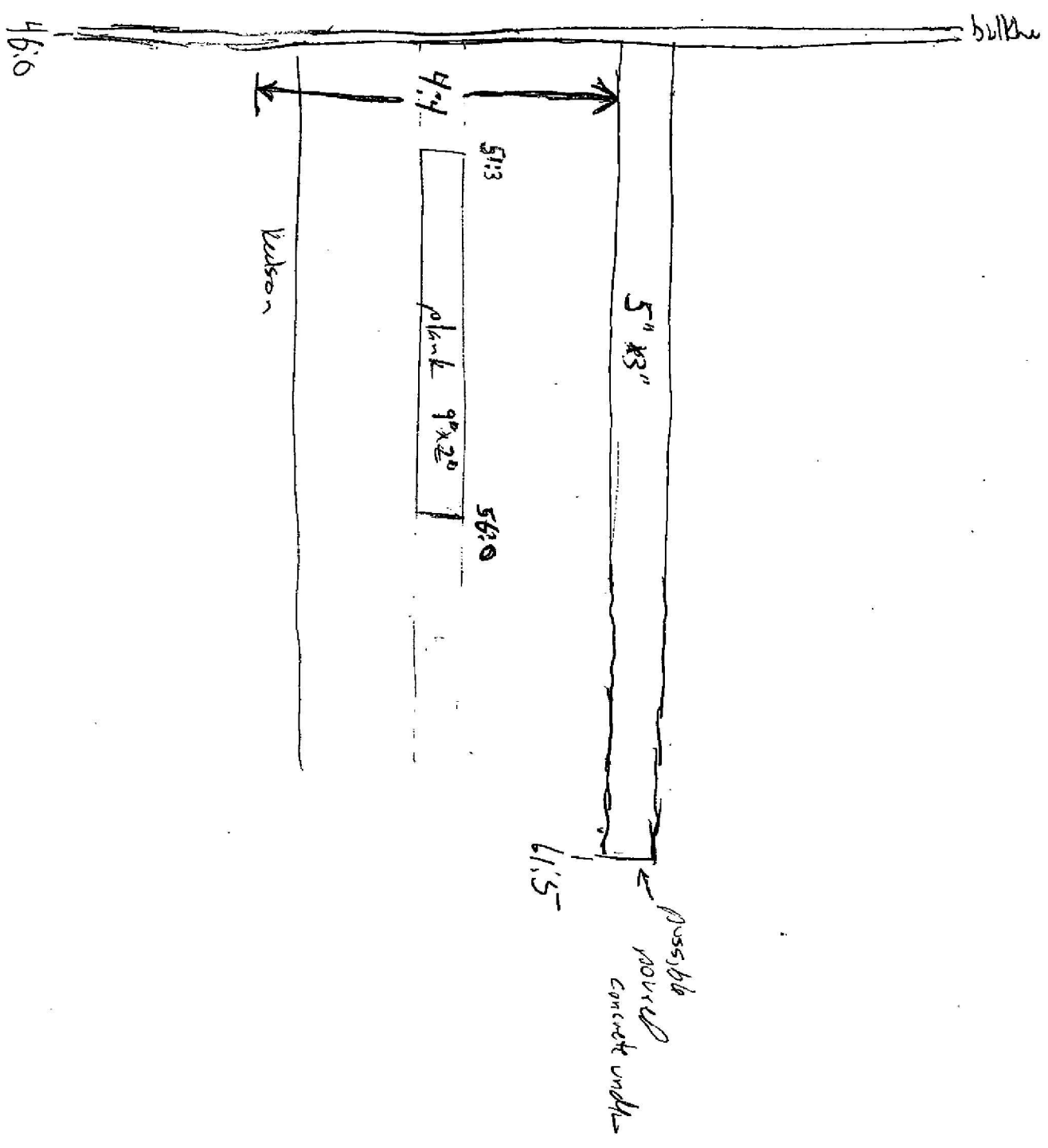
March 28th 1900
"MONARCH"



↑ continues until
but we're against
off continents
(13:10 to 14:15)

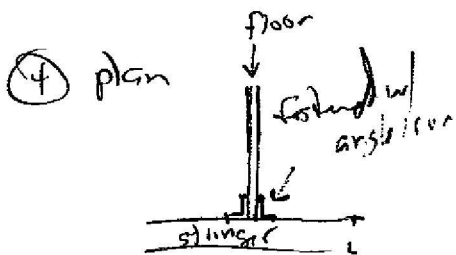
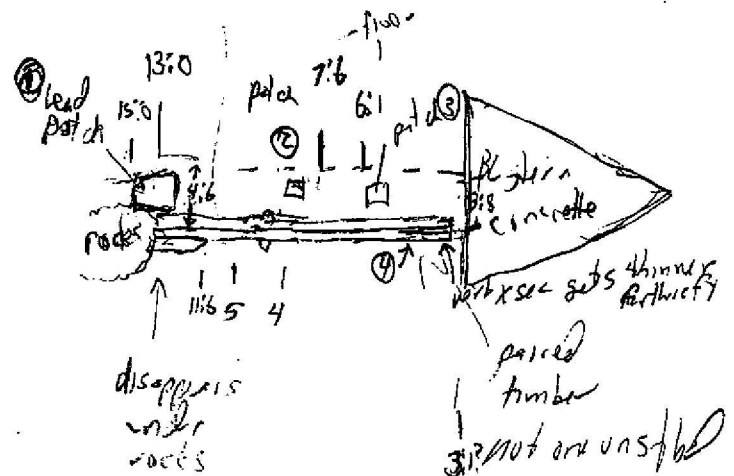
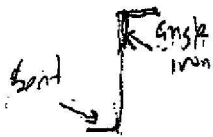


Spoon under 8/2 at 4513

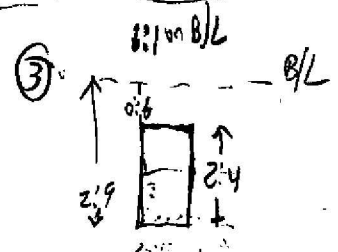
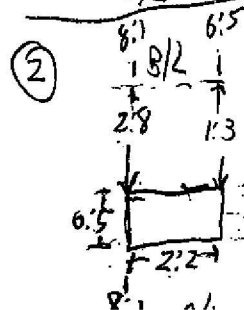
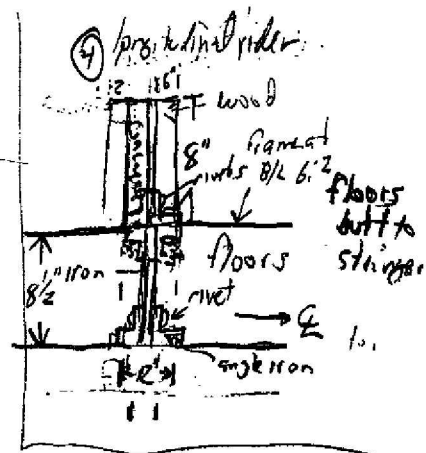
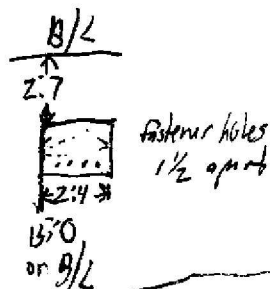
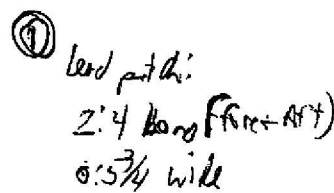


alt stinger det.!

video / frame construction



- top stringer is composite of angle iron, iron plate in center, wood in back & concrete in front
- all angle iron appears to be 3"
- framing is riveted



Panamerican Consultants

P.O. Box 050623 Tuscaloosa, Al. 35405

Project 6445 Sch
Location * SS/6B
Vessel S. H. in Yankee

Dive # 5
Date _____

DIVE LOG

DIVER Faugh STANDBY DIVER Elliff
Dives in 12 Hr. Period _____ PURPOSE ndw, 1st examine wreck

ENVIRONMENTAL CONDITIONS:

Current 4/kb
Visibility 2 ft
Temperature 72.0
Bottom Type SS/lt shales
Other _____

MODE AND EQUIPMENT:

SSA
Tank type 7

TENDER Rhodes
LEAVE SURFACE 9:29
RISE SURFACE 10:52
TOTAL TIME 1:31
MAXIMUM DEPTH 8'

OTHER DIVERS DOWN:
N/A

MAXIMUM PLANNED TIME AND DEPTH
TANK PRESSURE START 950/1900 TANK PRESSURE RETURN 260/1400
TOTAL AIR USED 1200

TIMEKEEPER Cydrick ONE-HOUR CHECKBACK _____

WORK ACCOMPLISHED AND REMARKS:

examine wreck
redress artifacts
values of strings & post bulkhead/bulkheads tanks
return baseline

Find along
back

8 2

七、八

6:8 E

4 13:1

5 17.5
18.10

6 732

7 27.5

4:18 8

12

6:38:14

5:14 a

5.66 11

13 50.6
2 41.3

13451:112

14 56:37

15 60.12
16 64.11

7-11-12 21

9:59 P M
K-0000

18 72:7 $\frac{1}{2}$ z

75,10%

12.20 12
1.08 07

228622
250817

2390.5 1/2

25:16 57
0'44'67

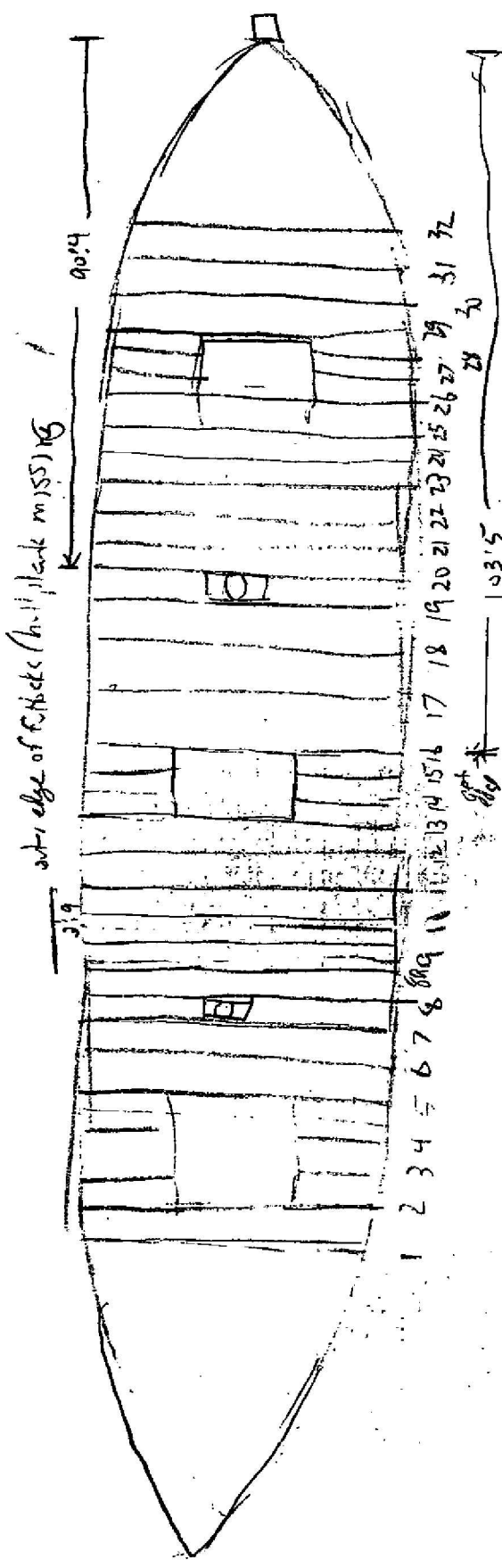
4:0101 5

2/5/91 12:20

6 wps
V37
Sch
B. ind.

6 WSS-2
V37
Schw-ur
B. 12

6 wssls
V37
Schwarzh
Bridg



Deck beam	Inner width	Deck beam	width
11	35	23	34'4"
20	35'2"	25	33'9'1/2"
18	35'2"	27	33'2'1/8"
14	35'1"		
8	35		
6	35'2"		
4	35'1"		
1	34'7"		

2,5,13,16,26,29
double dot pens

4:06

147 Length.

scantlings 10/28/04

V-37-

Deck Beams - 42 in centers 12X12 in Beams

Futtocks - 9 in SPACE
2 ft ROOM

Futtocks to centerline - 20 ft -

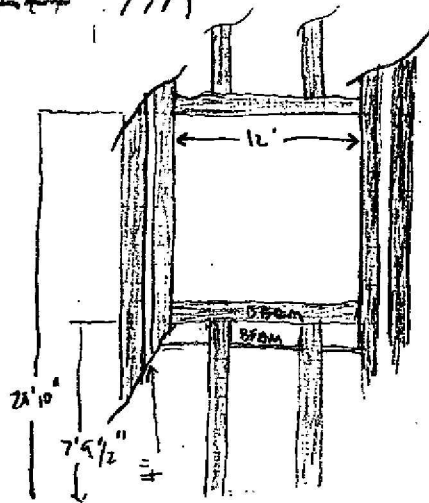
Beam = 40 ft

Mast Hole platform - 7 ft wide - port side @ 16 1/2 ft from outside
Mast Hole 2 ft 7 in

Deck Hatch - opening
from Foreward

7' 9 1/2"

24' 10"



Oct 29
Port side Futtocks + Frames

	Fore	Aft		FORE	AFT
1	6ft 6in	7ft 6in	15	67ft 10in	68' 8"
2	7ft 8in	8ft 7in	16	68' 10"	69' 9"
3	8ft 10in	9ft 10in	17	70' 6"	71' 5"
4	10ft	11ft	18	71' 8"	72' 6"
5	11ft 2in	12ft 4in	19	73' 6"	74' 5"
6	12ft 6in	13ft 6in	20	74' 9"	75' 6"
7	14ft	15ft 2in	21	76' 2"	77' 2"
8	15ft 5in	16ft 6in	22	77' 4"	78' 4"
9	16ft 9in	18ft	23	79' 2"	80' 1"
10	(18ft 2)	(19ft 2in)	24	82' 4"	83' 0"
11	19ft 4in	20ft 7in	25	83' 4"	84' 2"
12	21ft 2in	22ft 3in	26	85'	86'
13	22ft 9in	24ft 1in	27	86' 2"	87' 2"
14	24ft 4in	25ft 4in	28	87' 11"	88' 9"
15	26ft 2in	27ft 2in	29	89' 0"	90' 1"
16	27ft 6in	29ft 5in	30	90' 10"	91' 9"
17	29ft 1in	30ft 3in	31	92'	92' 10"
18	30ft 6in	31ft 8in	32	93' 8"	94' 6"
19	32ft 2in	33ft 3in	33	94' 10"	95' 9"
20	33ft 7in	34ft 8in	34	96' 6"	97' 5"
21	? □	? □	35	97' 10"	98' 6"
22	37ft 2in	? □	36	99' 6"	100' 3 1/2"
23	39ft 10in	40ft 10in	37	100' 6 1/2"	101' 5"
24	41ft 7in	42ft 7in	38	102' 4"	103' 3"
25	42ft 11in	43ft 11in	39	103' 6"	104' 5"
26	44ft 7in	45ft 7in	40	105' 2"	106' 0"
27	45ft 10in	46ft 10in	41	106' 4"	107' 2"
28	47ft 8in	48ft 8in	42	108'	108' 10"
29	48ft 11in	49ft 10in	43	110' 8"	111' 8"
30	50ft 7 1/2in	51ft 6 1/2in	44	111ft 11in	112' 9"
31	51ft 9in	52ft 7 1/2in	45	113' 8"	114' 7"
32	53ft 2in	54ft 3in	46	114' 9"	115' 7"
33	54ft 6in	55ft 6in	47	116' 8"	117' 6"
34	56ft 3in	57ft 2in	48	117' 8"	118' 7"
35	57ft 5in	58ft 5in	49	119' 6"	120' 3"
36	59ft	60ft	50	120' 7"	121' 7 1/2"
37	60ft 4in	61ft 3in	51	122' 4"	123' 2"
38	62ft	63ft	52	123' 5 1/2"	124' 4 1/2"
39	63ft 4in	64ft 3in			
40	64ft 8in	65ft 8in			
41	65ft 11in	66ft 11in			

MISSING

ERASED

MISSING

★ = Frame Set

* = Cant Frame

□ = Futtock missing

- (= Frame set

Oct 29
Port Side Futtocks & Frames

	Fore	Aft
35 (82)	125ft 2in	126ft 2in
83	126ft 4in	127ft 2in
36 (84)	128ft	128ft 9in
85	129ft 2in	129ft 10in
37 (86)	130ft 11in	131ft 8in
87	132ft	132ft 9in
38 (88)	133ft 6in	134ft 4in
89	134ft 7in	135ft 8in
39 (90)	136ft 2in	137ft 1in
91	137ft 4in	138ft 4in
40 (92)	139ft 4in	140ft
93	140ft 4in	141ft 2in
41 (94)	142ft 11in	143ft 1in
95	143ft 2in	144ft 11in
42 (96)	144ft 9in	145ft 7in
97	145ft 11in	146ft 9in
43 (98)	147ft 8in	148ft 5in
99	148ft 8in	149ft 7in
44 (100)	150ft 9in	151ft 8in
101	151ft 11in	152ft 9in
45 (102)	153ft 8in	154ft 6in
103	154ft 11in	155ft 9in
46 (104)	156ft 4in	157ft 2in
105	157ft 8in	158ft 6in
47 (106)	159ft 2in	159ft 11in
107	160ft 2in	161ft 1in
48 (108)	162ft	162ft 10in
109	163ft 2in	164ft
110	164ft 7in	165ft 5in
111	165ft 11in	166ft 7in
112	167ft 8in	168ft 6in
113	168ft 8in	169ft 6in
114	170ft 6in	171ft 4in
115	?	?
116	173ft 5in	174ft 3in
117		
118		
119		
120		

* Deck Beams 31 & 32
additional mast hole

* Deck Beam 31 128ft 5in
The futtocks are missing
from this point aft

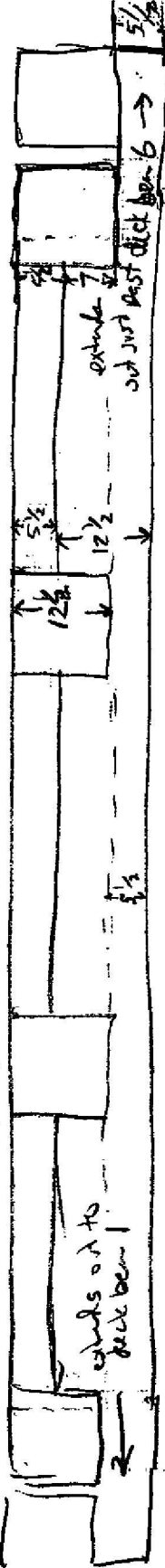
- (? = missing

2:1 between ditches

6 wanda
wanda 37
Thurrow
from Andy
from & hatched

2:5 1/2

1-11:0



16:5
7:4
8:4 3/4 to 8
7:4

12:0

this beam is a composite

12 1/2
5 1/2

bottom
wanda
to 19:8

1-12 1/2

13

12 5/8

3"

2 1/2

13

3:4

6:7 1/2

38

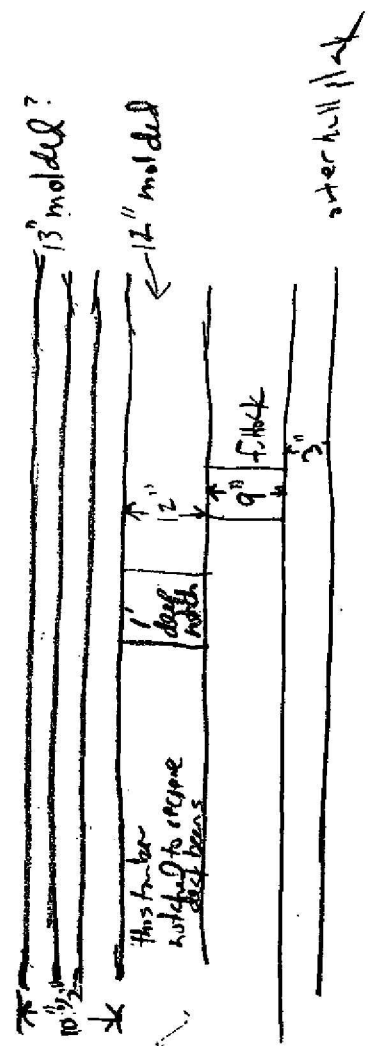
Back plank scantling
3" thick
5 1/2" width

water way

9:1 to
inward
edge of
planks

6:11:0
of
compos
to
DB 6

Wall 37 bearing
 at inner end of
 deck of dock shell
 outer hull plate



taken at Deck Beam 3

42/01
07/01/01



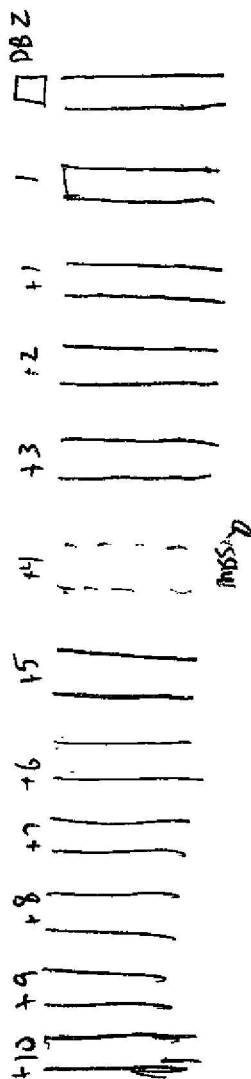
29 Oct 84

Deck Crown Measurements

	6"	8 1/2"
	8'	6"
Center	17'1"	4 1/2"
	26"	5 1/2"
	33'	7 1/2"

	6"	7 1/4"
2nd	8'	5"
set	17'1"	4"
	26'	5 1/4"
	33'	7 1/2"
	33'6"	Total Span

forward station profile



1
B/L ϕ

SIX VESSELS -

11/01/04

AL
MKF
JME

4 MASTERED SCHONER

CROSS SECTION FROM FRAME 5 (FIVE) AND FRAME 1
FROM EDGE OF WATERWAY ON PORT SIDE:

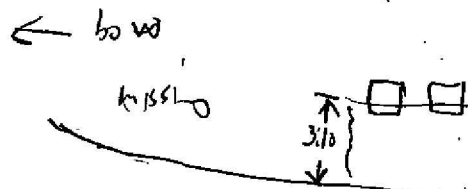
FRAME	C	DEPTH
5	0	14' 2"
	1' 2"	14' 7"
	2' 1"	14' 8 1/2"
	3' 1"	14' 9"
	4'	SKIP
	5' 3"	12' 3 1/2" RIDER/KEELSON?
	8' 10"	15' 1 1/2"
	10' 10"	15' 6"
	13'	13' 7" SISTER OR KEELSON
	12'	15' 5 1/2"
	14' 11"	12' 6" KEELSON?
	16'	12' 5 1/2"
	17' 1"	15' 9"

SEDIMENTS = \approx 5'
IN THE JESSER
HOLD

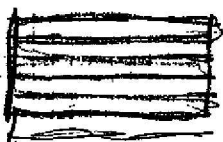
NOTE:

FRAME	C	DEPTH
1	-1'	11' 4 1/2"
	0'	13' 8 1/2"
	0' 11"	14' 1"
	2' 9"	15' 7"
	4' 2"	15' 2"
	6' 1"	15' 7"
	7' 11"	16' 6 1/2" (POSSIBLE 15')
	10' 3"	15' 6 1/2"
	12' 3"	15' 7"
	14' 2"	11' 10"
	15'	11' 6" PROB TOP KEELSON

FRAME



3'10 below 2nd deck level



hull width taken from ceiling plank ceiling plank

2 nd back from inside edge of stem	4:5
1 st extra f. back	10:5
1 st extra back at 3:0 below bottom of Jacksam	11:6
3 rd back	13:8 $\frac{3}{4}$
5 th f. back	14:11 $\frac{1}{2}$
7 th f. back	16: 11 $7\frac{1}{4}$
9 th f. back	17:11 $\frac{3}{4}$
10 th f. back	21:8 $\frac{1}{4}$
13 th	23:8
16 th	25:5 $\frac{3}{4}$ at forward b. (head)
18 th	26:9 $\frac{1}{4}$
20	29:2 $\frac{3}{4}$
7 th f. back back from DB 1	16:9 $\frac{3}{4}$ to port side of upper deck station

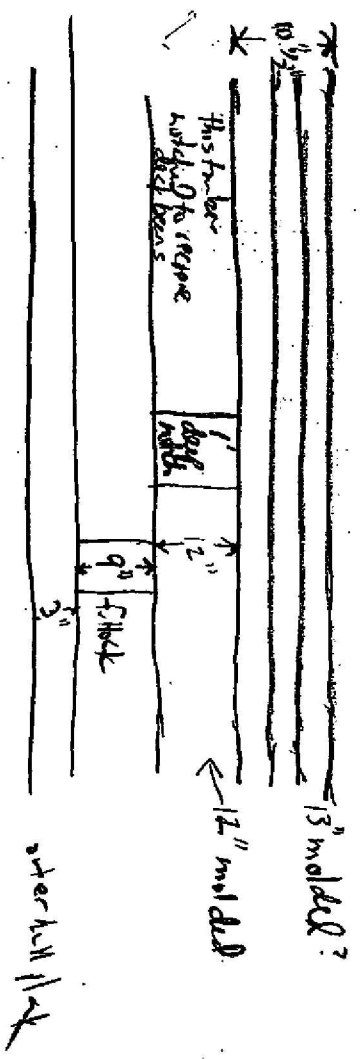
13:3 $\frac{5}{8}$ from inside
of outside stem to
1st deck station



P.T. Siv fax



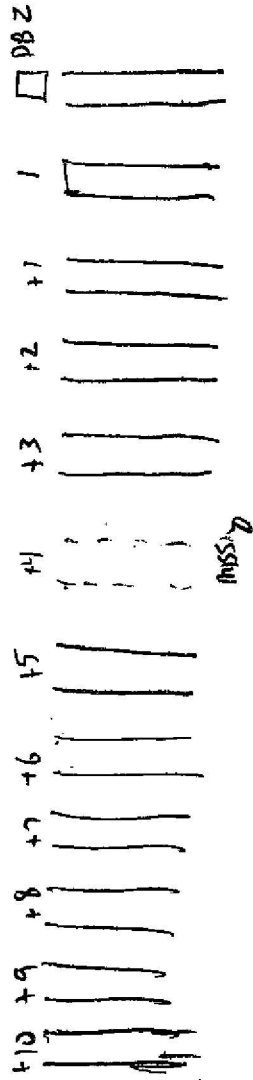
vessel 1000
 di. 1000
 1000 of deck shell
 outer hull plating



taken at Deck Box 3



forward station profile



1
3/20

29 Oct 84

Deck Crown Measurements

	6"	8 1/2"
	8'	6"
Center	17'1"	4 1/2"
	26"	5 1/2"
	33'	7 1/2"

	6"	7 1/4"
2nd	8'	5"
Set	17'1"	4"
	26'	5 1/4"
	33'	7 1/2"
	33'6"	Total Span

147 Length

scantlings 10/28/04

V-37-

Deck Beams - 42 in centers 12X12 in Beams

Futtocks - 9 in SPACE
2 ft ROOM

Futtocks to centerline - 20 ft -

Beam = 40 ft

Mast Hole platform - 7 ft wide - port side @ 16 1/2 ft from outside futtock

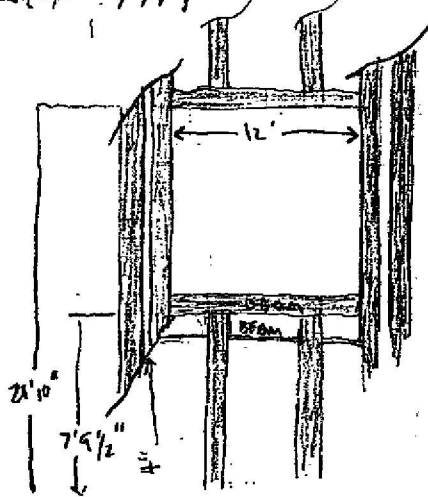
Mast Hole

2 ft 7 in

Deck Hatch - opening
from foreward

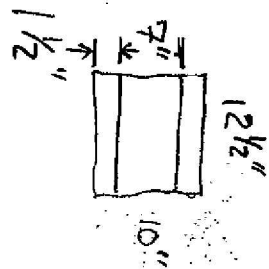
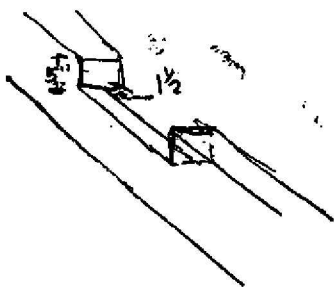
7' 9 1/2"

24' 10"

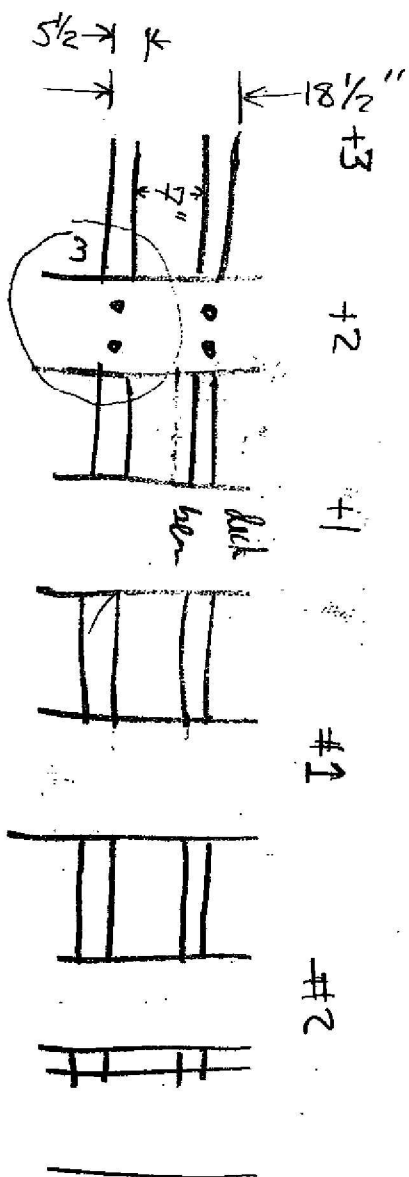
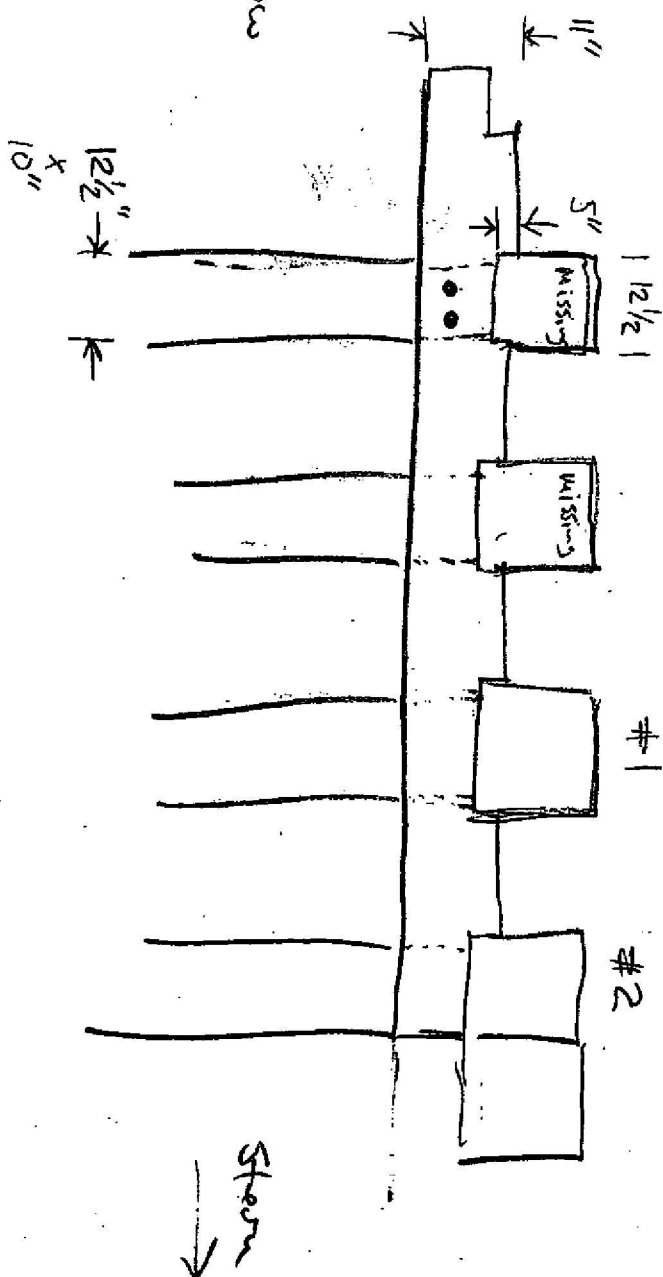


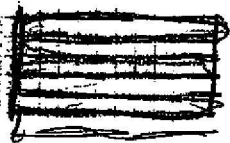
of vessel
V36
deck structure profile
plan

3



Bow





hull width taken from ceiling platt & ceiling plank

2nd hnd
from inside
edge of
stem

4:5

1st
extent
f. back

10:5

1st edge
f. back
at 3:10 below
bottom of
deck beam

11:6

3rd f. back

13:8 $\frac{3}{4}$

5th f. back

14:11 $\frac{1}{2}$

7th f. back

16: ~~11~~ $7\frac{1}{4}$

9th f. back

17:11 $\frac{3}{4}$

10th f. back

21:8 $\frac{1}{4}$

13th

23:8

16th

25:5 $\frac{3}{4}$ at forward h. (head)

18th

26:9 $\frac{3}{4}$

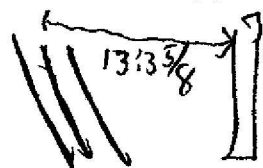
20

29:2 $\frac{3}{4}$

7th f. back
back from
DB 1

16:9 $\frac{3}{4}$ to port side of upper deck
station

13:3 $\frac{5}{8}$ from inside
of outside stem to
1st deck strand 10h



P.T. S/V fax



Oct 29
Port side Futtocks + Frames

	Fore	Aft		FORE	AFT	
1	6ft 6in	7ft 6in	15	42 67ft 10in	68' 8"	
2	7ft 8in	8ft 7in		43 68' 10"	69' 9"	
3	8ft 10in	9ft 10in	16	44 70' 6"	71' 5"	
4	10ft	11ft		45 71' 8"	72' 6"	
5	11ft 2in	12ft 4in	17	46 73' 6"	74' 5"	
6	12ft 6in	13ft 6in		47 74' 9"	75' 6"	
7	14ft	15ft 2in	18	48 76' 2"	77' 2"	
8	15ft 5in	16ft 6in		49 77' 4"	78' 4"	
9	16ft 9in	18ft	19	50 79' 2"	80' 1"	
10	(18ft 2)	(19ft 2in)		51		MISSING
11	19ft 4in	20ft 7in	20	52 82' 4"	83' 0"	
12	21ft 2in	22ft 3in		53 83' 4"	84' 2"	
13	22ft 9in	24ft 1in	21	54 85' 1"	86'	
14	24ft 4in	25ft 4in		55 86' 2"	87' 2"	
15	26ft 2in	27ft 2in	22	56 87' 11"	87' 9"	
16	27ft 6in	29ft 5in		57 89' 0"	90' 1"	
17	29ft 1in	30ft 3in	23	58 90' 10"	91' 9"	
18	30ft 6in	31ft 8in		59 92'	92' 10"	
19	32ft 2in	33ft 3in	24	60 93' 8"	94' 6"	
20	33ft 7in	34ft 8in		61 94' 10"	95' 9"	
21	? □	? □	25	62 96' 6"	97' 5"	
22	37ft 2in	? □		63 97' 10"	98' 6"	ERRORED
23	39ft 10in	40ft 10in	26	64 99' 6"	100' 3 1/2"	
24	41ft 7in	42ft 7in		65 100' 6 1/2"	101' 5"	
25	42ft 11in	43ft 11in	27	66 102' 4"	103' 3"	
26	44ft 7in	45ft 7in		67 103' 6"	104' 5"	
27	45ft 10in	46ft 10in	28	68 105' 2"	106' 0"	
28	47ft 8in	48ft 8in		69 106' 4"	107' 2"	
29	48ft 11in	49ft 10in	29	70 108'	108' 10"	
30	50ft 7 1/2 in	51ft 6 1/2 in		71		MISSING
31	51ft 9in	52ft 7 1/2 in	30	72 110' 8"	111' 8"	
32	53ft 2in	54ft 3in		73 111ft 11in	112' 9"	
33	54ft 6in	55ft 6in	31	74 113' 8"	114' 7"	
34	56ft 3in	57ft 2in		75 114' 9"	115' 7"	
35	57ft 5in	58ft 5in	32	76 116' 8"	117' 6"	
36	59ft	60ft		77 117' 8"	118' 7"	
37	60ft 4in	61ft 3in	33	78 119' 6"	120' 3"	
38	62ft	63ft		79 120' 7"	121' 7 1/2"	
39	63ft 4in	64ft 3in	34	80 122' 4"	123' 2"	
40	64ft 8in	65ft 8 1/2 in		81 123' 5 1/2"	124' 4 1/2"	★ = Frame Set
41	65ft 11in	66ft 11in				* = Cant Frame
						□ = Futtock missing
						- (= Frame set

Oct 29
Port Side Futtocks & Frames

	Fore	Aft
35 (82)	125ft 2in	126ft 2in
83	126ft 4in	127ft 2in
36 (84)	128ft	129ft 9in
85	129ft 1in	129ft 10in
37 (86)	130ft 11in	131ft 8in
87	132ft	132ft 9in
38 (88)	133ft 8in	134ft 4in
89	134ft 9in	135ft 8in
39 (90)	136ft 2in	137ft 1in
91	137ft 4in	138ft 4in
40 (92)	139ft 4in	140ft
93	140ft 4in	141ft 2in
41 (94)	142ft 1in	143ft 1in
95	143ft 2in	144ft 1in
42 (96)	144ft 9in	145ft 7in
97	145ft 11in	146ft 9in
43 (98)	147ft 8in	148ft 5in
99	148ft 8in	149ft 7in
44 (100)	150ft 9in	151ft 8in
101	151ft 11in	152ft 9in
45 (102)	153ft 8in	154ft 6in
103	154ft 11in	155ft 9in
46 (104)	156ft 4in	157ft 2in
105	157ft 8in	158ft 6in
47 (106)	159ft 2in	159ft 11in
107	160ft 2in	161ft 1in
48 (108)	162ft	162ft 10in
109	163ft 2in	164ft
110	164ft 7in	165ft 5in
111	165ft 11in	166ft 7in
112	167ft 8in	168ft 6in
113	168ft 9in	169ft 6in
114	170ft 6in	171ft 4in
115	?	?
116	173ft 5in	174ft 3in
117		
118		
119		
120		

* Deck Beams 31 & 32
additional mast Hole

* Deck Beam 31 128ft 5in
The futtocks are missing
from this point aft

⌋
? = missing

SIX VESSELS -

11/01/04

AL
MKF
JME

4 Masted Schooner

CROSS SECTION FROM FRAME 5 (FIVE) AND FRAME 1
FROM EDGE OF WATERWAY ON PORT SIDE:

FRAME	C	DEPTH
5	0	14' 2"
	1' 2"	14' 7"
	2' 1"	14' 8 1/2"
	3' 1"	14' 9"
	4'	SKIP
	5' 8"	12' 3 1/2" RIDER/KEELSON?
	8' 10"	15' 1 1/2"
	10' 10"	15' 6"
	13'	13' 7" SISTER OR KEELSON
NOTE:	12'	15' 5 1/2"
	14' 11"	12' 6" KEELSON?
	16'	12' 5 1/2"
	17' 1"	15' 9"

SEDIMENTS = \approx 5'
IN THE VESSEL
HOLD

FRAME	C	DEPTH
1	-1'	11' 4 1/2"
	0'	13' 8 1/2"
	0' 11"	14' 1"
	2' 9"	15' 7"
	4' 2"	15' 2"
	6' 1"	15' 7"
	7' 11"	16' 6 1/2" (POSSIBLE 15')
	10' 3"	15' 6 1/2"
	12' 3"	15' 7"
	14' 2"	11' 10"
	15'	11' 6" PROB TOP KEELSON

FRAME

← bow

1350

3' 10"

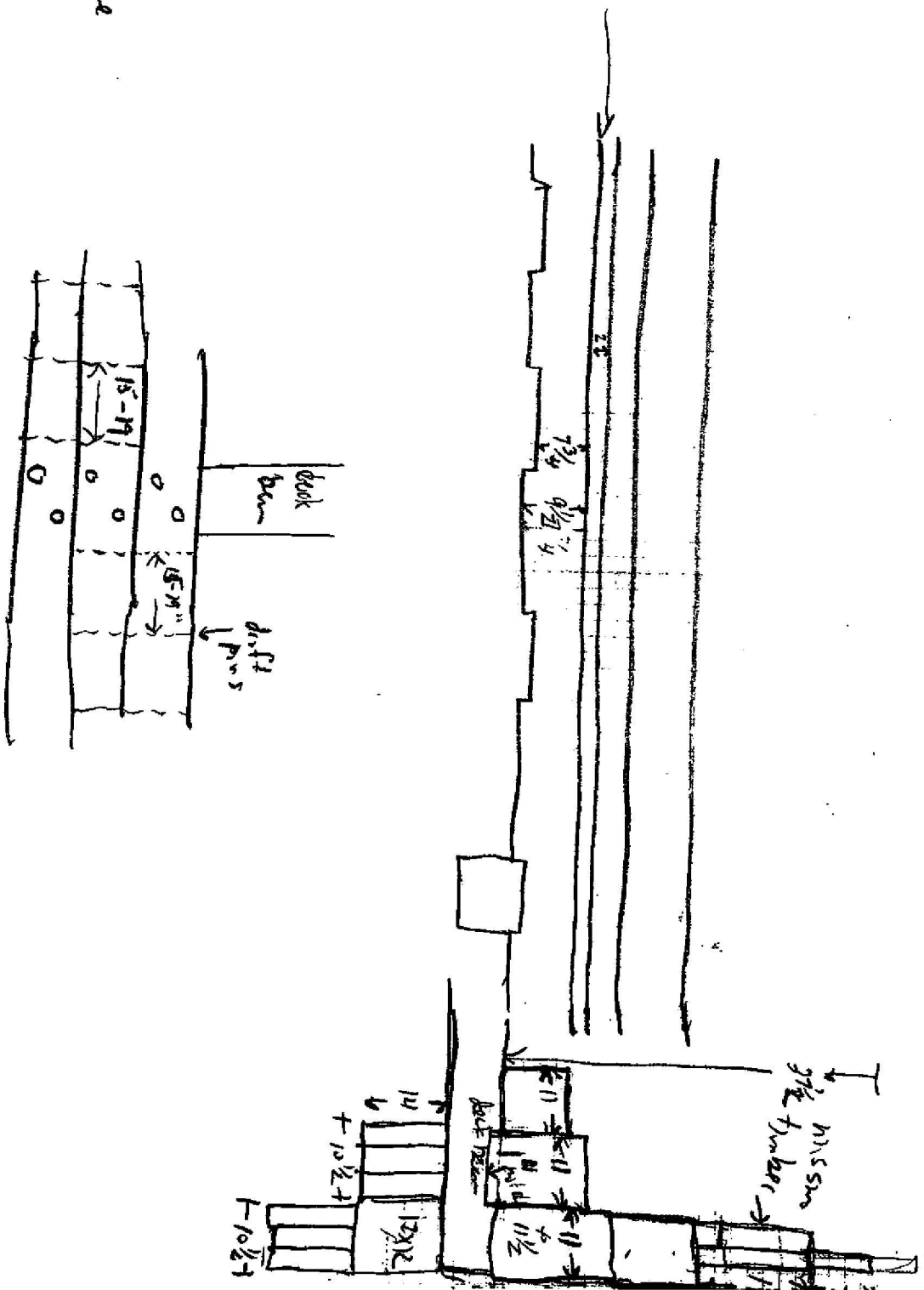
3' 10" below 2nd deck level

st frame 13

Det Ben 8915

mis-appears to
have been smaller
perhaps 9x9

for and own holders
are identical in size



Non River

Good Enthusiasm

Fish Hawk

possibly owned by

plgnt in Ac/5, 10

Morgan, Tony
Bozhi Fish Hawk
for cards ca. 1980

front bottom measurements

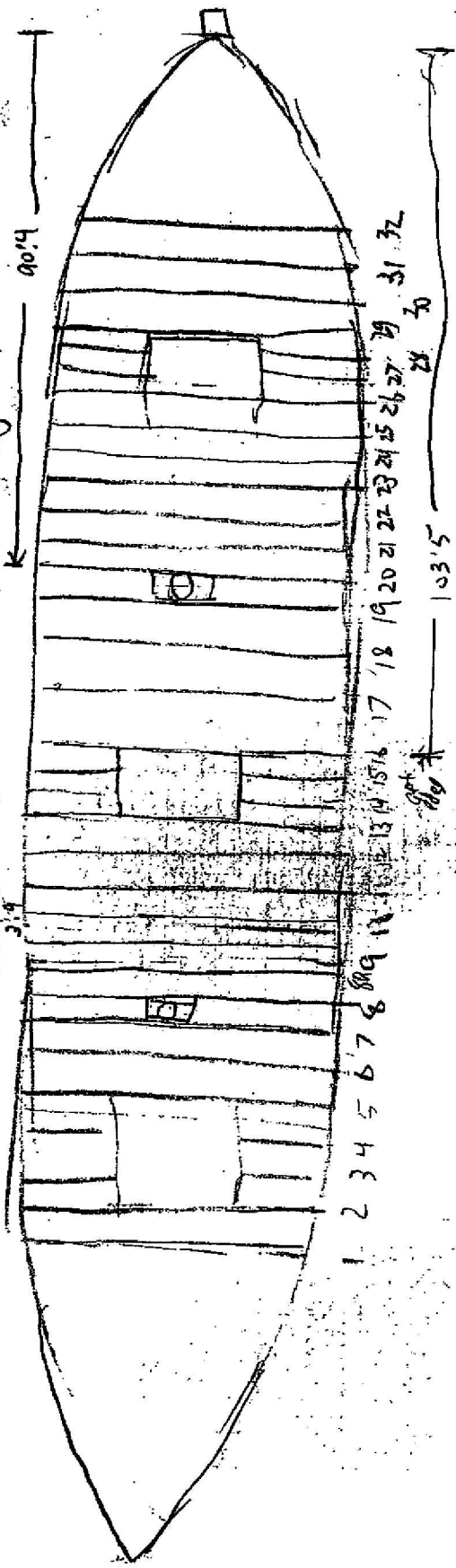
1 1/2
2 1/2
3 1/2
4 1/2
5 1/2
6 1/2
7 1/2
8 1/2
9 1/2
10 1/2
11 1/2
12 1/2
13 1/2
14 1/2
15 1/2
16 1/2
17 1/2
18 1/2
19 1/2
20 1/2
21 1/2
22 1/2
23 1/2
24 1/2
25 1/2
26 1/2
27 1/2

28 111:1 1/2
29 115:6
30 119:5 1/2
31 120:11
32 123:4 1/2
33 128:7 1/2

6 mss
V36
Schw...
H...
H...

27 108:9 1/2
26 102:5
25 101:0 1/2
24 97:5 1/2
23 94:0
22 90:5 1/2
21 86:11
20 83:5 1/2
19 80:1
18 75:10 1/2
17 72:7 1/2
16 69:6
15 66:9
14 64:11 1/2
13 60:7 1/2
12 56:3 1/2
11 51:11 1/2
10 50:6
9 47:5
8 44:3
7 41:5
6 38:7 1/2
5 31:6
4 27:5
3 23:2
2 18:10
1 17:5
0 13:1
- 8:9
- 4:4
- 3
- 2
- 1

edge of edge of hull plank mss



Deck beam	width
23	34:4
25	33:9 1/2
27	33:2 1/2

Deck beam	width
35	35:2
35:2	35:2
35:1	35:1
35	35:2
35:1	35:1
34:7	34:7

Deck beam	width
11	35:1
20	34:7
18	35:1
14	35:2
8	35:1
6	35:2
4	35:1
1	34:7

Double deck beam
2, 5, 13, 16, 26, 29

100

reel

- recheck room & space on deck beams
 - recheck measurements on hatches & mast steps
 - recheck deck beam count, esp at aft hatch
 - more width measurements aft
 - measurement from forward deck beam to stem
-
- hull lines - midship X sec
 - deck widths for and aft

3" thick
5 1/2" width

6 vessels
vessel 37
Thur low
Jim & Andy
forward head in deck

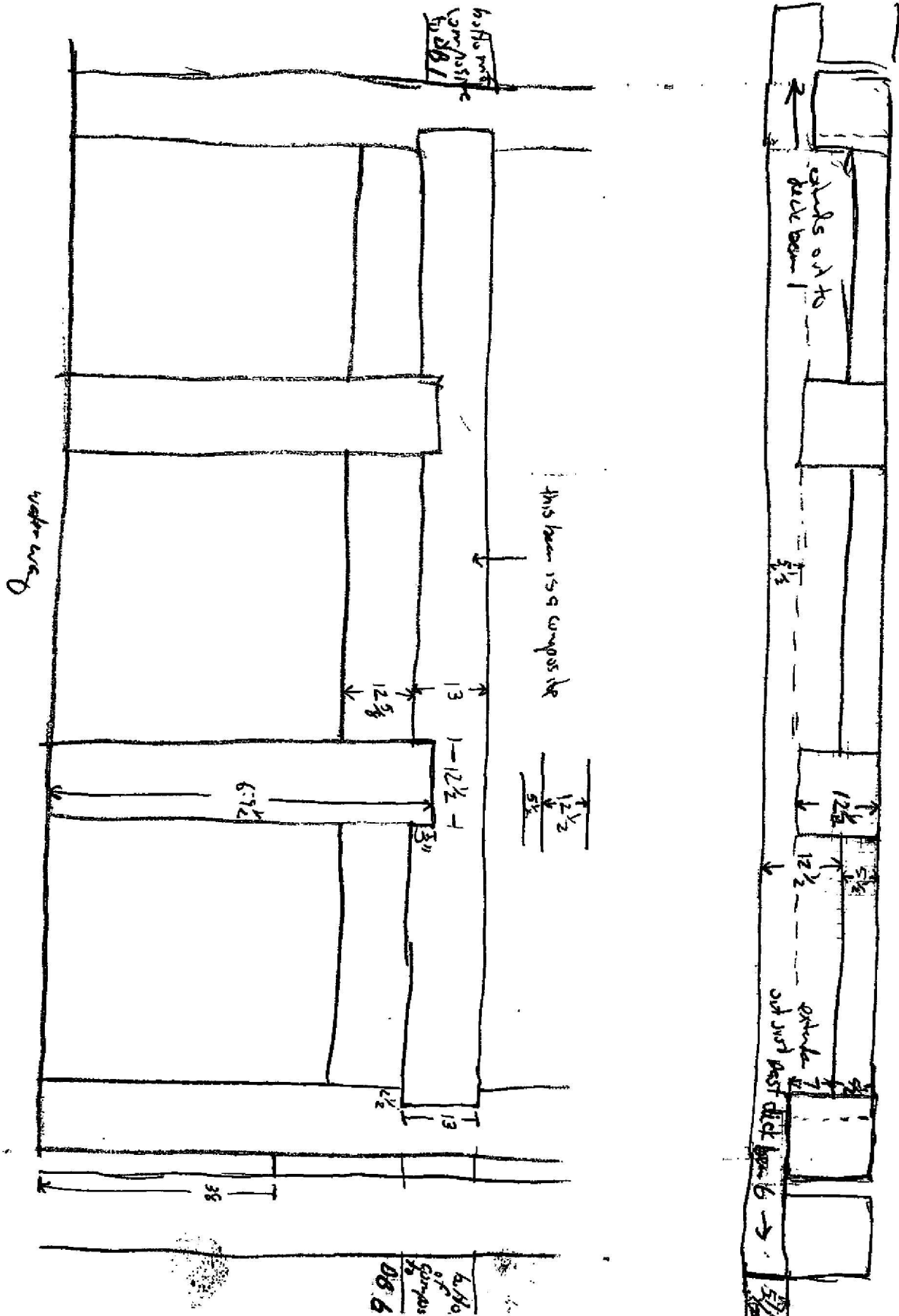


FIG. 36—MIDSHIP SECTION AND CONSTRUCTION DETAILS OF A 290-FOOT, 5-MASTED TOPMAST AUXILIARY SCHOONER

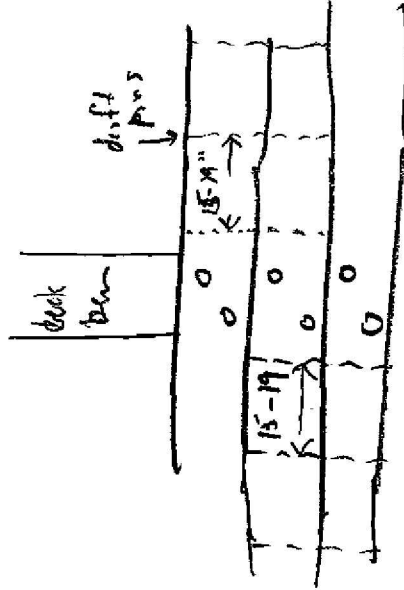
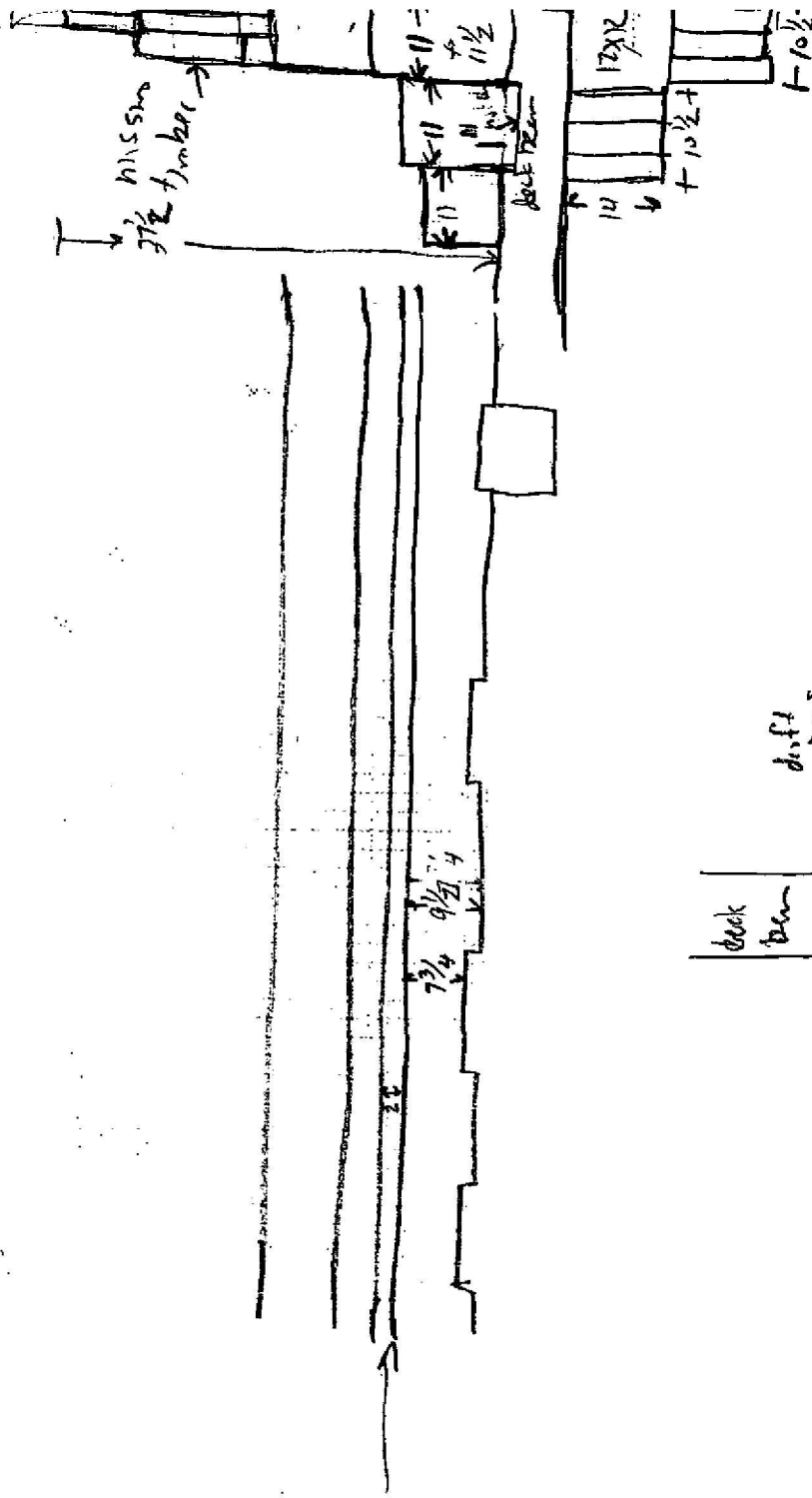
unknown profile
of frame 13

tubing
also
noted

Deck Ben 89 is

missing - appears to
have been smaller
perhaps 9x9

Grand main latches
are identified in size



Mem Brewer
Regional Entomologist

Fish Hawk
possibly owned by
Smith
plgnt in Belfast
Morgan town
bought Fish Hawk
for birds ca 198

V37 Paul Thuston levels

③ Deck beams orange

③ CL

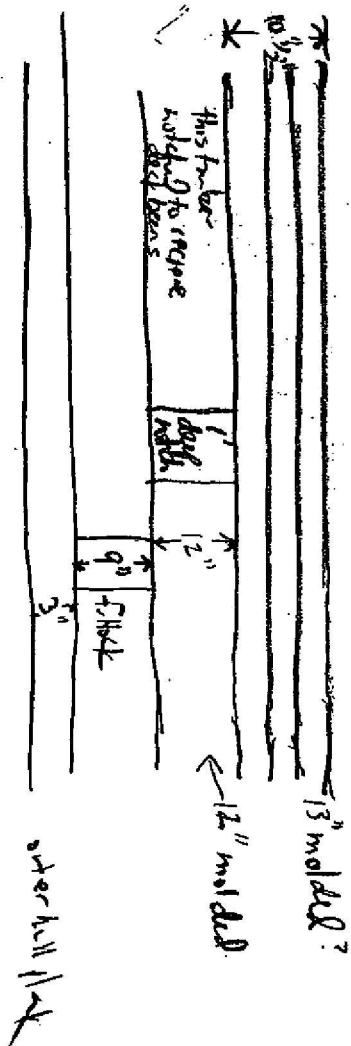
⑫ outer hull

② Deck plank blue

④ offset lines

⑭ stanchions

1000/1 612
 do 1000/1
 1000/1 612
 outer hull plating



top of Deck Beam 3

forward station profile



1
B/L Ø

29 Oct 84

Deck Crown Measurements

Center
6" 8 1/2"
8' 6"
17'1" 4 1/2"
26' 5 1/2"
33' 7 1/2"

2nd
set
6" 7 1/4"
8' 5"
17'1" 4"
26' 5 1/4"
33' 7 1/2"
33'6" Total Span

147 Length

scantlings 10/28/04

V-37-

Deck Beams - 42 in centers 12X12 in Beams

Futtocks - 9 in space
2 ft ROOM

Futtocks to centerline 20 ft -

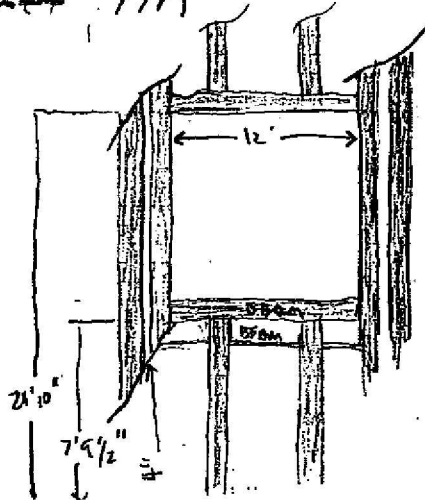
Beam = 40 ft

Mast Hole platform - 7 ft wide - Port side @ 16 1/2 ft from outside
Mast Hole 2 ft 7 in

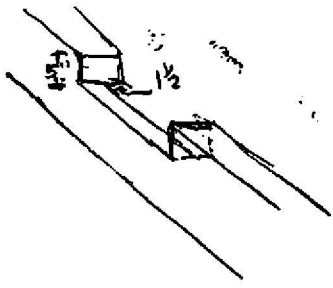
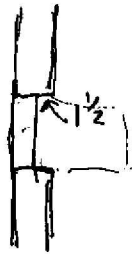
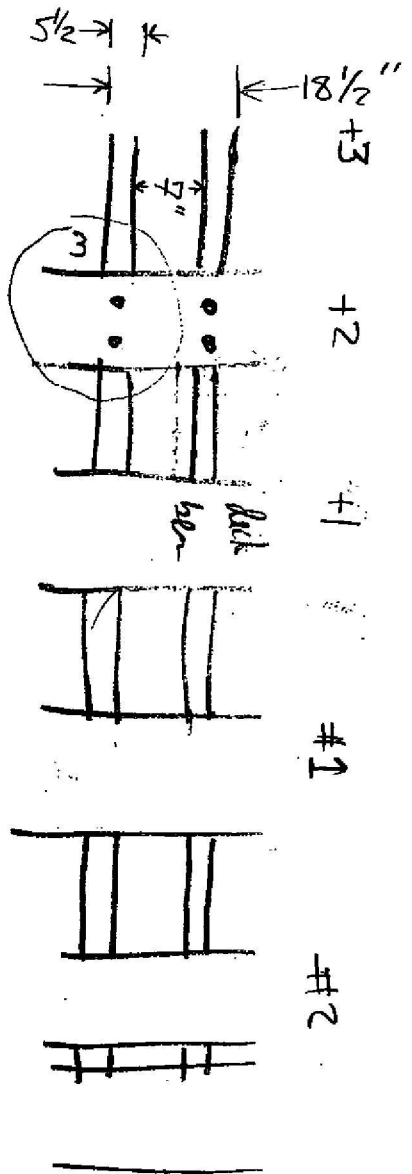
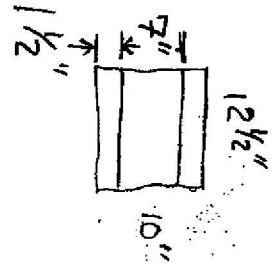
Deck Hatch - opening
from forward

2' 9 1/2"

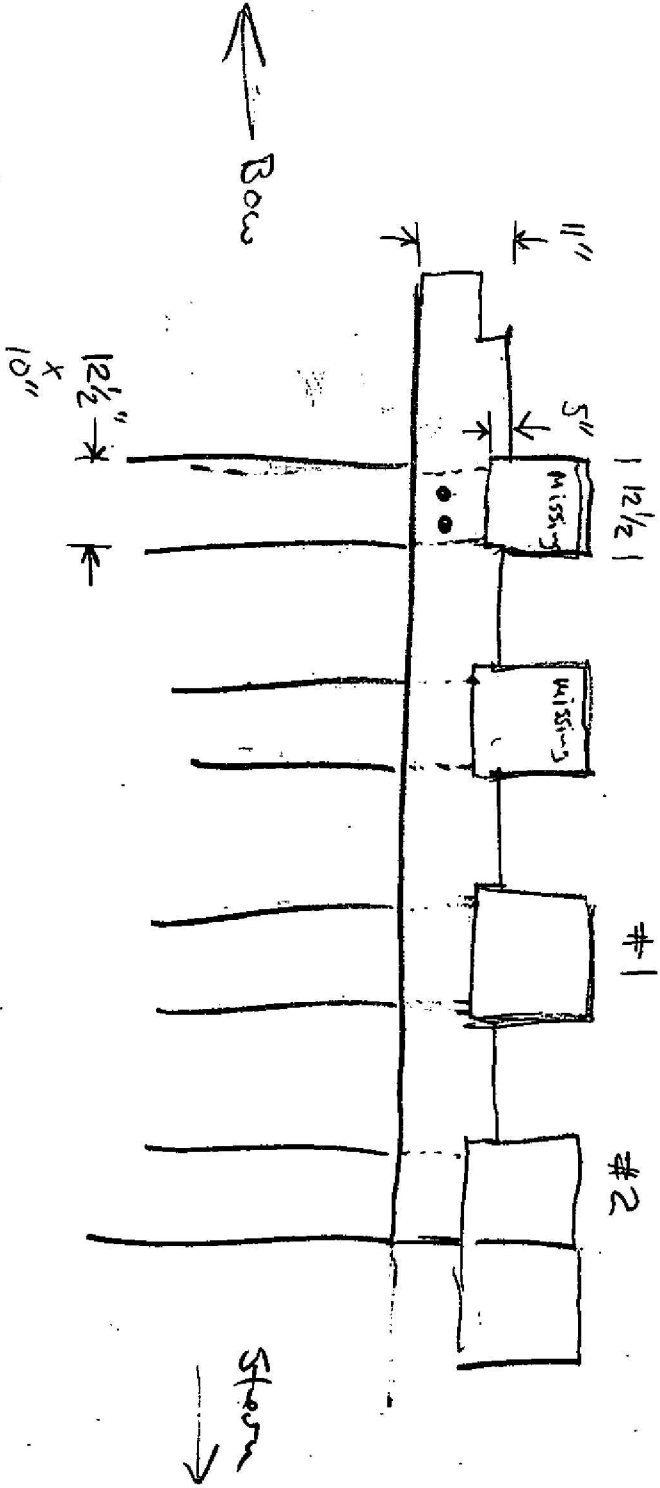
2' 10"

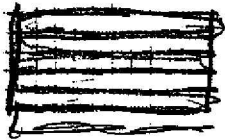


of vessel
V36
deck structure profile &
plan



3

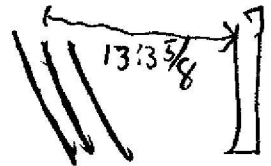




hull width taken from ceiling plank

26th head from inside edge of stem	4'5
1st exposed floor	10'5
1st exd floor at 3:00 below bottom of deck beam	11'6
3rd floor	13'8 ³ / ₄
5th floor	14'11 ¹ / ₂
7th floor	16' 11 ¹ / ₄
9th floor	17'11 ³ / ₄
10th floor	21'8 ¹ / ₄
13th	23'8
16th	25'5 ³ / ₄ at forward bulkhead
18th	26'4 ¹ / ₄
20	29'2 ³ / ₄
7th floor back from DB 1	16'9 ³ / ₄ to port side of upper deck structure

13'3 ⁵/₈ from inside
of outside stem to
1st deck structure



P.T. Siv fax



Oct 29
Port side Futtocks + Frames

	Fore	Aft		FORE	AFT	
*★1	6ft 6in	7ft 6in	15(42	67ft 10in	68' 8"	
*★2	7ft 8in	8ft 7in	43	68' 10"	69' 9"	
*★3	8ft 10in	9ft 10in	16(44	70' 6"	71' 5"	
*★4	10ft	11ft	45	71' 8"	72' 6"	
*★5	11ft 2in	12ft 4in	17(46	73' 6"	74' 5"	
*★6	12ft 6in	13ft 6in	47	74' 9"	75' 6"	
*★7	14ft	15ft 2in	18(48	76' 2"	77' 2"	
*★8	15ft 5in	16ft 6in	49	77' 4"	78' 4"	
*★9	16ft 9in	18ft	19(50	79' 2"	80' 1"	
*★10	(18ft 2)	(19ft 2in)	51			MISSING
*★11	19ft 4in	20ft 7in	20(52	82' 4"	83' 0"	
*★12	21ft 2in	22ft 3in	53	83' 4"	84' 2"	
*★13	22ft 9in	24ft 1in	21(54	85' 1"	86'	
*★14	24ft 4in	25ft 4in	55	86' 2"	87' 2"	
*★15	26ft 2in	27ft 2in	22(56	87' 11"	87' 9"	
*★16	27ft 6in	29ft 5in	57	89' 0"	90' 1"	
*★17	29ft 1in	30ft 3in	23(58	90' 10"	91' 9"	
*★18	30ft 6in	31ft 8in	59	92'	92' 10"	
*★19	32ft 2in	33ft 3in	24(60	93' 8"	94' 6"	
*★20	33ft 7in	34ft 3in	61	94' 10"	95' 9"	
21	?	?	25(62	96' 6"	97' 5"	
22	37ft 2in	?	63	97' 10"	98' 6"	ERONE
23	39ft 10in	40ft 10in	26(64	99' 6"	100' 3 1/2"	
*★24	41ft 7in	42ft 7in	65	100' 6 1/2"	101' 5"	
*★25	42ft 11in	43ft 11in	27(66	102' 4"	103' 3"	
*★26	44ft 7in	45ft 7in	67	103' 6"	104' 5"	
*★27	45ft 10in	46ft 10in	28(68	105' 2"	106' 0"	
*★28	47ft 8in	48ft 8in	69	106' 4"	107' 2"	
*★29	48ft 11in	49ft 10in	29(70	108' -	108' 10"	
*★30	50ft 7 1/2in	51ft 6 1/2in	71			MISSING
*★31	51ft 9in	52ft 7 1/2in	30(72	110' 8"	111' 8"	
*★32	53ft 2in	54ft 3in	73	111ft 11in	112' 9"	
*★33	54ft 6in	55ft 6in	31(74	113' 8"	114' 7"	
*★34	56ft 3in	57ft 2in	75	114' 9"	115' 7"	
*★35	57ft 5in	58ft 5in	32(76	116' 8"	117' 6"	
*★36	59ft	60ft	77	117' 8"	118' 7"	
*★37	60ft 4in	61ft 3in	33(78	119' 6"	120' 3"	
*★38	62ft	63ft	79	120' 7"	121' 7 1/2"	
*★39	63ft 4in	64ft 3in	34(80	122' 4"	123' 2"	
*★40	64ft 8in	65ft 8 1/2	81	123' 5 1/2"	124' 4 1/2"	★ = Frame Set
*★41	65ft 11in	66ft 11in				* = Cant Frame
						□ = Futtock missing
						- (= Frame set

Oct 29
Port Side Futtocks & Frames

	Fore	Aft
35 (82)	125ft 2in	126ft 2in
83	126ft 4in	127ft 2in
36 (84)	128ft	128ft 9in
85	129ft 1/2 in	129ft 10in
37 (86)	130ft 11in	131ft 8in
87	132ft	132ft 9in
38 (88)	133ft 8in	134ft 4in
89	134ft 9in	135ft 8in
39 (90)	136ft 2in	137ft 1in
91	137ft 4in	138ft 4in
40 (92)	139ft 4in	140ft
93	140ft 4in	141ft 2in
41 (94)	142ft 18in	143ft 1in
95	143ft 2in	144ft 11in
42 (96)	144ft 9in	145ft 7in
97	145ft 11in	146ft 9in
43 (98)	147ft 8in	148ft 5in
99	148ft 8in	149ft 7in
44 (100)	150ft 9in	151ft 8in
101	151ft 11in	152ft 9in
45 (102)	153ft 8in	154ft 6in
103	154ft 11in	155ft 9in
46 (104)	156ft 4in	157ft 2in
105	157ft 8in	158ft 6in
47 (106)	159ft 2in	159ft 11in
107	160ft 2in	161ft 1in
48 (108)	162ft	162ft 10in
109	163ft 2in	164ft
110	164ft 7in	165ft 5in
111	165ft 11in	166ft 7in
112	167ft 8in	168ft 6in
113	168ft 9in	169ft 6in
114	170ft 6in	171ft 4in
115	?	?
116	173ft 5in	174ft 3in
117		
118		
119		
120		

* Deck Beams 31 & 32
additional mast Hole

* Deck Beam 31 128ft 5in
The futtocks are missing
from this point aft

-
? = missing

SIX VESSELS -

11/01/04

AL
MKF
JME

4 Masted Schooner

CROSS SECTION FROM FRAME 5 (FIVE) AND FRAME 1
FROM EDGE OF WATERWAY ON PORT SIDE:

FRAME	DEPTH	
5	0	14' 2"
	1' 2"	14' 7"
	2' 1"	14' 8 1/2"
	3' 1"	14' 9"
	4'	SKIP
	5' 3"	12' 3 1/2" RIDER/KEELSON?
	8' 10"	15' 1 1/2"
	10' 10"	15' 6"
	13'	13' 7" SISTER OR KEELSON
NOTE:	12'	15' 5 1/2"
	14' 11"	12' 6" KEELSON?
	16'	12' 5 1/2"
	17' 1"	15' 9"

SEDIMENTS = ~ 5'
IN THE VESSEL
HOLD

FRAME	DEPTH	
1	-1'	11' 4 1/2"
	0'	13' 8 1/2"
	0' 11"	14' 1"
	2' 9"	15' 7"
	4' 2"	15' 2"
	6' 1"	15' 7"
	7' 11"	16' 6 1/2" (POSSIBLE 15')
	10' 3"	15' 6 1/2"
	12' 3"	15' 7"
	14' 2"	11' 10"
	15'	11' 6" PROB TOP KEELSON

FRAME

← bow

6' 10"

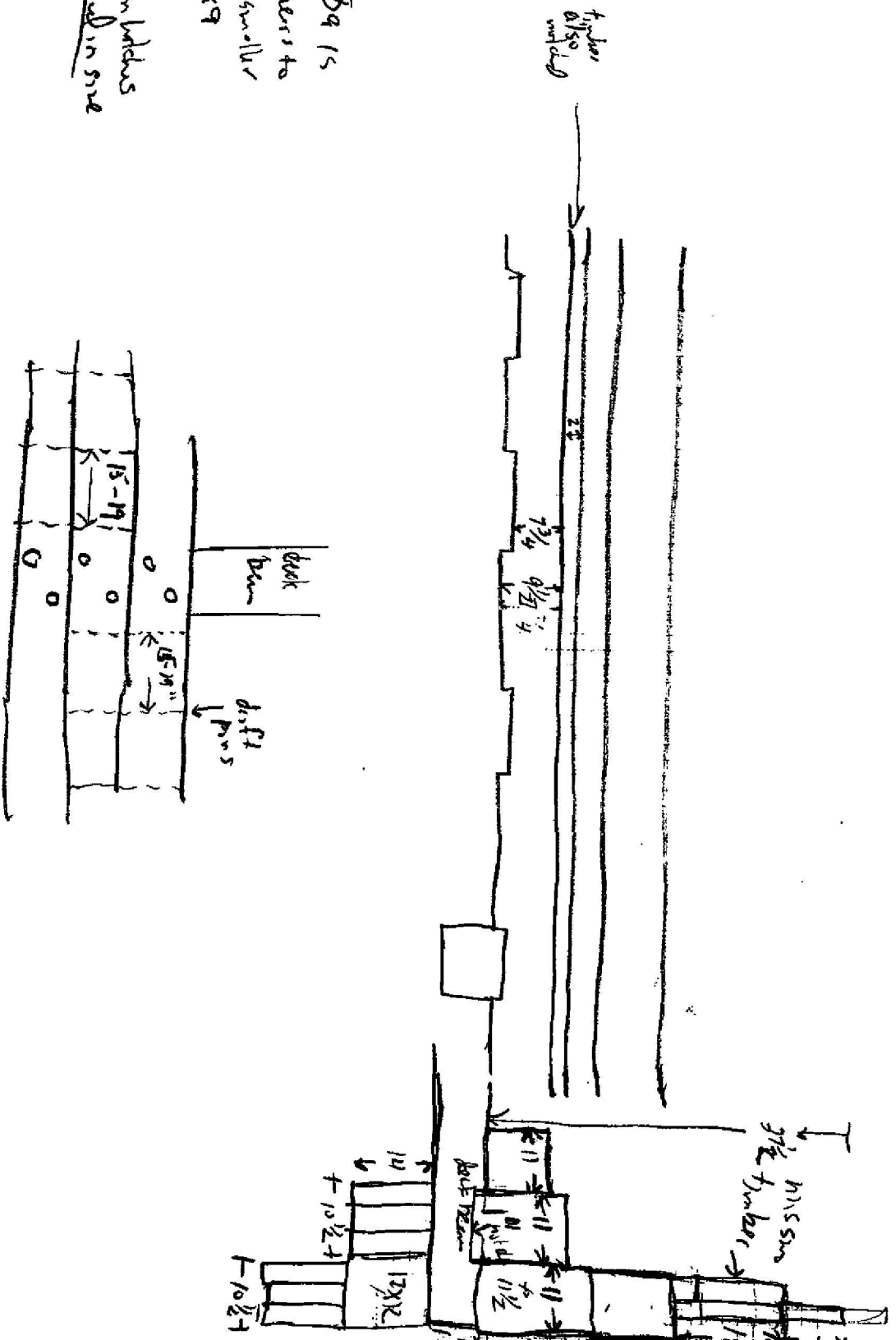
3' 10"

3' 10" below 2nd deck level

waterway profile

at frame 13

Deck Ben 8q 15
 missing - appears to
 have been smaller
 perhaps 9x9
 for and soon indicates
 are included in size



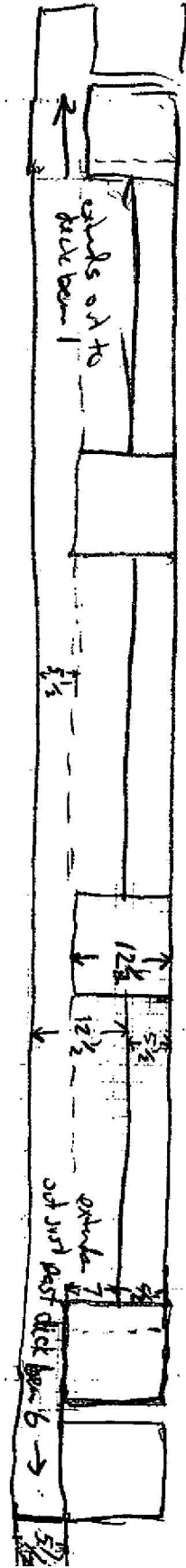
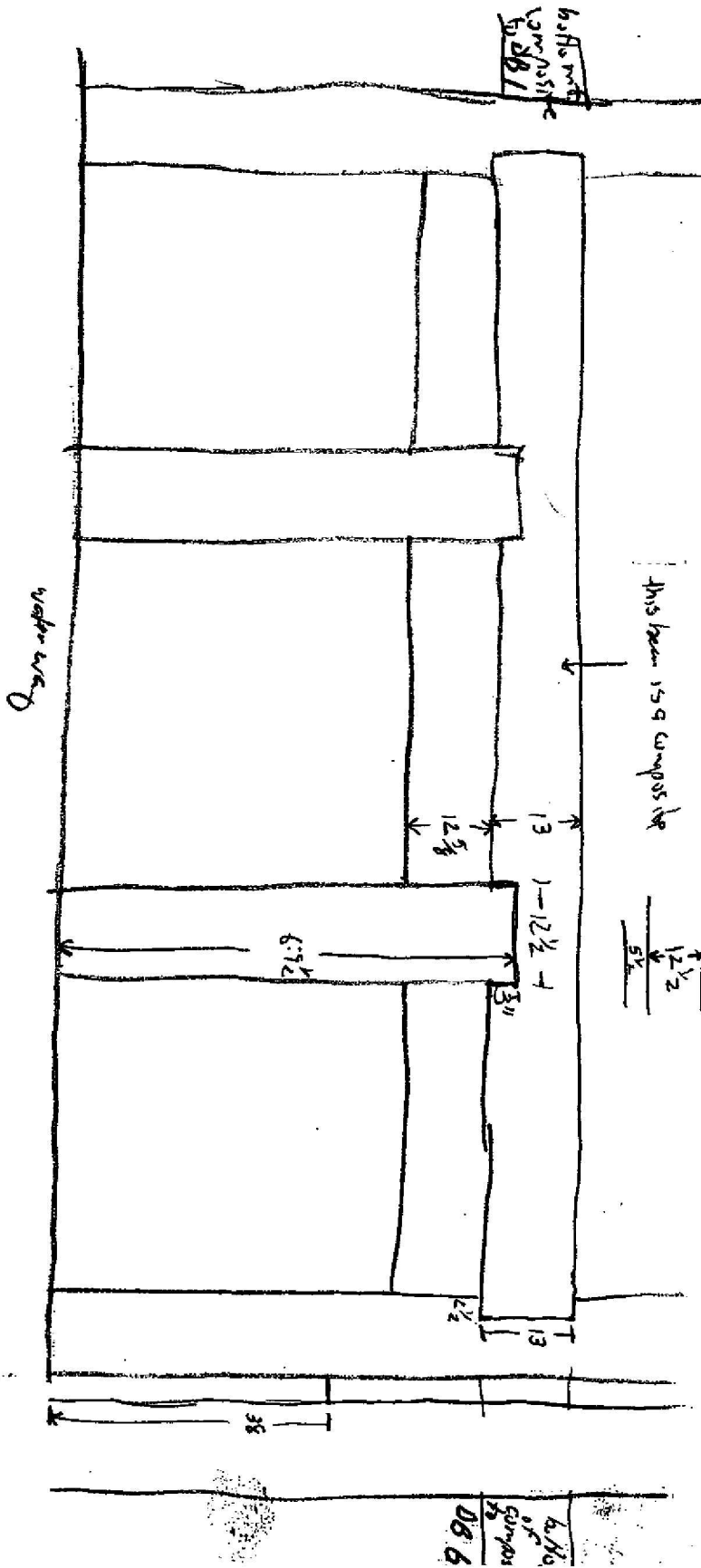
Morm Beaver
 Taghual Enters and

Fish Hawk
 possibly owned by
 Smith
 plant in Belkaid
 Morgan's young
 bought Fish Hawk
 for parts ca 1960

deck plank scantling

3" thick
5 1/2" width

6 vertical
panel 37
Thurston
Jim & Andy
forward hatch detail



9' 7 1/2
wharf
04 4
08 6

V33 Deck planogram levels

- | | |
|---------------------------------|----------------------------|
| ① Main deck
white | ④⑩ Trilat locations
red |
| ③ Deck framings, main
orange | ⑥③ offset lines
magenta |
| ② Deck planking
blue | ⑤⑧ unresd lines |
| ④ Baseline | |
| ⑤ Centerline | |
| ⑥ Deck fittings | |
| ⑧ Deck Framing, quarter deck | |
| ⑩ Sub deck framing | |

Total Station

1. Set up & level gun

data collector

2. pt 1 where instrument sits

5000, 5000 100

create

3. pt 2 Back site

5010

both pts

(edit coords)

5010 5000 100

4. place out 10 m, set prism

on gun - set horizontal

menu: ~~PRISM~~ : set : HZ

"zeroing gun"

must do this everytime set up

level

prism

in place

5. Plug data collector in, turn on

6. Open edit existing job. (H)

7.

HI = 0.0

HR = 0.0

Screen Save

10 min

click on

push solve - gun will take reading

- after solve, will compare with other menu end menu

hit J - traverse / side shot -

push sides, gun will take a shot create pt 3

same location as 4

name point procedure

↓

go

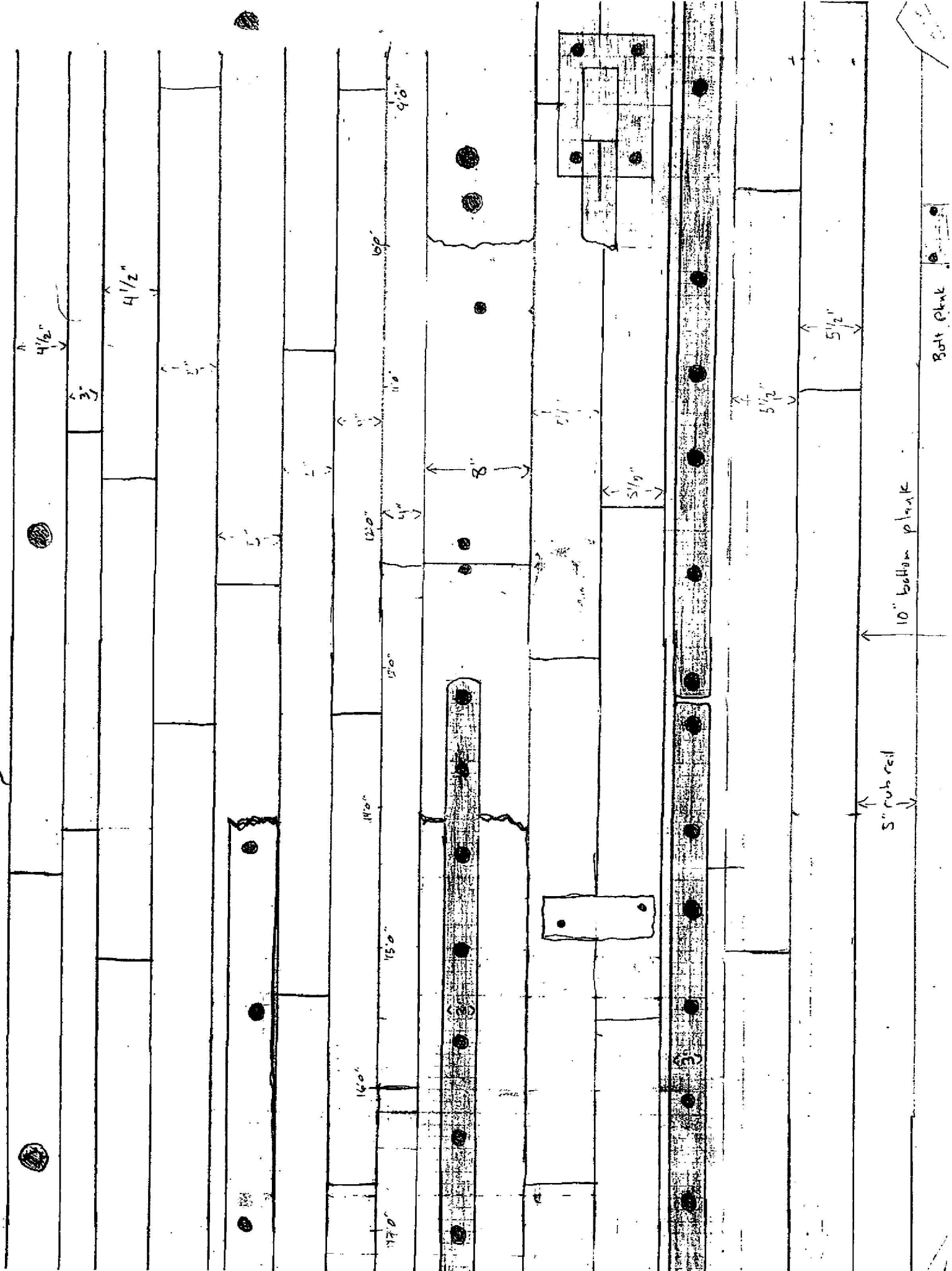
~~go back to traverse / side shot to go~~

with

do back sight to pt 3 - occupying pt 1

J - traverse / side shot - go take points!

pt taking procedure



Vessel
Center-line
(22'0" on baseline)

TALVIN

27'0"

21'0"

21'0"

20'0"

19'0"

18'0"

17'0"

FuHock # 62

6'

1'0"

2'0"

5'0"

6'0"

7'6"

8'0"

6'

TRAILING FASTENERS

Scam Patch

55:3

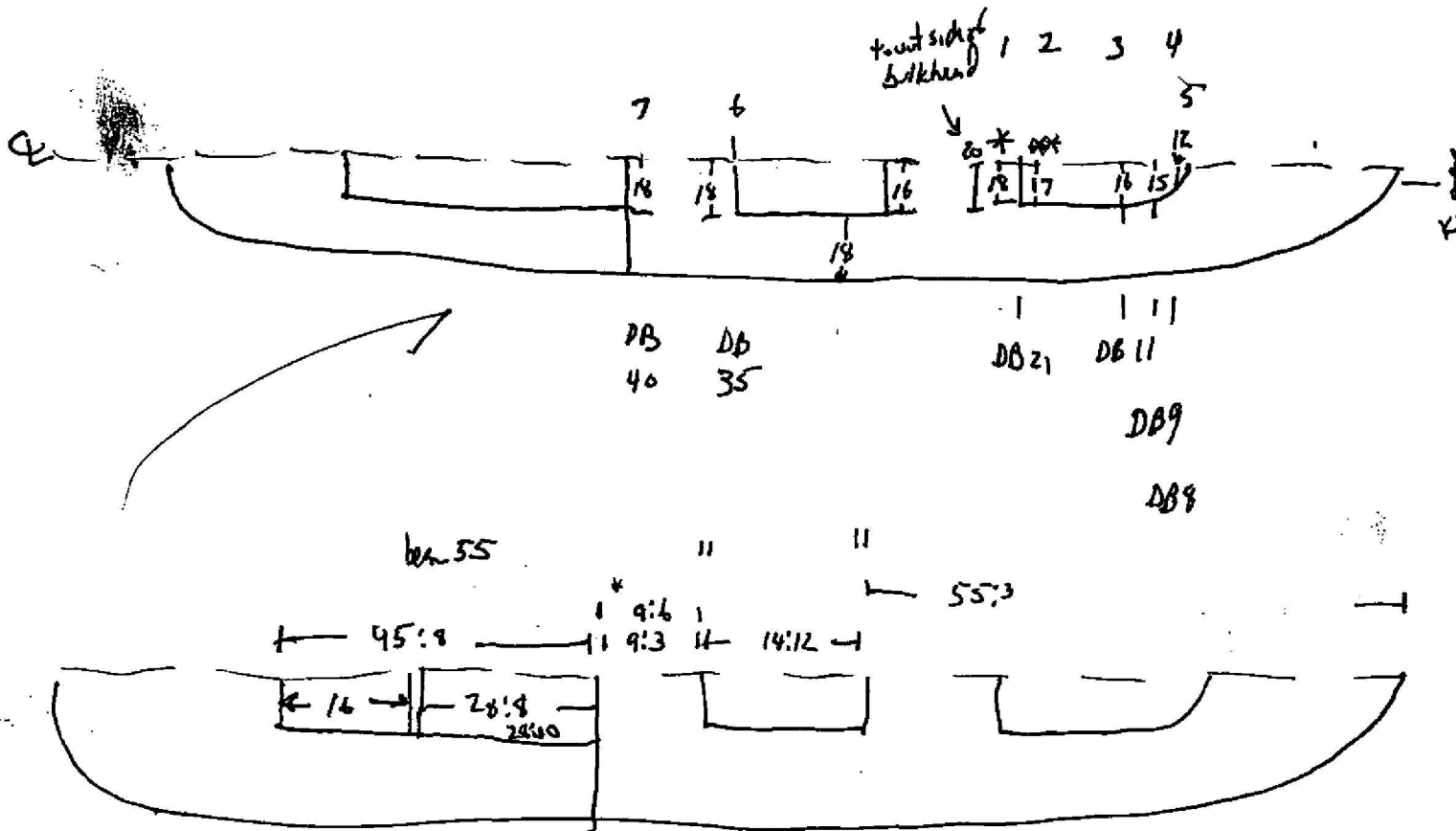
84:9

140:6

Lydecker
bressels
V33

8/27/2004

deck plank arrangement, fore



* one measured under quarter deck lip

* includes #16 out from knee planks which is smaller - see detail drawing

** same width as 1, but plank at cabin bulkhead remainder

55:3
15:00
9:6
~~28:4~~
45:8

55:3
15:0
9:6
45:8
124:17
125:5

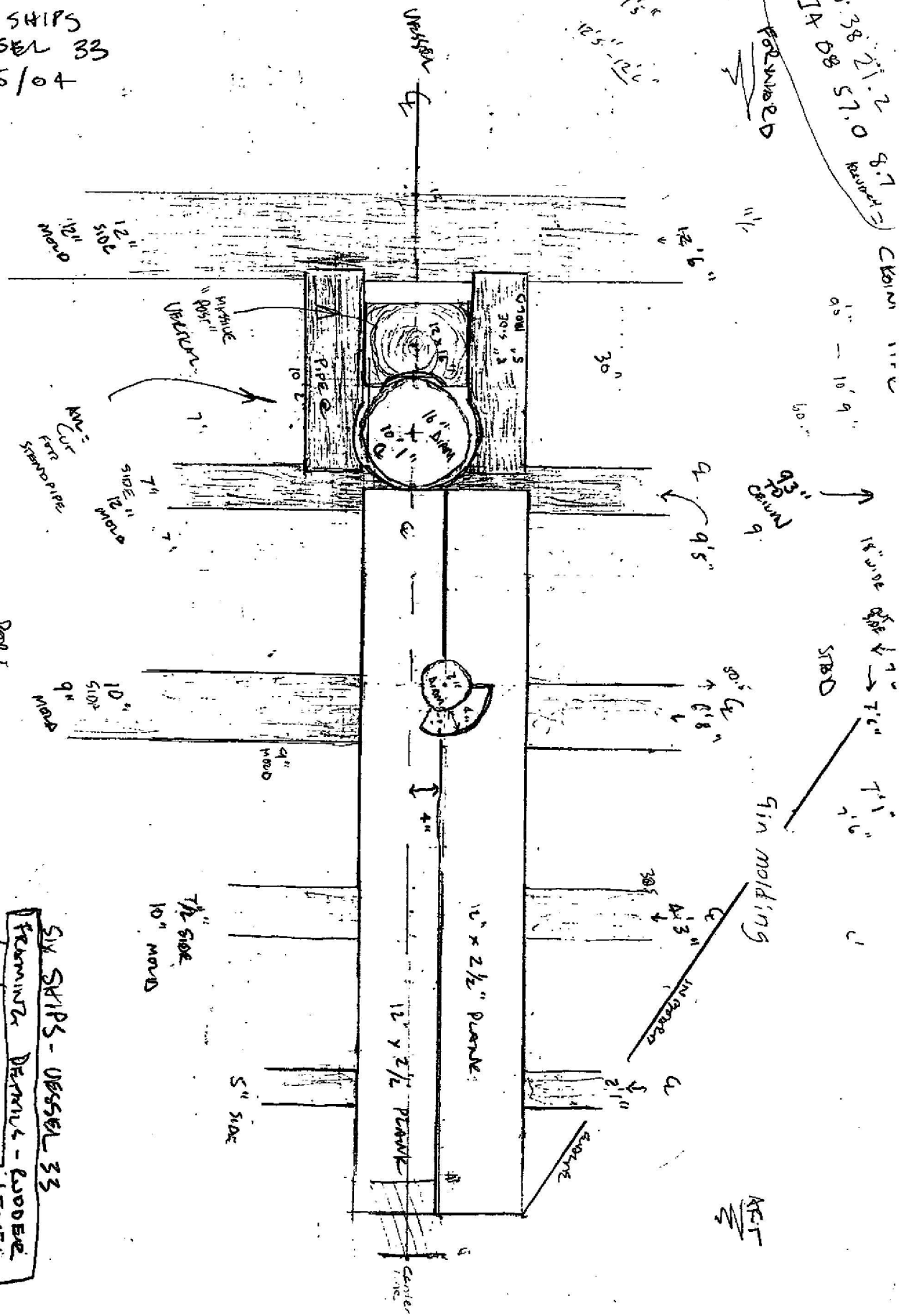
SIX SHIPS
VESSEL 33
8/25/04

5" OFFSET

BEAMS

FORWARD

N 40.38 21.2 8.7
W 14 08 51.0
CLIM 11.2



SIX SHIPS - VESSEL 33
FRAMING DETAILS - RUDDER LEVEL
8/25/04
MKF:ME

KEEL

SIX SHIPS -

VESSEL 83

8/23/04

AFT END STEERING MECHANISM

52" CENTER TO OUTSIDE

3 "ARMS" SPOKES

6" = REC
7th BOLT W 2 1/2" BOLTS
BOLT ARM

4" WIDE
SPOKES

7'3"

DETAIL RUDDER POST → AFT

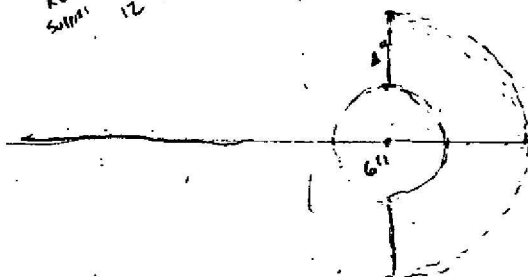
RUDDER
SUPPORT 12" x 3"

12"

12"

7' ON C FROM STERN

AFT →



Cholera

VF 33

56¹¹

MHE; MKF

STEERING ARC
SCANTLING

LOOKING STBD

INSIDE OF FRC ↑ h E outside OF FRC.

$$61\frac{1}{2}'' = A - B$$

C-D
CIRCUMFERENCE - 10' 1"

$$G'' + G''$$

1st TRICK
ARCS

1/2 Bot

52

1.5" NOTES

PLATE
7 x 9.5"

1.3

14"

$$33\frac{1}{2}$$

44

1" Pencil - 50 KES

6 1/2" ⁱⁿ
B-A

toech
Cin
out

WU

1.5-

10

15

14

1

—

2

11

3.

人

1

TS

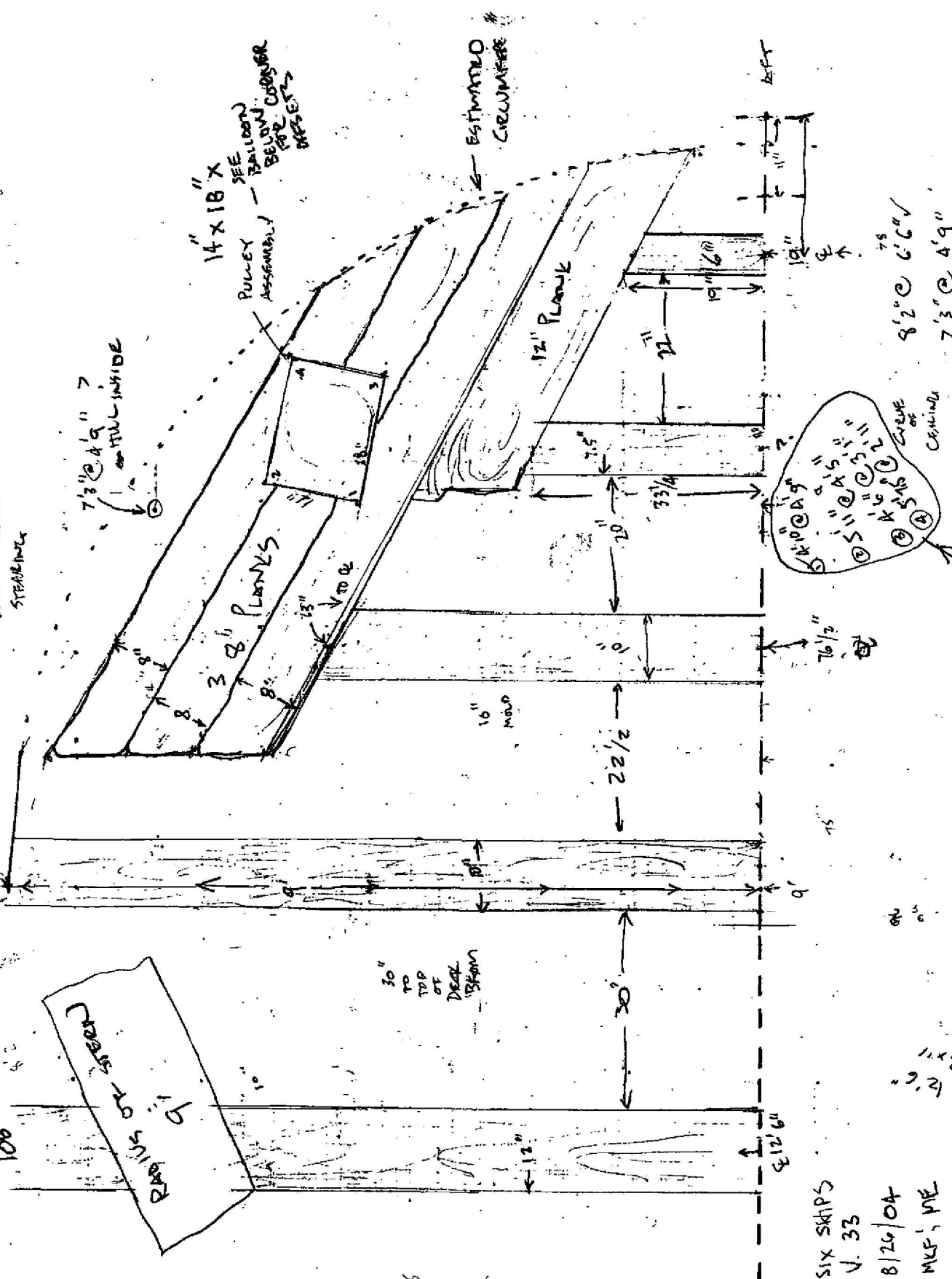
1

11

•

9" RADIUS OF STEEL
 108"

① INTERIOR PLANKS BEHIND
 BRACKLE - ASSEMBLY WITH
 STRENGTH



SIX SKIPS
 V. 33
 8/24/04
 MRF, ME

OFF SETS TO CORNERS OF
 PULLEY BOX

STERN - DEPTHS

E FROM STERN	OFFSET	DEPTHS
② 9'	25" STBD	7' 2" FROM FLOOR TO TOP OF DECK BEAM
① ② 9'	LOWER FRAME	TOP TO TOP OF DECK BEAM 31"
② 7'	25" STBD	7' 1"
③ 5'	25" STD	6' 6" FROM FLOOR TO DECK BEAM
④ 3'	25" STBD	5' 7" "

STEERING FRAMES TO DECK FRAMES - ELEVATIONS - TOP TO TOP

FROM STERN 1 33.

2 30 - 30.5

3 27 1/2

4 29 1/2

5 26 1/2

SIX SHIPS

VEASER 33

8/20/04

MEF ME

DEPTH TO FOUR MEASURES

MEASURE FROM STERN
↑ 6'3" ↓

75" 6'3"

94 7'10"

7'8"

9'4"

2'1"

← OFFSET →

9 1/2" outside edge of ^{starboard} steering deck

62" inboard " " " "

69 1/2" inboard edge of steering planking

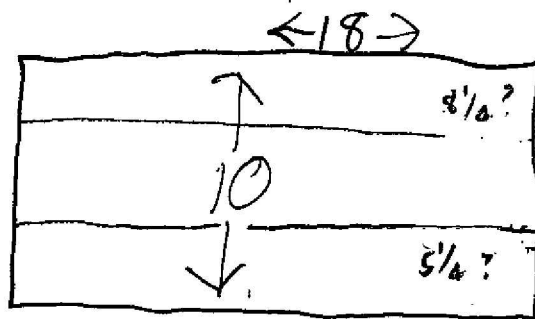
99" outboard corner of steering deck

94" Timber under Frame 66 (#4)

64" 1st Deck Beam

PULLER
BOX

PROFILE



14" DEEP

8" in

8" in

8" in

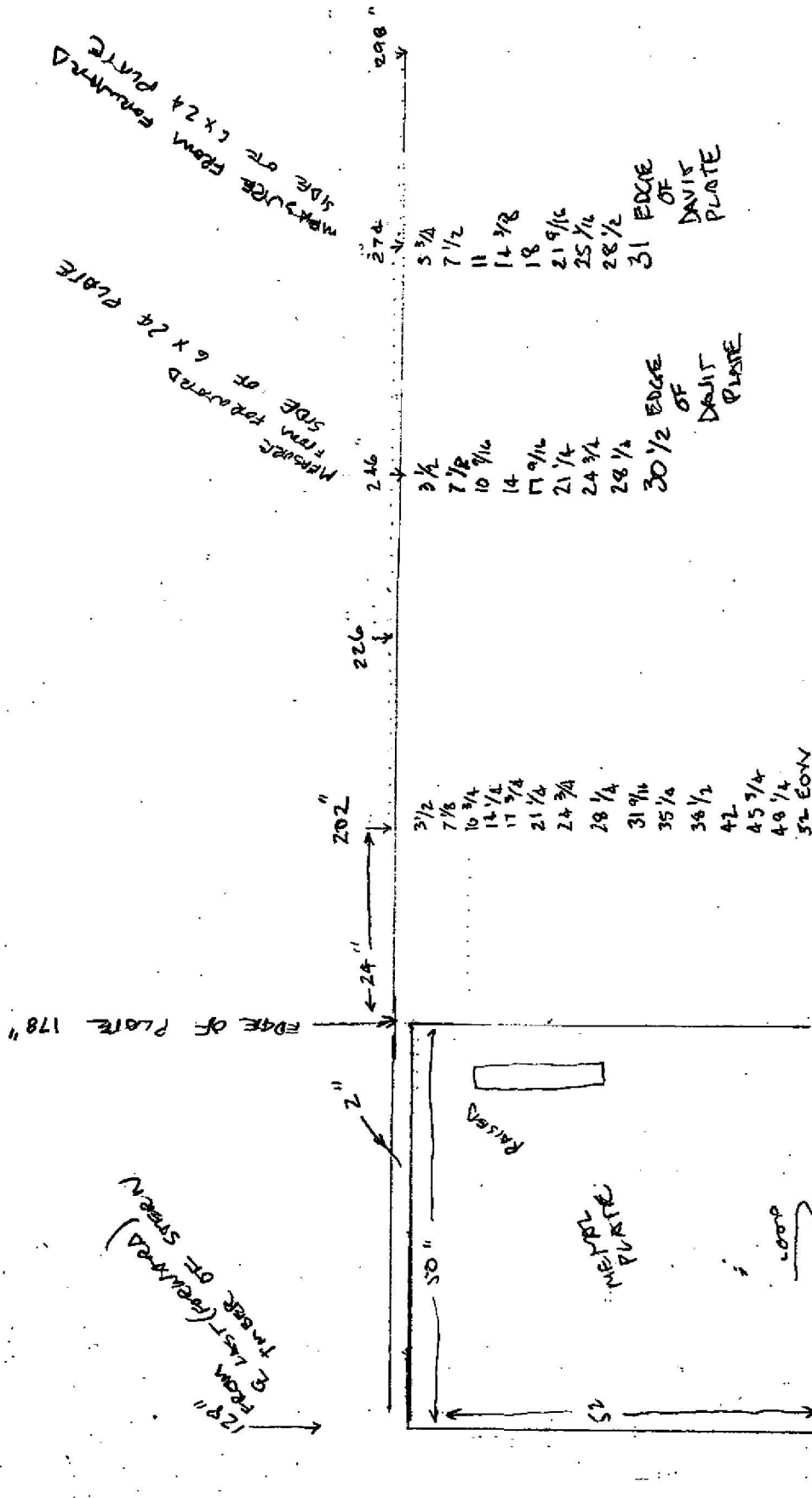
12" in

SIX SHIPS
VESSEL 33

8/26/04

MKF, ME

STEERING MECH PLATFORM
SCANTLING



SIX SHIPS
VESSEL 33
8/24/04

FORWARD

STOD
25" SIDE

PLANK LINE DATTUM
FROM EARLY
DRAWING

13
110
12
150
18

3, 7, 21

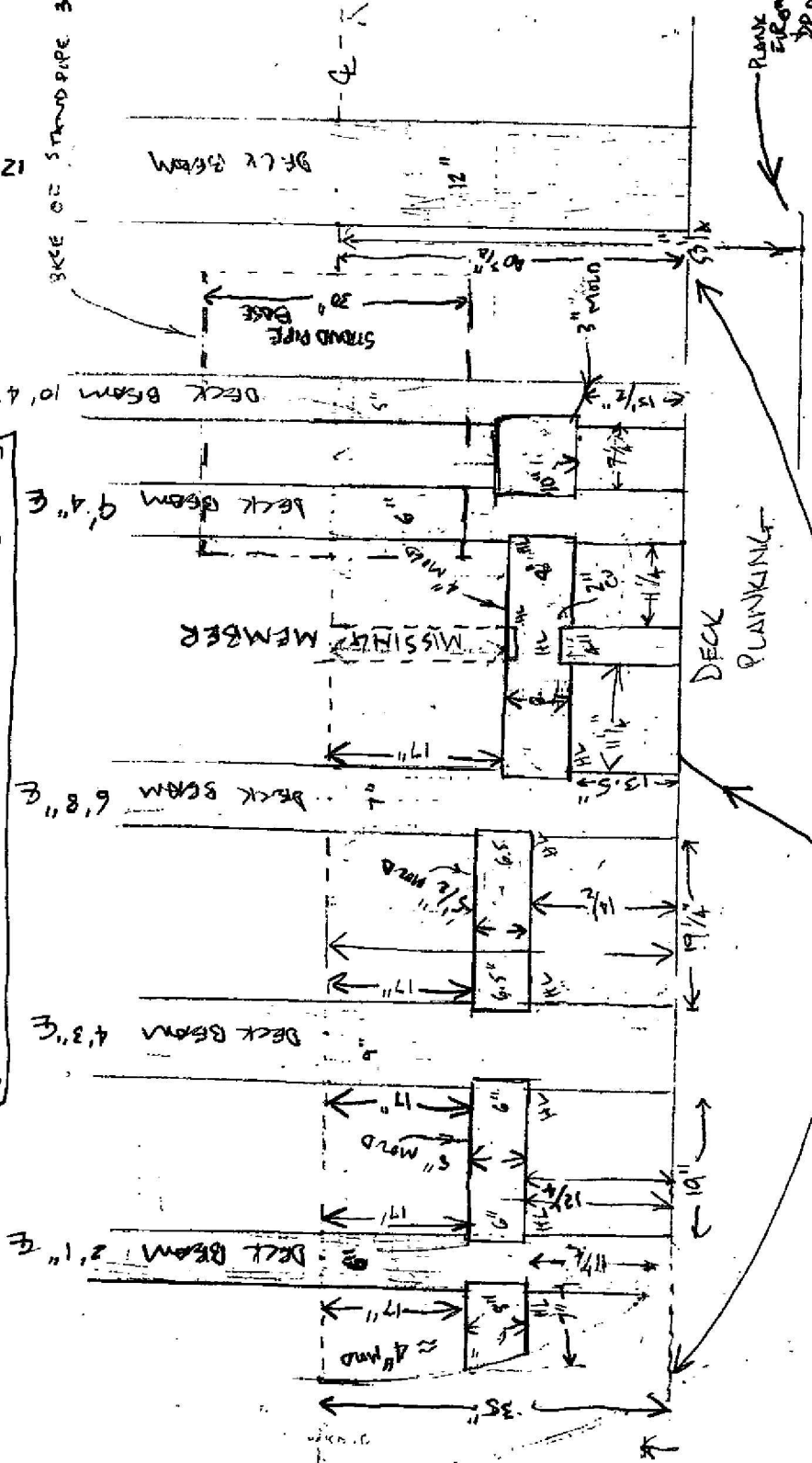
SEE 02 STAND PIPE 30 X 3

33"

FORWARD

AFT

STEEL FRAMING PATTERN DECK BEAMS



63 1/4

NOTE: PLANKING LINE NOT

STRAIGHT AFT = 35" TO 6
FORWARD = AD 3/4 TO 6

DAED -

HOLE UP

12" x 12" x 12"

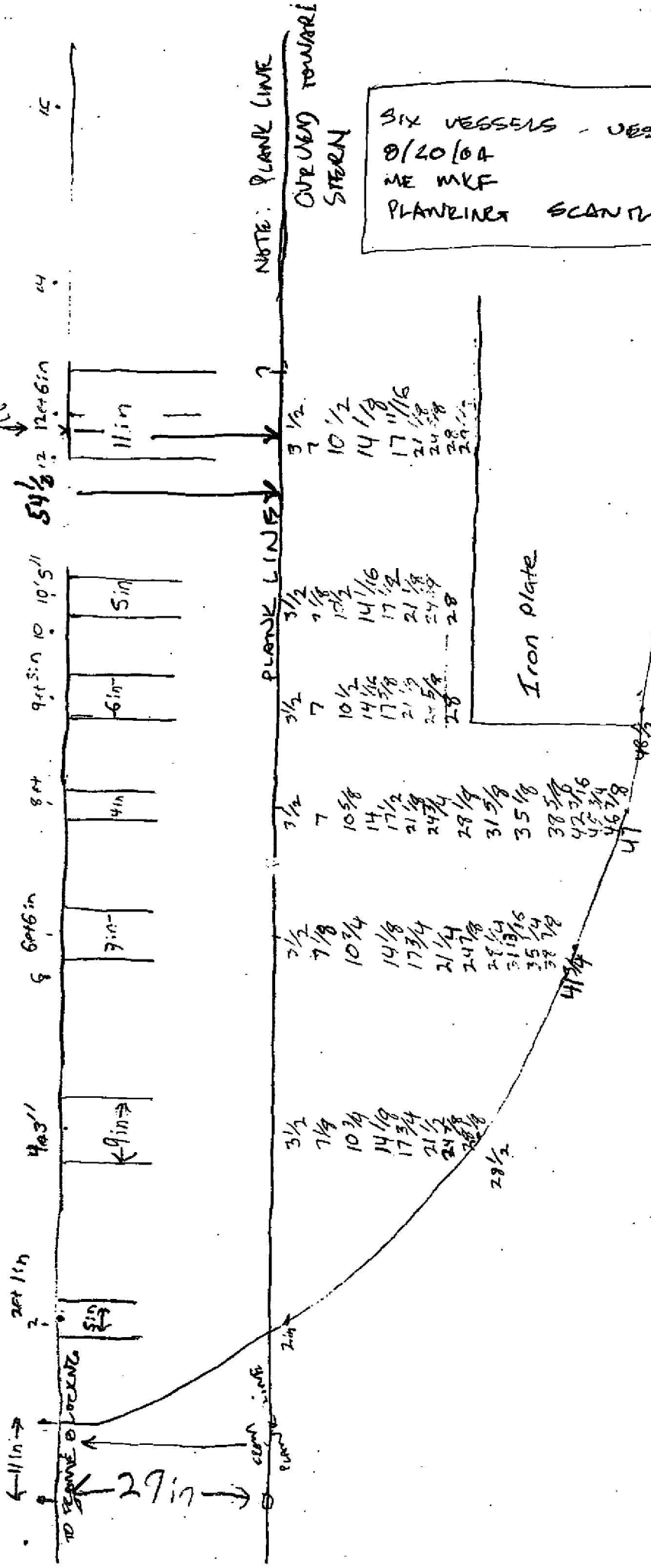
9'11"

AFT

10'4" x 5'11" x 12"

2X
work

54 1/2 in
To centerline
of vessel



NOTE: PLANK LINE
CURVED TOWARD
STERN

SIX VESSELS - VESSEL 33
8/20/04
ME MKF
PLANING SCANTINGS

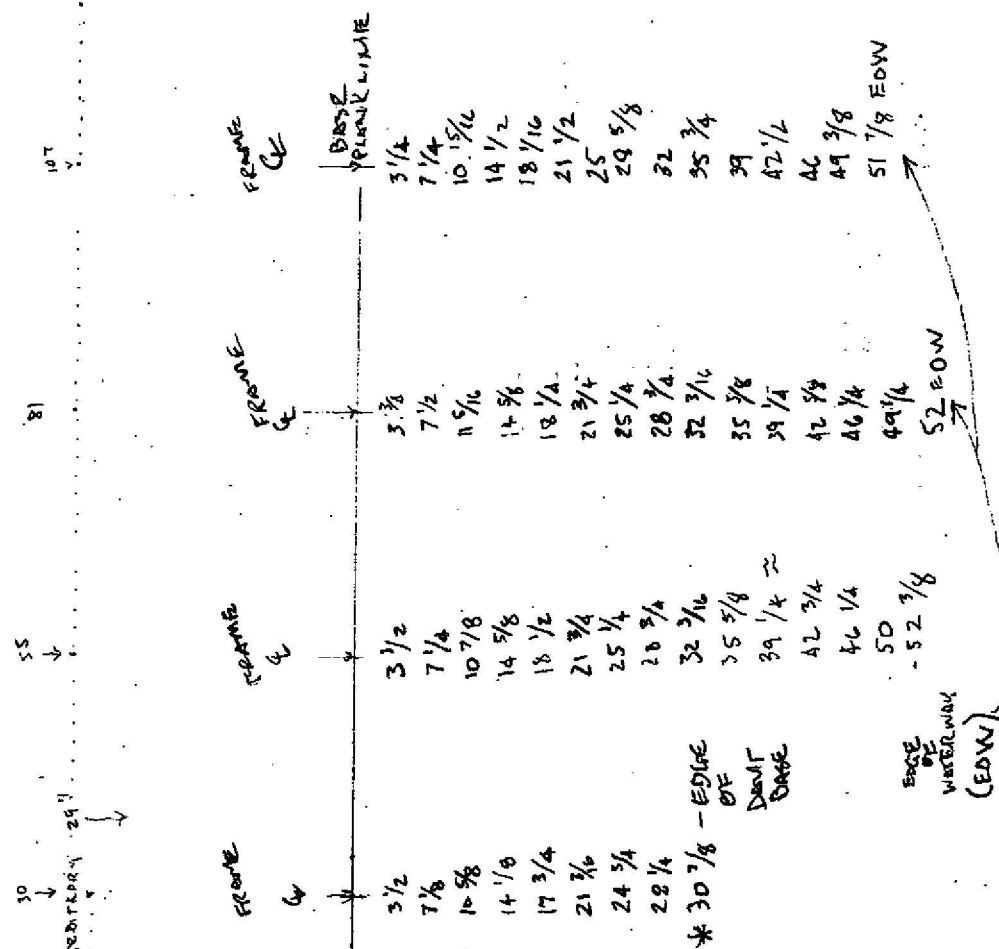
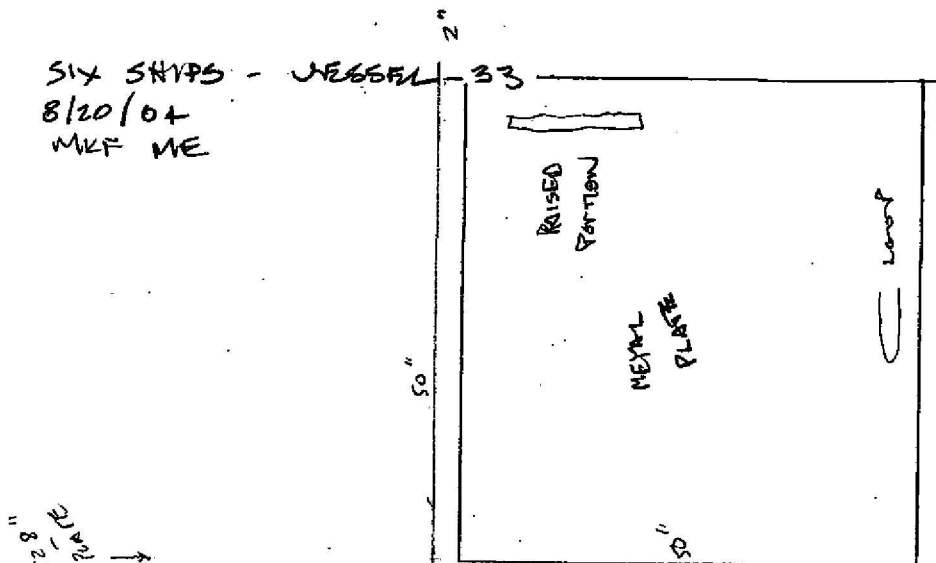
Iron plate

Plankton = $3\frac{1}{4} \times 3\frac{1}{2}$

55" 81" 107" 128"

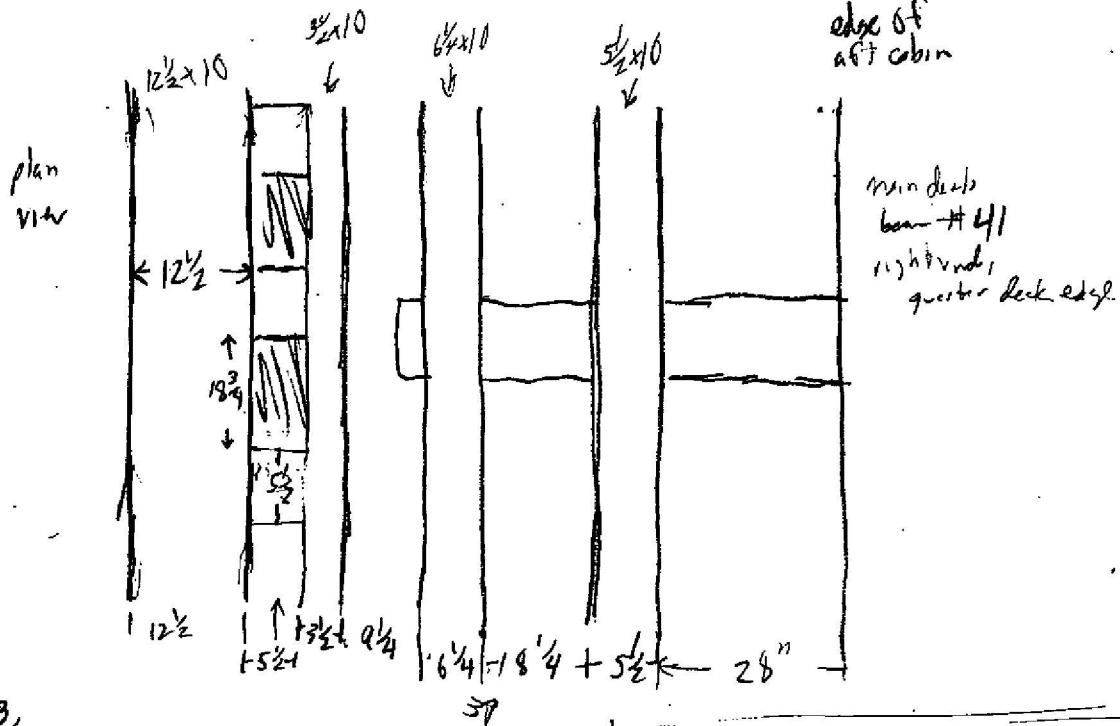
128 1/2 Purple

SIX SHIPS - VESSEL - 33
8/20/04
MKF ME



Deck plan

beams on main deck level bulkhead located b/n 46 & 45



60 3/4
2'
88 3/4

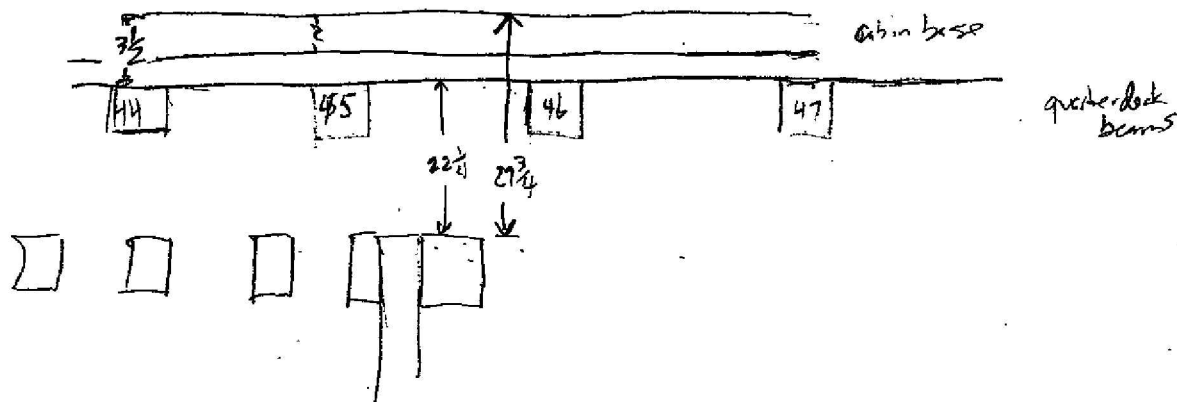
bulkhead has
separated:
room is 5 1/2,
stanchion is 4" deep

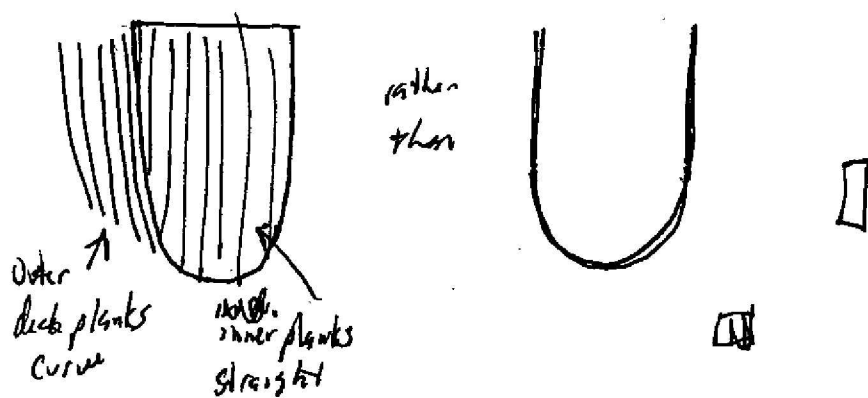
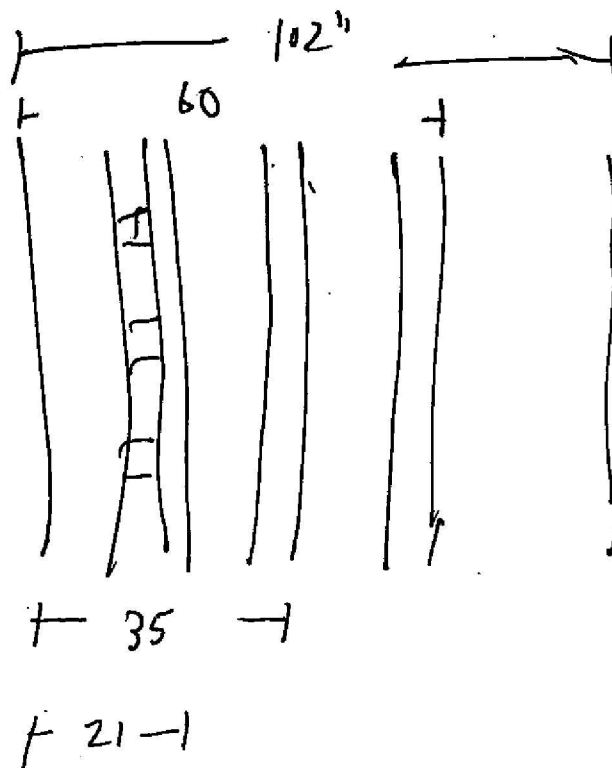
↑
this beam located
13" forward of beam 46
center to center
b/l 50 1/4 to 51 center

engine location
45.5 to 37 on B/L

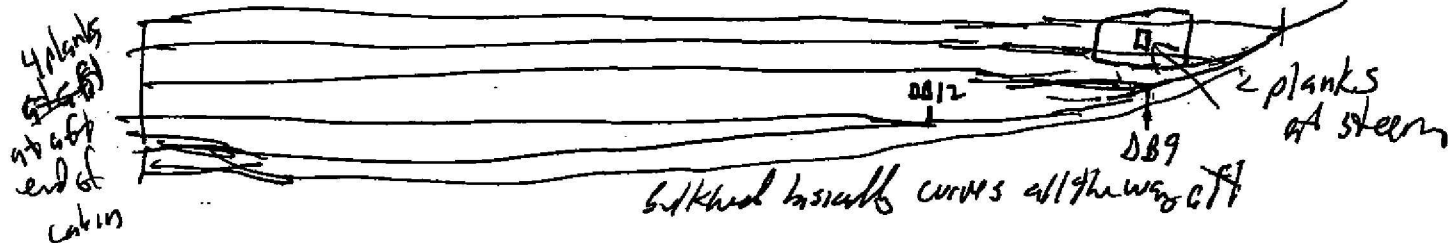
boiler or fuel tank location

B/L 25 to 13





deck planks are parallel with centerline



curve of sides and deck parallel approx at aft end of deck horse

SIX SHIPS
8/23/04
VESSEL 33
MR. MKF

CL OF DECK BEAMS

DECK BEAM - CL FROM FASTENER PATTERN

1. 138' 3"	21 96' 11"	46 49' 6"
2. 136'	22. 94' 11"	47 47' 8"
3. 133' 5.5"	23. 92' 6"	48 45' 6"
4. 131' 2"	24. 90' 8"	49 43' 6"
5 129' 3"	25 88' 10'	50 41' 8" - 15 PLANKS ACROSS
6 127	26 87' 1"	51 39' 5"
7 125' 1"	27. 84' 8"	52 37' 5"
8 123' 1"	28 82' 10"	53 35' 1"
9 121' 1"	29 80' 10"	54 33' 0"
10 119' 1"	30 78' 10"	55 31' 4"
	31 76' 11"	56 29' 5"
	32 74' 8"	57
	33 72' 11"	58
	34 70' 11"	59
	35 68'	60 21' 9"
	36 67' 2"	61 19' 8"
	37 65' 2"	62 17' 3"
	38 63' 1"	63 15' 1"
	39 61' 2"	64 12' 7" - STERN SECTION -
	40 59' 6"	65 10' 6"
	41 59' 0"	66 9' 4"
	42 57' 0"	67 8'
	43 55' 1"	68 6' 7"
	44 53' 5"	69 4' 3"
	45 51' 8"	70 2' 1"

COVERED BY METAL PLATE

STERN SECTION -

64 12' 7"

65 10' 6"

66 9' 4"

67 8'

68 6' 7"

69 4' 3"

70 2' 1"

TRANSVERSE FORE END OF QUARTER DECK

★ 41 59' 0" 1st BEAM ON FORE END OF QUARTER DECK

15 PLANK

* DECK BEAM @ 6 = $5\frac{3}{4} \times 8\frac{3}{4}$ PAINTED ORANGE

DECK BEAM @ 11 = 6" MOUNTED NO SIGN

DECK BEAM @ 24 = $5\frac{1}{2} \times 10$ MOUNTED

DOUBLE PLATE @ 32 $8\frac{3}{4} \times 8$ MOUNTED

DECK PLANKING INCLUDES WIDE ONES OUT BOARD TO FRAME "

INCLUDES DECK HOUSE BEAM

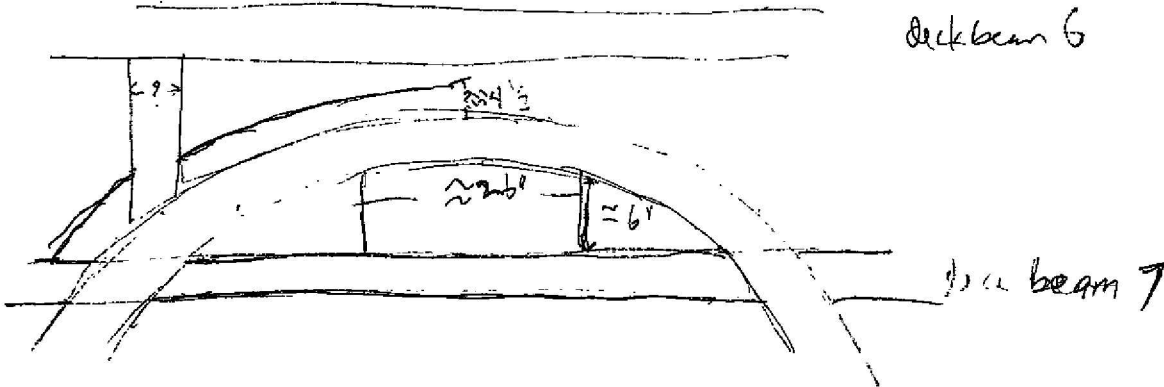
Below Deck framing

Lydrekker
 6 VUSL
 133 8/24/2004

Sept 18th
 Estuaries Day

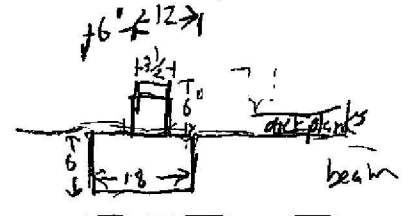
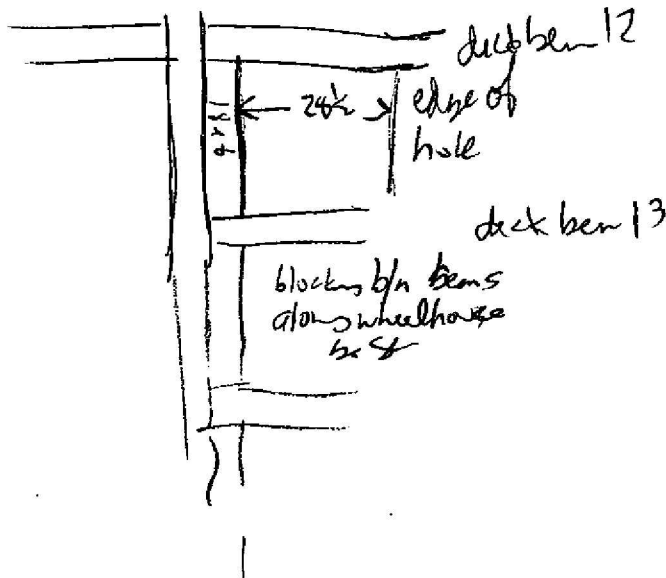
Forward Cabin (Gunk) San dock fitting detail

36" $\frac{1}{2}$



22 materials used
 on 8/24/2004

side edge of wheelhouse



12"
 6"
 18"

Attainment ships bulkhead at deck beam 18

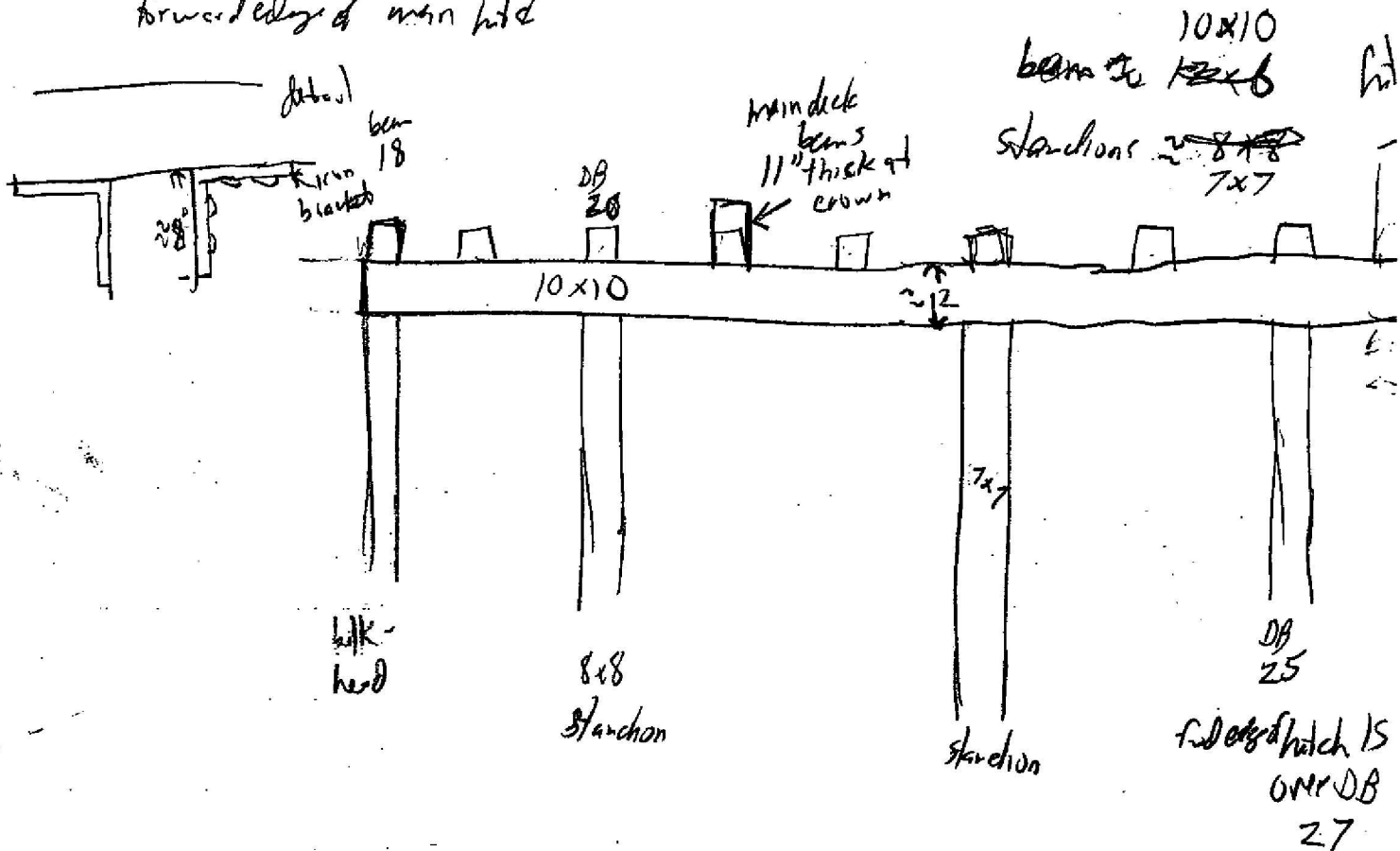
scablings
bulkhead planks
7 1/2" x 2"

bulkhead stanchions
6 1/2 x 6
bolted
6 1/2" long.

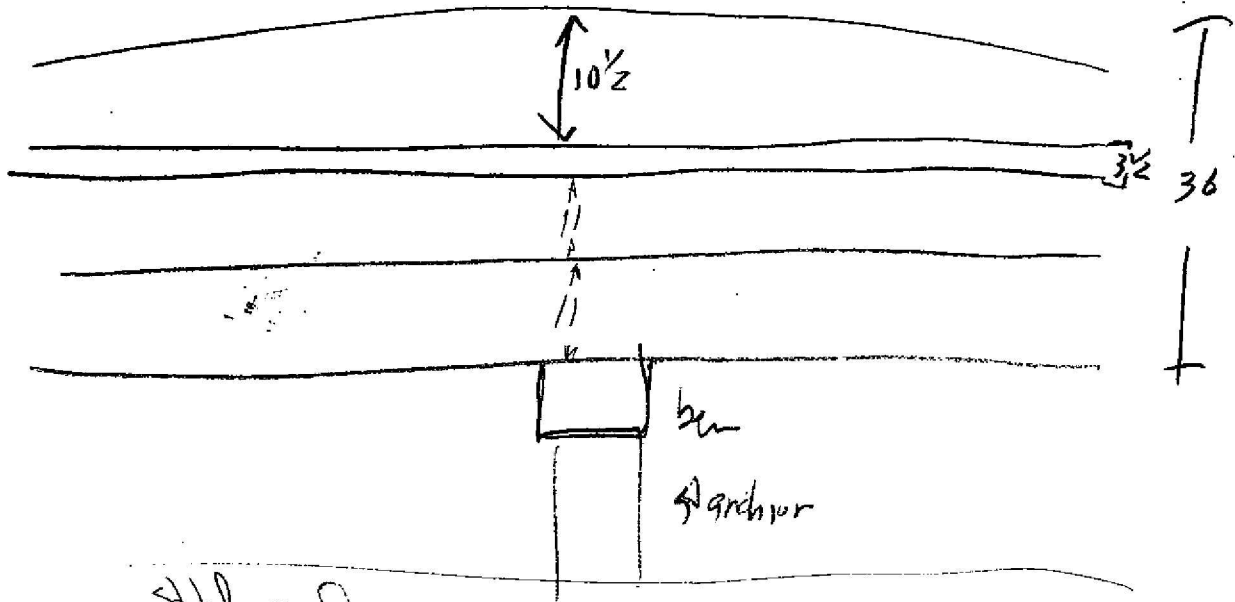
bulkhead stanchion rovers
space varies. Nine
stanchions, including
ones attached to sides
of vessel

central beam and stanchions

starts at bulkhead (beam 18) running aft to
forward edge of main hold

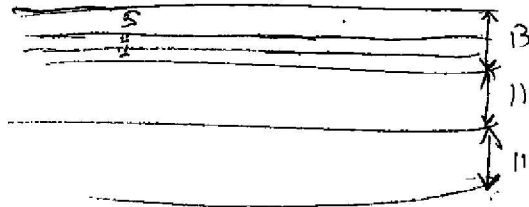


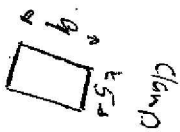
main hatch covering detail
 at ~~end~~ of end and, facing bow



stbd profile
 stbd side, looking stbd main hatch

hatch
 post





hanging tree at
Deck bar 30 31

derived from feelings

Clamp San't's

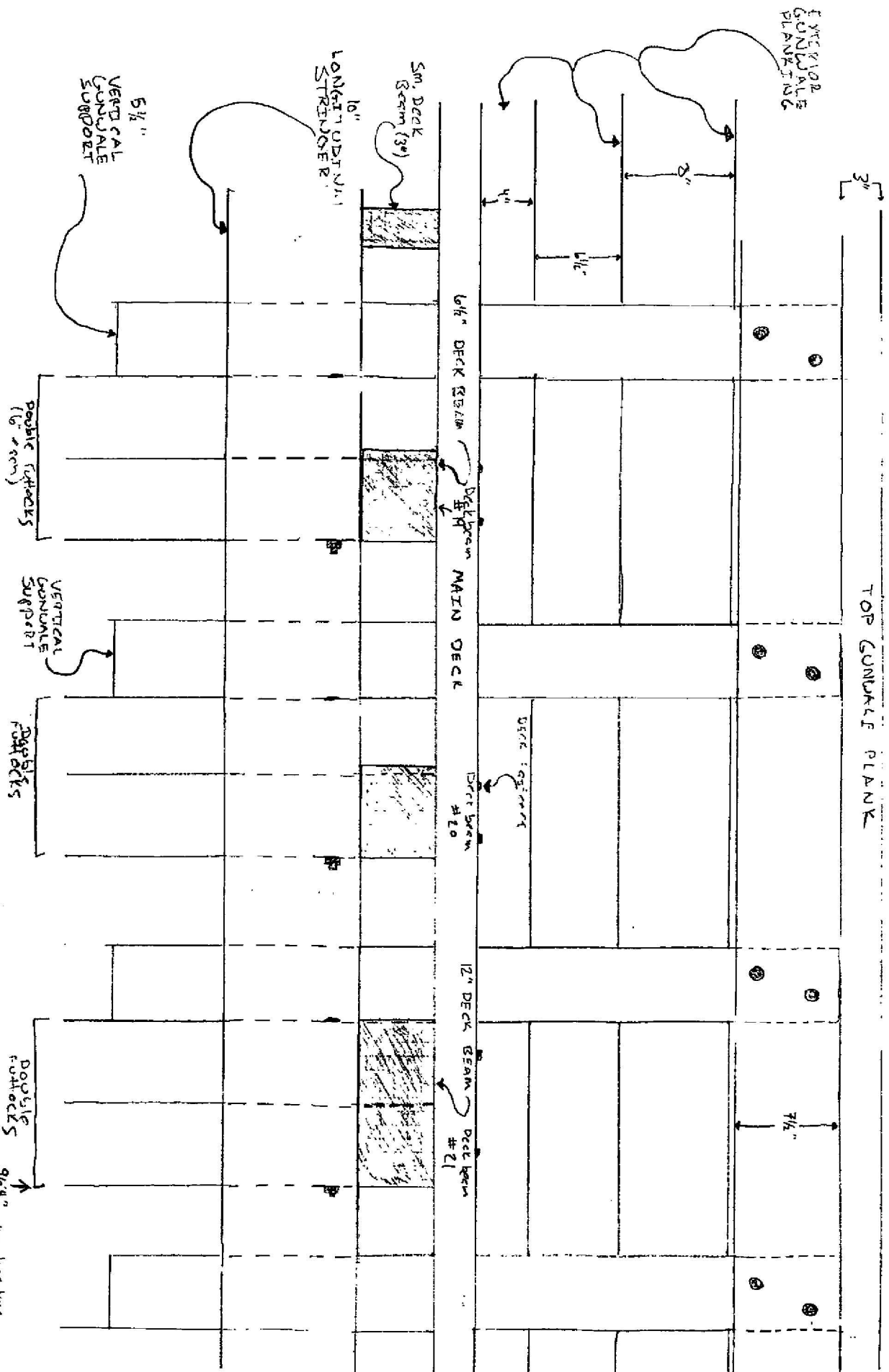
 5×9

8/12/05

10x10

10x10

V33 (MENHADEN TRAWLER): Futtock/Main Deck Configuration



$\frac{1}{4}$ inch = 1 square

8-28-04
MAY

top gunwale (quarter deck)

4" rounded

6" sided

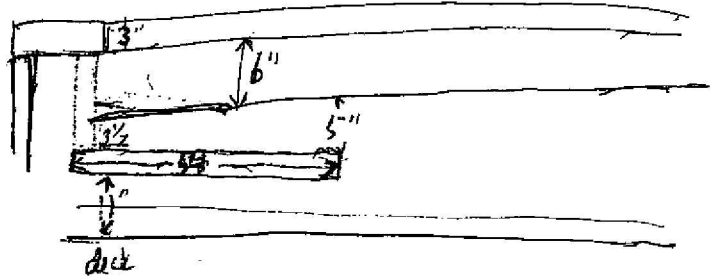
quarter deck plating

3 1/2" sided

2 1/2" rounded

step
2 1/2" thick
12" wide

gunwale



1. **Introduction**

2. **Background**

3. **Method**

4. **Results**

5. **Discussion**

6. **Conclusion**

7. **References**

8. **Appendix**

9. **Table 1**

10. **Table 2**

11. **Table 3**

12. **Table 4**

13. **Table 5**

14. **Table 6**

15. **Table 7**

16. **Table 8**

17. **Table 9**

18. **Table 10**

19. **Table 11**

20. **Table 12**

21. **Table 13**

22. **Table 14**

23. **Table 15**

24. **Table 16**

25. **Table 17**

26. **Table 18**

27. **Table 19**

28. **Table 20**

29. **Table 21**

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32. **Table 24**

33. **Table 25**

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124. **Table 116**

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138. **Table 130**

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141. **Table 133**

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218. **Table 210**

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221. **Table 213**

222. **Table 214**

223. **Table 215**

224. **Table 216**

225. **Table 217**

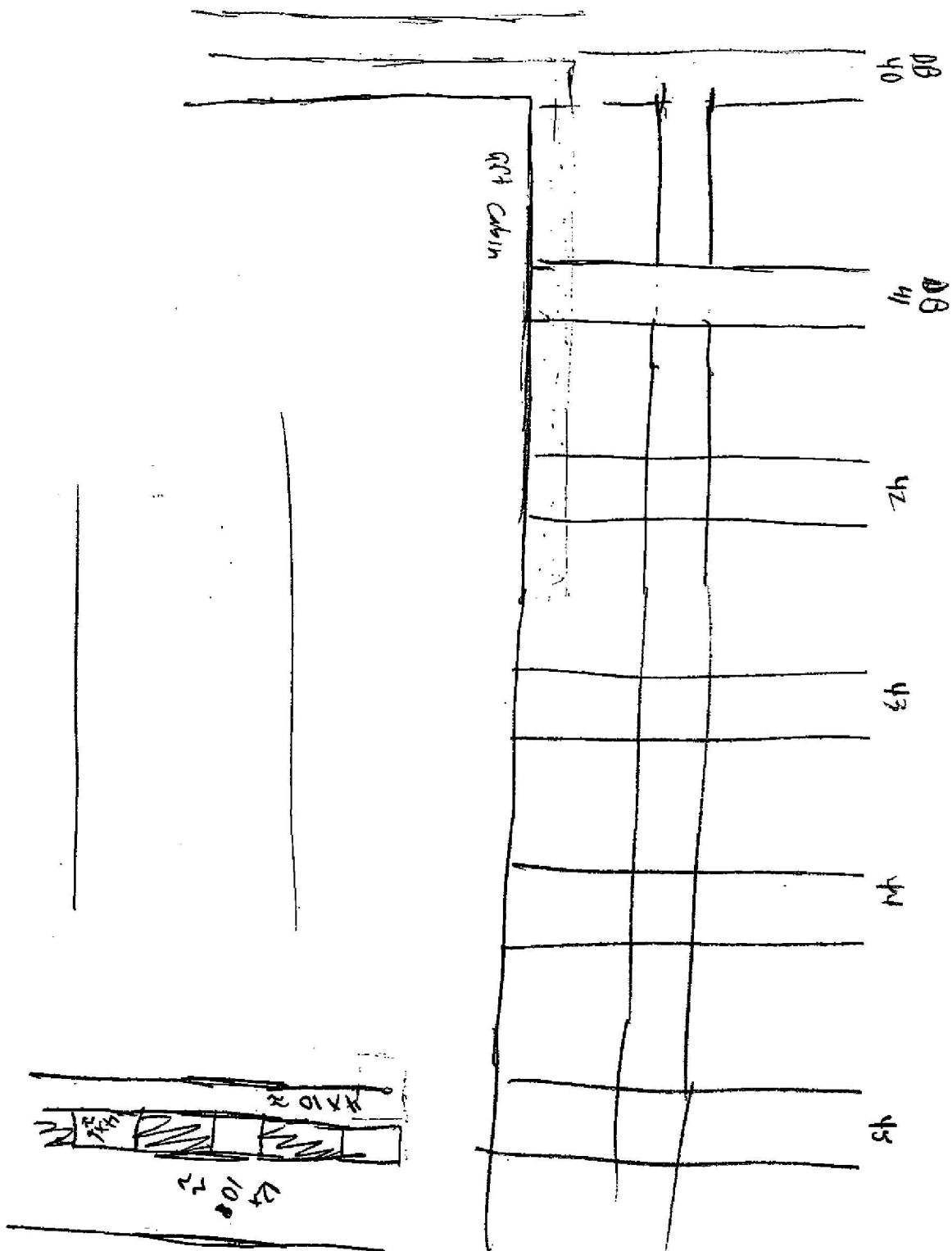
226. **Table 218**

227. **Table 219**

228. **Table 220**

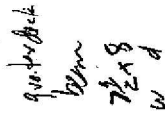
229. **Table**

→



take it for 50

5.



the 2

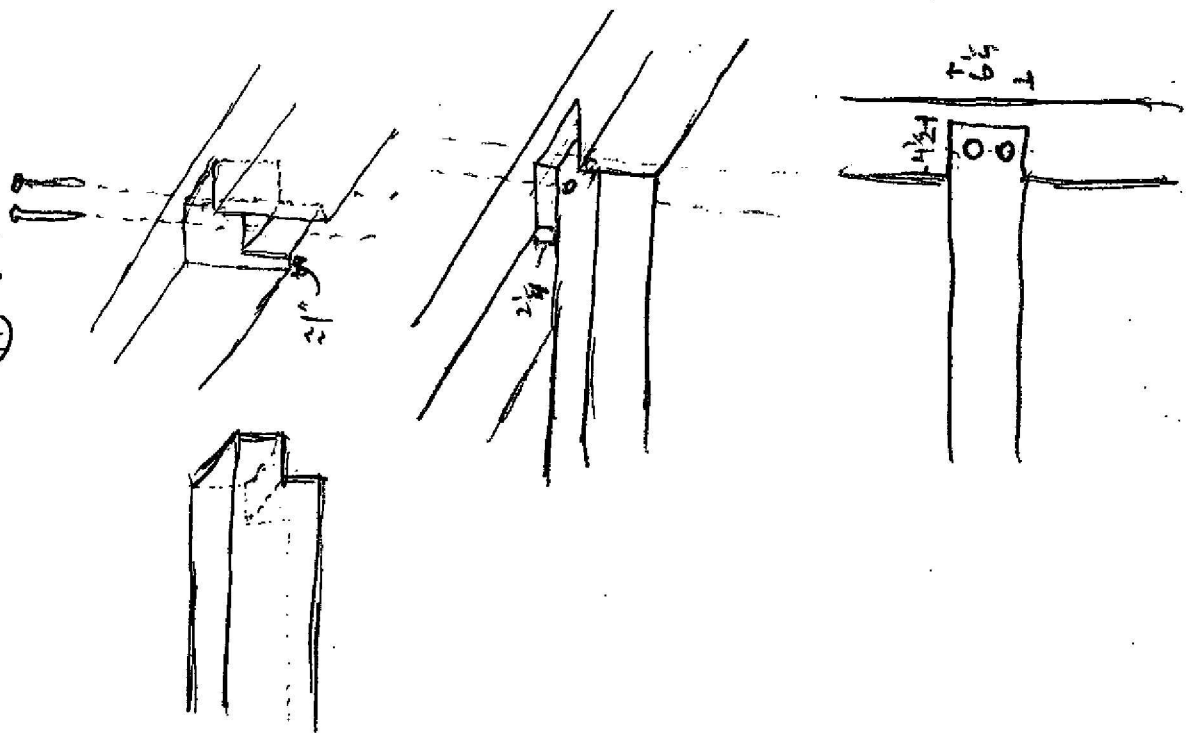


2 18 1/2 sized, 2 pcs included 4" x 2" total 5" 12

4400p 68 16
Apostrophe 2 1971/11/15 551 mg

Wade: Will know right.
at Grand 40-41

① Joint Detail

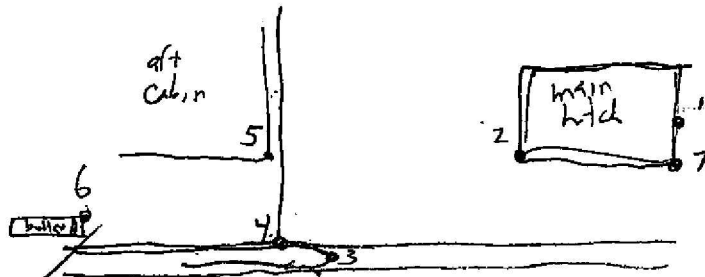
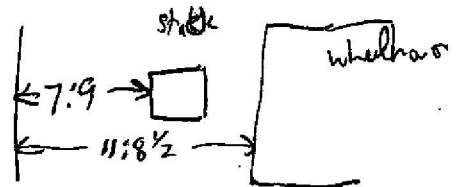


1/2 loc	Feature	dist
2nd knee aft corner	1 aft stbd corner of Cabin	6:10
2 92' 66	2 back stbd 25	10:9

3 base of main bulkhead	9:0 1/2
4 Dis-30	17:11

stbd water line plank	1	13:0
forward edge of base bulkhead	2	9:8
at base B/L 84' 9	3	4:7
stbd forward corner of main bulkhead	4	8:9

Location of aft stack plate
8' 10 1/2 to 11' 6 3/4
aft stack
9:5 to 10 8 1/2

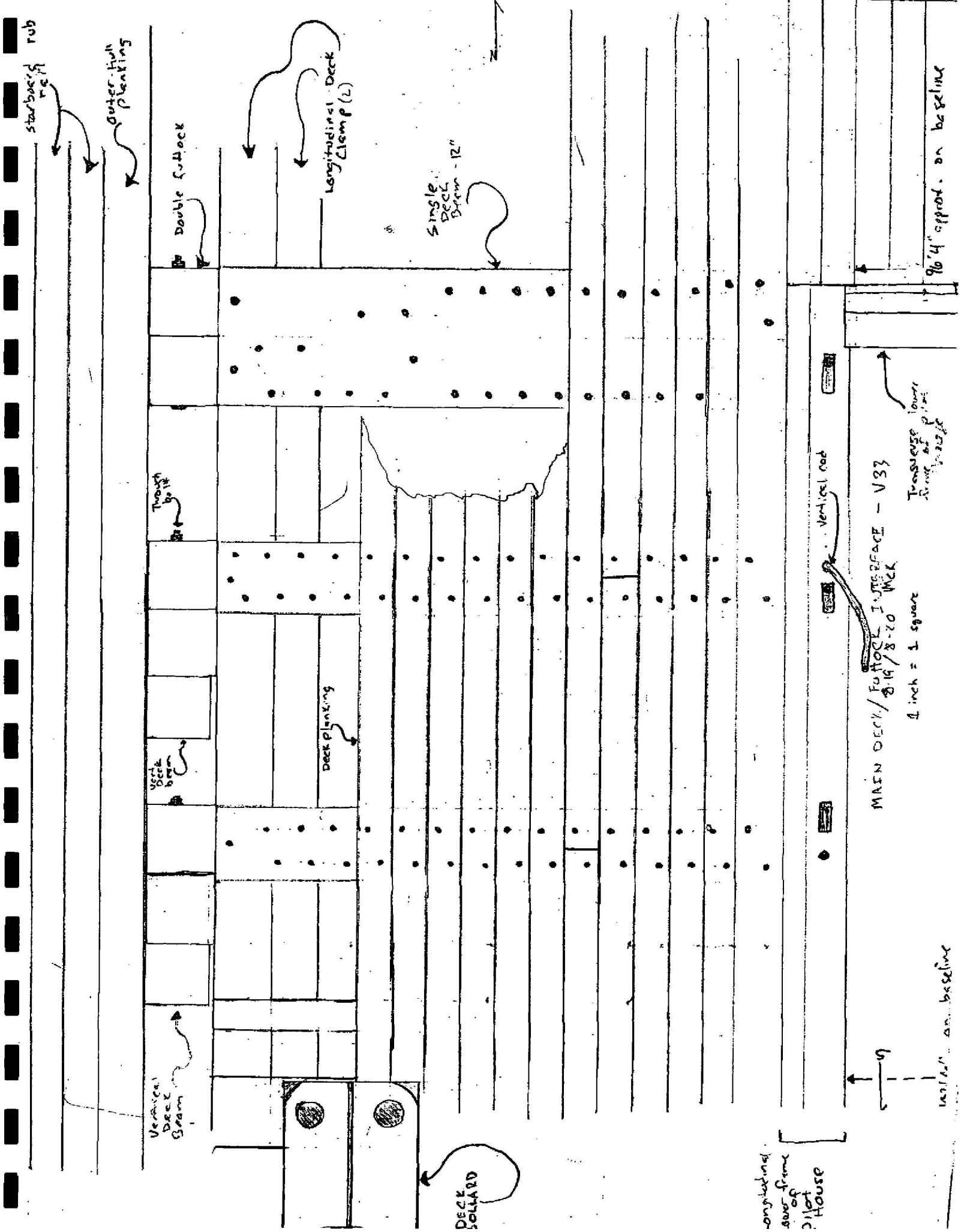


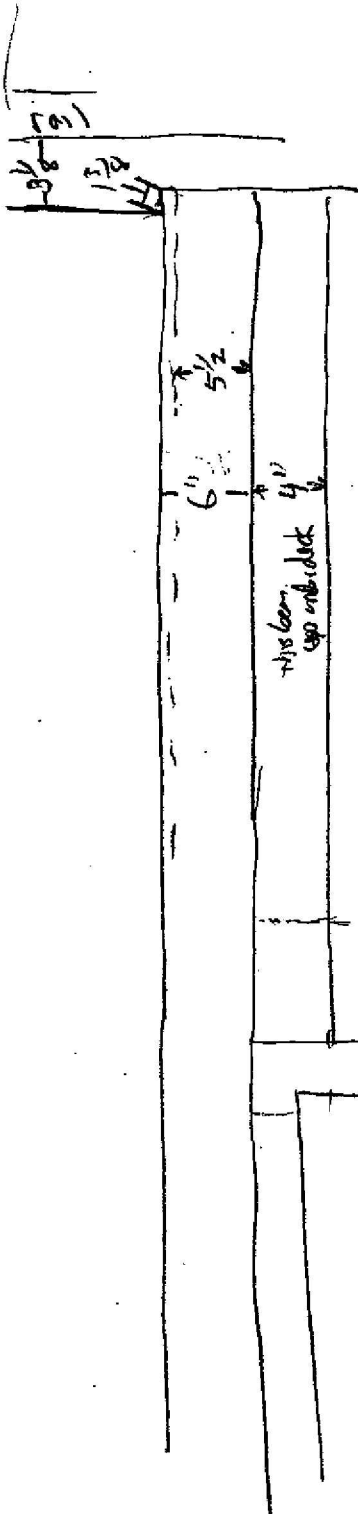
aft stbd curve

from	to	dist
1	2	17 2 1/2
1	3	3:6
1	4	20 2:2 1/4
1	5	7:10 3/4
1	6	8:1 1/2
1	7	9:5 1/2
1	8	9:3 1/4
1	9	10:6
1	10	10:1 1/2
11	10	4:3
11	9	2:8
11	8	7:5 1/2
11	7	9:8 1/2
11	6	8:10
11	5	0 12:2
11	4	11:0
11	3	13:2
11	2	16:9 1/2
11	1	11:2 3/4

- ① stbd fore corner of aft mast plate
- ② fore inboard corner of aft davit plate
- ③ aft stbd corner of aft cabin
- ④ aft corner of aft davit plate
- 5 fore ~~66~~ 67
- 6 ~~66~~ 67
- 7 ~~66~~ 68
- 8 ~~66~~ 69
- 9 when plank is met to stern
- 10 ~~66~~ 70
- 11 ① pt on B/L

48" 6/4 to aft corner of
5/4 is 8" stbd of centerline
at stern
78 1/2" from aft corner
of cabin to waterway





6x11
- 6"
(11' embedded)
this
beam
under
chaff
brick

main deck

scantling

deck plank

edge of cabin

molded 3"

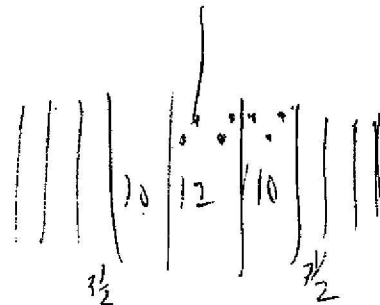
sided 3 1/2"

sided 3"

molded 3"

8 to 8 1/2"

centerline



deck beams

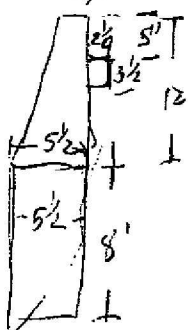
2 ft centers

forward hatch

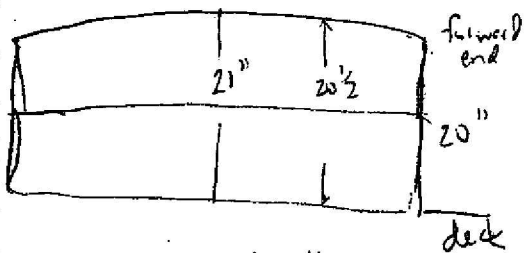
coaming

12' high

1 1/2" (rounded)



5' 11"



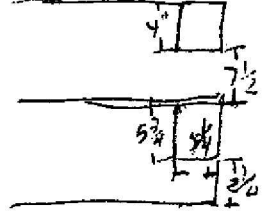
forward end

20"

deck

stbd side

forward coaming 5 1/2"



bulwarks

gunwhale

12 sided 3' mold

ailings (just below gunwhale)

7 5/8 vert

2" horiz.



frames

molded 5 1/2"

sided 5 1/2"

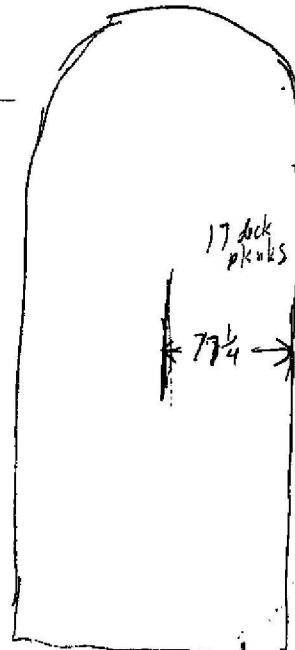
room 5 1/2"

space 18 1/2"

height to 22"

to top of cap

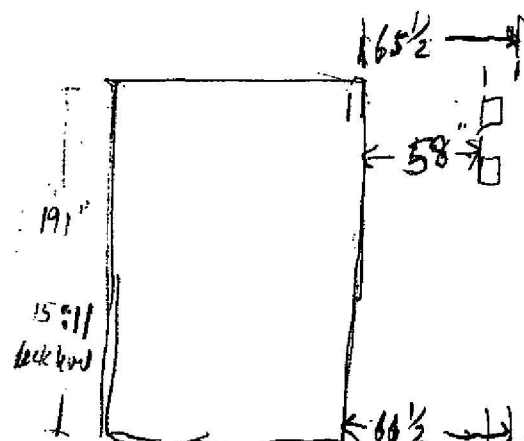
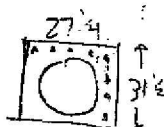
pilot house wall



17' deck planks

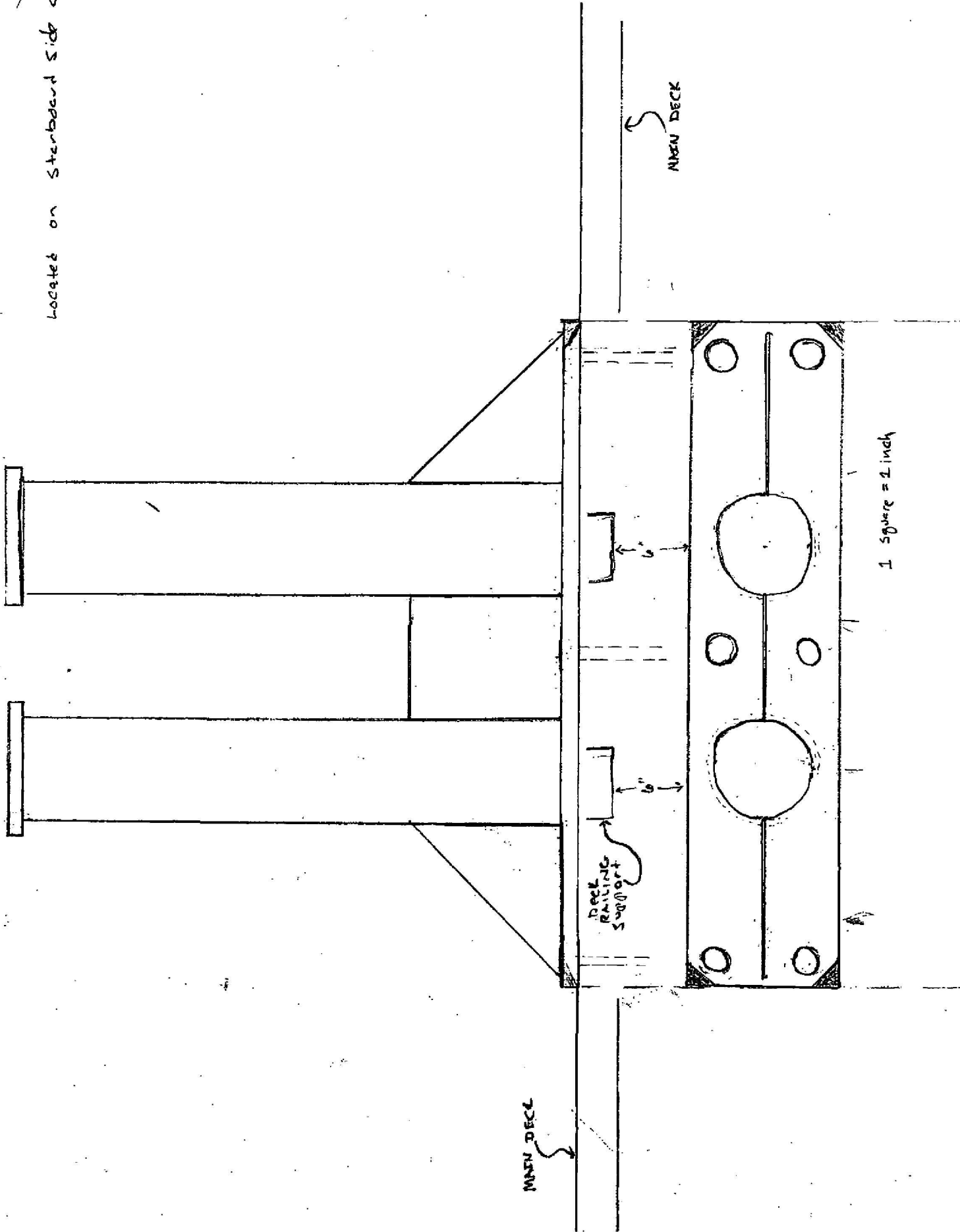
7 3/4"

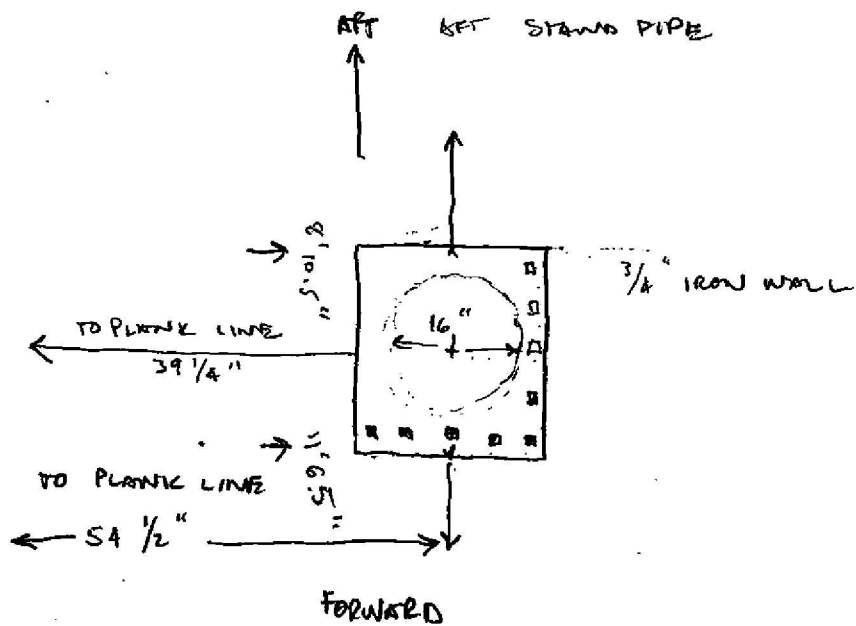
W 3 1/2" H 4 1/4"

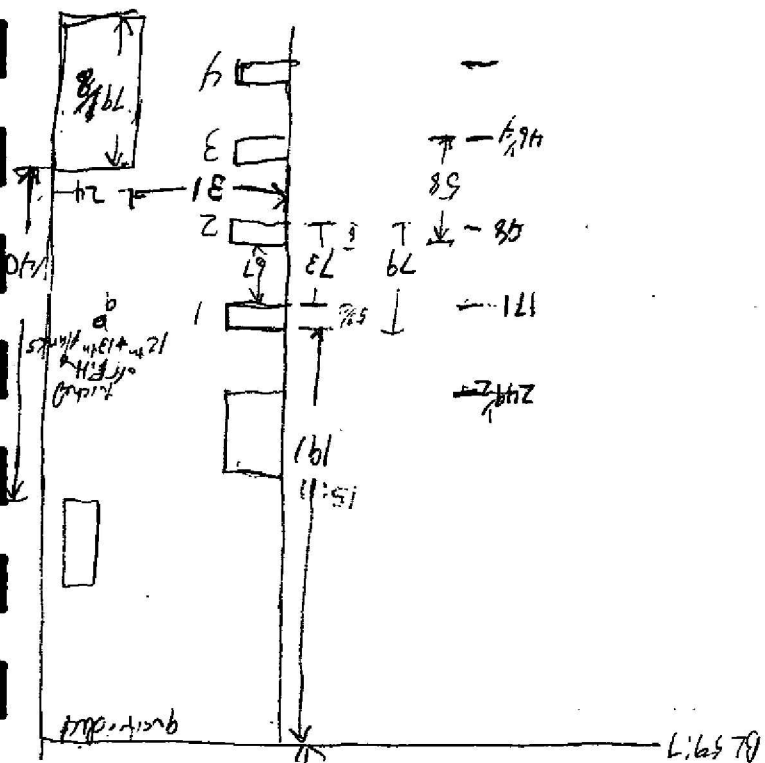


8-19-84 WCL

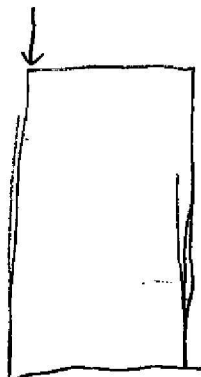
located on starboard side of V33







11:11



01:89 R

SIX SHIPS - JESSEL 33

MENHADEN TRAWLER

8/19/04

MKF

2ND

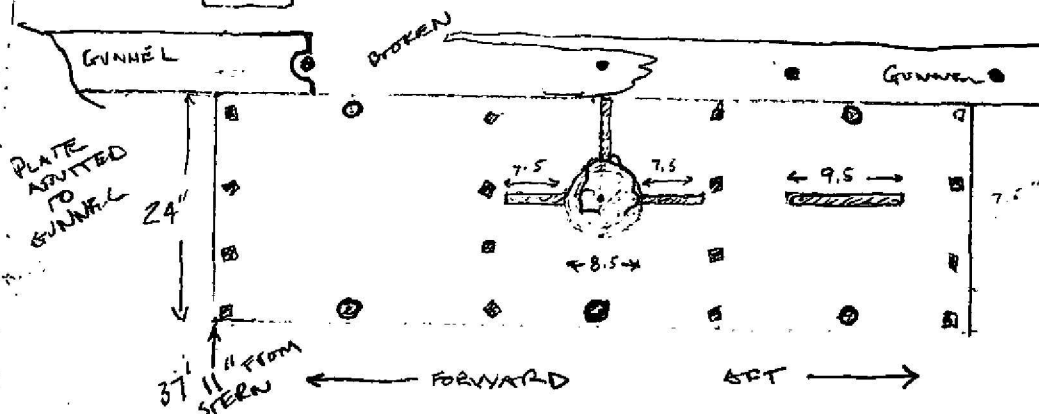
STARBOARD

"BOLLARD" - 2ND FROM STERN

6x3.5

PLAN

$\phi = 2"$ APPROX



ϕ = RIVET

\square = 1" BOLT HEAD

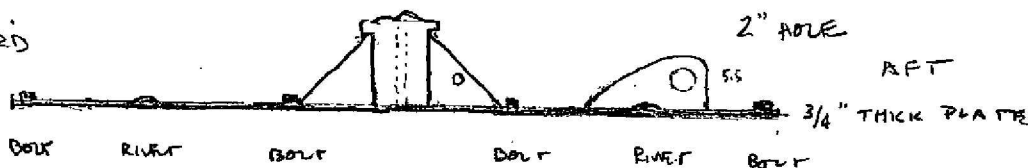
DIMENSIONS =
79" X 24"

BLUE
GRAY PAINT CHIPS
SEEN ON BOLLARD
PLATE

SECTION

LOOKING STARBOARD (WEST)

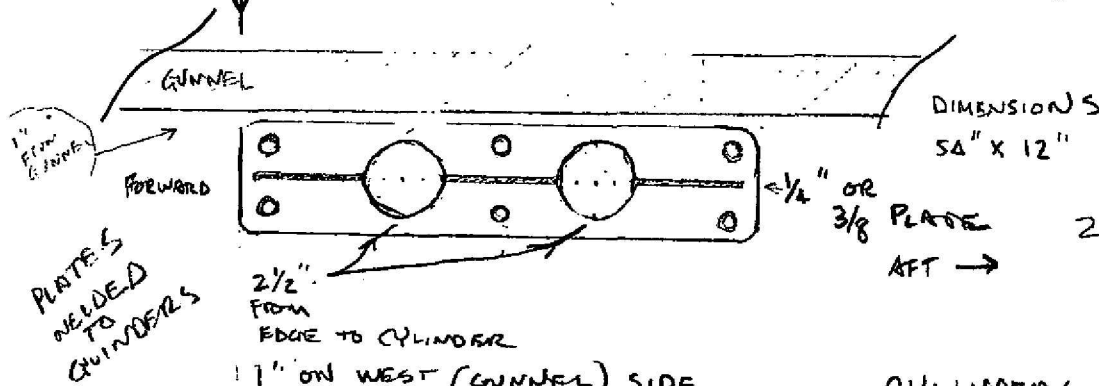
FORWARD



TOP OF BOLLARD SHOWS WELDING SCARS - OR POSSIBLE TORCH
CUT AS IF SOMETHING REMOVED

54' 2" FROM STERN

3RD "BOLLARD"

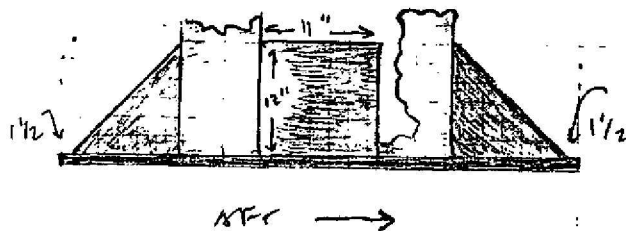


DIMENSIONS
54" X 12"

ROUND HEAD
2" BOLT HEADS
X 6 ONLY
FLAT HEADS

CYLINDERS VERY THIN
WALLS

SAME AS
FORWARD
SET @ Bow



1" THICK PLATE BASE

1/4 TO 3/8" PLATE REINFORCING

SIX VESSELS - VESSEL # 33 - MENTHODEN TRAWLER

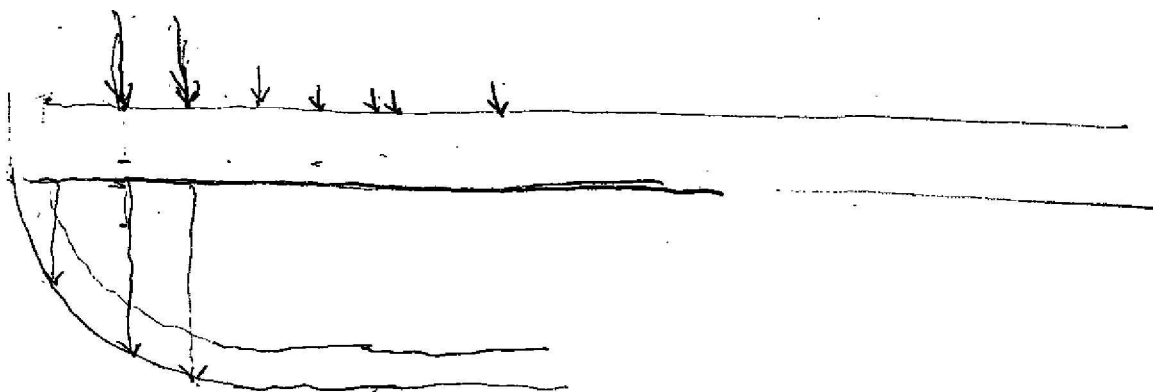
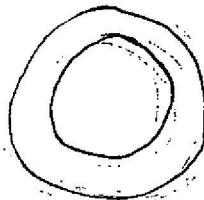
8/19/04

MYF

CIRCULAR MAN HOLE

26 1/2" OVERALL

20 1/2" OPENING

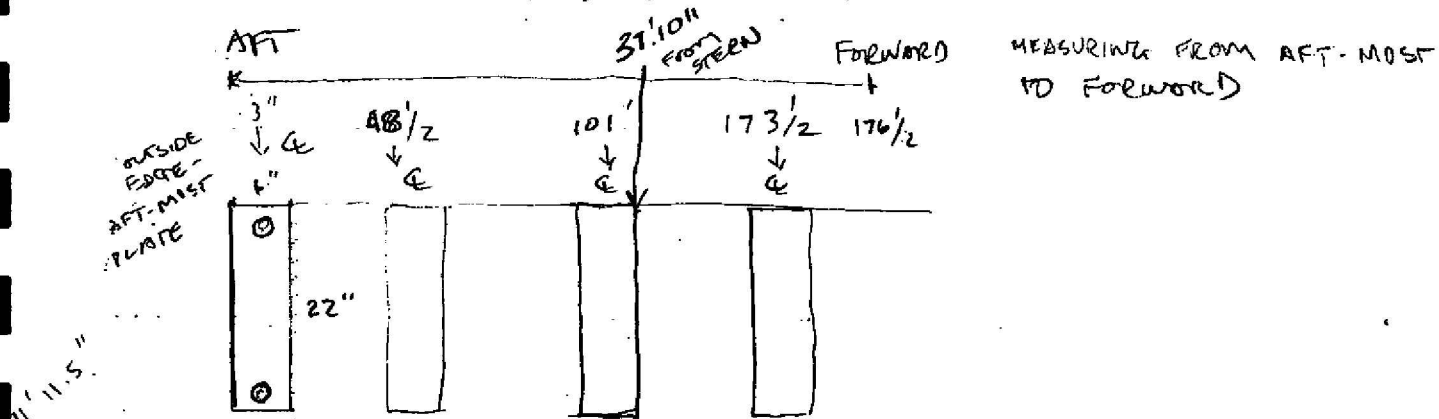


SIX VESSELS
8/18/2004

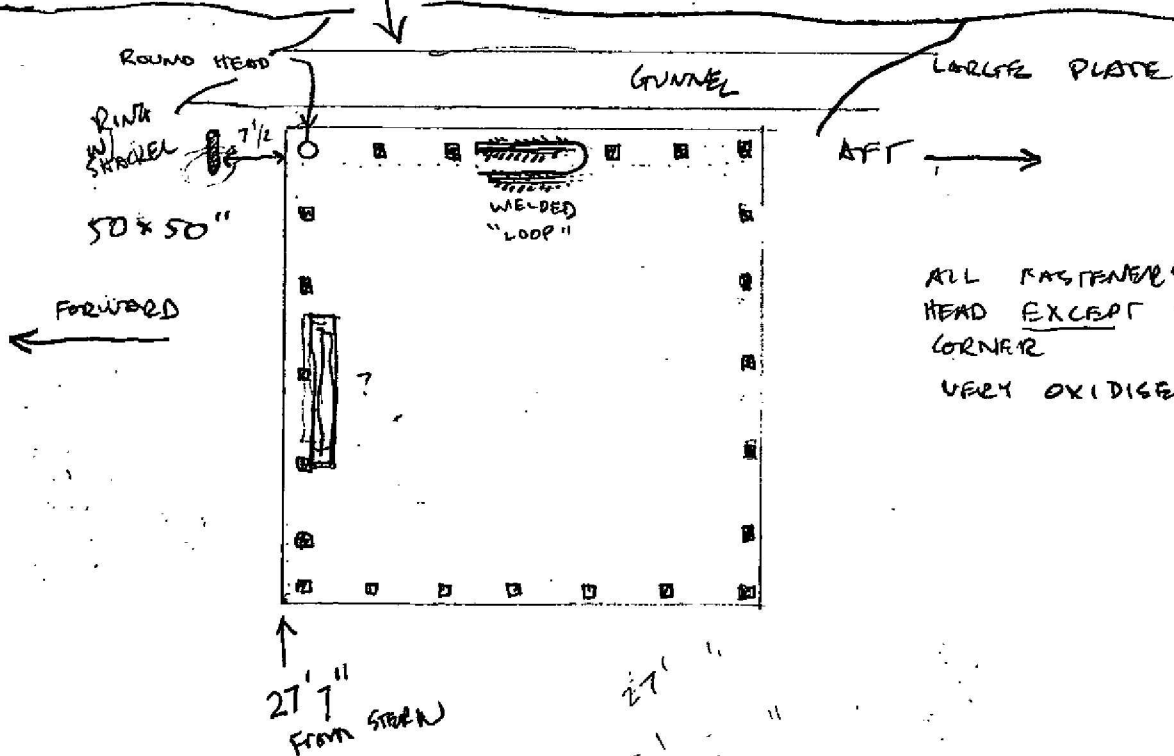
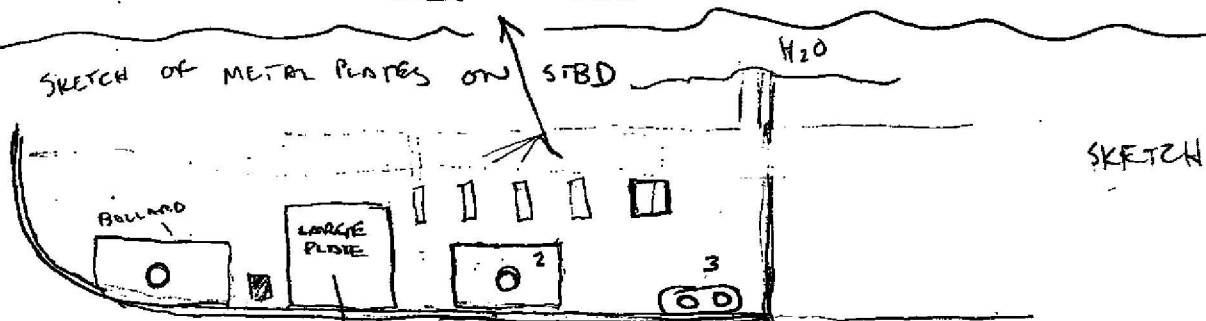
MKF
VESSEL # 33 (MENHADEN TRAWLER)

STARBOARD DECK PLATES X 4 PLUS
6" X 22" - 2 BOLT PATTERN

143 1/2"



SKETCH OF METAL PLATES ON STBD



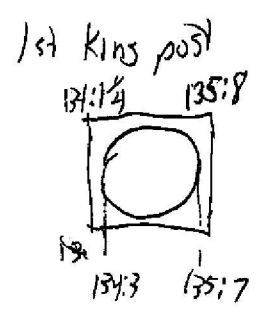
ALL FASTENERS 1" SQUARE
HEAD EXCEPT SOUTHWEST
CORNER
VERY OXIDIZED

Deck plan

offsets measured from
starboard edge of knee planks

B/L	feature	offset	B/L	feature	offset
145.6	stem	0	131	Seam	1 3/8
138	Seam	1 1/4			5 1/8
	Seam	5 1/2			9
	Seam	9 3/8			13 3/4
	"	14			18 1/2
	"	14 9/8			22
	" crack	23 1/8			25 3/8
138	bulwark	30 1/4			28 3/4
136		1 3/4			32 1/4
		5 1/4			35 1/2
		9			39
		12 3/8			42 1/2
		16			45 3/4
		19 1/2			49
		26			52 1/4
		33 1/2			60 3/4
136	bulwark	45			71 1/2
134	Seam	2 1/2			82
		6	131	Seam bulwark	86 1/2
		8 1/2	129		34
		13 1/4			45 5/8
		16 1/4			8 3/8
		20 3/8			12
		24			16
		27 1/2			19 3/4
		31			25 7/8
		34 3/4			31 1/8
		43			34 1/2
		54 3/4			38
		65 1/2			4 1/4
134	bulwark	71			44 1/2
					48
					51 1/2
					54 3/4
					58
					61

139:6 outer plating plank mee
longitudinal longitudinal plank
140:6 inner to



B/L	feature	offset
		64 1/2
		73 1/4
		82 1/4
		92
129	PW	95 1/2
127	Seam	4 3/4 wide beam
		10 1/4
		14 1/8
		17 7/8
		21 3/4
		25 3/4
		26 3/8
		35 5/8
		41
		44 1/4
		47 5/8
		51
		54 1/2
		57 3/8
		60 3/4
		64
		67 1/4
		70 1/2
		73 1/2
		82
	Seam	98

photos

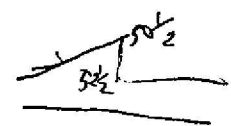
B/L feature offset

125	seam	3 1/2
		7
		10 1/2
		14
		17 1/2
	bulwark	19
	bulwark	29
125	seam	29
		32 3/8
		36 1/2
		41 1/4
		46 1/4
		49 1/8
		53
		56 1/2
		59 3/8
		63
		66
		69 1/4
		72 1/4
		75 1/2
		78 1/2
		81 3/4
		84 1/2
		96 1/2
	seam	102 3/4
125	bulwark	105 1/4
123	seam	3 1/2
		7
		10 1/2
		14
		17 5/8
		21 1/8
		24 3/4
		28 1/4
		31 3/4
		35 1/4
		38 3/4
		42 1/2
		45

B/L feature offset

123	bulwark	49 3/4
	seam	50 1/2
	seam	52 1/2
	seam	56 3/4
		59 3/4
		62 7/8
		66
		69 1/8
		72 1/4
		75 1/2
		78 5/8
		81 3/4
		85
		89
		95
		100 3/4
		105 3/4
123	seam	108
121		9 1/2
		7
		10 1/2
		14
		17 1/2
		21
		24 5/8
		28 1/4
		31 5/8
		35 1/8
		38 3/4
		42 1/4
		45 3/4
		49 3/4
	bulwark	53 1/4
		58 1/2
	seam	61 3/8
		64 1/2
		67 1/2
		71 1/2

End of Bulkhead
B/L 125:3



head mechanism
start 121:5 1/2
end 120:9

119 inches
bulwark in
cabin
2 1/2" thick

B/L feature offset

121	seam	73 1/2
		77
		79 3/4
		82 7/8
		86
		89
		92 1/8
		98 3/8
		103
	bulwark	109 1/4
	seam	110 1/4
119 (118.3)	seam	3 1/2
		7
		10 1/2
		14
		17 1/2
		21
		24 1/2
		28
		31 1/2
		35
		38 1/2
		42
		45 1/2
		49
	bulwark	53
		55
		60 1/2
		64 1/2
		67 1/2

B/L feature offset

		80 1/2
		73 3/8
		76 3/8
		79 3/8
		82 7/8
		86
		89 1/8
		92 1/8
		95 3/4
		100 3/4
		104 3/8
		108 1/4
	bulwark	110
119	seam	113

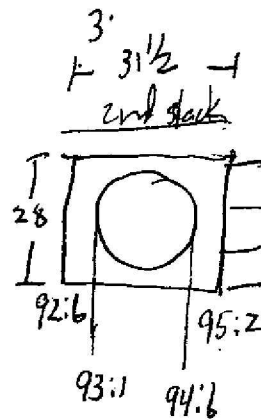
B/L	Feature	Offset
115	Seam	7 1/2
		7
		10 1/2
		14
		17 1/2
		21 1/8
		24 3/4
		28 1/4
		31 7/8
		35 1/4
		38 3/8
		42 3/8
		45 7/8
		49 7/8
		52 1/2
		60
	bulkhead	61 1/4
	bulkhead	66 1/2
	Seam	71 1/4
		74 1/8
		77 1/8
		80 1/4
		83 1/4
		86 1/4
		89 7/8
		92 1/2
		95 1/2
		98 1/2
		101 1/2
		105 1/4
		108 3/4
		113 3/4

B/L	Feature	Offset
113	Coaming	26 1/4
	"	29
	Coaming	53
	bulkhead	59
	bulkhead	65
	bulkhead	110
107	bulkhead	60 1/2
	"	63 1/4
	"	65 1/2
	bulkhead	94 1/2
	bulkhead	106
	bulkhead	112 3/4
97	bulkhead	61 1/2
	bulkhead	65
	bulkhead	67
97		113 1/2
92.6	deck ftg	26
	deck ftg, girths	34
	deck ftg	40 1/2
		43 3/4
	deck ftg	53
		55 1/2
	deck bulk	80 1/2
	Round edge	
	else 15 1/2 in	
	102 92 + 94	
92.6	bulkhead	111 1/2

b/l features
 115 to 113
 97 1/2
 113 1/2
 hatch
 fwd end

hatch at 113

hatch added after construction
 fits exactly b/w two deck beams



deck beams
 molded 10
 Sidel 6

hatch?
 forward deck h/s
 at 98.6 from b/l

B/L	Feature	Offset
90.8	deck ftg	25 1/4
		33
		52 3/4
		56

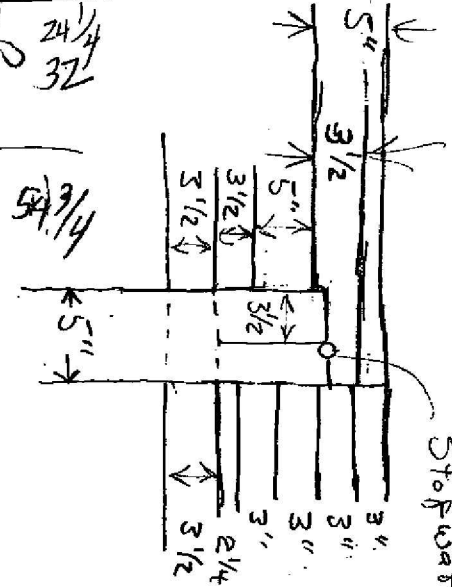
bulkhead 111 1/2

97 ft std corner of 113 to house

88.10	deck ftg	24 1/4
		32

84.3 main deck hatch

84.8 1/2



Stop water 5/8"

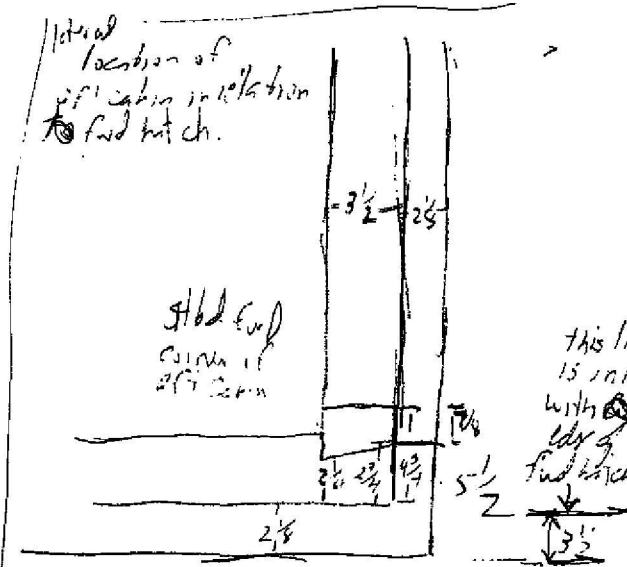
Deck plank Scut, 1/2
19:7 6 1/2
17:7 1/2

14 deck planks from aft cabin
to thin plank sub gunwale

forward edge of forward hold
55 to edge of coaming
113 to gunwale

aft edge of forward hold
52 to edge of coaming
58 from coaming to gunwale

55



B/L Center offset
59:7 edge of
gunwale

9/16 on edge of
middle long plank

58:10 center of
gunwale

58:10 edge of
coaming

58:6 1/2 aft edge of
coaming

59 center of
cabin 71 1/2

55 same 3 1/2

7

10 1/2

14

17 1/2

21

24 1/2

28

31 1/2

35

38 1/2

42

45 3/4

49 1/4

51 3/4

54 1/2

from
B/L
from cabin

B/L Center offset
53 inside bulhead 40 3/4
outside bulhead

gunwale 54 3/4

58:10 outside of
iron plate 19 3/4

inside bulhead 41

54 1/4

48:10 outside of
deck plate 22 1/2

gunwale 55

41:8

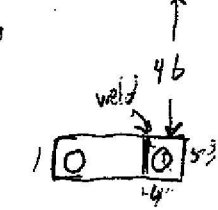
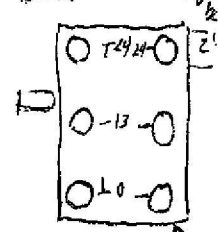
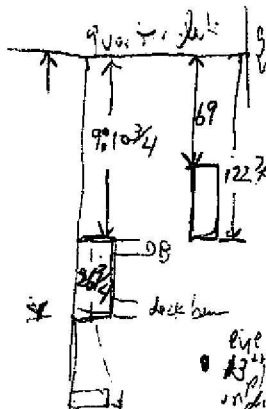
butt joint planks
57.9.12

39:6

butt joint plank
11/10

38

dant 31
gunwale 55

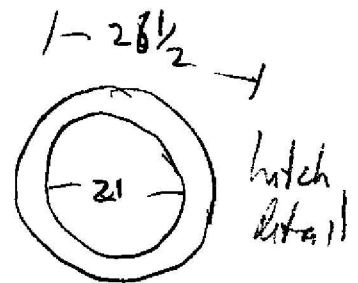


B/L Endure of Feb 78
 77:7 hold 25 of Feb
 51 1/2 from
 bulwork 59 1/2 high
 coaming

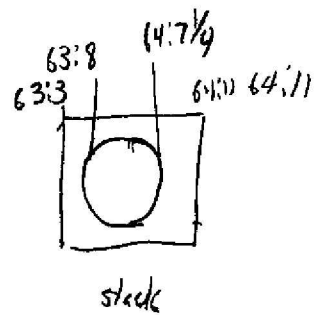
68:10 51 1/2
 bulwork 110 bulwork

fine 65:00 stack -3
 stack 15
 bulwork 110

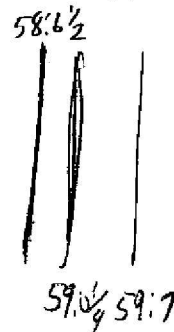
61:10 high 73 3/4
 hold up ground 76 3/4
 100 1/2



68:10 edge of coaming hatch



quarter deck
 59:7 forward



aft cabin
 same as forward

54 1/4 aft cabin
 wall to
 B/L

SIX VESSELS - VESSEL # 33

8/19/04

MKE

26 1/2 x 19 1/2

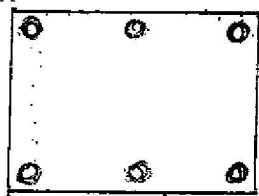
SMALL PLATE

1/2" THICK STOCK

ALL ROUND HEADED BOLTS

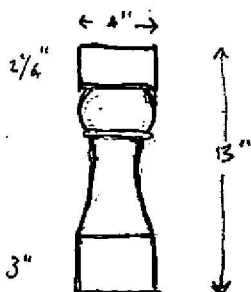
AFT

FORWARD



35"
TO GUNNEL

58' 1"
FROM STERN

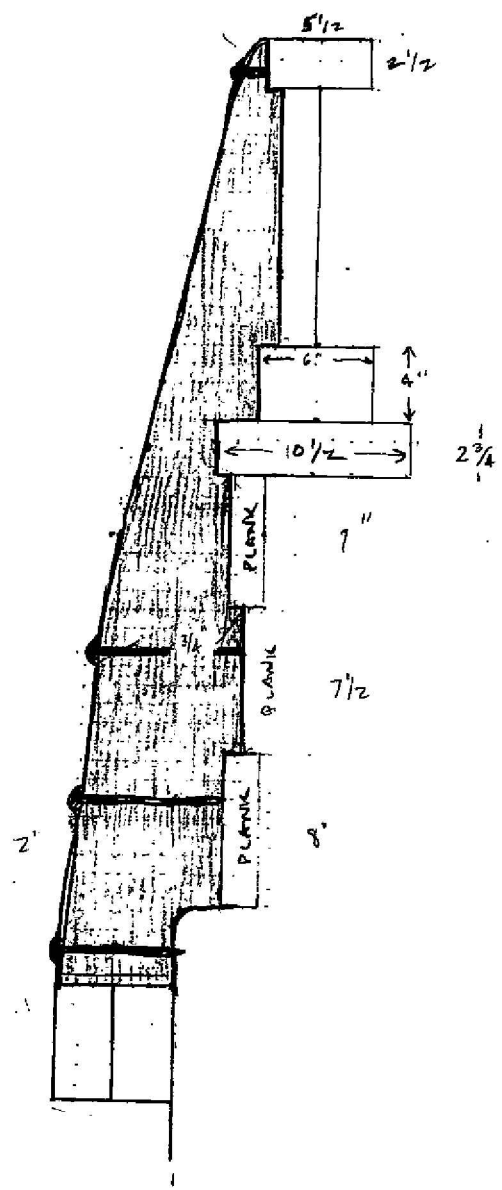


STRETCHING DETAIL

SIX VESSELS
VESSEL 33
8/20/04
MKF 1/2 ME

SECTION

TOP RAIL



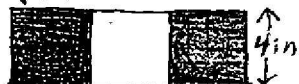
BUS RAIL

Vessel 33

8/19/04 MWE

Ballard & Deck Plate on Starboard Stern Plan View

← 4 in →



← 1 ft. →

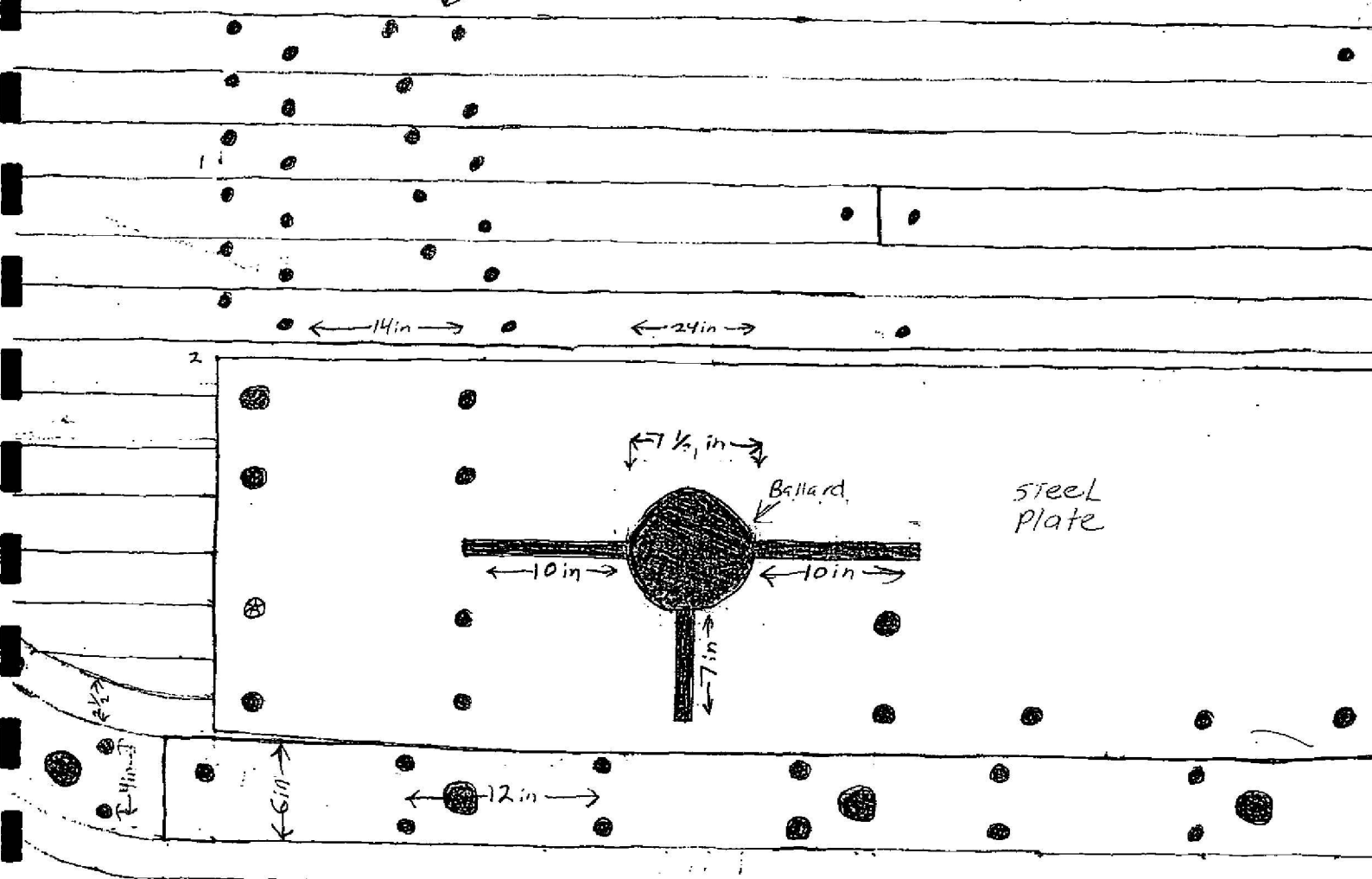
Plate is 15 in Thick - Ballard is 10 in High

Top of Ballard must have been removed

straight
↓

Deck Fasteners Graduate to Rear of vessel

Underlying Timbers possibly Angled



5' ↑
← 9' 4" →
To Stern
9' 4" from Stern

← 75 in →
Length of Plate

↑
24 in wide @ center
23 in @ Stern End
↓

quarterdeck rail stanchion - On/ats

↑

from	to	dist
1	3	16:5
1	4	22:3
1	5	36:0
1	6	35:10
1	7	42:0
1	8	36:1 1/2
1	2	46:6
2	7	11:6 1/4 6:11 3/4
2	6	12:1 3/4
2	5	17:7 3/4
2	8	11:6 1/4
2	4	25:5
2	3	31:3 3/4

distances measured
from aft to fore
inboard corner
of stanchion

- ① forward stbd corner of aft cabin
- ② aft stbd corner aft cabin

- 3 stanchion
- 4 "
- 5 "
- 6 "
- 7 "
- 8 ^{with} aft corner / 6" by deck plate

Stbd. Side of Aft Cabin Beam 6" Sided
11" molded

Sits on top of 2nd
notch is 1 3/4" Deep

* Deck beam count

<u>B/L</u>	<u>Beam</u>
138	1

27 beams to fwd edge of
fwd hatch

35 beams to aft edge of
fwd hatch

40 to quarter deck

48 to 1st small dant plate

51 to large dant plate

54 to aft end of large without dant plate

68 to almost aft of vessel

Deck crown

<u>offset</u>	<u>vertical</u>
---------------	-----------------

3"

4 1/2"

150

9

1203

9 1/4"

5'

13 1/8"

54"

6'

13 5/8"

7'

14 1/2"

8'

14 1/2"

measurement to deck = 26"

subtract 1/2 inch from offset measure
for actual measure to gunwale
frames

add 1 1/4 to get to gunwale frames

25 3/4

26"

= 26"

Outer hull

Vessel 33 24 August 2004

85' 3" on Baseline Vertical measurements to bottom of Hold

~~☐ = 10' 5"~~

~~10" = 10' 7"~~

~~23" = 11' 5"~~

~~28" = 11' 5"~~

~~44" = 10' 4"~~

~~60" =~~

Distance Stb of ☐

☐ = 10' 7" from bottom of Top Hatch combing timber

10" = 10' 11"

24" = 11' 6"

34" = 11' 11 1/2"

49" =

Appears to have stringer

49" = 10' 4"

57" = 10' 1/2"

62" = 10' 9"

At fwd face of Deck Beam #24 at 64" Stb of ☐
= 11' 3/4" from top of Deck Planks
= 9' 11" from bottom of Deck Beam

At Fwd face of Deck Beam #22 at 102" Stb of ☐
= 10' 10" from top of Deck Planks
= 10' 8" " bottom of Deck Beam

At #22 122" Stb of ☐
= 7' 8" top of Deck Planks
= 6' 11" Bottom of Deck Beam

At Fwd Face of Deck Beam #20 @ 107" Stb of ☐
= 10' 13/4" top of Deck Planks
= 9' 4" Bottom of Deck Beams

At Aft face of Deck Beam #21 130" Stb of ☐ Between Futtocks
= 82" top of Deck Planks
= 74' Bottom of Deck Beam
136"
= 61 3/4 top of Deck Planks
= 53 3/4 Bott of Deck Beam

Vessel 3324 Aug 2004Vertical Measurements to Hull Interior/Ceiling

At Aft face of Deck Beam #20 (98'4" B.L.) @ 29" Stb of CL (Hole in Deck)
→ = 11' 2" from top of Deck Planks
→ = 9' 11" Bottom of Deck Beam

At Aft face of Deck Beam #13 (112'8" B.L.) @ 46" Stb of CL (Deck Hatch)
→ = 13' 0" from top of Deck Planks
= 11' 9 1/2" Bottom of Deck Beam

Aft face of Deck Beam #13 @ 68" Stb of CL
→ = 10' 0" Top of Deck Planks
→ = 9' 0" Bottom of Deck Beam

At Fwd face of Deck Beam #14 (110'8" B.L.) @ 46" Stb of CL
→ = 13' 2" from Top of Deck Planks
→ = 12' 0" Bottom of Deck Beam

Fwd face of Deck Beam #14 @ 68" Stb of CL
→ = 9' 11" from Top of Deck Planks
→ = 9' 3" Bottom of Deck Beam

At Fwd face of Deck Beam #13 @ 123" Stb of CL
→ = 6' 5" from top of Deck Planks
→ = 5' 8" Bottom Deck Beam

At Fwd face of Deck Beam #13 @ 129" Stb of CL
→ = 5' 6" from top of Deck Planks
→ = 4' 8" Bottom Deck Beam

At Fwd face of Deck Beam #13 @ 139" Stb of CL Betw Futtocks
= 0 from Bottom of Deck Beam

At Aft face of Deck Beam #12 @ 112" Stb of CL
→ = 6' 3" from top of Deck Planks to Stringer
→ = 5' 7" Bottom of Deck Beam

At Aft face of Deck Beam #12 @ 118" Stb of CL
→ = 5' 6" from top of Deck Planks
→ = 4' 9" Bottom of Deck Beam

At Aft face of Deck Beam #5 @ 91" Stb of CL
→ = 3' 11" from top of Deck Planks
→ = 2' 11" Bottom of Deck Beam

Vessel # 33 24 Aug 2004 Vertical Meas. to Hull Interior

↪ At Fwd Face of Deck Beam # 7
= 8'9" from top of Deck Planks

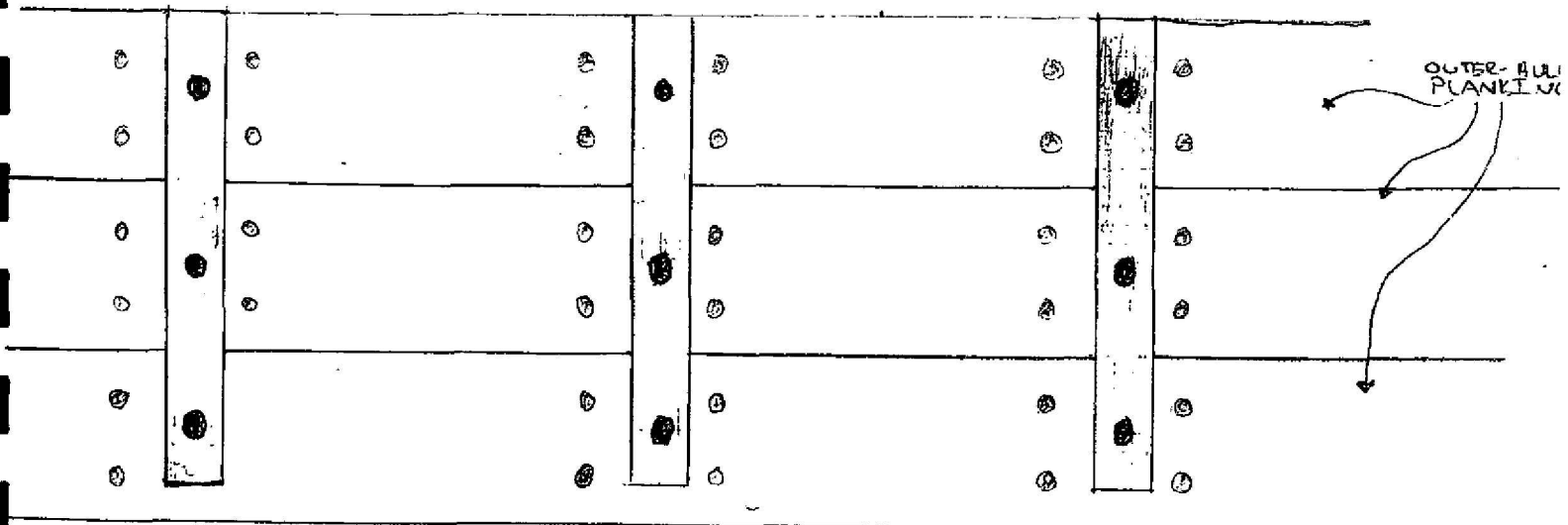
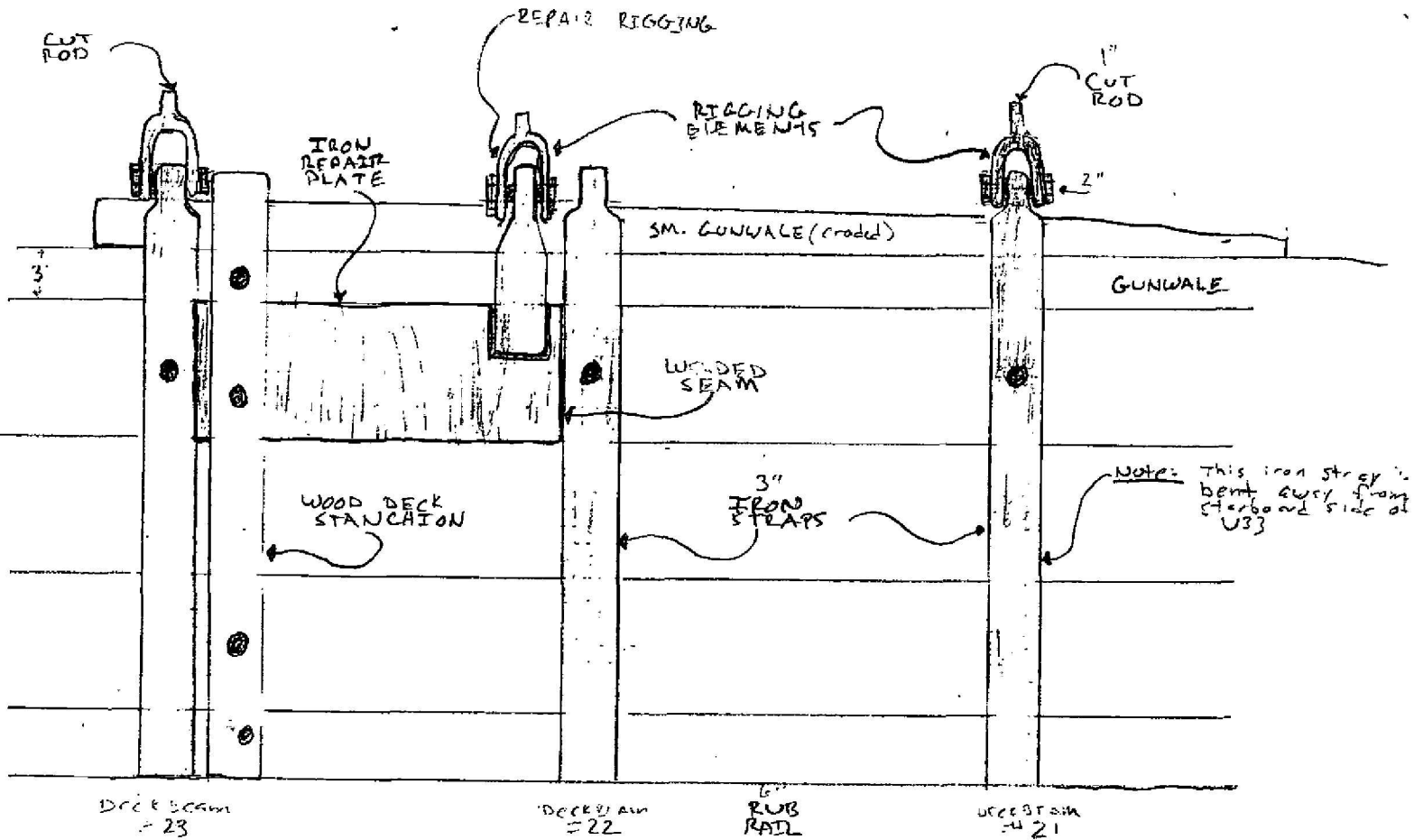
@ 46" Port of Φ

↪ At Fwd Face of Deck Beam # 7
= 6'3" from top of Deck Planks

@ 63" Port of Φ

RIGGING ELEMENTS - U33
STARBOARD SIDE

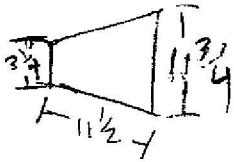
425/0-27
 MCK
 1 inch = 1 Square



Lyden's
vessel V33
8/19/2004

Scallops 1st

stem
1 1/2 milled
3 1/4 sided face



gunwale cap?
5 3/4 milled

gunwale
3" milled

outer hull plank

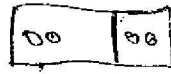
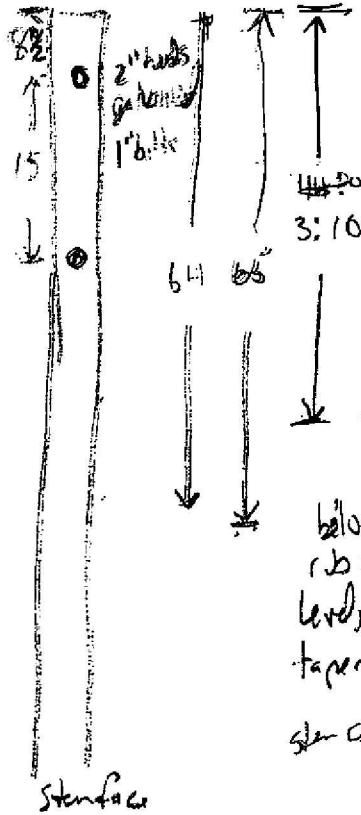
- | | | |
|---|---------------|----------|
| 1 | 10 1/2 milled | 2" sided |
| 2 | 10 1/4 " | 2" " |
| 3 | 10 " | 2" " |

upper rub rail

3 1/2 milled 3 1/2 sided

rub rail

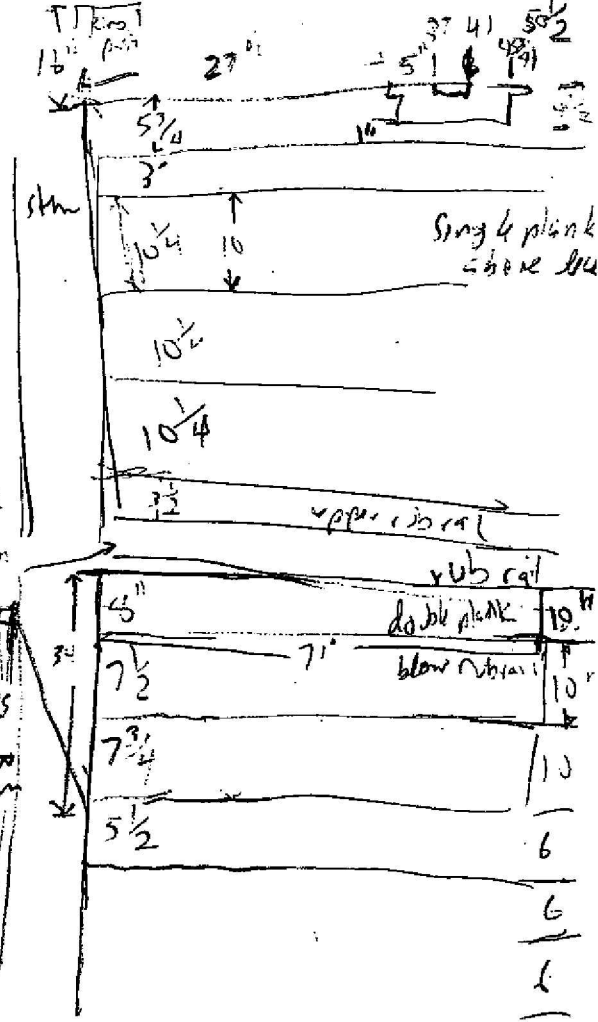
2 pieces
each
2 1/2 sided
5 7/8 milled front
10 milled back



1 inch bolts



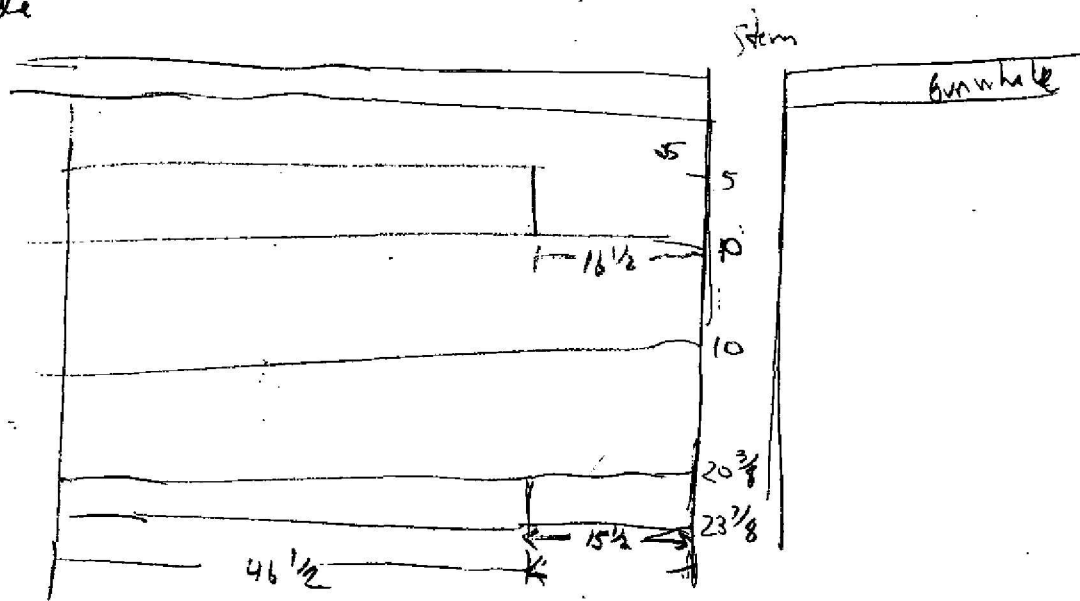
T 1/2 inch
16 inch pin



lower hull planks

3 1/2 total
1 3/4 each plank
milled varies

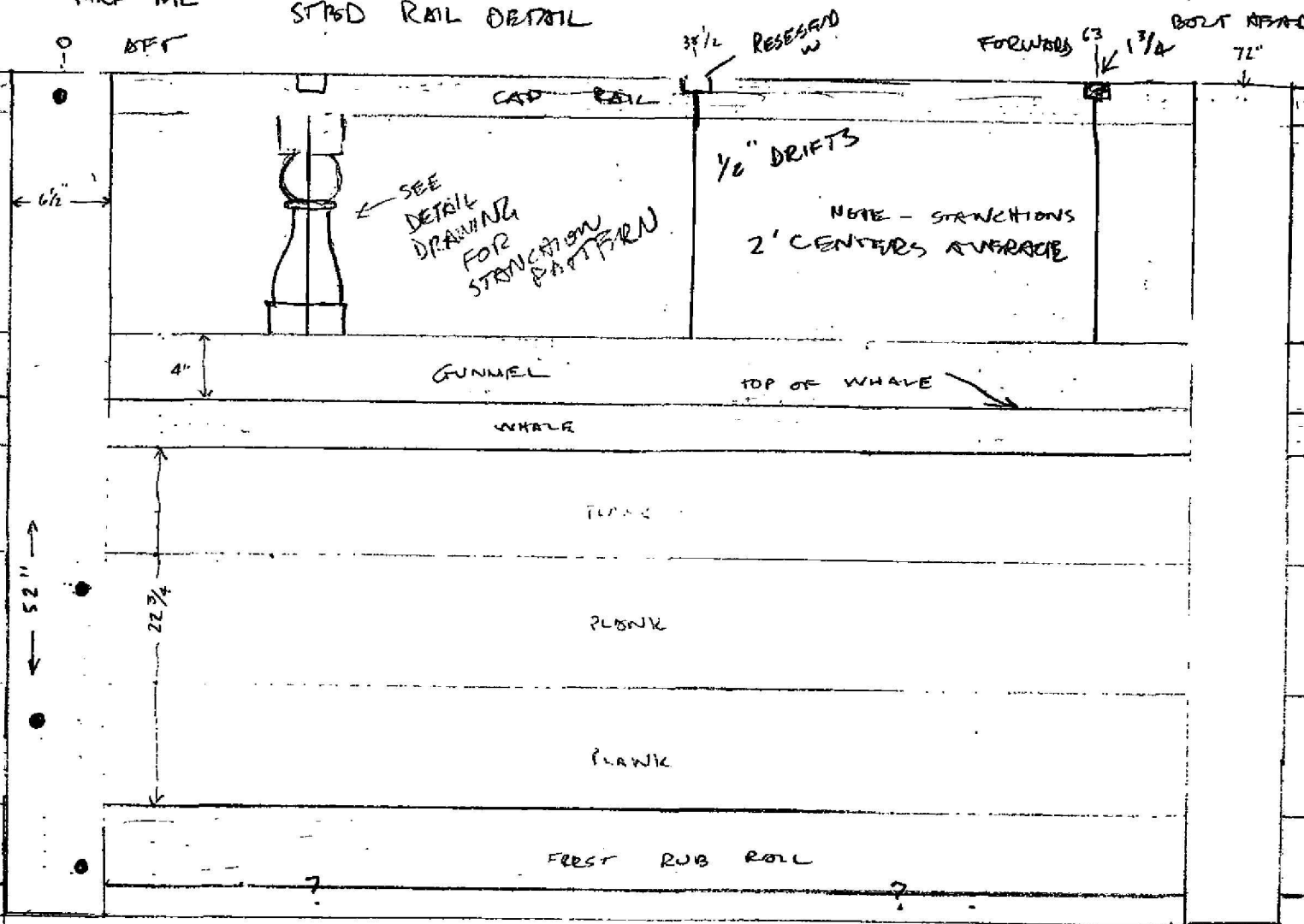
how repairs
std side



SIX VESSELS
VESSEL 33 (FISH HAWK)
8/20/04
MKF ME

LOOKING EAST - TOWARD PORT

STARBOARD RAIL DETAIL



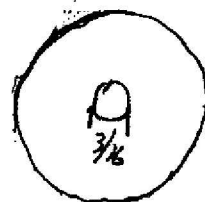
2ND RUB RAIL 6" X 3" WIDE X 2 = 6" THICK

REINFORCING SUPPORTS - STARBOARD SIDE AFT SECTION

FROM

0	43' 2"	ALONG & CENTERS OF BUTTRESSES
6 FT	37' 2"	
14 FT	29' 2"	
19' 10"	23' 2"	
26'	17'	

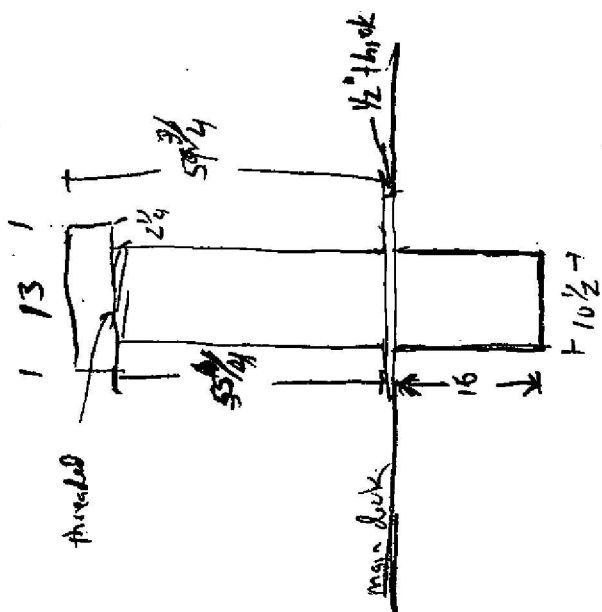
+ 7/8" -1

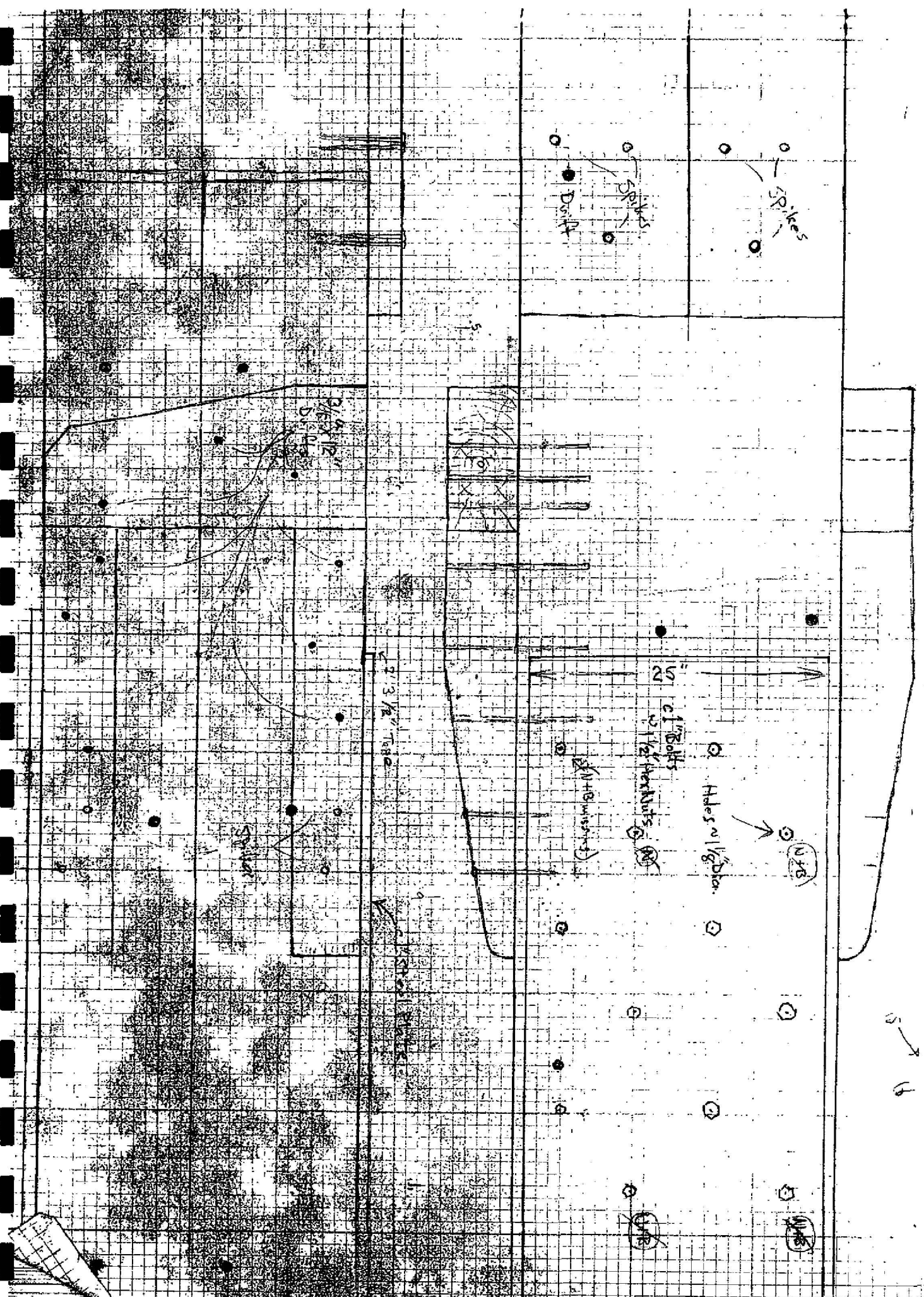


fastener hole
drilled, countersunk, no fastener
ever driven

ca lock been 36
inboard side of
gunwale

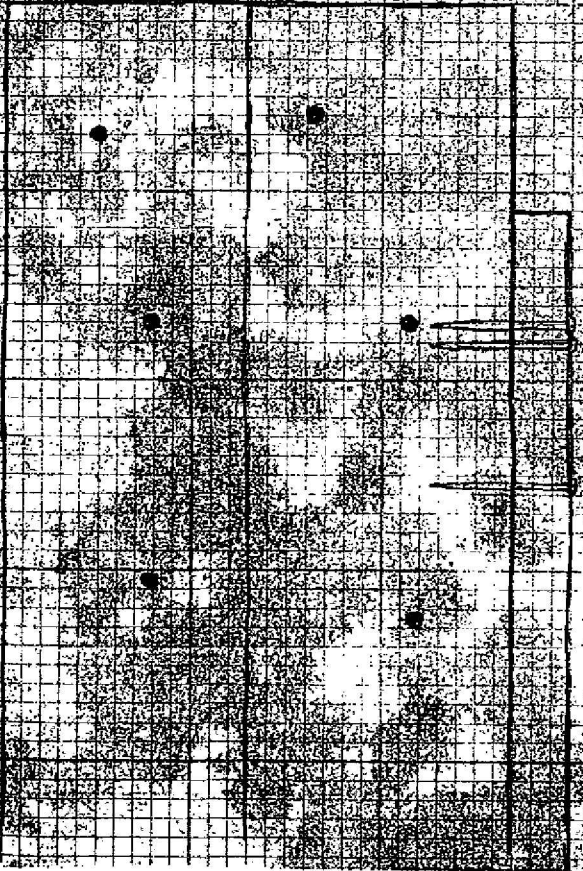
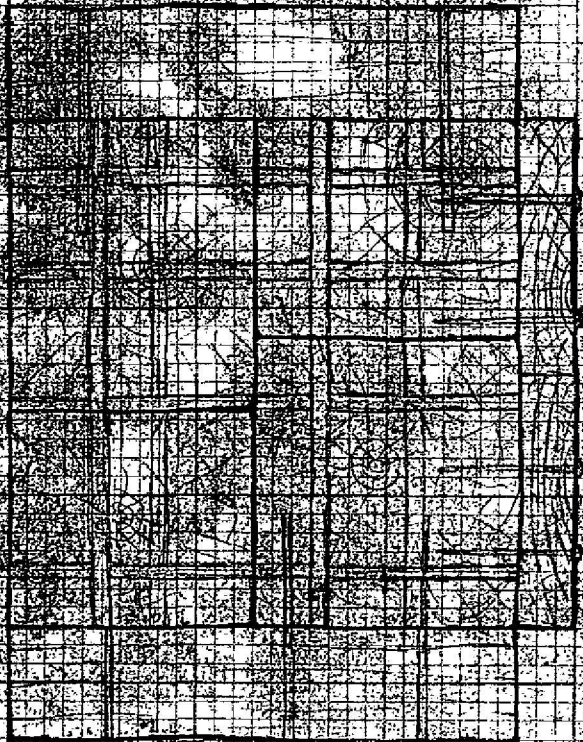
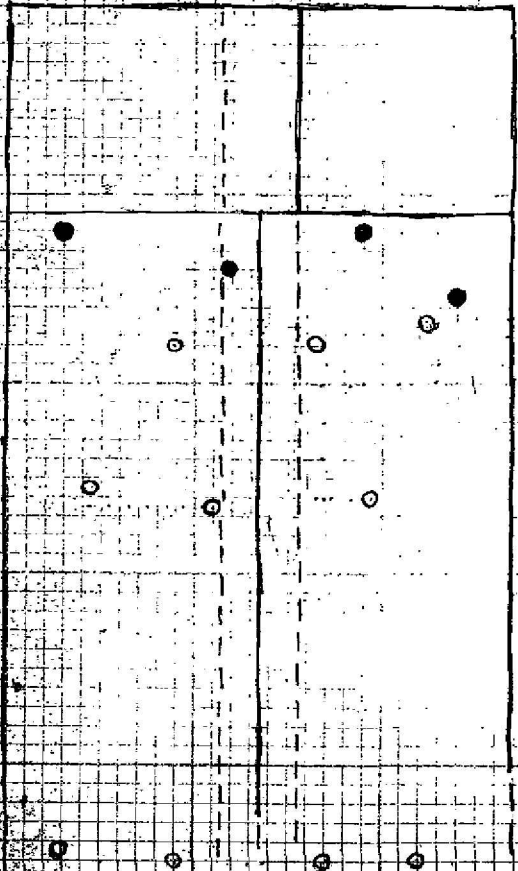
Constitutional

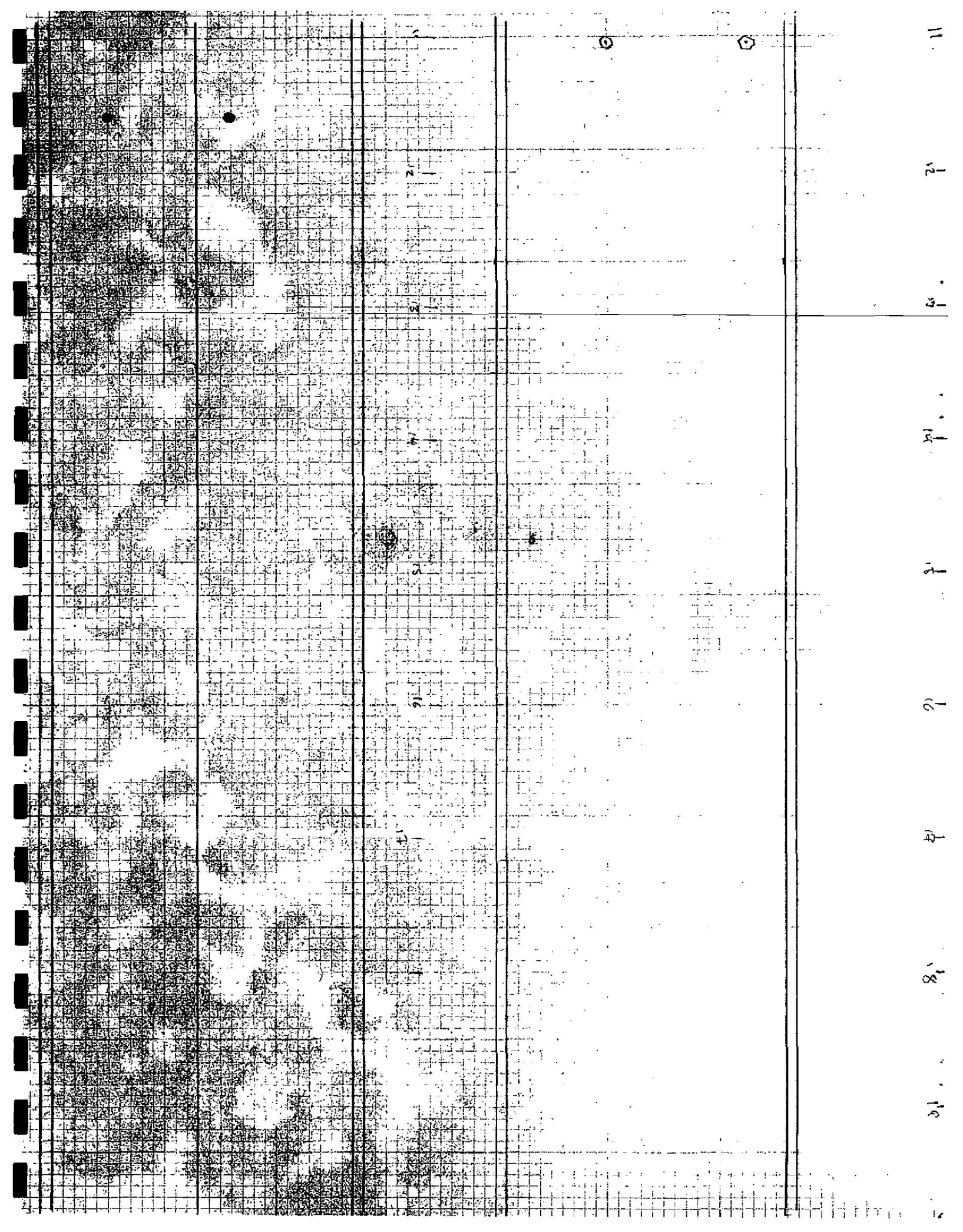




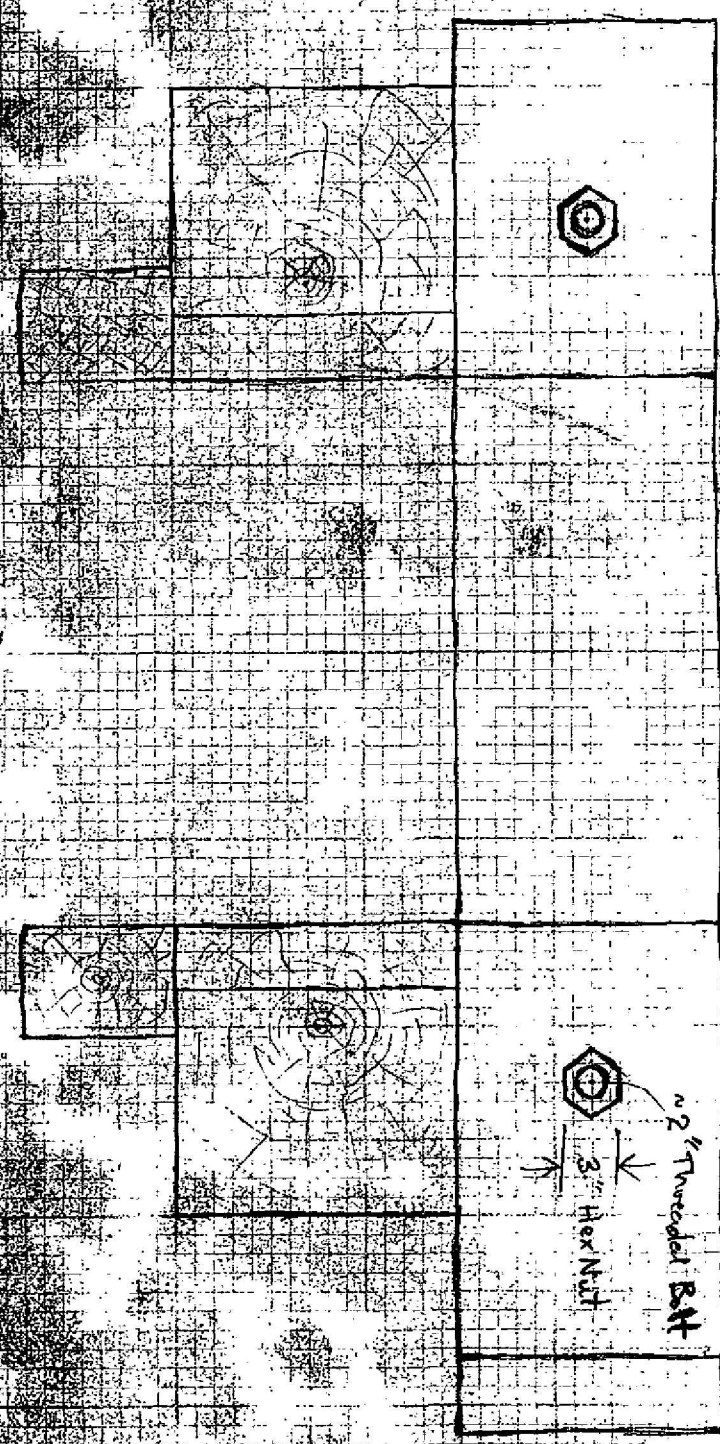
3/4" Spikes
Rice Heads

3/4" Spikes
Rice Heads





1/2" x 1/2"



180

190

200

210

220

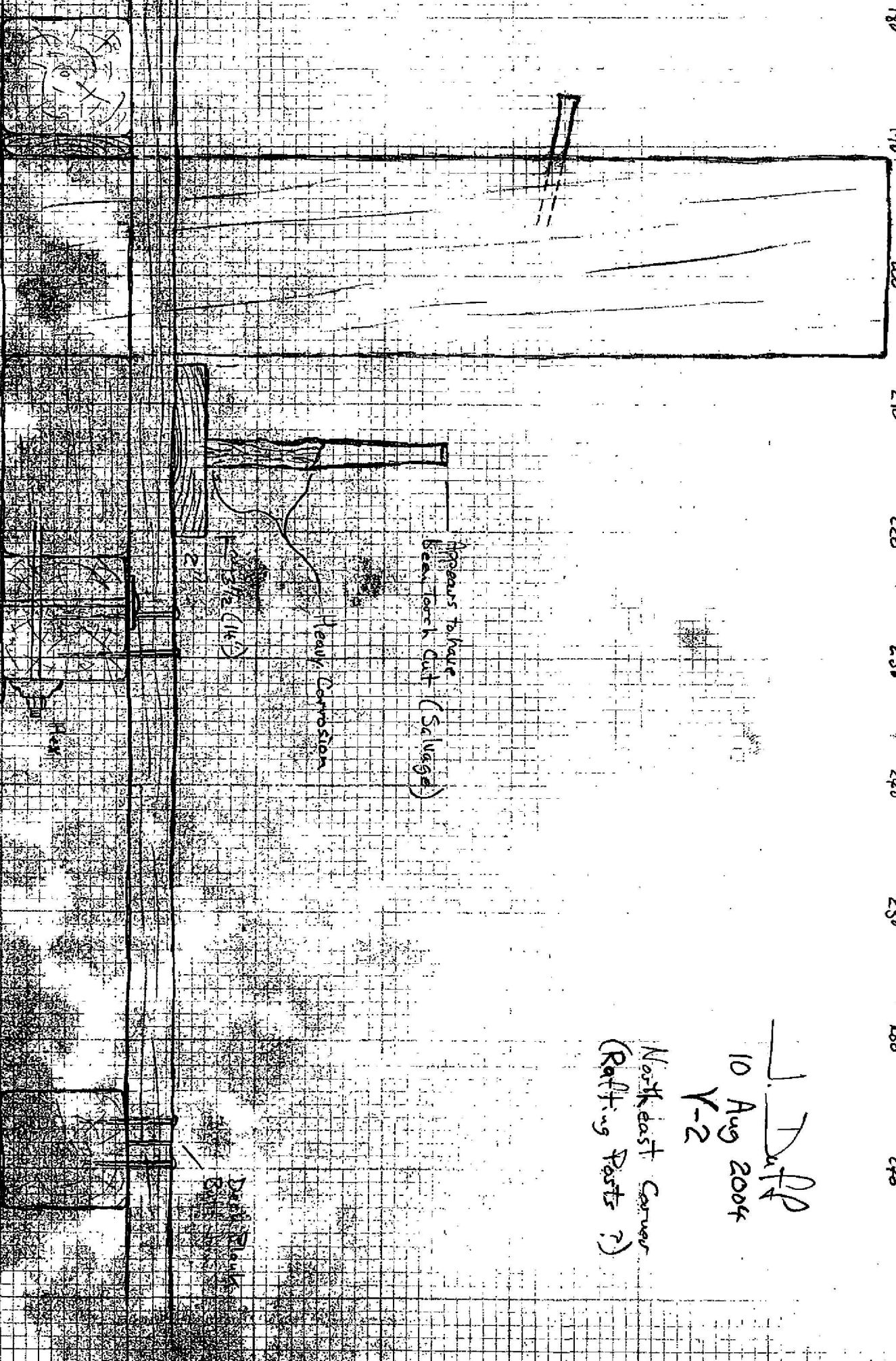
230

240

250

260

270



appears to have
been torn out (Salvage)

Heavy Corrosion

3 1/2 (11 1/2)

2 1/2

Hex

Dark Black
Box

North East Corner
(Raffling Posts?)

J. D. A. P.
10 Aug 2004
Y-2

180

190

200

210

220

230

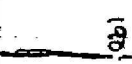
240

250

260

270

280



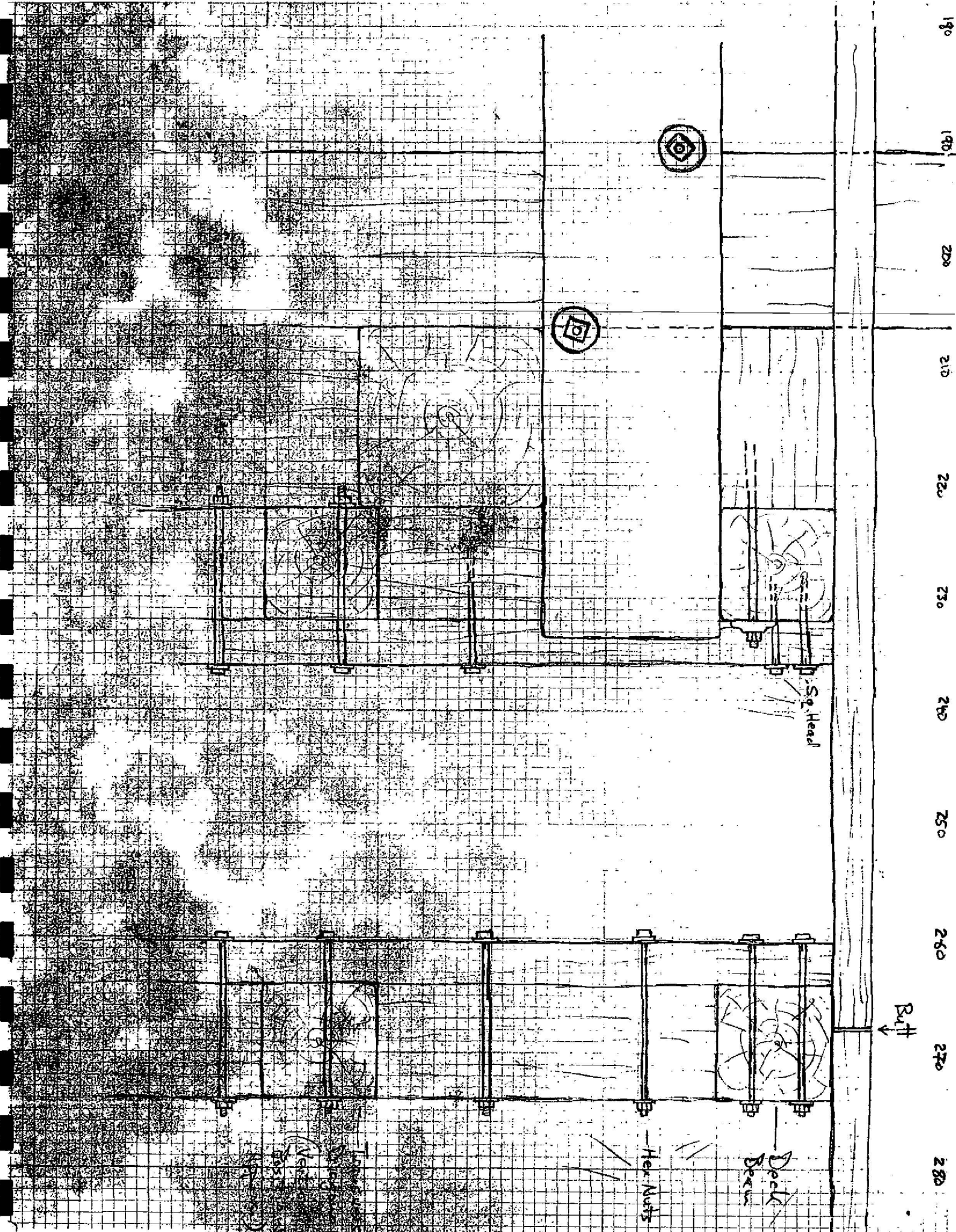
Sq. Head

Bull

Deck Beam

Hex Nuts

Top
Deck
Beam



100 110 120 130 140 150 160 170 180

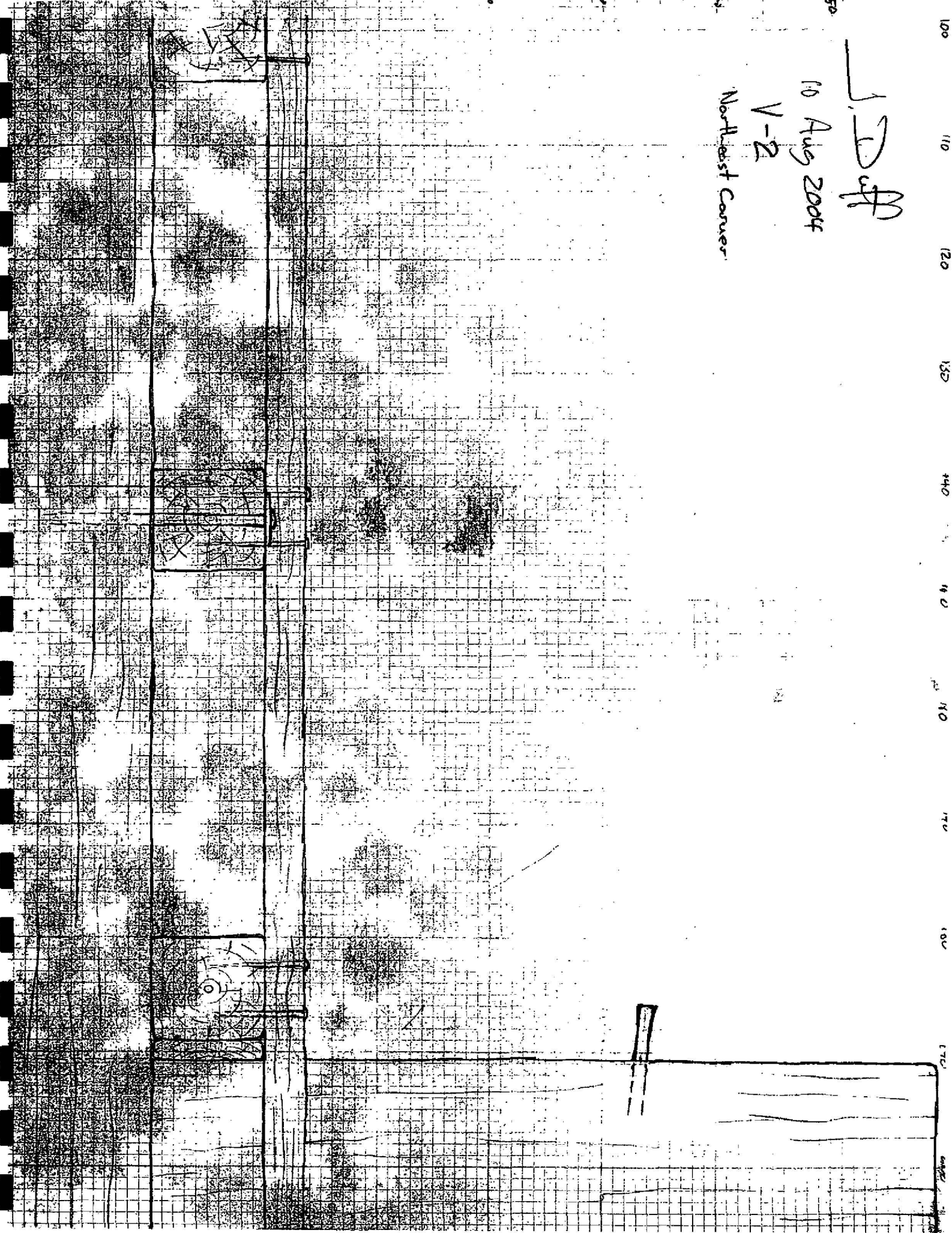
FD

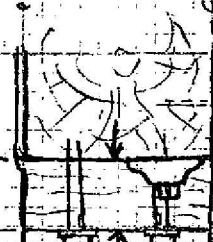
J. D. eff

10 Aug 2004

V-2

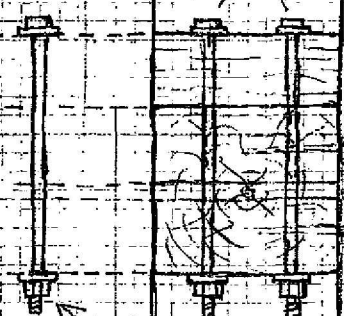
North-east Corner



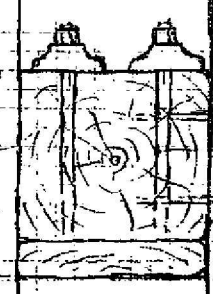


3 3/4" (4")

Sq Head
Bolts
2 1/2"
w 2" washers

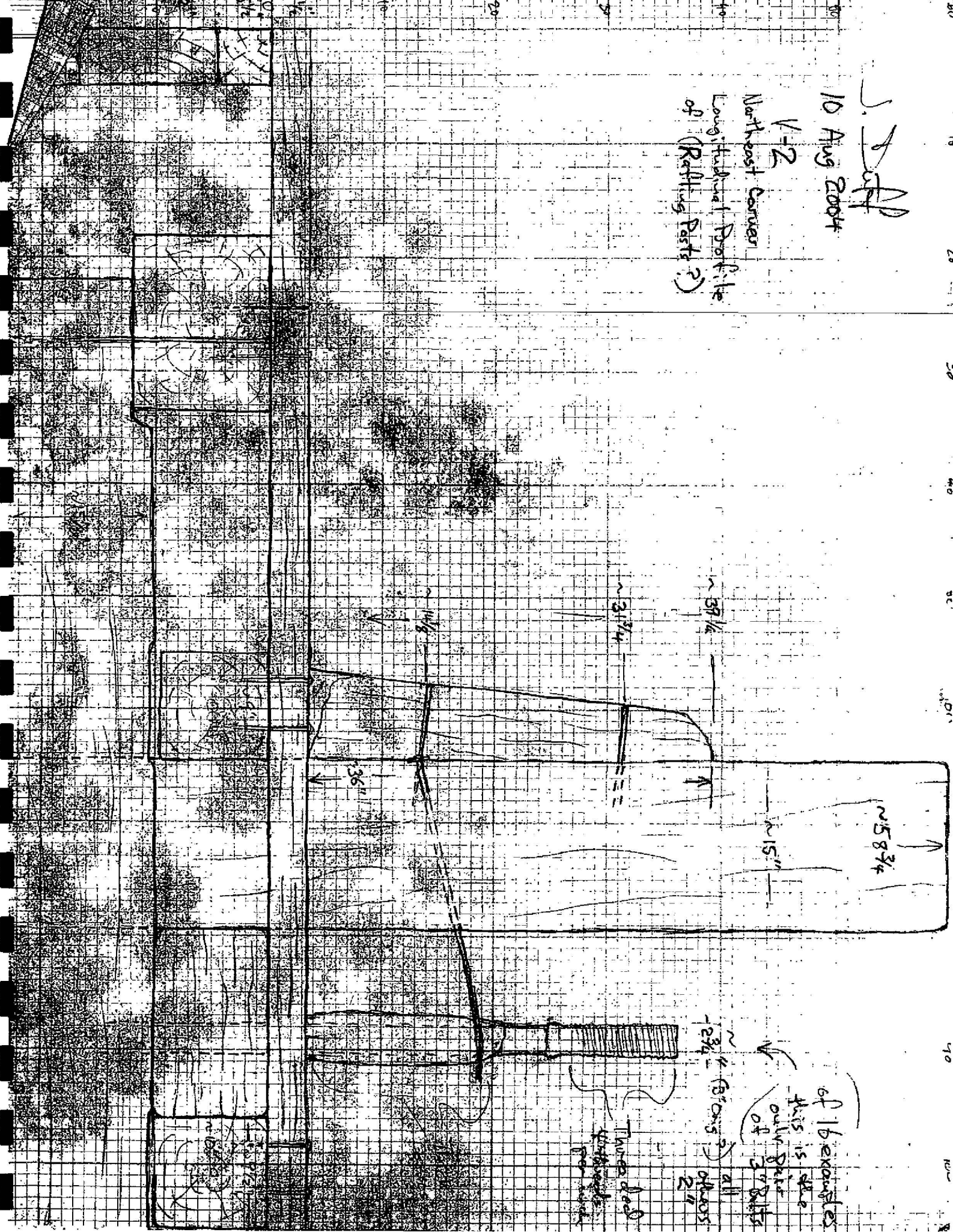


Hex. Nuts
c. 1 1/2"
w 2" washers



J. Hoff
10 Aug 2004

V-2
Northeast corner
Longitudinal Profile
of (Refilling Pits?)



Heads Recessed
into 2 1/2" Dia Holes

Square Head
5/8"

Deck Plank

12"

~ 15 1/2" (16" original)

Square Nuts (1 3/4")
Round Washers (4" Dia)

9 1/2" (10" original)

Hex Nut
c 1 3/4"

~ 15 1/2" (16" original)

Square Nut
1 3/4"
Heavy Washer
4" Dia

Hex Nut
c 2 1/2"

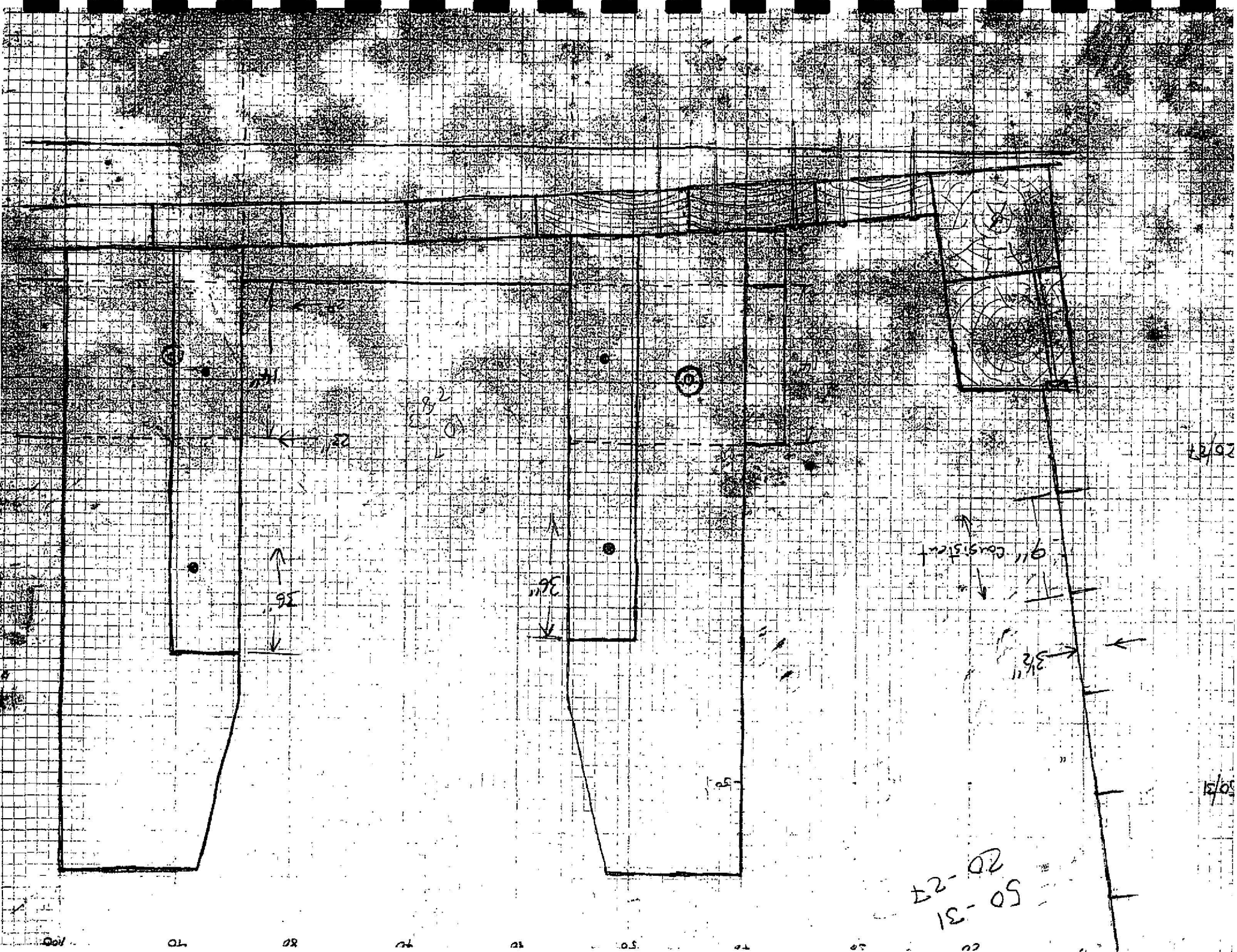
Hex Nut

Hex Nut

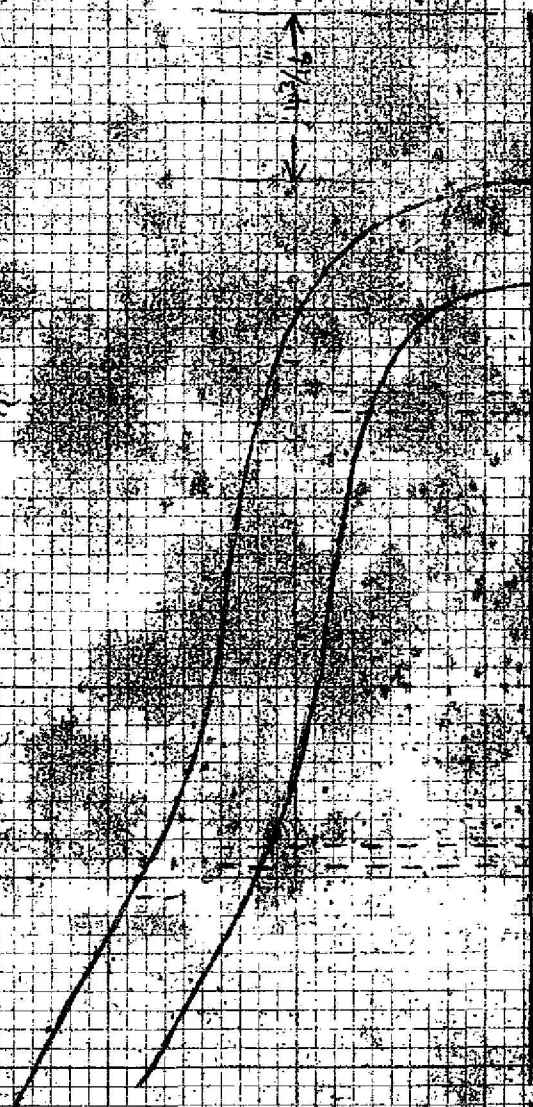
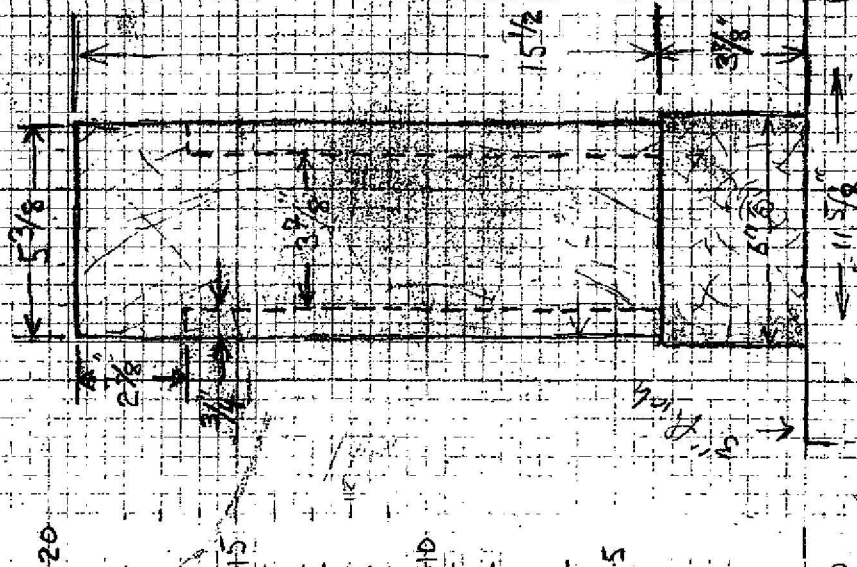
~ 9 1/2" (10")

~ 9 1/2" (10")

Transverse
Reinforcements



26 to Maine
Died
Woman
Married
Bessie Thacker



Bottom Plank Ends/Bath at 100"

At End of Plank

85 1/8"
Blue Semidark
Beginning at 84 1/2"

At end of Plank
top at 60 3/4"

Spikes in Bottom
Plank
Staggered/Alternating
Outside Inside

2 3/8 6 1/2
16 1/8 21 1/2
28 3/8 34
44 3/8 52
53 3/8
64 7/8
76 1/4 76 1/2
87 1/2
98 1/2 98 1/2
102 5/8 102 5/8
120 1/2 121 1/8

Sides
2nd from
center

in Middle Plank
26" T in Plank
2 by side
3 1/2" Dia. Center
1 1/4" Dia. Sides
Placed in Deep
Spikes
Shaft
3 1/8" Sq.
Rose Head
3 1/4" Dia. 5/16
3/8" Sq. on top
cocked to shaft
Hole for
Sitting
7/8" Dia

7 1/4" + 3/8"

8/2 elevation

32 3 1/4
33 4 1/8
34 5 1/8
35 6 1/8
36 7 1/8
37 8 1/8
38 9 1/8
39 10 1/8
40 11 1/8
42 12 1/8
44 13 1/8
46 14 1/8
47 15 1/8
48 16 1/8
49 17 1/8
52 18 1/2

2" Dia.
Holes
for Bolt
Heads/Recess

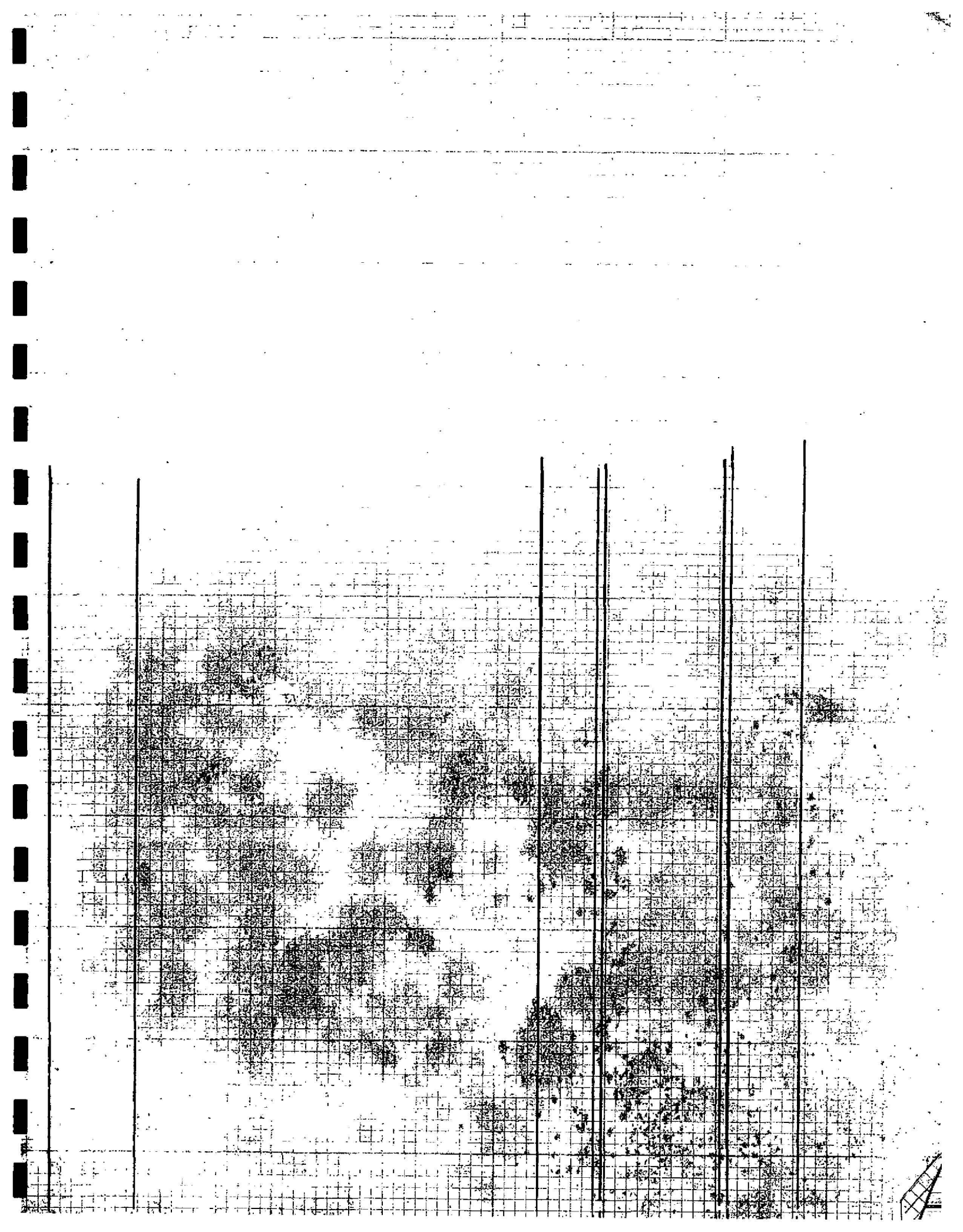
11 1/2" bolts

3/4" 48" 48 1/2 8/2
27 hex 26 3/4 8/2
39 1/2 hex 38 1/8 8/2
✓ 57 1/2 8/2
✓ Bolt 64 1/4 8/2
79 1/4 Bolt 80 8/2

85 3/4 Hex Nut
110" Hex Nut Turned
still

Hex Bolts
Nut 1 1/8"
w. 1 7/8" Washer
5/8" Dia Bolt

Dr. fits/Roue Bolts
Set in 2" Dia holes
5/8" 1 1/2" Deep
Washers & 2" Dia
Heads 1" Dia



Vertical Levels

63 depth lines

61 depth lines

50 end framing

45 end plating

1 framing cross section

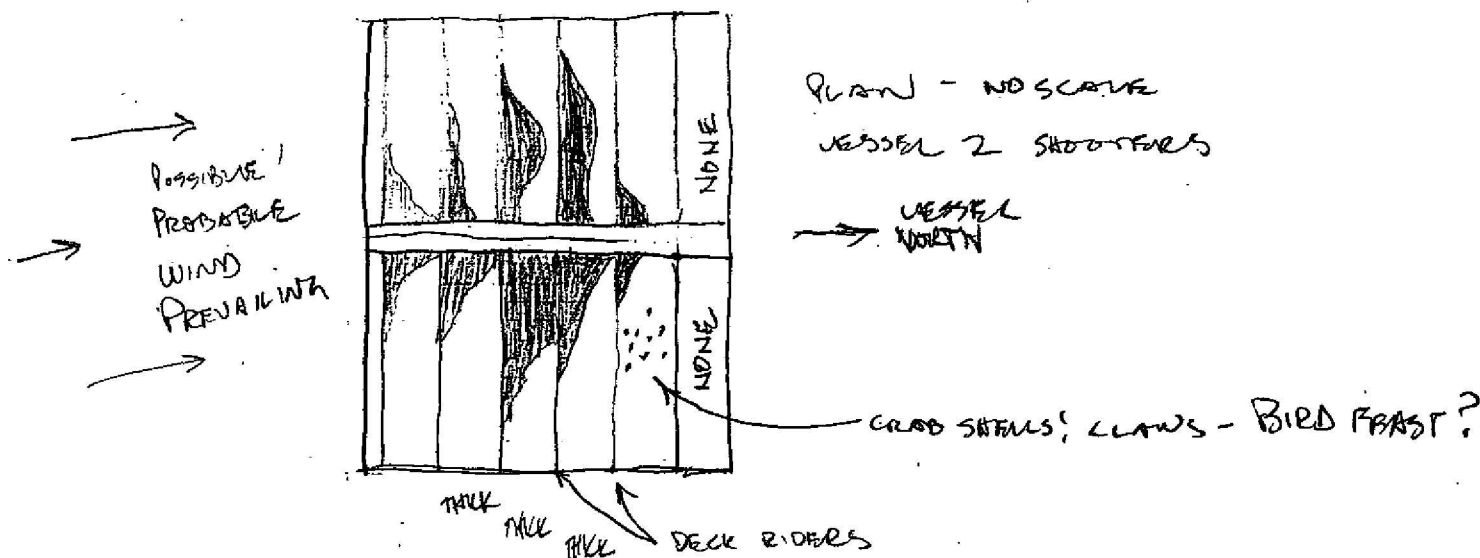
1

8/18/04

NOTES ON THE DISTRIBUTION OF FITTINGS ^{LOOSE} ON
THE DECK VESSEL #2

NOTED 8 PULLEY WHEELS - AT LEAST ONE
PULLEY HOUSING - #10 McWILLIAM PULLEYS ON VESSEL 2
METAL CONDITION - FRAGMENTARY PIECES RECOGNIZABLE
SHAPES, LOTS OF "RUST SAND", AND CONCRETIONS
NOTE - CONCRETIONS - SPHERICALS - ALSO AROUND THE
BOX DRAIN (SEE DRAWING DETAIL DONE 1ST OR 2ND DAY)

DISTRIBUTION OF RUST PILES



METAL
PILES

WEST
WING

PILES OF METAL DEBRIS BY LARGE HATCH ON WEST
WING - DOOR W/ HANGERS RAILING AND LARGE STRUCTURAL
HATCH - SMALL DEBRIS PILE IN FRONT OF SMALL
HATCH TO SOUTH - POSSIBLE RAILING STATIONARY

EAST
WING

PILES OF METAL DEBRIS BY LARGE HATCH ON EAST
WING - MAINLY HINGES LEFT - POSSIBLE SALVAGE
OF DOOR -

PAINT - RED & WHITE ON RUBBER SEALS AROUND HATCHES
WHITE FIRST

WHITE - RED - PINK ON PLANKS JUST SOUTH OF LARGE
HATCH ON EAST SIDE

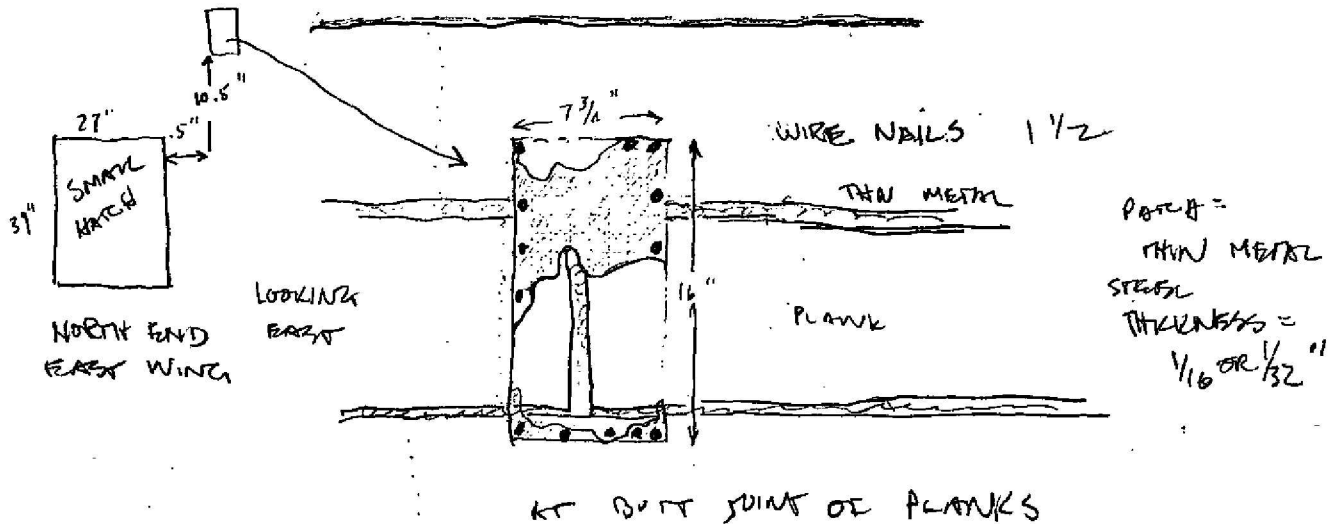
WIRE CABLES @ BUT BLOCK - SE CORNER

8/18/04

MKE

EVIDENCE OF REPAIRS - WINGS -

- ① REPAIR OF PLANKING ON EAST WING - ABOVE, SOUTH OF SMALL HATCH TO NORTH



Probably
NOT
REPAIRS

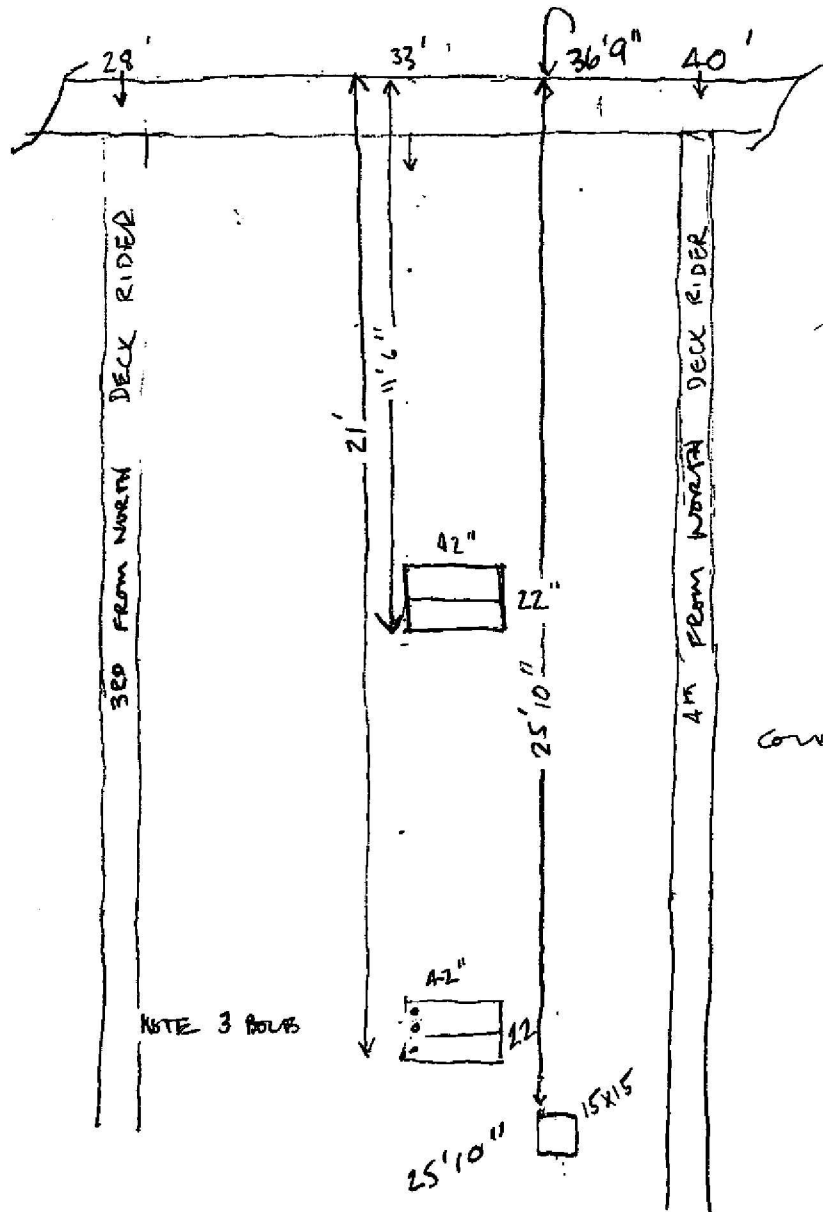
- ② (BRASS) BOLT ON SMALL HATCH EAST WING NORTH
- ③ BRASS BOLT ON SMALL HATCH EAST WING NORTH
- ④ NO BOLTS ON SOUTH HATCH WEST WING
- ⑤ BRASS BOLTS ON LARGE HATCH WEST WING X Z
- ⑥ BRASS BOLT ON SMALL HATCH WEST WING NORTH - 1 BRASS BOLT UPPER HINGE
NONE ON LOWER HINGE

NOTE LARGE THREADED BOLTS ON THE RAFTING BIT
COULD BE REPLACEMENTS

8/18/2004

MYF

EVIDENCE OF DECK REPAIRS VESSEL 2 SHOOTER



BOTH 42" X 22"
REPAIRS @ 33'
ALONG CE

42" X 22

COVERBOARD

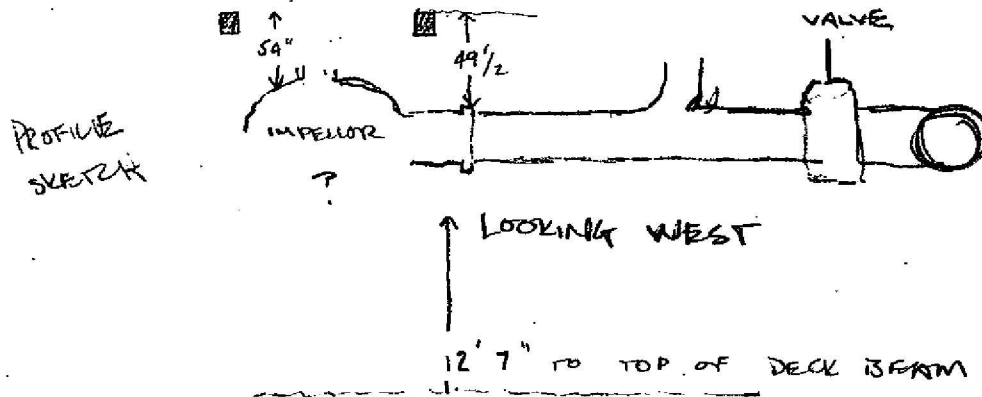
15 X 15

8/17/04

MIKE ME

DETERMINING THE DEPTH OF HOD - DEPTH OF FLOOR

FROM TOP OF DECK BEAM @ 46' 6" FROM
VESSEL @ 12' 7"



WEST
HOUSE
PHOTO TAKEN
1ST OR
2ND
DAY

8/10/2004 : MKE VESSEL 2 SHOOTERS

"REPAIR" OR "ACCESS" BETWEEN 5' 6 DECK RIDERS
25' 10" @ 57' 10" NE CORNER 22 x 44 - COVERED
21' 10" @ 57' 10" NE CORNER 22 x 44 - NOT COVERED

NOTE THERE ARE 3 MORE "ACCESS" ROADS ON THE
EASTERN HALF OF THE VESSEL -

2 BETWEEN RIDERS 3' 4
1 BETWEEN " 6' 7

NOTICE : ONE COVERED

REPAIR OF PADEYE SETUP @ 6TH DECK RIDER - SOUTH SIDE
WHERE IT MEETS THE CENTER "KEEL"

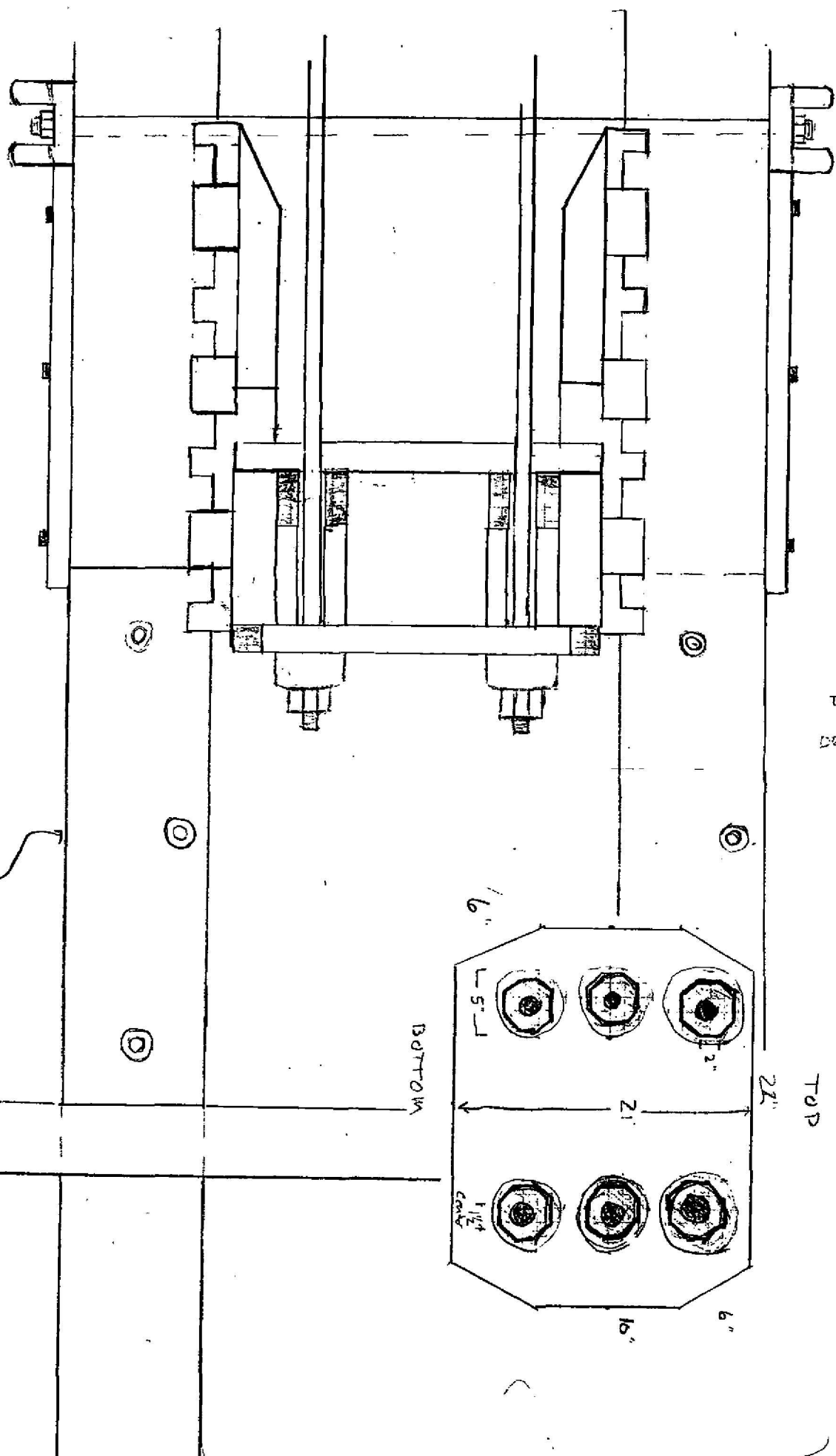


1
2
3
4
5

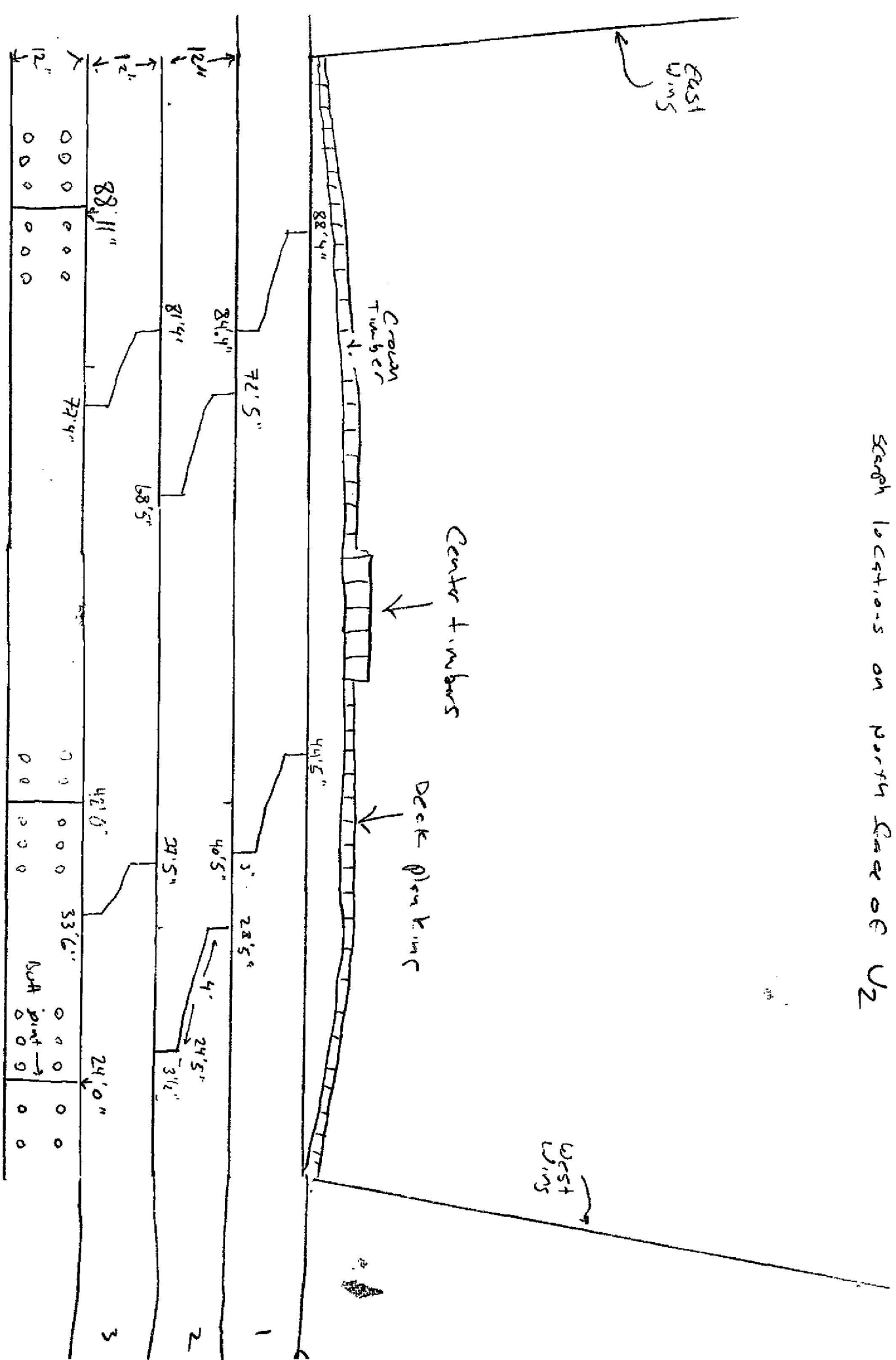
UNKNOWN ASSEMBLY
 1 square = 1 inch

↑
 TOWARDS
 OUTER
 HULL OF
 DRY DOCK

WOOD
 KNEE



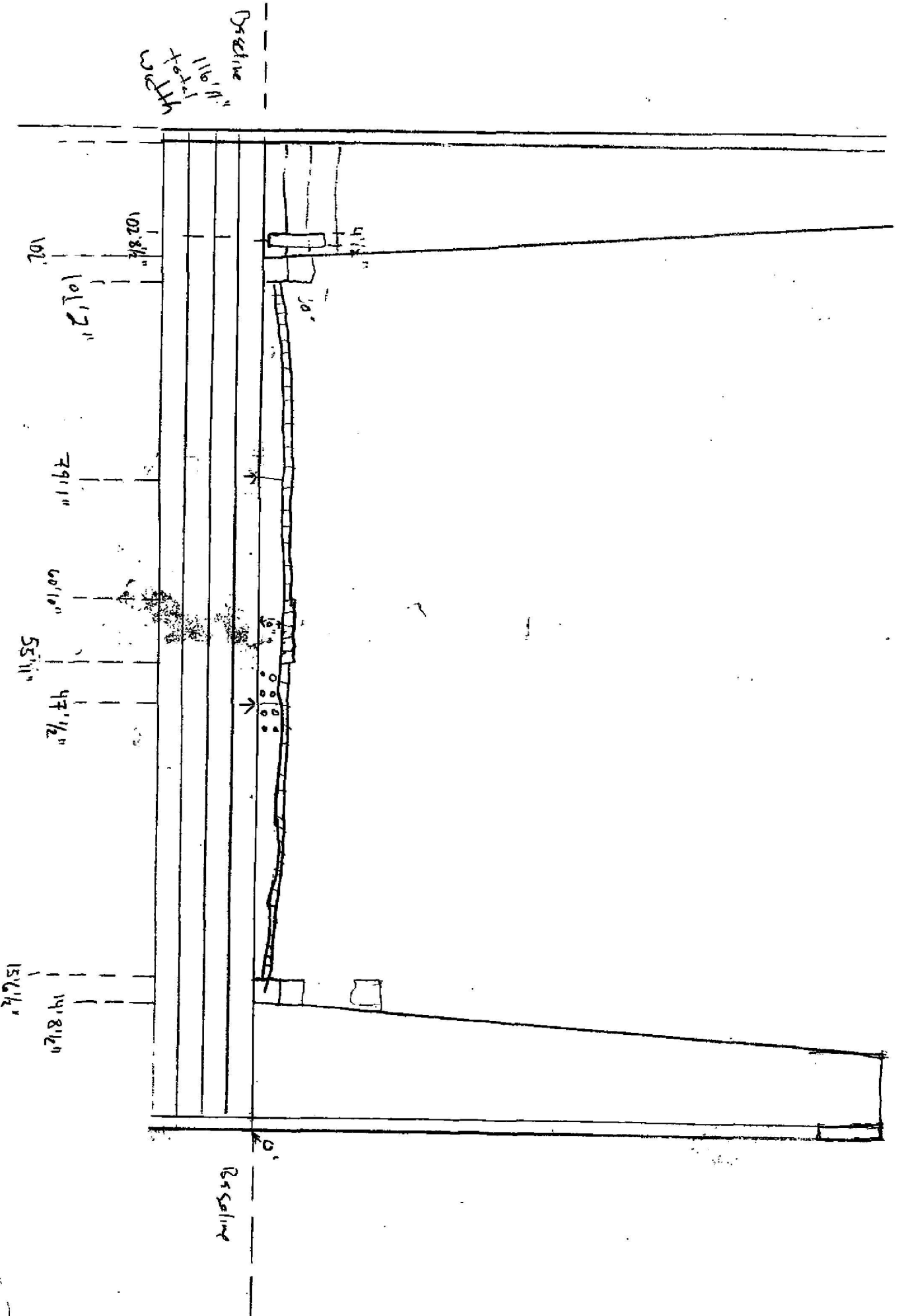
Search locations on north face of U_2



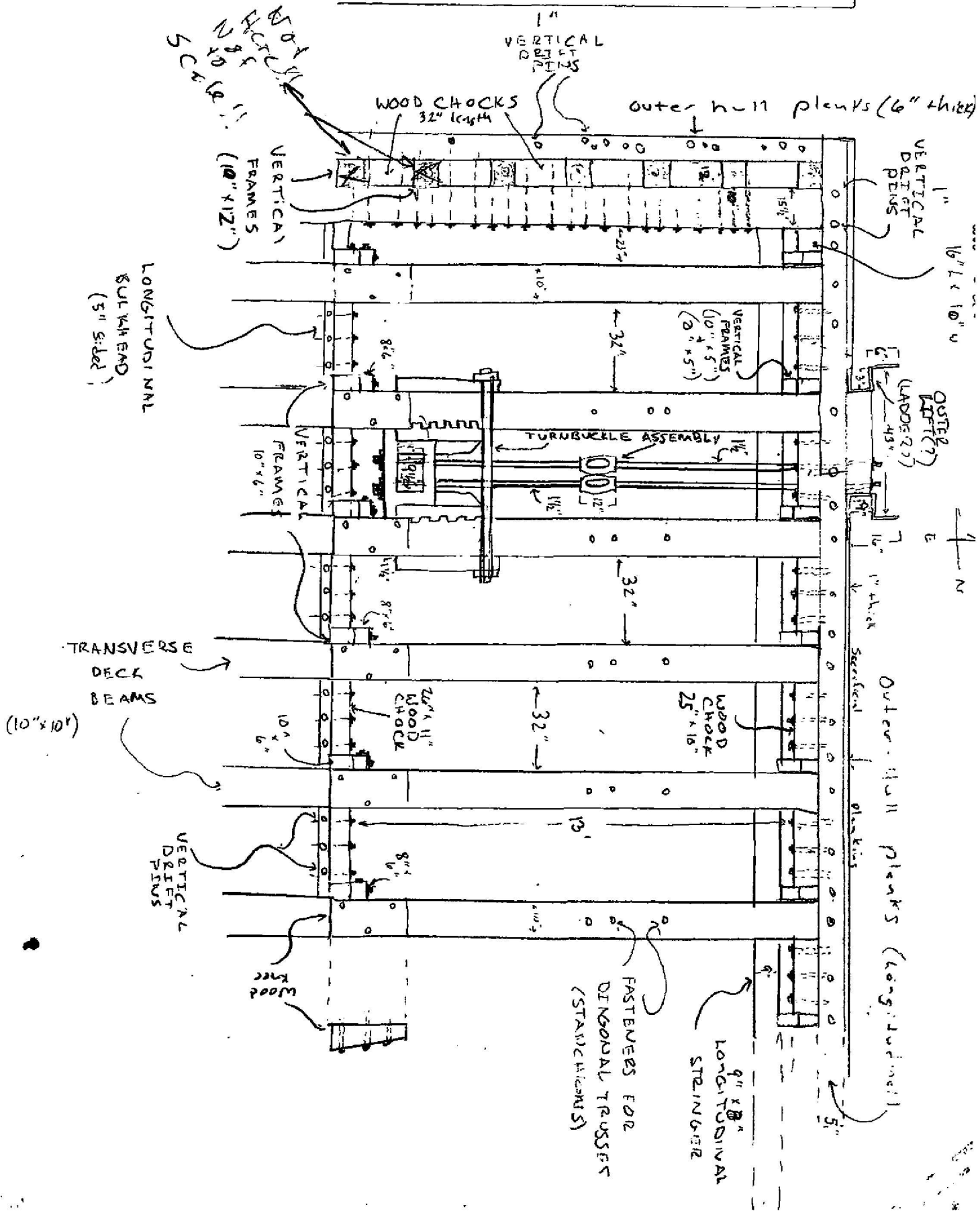
All measurements taken from O' @ 20° corner of V_2

Scarps are 48" linear

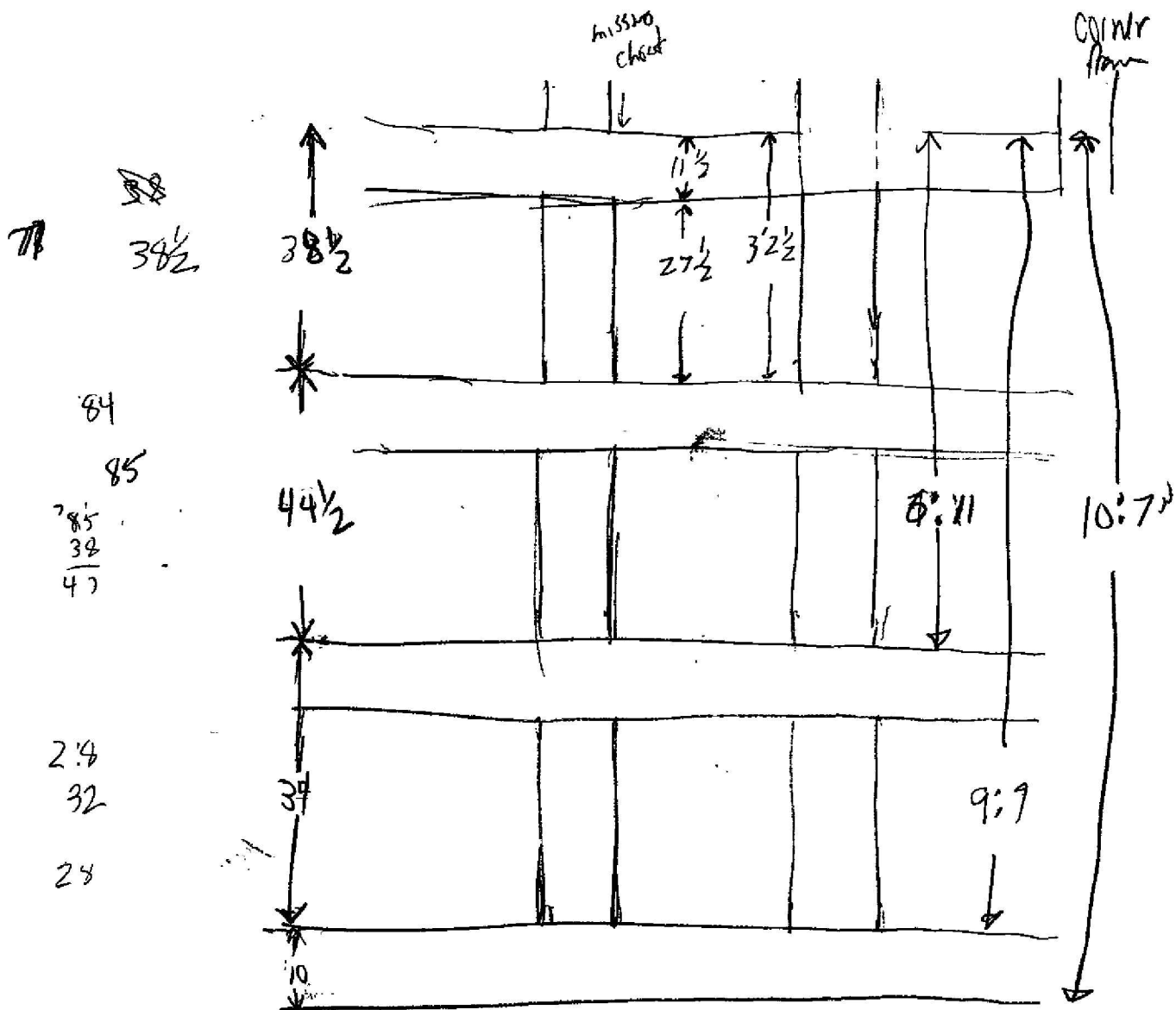
205-248 8739
 chn Linda



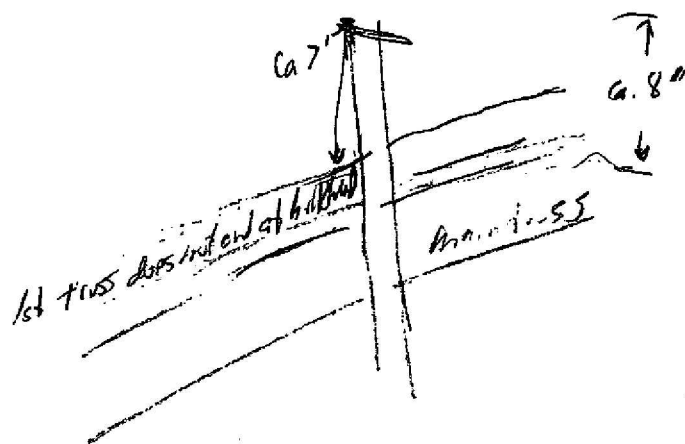
MAIN WING (CORNER) CONSTRUCTION

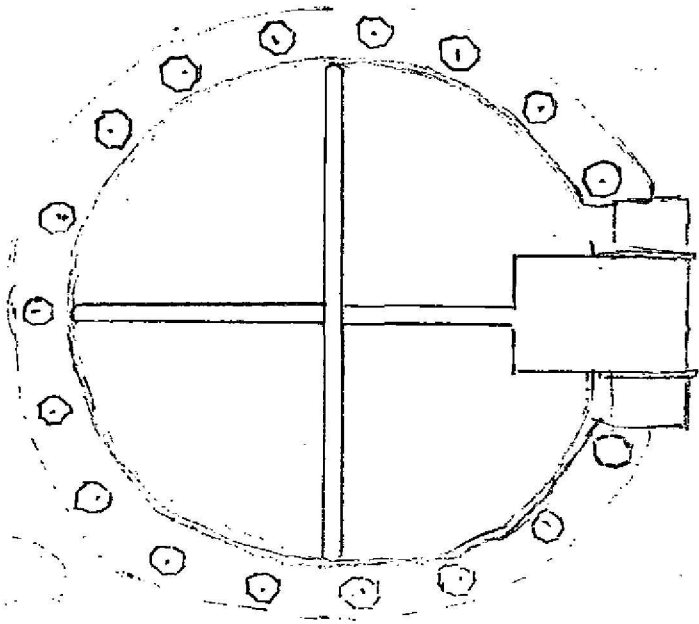


Lyndell Gressler
8/19/2004 V2
forward end, looking forward
(north)



truss meets bulkhead detail

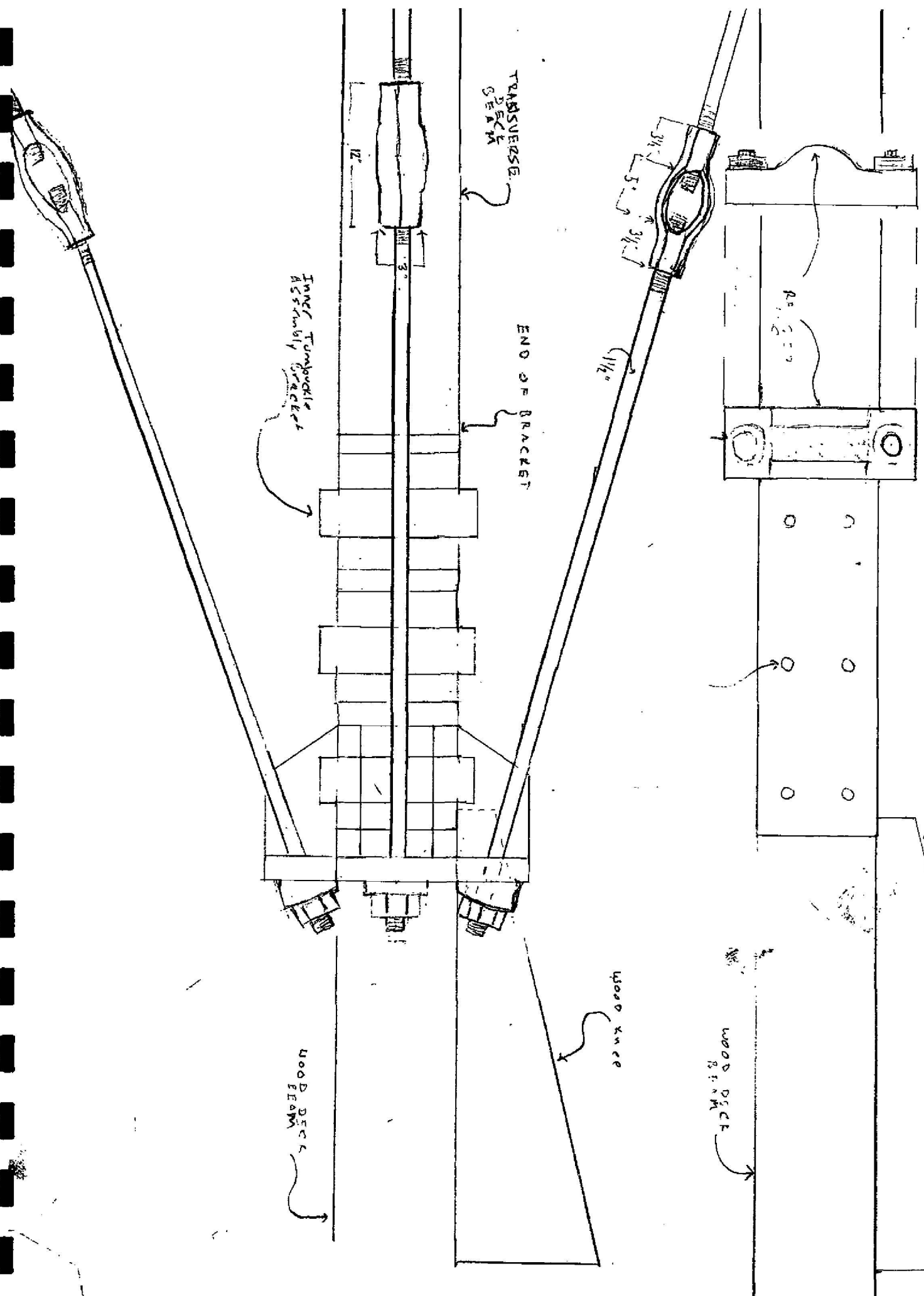


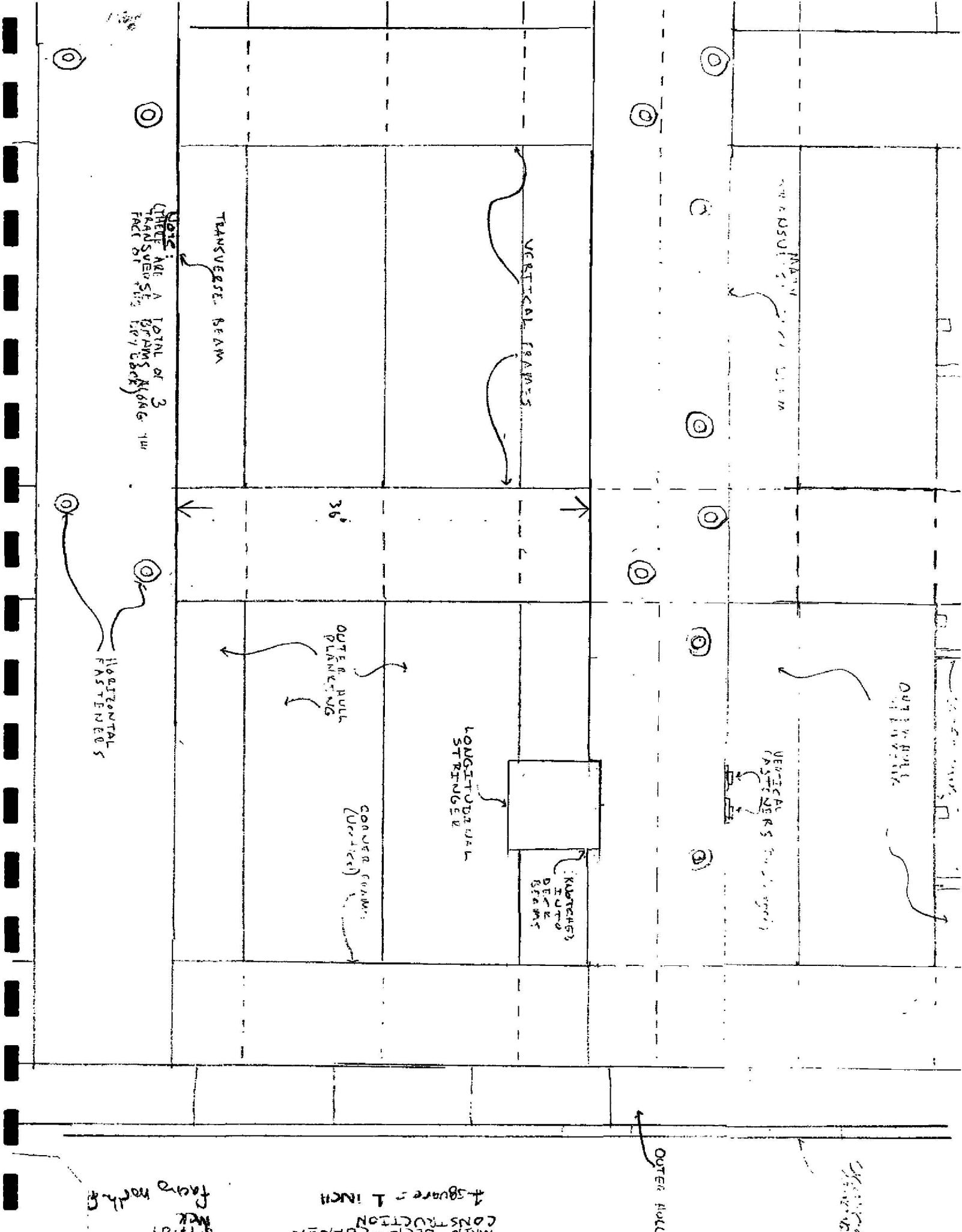


6 VPS side
V2
M. K. K. K. K.
8/17/2004
Std side out of view

Side View of Bottom Transverse Assembly

8-12-09 MCR





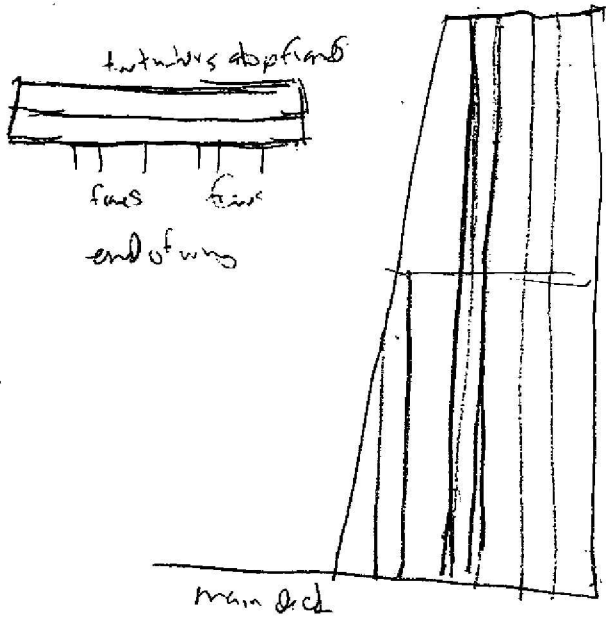
Lydecker
 5 vessels
 VZ general list
 8/17/2004

wing end frame detail



beams go at least to iron deck beam,

main deck beam



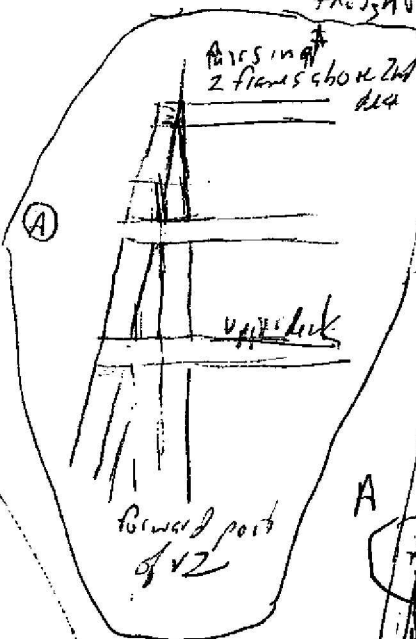
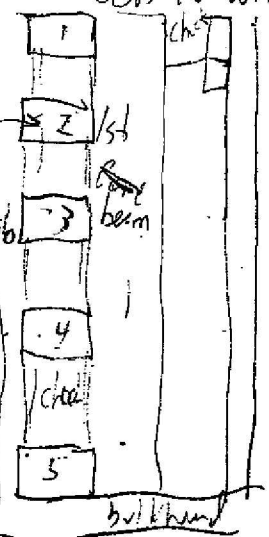
upper deck

main deck

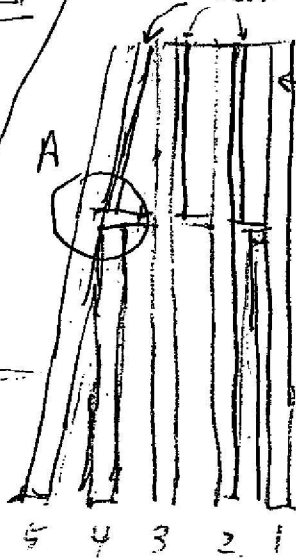
end

end framing

5 sets to wing bulkhead

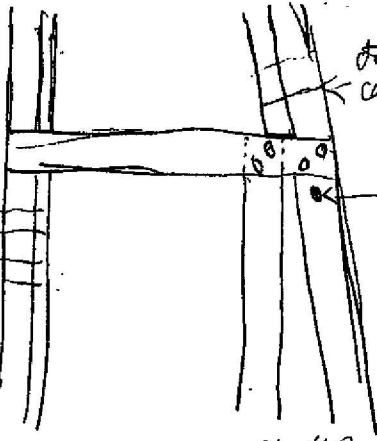


doubles up above upper deck



Frame 1
 doubles up
 90° from
 2+3+5
 4 feet at
 upper deck
 double in line
 length 2+3+5
 below
 main deck

Detail A this is defined from VZ

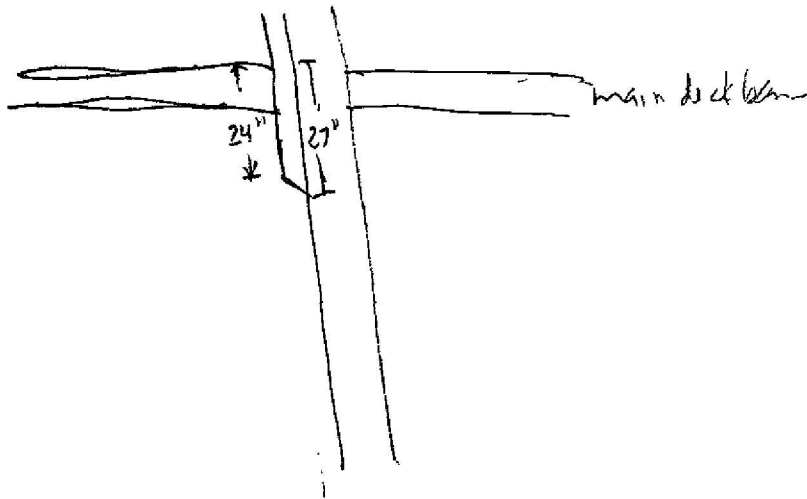


fire hold
 b/n 23+22
 just below
 2nd deck
 1" diameter

edge
 fastener
 end
 of
 main
 deck
 (on main
 over hull
 plank)

off end
 of V1

Wing frame detail



chocks b/n frames

~~not~~ chock to b/n frames

4:5

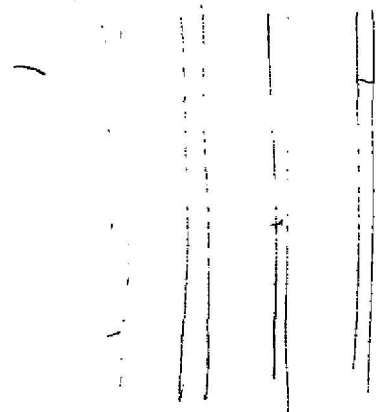
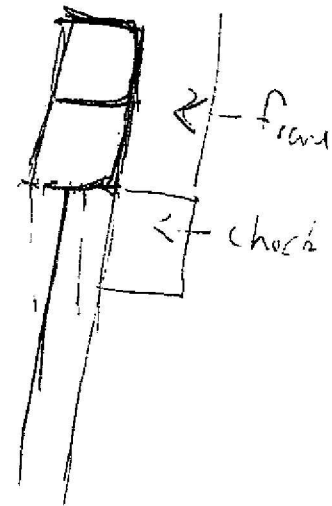
on both sides of wing

end frames

appear to double up locations
and hold ends

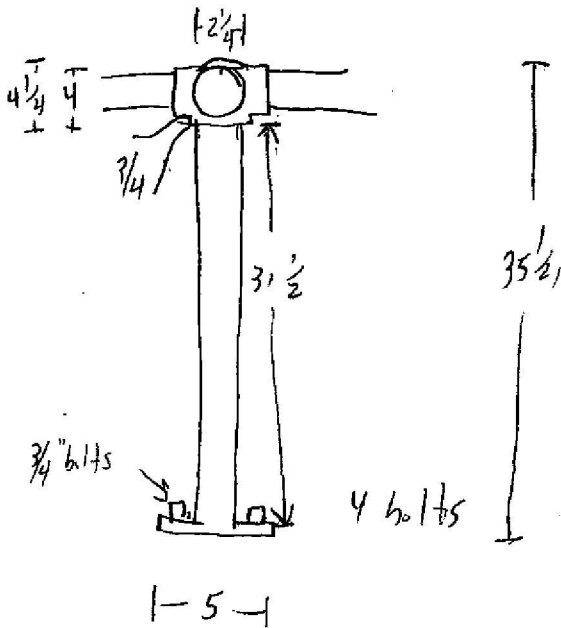
evening spread between structures

8x10 end
frames

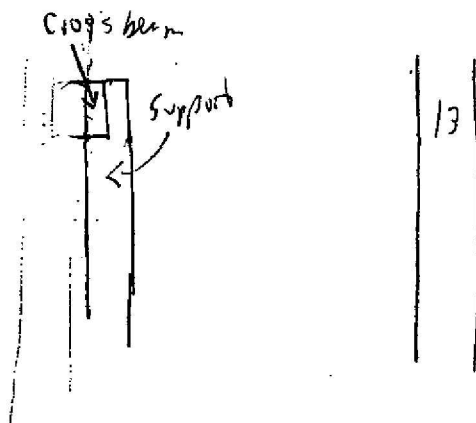


top deck railing

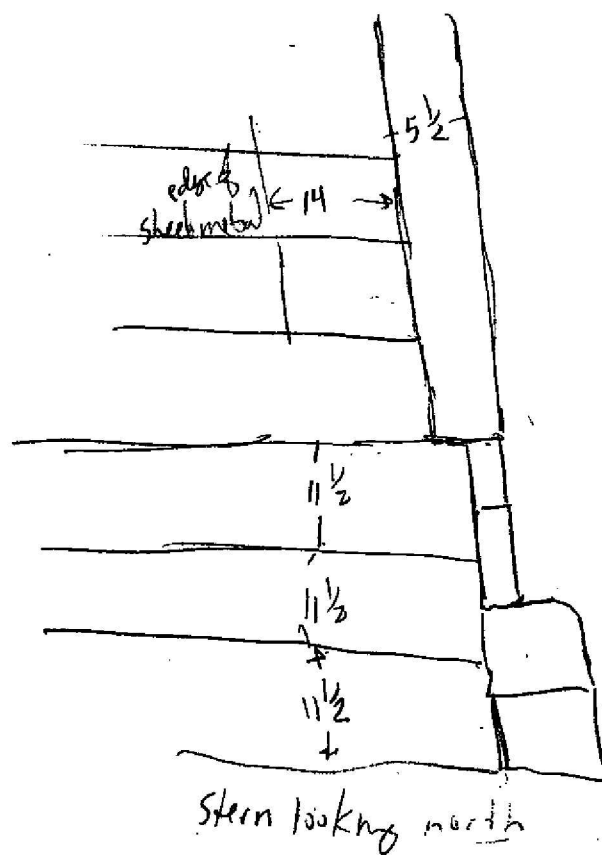
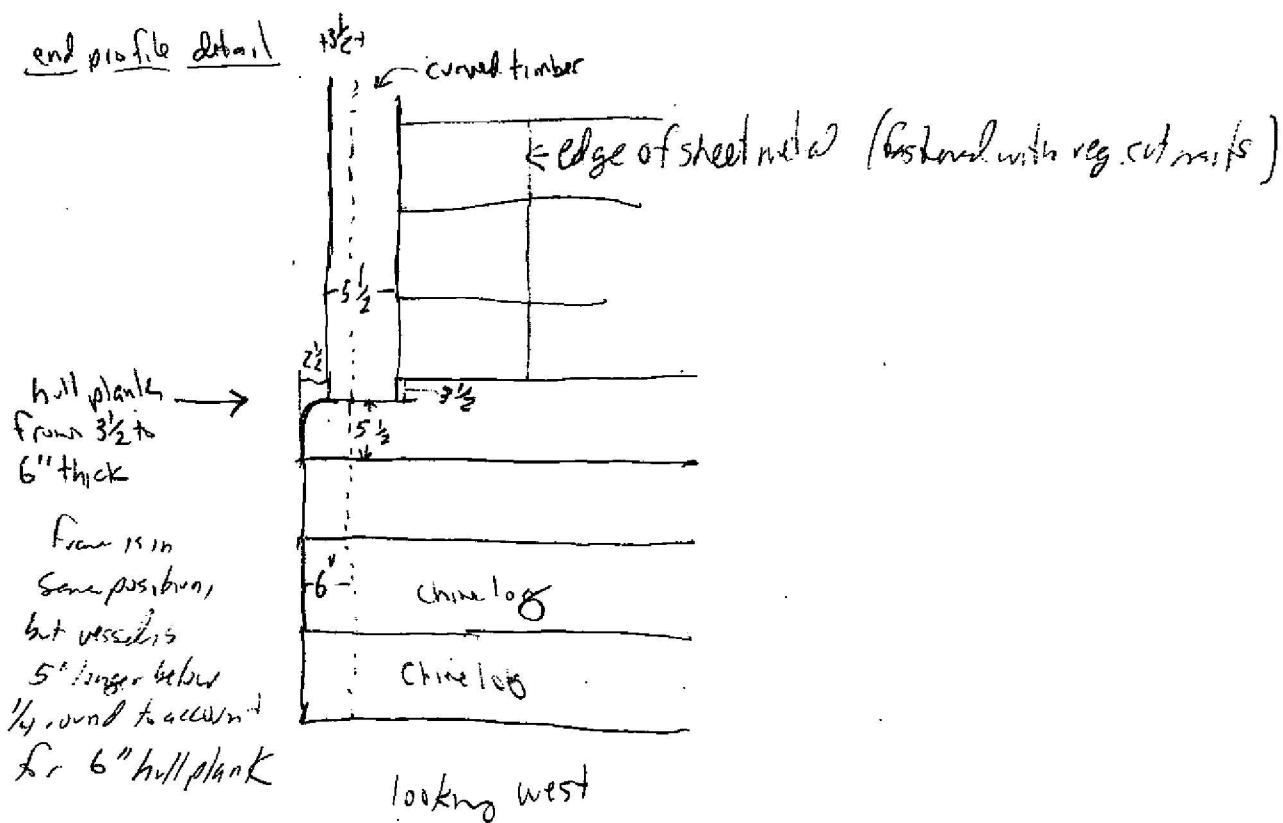
1 7/8" diameter pipe



outlet pipe flange location detail



end profile detail

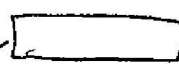


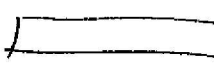
wing profile ladder base location

Plank 37 

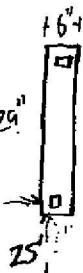
Plank 32 

Plank 27 

See ~~size~~ size
assembly below Plank 22 

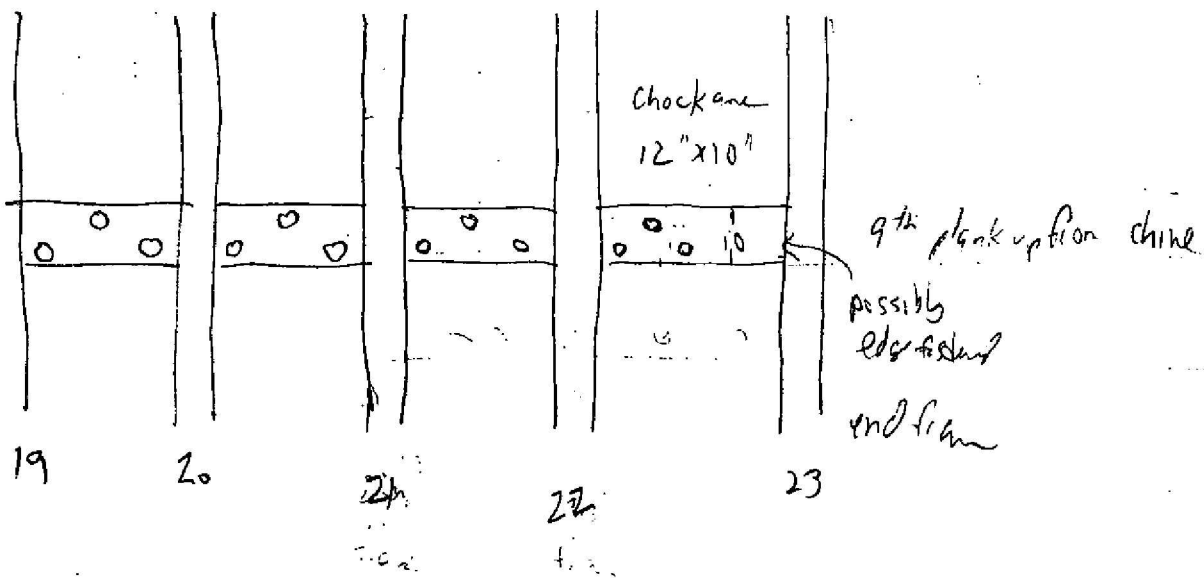
Plank 17 

16"
29"
25"
square
head bolt



chin

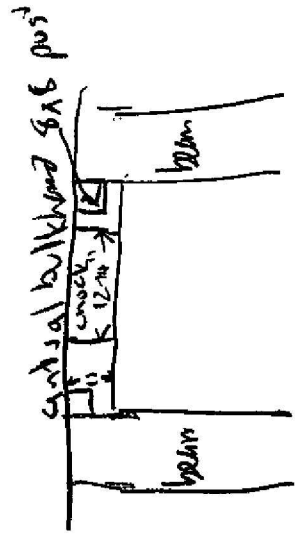
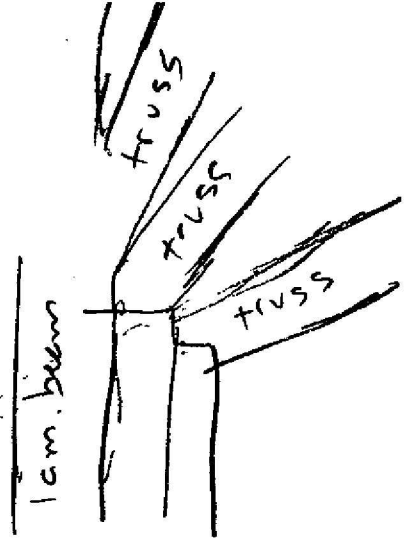
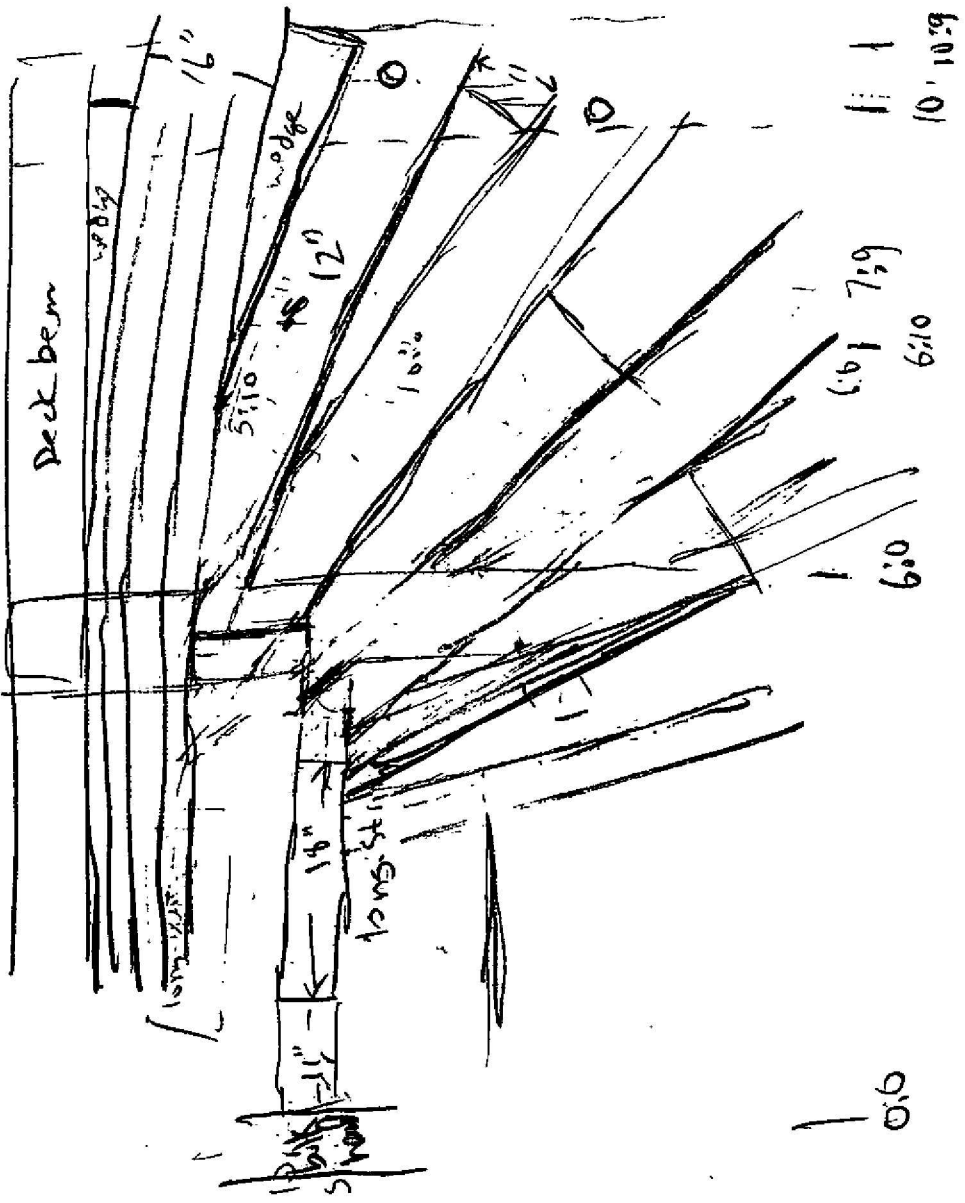
Wings possible
extra chock locations + fastener pattern



1st 4 frame spacer

72" down from
truss #1 deck
beam

1st station 10' station 2



6 STAYS

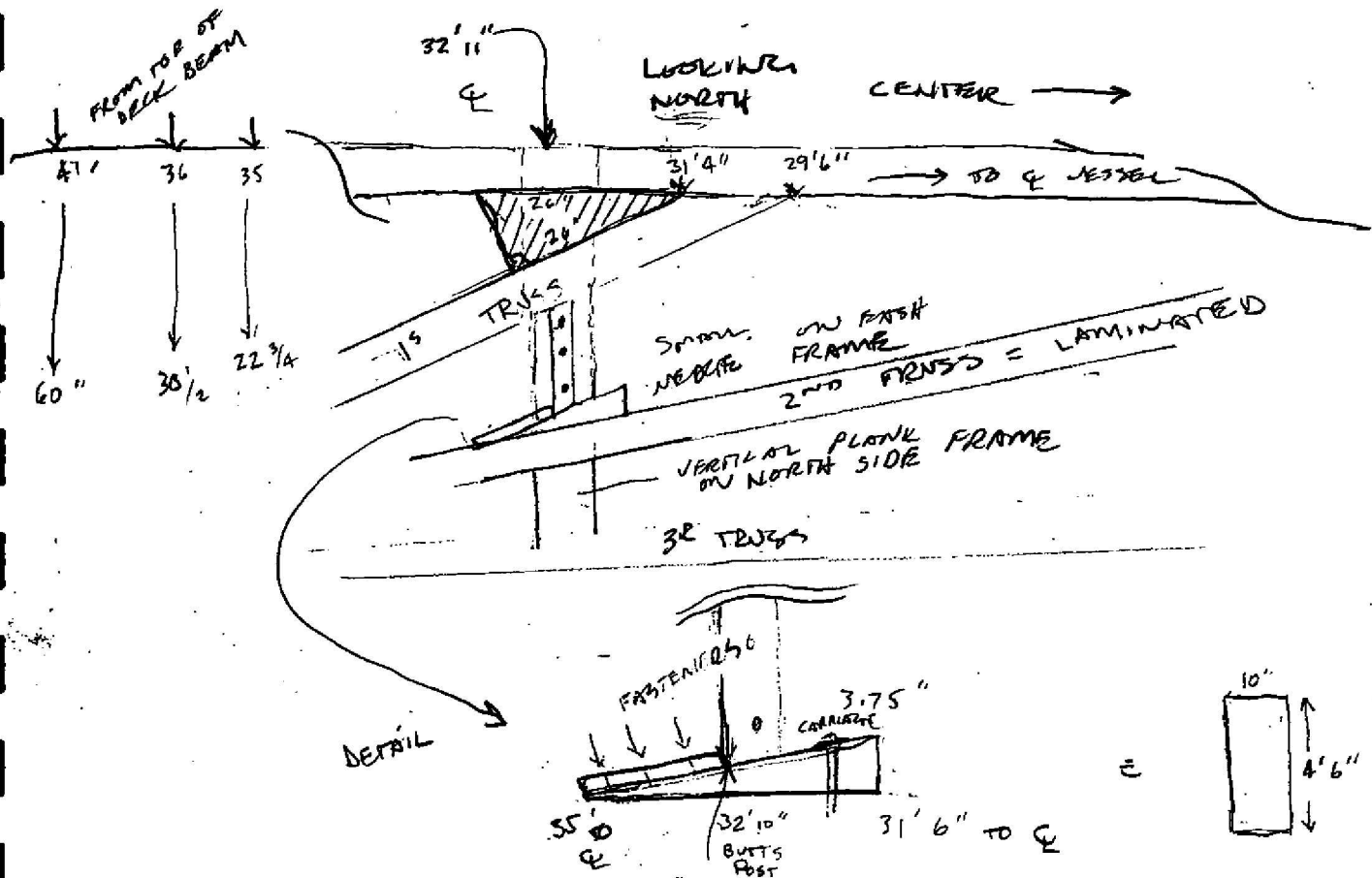
USSAL 2 SHOOTERS

8/13/04

ME; MKE

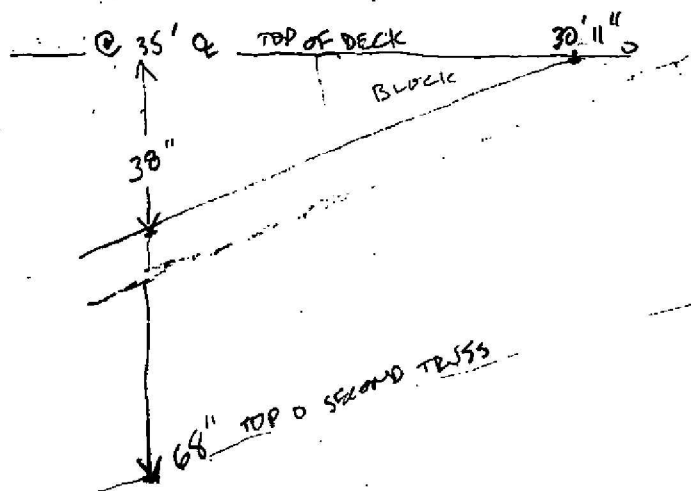
3RD TRUSS @ 20ft from centerline
84 in from TOP of Deck Planking

2nd Truss - 30ft 6 in from centerline
123 in from TOP of Deck Planking

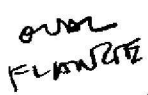


LOOKING NORTH
"FIRST" TRUSS

BOTTOM OF
MEETS DECK BEAM



INSIDE



6 Bolt Pattern

٤٥١٥٤

35 W14

P: PE

Continued

6" DIAM FIBRE

NOT ASSEMBLY

21

WBOJ

42000

SKETCH

2.5W

6 SHIPS - VESSEL 2

8/17/04 -

ME, MKF - STANCHION DETAILS

(4' REINFORCERS)

3RD FRAME (FROM NORTH) - 1 BUTT JOINT @ 25' 7" FROM CL
FROM CENTERLINE

1ST STANCHION - 10x4 SOUTH SIDE @ 4' 10" FROM CL

2ND STANCHION - 10x4 " " @ 9' 6" FROM CL

3RD STANCHION NORTH @ 18' 11" FROM CL

4TH STANCHION SOUTH @ 23' 7" FROM CL

5TH STANCHION NORTH @ 32' 11" FROM CL

STOPPED -
NO JIZ

4TH FRAME (FROM NORTH) - BUTT JOINT @ 21' 4"

1ST STANCHION

TIE ROD

NORTH SIDE - 4' 10"
= 13'

BULK HEAD

2ND STANCHION 10x4 18' 11" FROM CL NORTH SIDE

REINFORCED DOUBLER 19' 4" → 23' 4" 21' 4" = BUTT JOINT

3RD STANCHION @ 23' 7" SOUTH SIDE

BULK HEAD @ 28' 3" (5" THICK)

4TH STANCHION @ 32' 11" NORTH SIDE

(NOTE SUPPORT STRUCTURE FOR PARTING BITS)

5TH FRAME (FROM NORTH)

1ST STANCHION @ ≈ 4' 10" FROM CL ON NORTH

BULK HEAD @ CENTER = 14'

REINFORCED DOUBLER (BUTT JOINT) 14' 4" → 18' 4"
BUTT JOINT IS AT 16' 4"

2ND STANCHION @ CENTER 18' 8" FROM CL NORTH SIDE

3RD STANCHION 23' 7" CENTER SOUTH SIDE

BULK HEAD CENTER 28'

4TH STANCHION 32' 10" CENTER NORTH SIDE

NOTE: TAPE MOVED ALONG
CENTER TO ALIGN W/ EACH
FRAME - THIS THE EXACT
DISTANCE FROM Q HAS ERROR
± 1" MAYBE

FRAME DETAILS
6 SHIPS - VESSEL 2

8/17/04

ME; MKF

6TH FRAME - MEASURES

NOT MEASURED 2 STANCHIONS - BETWEEN Q & 1ST BULKHEAD - BOTH SOUTH
BULKHEAD @ 14' 2" FROM Q

18' 4" = 3RD STANCHION - W/ VERTICAL BRACE - STANCHION ON NORTH

THE
ROD @ 13' 1"

4TH STANCHION - 23' 2" Q W VERTICAL - BRACE STANCHION @ SOUTH

BUTT JOINT REINFORCER 23' 8" TO 27' 5" -

VERTICAL THE ROD 29' FROM Q CENTER OF DECK BEAM

5TH STANCHION 32' 8" NORTH SIDE W VERTICAL SPACER

7TH FRAME -

- 2 STANCHIONS BETWEEN Q & 1ST BULKHEAD - SOUTH SIDE

(NB - 10' 6" FROM Q ALL TRUSSES; WEDGES START HERE)

- BUTT JOINT REINFORCER - 14' 6" - 18' 5"

- THE ROD @ 15' FROM Q

- STANCHION 18' 4.5" - 19' 4.5" NORTH SIDE

- STANCHION 23' 8" SOUTH SIDE W/ SPACER
THE ROD @ 27' 2"

- 28' 3" Q BULKHEAD

STANCHION - NORTH SIDE @ 32' 11" (CENTER)

STANCHION - SOUTH SIDE @ 37' 8" W VERTICAL REINFORCER

TO CHANGE
AS 1' 1"

8TH FRAME -

ALL BULK HEAD - TOTAL DISTANCE - NO VERTICALS
EXCEPT BULKHEAD (LONGITUDINAL)

8/17/04 MEL MKF

T.O.T = TOP OF TRUSS

Frame 3

"2nd Truss laminated" @ 28 ft 6 in - 50 in \updownarrow

T.O.T. to DECK PLANKING

3rd Truss @ 28 ft 6 in - 9 ft 8 in

T.O.T. to DECK PLANKING

\updownarrow (14 in THICKNESS)

4th Truss @ 28 ft 6 in
T.O.T. TO T.O.D. PLANKING

12 ft

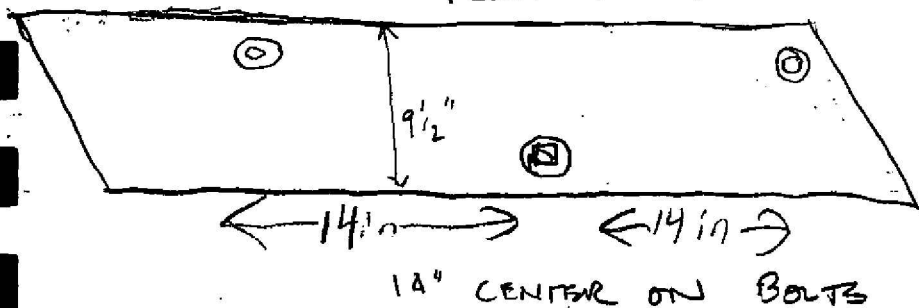
\updownarrow

DEPTH TO
Bottom PLANKING -

13 ft 8 in

2nd Truss 15 in deep $9\frac{1}{2}$ wide
PLAN VIEW

10 ft 10 $\frac{1}{2}$





ME MCF

All stations measured on centers

Deck Features on Vessel II L-Distances from centerline

3RD DECK Beam from North
(Note from Centerline)SEE DRAWING
alt/04W- 3rd Deck Beam from N side
of Vessel II

- 1- 4ft 10in from centerline Vertical station (10in wide) south side ✓
- 2- 5ft 11in Triangular  (Proximal End) distal
- 3- 9ft 6in - Vertical station (10in wide) south side ✓
- 4- 10ft 5in - Distal End of Triangular Blocking 
- 5- 14ft 3in - Bulk Head perpendicular to Deck Beams (center @ 12')
- 6- 15ft 1/2in - vertical tie Rod Bolt Head
- 7- 18ft 11in - Vertical station (10in wide) North side
- 8- 23ft 7in - Vertical station (10in wide) south side
- 9- 23ft 7in - medial edge of reinforced joint on 3rd Deck Beam
(in board) (4in thick) (10in wide)
- 10- 27ft 2 1/2in - Vertical tie Rod Bolt Head ✓
- 11- 27ft 6in - lateral edge of reinforced joint
- 12- 28ft 3in - centerline on perpendicular Bulk Head 5in thickness
- 13- 29ft 5in - notched Butt Joint on proximal end of truss
- 14- 31ft 2in - Proximal end of Triangular Blocking
- 15- 33ft 10in - Distal end of Triangular Blocking TRUSS
- 16- 36ft 1/2in - perpendicular timber (8in wide)
- 17- 42ft 11in - to edge of West wing -

(14A) 3.2ft 11in - Vertical station on North side

- 24in Vertical Brace

2 TRUSSES - 58in From Deck planking to Top of Angled TRUSS

- 36in From Truss to Top of Deck Planking

(1A) 5'3" to 9'1" = Hatch Frame timber 4" x 6"

SCANTLING LIST - 3RD FRAME FROM NORTH

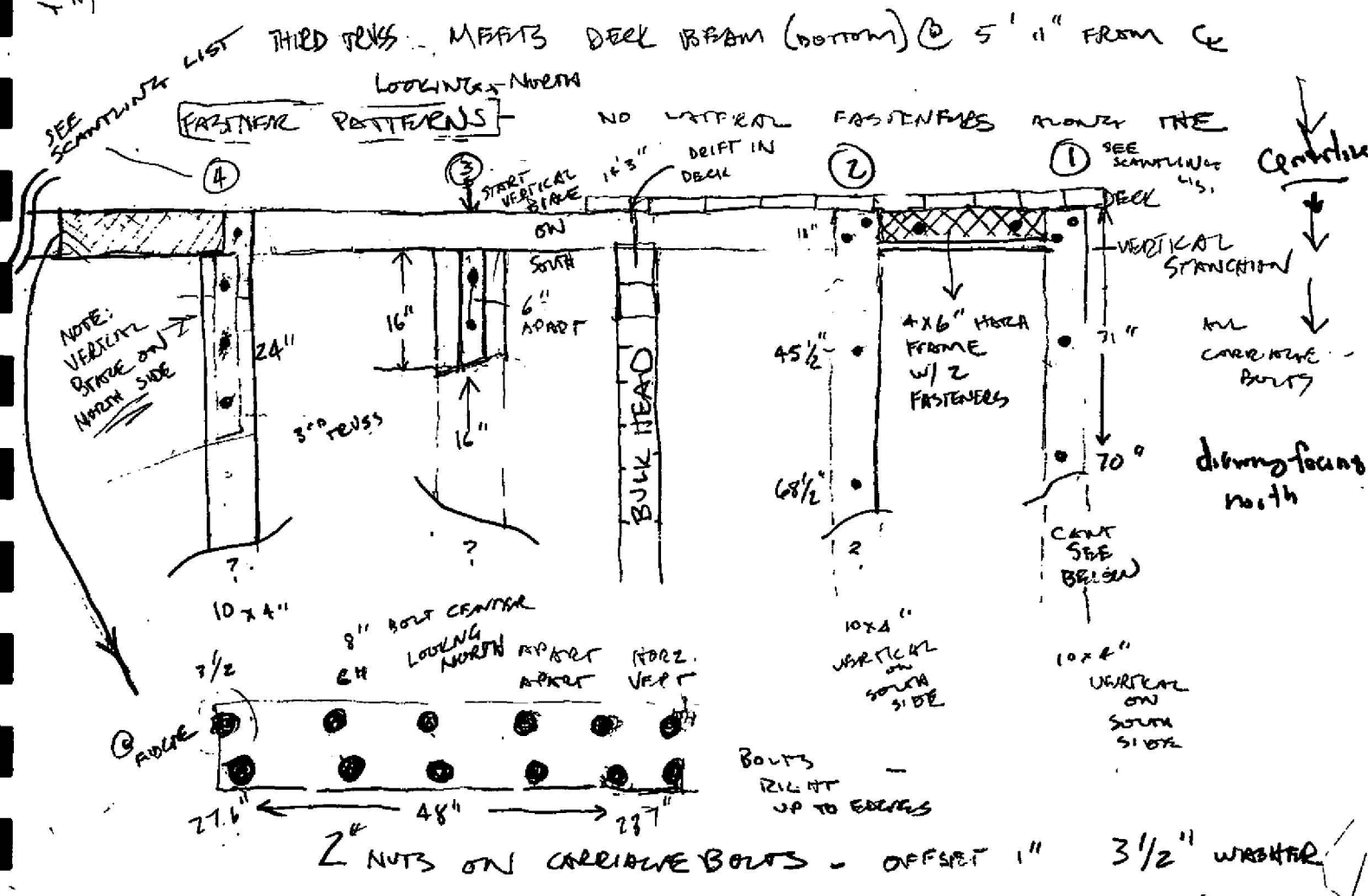
DEPTH OF HOLD

14' 2.75"	@	7' 9"	FROM	CL	FROM	TOP	OF	DECK
14' 3"	@	20' 2"	FROM	CL	FROM	TOP	OF	DECK
13' 2"	@	34' 11"	FROM	CL	"	"	"	"
13' 8"	@	28' 6"						

TOP OF 3RD TRUSS (TODAY)

DEPTH	CL	TOP PLANKING	TO	TOP TIMBER	TO	DEPTH
@ 14' FROM	CL					21"
@ 20' FROM	CL	"	"	"	"	29.5"
@ 26' "	"	"	"	"	"	44"
@ 32' 6" "	"	"	"	"	"	60"

~~THIS WILL SHOW THE OUTLINE OF THE SECOND TEST~~

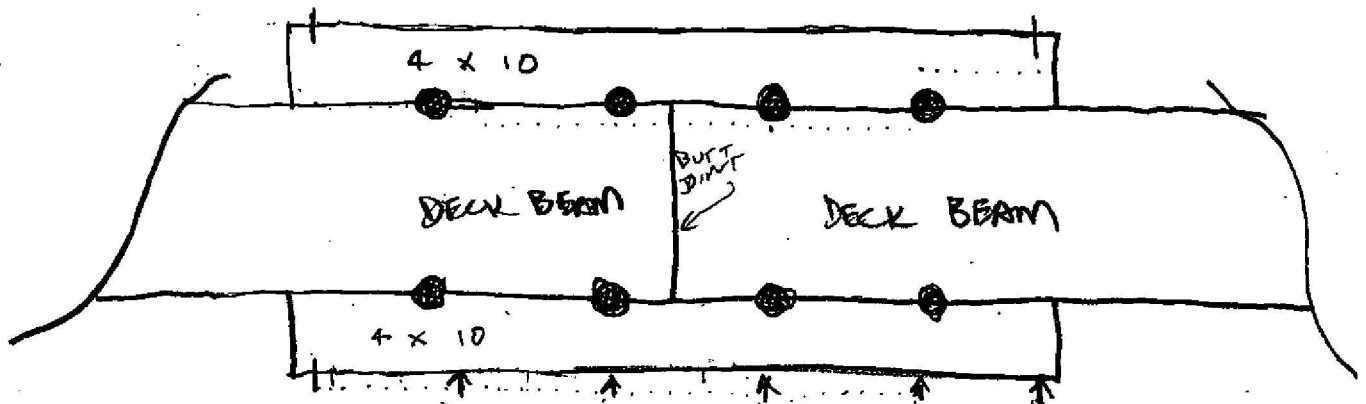


6 VESSEL

8/17/04

ME: MKF

PLAN - BUTT JOINT REINFORCEMENTS - PLAN
TUNNEL PATTERNS 1" TUNNELS



CARRIAGE BOLT PATTERN @ 8" SEE DRAWING 8/14/04

6 VESSELS
 - V2 (SHOOTERS)
 - 8/15/04

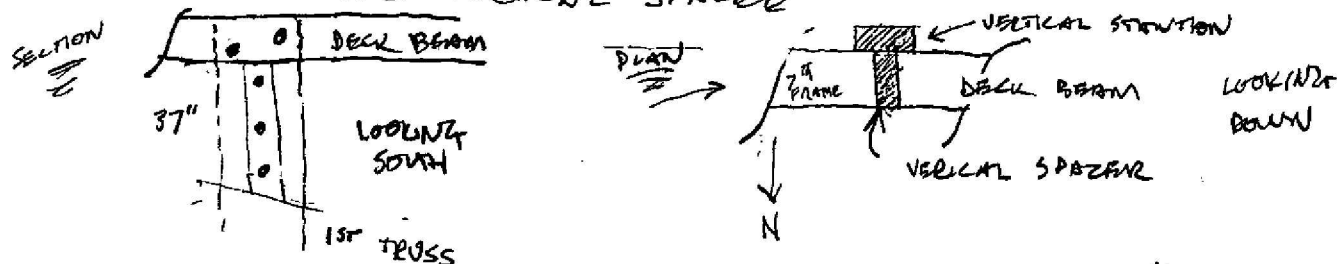
ME MKE

PARTIAL
 BITS

- EXTENDING SCANTLINGS FROM 3RD FRAME BY MEASURING
 THE 7TH

NOTE YESTERDAY WE TOOK SCANTLINGS ON FRAME 3 BUT STOPPED
 AT ABOUT 32' 11" FROM ϕ BECAUSE PLANKING DIDN'T
 ALLOW FOR VISIBILITY AND RAFTING BITS FRAMEWORKS
 IN THE NORTH WEST CORNER OF V. 2.

- VERTICAL STANTION - ON FRAME 7 37' 10.5 FROM ϕ
 1084. STANTION IS ON SOUTH SIDE OF FRAME 7
 THIS HAS THE VERTICAL "SPACER"



THIS WOULD MAKE 5 VERTICAL STANTIONS PER $\frac{1}{2}$ FRAME
 DISTANCE TO WEST WING: 43' 1" ϕ TO FOR ^{IN SLOPED} BOTTOM
 OF WING. - BUT DECK BEAM CONTINUES THROUGH
 TO OUTSIDE OF WING.

SIX VESSELS
VESSEL 2 - SHOOTERS
08/11/04
MKF'S ME

FACING SOUTH

- VERTICAL FRAME DETAIL
- ATTACHED TO DECK BEAM # 11 (FROM NORTH)

(•) = BOLT
WASHER
SET

32' 6"

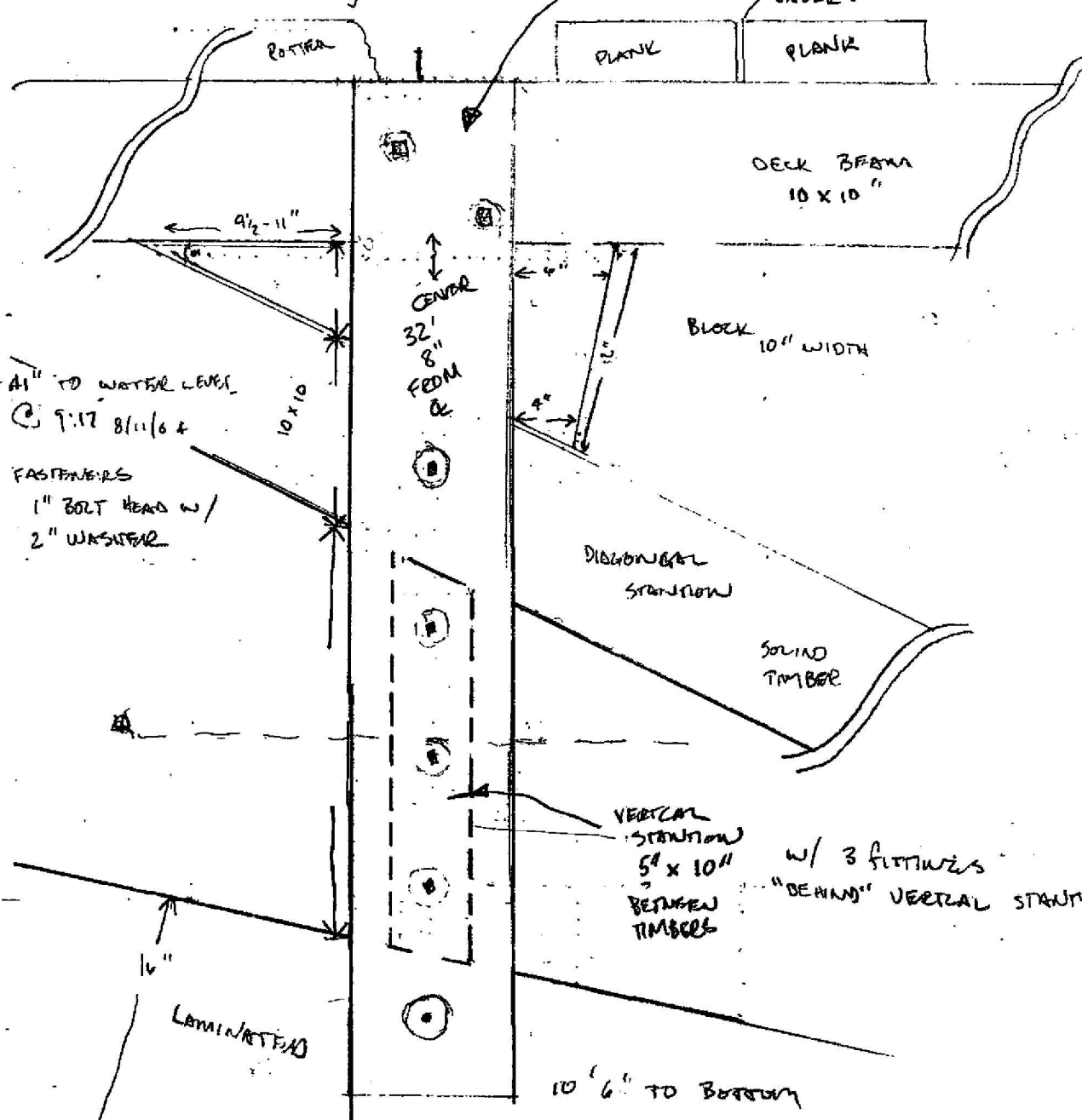
51"

6" x 4" x 10' 6" TO BOTTOM

VERTICAL FRAME

32' 8" BROKEN DECK

DECK PLANKING = 3.5" ASSUME 4" TO START



41" TO WATER LEVEL

9.17 8/11/04

FASTENERS
1" BOLT HEAD W/
2" WASHER

CENTER
32' 8" FROM

DIAGONAL
STATION

SOLID
TIMBER

VERTICAL
STATION
5' x 10"
BETWEEN
TIMBERS

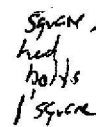
W/ 3 FITTINGS
"BEAMS" VERTICAL STATION

LAMINATED

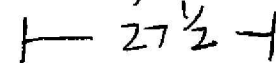
10' 6" TO BOTTOM

Xsec facing north

B $5\frac{1}{2} \times 5\frac{1}{2}$ flange supports, run b/n
flange 15014



flange de la ch



housing is 50" in diameter

10 11 12 13 14 15

AB

$\approx 20"$

3

$70\frac{3}{4}$

The diagram shows a horizontal assembly with several components. On the left, a vertical line is labeled '3'. To its right, a horizontal line is labeled 'AB'. Further right, a vertical line is labeled '70 3/4'. Above this line, a dimension of '≈ 20"' is indicated. To the right of this, there are two vertical lines, followed by a circle, and then another circle. The circles are labeled '10', '11', '12', '13', '14', and '15' above them. The entire diagram is drawn with simple lines and includes handwritten labels and dimensions.

ten bolts
across

vertical

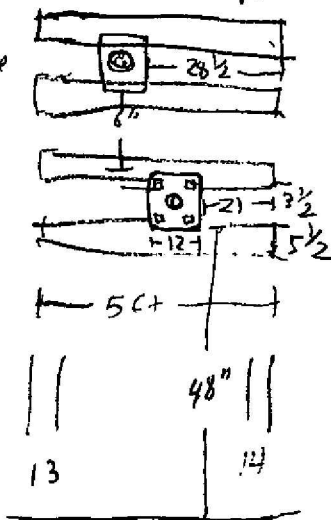
duck bean

43¹⁰

pipe

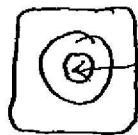
machining detail
b/n F 14 & 13
12 & 11

these
shafts are
connected
to motor-like
things &
other end
attached to
gears or
in other pipe



5 1/2 x 5 1/2 timber

12



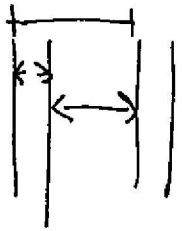
5 1/2

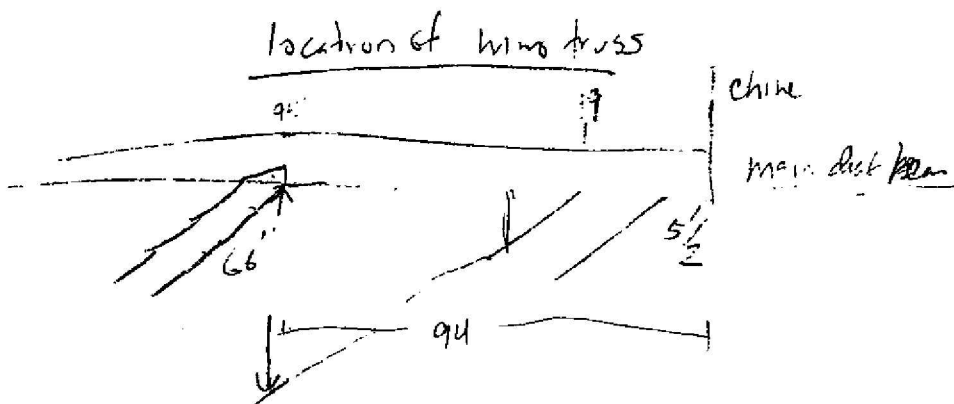
21 12
12 1/2

through
deck
getting
on a finger
at upper deck level
= double sided



these vertical pipes connect to
main pipe some how not sure
can't really tell





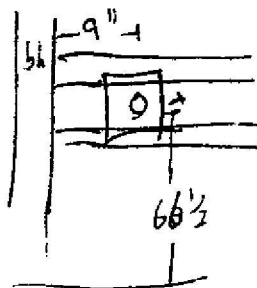
~~main deck beam~~

gate valves

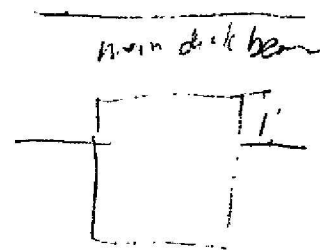
15th frame (bottle)

9" aft

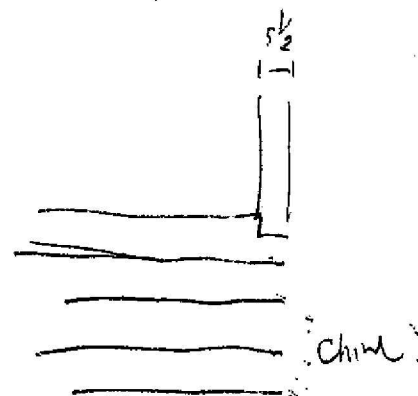
66 $\frac{1}{2}$ " in from chine



Same design forward
of 8th frame



corner cap



extends up
to both
of planks
#39



Lupeter
 Everett
 VZ snow
 8/15/2004

Deck crown measurements

offset	depth
2:6	10"
5:0	10"
10:0	9 1/2"
15:0	8 3/4"
20:0	8"
25:0	6 3/4"
30:0	4 3/4"
35:0	4"
4:0	3"

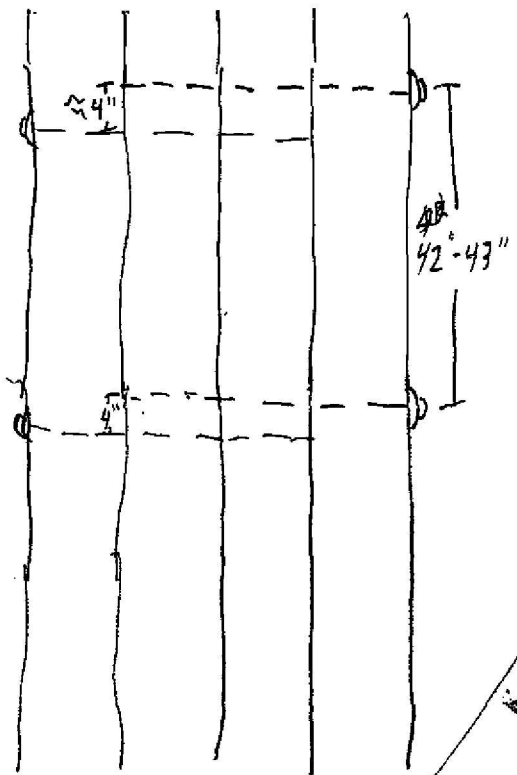
location of large hatch

51:3 1/2
 47:6 1/2
 11 1/4 wide

Cline log scantlings

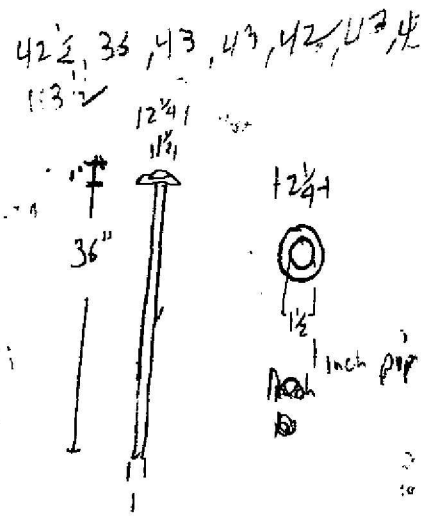
9 1/2 molded. frame
 10 sided
 inboard
 blue log
 is 8" dia
 back side

Deck keelson/ribs fastener pattern

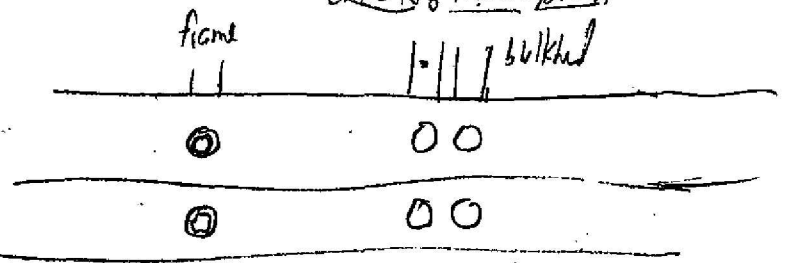


Cline log butt joints

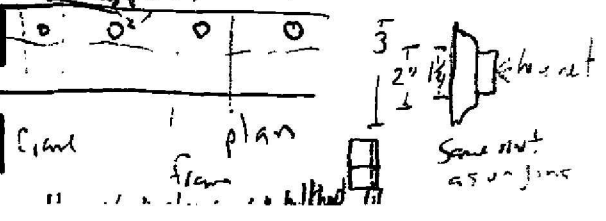
Log	0/2
Upper	65:3
Lower	51:3
Upper	28:9
Lower	14:9



Cline log fastener pattern



originally covered by plates 14-21"

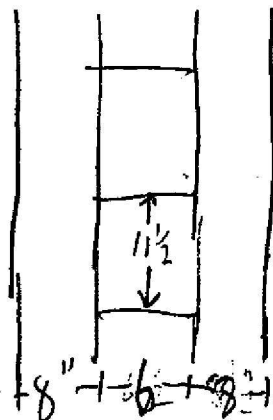


fasteners
 go all around to other side
 frame
 scantling:
 molded 10"
 sided

1 1/2 inch dia. about head
 2 1/2
 originally filled with wood

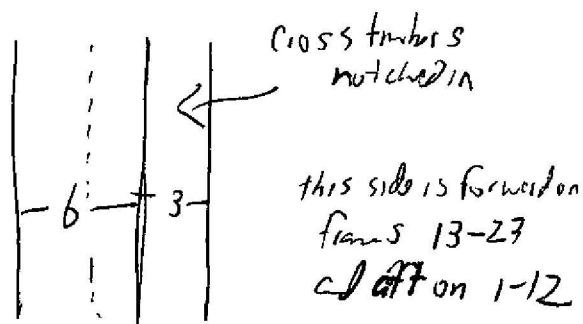
profile of wing frames

bulkhead (frames)



scabbings
bulkhead timbers
sided $10\frac{1}{2}$
width 6
bulkhead frame
sided 8
width 8

reg frame (frame ¹⁴ 9)



9

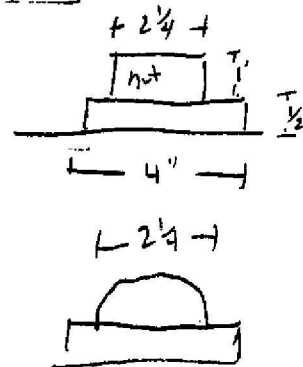
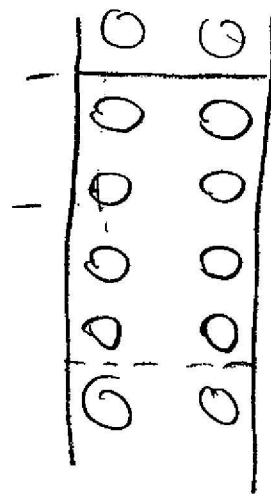
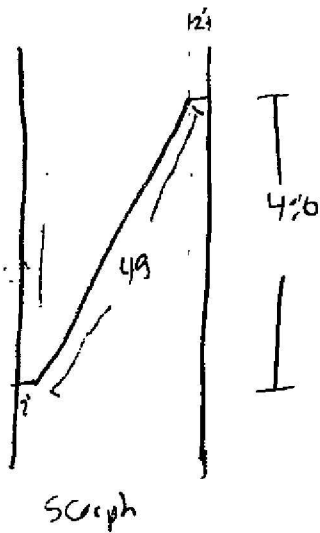
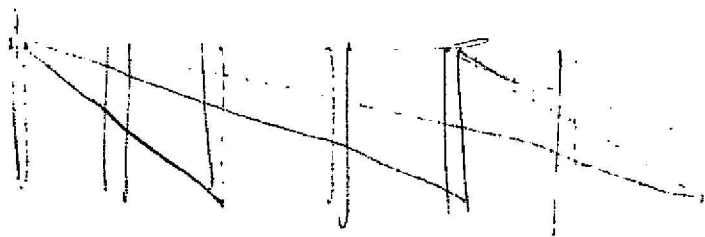
location of ~~log~~ bulkhead through holes
start b/n frames 5 & 6

one plank high ($11\frac{1}{2}$ ")

fasteners go through opening - probably go through both clime logs

Deck beam plans

Frame 1



ceiling
bolt
washer

at board
side

beam

mold 12"

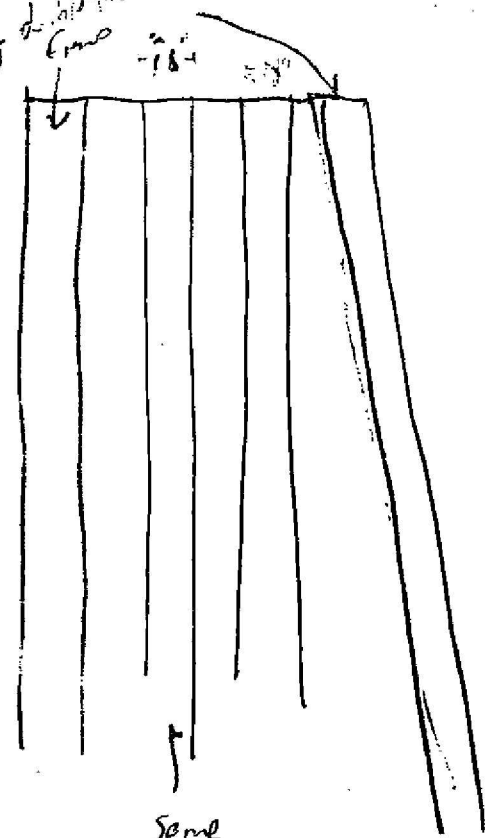
side 15"

location:

inboard edge 23" std of
3.2 long. bulkhead

long frame profile
upper deck beam
3" molded
1-7" side

3 1/2" outer hull
plating to hull stress
frame 18" 5-8"



same
sided
as
frames

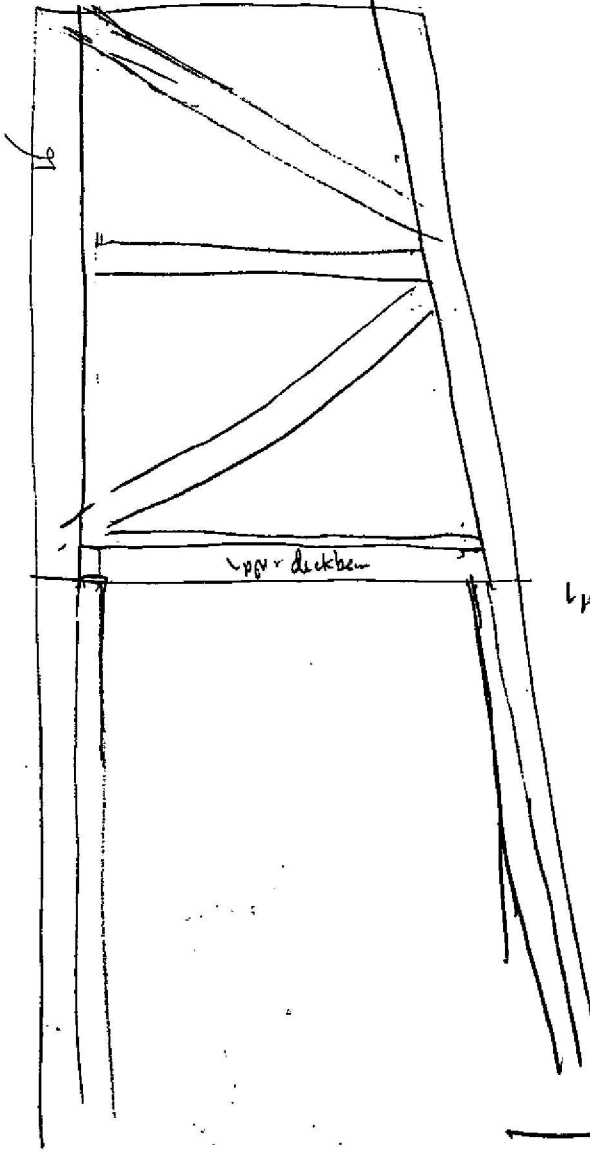
- Frames beam 10" molded at upper deck
- 5 1/2 inch frame added to side of frame instead, making it thicker ~ 7/8 the width of frame



faces in board, smooths
side at mid point

upper deck level

Outer hull plating
from main deck beam
to upper deck
21 planks



bulkhead fastener pattern
2 boards long drift
bolts

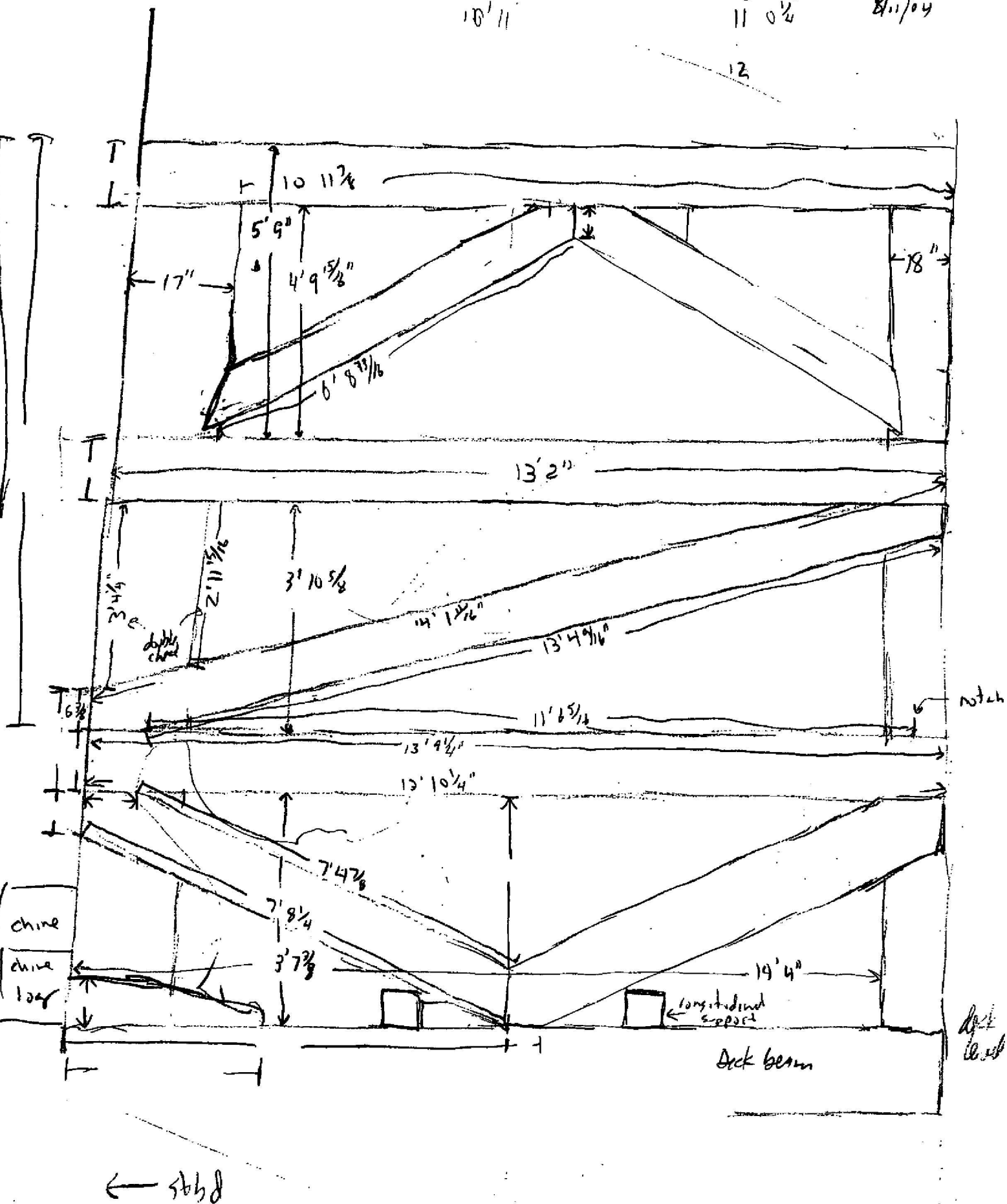


Hydrator
 6 vrs ch
 Not wing profile
 8/11/04

12 6 1/16
 11 0 1/4

10' 11"

12



Frame 15

Scantlings

6 cross
V2 wing x sec
8/14/2004
Lyndal

A vertical frame

18 m/dic

5"-6" sided

consist of 2 timbers

outside 10" molded, 6" sided

inside 8" molded, 6" sided

B

Beam

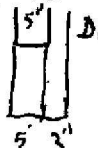
7" molded

8" sided

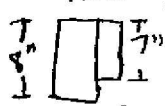
two timbers in molded

direction

3" x 5" fore-aft



end of timber



note

C

wing plank

3 1/2" molded

9" sided

D Beam

17" molded

7 1/2" sided

2 beams



D2

E timbers

5" sided

7 1/2" molded



D3

I

timbers 5 1/2" molded, 5 1/2" sided

K Beam

11 1/2" molded

6" sided

Beam at this side

chuck 3 1/2" sided, 24" molded, 11 1/2" deep

deck

D6

E, J, K

CV2

C

CV3

A

J

I

I

I

I

I

I

I

I

I

I

I

I

I

I

I

I

I

I

I

I

I

I

I

I

I

I

starts at beam I

CV1

D1

D2

D3

D4

D5

F

G

G

G

G

G

G

G

G

G

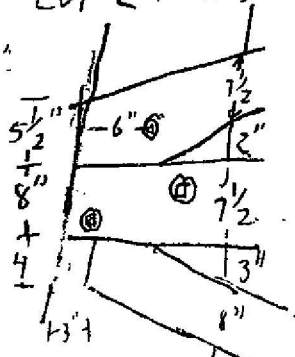
G

G

G

G

CV1 ← 16

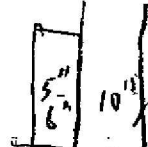


Corr 1/2" bolt - 2" washer, 1" head

F Beam

10" sided

10" molded



D4

G Beam

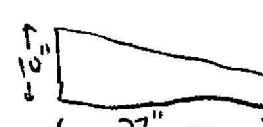
10" molded

10" sided

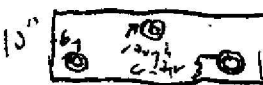


D5

H knee



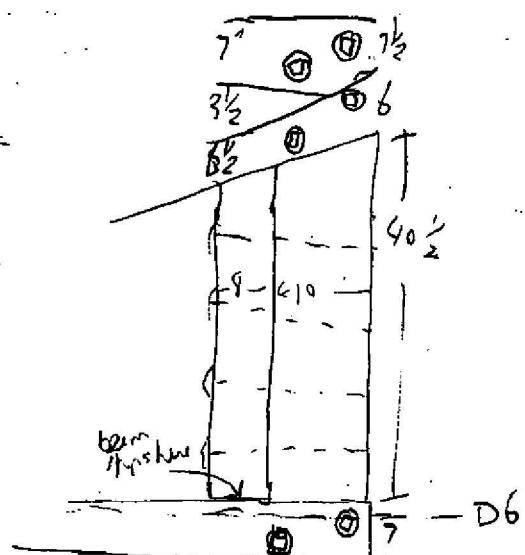
10" sided



top of drifts not all bolt

*note = timbers I, B, D, E are composite beams with different size timbers see center R for detail

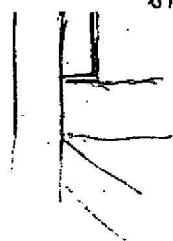
CU 4



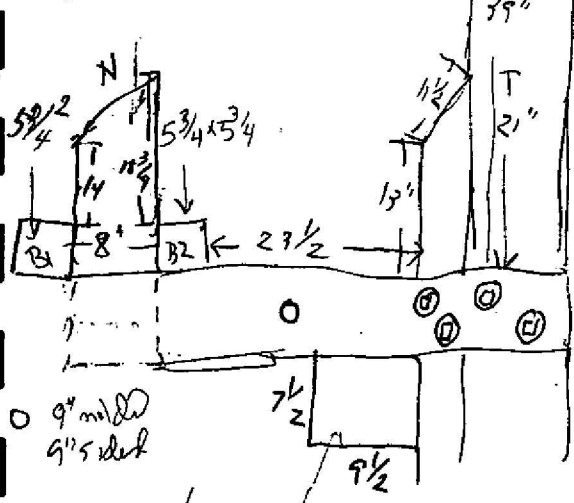
D6



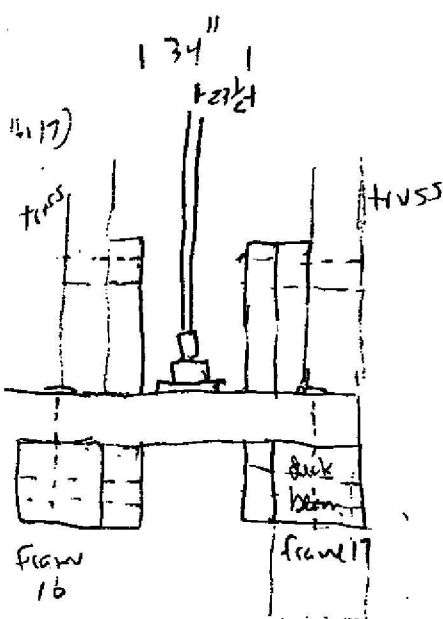
Opposite side of CU 4



N 4" sided
7 1/2" molded
8"



5 x 11 1/2
this frame only (B) 17 11 17



Frame 16

Frame 17

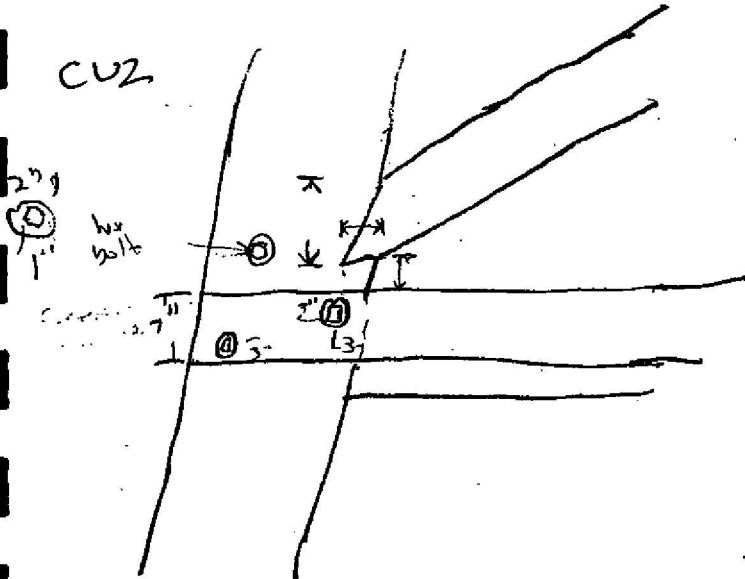
beam
appears to
run length
if correct

- B1 Longitudinal timber runs b/n Frame 17 & 12
- B2 " " " " " " 17 & 16
- Similar beam 24" outboard b/n 12 & 11

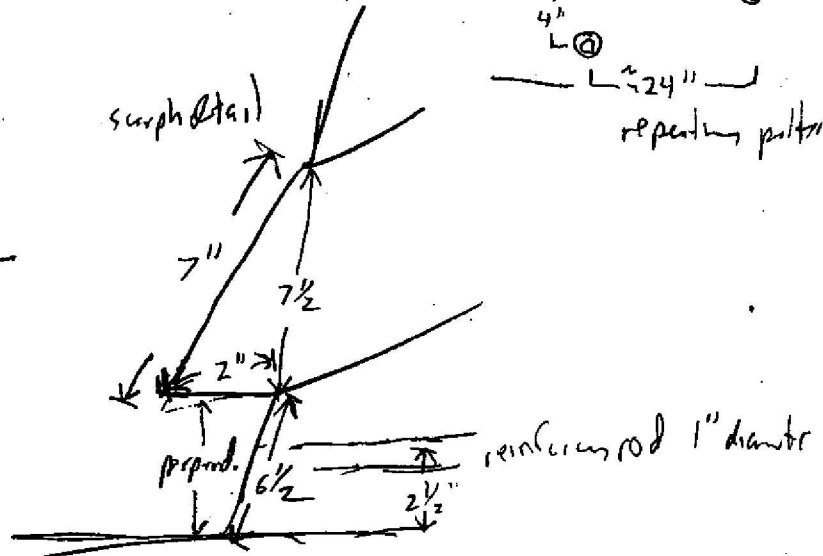
I. Beam
 7" x 9" molded
 4" sided
 9" x 7"
 5" x 7"

D + I former
 pattern

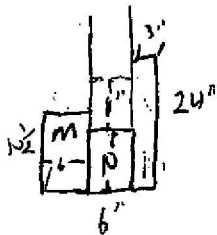
CU2



surph detail

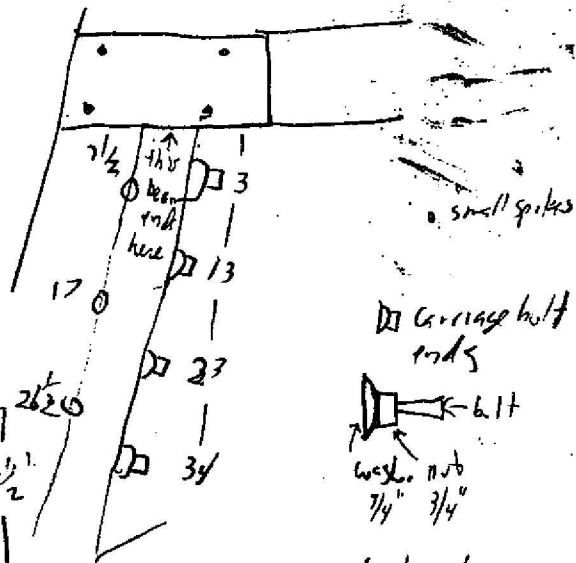


D6

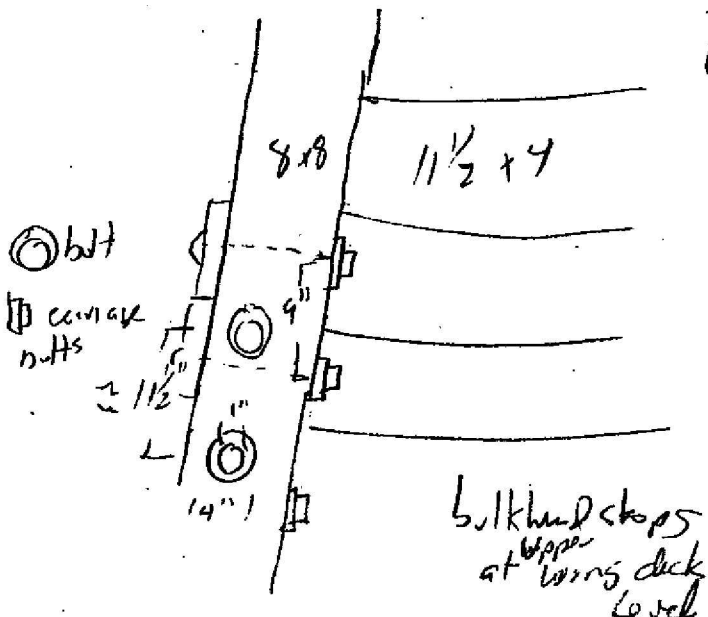


M
 6" sided
 10 1/2" molded

CU3



wing bulkhead



Carriage bolt
 ends

6.11
 work nut
 7/8" 3/4"

6 styrofoam
 1 1/2" diameter

wing profile

Kerron Lyden
bressels V2
port wing profile
8/11/04

port wing frame locations
measurements to center of frame.

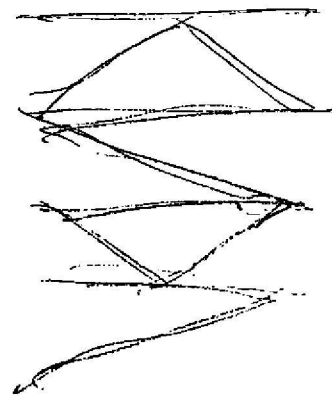
Frame	B/L	bulkheads
1	1'	8
2	4' 4'	16
3	7 10 1/2	
4	11 3	
5	14 9	
6	18 3 1/2	
7	21 9	
8	25 11	
9	28 9	
10	32 4	
11	35 10	
12	40 8	
13	44 2	
14	47 8	
15	51 3	
16	54 0	
17	58 3	
18	61 9	
19	65 3	
20	68 9	
21	72 3	
22	75 8	
23	79 0	

note
cross bracing in wings
switches sides at midships
aft side forward,
forward side aft.

Wing frame Sandbags
17" molded (two timbers 10" x 7")
6" sided

port wing feature locations

Feature	B/L	Vertical
bottom of corner small hatch	11 10	21 1/2
bottom left corner	14 1	
L-bracket w/chain	31 6	24
bottom of corner large hatch	47 7	15 1/2
bottom left large hatch	51 3 1/2	
bottom of small hatch	65 10	21 1/2
bottom left small hatch	68 1	21 1/4



Wing planking

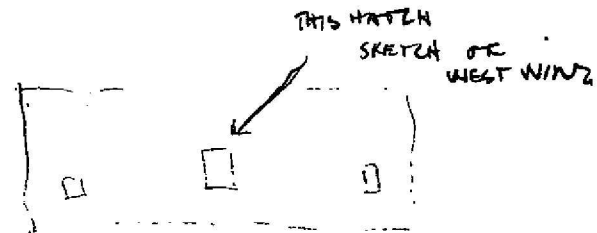
9" x 3" 1st 16 up from chine
7" x 3" (rest) 17-39
2.0 x 6 (45%) 40-41
6 x 6 (rest) 42-43

29' 5 7/16" to top of plank 4
+ 2 bressels, measured
of from top of chine
9"

08/10/04 MKE/ME

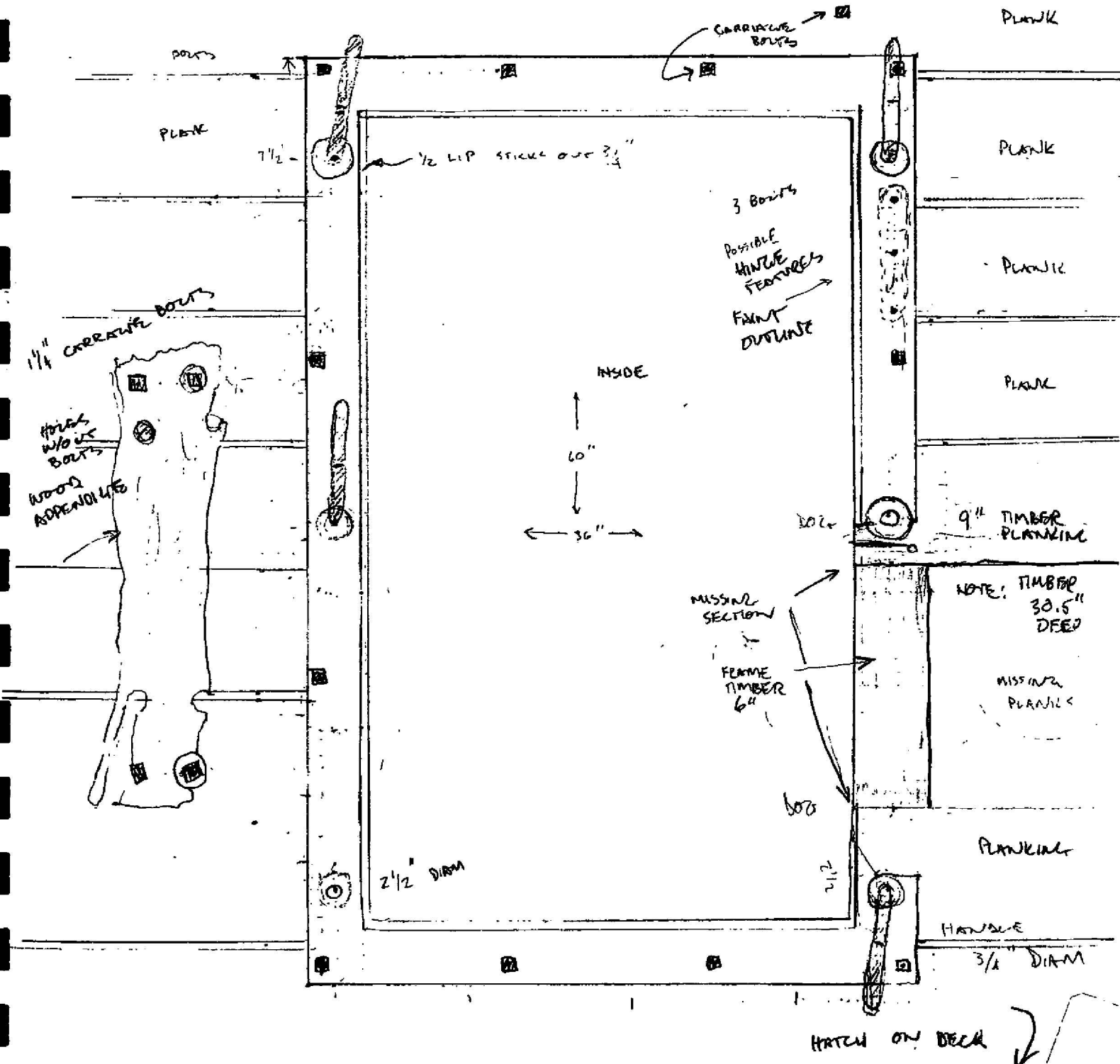
FLOATING DRY DOCK -
FEATURE #1 WEST WING

LARGE HATCH 45 X 69" OD
CAULKING GROPS $\approx \frac{1}{4}$ - $\frac{1}{3}$ "
HATCH BOLTS = 9" LONG



4 BOLTS EXTANT / TWO OFF

PLANKS = 9" X 3.5" THICK

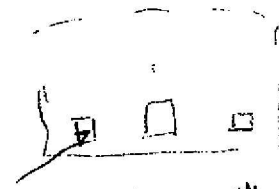


07/10/04

SIX VESSELS
V2 SHOOTERS ISLAND
MRF 3 ME

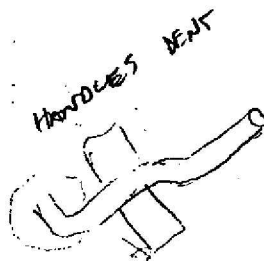
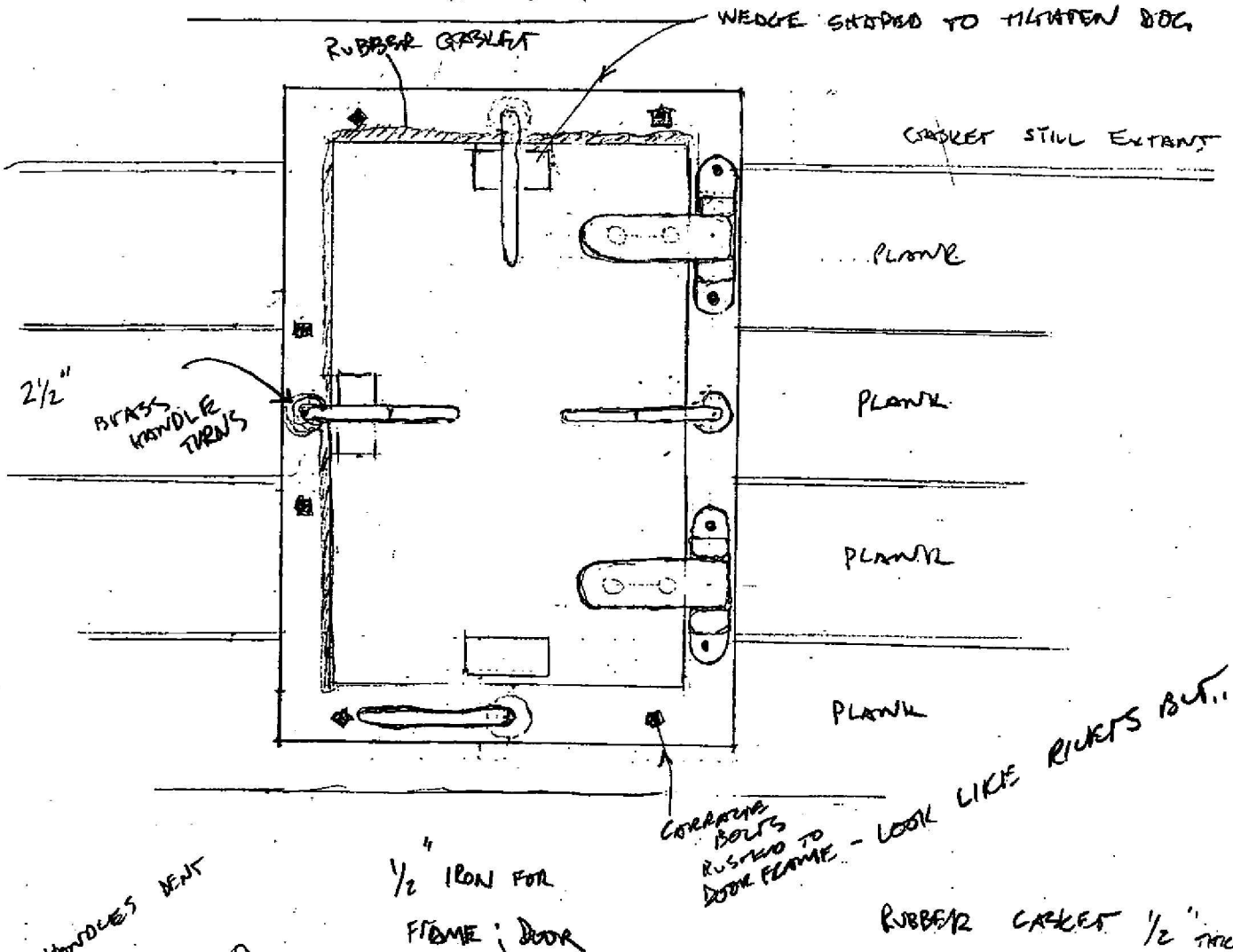
LITTLE DOOR SOUTH ON WEST WING
FEATURE 2

WEST WING



HINGES 8 1/2" x 2 1/2"

DOOR HATCH LEVERS = 3/4" DIAM



RUBBER GASKET 1/2" THICK
PAINTED TWICE
WHITE
THEN RED
NO PAINT ON WOOD
TO SPEAK OF -

Wing plank joint locations

Frame	Plank
6	1
7	3, 8, 11, 15
9	2, 7, 10, 14, 25
10	27
11	1, 9, 13, 22, 24, 29
12	38
13	12, 16, 17, 19, 32, 34
14	hitch, 18, 23, 28, 30, 37
15	11, 15, 25, 33, 35
16	hatched 21, 27, 32, 36, 38
17	2, 10, 14, 27, 40
18	17, 20, 31, 39
19	chordlog, 1, 9, 13, 19, 22, 34
20	24, 29
21	none
22	none
23	none

note

joint locations are
in center of frame
for first 16 planks, after
which they are offset
26" aft

Lyndell K. K.

bressure

V2 8/11/04

wing profile

Panamerican Consultants, Inc
Recordation Form

Project Name: 6 VESSELS Project Number: _____ Vessel Name: V-2

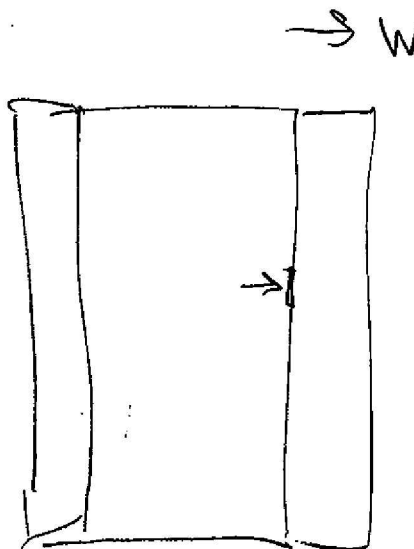
Team Members: Michael Faught Matt Elliott

Feature (i.e. Cross Section, Plan View, Etc.): ^{large} Hatch FEATURE # 1 WEST WING

Photo Log: Note: Be sure to place measuring device in camera view

1	Roll #/Shot #	<u>1</u>	Location:	<u>West wing</u>	Direction:	<u>West</u>	<u>LOOKING NW</u>
	Roll #/Shot #	_____	Location:	_____	Direction:	_____	
	Roll #/Shot #	_____	Location:	_____	Direction:	_____	
	Roll #/Shot #	_____	Location:	_____	Direction:	_____	
	Roll #/Shot #	_____	Location:	_____	Direction:	_____	
	Roll #/Shot #	_____	Location:	_____	Direction:	_____	
	Roll #/Shot #	_____	Location:	_____	Direction:	_____	
	Roll #/Shot #	_____	Location:	_____	Direction:	_____	
	Roll #/Shot #	_____	Location:	_____	Direction:	_____	

Sketch of Feature (include measurements):



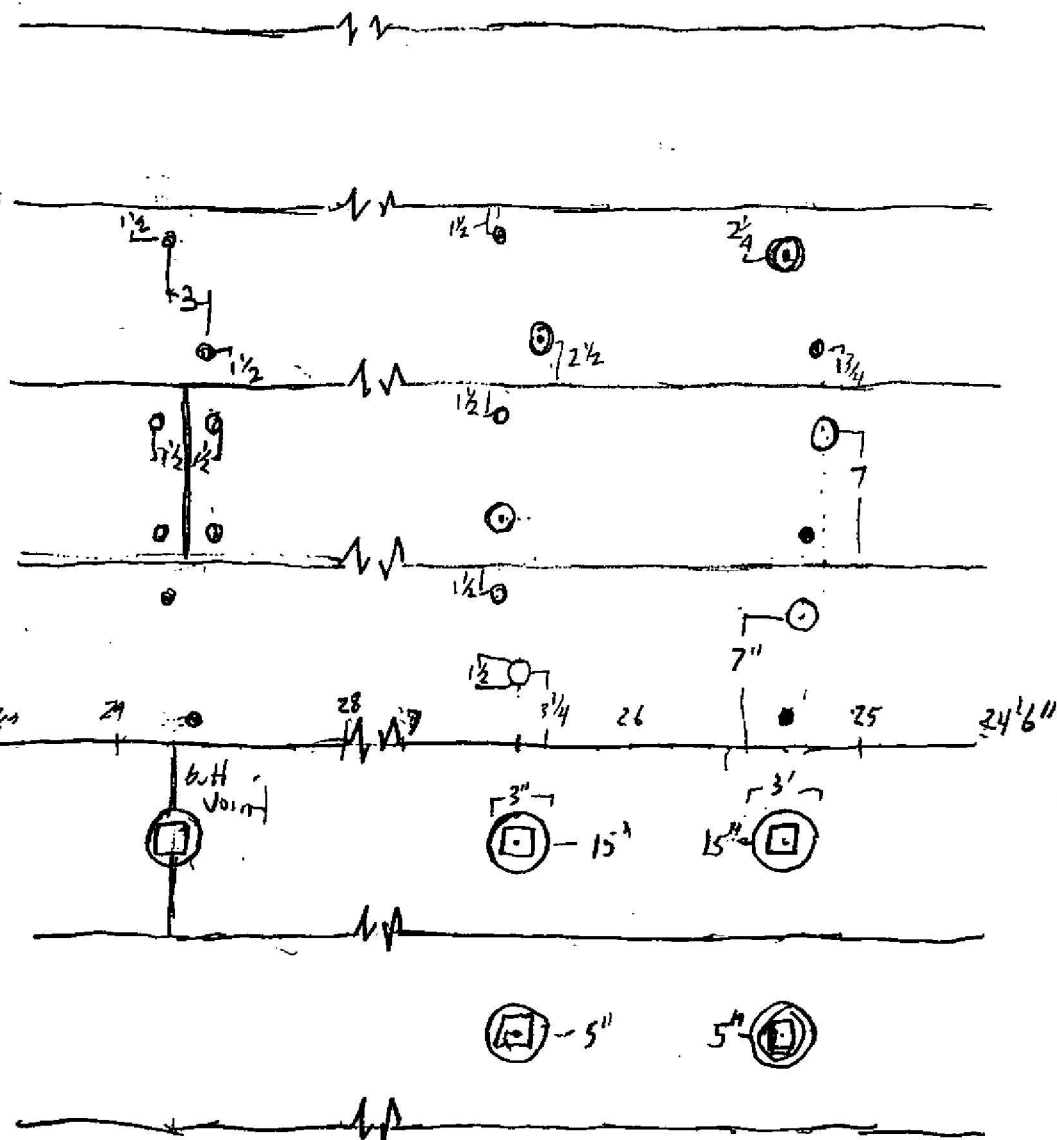
Frame 8, 1st bulkhead
Frame 9

Cupola
bressels
8/11/04
V2 wing planking
fastener pattern

where is bulkhead
in relation?

Frame 9

Frame 8
bulkhead.



fasteners:

- 5/8" head cut nail
- 1/4" shaft (rod)
- ⑥ 1 1/2" head spike
- 3/4" dia carriage bolt
- ① 2 1/2" diameter head carriage bolt counter sunk 3/4 inch

Deck plan

pg 7
 Hughes, K. 11/10/04
 6 vessels
 8/10/04
 V2 Deck plan

deck beams
 $32\frac{1}{2}$ in $32''$
 $9\frac{1}{2}$ space $10''$

23 sets

42" total beam set

x 23 sets =

$\frac{412}{23}$ 966"
 126
 840
 966 12 $\frac{80}{966}$
 966
 5

Location of Deck beams on
 B/L starting at N end
 measured center to center

Beam	B/L
1	2'1"
2	5'
3	6'6"
4	12'
5	15'6"
6	19'
7	22'6"
8	26'
9	29'6"
10	33'
11	36'6"
12	40'
13	43'6"
14	47'
15	50'6"
16	54'
17	57'6"
18	61'
19	64'7"
20	68' $\frac{1}{2}$ "
21	71' $5\frac{1}{2}$ "
22	75' $\frac{1}{2}$ "
23	78'
end	80'

42"
 77
 $31\frac{1}{2}$
 42"
 35"
 $2'11''$
 $3'$
 $3'6''$
 $2'11''$
 $3'$
 $2'1''$
 $5'$
 $47'2''$

angle
 rings

Lyndhurst, K. ror
 6 Vescho
 VZ deck plan
 8/10/04
 Page 6

N
 ↑

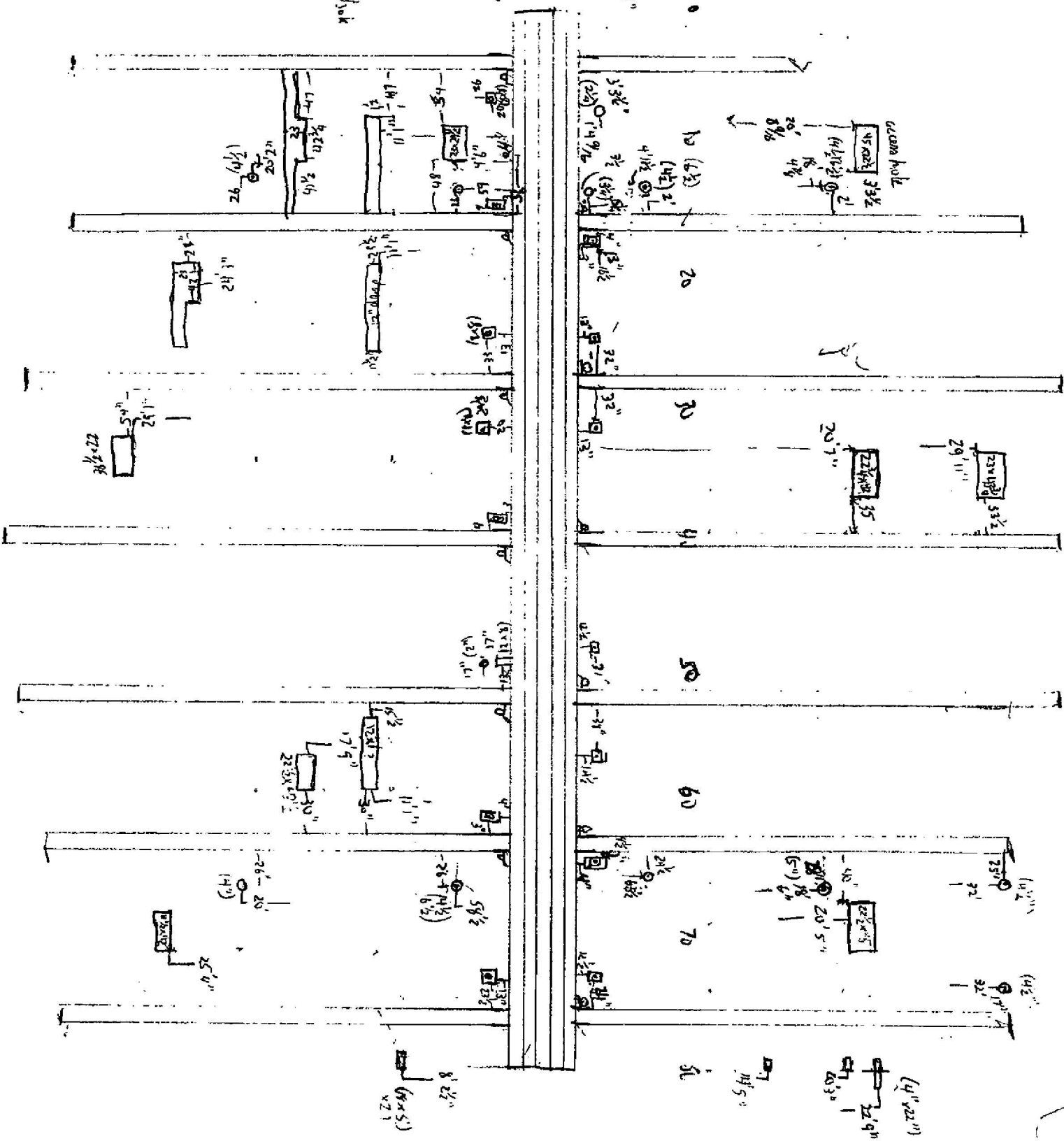
(4 1/2) 10
 (6 1/2) 20

CH 132x9"
 132x9"
 132x9"

Handbook 4 1/2"
 6 1/2"

hole 3 1/4"

deck 8' x 8"
 fitting 3' x 3' x 3'



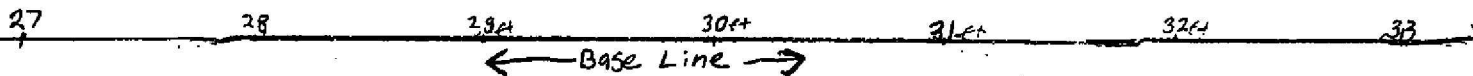
WOOD BLOCK DECK FITTING

48 1/2 in From 31ft on baseline

- VESSEL 2 - SHOOTERS ISLAND

07/10/04

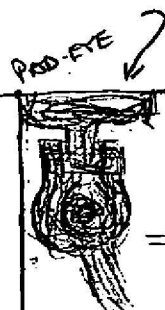
MKF, ME



DECK KEELSON

PROVE
SHOCKER
HOOK

NOTES



DECK KEELSON

TO NEXT THROUGH

49"

42 1/2"

TO NEXT THROUGH

RUSTED OUT FITTING

SHOCKER

HOOK

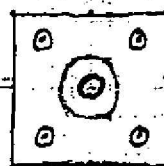
THROUGH
BOLT

DECK FLOOR

@
26'
on
E

DECK
PLANK

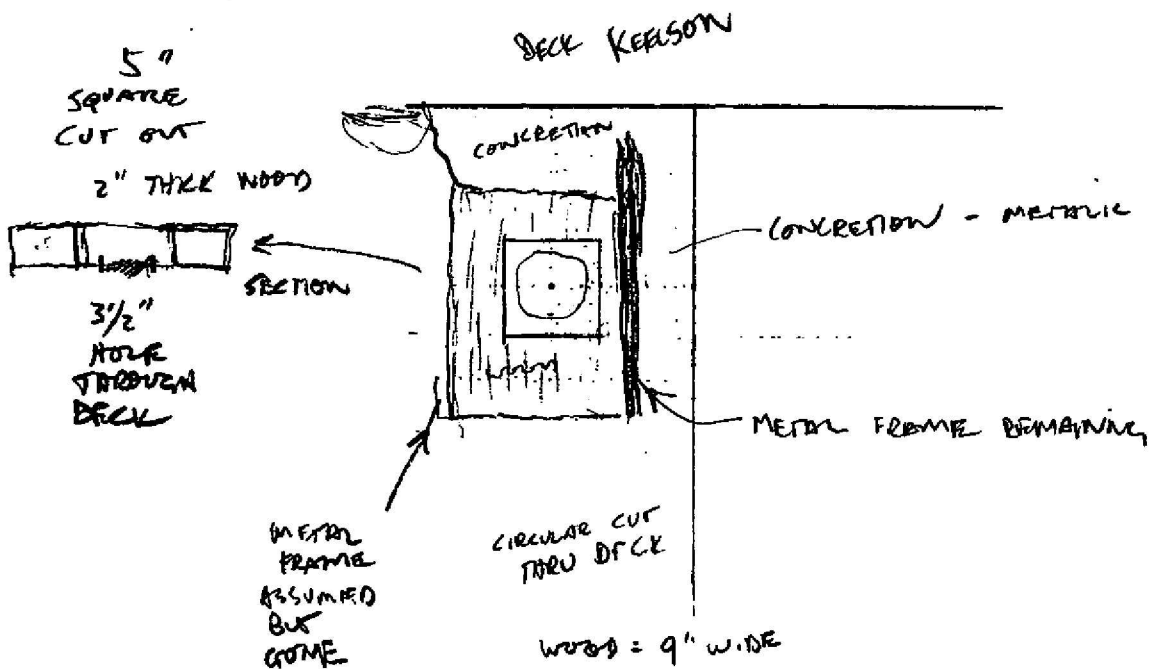
Wood block
Thru Deck Fitting



8

SIX VESSELS
VESSEL 2 SHOOTERS ISL.
07/10/04
MKF & ME

38' 1" ↓
38' ↓
CL CENTER LINE



SIX VESSELS

VESSEL 2 SHOOTERS

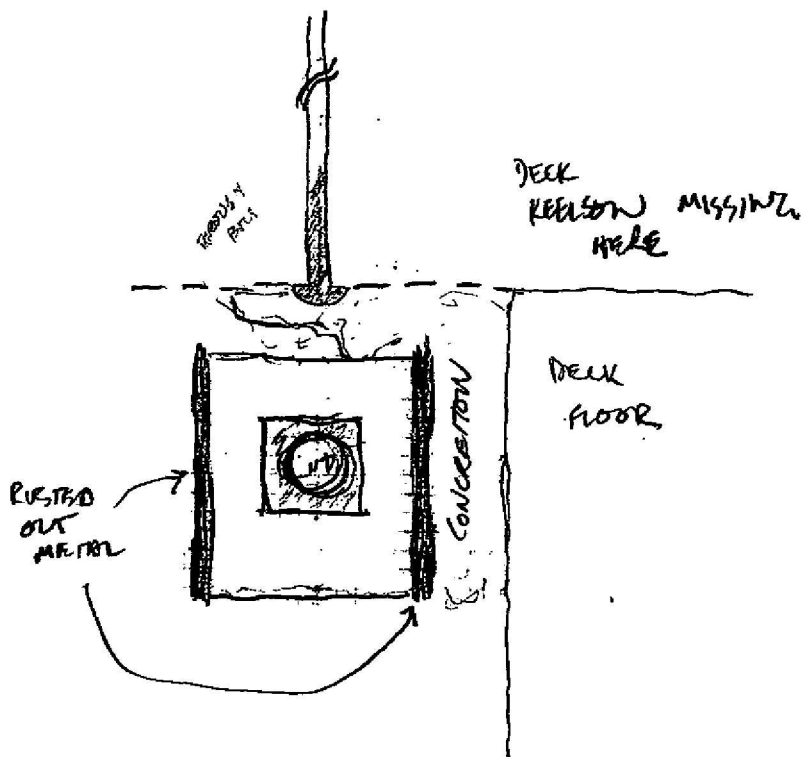
7/10/04

MKF & ME

62 62' 4" 20' 13' 2"
V V . . . V

4 MEASURES

2



WOOD \approx 2"

Cydicter Kinn
 6 vessels VZ
 8/11/04
 Deck plan

Deck plank joint locations, starboard

B/L	Deck plank #	B/L	Deck plank #
4'11"	4	61"	13
4'11"	11		18
4'11"	13		21
12'0"	5		35
	9		39
↓	13	71'6"	10
15'6"	12		13
19'0"	6		17
	9		20
			26
			29
22'6"	2		
	15		
	18		
	21		
	24		
	32		
	38		
	40		
26'	7		
	10		
	27		
29'6"	3		
	13		
	16		
	19		
	22		
	25		
	30		
	42		
33'	8		
	9		
	25		
	33		
36'6"	14		
43'6"	17		
	20		
	23		
	26		
57'6"	38		
	31		
	27		
	14		
	"		

1st 13
 and
 20-30 observed
 by 26 115

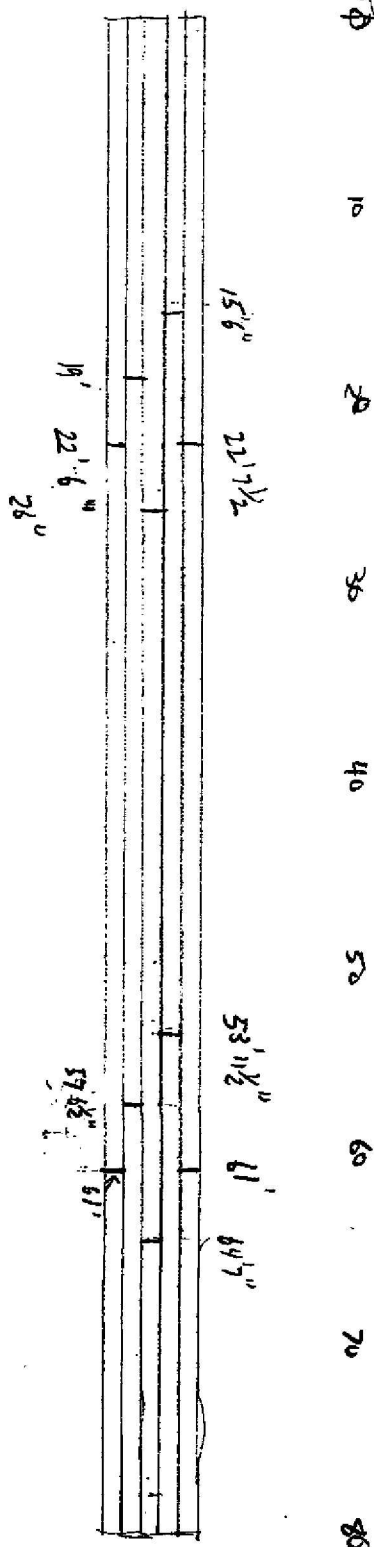
1st 10
 observed

first 15
 by 26 115

1st 10
 observed
 by 26 115

A. Lytle
 6 vessels
 8/10/04
 V2 Deck plan
 center keel on
 deck
 Joint locations
 pg 4

↑
 N



51

Kynecton
 know
 8/10/04
 6 WSSX
 V2 deck plan
 P5

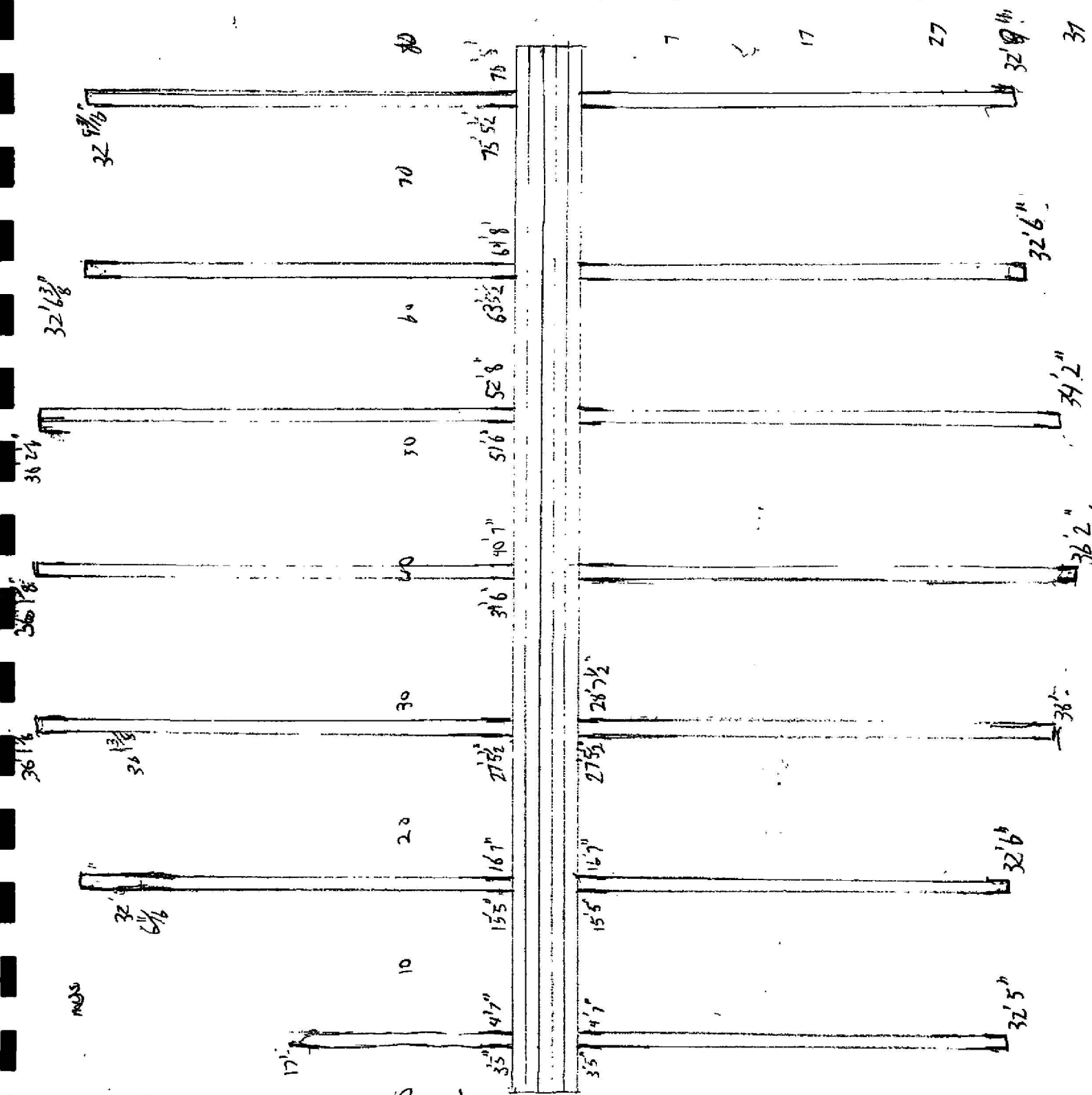
28

transverse
 beams
 must roll from
 edge of deck
 keelson, not
 B/L

80

18

MS



<u>B/L</u>	<u>deck plank</u>	<u>offset</u>
27' 5 1/2"	deck keel	5"
	1	1' 5"
	"	2' 5"
	1	2' 11"
	2	3' 11"
	3	4' 11"
	4	5' 10"
	5	6' 9"
	6	7' 8 1/2"
	7	8' 7 1/2"
	8	9' 7"
	9	10' 6 1/2"
	10	11' 5 1/2"
	11	12' 5"
	12	13' 5"
	13	14' 4 1/2"
	14	15' 4"
	15	16' 3 1/2"
	16	17' 2 1/2"
	17	18' 1"
	18	19' 1"
	19	20' 0"
	20	21' 0"
	21	21' 11"
	22	22' 10 1/2"
	23	23' 10"
	24	24' 9"
	25	25' 8"
	26	26' 8"
	27	27' 7"
	28	28' 6"
	29	29' 6"
	30	30' 5"
	31	31' 5"
	32	32' 5"
	33	33' 2 1/2"
	34	34' 2"
	35	35' 2"
	36	36' 0"
	37	37' 0"
	38	37' 10"
	39	38' 10"

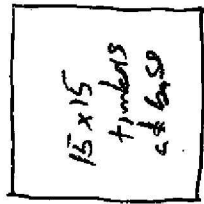
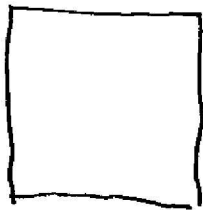
40	39' 10"
41	40' 11"
42	41' 10 1/2"
43	42' 11"
chase log	42' 11"

Kinnor Lyden
 6 vessels
 8/1/04
 deck plan
 port side deck plank
 offset

by order King
 6/11/04 8/11/04
 V2 Back plan
 King posts
 port stern

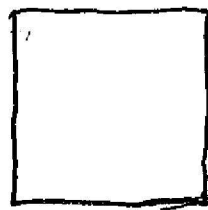
76"

61"



32"

17"

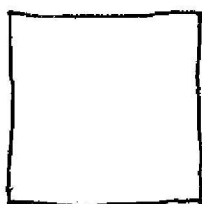


17'3"

15'11 1/2"

6'8"

5'5"



stern

chine

Chine log



0 10 20 30 40 50 60 70 80
dick beifuss/mdb.15

1

2

3

4

5

6

7

14

13

12

11

10

9

8

by decker
Kris...
bressen 8/11/04
Deck plan
deck planks

transverse rider
center pattern 28'8"

offset	B/L
3' 1 1/2"	28' 4 1/2"
4' 4 1/2"	27' 9"
6' 5"	28' 5"
8' 5"	27' 9 1/2"
10' 7"	28' 5"
12' 6"	28' 5"
12' 6"	27' 9"
12' 9"	28' 5"
13' 1"	27' 9 1/2"
15' 4"	27' 9"
17' 1"	28' 4"
17' 1"	27' 9"
20' 1"	28' 5 1/2"
21' 11"	27' 9"
24' 0"	28' 5 1/2"
25' 11"	27' 10"
28' 1/2"	28' 5"
28' 1/2"	27' 9 1/2"
30' 10"	27' 9"
32' 2"	28' 5"
34' 32"	27' 9 1/2"
36' 4"	28' 5"
38' 2"	27' 9"
38' 5"	28' 5"

joint

deck beam

end of
timber

measurements taken
transverse rider #3

transverse riders of single
timbers except for #3 & #5
which have joints at offset 12'9"

Deck plankings

steel s.d.

plank	offset	B/L
35	35' 4 1/2"	28' 8"
36	36' 3"	
37	37' 2"	
38	38' 1"	
39	39' 1"	
40	40' 0"	
41	41' 1"	
42	42' 1"	
43	43' 2"	
chime 100	43' 2"	

plank	offset	B/L
Deck keelson	6"	28' 8"
"	1' 7"	
"	2' 6"	
deck plank #1	3' 5 1/2"	
2	4' 5"	
3	5' 4 1/2"	
4	6' 4"	
5	7' 3"	
6	8' 2"	
7	9' 1 1/2"	
8	10' 3/4"	
9	10' 11"	
10	11' 10"	
11	12' 9"	
12	13' 8 1/2"	
13	14' 8"	
14	15' 7 1/2"	
15	16' 6 1/2"	
16	17' 6"	
17	18' 5"	
18	19' 4 1/2"	
19	20' 4"	
20	21' 3"	
21	22' 2 1/2"	
22	23' 1 1/2"	
23	24' 1/2"	
24	25' 0"	
25	25' 11 1/2"	
26	26' 10 1/2"	
27	27' 10"	
28	28' 9"	
29	29' 8"	
30	30' 8"	
31	31' 7"	
32	32' 6"	
33	33' 5 1/2"	
34	34' 4 1/2"	

A Lybster
 8/10/04
 6 vessels
 deck plan V2

2 1/2

↑
 N

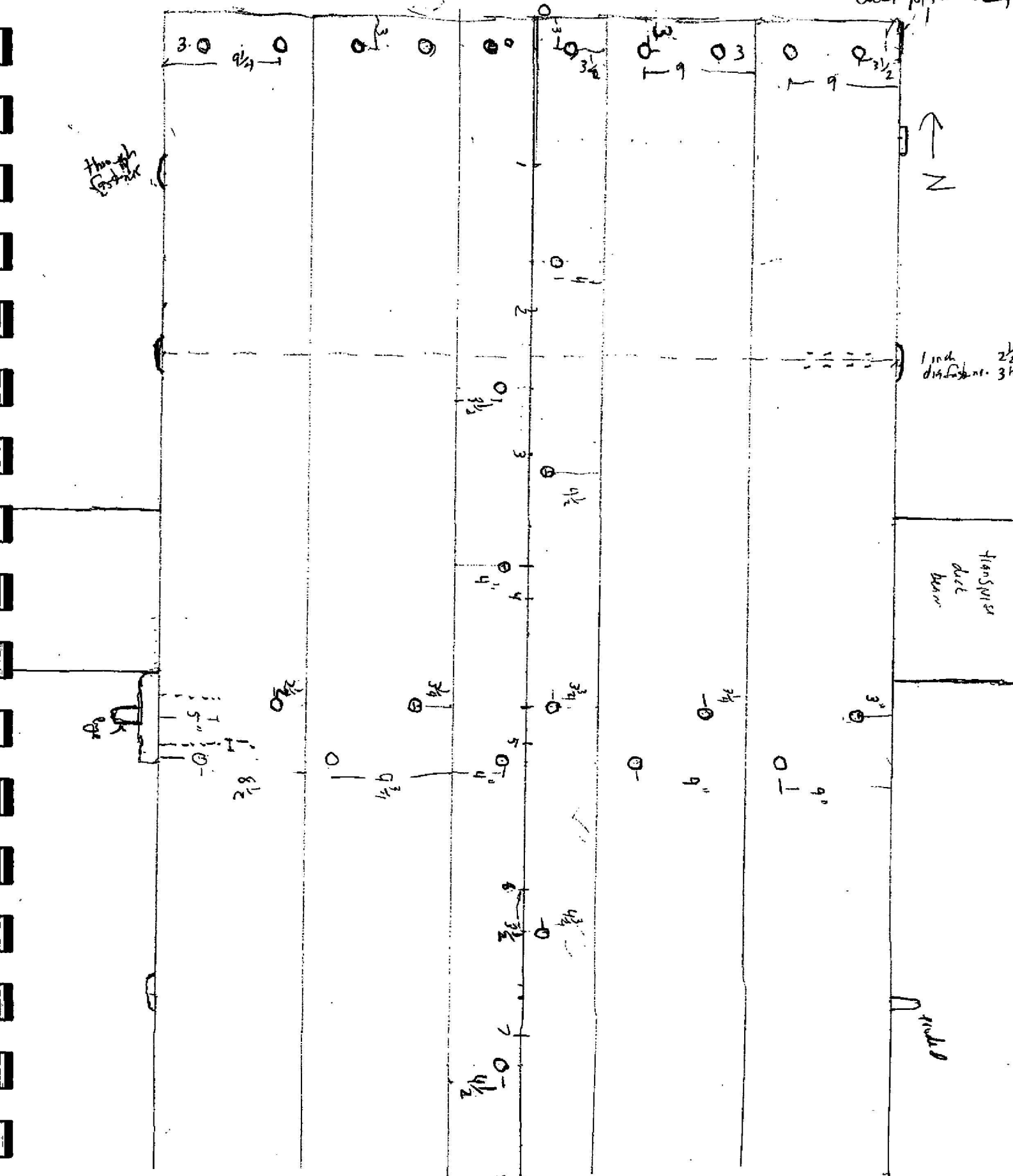
1 inch
 dia. 2 1/2
 3 h

transverse
 duct
 beam

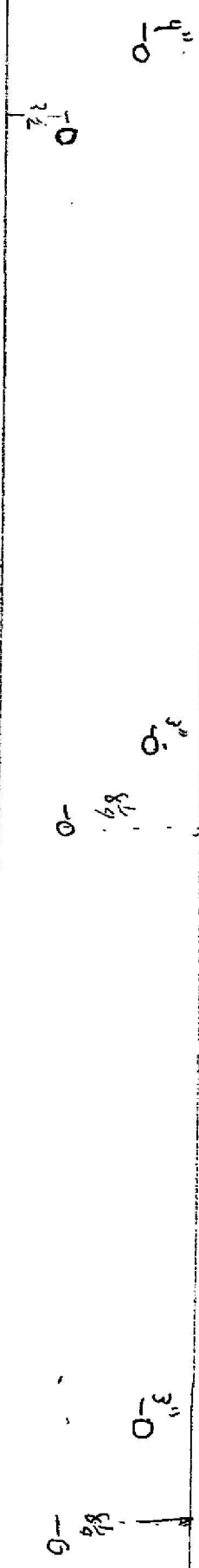
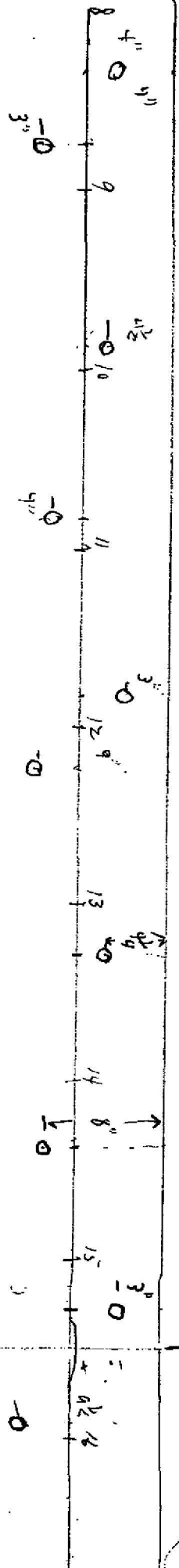
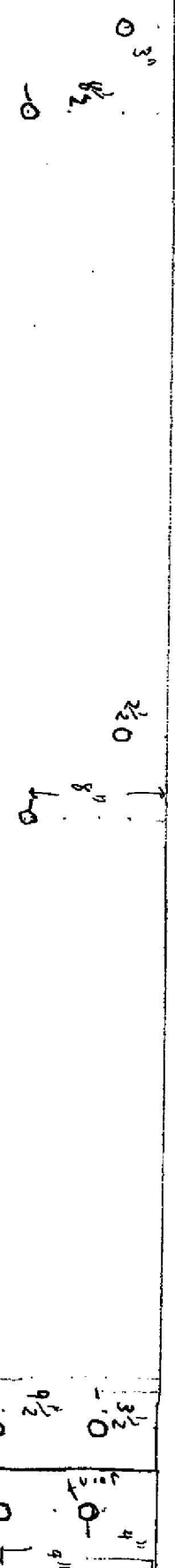
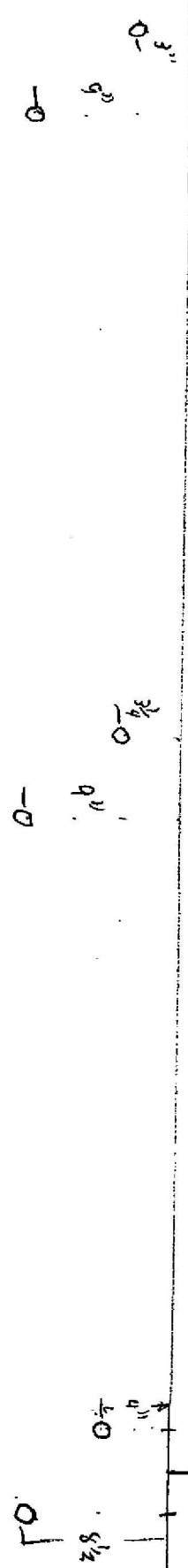
rudder

through
foremast

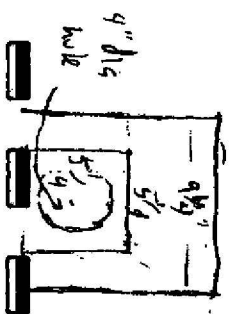
5"
 8 1/2
 1"



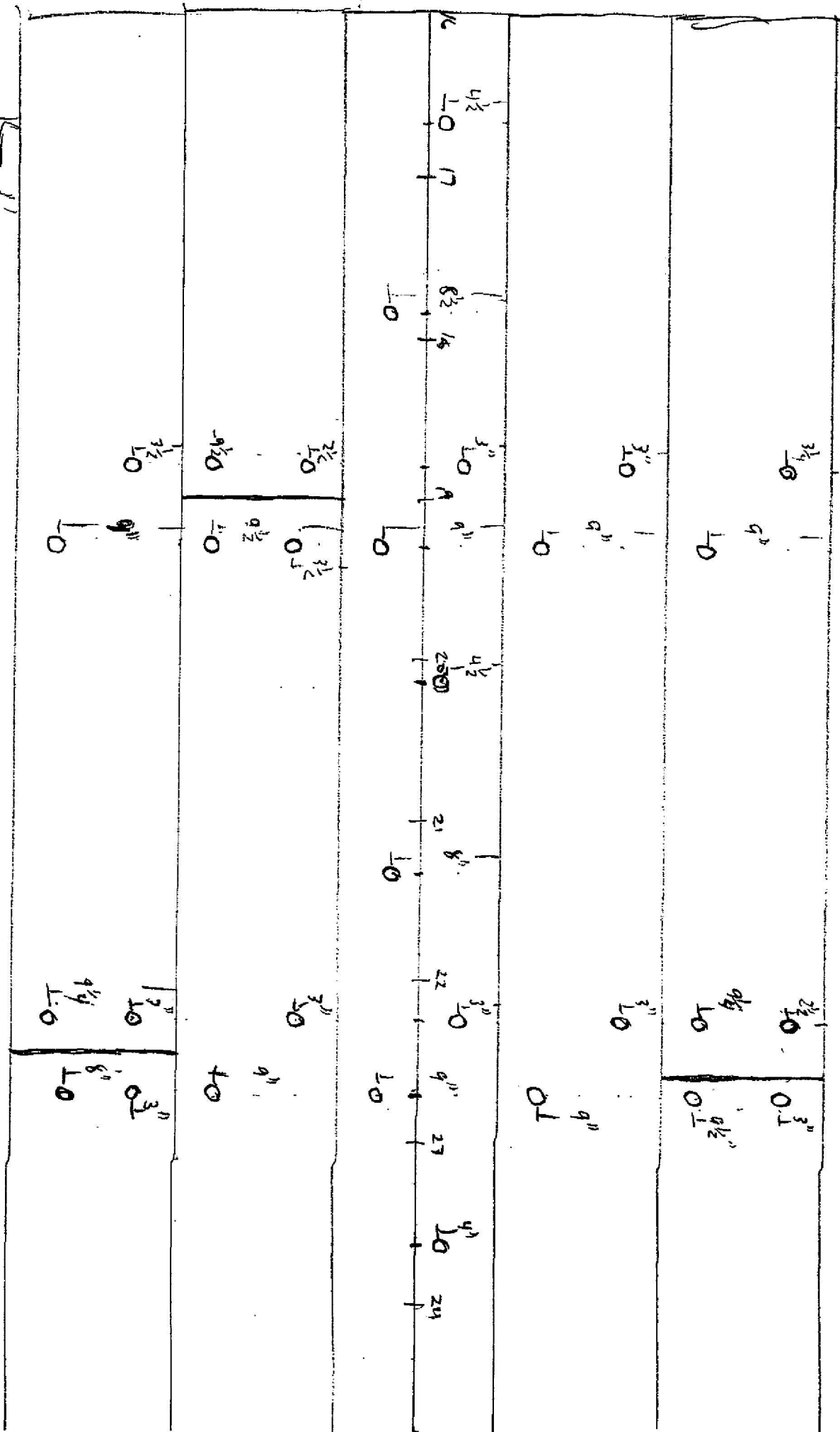
Alvin
 6/10/04
 V2
 deck plan
 page 2



4' x 8'
 3' x 8'
 3 1/2



Alphabet
 8/10/88
 6 vessels
 12 deck plan
 pg 3



chain
 plate
 (see page 1)
 for measurements

[illegible]

[illegible]

[illegible]

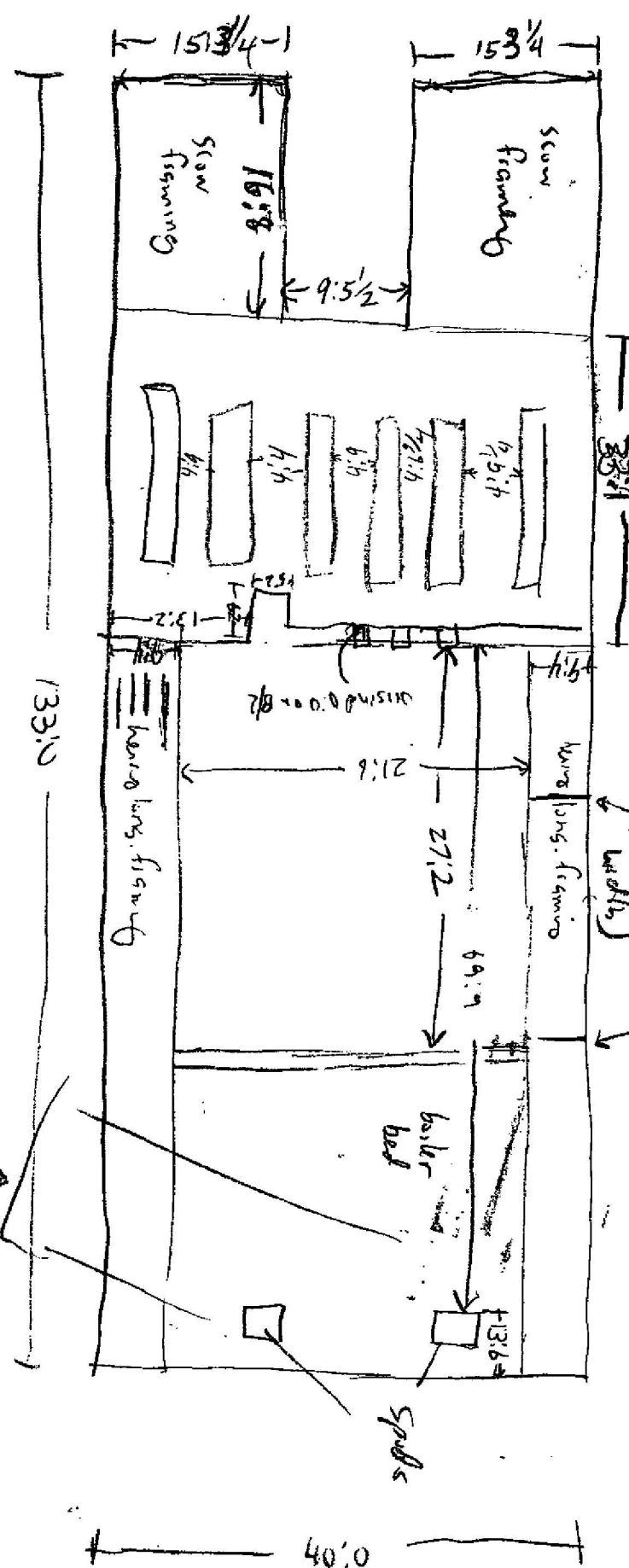
Gresco
vessel 36
bridge
Jimo And
10/29/2004

40
30 0 1/2
15 3/4

40.2
39.14
9.14
9.14
21.6

29.6
3.2
33.8

length OA
16.8
33.1
69.9
~~119.18~~
131.6
12
133f

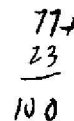


all weights as for vessels
(including all cross
widths)

collapsed
frame

major framing members 12x12

cutter head drive mechanism


$$73\frac{1}{2}$$

102

Electrical Box Cover

mfg by

F. H. Lovell & Co.

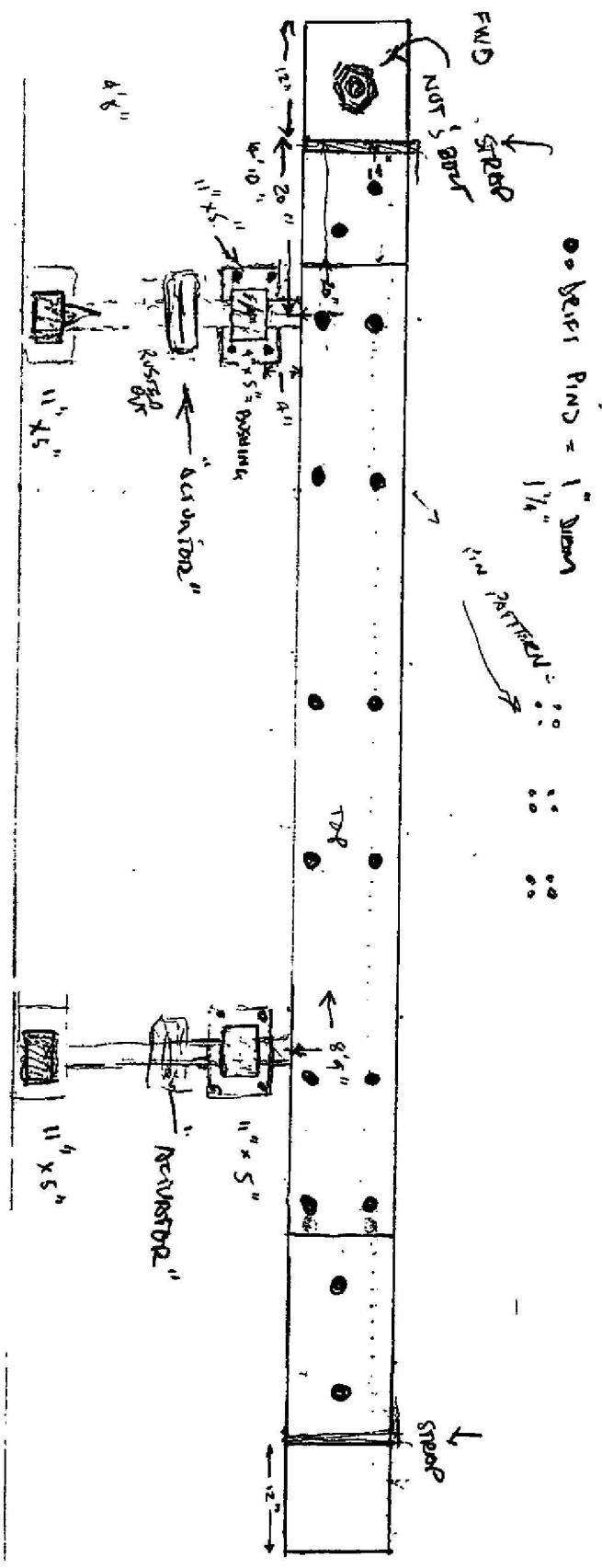
Arlington, NJ U.S.A

Six vessels
27th Oct, 2004
BREXIDE - vessel #37

PLAN

FORWARD STBD
11 PORT 11

14.5
21.77
15.7

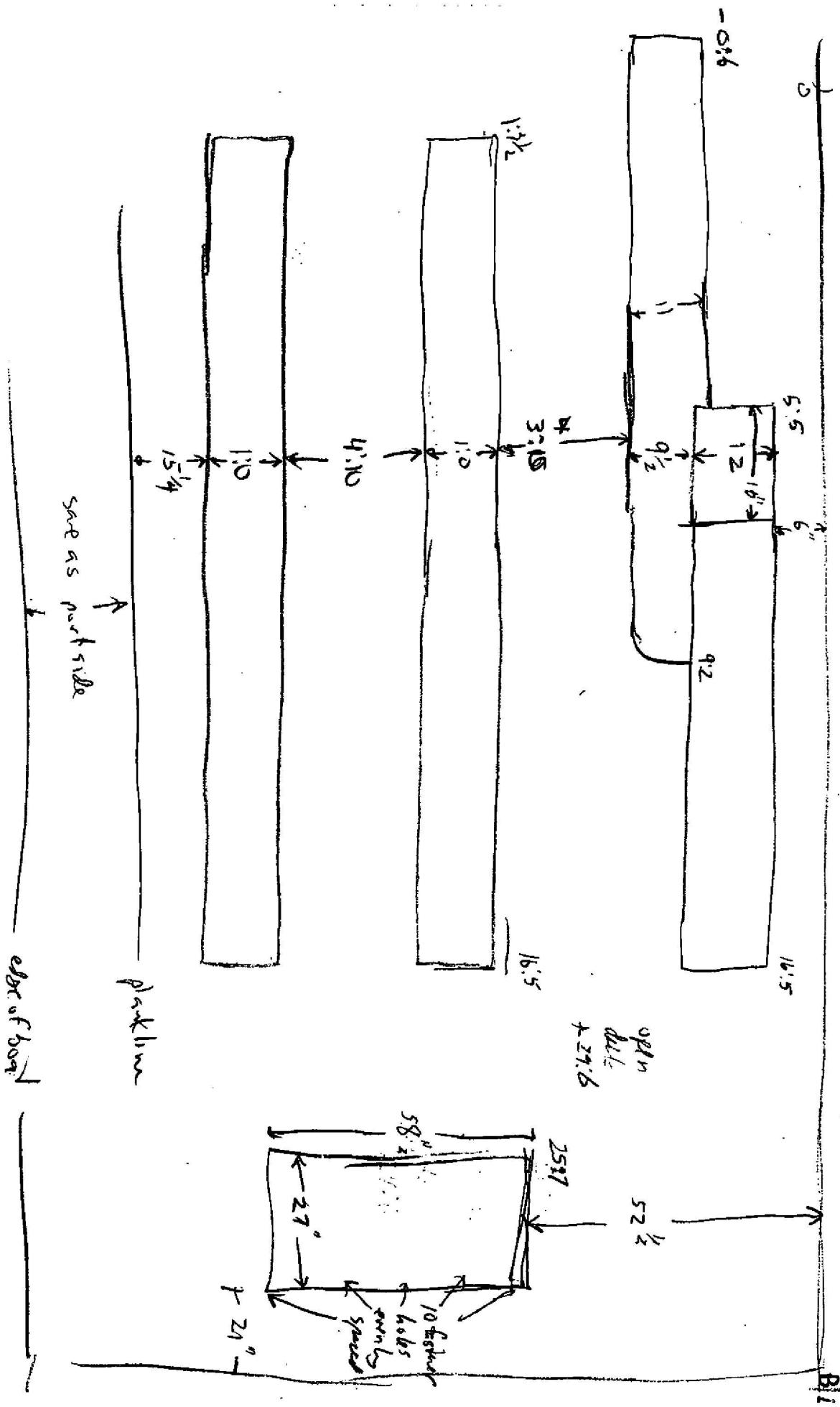


U. COORDINATING
STAFF

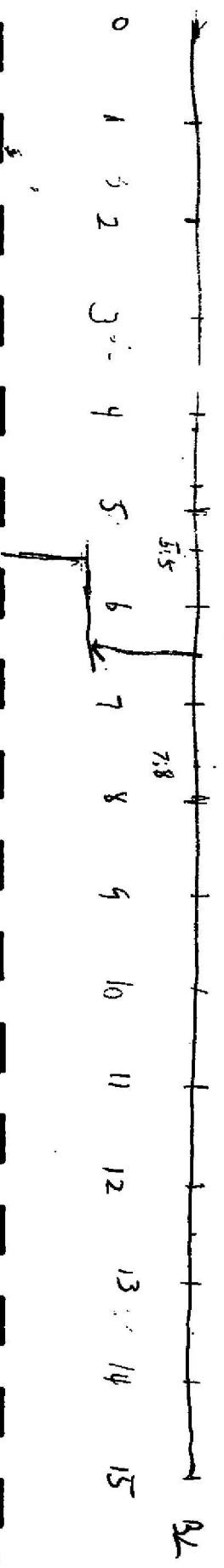
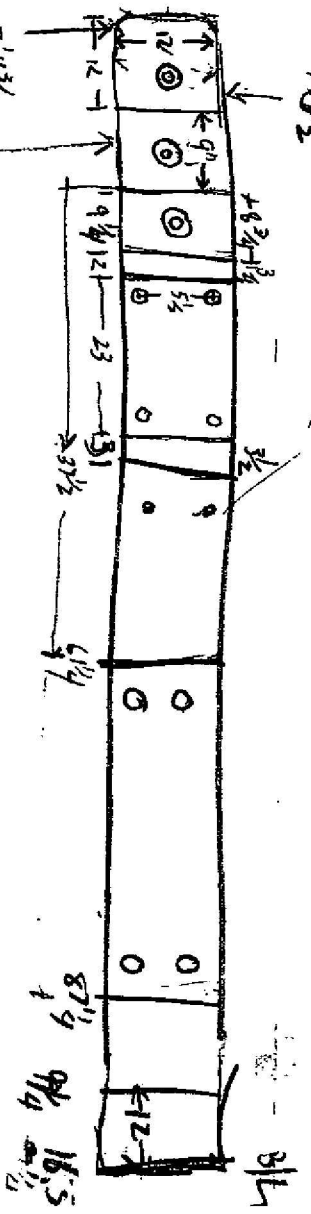
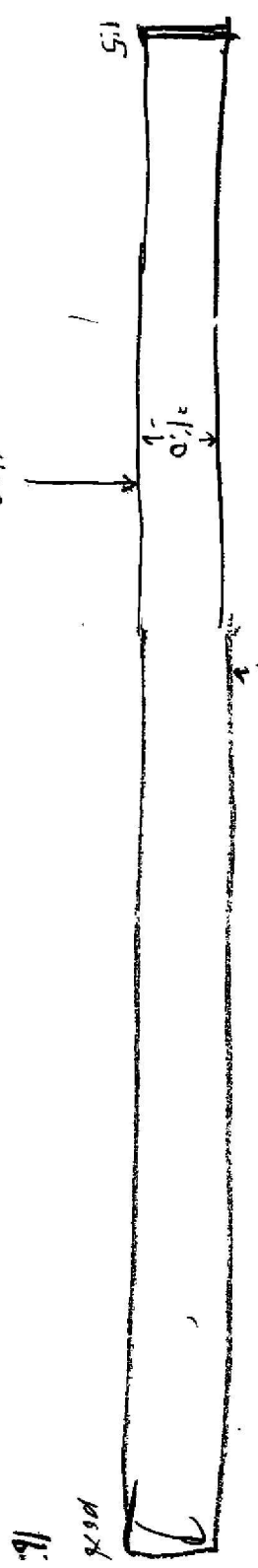
3' shafts
U. COORDINATING
STAFF

11' x 5'

Stbd side



Edge of boat
 14'5" ← planks up to 15"



314 VENTILATORS
 OF 26, 2004
 1000 - outer "PLANE"

DRUM - MODEL 37

SECTION

DRIFT BOLTS CUT EQUAL
 WITH TOP & WOOD

DRIFT
 1/2" DIA

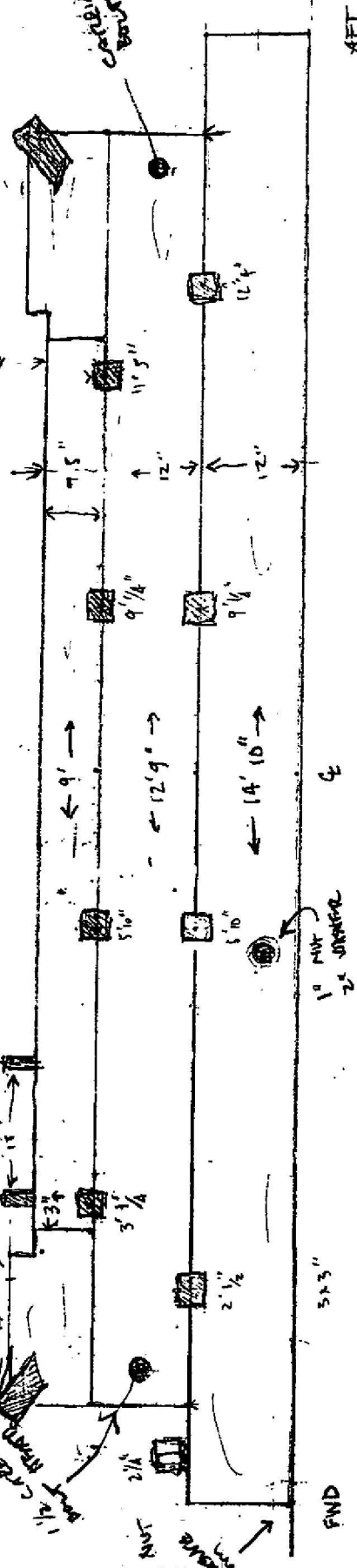
3" STRAP
 REMOVING
 EXPOSED
 SIDE

CUT OFF DRIFT

1/2" C RIGID
 DRIFT STRAP

CUT OFF
 DRIFT

3" STRAP



AFT

6

5x3"

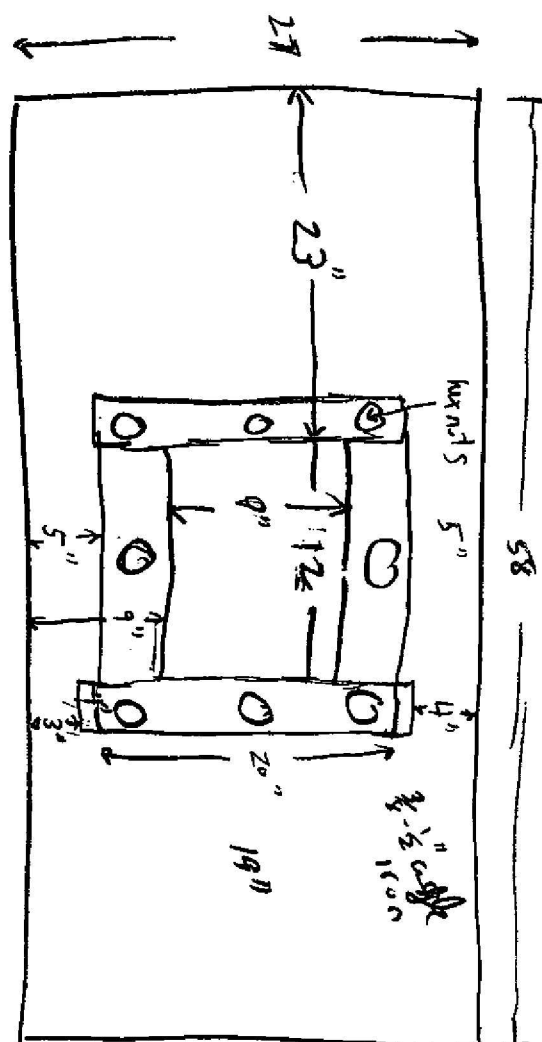
PWD

← 14' 10" →
 TOWER

3" = KEYS

38 1/2
 16
 51

6 vessels
 1m x 1m
 forward of the
 tower support



APPENDIX E: VESSEL ILLUSTRATIONS

(see enclosed CD)

APPENDIX F: PHOTO LOGS

**PANAMERICAN CONSULTANTS, INC.
PHOTOGRAPHIC LOG**

PROJECT NAME: 6 vessels PROJECT NUMBER: V-2-shooters Island

ROLL NO.: 1 CAMERA: _____

PHOTOGRAPHER'S NAME Michael Fausht

FILM TYPE (CIRCLE APPROPRIATE CHOICE): B&W OR COLOR / PRINT OR SLIDE

NO. OF EXPOSURES: _____ FILM SPEED: Digital camera

NEG #	SHOT #	DATE	DESCRIPTION	VIEW	Digital
	1	8/10/04	Thru-way Hatch in west wing	west	NO
	2	↓	↓		NO
	3	↓	↓		NO
	4	↓	↓		NO
	5	↓	↓		NO
	6	↓	door / Hatch		NO
	7	↓	side shot of door handle		YES
	8		North side of H-hatch / upper right		YES
	9		Hatch Hinge		YES
	10		Possible Hatch Door		NO
	11	8/10/04	South Hatch on west wing	west	YES
	12	8/10/04	"		NO
	13	8/10/04	Hatch Detail from other Deck (South)		NO
	14	"	South profile of small Hatch	North	NO
	15	"	North profile of " "	South	NO
	16	"	Plan view of wood deck fitting	East	NO
	17	"	Deck pulley	plan view	NO
	18	"	Deck fasteners - wood deck		YES
	19	"	" " " "		YES
	20	"	Station step box -	plan view	YES
	21	"	" " "	"	YES
	22	"	Panoramic view south East	"	YES x 2
	23	"	Station step box	plan view	YES
	24	8/10/04	Vessel 1 - South - South side drain box	plan	YES
	25	"	Vessel 1 - " "		YES
	26	"	" " "		YES x 2
	27		SHOULDER ; Hook loose on Deck		YES
	28		"		YES
	29		Vessel 1 South - Another drain		YES
	30	8/11/04	Vessel II - sub deck framing	west plan	YES
	31	"	"	North plan	YES
	32	"	Deck Repair & exposed wood bulk	East plan	YES
	33	"	" 23.9 from 61' G	East	SE CORNER
	34	"	" 44" x 22" REPAIR	East	YES
	35	8/11/04	SOUTH SIDE FRAMING DETAIL @ 32.6' from G 8.6' from	South plan	YES
	36	8/11/04	Scarf Joint @ 79 ft North bulk 33 ft from	South plan	YES
	37	"	" " " " Baseline	South plan	YES

PHOTOGRAPHER

NOTES

**PANAMERICAN CONSULTANTS, INC.
PHOTOGRAPHIC LOG**

PROJECT NAME: Gressolo PROJECT NUMBER: _____

ROLL NO.: 3 CAMERA: b+w

PHOTOGRAPHER'S NAME Andy

FILM TYPE (CIRCLE APPROPRIATE CHOICE) B&W OR COLOR / PRINT OR SLIDE

NO. OF EXPOSURES: _____ FILM SPEED: _____

5 frames 1/4 flash
9th plate 1/4 flash

12 x 5" 0



NEG #	SHOT #	DATE	DESCRIPTION	VIEW
	1	9/14/2004	main inlet pipe 'y'	down
	2		joint detail, outlet pipe main - frame 13	down
	3		gate valve shaft mounting flanges	south
	4			down
	5			down
	6		gate valve control and flange 1st beam	north
	7		vertical control rod 14th frame	north east
	8		knock faster pattern, main deck beam, 13th frame	east
	9		elect. control and roller, b/n 12+13 frame -	east
	10		gate valve detail	down
	11		view of control b/n main & 1st beam from general	north
	12		stopwatches on wing frame inboard 13th frame	south
	13		carriage bolts, wing frame, 13th frame	south
	14		"y" for outlet pipe	west
	15		impeller shaft & housing	west
	16		outlet pipe b/n 12+11 frame	west
	17		bracket	west
	18		piece of railing	west
	19		piece of railing	west
	20		door from large hatch	west
	21		slip pipe on deck	down
	22		telescope lifting flanges	down
	23		distorted undisk - lining	down
	24		distorted deck 6th beam	down
	25		distorted block 11th beam, 14th beam	down
	26		port skin wing frame, locking key posts	SW
	27		small act port 4th beam hatch	west
	28		large hatch, port wing	west
	29		undock brackets 1st beam	south
	30		deck hook	down
	31		bulky object	down
	32		through first fitting, possible vent	down
	33		detail of screen on fitting	down
	34		detail of chine log VI F5	south
	35		detail of deck beams 3, 4 & 5 when moved side	east
	36		detail of deck knee, chine at frame 5	south
	37		1st beam corner	east

Gressels

Roll #4

Camera: 90W + Digital

Photographer: Andy

Roll #	Shot #	Date	Description	View
Roll 4	1	8/17/04	frame + chock, frame #1, fastener, station	East
	2		wing bulkhead b/n frames 1 + 2	west
	3		outer shell frames, chocks + long. shell	South
	4		main deck beam to outer hull frame joint frame 2	SE
	5		2nd frame, upper beam + cross joint w/ fastener	S
	6		4th frame, truss section with chock	S
	7		view showing deck knees, chocks, frames	W
	8		outer hull plank edge details	E
	9		rafting bit side, king post, transverse detail	down
	10		longitudinal bulkhead - wing	down
	11		rafting bit - port aft	with
	12		rafting bit port fwd VI	north
	13		forework king post sd, port fwd VI rafting bit	north
	14		aft king post sd, port fwd, VI rafting bit	north
	15		rafting log, stbd	east
	16		hull truss detail station $\approx 35'$ on offset, port	north
	17		truss + bulkhead detail, truss 1 - large arch, also tie rod	north
	18		truss, + station detail, ca. 25-30' on port offset, side frame	north
	19		detail of truss junction port side, 4th frame	east
	20		1)	
	21		1)	
	22		king post fwd frame detail stbd	east
	23		king post fwd frame detail	east
	24		3rd long-bulkhead 2nd frame, main truss	W
	25		station detail	AS
	26		king post frame detail	E
	27		king post framing detail	E
	28		impeller, stbd wing VI	E
	29		mounting flange, impeller shaft	E
	30		water pipe	E
	31		4" and outlet pipe, stbd wing, VI	E
Roll 5	1		pipe	E
	2		outlet/intake. stbd wing, VI	E
	3		impeller housing	ne

6 vessels V2 Shastres Island

Rd1#6 M. Kruger 8/17/2004

- 1 - WEST FACE OF DRY DOCK - view to east
- 2 - LEAD REPAIR PATCHES (ON WEST FACE) - view to east
- 3 - Close up of patch (over seam) - view to east
- 4 - Through-hull pump flange - view to east
(port side of V2)
- 5 - Ditto ↑
- 6 - Ditto ↑
- 7 - NW corner of V2 - With H2O gauge - view to southeast
- 8 - Closeup of NW corner & the gauge - view to SE
- 9 - View to east of the north face of V2 (note scarp) (5)
- 10 - view to SW of face - note scarp joint.
- 11 - Scarp joint on North face of V2 - view to South
- 12 - Longitudinal support on main deck - view to south
- 13 - Scarp joint Close up on North face of V2 - view to South
- 14 - Chime timbers (L) & iron bracket on NE face of V2
- 15 - NE wing of V2 - view to SE
- 16 - NE wing/corner of V2 - note secretist plates
- 17 - Closeup of corner construction - view to south
- 18 - Spud construction on NE corner of V2 - view to west
- 19 - Valve (through hull) on east side of V2 - view to west
- 20 - Ditto - Close-up
- 21 - Ditto
- 22 - SE spud frame - view to west
- 23 - View west along south face of V2.
- 24 - Close up of valve on east side of V2.
- 25 - Ditto
- 26 - Wood frame around valve - view to west
- 27 - Spud on NE corner of V2 - view to NW
- 28 - View west down north face of V2.
- 29 - Pic of SW corner of V2 w/iron sheeting
- 30 - Ditto
- 31 - Scarp on North face - view to south

- #33 - Andy recording chine construction - view to east (U1)
- #34 - Faught measuring repair patch on NE corner of U2
- #35 - pump box w/ writing (unintelligible) view to east
- #36 - iron bracket for clamping down connecting timbers between duff dock sections - (on U2)

End of Roll #6

Roll # 7 (BLW 35 mm) 8-18-04

- #2 - Close-up of iron bracket fastening hole on U2
- #3 - Spud assembly on NE corner of U2
- #4 - Ditto
- #5 - Chine assembly on SW corner of U2 - view to NW
- #6 - Longitudinal deck keelsons (S) of U2. Note sacrificial planking view to north
- #7, 8, 9 - Panoramic shot looking north of U2 (with faught Elliott, Duff, Wheeler).
- #10 - Scrap on southern face of U2 - view to north.
- #11 - Spud Assembly on SE corner of U2 - view to NW
- #12 - Ditto
- #13 - Wood frame for outflow valve
- #14 - vertical valve on NE corner of U2 view to NW
- #15 - exhaust stack on East wing of U2 - view to west
- #16 - Transverse iron pipe that empties into wing section - view to west
- #17 - iron brackets on NE corner of U2 - view to west
- #18 - Corner construction on NE corner of U2 - view to south
- #19, 20 - Spud box tension rods - close up of end nuts. NE corner of U2.
- #21 - Elliott, Faught stringing baseline tape - view to west
- #22 - burnt NE corner of U2 (w/ spud) view to NW
- #23 - burnt SE corner of U2 (w/ spud) view to SW
- #24 - burnt center section of U2 - view to W.
- #25 - Uing bulkhead (burnt) on east wing - view to west
- #26, 27 - transverse bulkhead/outer hull fastening pattern (w/ tape measure) view to west.
- #28, 29 - wood chock w/ through pipes (2) for drain? view to west
- #30 - view to north along east face of U2. note wood exhaust.

#31 close-up of SE spud box assembly.

#32. Close-up of corner construction @ SE corner of U2
View to North.

#33- shot of corner "patch" on SE corner of U2 - view to North

#34/#35- waterline shot between U1 + U2 view to West

Run #8 Gressada V2 9/19/2004 A. H. L. L. L. L.

Shot	Description	View
1	steel, 4th frame. 4th stanchion	S
2	seamstress 2, showing evidence of plate removed.	S
3	king post detail showing collar mounting, hilt's	E
4	mounting hilt detail	E
5	closed access hole port side 9th & 10th frame	W
6	evidence of deck repair 10th frame, port side	W
7	6th stanchion detail 7th frame, port side	N
8	port forward railing, 6th below deck framing detail	N
9	railing hilt detail port fwd	N
10	"	
11	"	
12	"	
13	deck beams port side looking aft	S
14	deck, wing & hilt detail new, port side	W
15	"	W
16	"	W
17		
18	deck framing port fwd	W
19	"	N
20	6th stanchion detail	W
21		
22		
23		
24		
25	the rod bolt detail 4th beam, just inboard of 1st bulkhead.	W
26	deck rider fastener pattern, 4th rider	S
27		
28		
29	12th beam, fastener detail 7th stanchion	North
30	opposite end (fwd) of 12th beam 7th stanchion fastener detail	S
31	"	S

PANAMERICAN CONSULTANTS, INC.
PHOTOGRAPHIC LOG

PROJECT NAME: 6 vessels PROJECT NUMBER: _____

ROLL NO.: 9 CAMERA: 35 mm pentax

PHOTOGRAPHER'S NAME McK

FILM TYPE (CIRCLE APPROPRIATE CHOICE) B&W OR COLOR / PRINT OR SLIDE

NO. OF EXPOSURES: 36 FILM SPEED: 100

[illegible]

Photo Log

Roll #8

Shot # Description

View

32 Forward Cabin

From Bow looking Aft

33 Bow Chock Starboard

South

34 Top of Stem

South

35 Stem Fastener Pattern

South

36 Gunwale/Stem Join (Stb.)

South

37 Deck at Bow/Stem

South / Forward

End of Roll #8 Black and White "TMax 100"

Begin Roll #9

1 Deck Plank to King Planks

South

2 Main Deck Looking Aft

North West

3 King Deck Plank Fastener Pattern

North

4 Main Deck Stb. Deck Plank Detail

South

5 Stb. Bulwarks at Bow

South

6 Fwd King Post

East

7 Pilot House Base (Stb.)

South

8 Pilot House Base (Stb.)

South

9 Steering Mechanism

North

10 Steering Mech. Side View

East

11 Deck fittings Eyes/Pipe/Chain/Paint

North

12 Deck Plank Fastener Pattern c.115' on Baseline

South

13 Turnbuckle on Deck Baseline c.116'

Down

14 Fastener Pattern w. Wood Plugs c.117'

Down

15 Square Hole in Deck Stb. c.114'

West

Photo Log Roll # 9 continued

Shot #	View	Baseline	Description
16	East	c 112 ft.	Hatch in Wheelhouse Stb. Side
17	"	"	" " " "
18	North	c 115'	Deck Plank Joint Pattern
19	"	"	" " " "
20	South		Corner (Stb/Aft) Detail of Pilot House
21	"		" " " "
22	East		" " " "
23			Mistake / Fubar
24	East		Pilot House Aft Base
25	East		Mast
26	East	c 72'	Deck Fittings
27	North		Hatch Combining Fwd Face Cargo Hatch
28	North		Cargo Hatch
29	East		" " Corner Detail
30	"		" " Combining
31	"		" " Fastener Pattern
32	North	c 58'	Round Iron Deck Hatch Stb Side
33	North		Stb. Gunwale Repair Detail
34	"		" " " (Whole)
35	West	c 160	Deck Rail Base Stb Side
36	"		Deck Rail Hole (Directly Above #35)
37	North		Scarf in Gunwale Top Plank

End of Roll # 9

Photo Log Roll #10 B+W ASA100 TMax

Shot #	View	Baseline	Description
1	West		Eyebolt w. Ring Stb. Gunwale at Gunwale scarf
2	West		Eyebolt w. Hemp Core Wire Rope
3	X X	X X	FUBARBA
4	West		Hemp Core Wire Rope Detail
5	North		Quarter Deck Stb End Detail
6	North		Quarter Deck Forward End
7	North		Circular Steel Deck Hatch, Open, Stb Side
8	Down		Stb. Gunwale Fastening Pattern
9	North		Quarter Deck General View Aft
10	North		" " Gunwale Intertace
11	"		" " " "
12	West		" " " " Detail
13	West		Paint Detail Fwd End Quarter Deck Railing
14	South		Stb. Deck
15	"		Stb. Gunwale looking Fwd
16	West		Salvage Damage / Hole in deck
17	West		Gunwale fasteners
18	East		Aft Cabin Fwd/Stb Corner Detail
19	North		Quarter Deck Railing
20	West		Rub Rail
21	South		Bollard
22			Railing Stile Stb Q-Deck
23	South		Deck Fitting, unknown
24	South		General View Forward From Q-Deck
25			Deck Fitting #1
26	North		Q-Deck Deck Plank Fastener Pattern
27	West	c.46'	Deck Eye Bolt
28			Fubarba
29	West	44	Remains of Salvaged Deck Fitting
30	West		Quarter Deck Railing Repair
31			" " " " Detail
32	North		Stb Fwd Deck Base
33+34+35+36			" " " " Detail
37	North		Crew Working

PANAMERICAN CONSULTANTS, INC.
PHOTOGRAPHIC LOG

PROJECT NAME: Six Snaps PROJECT NUMBER: 24242

ROLL NO.: 11 CAMERA: B/W ; Digital

PHOTOGRAPHER'S NAME MKF; ME

FILM TYPE (CIRCLE APPROPRIATE CHOICE): B&W OR COLOR / PRINT OR SLIDE

NO. OF EXPOSURES: _____ FILM SPEED: 100

NEG #	SHOT #	DATE	DESCRIPTION	VIEW
	1	8/23/04	Bad shot	East
	2	8/23/04	Bad shot	East
	3	8/23/04	Fairbanks morriss engine	East - vessel 33
	4	"	" vessel 33	"
	5	"	Fore end of engine "	North - off
	6	"	"workers" on boat	west
	7	"	Panorama of Boat	west
	8	"	"	"
	9	"	stern photo	North west
	10	"	Engine compartment	west
	11	"	"	"
	12	"	Transverse Bulk Head	west - Interior of starboard
	13	"	"	"
	14	"	Davit Framing starboard subdeck	west
	15	"	"	"
	16	"	Framing details sub deck starboardside	fore south
	17	"	"	"
	18	"	Futtocks on port bow	west
	19	"	"	"
	20	"	Longitudinal Bow star-board side	North
	21	"	"	"
	22	"	Hatch in Foredeck Port Bow	down
	23	"	"	↓
	24	"	"	↓
	25	"	Vertical stanchion Foreward Hold	South
	26	8/24/04	Fags Frlicking on the Bow	South west
	27	"	Center point of steering Arch	Down West
	28	"	"	"
	29	"	"	"
	30	"	"	"
	31	"	Detail of arch port spoke	Down / South
	32	"	Center spoke Fastner	Down / West
	33	"	First starboard side spoke	Down / West
	34	"	Starboard cable steering mechanism	Down / West
	35	"	"	"
	36	"	Plan view of Stern	"

**PANAMERICAN CONSULTANTS, INC.
PHOTOGRAPHIC LOG**

PROJECT NAME: 5 Vessels PROJECT NUMBER: _____

ROLL NO.: 12 CAMERA: Vkshica T4

PHOTOGRAPHER'S NAME faghl, Lydecker

FILM TYPE (CIRCLE APPROPRIATE CHOICE) B&W OR COLOR / PRINT OR SLIDE

NO. OF EXPOSURES: 36 FILM SPEED: 100

NEG #	SHOT #	DATE	DESCRIPTION	VIEW	
	1	8/25/04	Thru Hull fittings btwn 62-63 frames	East / starboard	stern
	2	"	"	"	
	3	"	Iron plate starboard stern 66-67	East / starboard	stern
	4	"	Rub Rail starboard stern	East / "	"
	5	"	"	"	
	6	"	Stern of "Crest Hawk"	South	
	7	"	Port Bow cant frames	West	
	8	"	Futtock 3 " " port Bow	West	
	9	"	Futtock 2 port Bow	West	
	10	"	Starboard side Futtock Frame set 26	West	
	11	"	starboard side Hull	West	
	12	"	Missing Element starboard side	West	
	13	"	Iron Plate port side	East	
	14	"	starboard frame 42	East	
	15	"	Futtock Fastener pattern frame 42	"	
	16	"	Thru Hull waterway starboard side 46-47	"	
	17	"	Rail Buttress	"	
	18	"	Outer Hull Outplank from 31 at board	"	
	19	"	Missing Futtocks starboard side	"	
	20	"	Notch of Futtocks frame 28 starboard side	"	
	21	"	Fastening pattern thru hole on D.B. 15	"	starboard
	22	"	Port side thru deck steering	"	
	23	"	"	West	
	24	"	Fass Crollicking on deck	West	
	25	"	Fore - shot of Hold	"	
	26	"	center - shot of Hold	"	
	27	"	Aft - shot of Hold	"	
	28	"	Ladder in Hold	North	
	29	"	port side main hatch deck beams	E	
	30	"	fire end of main bulk along stanchions	S	
	31		at cabin framing detail	E	
	32				
	33				
	34				
	35				
	36				
	37		engine location from aft	N	

PANAMERICAN CONSULTANTS, INC.
PHOTOGRAPHIC LOG

PROJECT NAME: 6 vessels PROJECT NUMBER: _____
 ROLL NO.: 13 CAMERA: Vashua T4
 PHOTOGRAPHER'S NAME L. J. Jackson
 FILM TYPE (CIRCLE APPROPRIATE CHOICE): (B&W) OR COLOR / PRINT OR SLIDE
 NO. OF EXPOSURES: 36 FILM SPEED: 100

NEG #	SHOT #	DATE	DESCRIPTION	VIEW
	1	8/25/04	below deck framing details ca. frame 50	down
	2			fore (n.s.)
	3			aft (n)
	4		blackout	down
	5		deck mount, below deck	down
	6		below deck framing, aft deck	N
	7		enside, bulkhead, aft side end of aft cabin	S
	8		stbd framing, looking forward	S
	9		bow views, including fish painting	e
	10			
	11			
	12			
	13			
	14			
	15			
	16			
	17			
	18			
	19			
	20		* steering mechanism detail	* e
	21		steering detail, stbd side	e
	22		lumber bunks for steering gear, stbd side wheelhouse	N
	23		lumber bunks for steering gear	S
	24			S
	25		detail of 24x25 showing pipe	S
	26		steering gear hulk in quarterdeck bulkhead	N
	27		steering gear hulk " "	N
	28		main hatch support mount, & fore	S
	29		" " " " aft	N
	30		rib joint joint ca. beam 28	W
	31		rib joint joint detail ca. beam 28	W
	32		chain plate stbd ca. beam 23	e
	33			e
	34			e
	35		chain plate mounting bolts, down from gunwale	S
	36		hanging knee	aft (n)
	37		most ca. deck beam 22, framing detail	e

PROJECT NAME: 6 vessels PROJECT NUMBER: 24242
ROLL NO.: 17 CAMERA: Yashica TX4
PHOTOGRAPHER'S NAME Lyda Lopez
FILM TYPE (CIRCLE APPROPRIATE CHOICE): B&W OR COLOR / PRINT OR SLID
NO. OF EXPOSURES: 36 FILM SPEED: 1max 100

NEG #	SHOT #	DATE	DESCRIPTION	VIEW
	1	8/25/04	Foreleg hole ca deck beam 36 interior end of gunwale	S
	2		railing end cap detail	S
	3			
	4			
	5			
	6			
	7			
	8			
	9			
		8/26/04	Various Stern Shots	S
	10			
	11			
	12			
	13			
	14			
	15			
	16			
	17			
	18			
	19		Bottom Butt Plank Patch	E
	21	8/26/04	steering Block & Chain	West
	22			
	23			
	24			

27TH OCT 2004 SIX VESSELS

SCR COMPANY - JERSEY CITY, N.J. - = BRICK BY LEVERS
N 01

LEVER SYSTEM - DREDGE BY MANHATTAN TROWLER

BOW = EAST END
92 1/2" WIDE

11 LEVERS - COARSE; FINE GEARING -

FROM PORT SIDE

C
C
F
C
C
C
F
C
C
V. COARSE

PHOTO LOG - VESSEL #37 Dredge

- 1 LOOKING SOUTH - LEVERS
- 2 " " - LEVERS
- 3 " East - LEVERS
- 4 " North - LEVERS
- 5 " North - LEVERS & BRICK Plan view facing North
- 6 " East - BRICK & LEVERS
- 7 " West - " & "

- | | | |
|----|---------|--|
| 1 | South | Stb Fwd Iron Support |
| 2 | West | " " " " |
| 3 | East | Machinery Support Chamber |
| 4 | " | " " " |
| 5 | " | Machinery Supports |
| 6 | " | " " |
| 7 | " | " Support Key |
| 8 | West | Detail: Iron Clamp on Machinery Support |
| 9 | South | " " " " |
| 10 | " | Misc. Machinery betw. Machinery supports |
| 11 | West | " " " " " |
| 12 | e. S.E. | " " " " " |
| 13 | South | " " " " " |

↓ continued on Reverse

Roll #154

<u>Photo #</u>		
14	East	Dredge Mechanism, Bow Port
15	S.W	" " " Stb
16	S.W	Dredge Center Pipe
17	East	Control Lever Detail
18	"	" " "
19	"	" " "
20	"	" " " Handle
21	North	Aft toward Engine/Boiler Bed
22	Down	Brick, "W.W.CO"
23	Down	" "J.C.R.Co."
24	"	Drive Belt, Coiled on Deck
25	"	" " " " " , Rivet Detail
26	"	Misc. Elect. Pieces
27	North	Central Machinery Mount Chamber Detail
28	East	Machinery Support Timber Key
29	Down	Vice
30	East	Winch Drum Scoring, Side of Machinery Support
31	"	" " " " " " "

End Roll

10/27/04 Vessel #37 Dredge

Photo Log

Digital Camera

Frame - 39- direction
↓
south - Levers

38 - East - Levers

37 - North - Levers

36 - West - Levers

35 - West - Levers

34 - North - East

33 - North =

32 - North =

31 - North - West

30 - North - Fags frolicking on deck

29 -

Roll # 16 Vessel 37 27 Oct 2004

#		
1	North	Dredge Pipe (large) Interior of Vessel
2	N.E	Collapsed Structure, Aft End
3	South	Dredge Well at Bow
4	South	Machinery Supports
5	Down	Hemp Core Wire Rope
6	South	Port Quarter
7	North	Port Quarter & Machinery
8	North	" " "
9	South	Port Yoke
10	South	Inboard Starboard Machinery & Bow
11	South	panorama of starboard quarter Bow
12	"	" " " "
13	South	Stem to Stern
14	East	Crane or A frame
15	East	Base of Spud
16	North	Scooner
17	East	starboard stern spud mechanism
18	East	starboard side of vessel
19	East	" " " "
20	NORTH	AFT END PANORAMA - W TO E x 3
21	NORTH	"
22	NORTH	"
23	North	Drive mechanism for cutterhead
24	"	" " " "
25	"	" " " "
26	"	" " " "
27	"	" " " "
28	Yoke of	port side of thrumway Bow.
29	S	
30	W	brick pile
31	W	brick pile
32	W	bulb?

10/28/04 photo Log on Faght's Camara Vessel 36

- | | Direction |
|--|-----------|
| 1 Port Bow | East |
| 2 Port Bow | South |
| 3 Starboard quarter | South |
| 4 " " | South |
| 5 Port toke | " |
| 6 panorama of starboard quarter into bow | |
| 7 " " " " | " " " " |
| 8 stern to stern | South |
| 9 A or Crane Frame | East |
| 10 Base of spud | East |
| 11 scooner | North |
| 12 Starboard stern spud mechanism | East |
| 13 Starboard side of vessel | |
| 14 " " " " | " " |
| 15 LOGGING NORTH - AFT END PANORAMA | |
| 16 " " " " | " " |
| 17 " " " " | " " |
| 18 North Drive mechanism for cutter head | |
| 19 " " " " | " " |
| 20 " " " " | " " |
| 21 " " " " | " " |
| 22 " " " " | " " |
| 23 toke on port side of thruwat Bow | |

APPENDIX G: SECTIONAL DRYDOCK PLANS

(see enclosed CD)

APPENDIX H: J. HOWARD SMITH COMPANY VESSELS

J. Howard Smith Company vessels owned (Sources: Annual List of Merchant Vessels and Steve Rogers).

Official No.	Type	Name	GT	NT	L	W	D	Year Built	Where Built	Crew	HP	Company	Home Port	Year Bought
15098	screw steamer	<i>Ocean View</i>	108	35	91.8	17	9.2	1884	Noank, CT	27	150	J. Howard Smith		1934
115647	screw steamer	<i>Sterling</i>	143	97	110	18.1	8.8	1879	East Deering, MI	20	325	Harvey W. Smith		1936
208447	screw steamer	<i>Stephen W. McKeever</i>	223	104	128	22.2	10	1911	Noank, CT	25	325			1939?
208613	screw steamer	<i>McKeever Brothers</i>	223	104	128	22.2	10	1911	Noank, CT	25	450			1939?
286511	screw steamer	<i>George P. Squires</i>	218	137	142.7	22.7	8.8	1900	Baltimore	28	164	Fisheries Products		1933
208447	oil screw	<i>Stephen W. McKeever Jr.</i>	223	104	128	22.2	10	1911	Noank, CT	20	300	Otis Smith		1934
208272	oil screw	<i>Edward J. McKeever Jr.</i>	223	104	128	22	10	1910	Noank, CT	20	300	Harvey W. Smith		1936
223087	screw steamer	<i>Elias F. Wilcox</i>	329	164	139.1	24	11.6	1923	Noank, CT	34	600	Harvey W. Smith		1936
235089	oil screw	<i>J.H. Whitehurst</i>	149	37	100	21.9	8.9	1936	Fernandina, FL	15	240	Harvey W. Smith		1936
231225	oil screw	<i>John L. Lawrence</i>	229	150	157.8	21.2	10.6	1877	New London, CT	20	500	Harvey W. Smith		1936
140227	oil screw	<i>Luce Brothers</i>	144	39	114.3	18.9	8.9	1877	New London, CT	20	210	Harvey W. Smith		1935
223553	oil screw	<i>Parkins</i>	133	40	107	23.6	8.3	1923	Pocomola City, MD	22	200	Harvey W. Smith		1934
115647		<i>Sterling</i>	143	97	110	18.1	8.8	1879	East Deering, MI	20	210	Harvey W. Smith		1936
236189	oil screw	<i>Charlie Mason</i>	180	36	113.1	21.8	9.1	1937	Fernandina, FL	15	240	Harvey W. Smith	Brunswick, GA	1937
236319	oil screw	<i>Mary Ellen</i>	180	36	113.1	21.8	9.1	1937	Fernandina, FL	15	240	Harvey W. Smith	Brunswick, GA	1937
208410	screw steamer	<i>Rowland H. Wilcox</i>	247	119	132	22.3	10.7	1911	Noank, CT	32	450	Harvey W. Smith	New York, NY	1937
		<i>Benjamin L. Bishop</i>	151	36	97	21.7	9.4	1936	Fernandina, FL	20	240	Harvey W. Smith	Fernandina, FL	1937
237525	oil screw	<i>Promised Land</i>	184	47	118	21.4	8.6	1938	Fernandina, FL	22	275	Otis H. Smith	Fernandina, FL	1938
237323	oil screw	<i>West Beaufort</i>	119	36	88.8	20	6.8	1938	Fernandina, FL	20	240	Harvey W. Smith	Fernandina, FL	1938
237665	oil screw	<i>Port Monmouth</i>	119	36	88.8	20	6.8	1938	Fernandina, FL	20	240	Otis H. Smith	Fernandina, FL	1939
240730		<i>Charles Herbert Rice</i>	148	54	106.9	21	8.5	1941	Reedville, VA	23	300	Harvey W. Smith	Reedville, VA	1942
240744		<i>Silver Star</i>	144	50	99.5	20.2	8.3	1941	Beaufort, NC	19	220	Harvey W. Smith	Reedville, VA	1942
216580	oil screw	<i>Lancaster</i>	143	34	109.4	19.9	8.4	1918	Weems, VA	23	100	J. Howard Smith		1932
105768	oil screw	<i>Annie L. Wilcox</i>	158	38	127	27	7.5	1905	Camden, NJ	10	375	J. Howard Smith		1934
277139	oil screw	<i>John Twohy Brusster</i>	121	37	105	19.5	8.5	1894	Pensacola, FL	7	210	J. Howard Smith		1935
226167	oil screw	<i>Doswell S. Edwards</i>	93	39	77.3	23.6	7.3	1926	Kayan, VA	6	120	J. Howard Smith	New York, NY	1937
229816	gas screw	<i>Artemis (ex Dorothy)</i>	20	13	47	11.2	5.1	1930	Algonac, MI	1	500	J. Howard Smith		1942
237350	oil screw	<i>Fernandina</i>	119	36	88.8	20	6.8	1938	Fernandina, FL	20	240	Atlantic Navigation	New York, NY	
242052	oil screw	<i>Mispillion</i>	143	48	93.7	21.9	7.3	1942	Reedville, VA	20	220	Atlantic Navigation	New York, NY	
211424	screw steamer	<i>East Hampton</i>	407	208	162.8	26.6	12.7	1913	Rockland, ME	35	900	Smith Meal	New York, NY	
222067	oil screw	<i>Little Joe</i>	250	75	134.3	21.7	10.9	1922	Weems, VA	30	300	Fish Products	Reedville, VA	

Official No.	Type	Name	GT	NT	L	W	D	Year Built	Where Built	Crew	HP	Company	Home Port	Year Bought
218334	oil screw	<i>H. R. Humphreys</i>	211	48	126.1	20.7	9.7	1919	Weems, VA	37	300	Fish Products	Beaufort, NC	
216583	oil screw	<i>Swanson</i>	154	32	109.4	19.9	8.4	1918	Weems, VA	20	200	Fish Products	Beaufort, NC	
211345	screw steamer	<i>A Brooke Taylor</i>	295	130	146	23.3	11	1913	Wilmington, DE	28	450	Menhaden Products	Reedville, VA	
223556	oil screw	<i>Annie Dow</i>	241	45	134.3	21.7	10.8	1924	Weems, VA	30	400	Menhaden Products	Reedville, VA	
216453	oil screw	<i>E. Warren Edwards</i>	231	30	125.2	21	10.2	1918	Milford, DE	8	300	Menhaden Products	Reedville, VA	
85527	screw steamer	<i>G. S. Allyn</i>	211	136	150.4	20	10.7	1878	Mystic	10	600	Menhaden Products	Norfolk, VA	
96610	oil screw	<i>Helen Euphane</i>	168	62	112	20.4	9.3	1902	Pocomoke City, MD	30	380	Menhaden Products	Reedville, VA	
130733	oil screw	<i>Northumberland</i>	167	99	134.2	20.2	9.3	1897	Pocomoke City, MD	9	450	Menhaden Products	Reedville, VA	
208805	oil screw	<i>W.L. Messick</i>	326	75	131.8	23.5	12.5	1911	Norfolk	30	600	Menhaden Products	Reedville, VA	
209911	oil screw	<i>Wilbert A Edwards</i>	343	94	143.4	24	11.6	1912	Solomons, MD	24	600	Menhaden Products	Reedville, VA	
239265	oil screw	<i>Damyank</i>	47	23	61	18.3	5.1	1939	Sturgeon Bay	5	300	Atlantic Navigation	Wilmington, NC	
233800	oil screw	<i>Rebel</i>	14	11	43.7	14.4	5.4	1938	Jacksonville, FL	2	180	Atlantic Navigation	Jacksonville, FL	
218514	gas screw	<i>Deuchland</i>	45	38	75.3	18.2	4.9	1919	Morehead City, NC	21	60	Beaufort Fisheries	Beaufort, NC	
141719	gas screw	<i>Leland Mills</i>	52	42	79.8	18.7	5.5	1901	Cambridge, MD	14	100	Beaufort Fisheries	Beaufort, NC	
224343	oil screw	<i>Lloyd T</i>	22	20	56.4	16.2	3.4	1924	Bettie, NC	11	60	Beaufort Fisheries	Beaufort, NC	
141729	gas screw	<i>Lorena D</i>	16	13	48.8	15	3.3	1901	Beaufort, NC	3	120	Beaufort Fisheries	Beaufort, NC	
204756	gas screw	<i>Reaper</i>	22	13	51.6	16.3	4	1907	Smyrna, NC	12	20	Beaufort Fisheries	Beaufort, NC	
224904	gas screw	<i>Tampa</i>	14	11	42.1	12.4	2.9	1925	Stacy, NC	6	20	Beaufort Fisheries	Beaufort, NC	
223512	oil screw	<i>Virginia Bell</i>	33	20	57.7	16	5.2	1923	Amburg, VA	10	100	Beaufort Fisheries	Beaufort, NC	
225174	oil screw	<i>W. A. Mace</i>	80	56	87.1	20.3	6.8	1925	New Bern, NC	18	100	Beaufort Fisheries	Beaufort, NC	
205060	oil screw	<i>Golden West</i>	14	9	43.9	14.3	3.6	1908	Almatos Bay, CA	1	125	Marine Products	San Diego, CA	
248128	oil screw	<i>Shoal Harbor</i>	193	98	120.5	20.5	9.2	1945	Beaufort, NC	20	265	Harvey W. Smith	Beaufort, NC	
236189	oil screw	<i>Charlie Mason</i>	180	36	113.1	21.8	9.1	1937	Fernandina, FL	20	240	Atlantic Navigation	New York, NY	
236319	oil screw	<i>Mary Ellen</i>	180	36	113.1	21.8	9.1	1937	Fernandina, FL	15	240	Atlantic Navigation	New York, NY	
240682	oil screw	<i>Capt Fred</i>	21	11	48.4	16.8	5.5	1941	St. Augustine, FL	4	80	Fish Meal	Beaufort, NC	
241067	oil screw	<i>Romie</i>	29	11	48.2	16.7	5.6	1941	St. Augustine, FL	4	80	Fish Meal	Beaufort, NC	
248147	oil screw	<i>Fearless Fosdick</i>	10	7	38.6	10.3	4.7	1945	Beaufort, NC	2	88	Harvey W. Smith	Beaufort, NC	
164390	barge	<i>O.D. No. 34</i>	353	353	90.3	28.9	6.9	1911	Suffolk, VA	1	0	Menhaden Reduction	New York, NY	
201093	oil screw	<i>Amanda Bishop</i>	57	15	73.2	20	6.2	1904	Patchogue, NY	4	100	Harvey W. Smith	Beaufort, NC	
245903	oil screw	<i>Belford</i>	149	48	113.9	21.1	7.4	1944	Beaufort, NC	20	540	Harvey W. Smith	Beaufort, NC	
218277	oil screw	<i>Elizabeth Edwards</i>	97	26	82.6	21.6	7.3	1919	Greenport, NY	24	180	Harvey W. Smith	Beaufort, NC	
252204	oil screw	<i>Escatawpa</i>	137	93	95.7	22.9	7	1946	Beaufort, NC	20	320	Harvey W. Smith	Beaufort, NC	

Official No.	Type	Name	GT	NT	L	W	D	Year Built	Where Built	Crew	HP	Company	Home Port	Year Bought
245904	oil screw	<i>Fire Island</i>	153	51	113.9	21.1	7.4	1944	Beaufort, NC	20	540	Harvey W. Smith	Beaufort, NC	
252206	oil screw	<i>Mississippi</i>	138	93	95.7	22.9	7	1946	Beaufort, NC	20	320	Harvey W. Smith	Beaufort, NC	
252650	oil screw	<i>Moss Point</i>	160	108	106.8	23.3	6.8	1947	Beaufort, NC	20	500	Harvey W. Smith	Beaufort, NC	
2532	oil screw	<i>Ocean Springs</i>	149	101	105.9	22.7	7.1	1947	Beaufort, NC	20	500	Harvey W. Smith	Beaufort, NC	
84	oil screw	<i>Singing River</i>	106	108	106.8	23.3	6.8	1947	Beaufort, NC	20	500	Harvey W. Smith	Beaufort, NC	
216583	oil screw	<i>Swanson</i>	154	32	109.4	19.9	8.4	1918	Weems, VA	21	330	Atlantic Navigation	New York, NY	
223189	oil screw	<i>Thomas C. McNeal</i>	232	42	127.9	21.1	9.8	1923	Solomons, MD	33	300	Atlantic Navigation	New York, NY	
253241	barge	<i>Crab Island</i>	171	171	98.1	31.1	7.1	1947	Camden, NJ	1	0	Fish Products	Philadelphia, PA	
253242	oil screw	<i>Little George</i>	11	8	36	11	4.2	1947	Camden, NJ	1	96	Fish Products	Philadelphia, PA	
216582	oil screw	<i>Richmond</i>	150	34	109.4	19.9	8.4	1918	Weems, VA	20	200	Fish Products	Beaufort, NC	
255385	oil screw	<i>Barnegat</i>	179	101	120.4	21.5	8.3	1948	Camden, NJ	27	600	Fish Products	Philadelphia, PA	
255550	barge	<i>Little Egg</i>	171	171	98.1	31.1	7.1	1948	Camden, NJ	1	0	Fish Products	Philadelphia, PA	
256216	oil screw	<i>Brigantine</i>	178	101	120.4	21.5	8.3	1948	Camden, NJ	27	600	Fish Products	Philadelphia, PA	
212389	oil screw	<i>Pocahontas</i>	345	40	139.6	24.2	11.5	1914	Milford, DE	30	600	Smith Meal	Boston, MA	
255159	gas screw	<i>Marpro</i>	15	12	39.9	11.3	5	1948	San Diego, CA	3	200	Marine Products	San Diego, CA	
258419	oil screw	<i>Absecon</i>	198	119	130.5	22.5	8.5	1949	Camden, NJ	26	800	Fish Products	Philadelphia, PA	
257543	oil screw	<i>Beach Haven</i>	177	101	120.4	21.5	8.3	1949	Camden, NJ	27	600	Fish Products	Philadelphia, PA	
258135	oil screw	<i>Little Gull</i>	198	119	130.5	22.5	8.9	1949	Camden, NJ	26	800	Fish Products	Philadelphia, PA	
157192	oil screw	<i>Manasquan</i>	178	102	120.4	21.5	8.3	1949	Camden, NJ	27	600	Fish Products	Philadelphia, PA	
	oil screw	<i>Sea Girt</i>												
257539	oil screw	<i>Calcasieu</i>	199	135	121.7	20.6	9.8	1949	Beaufort, NC	21	400	Gulf Menhaden	Beaufort, NC	
257540	oil screw	<i>Marmantau</i>	199	135	121.7	20.6	9.8	1945	Beaufort, NC	21	400	Gulf Menhaden	Beaufort, NC	
258001	oil screw	<i>Montauk</i>	306	208	146	24.1	9.8	1949	Camden, NJ	28	800	Smith Meal	Boston, MA	
257967	oil screw	<i>Shinnecock</i>	306	208	146	24.1	9.8	1949	Camden, NJ	28	800	Smith Meal	Boston, MA	
255736	oil screw	<i>Rockaway</i>	187	152	121.8	20.5	9.1	1948	Beaufort, NC	20	550	Atlantic Navigation	New York, NY	
259359	oil screw	<i>Brandywine</i>	198	119	130.5	22.5	8.5	1950	Camden, NJ	26	800	Fish Products	Philadelphia, PA	
259924	oil screw	<i>Shrewsbury</i>	198	119	130.5	22.5	8.5	1950	Camden, NJ	26	800	Fish Products	Philadelphia, PA	
	oil screw	<i>Fish Hawk</i>							Beaufort, NC					
259594	oil screw	<i>Princess Bay</i>	281	227	134.22	23.7	11	1950	Beaufort, NC	23	550	Atlantic Navigation	New York, NY	
252652	oil screw	<i>Singing River</i>	106	108	106.8	23.3	6.8	1947	Beaufort, NC	20	500	Fish Meal	Biloxi, MS	
262699	oil screw	<i>Alex M</i>	12	8	36.1	11.2	4.4	1951	Camden, NJ	1	92	Fish Products	Philadelphia, PA	
261429	oil screw	<i>Indian River</i>	198	119	130.5	22.5	8.5	1951	Camden, NJ	26	800	Fish Products	Philadelphia, PA	

Official No.	Type	Name	GT	NT	L	W	D	Year Built	Where Built	Crew	HP	Company	Home Port	Year Bought
261897	oil screw	<i>Rehoboth</i>	198	119	130	22.5	8.5	1951	Camden, NJ	26	800	Fish Products	Philadelphia, PA	
266605	oil screw	<i>Elmo</i>	207	86	124.7	22.4	8.8	1953	Morehead City, NC		800	Atlantic Navigation	New York, NY	
255887	oil screw	<i>Mattie H. Phillips</i>	198	71	125.3	22.2	9.7	1948	Morehead City, NC		800	Atlantic Navigation	New York, NY	
265392	oil screw	<i>Core Sound</i>	58	39	64.4	20	5.7	1953	Morehead City, NC		170	Beaufort Fisheries	Beaufort, NC	
255026	oil screw	<i>Alabama</i>	165	112	105.9	23.2	6.9	1948	Beaufort, NC		375	Fish Meal	Biloxi, MS	
201093	oil screw	<i>Amanda Bishop</i>	57	15	73.2	20	6.2	1904	Patchogue, NY		100	Fish Meal	Biloxi, MS	
253791	oil screw	<i>Chandeleur</i>	160	109	105.4	23.3	7.2	1947	Beaufort, NC		512	Fish Meal	Biloxi, MS	
255027	oil screw	<i>Pascagoula</i>	165	112	105.9	23.2	6.9	1948	Beaufort, NC		375	Fish Meal	Biloxi, MS	
249835	oil screw	<i>Sandy Hook</i>	188	153	125.6	20.5	9.1	1946	Beaufort, NC		400	Fish Meal	Biloxi, MS	
265528	oil screw	<i>Moriches</i>	199	115	130.6	23.1	8.4	1953	Camden, NJ		800	Fish Products	Philadelphia, PA	
253152	oil screw	<i>Pauline</i>	249	107	126.3	25	11.3	1943	Bellingham, WA		1600	Beaufort Fisheries	Beaufort, NC	
267646	oil screw	<i>Neptune</i>	189	111	139.4	26.1	7.1	1954	Pascagoula, MS		1120	Fish Meal	Biloxi, MS	
267697	oil screw	<i>Triton</i>	181	103	140.4	26.1	6.9	1954	Port Arthur, TX		1120	Fish Meal	Biloxi, MS	
268668	barge	<i>Seven Islands</i>	265	265	133.1	31.1	8.2	1954	Camden, NJ			Fish Products	Philadelphia, PA	
267714	oil screw	<i>Winter Quarter</i>	199	115	130.6	23.1	8.4	1954	Camden, NJ		800	Fish Products	Philadelphia, PA	
268766	gas screw	<i>Fin</i>	8	6	31	9	3.8	1946	Cambridge, NC		100	Fish Products	Philadelphia, PA	
267824	oil screw	<i>Amagansett</i>	226	153	140.5	22.7	8.5	1954	Camden, NJ		800	Smith Meal	Boston, MA	
262584	oil screw	<i>Maidstone</i>	227	148	140.5	22.7	8.4	1951	Camden, NJ		800	Smith Meal	Boston, MA	
258001	oil screw	<i>Montauk</i>	306	208	146	24.1	9.8	1947	Camden, NJ		800	Smith Meal	Boston, MA	
262042	oil screw	<i>Nantucket</i>	227	148	140.5	22.7	8.4	1951	Camden, NJ		800	Smith Meal	Boston, MA	
137066	oil screw	<i>E. J. Codd</i>	181	75	121.7	22.5	9	1903	Pocomoke City, MD		300	Smith Meal	New York, NY	
135002	oil screw	<i>Eugene F. Price</i>	194	132	121.5	20.9	9.2	1874	Bristol, ME		400	Smith Meal	New York, NY	
141863	oil screw	<i>Leander Wilcox</i>	196	82	133.3	22.3	9.2	1903	Noank, CT		450	Smith Meal	New York, NY	
219992	oil screw	<i>Medric</i>	354	93	150.4	25	13.3	1920	S. Portland, ME		1200	Smith Meal	New York, NY	
217516	oil screw	<i>Seminole</i>	158	42	103	22	9.5	1919	Milford, DE		320	Smith Meal	New York, NY	
256786	oil screw	<i>Evelyn L. Willis</i>	126	48	106.3	18.2	9.1	1943	Stanford		335	Fish Meal	Biloxi, MS	
255240	oil screw	<i>Tar heel</i>	116	78	106.7	18	9.9	1942	Kingston, NY		2400	Fish Meal	Boston, MA	
269649	oil screw	<i>Napeague</i>	231	140	141.5	24.2	9.4	1955	Camden, NJ		960	Fish Meal	Boston, MA	
250339	oil screw	<i>Cape May</i>	156	72	85.5	21.4	13	1946	Groton, CT		400	Smith Meal	Boston, MA	
270596	oil screw	<i>Louisiana</i>	195	133	142.8	27.5	7.9	1955	Port Arthur, TX		1000	Atlantic Navigation	New York, NY	
271674	oil screw	<i>Romer Shoal</i>	190	129	140	27.1	8.7	1956	Port Arthur, TX		1250	Atlantic Navigation	New York, NY	
270533	oil screw	<i>Texas</i>	196	133	142.8	27.5	7.9	1955	Port Arthur, TX		1000	Fish Products	Philadelphia, PA	

Official No.	Type	Name	GT	NT	L	W	D	Year Built	Where Built	Crew	HP	Company	Home Port	Year Bought
269525	oil screw	<i>Parramore Banks</i>	198	113	130.6	23.1	8.4	1955	Camden, NJ		800	Fish Products	Philadelphia, PA	
271249	oil screw	<i>Jarrett Bay</i>	64	43	66.5	20.6	5.7	1956	Williston, NC		255	Beaufort Fisheries	Beaufort, NC	
271518	oil screw	<i>Breton Island</i>	174	118	124.4	24.1	6.8	1956	Port Arthur, TX		600	Fish Meal	Biloxi, MS	
271588	oil screw	<i>Cat Island</i>	181	123	124.4	24.1	6.8	1956	Port Arthur, TX		600	Fish Meal	Biloxi, MS	
271714	oil screw	<i>Dauphine Island</i>	181	123	124.4	24.1	6.8	1956	Port Arthur, TX		600	Fish Meal	Biloxi, MS	
271527	oil screw	<i>Ship Island</i>	181	123	124.4	24.1	6.8	1956	Port Arthur, TX		600	Fish Meal	Biloxi, MS	
271491	oil screw	<i>Shoal Harbor</i>	171	54	122.9	24	6.9	1956	Jacksonville, FL		600	Fish Meal	Biloxi, MS	
273448	gas screw	<i>Abercrombie</i>	9	8	31.1	9.8	3.6	1956	Salisbury, MD		125	Fish Products	MD	
273449	gas screw	<i>Fitch</i>	9	8	31.1	9.8	3.6	1956	Salisbury, MD		125	Fish Products	MD	
271851	oil screw	<i>Bird Island</i>	181	123	124.4	24.1	6.8	1956	Port Arthur, TX		600	Fish Meal	Biloxi, MS	
271775	oil screw	<i>Horn Island</i>	181	123	124.4	24.1	6.8	1956	Port Arthur, TX		600	Fish Meal	Biloxi, MS	
274545	oil screw	<i>Li'l Abner</i>	607	386	193.8	36.1	10.2	1957	Pascagoula, MS		1280	Fish Meal	Biloxi, MS	
276926	oil screw	<i>Frosty Morn</i>	648	344	195	36	11.1	1958	Jacksonville, FL		1240	J. Howard Smith Inc.	New York, NY	
278603	oil screw	<i>Lennoxville</i>	71	48	66.9	22.8	4.8	1959	New Bern, NC		290	Beaufort Fisheries	Beaufort, NC	
269194	oil screw	<i>Acadia</i>	317	216	120	30	8.5	1955	Port Arthur, TX		1200	Fish Meal	Morehead City, NC	
279285	oil screw	<i>Broadkill</i>	8	5	32.7	9.4	3.3	1959	Dorchester, NJ		165	Fish Products	Wilmington, DE	
278285	oil screw	<i>Sharps Point</i>	8	5	32.7	9.4	3.3	1959	Dorchester, NJ		165	Fish Products	Wilmington, DE	
267678	oil screw	<i>Al Cabbage</i>	192	130	141.5	26.2	6.9	1954	Port Arthur, TX		1120	J. Howard Smith Inc.	New York, NY	
267887	oil screw	<i>O.M. Haverstick</i>	197	134	141.5	26.2	6.9	1954	Port Arthur, TX		1120	J. Howard Smith Inc.	New York, NY	
274255	oil screw	<i>Tiny Tim</i>	613	337	194.6	36	9.2	1957	Atlantic Beach, FL		1280	J. Howard Smith Inc.	New York, NY	
280451	oil screw	<i>La Nina</i>	47	32	45.9	16.5	8.3	1960	Seattle, Wa			Fish Meal	New York, NY	
269489	oil screw	<i>Fisherman</i>	198	135	142.8	27.5	7.9	1955	Port Arthur, TX		900	Fish Meal	Morehead City, NC	
278749	oil screw	<i>La Salle</i>	417	283	134.8	32.1	10.2	1959	Port Arthur, TX		880	Fish Meal	Morehead City, NC	
281150	oil screw	<i>Maverick</i>	468	318	150.3	32.1	10.7	1960	Port Arthur, TX		912	Fish Meal	Morehead City, NC	
269537	oil screw	<i>Muddy Water</i>	198	134	142.8	27.5	7.9	1955	Port Arthur, TX		912	Fish Meal	Morehead City, NC	
281151	oil screw	<i>Sabine Pass</i>	470	320	150.3	32.1	10.7	1960	Port Arthur, TX		912	Fish Meal	Morehead City, NC	
281152	oil screw	<i>Trinity Shoal</i>	470	320	150.3	32.1	10.7	1960	Port Arthur, TX		912	Fish Meal	Morehead City, NC	
289467	oil screw	<i>Skate</i>	262	178	153.7	23.2	10.7	1944	Neponset, MA		800	Fish Products	Wilmington, DE	
294343	oil screw	<i>Sikeoyness</i>	507	345	168.2	32.1	11.7	1944	New Orleans, LA		800	Fish Products	Wilmington, DE	
295011	oil screw	<i>Sinepuxent</i>	522	355	168.2	32.1	11.7	1944	New Orleans, LA		1000	Fish Products	Wilmington, DE	
280452	oil screw	<i>La Pinta</i>	47	32	47.4	16.5	8.3	1960	Seattle, WA		170	Fish Products	New York, NY	
280453	oil screw	<i>Santa Maria</i>	47	32	46.1	16.5	8.3	1960	Seattle, WA		170	J. Howard Smith Inc.	New York, NY	

APPENDIX I: *FISH HAWK* TREASURY DEPARTMENT DOCUMENTS

PERMANENT OR TEMPORARY PERMANENT
CERTIFICATE No. 72

THE UNITED STATES OF AMERICA

OFFICIAL No.	COMPASS, RADIO, GEAR, AND SIGNAL LISTED
257819	

DEPARTMENT OF TRANSPORTATION
UNITED STATES COAST GUARDMeasured at Beaufort, North Carolina 79 49
Rebuilt at _____ 19____
Renumbered at _____ 19____Service Fishing
Horsepower 550

Consolidated Certificate of Enrollment and License

In Conformity to Title L, "Regulation of Vessels in Domestic Commerce," of the Revised Statutes of the United States

I, JOHN P. ALBAN of Malverne, New York, PRESIDENT
having taken and subscribed the oath "_____ required by law, and having sworn" _____ the
of EASTERN TANKER CORP. (I.R.S. Employer No. 13-5641962)
70 Pine Street, New York, New York 10005
Incorporated under the Laws of the State of New York
IS A _____ "citizen" of the United States and the sole owner of the vessel called the _____
"FISHHAWK" of NEW YORK, N. Y.
(Name of vessel) (Home port)
and that the said vessel was built in the year 1949, at Beaufort, North Carolina
as appears by "P.E. No. 129 issued at New York, N.Y., December 5th, 1974, now surrendered; OWNERSHIP CHANGED"
and "_____ said enrollment _____ having certified that
the said vessel is a "_____ Oil Screw _____; that she has
One deck, One mast, a Straight stem, and a Round stern; that
her register length is 134.2 feet, her register breadth 23.7 feet, her register depth 11.8 feet
her height _____ feet; that she measures as follows: "

	TONS	TONNES
Capacity under tonnage deck	236	41
Capacity between decks above tonnage deck		
Capacity of enclosures on the upper deck, viz: Forecastle _____; bridge _____; poop _____; break _____		
houses-deck <u>32.74</u> , side _____, mast _____, trunks _____; excess hatchways <u>1.82</u> ; light and air _____	47	20
GROSS TONNAGE	283	61
Deductions under Section 4153, Revised Statutes, as amended (Section 77, title 46, United States Code):		
Crew space _____ Master's cabin _____		
Steering gear _____ Anchor gear _____ Boatwain's stores _____		
Chart house _____ Donkey engine and boiler _____ Radio house _____		
Storage of sails _____ Propelling power (actual space <u>30.90</u>) <u>175</u> P. P. <u>54.07</u>		
TOTAL DEDUCTIONS	54	07
NET TONNAGE	229	
The following-described spaces, and no others, have been omitted, viz: Forepeak _____, afterpeak _____, other spaces (except double bottoms) for water ballast _____, open forecabin _____, open bridge _____, open poop _____, open shelter deck _____, open houses _____, cabins _____, companions _____ <u>99</u> , gallery _____ <u>6.86</u> , skylights _____, wheelhouse _____ <u>3.59</u> , water-closets _____, anchor gear _____, donkey engine and boiler _____, steering gear _____, light and air spaces _____ <u>21.28</u> , other machinery spaces _____ <u>6.51</u> .		

And "_____ having agreed to the description and measurement above specified
the said vessel has been duly ENROLLED at this PORT:

LICENSE

And JOHN P. ALBAN, the master, having sworn that he is a citizen of the United States, that this license shall not be used for any other vessel, or for any other employment than is herein specified, or in any trade or business whereby the revenue of the United States may be defrauded:

LICENSE is hereby granted for the said vessel to be employed in carrying on the WACKSSEL FISHERY for ONE YEAR
(Coasting Trade, Oil Fishery, or Merchant Fishery)

GIVEN under my hand and seal at the PORT of NEW YORK, N. Y.District of NEW YORK CITY, N. Y., this TWENTY-LETH day of NOVEMBERin the year One Thousand Nine Hundred and SEVENTY-FIVEBy direction of the EDITH BROOKS
Officer in Charge, Marine Inspection.

PREFERRED MORTGAGE ENDORSEMENT

(MERCHANT MARINE ACT, 1920, SEC. 34—U. S. C. TITLE 46, CHAPTER 37)

MORTGAGE DESCRIPTION (SUBSECTION DC)

Mortgagor _____

Mortgages _____

Endorsed _____, 19____, at _____ m.

Total amount, \$ _____

Date of maturity _____, 19____

Discharge amount, \$ _____

Port of _____

[SEAL]

Documentation Officer.

MORTGAGE DISCHARGE (SUBSECTION DB)

Port of _____

_____, 19____

The sum of \$ _____ has been
paid on the above-described mortgage, the certificate
of such discharge being filed in this office and recorded

_____, 19____, at _____ m.

[SEAL]

Documentation Officer.

Official No. 257819

CG-1271

DEPARTMENT OF TRANSPORTATION UNITED STATES COAST GUARD

PERMANENT

(Permanent or Temporary)

Consolidated Enrollment and License

FOR THE

FISHERIES.

(Issued "Coasting Trade" or "Fisheries")

No. 129

OF THE

Oil Screw

CALLED THE

FISHHAWK

OF

NEW YORK, N.Y.

283

gross,

229

net,

ISSUED AT THE

Port of NEW YORK, N.Y.

DECEMBER 5th

19 74

WHERE SURRENDERED:

NEW YORK, N.Y.

WHEN SURRENDERED:

NOVEMBER 20th, 1975

WHY SURRENDERED:

OWNERSHIP CHANGED

P.E. NO. 72 ISSUED

Edith Brooke
Documentation Officer.

GPO 549-380

PREFERRED MORTGAGE ENDORSEMENT

(MERCHANT MARINE ACT, 1920, SEC. 34—U. S. C. TITLE 46, CHAPTER 37)

MORTGAGE DESCRIPTION (SUBSECTION DC)

Mortgagor _____

Mortgages _____

Endorsed _____, 19____, at _____ m.

Total amount, \$ _____

Date of maturity _____, 19____

Discharge amount, \$ _____

Port of _____

[SEAL]

Documentation Officer.

MORTGAGE DISCHARGE (SUBSECTION DB)

Port of _____

_____, 19____

The sum of \$ _____ has been
paid on the above-described mortgage, the certificate
of such discharge being filed in this office and recorded

_____, 19____, at _____ m.

[SEAL]

Documentation Officer.

PERMANENT OR TEMPORARY
PERMANENT
CERTIFICATE No. 129

THE UNITED STATES OF AMERICA

DEPARTMENT OF TRANSPORTATION
UNITED STATES COAST GUARD

OFFICIAL No.	COMMERCIAL RACE CALL AND SERIAL LETTERS
257819	

Measured at Beaufort, North Carolina 1949
 Rebuilt at _____ 19____
 Renumbered at _____ 19____

Service Fishing
 Horsepower 550

Consolidated Certificate of Enrollment and License

In Conformity to Title L, "Regulation of Vessels in Domestic Commerce," of the Revised Statutes of the United States

I, ROBERT W. SMITH of Red Bank, N.J., SECRETARY
 having taken and subscribed the oath "_____ required by law, and having sworn "_____ that

THE NEW SMITH MEAL COMPANY, INC. (I.R.S. Employer No. 22-1992052)

Box D, Port Monmouth, N.J. 07758

INCORPORATED UNDER THE LAWS OF THE STATE OF MASS.

LESS THAN 75 PERCENT OF THE INTEREST IN THE CORPORATION OWNING THIS VESSEL IS
 OWNED BY CITIZENS OF THE UNITED STATES. IT SHALL NOT ENGAGE IN THE COASTWISE TRADE

IS A

FISHHAWK

citizen of the United States and the sole owner of the vessel called the

NEW YORK, N.Y.

and that the said vessel was built in the year 1949, at Beaufort, North Carolina (Name of vessel)
 as appears by P.E. No. 152 issued at New York, N.Y., April 8, 1970, now surrendered; OWNERSHIP CHANGED (Home port) Wood

and "Said Enrollment
 the said vessel is a Oil Screw having certified that
One deck, One mast, a Straight stem, and a Round stern; that she has
 her register length is 134.2 feet, her register breadth 23.7 feet, her register depth 11.8 feet,
 her height 18 feet; that she measures as follows: "

	TONS	Net
Capacity under tonnage deck	236	41
Capacity between decks above tonnage deck		
Capacity of enclosures on the upper deck, viz: Forecastle _____; bridge _____; poop _____; break <u>12.64</u>		
houses-deck <u>32.74</u> , side _____, mast _____, trunks _____; excess hatchways <u>1.82</u> ; light and air _____	47	20
GROSS TONNAGE	283	61
Deductions under Section 4153, Revised Statutes, as amended (Section 77, title 46, United States Code):		
Crew space _____ Master's cabin _____		
Steering gear _____ Anchor gear _____ Boatswain's stores _____		
Chart house _____ Donkey engine and boiler _____ Radio house _____		
Storage of sails _____ Propelling power (actual space <u>30.90</u>) _____ P. P. <u>54.07</u>		
TOTAL DEDUCTIONS	54	07
NET TONNAGE	229	
The following-described spaces, and no others, have been omitted, viz: Forepeak _____, afterpeak _____, other spaces (except double bottoms) for water ballast _____, open forecabin _____, open bridge _____, open poop _____, open shelter deck _____, open houses _____, cabins _____, companions <u>99</u> , galley <u>6.86</u> , skylights _____, wheelhouse <u>3.59</u> , water-closets _____, anchor gear _____, donkey engine and boiler _____, steering gear _____, light and air spaces <u>21.28</u> , other machinery spaces <u>6.51</u>		

And "_____ having agreed to the description and measurement above specified,
 the said vessel has been duly ENROLLED at this PORT:

LICENSE

And JOSEPH SCHOLLENBERGER, the master, having sworn that he is a citizen of the United States, that this license shall not be used for any other vessel, or for any other employment than is herein specified, or in any trade or business whereby the revenue of the United States may be defrauded:

LICENSE is hereby granted for the said vessel to be employed in carrying on the MACKEREL FISHERY (Coasting Trade, Cod Fishery, or Mackerel Fishery) for ONE YEAR from the date hereof, and no longer.

GIVEN under my hand and seal at the PORT of NEW YORK, N.Y.

District of NEW YORK CITY, N.Y., this 5th day of DECEMBER
 in the year One Thousand Nine Hundred and SEVENTY-FOUR

By direction of the _____ Officer in Charge, Marine Inspection.

PREFERRED MORTGAGE ENDORSEMENT

(MERCHANT MARINE ACT, 1920, SEC. 20—U. S. C., TITLE 46, CHAPTER 20)

MORTGAGE DESCRIPTION
(SUBSECTION DC)

Mortgagor _____

Mortgages _____

Endorsed _____, 19____, at _____ m.

Total amount, \$ _____

Date of maturity _____, 19____

Discharge amount, \$ _____

Port of _____

[SEAL]

Documentation Officer.

MORTGAGE DISCHARGE
(SUBSECTION DB)

Port of _____

The sum of \$ _____ has been
paid on the above-described mortgage, the certificate
of such discharge being filed in this office and recorded
_____ , 19____, at _____ m.

[SEAL]

Documentation Officer.

Official No. 257819

CG-1271

DEPARTMENT OF TRANSPORTATION
UNITED STATES COAST GUARD

PERMANENT

(Permanent or Temporary)

Consolidated Enrollment and License

FOR THE

FISHERIES

(Insert "Coasting Trade" or "Fisheries")

No. 152

OF THE

OIL SCREW

CALLED THE

FISHHAWK

OF

NEW YORK, N. Y.

283 gross, 229 net,
ISSUED AT THE

Port of NEW YORK, N. Y.

APRIL 6TH, 1970.

WHERE SURRENDERED:

New York, N.Y.

WHEN SURRENDERED:

December 5, 1974

WHY SURRENDERED: (U.S. MARITIME ADMINIST-

RATION TRANSFER ORDER NO.

OWNERSHIP CHANGED
MA-13392 DATED 6th MAY 1974)

P.E. NO. 129 ISSUED

F. DI SOGRA

Documentation Officer.

GPO 959-652

PREFERRED MORTGAGE ENDORSEMENT

(MERCHANT MARINE ACT, 1920, SEC. 20—U. S. C., TITLE 46, CHAPTER 20)

MORTGAGE DESCRIPTION
(SUBSECTION DC)

Mortgagor _____

Mortgages _____

Endorsed _____, 19____, at _____ m.

Total amount, \$ _____

Date of maturity _____, 19____

Discharge amount, \$ _____

Port of _____

[SEAL]

Documentation Officer.

MORTGAGE DISCHARGE
(SUBSECTION DB)

Port of _____

The sum of \$ _____ has been
paid on the above-described mortgage, the certificate
of such discharge being filed in this office and recorded
_____ , 19____, at _____ m.

[SEAL]

Documentation Officer.

ENDORSEMENTS OF CHANGE OF MASTER

(1) Port of REEDVILLE, VIRGINIA, 6 NOVEMBER, 1970
E. B. HAYWIE, having taken the oath
 required by law, is at present master of the within-named vessel, vice
E. B. SMITH
Gladyss Evans, Documentation Officer.

(2) Port of Reedville, Va., 13 Nov., 1970
William D. Lewis, having taken the oath
 required by law, is at present master of the within-named vessel, vice
E. B. Haywie
Gladyss Evans, Documentation Officer.

(3) Port of REEDVILLE, VIRGINIA, 20 NOVEMBER, 1970
MATHEWS GASKINS, having taken the oath
 required by law, is at present master of the within-named vessel, vice
WILLIAM G. LEWIS
Gladyss Evans, Documentation Officer.

(4) Port of _____, _____, 19____
 _____, having taken the oath
 required by law, is at present master of the within-named vessel, vice

 _____, Documentation Officer.

(5) Port of _____, _____, 19____
 _____, having taken the oath
 required by law, is at present master of the within-named vessel, vice

 _____, Documentation Officer.

(6) Port of _____, _____, 19____
 _____, having taken the oath
 required by law, is at present master of the within-named vessel, vice

 _____, Documentation Officer.

(7) Port of _____, _____, 19____
 _____, having taken the oath
 required by law, is at present master of the within-named vessel, vice

 _____, Documentation Officer.

(8) Port of _____, _____, 19____
 _____, having taken the oath
 required by law, is at present master of the within-named vessel, vice

 _____, Documentation Officer.

(9) Port of _____, _____, 19____
 _____, having taken the oath
 required by law, is at present master of the within-named vessel, vice

 _____, Documentation Officer.

(10) Port of _____, _____, 19____
 _____, having taken the oath
 required by law, is at present master of the within-named vessel, vice

 _____, Documentation Officer.

(11) Port of _____, _____, 19____
 _____, having taken the oath
 required by law, is at present master of the within-named vessel, vice

 _____, Documentation Officer.

(12) Port of _____, _____, 19____
 _____, having taken the oath
 required by law, is at present master of the within-named vessel, vice

 _____, Documentation Officer.

ENDORSEMENTS OF RENEWAL

Renewal No. 1. Port of _____
 The within-described LICENSE is hereby renewed for ONE YEAR
 from _____, 19____
 [Seal] _____
 _____, Documentation Officer.

Renewal No. 2. Port of _____
 The within-described LICENSE is hereby renewed for ONE YEAR
 from _____, 19____
 [Seal] _____
 _____, Documentation Officer.

Renewal No. 3. Port of _____
 The within-described LICENSE is hereby renewed for ONE YEAR
 from _____, 19____
 [Seal] _____
 _____, Documentation Officer.

Renewal No. 4. Port of _____
 The within-described LICENSE is hereby renewed for ONE YEAR
 from _____, 19____
 [Seal] _____
 _____, Documentation Officer.

Renewal No. 5. Port of _____
 The within-described LICENSE is hereby renewed for ONE YEAR
 from _____, 19____
 [Seal] _____
 _____, Documentation Officer.

Renewal No. 6. Port of _____
 The within-described LICENSE is hereby renewed for ONE YEAR
 from _____, 19____
 [Seal] _____
 _____, Documentation Officer.

PERMANENT OR TEMPORARY
PERMANENT
CERTIFICATE No. 152

THE UNITED STATES OF AMERICA

OFFICIAL No.	COINTEGRATED RACIAL CALL AND EMBELL LETTERS
257819	WC 5738

DEPARTMENT OF TRANSPORTATION
UNITED STATES COAST GUARD

Measured at Beaufort, North Carolina, 1949
Rebuilt at _____, 19____
Renovated at _____, 19____

Service Fishing
Horsepower 550

Consolidated Certificate of Enrollment and License

In Conformity to Title L, "Regulation of Vessels in Domestic Commerce," of the Revised Statutes of the United States

H. W. SMITH of Port Monmouth, New Jersey, PRESIDENT

having taken and subscribed the oath¹ _____ required by law, and having sworn² _____ that

ATLANTIC NAVIGATION COMPANY (I. R. S. Employer No. 21-0398946)

Port Monmouth, New Jersey 07758

Incorporated under the laws of the State of New Jersey

IS A _____ citizen of the United States and the sole owner of the vessel called the _____

FISHHAWK (Name of vessel) of NEW YORK, N. Y.
and that the said vessel was built in the year 1949 at Beaufort, North Carolina (Home port) of Wood
as appears by P. E. No. 265 issued at New York, N. Y., May 20th, 1964, Now Surrendered; OWNERSHIP CHANGED

and "Said Enrollee
Oil Screw having certified that
the said vessel is a³ _____; that she has
One deck, One mast, a Straight stem, and a Round stern; that
her register length is 134.2 feet, her register breadth 23.7 feet, her register depth 11.8 feet,
her height 7.5 feet; that she measures as follows:⁴

	TONS	100 lbs
Capacity under tonnage deck	236	41
Capacity between decks above tonnage deck		
Capacity of enclosures on the upper deck, viz: Forecastle		
houses-deck 32.7h, side _____, mast _____, trunks _____, excess hatchways 1.82, light and air _____	47	20
GROSS TONNAGE	283	61
Deductions under Section 4153, Revised Statutes, as amended (Section 77, title 46, United States Code):		
Crew space _____ Master's cabin _____		
Steering gear _____ Anchor gear _____ Boatwain's stores _____		
Chart house _____ Donkey engine and boiler _____ Radio house _____		
Storage of sails _____ Propelling power (actual space 30.90) 175 P. P. 54.07		
TOTAL DEDUCTIONS	54	07
NET TONNAGE	229	
The following-described spaces, and no others, have been omitted, viz: Forepeak _____, afterpeak _____, other spaces (except double bottoms) for water ballast _____, open forecastle _____, open bridge _____, open poop _____, open shelter deck _____, open houses _____, cabins _____, companions 99, galley 6.86, skylights _____, wheelhouse 3.59, water-closets _____, anchor gear _____, donkey engine and boiler _____, steering gear _____, light and air spaces 23.28, other machinery spaces 6.51		

And _____ having agreed to the description and measurement above specified,
the said vessel has been duly ENROLLED at this PORT:

LICENSE

And H. W. SMITH, the master, having sworn that he is a citizen of the United States, that this license shall not be used for any other vessel, or for any other employment than is herein specified, or in any trade or business whereby the revenue of the United States may be defrauded:

LICENSE is hereby granted for the said vessel to be employed in carrying on the _____ MACKINEL FISHERY for ONE YEAR
(Coasting Trade, Cod Fishery, or Mackinac Fishery)

GIVEN under my hand and seal at the PORT of NEW YORK, N. Y.
District of NEW YORK CITY, N. Y., this 8TH day of APRIL
in the year One Thousand Nine Hundred and SIXTY

By direction of the _____ Officer in Charge, Marine Inspection.

¹Insert name and address of person by whom oath or affirmation was made.
²Substitute "affirmation" when necessary.
³Substitute "affirmed" when necessary.

⁴On the first document of a new vessel, write in this blank "certificate of _____ builder." On every document other than the first, recite whether the last former document was permanent or temporary, the

PREFERRED MORTGAGE ENDORSEMENT

(MERCHANT MARINE ACT, 1920, SEC. 10—U. S. C. TITLE 46, CHAPTER 25)

MORTGAGE DESCRIPTION

(SUBSECTION DG)

Mortgagor _____

Mortgagee _____

Endorsed _____, 19____, at _____ m.

Total amount, \$ _____

Date of maturity _____, 19____

Discharge amount, \$ _____

Port of _____

[SEAL]

Deputy Collector of Customs.

MORTGAGE DISCHARGE

(SUBSECTION GB)

Port of _____

The sum of \$ _____ has been
paid on the above-described mortgage, the certificate
of such discharge being filed in this office and recorded

_____, 19____, at _____ m.

[SEAL]

Deputy Collector of Customs.

Official No. 257819

Customs Form 1271

TREASURY DEPARTMENT
BUREAU OF CUSTOMS

PERMANENT

(Permanent or Temporary)

Consolidated Enrollment and License

FOR THE

FISHERIES

(Insert "Coasting Trade" or "Fisheries")

No. 265

OF THE

Oil Screw

CALLED THE

FISHHAWK

OF

NEW YORK, N. Y.

283 gross, 229 net,
ISSUED AT THE

Port of NEW YORK, N. Y.

MAY 20th, 1964

WHERE SURRENDERED:

NEW YORK, N. Y.

WHEN SURRENDERED:

APRIL 8, 1970

WHY SURRENDERED:

OWNERSHIP CHANGED.

P. E. NO. 152 ISSUED.

Documentation Officer
25-21118-1

PREFERRED MORTGAGE ENDORSEMENT

(MERCHANT MARINE ACT, 1920, SEC. 10—U. S. C. TITLE 46, CHAPTER 25)

MORTGAGE DESCRIPTION

(SUBSECTION DG)

Mortgagor _____

Mortgagee _____

Endorsed _____, 19____, at _____ m.

Total amount, \$ _____

Date of maturity _____, 19____

Discharge amount, \$ _____

Port of _____

[SEAL]

Deputy Collector of Customs.

MORTGAGE DISCHARGE

(SUBSECTION GB)

Port of _____

The sum of \$ _____ has been
paid on the above-described mortgage, the certificate
of such discharge being filed in this office and recorded

_____, 19____, at _____ m.

[SEAL]

Deputy Collector of Customs.

ENDORSEMENTS OF CHANGE OF MASTER

(1) Port of REEDVILLE, VIRGINIA MAY 22, 1964

WILEY H. LEWIS, having taken the oath required by law, is at present master of the within-named vessel, vice

H. H. CUBRAGE, Deputy Collector of Customs.

(2) Port of REEDVILLE, VIRGINIA 6 June 1969

JACKIE A. SIMPSON, having taken the oath required by law, is at present master of the within-named vessel, vice

WILEY H. LEWIS, Documentation Officer

(3) Port of _____, 19____

_____, having taken the oath required by law, is at present master of the within-named vessel, vice

_____, Deputy Collector of Customs.

(4) Port of _____, 19____

_____, having taken the oath required by law, is at present master of the within-named vessel, vice

_____, Deputy Collector of Customs.

(5) Port of _____, 19____

_____, having taken the oath required by law, is at present master of the within-named vessel, vice

_____, Deputy Collector of Customs.

(6) Port of _____, 19____

_____, having taken the oath required by law, is at present master of the within-named vessel, vice

_____, Deputy Collector of Customs.

(7) Port of _____, 19____

_____, having taken the oath required by law, is at present master of the within-named vessel, vice

_____, Deputy Collector of Customs.

(8) Port of _____, 19____

_____, having taken the oath required by law, is at present master of the within-named vessel, vice

_____, Deputy Collector of Customs.

(9) Port of _____, 19____

_____, having taken the oath required by law, is at present master of the within-named vessel, vice

_____, Deputy Collector of Customs.

(10) Port of _____, 19____

_____, having taken the oath required by law, is at present master of the within-named vessel, vice

_____, Deputy Collector of Customs.

(11) Port of _____, 19____

_____, having taken the oath required by law, is at present master of the within-named vessel, vice

_____, Deputy Collector of Customs.

(12) Port of _____, 19____

_____, having taken the oath required by law, is at present master of the within-named vessel, vice

_____, Deputy Collector of Customs.

ENDORSEMENTS OF RENEWAL

Renewal No. 1. Port of REEDVILLE, VIRGINIA (5-6-65)

The within-described LICENSE is hereby renewed for ONE YEAR

from MAY 20, 1965

(Seal) _____ Deputy Collector of Customs.

Renewal No. 2. Port of REEDVILLE, VIRGINIA (5-25-66)

The within-described LICENSE is hereby renewed for ONE YEAR

from MAY 25, 1966

(Seal) _____ Port Director

Renewal No. 3. Port of REEDVILLE, VIRGINIA (5-16-67)

The within-described LICENSE is hereby renewed for ONE YEAR

from 16 JUNE 1967

(Seal) _____ Documentation Officer

Renewal No. 4. Port of REEDVILLE, VIRGINIA (5-29-68)

The within-described LICENSE is hereby renewed for ONE YEAR

from 16 JUNE 1968

(Seal) _____ Documentation Officer

Renewal No. 5. Port of REEDVILLE, VIRGINIA (6-6-69)

The within-described LICENSE is hereby renewed for ONE YEAR

from 16 JUNE 1969

(Seal) _____ Documentation Officer

Renewal No. 6. Port of _____

The within-described LICENSE is hereby renewed for ONE YEAR

from _____ 19____

(Seal) _____ Deputy Collector of Customs.

PERMANENT OR TEMPORARY
PERMANENT
CERTIFICATE No. 266

THE UNITED STATES OF AMERICA

OFFICIAL No.	COAST GUARD CALL AND SIGNAL LETTERS
257819	WC 5738

TREASURY DEPARTMENT
BUREAU OF CUSTOMS

Measured at Beaufort, N. C., 1949
Rebuilt at _____, 19____
Remeasured at _____, 19____

Service Fishing
Horsepower 550

Consolidated Certificate of Enrollment and License

In Conformity to Title L, "Regulation of Vessels in Domestic Commerce," of the Revised Statutes of the United States

H. H. CUBBAGE of Port Monmouth, New Jersey, PRESIDENT
having taken and subscribed the oath ^{*} _____ required by law, and having sworn ^{*} _____ that

FISH HAWK, INC.

Port Monmouth, New Jersey

INCORPORATED UNDER THE LAWS OF THE STATE OF DELAWARE

IS A _____ ^{*} citizen of the United States and the sole owner of the vessel called the _____

^{*} FISH HAWK (Name of vessel) of New York, N. Y. (Home port)
and that the said vessel was built in the year 1949, at Beaufort, N. C. of wood
as appears by ^{*} P.E. No. 368, issued at New York, N. Y., April 17th, 1957, now surrendered;
RENEWAL SPACES FILLED.

and ^{*} _____ said enrollment _____ having certified that
the said vessel is a ¹⁰ oil screw _____; that she has
one deck, one mast, a straight stem, and a round stern; that
her register length is 134.2 feet, her register breadth 23.7 feet, her register depth 11.8 feet,
her height 10 feet; that she measures as follows: ¹¹

	TONS	TONS
Capacity under tonnage deck	236	41
Capacity between decks above tonnage deck		
Capacity of enclosures on the upper deck, viz: Forecastle _____; bridge _____; poop _____; break <u>12.64</u>		
houses-deck <u>32.74</u> , side _____, mast _____, trunks _____; excess hatchways <u>1.82</u> ; light and air _____	47	20
GROSS TONNAGE	283	61
Deductions under Section 4153, Revised Statutes, as amended (Section 77, title 46, United States Code):		
Crew space _____ Master's cabin _____		
Steering gear _____ Anchor gear _____ Boatwain's stores _____		
Chart house _____ Donkey engine and boiler _____ Radio house _____		
Storage of sails _____ Propelling power (actual space <u>30.90</u>) <u>175 P.P.</u> <u>54.07</u>		
TOTAL DEDUCTIONS	54	07
NET TONNAGE	229	54
The following-described spaces, and no others, have been omitted, viz: Forepeak _____, afterpeak _____, other spaces (except double bottoms) for water ballast _____, open forecastle _____, open bridge _____, open poop _____, open shelter deck _____, open houses _____, cabins _____, companions <u>99</u> , galley <u>6.86</u> , skylights _____, wheelhouse <u>3.59</u> , water-closets _____, anchor gear _____, donkey engine and boiler _____, steering gear _____, light and air spaces <u>21.28</u> , other machinery spaces <u>6.51</u>		

And ¹² _____ having agreed to the description and measurement above specified,
the said vessel has been duly ENROLLED at this PORT:

LICENSE

And H. H. CUBBAGE, the master, having sworn that he is a citizen of the United States, that this license shall not be used for any other vessel, or for any other employment than is herein specified, or in any trade or business whereby the revenue of the United States may be defrauded:

LICENSE is hereby granted for the said vessel to be employed in carrying on the MACKEREL FISHERY (Coasting Trade, Cod Fishery, or Mackerel Fishery) for ONE YEAR from the date hereof, and no longer.

GIVEN under my hand and seal as the PORT of NEW YORK, N. Y.
District of NEW YORK, this TWENTY-THIRD day of MAY
in the year One Thousand Nine Hundred and SIXTY-FOUR

JOSEPH P. KELL, COLLECTOR
By [Signature]
Customs Marine Officer

¹ Insert name and address of person by whom oath or affirmation was made.
² Substitute "affirmation" when necessary.
³ Substitute "affirmation" when necessary.
⁴ Insert the name and business address of the owner. If there are two or more owners, give the name and business address of one of the owners (inactive owner, if one has been designated) and the affirmation.

⁵ On the first document of a new vessel, write in this blank "certificate of _____ builder." On every document other than the first, write whether the last former document was permanent or temporary, the kind, number, date, and place of issue of such former document, whether the original or a copy of the former document was surrendered, and the reason for issue of the new document.
⁶ Write "shall" instead of "will" in the first sentence of the first document.

PREFERRED MORTGAGE ENDORSEMENT

(MERCHANT MARINE ACT, 1920, SEC. 19—U. S. C., TITLE 46, CHAPTER 21)

MORTGAGE DESCRIPTION (SUBSECTION DC)

Mortgagor _____

Mortgagee _____

Endorsed _____, 19____, at _____ m.

Total amount, \$ _____

Date of maturity _____, 19____

Discharge amount, \$ _____

Port of _____

[SEAL]

Deputy Collector of Customs.

MORTGAGE DISCHARGE (SUBSECTION GG)

Port of _____

The sum of \$ _____ has been
paid on the above-described mortgage, the certificate
of such discharge being filed in this office and recorded

_____, 19____, at _____ m.

[SEAL]

Deputy Collector of Customs.

Official No. 257819

CUSTOMS FORM 1271

TREASURY DEPARTMENT BUREAU OF CUSTOMS

PERMANENT
(Permanent or Temporary)

Consolidated Enrollment and License

FOR THE

FISHERIES

(Insert "Coasting Trade" or "Fisheries")

No. 368

OF THE

Oil Screw

CALLED THE

FISHHAWK

OF

New York, N. Y.

283 gross, 229 net,

ISSUED AT THE

Port of NEW YORK, N. Y.

APRIL 17th, 1957.

WHERE SURRENDERED:

NEW YORK, N. Y.

WHEN SURRENDERED:

MAY 20th, 1964

WHY SURRENDERED:

RENEWAL SPACES FILLED

P. E. NO. 265 ISSUED

JOSEPH T. KELLY, COLLECTOR

By *Joseph T. Kelly*
Customs Marine Officer

Deputy Collector of Customs.

10-71210-1

PREFERRED MORTGAGE ENDORSEMENT

(MERCHANT MARINE ACT, 1920, SEC. 19—U. S. C., TITLE 46, CHAPTER 21)

MORTGAGE DESCRIPTION (SUBSECTION DC)

Mortgagor _____

Mortgagee _____

Endorsed _____, 19____, at _____ m.

Total amount, \$ _____

Date of maturity _____, 19____

Discharge amount, \$ _____

Port of _____

[SEAL]

Deputy Collector of Customs.

MORTGAGE DISCHARGE (SUBSECTION GG)

Port of _____

The sum of \$ _____ has been
paid on the above-described mortgage, the certificate
of such discharge being filed in this office and recorded

_____, 19____, at _____ m.

[SEAL]

Deputy Collector of Customs.

ENDORSEMENTS OF CHANGE OF MASTER

(1) Port of REEDVILLE, VIRGINIA MAY 20 1957 19...
Wiley H. Lewis, having taken the oath
 required by law, is at present master of the within-named vessel, vice
H. A. Culbertson
Leah R. Moore, Deputy Collector of Customs.

(2) Port of Reedville, Virginia February 16, 1961
Warner Haynie, having taken the oath
 required by law, is at present master of the within-named vessel, vice
Wiley H. Lewis
Alfred J. Evans, Deputy Collector of Customs.

(3) Port of Reedville, Va. May 22, 1961
Wiley H. Lewis, having taken the oath
 required by law, is at present master of the within-named vessel, vice
Warner Haynie
Alfred J. Evans, Deputy Collector of Customs.

(4) Port of _____, 19...
 _____, having taken the oath
 required by law, is at present master of the within-named vessel, vice
 _____, Deputy Collector of Customs.

(5) Port of _____, 19...
 _____, having taken the oath
 required by law, is at present master of the within-named vessel, vice
 _____, Deputy Collector of Customs.

(6) Port of _____, 19...
 _____, having taken the oath
 required by law, is at present master of the within-named vessel, vice
 _____, Deputy Collector of Customs.

(7) Port of _____, 19...
 _____, having taken the oath
 required by law, is at present master of the within-named vessel, vice
 _____, Deputy Collector of Customs.

(8) Port of _____, 19...
 _____, having taken the oath
 required by law, is at present master of the within-named vessel, vice
 _____, Deputy Collector of Customs.

(9) Port of _____, 19...
 _____, having taken the oath
 required by law, is at present master of the within-named vessel, vice
 _____, Deputy Collector of Customs.

(10) Port of _____, 19...
 _____, having taken the oath
 required by law, is at present master of the within-named vessel, vice
 _____, Deputy Collector of Customs.

(11) Port of _____, 19...
 _____, having taken the oath
 required by law, is at present master of the within-named vessel, vice
 _____, Deputy Collector of Customs.

(12) Port of _____, 19...
 _____, having taken the oath
 required by law, is at present master of the within-named vessel, vice
 _____, Deputy Collector of Customs.

ENDORSEMENTS OF RENEWAL

Renewal No. 1. Port of REEDVILLE, VIRGINIA
 The within-described LICENSE is hereby renewed for ONE YEAR
 from JUN 2 1958 19...
 [Seal] Leah R. Moore
 Deputy Collector of Customs.

Renewal No. 2. Port of REEDVILLE, VA. (5-28-59)
 The within-described LICENSE is hereby renewed for ONE YEAR
 from JUNE 2, 1959
 [Seal] Leah R. Moore
 Deputy Collector of Customs.

Renewal No. 3. Port of REEDVILLE, VIRGINIA
 The within-described LICENSE is hereby renewed for ONE YEAR
 from JUN 2 1960 19...
 [Seal] Leah R. Moore
 Deputy Collector of Customs.

Renewal No. 4. Port of Reedville, Va. (5-22-61)
 The within-described LICENSE is hereby renewed for ONE YEAR
 from JUNE 2, 1961
 [Seal] Alfred J. Evans
 Deputy Collector of Customs.

Renewal No. 5. Port of Reedville, Va. (5-15-62)
 The within-described LICENSE is hereby renewed for ONE YEAR
 from JUNE 2, 1962
 [Seal] Alfred J. Evans
 Deputy Collector of Customs.

Renewal No. 6. Port of REEDVILLE, VIRGINIA (5-21-63)
 The within-described LICENSE is hereby renewed for ONE YEAR
 from JUNE 2, 1963
 [Seal] Alfred J. Evans
 Deputy Collector of Customs.

PERMANENT OR TEMPORARY
PERMANENT
CERTIFICATE No. 368

THE UNITED STATES OF AMERICA

TREASURY DEPARTMENT
BUREAU OF CUSTOMS

OFFICIAL No.	CONCEDED RADIO CALL AND SERIAL LETTERS
257819	WC 5738 5-28-64

Measured at Beaufort, N.C. 1949
Rebuilt of 19____
Remeasured of 19____Service Fishing
Number of crew, INCLUDING master ____
Horsepower 350 Oil Engine

Consolidated Certificate of Enrollment and License

In Conformity to Title L, "Regulation of Vessels in Domestic Commerce," of the Revised Statutes of the United States

I, H. H. CUBBAGE, of Port Monmouth, New Jersey, PRESIDENT,
having taken and subscribed the oath required by law, and having sworn that

FISH HAWK, INC.

of Port Monmouth, New Jersey,

Incorporated under the laws of the State of Delaware

IS A citizen of the United States and the sole owner of the vessel called the FISH HAWK of New York, N.Y.
(Name of vessel) (Home port)
and that the said vessel was built in the year 1949, at Beaufort, N.C. of wood
as appears by P.E. No. 500, issued at New York, N.Y. on May 21, 1951, now surrendered; PROPERTY CHANGED.and "said enrollment having certified that
the said vessel is a "oil screw; that she has
one deck, one mast, a straight stem, and a round stern; that
her register length is 134.2 feet, her register breadth 23.7 feet, her register depth 11.8 feet,
her height 18 feet; that she measures as follows: "

	TONS	100ths
Capacity under tonnage deck	236	41
Capacity between decks above tonnage deck		
Capacity of enclosures on the upper deck, viz: Forecastle; bridge; poop; break	47	20
houses-deck 32.74, side, mast, trunks; excess hatchways 1.62; light and air	283	61
GROSS TONNAGE		
Deductions under Section 4153, Revised Statutes, as amended (Section 77, title 46, United States Code):		
Crew space Master's cabin		
Steering gear Anchor gear Boatswain's stores		
Chart house Donkey engine and boiler Radio house		
Storage of sails Propelling power (actual space 30.90) 175 P.P. 54.07		
TOTAL DEDUCTIONS	54	07
NET TONNAGE	229	
The following-described spaces, and no others, have been omitted, viz: Forepeak, afterpeak, other spaces (except double bottoms) for water ballast, open forecastle, open bridge, open poop, open shelter deck, open houses, cabins, companions, 99, galley 6.86, skylights, wheelhouse 3.59, water-closets, anchor gear, donkey engine and boiler, steering gear, light and air spaces 21.28, other machinery spaces 6.51		

And "having agreed to the description and measurement above specified,
the said vessel has been duly ENROLLED at this PORT:

LICENSE

And H. H. CUBBAGE, the master, having sworn that he is a citizen of the United States, that this license shall not be used for any other vessel, or for any other employment than is herein specified, or in any trade or business whereby the revenue of the United States may be defrauded:LICENSE is hereby granted for the said vessel to be employed in carrying on the MACKEREL FISHERY for ONE YEAR
(Coasting Trade, Cod Fishery, or Mackerel Fishery)GIVEN under my hand and seal at the PORT of NEW YORK, N.Y.
District of NEW YORK, this SEVENTEENTH day of APRIL
in the year One Thousand Nine Hundred and FIFTY-SEVEN.ROBERT W. DILL, COLLECTOR
Customs Marine Division, Customs.

* Insert name and address of person by whom oath or affirmation was made.
* Substitute "affirmation" when necessary.
* Substitute "affirmed" when necessary.
* Insert the name and business address of the owner. If there are two or more owners, give the name and business address of one of the owners (managing owner, if one has been designated) and the proportion

* On the first document of a new vessel, write in this blank "certificate of _____ builder." On every document other than the first, state whether the last former document was permanent or temporary, the kind, number, date, and place of issue of (one of) such former document, whether the original or a copy of the former document was surrendered, and the reason for issue of the new document.
* Write "said register," "said enrollment," or "said license." In the first document of a new vessel

PREFERRED MORTGAGE ENDORSEMENT

(MERCHANT MARINE ACT, 108 SEC. 19—U. S. C., TITLE 46, CHAPTER 2)

MORTGAGE DESCRIPTION (SUBSECTION DC)

Mortgagor _____

Mortgagee _____

Endorsed _____, 19____, at _____ m.

Total amount, \$ _____

Date of maturity _____, 19____

Discharge amount, \$ _____

Port of _____

[SEAL]

Deputy Collector of Customs.

MORTGAGE DISCHARGE (SUBSECTION DB)

Port of _____

The sum of \$ _____ has been
paid on the above-described mortgage, the certificate
of such discharge being filed in this office and recorded
_____, 19____, at _____ m.

[SEAL]

Deputy Collector of Customs.

Official No. 257819

CUSTOMS FORM 1871

TREASURY DEPARTMENT BUREAU OF CUSTOMS

PERMANENT

(Permanent or Temporary)

Consolidated Enrollment and License

FOR THE

FISHERIES

(Insert "Coasting Trade" or "Fisheries")

No. 500

OF THE

Oil Screw

CALLED THE

FISHHAWK

OF

New York, N.Y.

283

gross,

229

net,

ISSUED AT THE

Port of NEW YORK, N.Y.

MAY 21st

19 51.

WHERE SURRENDERED:

NEW YORK, N. Y.

WHEN SURRENDERED:

APR 17 1957

WHY SURRENDERED:

Property Changed
P.R. No. 368 issued

ROBERT J. [Signature] COLLECTOR

By [Signature]

Asst. Deputy Collector of Customs.

18-21816-1

PREFERRED MORTGAGE ENDORSEMENT

(MERCHANT MARINE ACT, 108 SEC. 19—U. S. C., TITLE 46, CHAPTER 2)

MORTGAGE DESCRIPTION (SUBSECTION DC)

Mortgagor _____

Mortgagee _____

Endorsed _____, 19____, at _____ m.

Total amount, \$ _____

Date of maturity _____, 19____

Discharge amount, \$ _____

Port of _____

[SEAL]

Deputy Collector of Customs.

MORTGAGE DISCHARGE (SUBSECTION DB)

Port of _____

The sum of \$ _____ has been
paid on the above-described mortgage, the certificate
of such discharge being filed in this office and recorded
_____, 19____, at _____ m.

[SEAL]

Deputy Collector of Customs.

ENDORSEMENTS OF CHANGE OF MASTER

(1) Port of REEDVILLE, VA., May 24, 1951

LEN O. LOWRY, having taken the oath required by law, is at present master of the within-named vessel.

Leah P. Moore
(Seal) Deputy Collector of Customs.

(2) Port of REEDVILLE, VA. NOV 3 1952

JAMES LUPTON, having taken the oath required by law, is at present master of the within-named vessel.

Leah P. Moore
(Seal) Deputy Collector of Customs.

(3) Port of Reedville, Va., May 13, 1953

Len O. Lowry, having taken the oath required by law, is at present master of the within-named vessel.

Leah P. Moore
(Seal) Deputy Collector of Customs.

(4) Port of REEDVILLE, VA. NOV 9 1953

James Lupton, having taken the oath required by law, is at present master of the within-named vessel.

Leah P. Moore
(Seal) Deputy Collector of Customs.

(5) Port of REEDVILLE, VA. MAY 22 1954

LEN O. LOWRY, having taken the oath required by law, is at present master of the within-named vessel.

Leah P. Moore
(Seal) Deputy Collector of Customs.

(6) Port of REEDVILLE, VA. NOV 5 1954

R. S. Walker, having taken the oath required by law, is at present master of the within-named vessel.

Leah P. Moore
(Seal) Deputy Collector of Customs.

(7) Port of REEDVILLE, VA., MAY 16, 1955

WILEY H. LEWIS, having taken the oath required by law, is at present master of the within-named vessel. Vice: Len O. Lowry

Leah P. Moore
(Seal) Deputy Collector of Customs.

(8) Port of _____, 19____

_____, having taken the oath required by law, is at present master of the within-named vessel.

_____, Deputy Collector of Customs.

(9) Port of _____, 19____

_____, having taken the oath required by law, is at present master of the within-named vessel.

_____, Deputy Collector of Customs.

(10) Port of _____, 19____

_____, having taken the oath required by law, is at present master of the within-named vessel.

_____, Deputy Collector of Customs.

(11) Port of _____, 19____

_____, having taken the oath required by law, is at present master of the within-named vessel.

_____, Deputy Collector of Customs.

(12) Port of _____, 19____

_____, having taken the oath required by law, is at present master of the within-named vessel.

_____, Deputy Collector of Customs.

ENDORSEMENTS OF RENEWAL

Renewal No. 1. Port of REEDVILLE, VA.

The within-described LICENSE is hereby renewed for ONE YEAR from JUN 3 1952.

Leah P. Moore
(Seal) Deputy Collector of Customs.

Renewal No. 2. Port of Reedville, Va., (5-13-53)

The within-described LICENSE is hereby renewed for ONE YEAR from June 3, 1953.

Leah P. Moore
(Seal) Deputy Collector of Customs.

Renewal No. 3. Port of REEDVILLE, VA., (5-22-54)

The within-described LICENSE is hereby renewed for ONE YEAR from June 3, 1954.

Leah P. Moore
(Seal) Deputy Collector of Customs.

Renewal No. 4. Port of REEDVILLE, VA., (5-16-55)

The within-described LICENSE is hereby renewed for ONE YEAR from JUNE 3, 1955.

Leah P. Moore
(Seal) Deputy Collector of Customs.

Renewal No. 5. Port of REEDVILLE, VA., (5-21-56)

The within-described LICENSE is hereby renewed for ONE YEAR from JUNE 3, 1956.

Leah P. Moore
(Seal) Deputy Collector of Customs.

Renewal No. 6. Port of _____

The within-described LICENSE is hereby renewed for ONE YEAR from _____, 19____.

(Seal) Deputy Collector of Customs.

PERMANENT OR TEMPORARY PERMANENT
CERTIFICATE No. 500

THE UNITED STATES OF AMERICA

OFFICIAL No.	COMBINED RADIO CALL AND SIGNAL LETTERS
257819	

TREASURY DEPARTMENT
BUREAU OF CUSTOMS

Measured at **Beaufort, N.C.**, 19 **49**
Rebuilt at _____, 19 ____
Remeasured at _____, 19 ____

Service **Fishing**
Number of crew, INCLUDING master **21**
Horsepower **550**
Draft **9'2"** Oil Engine

Consolidated Certificate of Enrollment and License

In Conformity to Title L, "Regulation of Vessels in Domestic Commerce," of the Revised Statutes of the United States

1 **HARVEY W. SMITH, of Port Monmouth, N.J., PRESIDENT,**
having taken and subscribed the oath ¹ _____ required by law, and having sworn ² _____ that

ATLANTIC NAVIGATION COMPANY,

of Port Monmouth, New Jersey,

Incorporated under the laws of the State of New Jersey,

IS A _____ citizen of the United States and the sole owner of the vessel called the
FISH HAWK _____ of **NEW YORK, N.Y.**
(Name of vessel) (Home port)
and that the said vessel was built in the year **1949**, at **Beaufort, N.C.**, of **wood**
as appears by **P.R. NO. 558, issued at New York, N.Y., on June 13, 1949, now surrendered; PROPERTY CHANGED.**

and " _____ said enrollment _____ having certified that
the said vessel is a ¹⁰ **oil screw** _____; that she has
one deck, **one** mast, a **straight** stem, and a **round** stern; that
her register length is **134.2** feet, her register breadth **23.7** feet, her register depth **11.8** feet,
her height **76** feet; that she measures as follows: ¹¹

Capacity under tonnage deck
Capacity between decks above tonnage deck
Capacity of enclosures on the upper deck, viz: Forecastle _____; bridge ~~12.64~~ _____; poop _____; break **12.64**
houses—deck **32.74**, side _____, chart _____, radio _____; excess hatchways **1.82**; light and air _____

GROSS TONNAGE

Deductions under Section 4153, Revised Statutes, as amended (Section 77, title 46, United States Code):

Crew space _____ Master's cabin _____
Steering gear _____ Anchor gear _____ Boatswain's stores _____
Chart house _____ Donkey engine and boiler _____ Radio house _____
Storage of sails _____ Propelling power (actual space **30.90**) **175 P.P. 54.07**

TOTAL DEDUCTIONS

NET TONNAGE

TONS	100ths
236	41
47	20
283	61
54	07
229	

The following-described spaces, and no others, have been omitted, viz: Forepeak _____, afterpeak _____, other spaces (except double bottoms) for water ballast _____, open forecastle _____, open bridge _____, open poop _____, open shelter deck _____, cabins _____, companions **99**, galley **6.86**, skylights _____, wheelhouse **3.59**, water-closets _____, anchor gear _____, condenser _____, donkey engine and boiler _____, steering gear _____, light and air spaces **21.28**, other machinery spaces **6.51**

And ¹² _____ having agreed to the description and measurement above specified,
the said vessel has been duly ENROLLED at this PORT:

LICENSE

And **HARVEY W. SMITH**, the master, having sworn that he is a citizen of the United States, that this license shall not be used for any other vessel, or for any other employment than is herein specified, or in any trade or business whereby the revenue of the United States may be defrauded:

LICENSE is hereby granted for the said vessel to be employed in carrying on the **MACKEREL FISHERY** for ONE YEAR from the date hereof, and no longer.

GIVEN under my hand and seal at the PORT of **NEW YORK, N.Y.**District of **NEW YORK**, this **TWENTY-FIRST** day of **MAY**in the year One Thousand Nine Hundred and **FIFTY-ONE.**

HARRY M. DURNING, COLLECTOR

BY *[Signature]* Collector

¹ Insert name and address of person by whom oath or affirmation was made.
² Substitute "affirmation" when necessary.
³ Substitute "affirmed" when necessary.

⁴ On the first document of a new vessel, write in this blank "certificate of _____ builder." On every document other than the first, recite whether the last former document was permanent or temporary, the kind, number, date, and place of issue of such former document, whether the original or a copy of the

PREFERRED MORTGAGE ENDORSEMENT

(MERCHANT MARINE ACT, 1908, SEC. 10—U. S. C., TITLE 46, CHAPTER 23)

MORTGAGE DESCRIPTION (SUBSECTION DC)

Mortgagor _____

Mortgagee _____

Endorsed _____, 19____, at _____ m.

Total amount, \$ _____

Date of maturity _____, 19____

Discharge amount, \$ _____

Port of _____

[SEAL]

Deputy Collector of Customs.

MORTGAGE DISCHARGE (SUBSECTION DD)

Port of _____

_____, 19____

The sum of \$ _____ has been
paid on the above-described mortgage, the certificate
of such discharge being filed in this office and recorded

_____, 19____, at _____ m.

[SEAL]

Deputy Collector of Customs.

Official No. 257819

Customs Form 1871

TREASURY DEPARTMENT BUREAU OF CUSTOMS

PERMANENT
(Permanent or Temporary)

Consolidated Enrollment and License

FOR THE
FISHERIES
(Insert "Coasting Trade" or "Fisheries")

No. 558

OF THE
OIL SKEW

CALLED THE

FISHHAWK

OF

New York, N.Y.

283 gross, 229 net,

ISSUED AT THE

Port of NEW YORK, N.Y.

JUNE 13th, 1949.

WHERE SURRENDERED: NEW YORK, N. Y.

WHEN SURRENDERED: MAY 21 1951

WHY SURRENDERED:
Property Changed
T.E. No. 500 issued

HARRY M. DUNNING, COLLECTOR

BY _____ Deputy Collector of Customs.

16-33510-1

PREFERRED MORTGAGE ENDORSEMENT

(MERCHANT MARINE ACT, 1908, SEC. 10—U. S. C., TITLE 46, CHAPTER 23)

MORTGAGE DESCRIPTION (SUBSECTION DC)

Mortgagor _____

Mortgagee _____

Endorsed _____, 19____, at _____ m.

Total amount, \$ _____

Date of maturity _____, 19____

Discharge amount, \$ _____

Port of _____

[SEAL]

Deputy Collector of Customs.

MORTGAGE DISCHARGE (SUBSECTION DD)

Port of _____

_____, 19____

The sum of \$ _____ has been
paid on the above-described mortgage, the certificate
of such discharge being filed in this office and recorded

_____, 19____, at _____ m.

[SEAL]

Deputy Collector of Customs.

ENDORSEMENTS OF CHANGE OF MASTER

(1) Port of REEDVILLE, VA., May 13, 1950

HENRY NAGLE, having taken the oath required by law, is at present master of the within-named vessel.

[Signature]
(Seal) Deputy Collector of Customs.
(Customs Marine Officer)

(2) Port of REEDVILLE, VA., November 10, 1950

LEN O. LOWRY, having taken the oath required by law, is at present master of the within-named vessel.

[Signature]
(Seal) Deputy Collector of Customs.
(Customs Marine Officer)

(3) Port of _____, _____, 19____

_____, having taken the oath required by law, is at present master of the within-named vessel.

_____, Deputy Collector of Customs.

(4) Port of _____, _____, 19____

_____, having taken the oath required by law, is at present master of the within-named vessel.

_____, Deputy Collector of Customs.

(5) Port of _____, _____, 19____

_____, having taken the oath required by law, is at present master of the within-named vessel.

_____, Deputy Collector of Customs.

(6) Port of _____, _____, 19____

_____, having taken the oath required by law, is at present master of the within-named vessel.

_____, Deputy Collector of Customs.

(7) Port of _____, _____, 19____

_____, having taken the oath required by law, is at present master of the within-named vessel.

_____, Deputy Collector of Customs.

(8) Port of _____, _____, 19____

_____, having taken the oath required by law, is at present master of the within-named vessel.

_____, Deputy Collector of Customs.

(9) Port of _____, _____, 19____

_____, having taken the oath required by law, is at present master of the within-named vessel.

_____, Deputy Collector of Customs.

(10) Port of _____, _____, 19____

_____, having taken the oath required by law, is at present master of the within-named vessel.

_____, Deputy Collector of Customs.

(11) Port of _____, _____, 19____

_____, having taken the oath required by law, is at present master of the within-named vessel.

_____, Deputy Collector of Customs.

(12) Port of _____, _____, 19____

_____, having taken the oath required by law, is at present master of the within-named vessel.

_____, Deputy Collector of Customs.

ENDORSEMENTS OF RENEWAL

Renewal No. 1. Port of REEDVILLE, VA., (5-13-50)

The within-described LICENSE is hereby renewed for ONE YEAR from June 13, 1950

[Signature]
(Seal) Deputy Collector of Customs.
(Customs Marine Officer)

Renewal No. 2. Port of _____

The within-described LICENSE is hereby renewed for ONE YEAR from _____, 19____

(Seal) _____
Deputy Collector of Customs.

Renewal No. 3. Port of _____

The within-described LICENSE is hereby renewed for ONE YEAR from _____, 19____

(Seal) _____
Deputy Collector of Customs.

Renewal No. 4. Port of _____

The within-described LICENSE is hereby renewed for ONE YEAR from _____, 19____

(Seal) _____
Deputy Collector of Customs.

Renewal No. 5. Port of _____

The within-described LICENSE is hereby renewed for ONE YEAR from _____, 19____

(Seal) _____
Deputy Collector of Customs.

Renewal No. 6. Port of _____

The within-described LICENSE is hereby renewed for ONE YEAR from _____, 19____

(Seal) _____
Deputy Collector of Customs.

PERMANENT OR TEMPORARY
PERMANENT
CERTIFICATE No. 558

THE UNITED STATES OF AMERICA

OFFICIAL No.	COMMERCIAL BARGE CALL AND SIGNAL LETTERS
257819	

TREASURY DEPARTMENT
BUREAU OF CUSTOMS

Measured at Beaufort, N.C. 19 49
Rebuilt at _____ 19 ____
Re-measured at _____ 19 ____

Service Fishing
Number of crew, INCLUDING master 21
Horsepower 550
Draft 9'2" Oil Engine

Consolidated Certificate of Enrollment and License

In Conformity to Title L, "Regulation of Vessels in Domestic Commerce," of the Revised Statutes of the United States

J. HOWARD SMITH, of Port Monmouth, N.J., SECRETARY,
having taken and subscribed the oath ¹ _____ required by law, and having sworn ² _____ that

J. HOWARD SMITH, INCORPORATED,of Port Monmouth, New Jersey,Incorporated under the laws of the State of New Jersey,

IS A FISH HAWK ^(Name of vessel) citizen of the United States and the sole owner of the vessel called the NEW YORK, N.Y.
and that the said vessel was built in the year 1949, at Beaufort, N.C., ^(Place built) of wood
as appears by P.E. NO. 13-D, issued at Beaufort, N.C., May 20, 1949, now surrendered; PROPERTY AND HOME PORT
CHANGED.
and ³ _____ said enrollment having certified that
the said vessel is a one oil screw deck, one mast, a straight stem, and a round stern; that she has
her register length is 134.2 feet, her register breadth 23.7 feet, her register depth 11.8 feet,
her height feet; that she measures as follows: ⁴ _____

		TONS	100ms
Capacity under tonnage deck		236	41
Capacity between decks above tonnage deck			
Capacity of enclosures on the upper deck, viz: Forecastle			
houses—deck <u>32.74</u> , side _____, chart _____, radio _____; excess hatchways <u>1.82</u> ; light and air _____		47	20
GROSS TONNAGE		283	61
Deductions under Section 4153, Revised Statutes, as amended (Section 77, title 46, United States Code):			
Crew space _____	Master's cabin _____		
Steering gear _____	Anchor gear _____		
Chart house _____	Donkey engine and boiler _____		
Storage of sails _____	Propelling power (actual space <u>30.90</u> ⁵ <u>175% P.P.</u> <u>54.07</u>)		
TOTAL DEDUCTIONS		54	07
NET TONNAGE		229	
The following-described spaces, and no others, have been omitted, viz: Forepeak _____, afterpeak _____, other spaces (except double bottoms) for water ballast _____, open forecabin _____, open bridge _____, open poop _____, open shelter deck _____, cabins _____, companions <u>99</u> , galley <u>6.86</u> , skylights _____, wheelhouse <u>3.59</u> , water-closets _____, anchor gear _____, condenser _____, donkey engine and boiler _____, steering gear _____, light and air spaces <u>21.28</u> , other machinery spaces <u>6.51</u>			

And ⁶ _____ having agreed to the description and measurement above specified,
the said vessel has been duly ENROLLED at this PORT:

LICENSE

And J. HOWARD SMITH, the master, having sworn that he is a citizen of the United States, that this license shall not be used for any other vessel, or for any other employment than is herein specified, or in any trade or business whereby the revenue of the United States may be defrauded:

LICENSE is hereby granted for the said vessel to be employed in carrying on the MACKEREL FISHERY for ONE YEAR from the date hereof, and no longer.

GIVEN under my hand and seal at the PORT of NEW YORK, N.Y.
District of NEW YORK, this THIRTEENTH day of JUNE
in the year One Thousand Nine Hundred and FORTY-NINE.

HARRY M. DURNING, DIRECTOR

¹ Insert name and address of person by whom oath or affirmation was made.
² Substitute "affirmation" when necessary.
³ Substitute "affirmed" when necessary.

⁴ On the first document of a new vessel, write in this blank "certificate of builder." On every document other than the first, recite whether the last former document was permanent or temporary, the kind, number, date, and place of issue of such former document, whether the original or a copy of the

PREFERRED MORTGAGE ENDORSEMENT

(MERCHANT MARINE ACT, 1920, SEC. 10—16, U. S. C., TITLE 46, CHAPTER 21)

MORTGAGE DESCRIPTION
(SUBSECTION DC)

Mortgagor _____

Mortgagee _____

Endorsed _____, 19____, at _____ m.

Total amount, \$ _____

Date of maturity _____, 19____

Discharge amount, \$ _____

Port of _____

[SEAL]

Deputy Collector of Customs.

MORTGAGE DISCHARGE
(SUBSECTION DE)

Port of _____, 19____

The sum of \$ _____ has been
paid on the above-described mortgage, the certificate
of such discharge being filed in this office and recorded

_____, 19____, at _____ m.

[SEAL]

Deputy Collector of Customs.

Official No. 257819

CUSTOMS FORM 1971

TREASURY DEPARTMENT
BUREAU OF CUSTOMSPermanent
(Permanent or Temporary)

Consolidated Enrollment and License

FOR THE

Mackerel Fishery
(Insert "Coasting Trade" or "Fisheries")

No. 13 - D

OF THE

OIL SCREW

CALLED THE

"FISH HAWK"

OF

Beaufort, N. C.

283 gross, 229 net,
ISSUED AT THE

Port of Beaufort, North Carolina

MAY 20, 1949

WHERE SURRENDERED: NEW YORK, N. Y.

WHEN SURRENDERED: JUN 13 1949

WHY SURRENDERED:
Property & Home Port changed
P.E. No. 558 issued.

HARRY M. BURNING, COLLECTOR

BY _____ Deputy Collector of Customs

10-21316-1

PREFERRED MORTGAGE ENDORSEMENT

(MERCHANT MARINE ACT, 1920, SEC. 10—16, U. S. C., TITLE 46, CHAPTER 21)

MORTGAGE DESCRIPTION
(SUBSECTION DC)

Mortgagor _____

Mortgagee _____

Endorsed _____, 19____, at _____ m.

Total amount, \$ _____

Date of maturity _____, 19____

Discharge amount, \$ _____

Port of _____

[SEAL]

Deputy Collector of Customs.

MORTGAGE DISCHARGE
(SUBSECTION DE)

Port of _____, 19____

The sum of \$ _____ has been
paid on the above-described mortgage, the certificate
of such discharge being filed in this office and recorded

_____, 19____, at _____ m.

[SEAL]

Deputy Collector of Customs.

ENDORSEMENTS OF CHANGE OF MASTER

(1) Port of Beaufort N.C. May 27, 1949
Fred M. Haynie, having taken the oath
 required by law, is at present master of the within-named vessel.

Oliver Laugel, Deputy Collector of Customs.

(2) Port of _____, 19____

_____, having taken the oath
 required by law, is at present master of the within-named vessel.

_____, Deputy Collector of Customs.

(3) Port of _____, 19____

_____, having taken the oath
 required by law, is at present master of the within-named vessel.

_____, Deputy Collector of Customs.

(4) Port of _____, 19____

_____, having taken the oath
 required by law, is at present master of the within-named vessel.

_____, Deputy Collector of Customs.

(5) Port of _____, 19____

_____, having taken the oath
 required by law, is at present master of the within-named vessel.

_____, Deputy Collector of Customs.

(6) Port of _____, 19____

_____, having taken the oath
 required by law, is at present master of the within-named vessel.

_____, Deputy Collector of Customs.

(7) Port of _____, 19____

_____, having taken the oath
 required by law, is at present master of the within-named vessel.

_____, Deputy Collector of Customs.

(8) Port of _____, 19____

_____, having taken the oath
 required by law, is at present master of the within-named vessel.

_____, Deputy Collector of Customs.

(9) Port of _____, 19____

_____, having taken the oath
 required by law, is at present master of the within-named vessel.

_____, Deputy Collector of Customs.

(10) Port of _____, 19____

_____, having taken the oath
 required by law, is at present master of the within-named vessel.

_____, Deputy Collector of Customs.

(11) Port of _____, 19____

_____, having taken the oath
 required by law, is at present master of the within-named vessel.

_____, Deputy Collector of Customs.

(12) Port of _____, 19____

_____, having taken the oath
 required by law, is at present master of the within-named vessel.

_____, Deputy Collector of Customs.

ENDORSEMENTS OF RENEWAL

Renewal No. 1. Port of _____

The within-described LICENSE is hereby renewed for ONE YEAR

from _____, 19____

[Seal] _____
 Deputy Collector of Customs.

Renewal No. 2. Port of _____

The within-described LICENSE is hereby renewed for ONE YEAR

from _____, 19____

[Seal] _____
 Deputy Collector of Customs.

Renewal No. 3. Port of _____

The within-described LICENSE is hereby renewed for ONE YEAR

from _____, 19____

[Seal] _____
 Deputy Collector of Customs.

Renewal No. 4. Port of _____

The within-described LICENSE is hereby renewed for ONE YEAR

from _____, 19____

[Seal] _____
 Deputy Collector of Customs.

Renewal No. 5. Port of _____

The within-described LICENSE is hereby renewed for ONE YEAR

from _____, 19____

[Seal] _____
 Deputy Collector of Customs.

Renewal No. 6. Port of _____

The within-described LICENSE is hereby renewed for ONE YEAR

from _____, 19____

[Seal] _____
 Deputy Collector of Customs.

PERMANENT OR TEMPORARY
Permanent
CERTIFICATE No. 13-D

THE UNITED STATES OF AMERICA

TREASURY DEPARTMENT
BUREAU OF CUSTOMS

OFFICIAL NO.	UNRECORDED BUREAU CALL AND SPECIAL LETTERS
257819	

Measured at Beaufort, N. C. 19 49
 Rebuilt at _____ 19 ____
 Remeasured at _____ 19 ____

Service Fishing
 Number of crew, INCLUDING master 23
 Horsepower 550, Diesel type

Consolidated Certificate of Enrollment and License

In Conformity to Title L, "Regulation of Vessels in Domestic Commerce," of the Revised Statutes of the United States

I, H. W. Smith, of P. O. Box 38, Beaufort, North Carolinahaving taken and subscribed the oath ¹ required by law, and having sworn ² that

he is a

a citizen of the United States and the sole owner of the vessel called the

"FISH HAWK"

and that the said vessel was built in the year 1 1949, at Beaufort, North Carolina, of Beaufort, N. C.
 as appears by Hartford Smith of H. W. Smith, Master Carpenter of the Fish Meal Company, Builders of Beaufort, N. C.

and a Certificate of K. K. Kinnell, U. S. Admeasurer of Wilmington, N. C.

the said vessel is a oil screw having certified that
One deck, One mast, a Straight stem, and a Round stern; that
 her register length is 134 feet, her register breadth 23 feet, her register depth 11 feet,
 her height 10 feet; that she measures as follows: ³

Capacity under tonnage deck
 Capacity between decks above tonnage deck
 Capacity of enclosures on the upper deck, viz: Forecastle; bridge; poop; break 12.64
houses-deck 32.74, side, chart, radio; excess hatchways 1.82; light and air

GROSS TONNAGE

Deductions under Section 4153, Revised Statutes, as amended (Section 77, title 46, United States Code):

Crew space Master's cabin
 Steering gear Anchor gear Boatwain's stores
 Chart house Donkey engine and boiler Radio house
 Storage of sails Propelling power (actual space 30.90) 175% P. P.

TOTAL DEDUCTIONS

NET TONNAGE

TONS	100ms
236	41
12	64
22	74
1	82
283	61
54	07
54	07
229	

The following-described spaces, and no others, have been omitted, viz: Forepeak, afterpeak, other spaces (except double bottoms) for water ballast, open forecastle, open bridge, open poop, open shelter deck, cabins, companions 99, galley 6.86, skylights, wheelhouse 3.59, water-closets, anchor gear, condenser, donkey engine and boiler, steering gear, light and air spaces 21.28, other machinery spaces 6.51.

And H. W. Smith having agreed to the description and measurement above specified, the said vessel has been duly ENROLLED at this PORT:

LICENSE

And H. W. Smith, the master, having sworn that he is a citizen of the United States, that this license shall not be used for any other vessel, or for any other employment than is herein specified, or in any trade or business whereby the revenue of the United States may be defrauded:

LICENSE is hereby granted for the said vessel to be employed in carrying on the MACKEREL FISHERY for ONE YEAR from the date hereof, and no longer.

GIVEN under my hand and seal at the PORT of Beaufort, N. C.District of North Carolina No. 15, this 20 day of Mayin the year One Thousand Nine Hundred and Forty - Nine

Oliver Longest
 Deputy Collector of Customs.

¹ Insert name and address of person by whom oath or affirmation was made.
² Substitute "affirmation" when necessary.
³ Substitute "affirmed" when necessary.

⁴ On the first document of a new vessel, write in this blank "certificate of — builder." On every document other than the first, recite whether the last former document was permanent or temporary, the kind, number, date, and place of issue of such former document, whether the original or a copy of the

APPLICATION OF OWNER FOR OFFICIAL NUMBER

UNITED STATES CUSTOMS SERVICE

Place Beaufort, N. C. May 11, 19 49

To the Collector of Customs at Beaufort, North Carolina

SIR: Application is hereby made, in accordance with the provisions of R. S. 4177, as amended (46 U. S. C. 45), and regulations established pursuant thereto, for an OFFICIAL NUMBER for the following-described vessel, which is ready for a marine document:

Name: "FISH HAWK"
Rig: Oil screw Gross tonnage 283 Net tonnage 229
Register dimensions: Length 134 Breadth 23 Depth 11
Material of hull: Wood Hull No. _____ Horsepower: 550
Builder: Fish Meal Company
When begun: 1949 When launched: 1949
When built: 1949 Where built (place and State): Beaufort, North Carolina
Type of engine: 6 Cylinder Atlas Diesel type
Engine built by: Atlas Imperial Mfg. at Oakland Calif. in 19 45
Owner: H. W. Smith

Address (street, city, and State) P. O. Box 38, Beaufort, North Carolina
Service: Fishing Number of officers 1 Crew 30

Application (4a) (is not) made for award of visual SIGNAL LETTERS. This vessel (is) (is not) equipped with radio-transmitting apparatus.

I CERTIFY that this vessel has not previously borne an official number and has never been documented as a vessel of the United States under the above or any other name.

H. W. SMITH, Sole owner
Signature: H. W. Smith Capacity: Sole owner

Signature: _____ Capacity: _____

Please type or print name above signature and indicate capacity in which applicant signs

PORT OF Beaufort, North Carolina May 11, 19 49

To the Commissioner of Customs.

SIR: I transmit herewith the application for assignment of an OFFICIAL NUMBER for the vessel described above.

Olive Longest
Olive Longest
Deputy Collector of Customs.

In addition to the information to be given herein, the name or names of any former owner or owners shall be stated on the reverse hereof. If there was no former owner, that fact shall be stated.

This application shall be filed in duplicate when filed with the collector at the home port designated for the vessel; otherwise, in triplicate.

Customs Form 1319, Designation of Home Port of Vessel, must be executed in duplicate and accompany this application

- 1 Insert the vessel's name exactly as it will be marked upon the vessel. If the vessel has had a different name, the former name shall be stated in parentheses following the name under which it is intended to be documented. If the vessel has borne a motorboat number, that number shall be given in the same manner.
2 Give the title of the vessel as "steam screw," "gas screw," "oil screw," "chopper," "barge," or some other appropriate description. If the vessel is a steam vessel, state whether it is designed to burn oil or coal; if electric drive, whether turbo or oil engine. If the vessel is propelled by sail and machinery, give the title as though the vessel were propelled in whole by the engine.
3 If composite, so state.
4 Give indicated horsepower (IHP) for a reciprocating or beam steam engine, shaft horsepower (SHP) for a turbine, brake horsepower (BHP) for gas or oil engine.
5 Individual, corporate, or firm name of builder or builders; do not give name of an officer of a corporation.
6 For a vessel of 100 gross tons or over, give the date of laying of the keel. Omit in the case of a vessel of less than 100 gross tons.
7 For a vessel of 100 gross tons or over, give the month, date, and year of launching. Omit in the case of a vessel of less than 100 gross tons.
8 Give the year of completion of the vessel.
9 Indicate whether the engine is reciprocating, turbine, or internal-combustion. If reciprocating, state whether single, compound, triple, or quadruple expansion; if turbine, whether direct drive or reduction gear; if internal-combustion, give the number of cylinders, cycles, and kind of fuel and if oil, state whether Diesel or semi-Diesel.
10 Individual, corporate, or firm name. Do not give name of an officer of a corporation. In the case of co-ownership by two or more individuals, the name of each owner shall be shown. If the vessel is owned by the United States of America, so state followed by the words "as represented by" and the name of the Department or Agency concerned.
11 Passenger, freight, tanker, yacht, or some other appropriate description.
12 In the case of corporate ownership, the application shall be executed in the corporate name and shall be signed by the president, secretary, a specially authorized officer of the corporation, or an authorized agent. In the case of a firm or partnership, the application shall be executed in the firm name and shall be signed either by a member of the firm, one of the partners, or a duly authorized agent. In the case of individual ownership by two or more persons, one of the owners may sign his own name as "managing owner," provided there is filed with the collector a written authorization for him to act in that capacity signed by the owners of a majority interest. In every case, the capacity in which the person signs, whether as owner, managing owner, agent, member of firm, copartner, etc., shall be stated clearly. If an individual executes the application in the name of a corporation, firm, or partnership, the capacity in which the organization name is signed, whether as owner, managing owner, authorized agent, etc., shall be shown immediately after the name of such organization and the capacity in which the individual signs as representative of the organization, whether as president, secretary, authorized agent, etc., shall be shown immediately following his signature.

Official No. 259819
Signal or call letters _____
Home port Beaufort
DO NOT WRITE IN THIS SPACE

Signature of marking of official number has been recorded

PREFERRED MORTGAGE ENDORSEMENT

(MERCHANT MARINE ACT, 1920, SEC. 24—U. S. C. TITLE 46, CHAPTER 21)

MORTGAGE DESCRIPTION (SUBSECTION DC)

Mortgagor _____

Mortgagee _____

Endorsed _____, 19____, at _____ m.

Total amount, \$ _____

Date of maturity _____, 19____

Discharge amount, \$ _____

Port of _____

[SEAL]

Documentation Officer.

MORTGAGE DISCHARGE (SUBSECTION GB)

Port of _____

The sum of \$ _____ has been
paid on the above-described mortgage, the certificate
of such discharge being filed in this office and recorded

_____, 19____, at _____ m.

[SEAL]

Documentation Officer.

Official No. 257819

CG-1271

DEPARTMENT OF TRANSPORTATION
UNITED STATES COAST GUARD

PERMANENT

(Permanent or Temporary)

Consolidated Enrollment and License

FOR THE

FISHERIES

(Insert "Coasting Trade" or "Fisheries")

No. 72

OF THE

Oil Screw

CALLED THE

FISHHAWK

OF

NEW YORK, N.Y.

283 gross, 229 net,

ISSUED AT THE

Port of NEW YORK, N. Y.

NOVEMBER 20th, 1975

WHERE SURRENDERED:

NEW YORK, N.Y.

WHEN SURRENDERED:

FEBRUARY 27, 1976

WHY SURRENDERED:

OUT OF DOCUMENTATION FOLLOWING

A CHANGE OF OWNERSHIP

[Signature]

ROSE SETTEMERINO

Documentation Officer.

GPO 549-240

PREFERRED MORTGAGE ENDORSEMENT

(MERCHANT MARINE ACT, 1920, SEC. 24—U. S. C. TITLE 46, CHAPTER 21)

MORTGAGE DESCRIPTION (SUBSECTION DC)

Mortgagor _____

Mortgagee _____

Endorsed _____, 19____, at _____ m.

Total amount, \$ _____

Date of maturity _____, 19____

Discharge amount, \$ _____

Port of _____

[SEAL]

Documentation Officer.

MORTGAGE DISCHARGE (SUBSECTION GB)

Port of _____

The sum of \$ _____ has been
paid on the above-described mortgage, the certificate
of such discharge being filed in this office and recorded

_____, 19____, at _____ m.

[SEAL]

PROCESSED AND TAPED

BY _____

Documentation Officer.

DATE 7-28-76

APPENDIX J: DIVE SAFETY PLAN

DIVE SAFETY PLAN

Recordation of Six (6) Vessels in Connection with the New York And New Jersey Harbor Navigation Study Upper and Lower Bay, Port of New York and New Jersey Staten Island, Richmond County, New York, and Elizabeth, Union County and Bayonne, Hudson County, New Jersey

**Contract No. DACW51-01-D-0015
Delivery Order No. 0023**

Introduction

This document is the Dive Safety Plan to be employed by Panamerican Consultants, Inc., (Panamerican) of Memphis, Tennessee during diving operations for the New York District, U.S. Army Corps of Engineers (COE), to record six vessels determined during a Phase II assessment of 39 targets in 2002 to be eligible for inclusion on the National Register of Historic Places. This investigation will be conducted under subcontract to Matrix Environmental and Geotechnical Services, of Florham Park, New Jersey, for the New York District in response to their Scope of Work entitled *Recordation of Six (6) Vessels in Connection with the New York And New Jersey Harbor Navigation Study Upper and Lower Bay, Port of New York and New Jersey Staten Island, Richmond County, New York, and Elizabeth, Union County and Bayonne, Hudson County, New Jersey*, under Contract No. DACW51-01-D-0015, Delivery Order No. 0023.

The document provides an outline of procedures intended to: (1) ensure the safety of project divers, and (2) effectively and efficiently complete project goals and objectives. The diving operations for this project meet all federal requirements for safe diving. All diving activities are in accordance with the strictest provisions of U.S. Army Corps of Engineers, U.S. Navy, and Panamerican diving safety manuals and diving guidelines. The safety of project divers is given priority in all decisions and actions undertaken during diving operations. During all diving operations conducted as part of this project, all persons diving and working under the auspices of Panamerican shall abide by this Dive Safety Plan.

If for any reason the dive plan is altered in mission, depth, personnel, or equipment, the USACE Command Diving Coordinator (UDC) at the district level shall be contacted and shall review any revision prior to actual operation.

Research Design

The purpose of diving operations is to record six vessels determined during a previous assessment to be eligible for NRHP status. As specified in the SOW and the Memorandum of Agreement (MOA), field project aspects will include:

- Archival research will be conducted pertaining to the history of the individual vessel as well as vessel type in order to place it within the proper historic context
- Diving Safety Plan Development
- Recordation of vessels
 - KVK Vessel 33 Manhaden Fishing Trawler - Complete recordation including scantlings, profile, plan view of deck, and longitudinal cross sections. Also, recording of stern including rudder and propulsion, and the bow. Photo documentation will include 35mm and video.
 - KVK Vessel 36 Wooden hydraulic dredge - Recordation of basic dimensions and photo documentation by 35mm and video.
 - KVK Vessel 37 Schooner Paul E. Thurlow - Complete recordation including scantlings, plan view of hull outline, deck stanchions, and holds. Also recordation of stern including rudder, and bow, as well as photo documentation including 35mm and video.
 - KVK Vessel 38 Floating Drydock - Complete recordation including major dimensions, scantlings, plan view of remaining hull, deck stanchions, bulkheads, framing, and remaining machinery. Since original deck planking is no longer in place and access can be gained to the inside of the vessel, at least one cross section including internal bracing will be taken. Photo documentation will include 35mm and video.
 - Shooters Island Vessel 2 Floating Drydock - Complete recordation including scantlings, profile, plan view of deck, longitudinal cross sections along centerline and through at least one of the wings. At least one cross section will be obtained including both wings and the location of internal bracing and remaining machinery, pending safe access. Photo documentation will include 35mm and video.
 - Shooters Island Vessel SS16b Unidentified Type with Composite construction - Complete recordation including scantlings, plan and at least one cross section and recordation of bow and stern including propulsion. Possible recovery of diagnostic artifacts including propeller and portion of framing with attached hull planking, pending feasibility. Photo documentation will include 35mm and video.
- Preparation of salvage and conservation plan regarding Vessel SS16b.

Schedule and Duration of Diving

The project is tentatively scheduled for August 1st – September 30th, 2004. Not all aspects of the project involve diving, as many portions of the vessels are above water and can be accessed by boat or by land. For those vessels requiring diving, it will take place on each day that weather

and safe water levels permit safe diving. Diving will not commence until the Dive Safety Plan is approved by the USACE Dive Safety Officer, and until the Dive Safety Officer visits the dive station and approves the operation.

The depths recorded for the area range from zero to 20 feet Mean Sea Level. Dives and divers will be restricted to no-decompression limits. In calculating no-decompression limits the next greater time and next greater depth will be used on standard U.S. Navy diving tables.

Personnel

The dive team consists of five positions: a diving supervisor, a diver, a stand-by diver, one tender, and a time-keeper/communications operator. Each dive team member will meet the training and qualification requirements established in COE Safety and Health Requirements Manual (EM 385-1-1). Mr. Stephen James will serve as Project Manager. Mr. Andrew Lydecker will serve as the Diving Supervisor and Principal Investigator. Other members of the dive team are Michael Faught, underwater archaeologist; Michael Krivor, underwater archaeologist; Jim Duff, underwater archaeologist, and Matt Elliott, archaeological diver. All of these dive team members are certified for diving; are current in Red Cross training for First Aid and Cardiopulmonary Resuscitation (CPR); and have recently passed a physical examination conducted for the purpose of ascertaining fitness for diving. Prior to the start of diving operations all participants will receive a thorough briefing on the content and objectives of the Dive Safety Plan. Periodically during the conduct of diving operations, the dive team will review the Dive Safety Plan at briefings as deemed necessary by the Diving Supervisor.

Mr. Stephen R. James, Jr. acts as Project Manager for this project. Mr. James holds a degree in anthropology from Memphis State University and a master's degree in nautical archaeology from the Institute of Nautical Archaeology, Texas A&M University. SOPA (Society of Professional Archaeologists) certified since 1985, and with 20 years of experience in maritime archaeology, he has extensive project experience and has directed and conducted all phases of work on submerged sites including archival research, remote-sensing surveys, anomaly assessment, site testing, and full-scale shipwreck mitigation. Mr. James has an extensive diving background with various U.S. Army Corps of Engineer Districts: New York, Wilmington, Savannah, Vicksburg, Memphis, Mobile, New Orleans, and Galveston. He served as Project Manager for the investigation of the *Manuela* in San Juan Harbor in 2001.

Mr. Andrew Lydecker, who will act as Principal Investigator and Dive Supervisor for the investigation, holds an M.S. in Cartography and G.I.S. and an M.A. in Archaeology, both from the University of Wisconsin. He also holds a B.S. in Anthropology from Mankato State University. He has extensive archaeological and computer drafting experience. His previous archaeological experience was gained in the Great Lakes, Florida, Southern rivers, Caribbean, and South Pacific. Since joining Panamerican in 2000, he has directed and authored several projects for the Jacksonville District COE, including both diving and remote-sensing projects. He has been employed by Panamerican previously for New York, Wilmington, Jacksonville, Mobile, and Vicksburg District COE operations on various underwater diving projects. Recently he has acted as Principal Investigator and Diving Supervisor for a Phase II assessment of remote-

sensing targets and hulks in New York Harbor.

Dr. Michael K. Faught will serve as an Underwater Archaeologist. Dr. Faught obtained his PhD at the University of Arizona, Tucson, and has been principal investigator and project administrator for several terrestrial and underwater projects with Panamerican's Tampa office. He has expertise in submerged prehistoric site archaeology, geoarchaeology, chipped stone analysis, acoustic remote sensing, archaeology of North America. He has six years of cultural resource management experience in the desert southwest, and seven years of post doctoral research and teaching in Florida. Dr. Faught has extensive experience with acoustic remote sensing data (side scan and subbottom) and experience with magnetometry. He has raised more than \$800k in state grants and small contracts as principle investigator for Dog and St. George Island Shipwreck Survey and the PaleoAucilla Prehistory Project and several other projects. Authored and edited a large number of Cultural Resource Reports and Monographs and growing number of journal articles.

Mr. Michael Krivor, who will act as Maritime Archaeologist, holds an M.A. from the program in maritime history and archaeology from East Carolina University, and a B.A. in aquatic archaeology from Humboldt State University. Since joining Panamerican, Mr. Krivor has participated in numerous remote sensing surveys and anomaly investigations on projects on the Gulf Coast, East Coast, Pacific, the Caribbean, and many Southern river systems. He has directed numerous archaeological projects for various clients ranging from the Army Corps of Engineers Memphis, New York, and Vicksburg Districts, as well as various state, local, and private agencies. Prior to employment with Panamerican, he accumulated experience in the Caribbean and on the East Coast. Recently certified by the Register of Professional Archaeologists (ROPA 1999), Mr. Krivor is directing an investigation on the Lower White River of Arkansas for the Memphis District Corps of Engineers.

Mr. James Duff, who will act as Archaeological Diver for the investigation, joined Panamerican in August of 1991 and is A.B.T. in the master's program at Texas A&M University. He will act as Remote-sensing Specialist and Underwater Archaeologist. Prior to employment with Panamerican, he accumulated extensive professional experience working for the North Carolina State Underwater Archaeology Unit and participated in remote-sensing surveys and anomaly investigations on projects with various universities and consulting firms. Since joining Panamerican, Mr. Duff has successfully directed and completed a variety of underwater cultural resource projects. Among these, he co-authored a shipwreck compilation and historic background report recently completed as part of a remote-sensing survey for a submerged pipeline corridor from New Jersey to Staten Island, New York. That survey collected over 2,000 line miles of remote-sensing survey records, including magnetometer, side scan sonar, and sub-bottom profiler, which were analyzed and interpreted by Mr. Duff for potentially significant cultural resources. He has directed or participated in several remote-sensing surveys and diver investigations for the New York, Wilmington, Savannah, Mobile, and Vicksburg Districts. At present Mr. Duff is acting as an Archaeological Diver for the testing of six anomalies on the Yazoo River for the Vicksburg District Army Corps of Engineers. He also served as Underwater Archaeologist for the investigation of the *Manuela* in San Juan Harbor in 2001.

Mr. Matt Elliott, who will act as Archaeological Diver, holds a B.A. in Anthropology from the University of South Alabama, as well as a Commercial Diving Certificate from the International Commercial Diving Institute. Mr. Elliott has previous terrestrial and maritime archaeological experience in the South Pacific, southern rivers, and East Coast, and brings his extensive commercial diving experience to the team. Recently he participated as an archaeological diver on a Phase II assessment of remote-sensing targets and hulks in the Hudson River at Athens, New York for the New York District.

If any of the above cannot be on site an alternate nautical archaeologist from Panamerican's pool of qualified employees will stand in.

Dive Platform

The dive platform utilized will be of a size and type appropriate for the area environment and specific diving operations. At present a particular vessel has not been contracted for this project. A vessel will be chartered locally and be operated by an experienced and U.S.C.G. licensed local captain. The vessel will conform to U.S. Coast Guard specifications according to class and requirements established in EM 385-1-1, and will have on board all required safety equipment. The vessel will be equipped with a safe and secure dive ladder at the stern to be used by divers, aided by their tender, when entering and leaving the water.

Diving Equipment

For the purposes of this investigation Surface Supplied Air (SSA) will be the main diving system employed for the inherent safety and more efficient working operations provided by the direct diver to surface air line and communications. This is especially true when operating underwater dredges and jets. The dive helmets will be Superlite 17 A/B Helmets. The helmets are maintained according to manufacturer's specifications. No modifications will take place on air supply fixtures. The dive helmets and the dive hoses used are currently certified, and copies of these certifications will be provided to the New York District Corps' Agency Diving Coordinator (ADC) prior to the commencement of diving operations. All dive helmets will be fitted with radios to permit communication with the surface. It should be stated that in the event of a loss of radio communication, the dive will be terminated.

Environmental Suits

Environmental suits will be required during excavation of suspected contaminated sediments and recordation in areas where diver/sediment contact might occur. The watertight suits will be used in conjunction with the SSA helmets to effectively seal off the diver from potential contamination in the suspended sediments. Hot water suits and wet suits are unacceptable since they do not protect the hands and feet. Divers and equipment used in excavating contaminated sediments will be hosed off after each dive and at the end of the day to reduce possible contamination.

Diving Equipment Inspection

Inspection of all equipment will be performed as necessary or as required by the specific manufacturer. The inspection program will entail five different inspections:

- Inspection and operational testing of equipment received from the factory or distributor
- Inspection of equipment as it is issued to workers
- Inspection after use
- Periodic inspection of stored equipment
- Periodic inspection when a question arises concerning the appropriateness of the selected equipment, or when problems with similar equipment arise

The inspection checklist is provided below. Records will be kept of all inspection procedures. Individual identification numbers will be assigned to all reusable pieces of equipment, and records should be maintained by that number. At a minimum, each inspection should record the ID number, date, inspector, and any unusual conditions or findings. Periodic review of these records may indicate an item with excessive maintenance costs or a particularly high level of downtime.

Equipment Inspection Checklist

Helmets

Before use:

- Yearly inspection by certified inspector of all hoses, helmets, regulators, valves, etc. (these have been appended to this Plan).

During the work task:

- Daily inspection of helmets, including regulator (i.e., intake valves and exhaust ports), neck seal, one-way valve on air supply hose attachment, and free-flow operation. The helmets are checked for any leaks, malfunctions, and corrosion.
- Daily inspection of communication system. This involves a sound check at the surface when all gear is set up, and once again as soon as the diver is underwater. All wires at both the communication box and the helmet are checked for corrosion.

Hoses

Before use:

- Yearly pressure inspection.

During the work task:

- Daily, before connecting air hoses to helmets, they are blown free with air to make sure no debris or particulars are in the hose.
- Daily, all couplings are checked for leaks, corrosion, or malfunctions.
- Daily, all hoses are inspected for frays, cuts, corrosion, leaks, cracks, bulges, etc.
- Hoses, while in use, will be continually rinsed with a diluted bleach solution to keep contaminants to a minimum.

Air Supply

Before use:

- Certificate of air quality will be provided.

During the work task:

- K bottles will be properly secured in a well-ventilated area out of the direct sun or other heat source.

Storage

Diving equipment will be stored properly to prevent damage or malfunction due to exposure to dust, moisture, sunlight, damaging chemicals, extreme temperatures, and impact. Storage procedures are as follows:

- All equipment will be stored in a well-ventilated area, with good airflow around each item, if possible.
- Dive suits, helmets, and hoses will be stored in a manner consistent with manufacturer's recommendations.

Air Supply

Air for SSA diving will be provided by cascade system of no fewer than two 240-cubic-foot 'K' bottles. Pressure gauges and check valves are included in the air supply system as appropriate. Two levels of redundant backup air supply will be used, including an aluminum 80cf SCUBA

cylinder linked to the SSA cascade system, and a 50cf aluminum SCUBA cylinder worn by the diver and connected to the dive helmet. The cascade system will be stored in an environment protected from excessive heat and secure from falling. The timekeeper will monitor the air supply system during each dive to ensure that air pressure is correctly maintained and adequate reserve air is always available. A certificate of air quality will be obtained from the air supplier, and submitted to the New York District Dive Safety Officer for approval prior to commencement of diving activities.

The air supply hoses are Gates 33 H/B commercial dive hoses that have a working pressure at least equal to the working pressure of the air supply system and will have a rated bursting pressure at least four times greater than operating pressure or at least 80 PSI over bottom (ambient) pressure. The hoses are kink-resistant, marked in 10-foot increments from the diver, and will be equipped with corrosion-resistant fittings. When not in use hoses will be over-under coiled or figure-eight coiled to prevent twists and/or kinks. Hose ends will be capped or taped when not in use. The dive hoses will be inspected prior to each dive.

Divers using SSA will wear a safety harness with a quick-release attachment connected to the air umbilical. A safety line of at least 3/8 inch synthetic material is included as an integral part of the umbilical. The divers will wear clothing or wet suits, boots, gloves, and other protective gear appropriate to the conditions. Divers will wear weight belts equipped with quick-release buckles. All the equipment used during the diving operations will be inspected prior to each dive.

During all periods of diving, a suited stand-by diver will be fully prepared and equipped to dive SSA in the event of an emergency. There will be a separate individual timekeeper and communications operator during each dive. Voice communication between diver and surface will be maintained at all times. If voice communication is lost, the dive will be terminated.

Diving Operations

The dive platform will be securely anchored or moored during all diving operations; no "live-boating" will be conducted during this project. The diving will be provided by surface supply air only. Each diver will have a full-time dive tender handling the diver air supply hose. The tender will help the diver don, remove and adjust equipment. The tender will check and ensure that the diver is properly rigged and adjusted immediately before the diver enters the water. The diver will not enter the water until clearance from the tender has been given. The diver and the communications operator will conduct a communications check prior to the diver's entering the water. The diver will check all equipment for proper function immediately upon submerging, while descending, and upon reaching the bottom before conducting any work. The tender will hold the diver's hose with the proper tension at all times during the dive. The hose should be held with enough tension to permit the tender and diver to transmit and receive "pull-signals" as needed, particularly in the event of a loss of radio communication. Should the diver's hose become fouled, all work will cease, the hose will be cleared, and the hazard causing the fouling will be evaluated before work is resumed.

The underwater examination of each site will begin with orientation dives to determine the

visible spatial extent, integrity, and present components of the site. Appropriate techniques and equipment such as metal and hydraulic probes will be employed to locate buried remains if none are apparent above the bottom. If necessary, portions of the site and its components will be uncovered through the use of hydraulic venturi-style dredges powered by small, low-pressure water pumps. It is emphasized that a minimum necessary amount of sediments will be disturbed in order to locate, examine, and evaluate the site. Archaeological divers will record sufficient information to assess NRHP eligibility. Relative to existing water and overburden conditions, video will be produced of the site.

Environmental Considerations

A number of consistent environmental conditions are expected to be encountered in the project area. Water temperatures are expected to be in the 60-80 degree range. The project will have equipment on hand to deal with a wide range of temperature conditions. Visibility is not expected to exceed 2 feet, with most diving occurring in zero-visibility water. All divers are trained in and have extensive experience diving in zero visibility environments. Currents are not expected to exceed 1 knot. In the event current exceeds 1 knot, diving will not take place. When possible, diving will be coordinated with periods of slack tide.

Safety Considerations

All diving will be performed in accordance with the U.S. Army Corps of Engineers "Safety and Health Requirements Manual" EM385-1-1 dated September 1996; with the U.S. Navy Diving Manual, Volumes I and II; and with Panamerican's "Diving Safety Program for Submerged Cultural Resource Investigation" as appropriate.

Colds, upper sinus infections, respiratory infections, and ear infections that are contra-indicated for diving will preclude an individual from diving. All divers will inform the diving supervisor of the ingestion of any medication. All diving will be voluntary, and any dive team member may decline to dive at any time.

Safety and planning sessions will precede each day of diving. These sessions will include an assessment of safety aspects, potential hazards, tasks to be undertaken, emergency procedures, and any necessary modifications to operating procedures. Maximum depth and dive time will be determined before the completion of each dive. Approximate depth will be All dives will be logged throughout the dive, and written comments for the dive log will be required of the returning diver immediately upon completion of each dive. Upon completion of a dive and prior to the commencement of the next dive the returning diver will inform the dive supervisor about diving conditions observed and specifically about any hazards or potential hazards encountered. Divers will remain awake for at least one hour after a dive. Divers will wait at least 12 hours before flying after any dive; this will be extended to 24 hours following multiple days of diving.

An international diving flag (Alpha flag) and a civilian "diver-down" flag (red with white diagonal stripe) will be raised on the diving platform prior to, and lowered following completion of, all diving operations. All diving personnel will carry accurate timepieces and sharp knives.

Fire extinguishers will be aboard the dive platform and in each vehicle used. The dive team will have a diver first aid kit, oxygen, and floating backboard on hand during all diving operations. All personnel will be familiar with safety procedures and with the locations of safety equipment. Any accidents or injuries will be reported to the diving supervisor immediately, and a report of injury form will be completed.

Relative to Lock Out/Tag Out (LOTO) considerations, all project personnel will be familiarized with any potential sources of unexpected energy (i.e. boat motor) and/or any potential sources of kinetic or stored energy which could cause injury or damage. As stated in the Dive Safety Plan the dive platform will be anchored/moored (with at least two anchors) during all dive operations; therefore no "live-boating" will be conducted during this project. The dive platform's engine will not be started until all dive operations have ceased and each person is safely onboard the vessel. The boat captain and/or Principal Investigator will address any additional LOTO precautions prior to any dive operations. No differential water pressures (due to unequal water elevations) are anticipated during any phase of this project.

Safety Procedures and Checklists

Safety will be the paramount concern during the project. All diving will be performed in accordance with the U.S. Army Corps of Engineers "Safety and Health Requirements Manual" EM385-1-1 dated September 1996; with the U.S. Navy Diving Manual; and with Panamerican's "Diving Safety Program for Submerged Cultural Resource Investigation" as appropriate. A copy of EM385-1-1 will be reviewed prior to the fieldwork phase of the project. Special attention will be paid to Chapter 19, "Floating Plant and Marine Activities," and Chapter 30, "Contract Diving Operations," and a copy will be made available for inspection to all persons on the crew.

All Panamerican personnel scheduled to participate in this research have been qualified in First Aid and CPR by the Red Cross or comparable agency. Certificates to this effect are presented as part of the Dive Safety Plan package. Prior to initiating any field work, the Diving Supervisor will locate the nearest hospitals, hyperbaric chamber, notify the U.S. Coast Guard, and take care of any other logistical safety considerations. During the investigation there will be available communication with shore in the event of an accident. If applicable, the United States Coast Guard will be contacted prior to the commencement of activities so a "Notice to Mariners" broadcast of our diving activities can be arranged. They will also be contacted at the completion of diving activities.

The diving environment will be the main consideration. Tides, weather and vessel traffic will all be monitored.

Evacuation Routes and Emergency Facilities

Evacuation routes from project areas to emergency medical facilities will be established and all project personnel will know these routes. There will be sufficient fuel kept in all vehicles for emergency use. There will always be a vehicle and/or boat available for emergency use during diving operations. In the event of an emergency the 911 emergency system is in operation in the project area. The ambulance service nearest to and/or which can most quickly reach the landing

nearest the dive site will be ascertained prior to diving operations. The emergency medical facility closest to, and/or most quickly reached from, the dive site and project docking area will be ascertained prior to diving operations. The nearest hyperbaric chamber is located at the Memorial Medical Center (1-800-225-7654). The United States Coast Guard (U.S.C.G.) in the area is under the direction of 1st District Operations, New York Group. The 1st District U.S.C.G. maintains a 24-hour Search and Rescue Hotline (212-668-7913). Search and Rescue helicopters capable of providing emergency evacuation operate out of the Coast Guard Air Station (718-765-2409). The Coast Guard will be notified of our working dates and location prior to initiation of fieldwork and will be updated periodically of our standing.

EMERGENCY SERVICES

EMERGENCY	911	EMERGENCY
HOSPITAL	201-858-5000	Bayonne Hospital 29th St. and Ave., E. Bayonne, NJ 07002
HOSPITAL	718-226-9000	Staten Island University Hospital 475 Seaview Ave., Staten Island, NY 10305
HOSPITAL	718-226-2000	Staten Island University Hospital 375 Segune Ave., Staten Island, NY 10309
HYPERBARIC CHAMBER	1-800-255-7654 908-892-1100	Memorial Medical Center 24-Hour, Point Pleasant Hospital

DIVERS ALERT NETWORK (D.A.N.)

DIVING EMERGENCY 919-684-8111 24-Hour Hotline

UNITED STATES COAST GUARD, 1ST DISTRICT

GROUP NEW YORK	212-668-7913	
SEARCH AND RESCUE	212-668-7913/7937	24-HOUR HOTLINE
Operations Office	212-668-7913	USCG, 1st District, Governor's Island
Air Station	718-765-2409	USCG Air Station Brooklyn
Waterways Office	212-668-7906	Waterways, Governor's Island

NEW JERSEY STATE MARINE POLICE, PORT NEWARK

State Marine Police	201-578-8173	Port Newark Office
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**APPENDIX K: HEALTH, SAFETY, AND ACCIDENT PREVENTION
PLAN**

HEALTH, SAFETY AND ACCIDENT PREVENTION PLAN

Recordation of Six (6) Vessels in Connection with the New York And New Jersey Harbor Navigation Study Upper and Lower Bay, Port of New York and New Jersey Staten Island, Richmond County, New York, and Elizabeth, Union County and Bayonne, Hudson County, New Jersey

**Contract No. DACW51-01-D-0015
Delivery Order No. 0023**

1.0 Introduction

1.1 Purpose

This document is the Health, Safety and Accident Prevention (HSAP) to be employed by Panamerican Consultants, Inc., (Panamerican) of Memphis, Tennessee during contract operations for the New York District, U.S. Army Corps of Engineers (COE), to record six vessels determined during a Phase II assessment of 39 targets in 2002 to be eligible for inclusion on the National Register of Historic Places. This investigation will be conducted under subcontract to Matrix Environmental and Geotechnical Services, of Florham Park, New Jersey, for the New York District in response to their Scope of Work entitled *Recordation of Six (6) Vessels in Connection with the New York And New Jersey Harbor Navigation Study Upper and Lower Bay, Port of New York and New Jersey Staten Island, Richmond County, New York, and Elizabeth, Union County and Bayonne, Hudson County, New Jersey*, under Contract No. DACW51-01-D-0015, Delivery Order No. 0023.

The following site-specific HSAP was prepared to provide safe procedures and practices for PCI personnel engaged in conducting cultural resources and archaeological investigations the six vessels. The plan has been developed using as guidance the Occupational Safety and Health Administration (OSHA) 1910.120 regulations and the US Army Corps of Engineers Safety and Health Requirements Manual (EM 385-1-1; 3 Sept. 1996). The purpose of this HSAP is to establish personnel protection standards and mandatory safety practices and procedures for this task specific effort. This plan assigns responsibilities, establishes standard operating procedures, and provides for contingencies that may arise during the field archaeological and cultural resources efforts.

If for any reason the HSAP is altered in objective, personnel, or equipment, the New York District's Health and Safety Officer shall be contacted and shall review any revision prior to actual operation.

1.2 Applicability

The provisions of the plan are mandatory for all personnel engaged in archaeological and cultural resources investigations. All personnel who engage in these activities must be familiar with this plan and comply with its requirements; these personnel must sign-off on the Plan Acceptance Form (Appendix A), which will be retained by Panamerican Consultants, Inc. in the project file.

All personnel will be responsible for operating in accordance with the OSHA regulations 29 CFR Part 1910.120 - 'Hazardous Waste Operations and Emergency Response' and U.S. Army Corps of Engineers EM.385-1-1. It should be noted however, that although this plan was produced in accordance with these requirements this work is not being conducted in areas designated as hazardous waste or material areas.

Appendix A contains a statement of compliance form, a plan acceptance form, a site safety briefing form, and an accident/exposure form. This plan is applicable to all aspects of the tasks detailed below associated with an archaeological and cultural resources investigations to be performed in project areas.

The plan is based on available information concerning possible industrial contaminants and physical hazards that exist, or may exist, at the project site and during planned tasks. If more data concerning the nature and/or concentrations of contaminants become available, the plan will be modified accordingly. Modifications will be made by the Site Safety Officer. All modifications will be documented in the plan and field book and provided to the Project Manager and the Health and Safety Manager for approval.

A copy of this plan will be available for review by all on-site personnel. In addition, a copy of the plan will be provided to all subcontractors prior to their initial entry onto the site.

Before field activities begin, personnel will be required to read the HSAP. All personnel must agree to comply with the minimum requirements of the site-specific plan, be responsible for health and safety, and sign the Statement of Compliance for all on-site employees before site work begins.

1.3 Field Activities

The tasks associated with the performance of the archaeological and cultural resources investigations include:

- Mobilization and Demobilization
- Documentary Research
- Recordation of Vessels
- Data Analysis

1.4 Personnel Requirements

Complete mapping, detailed drawing and photo documentation of the six wrecks will require three multi-person teams. One team of five people will conduct underwater mapping, and photography. As stipulated by the Regulation No. 385-1-93 of the Safety Contract Diving Operations Requirements (Corps 2004), in depths of 33 feet or less, five people are required when diving with SSA; a diver, a dive tender, a standby diver, a communications operator, and a diving supervisor. Because SSA will be employed for safety reasons, in concert with the fact that water depths will not exceed 20 feet, a five person dive team will be required for the project.

The remaining two teams will conduct above-water mapping and photography. One team of 2 people will complete all photography requirements. This will include digital, 35 mm, and video. The third team of 3 people will focus on mapping; including site plans, vessel features and detailed drawings. Surface documentation will require a longer time period and demand more detailed recordation procedures. Since above water and under water recording operations will not be carried on at the same time, the same personnel can be used in each of the three teams.

There will be one overall supervisor that will coordinate activities between all three teams. Each team will also have a field supervisor. The teams will rotate duties as deemed necessary to complete tasks as required.

Key personnel are as follows:

Project Manager- Mr. Stephen R. James, Jr.
Principal Investigator - Mr. Andrew D. W. Lydecker
Site Safety Officer - Mr. Andrew D. W. Lydecker
PCI Safety Manager - Mr. Stephen R. James, Jr.

Site personnel and their duties are outlined below:

1) Field Director

The Field Director and/or Principal Investigator will be responsible for all personnel and subcontractors on-site and designates duties to the on-site personnel. The Field Director has the primary responsibility for:

- Assuring that personnel are aware of the provisions of this plan and are instructed in the work practices necessary to ensure safety in planned procedures and for dealing with emergencies.
- Verifying that the provisions of this plan are implemented.
- Assuring that all field personnel have the required training.
- Assuring that appropriate personnel protective equipment (PPE), if necessary, is available for and properly utilized by all personnel.
- Assuring that personnel are aware of the potential hazards associated with site

- operations.
- Supervising the monitoring of safety performances by all personnel to ensure that required work practices are employed.
- Maintain sign-off forms and safety briefing forms.

2) Site Safety Officer

The Site Safety Officer shall:

- Monitor hazards to determine the degree of hazard present.
- Determine changes to protection levels, clothing, and equipment needed to ensure the safety of personnel.
- Evaluate on-site conditions and recommend to the Field Director modifications to work plans and personnel protection levels needed to maintain personnel safety.
- Determine that appropriate safety equipment is available on-site and monitor its proper use.
- Verify and post the locations of medical facilities, emergency telephone numbers and routes.
- Monitor field personnel and potential for exposure to physical hazards such as heat/cold stress, safety rules near heavy equipment and excavations.
- Halt site operations if unsafe conditions occur or if work is not being performed in compliance with this plan.
- Discuss changes to the plan with the Project Manager if field conditions warrant.
- Identify any special medical conditions or restrictions of personnel prior to field work.
- Monitor performance of all personnel to ensure that the required safety procedures are followed. If established safety rules and practices are violated, a report of the incident will be filed and sent to the Project Manager (Panamerican Consultants, Inc.) within 48 hours of the incident.
- Conduct daily safety meetings as necessary and complete the Site Safety Briefing Form prior to the initiation of field activities and as necessary (Appendix A).

3) Archaeological Field Personnel

It shall remain the responsibility of each field crew member to follow the safe work practices listed in this HSAP and in general to:

- Be aware of the procedures outlined in this plan.
- Take reasonable precautions to prevent injury to himself and to his coworkers.
- Perform only those tasks that he believes can be done safely, and immediately report any accidents or unsafe conditions to the Safety Officer and Field Director.
- Notify the SSO and Field Director of any special medical problems (i.e., allergies or medical restrictions) and make certain that on-site personnel are aware of any such problems.
- Think "safety first" prior to and while conducting field work.

The PCI crew can request assistance from the site safety officer or emergency personnel at any time during the course of field work. Each crew member has the authority to halt work should he deem conditions to be unsafe. Visitors will be required to report to the Field Director and Site Safety Officer and follow the requirements of this plan.

2.0 COMPREHENSIVE WORK PLAN

This section comprises the organizational structure and work plan for the recordation of six vessels in Kill Van Kull and Arthur Kill. The six vessels differ to varying degrees in extant hull amounts, direction and ease of access, integrity of remaining hull, associated debris, internal sedimentation, and safety concerns. All of these factors will affect recordation and will dictate to some extent the tools employed, as well as the time required for recordation of the vessels.

Varying with the tide and location, perhaps one of the most important factors is water depth. Rapidly dropping tides, coupled with very shallow areas adjacent to some of the vessels will mandate an orchestration of the day's work, basically comprised of the continual shifting of the work vessels and work sites based on documentation requirements. Access availability of the six vessels is presented below

2.1 Project Phases

Located on Shooters Island and along the Kill Van Kull shoreline of Staten Island, five of the vessels lie within New York State, and one lies within New Jersey State. As presented the SOW, the Memorandum of Agreement (MOA) between the Corps and the New Jersey State Historic Preservation Officer and the New York State Historic Preservation Officer stipulate that the vessels to be recorded, and level of recordation, are as follows:

1. KVK Vessel 33. Menhaden Fishing Trawler. Accessible only by water and best at low tide, Vessel 33 will receive complete recordation. Architectural documentation will include the profile, the plan view of the deck, and the longitudinal cross section of the vessel, all of which can be obtained during low tide by non-diving personnel. Diving aspects of the recordation will include recordation of the stern, including rudder and propulsion, and the bow. Recordation of hull lines will also be undertaken, and will entail both diving and non-diving personnel. Photo documentation in the form of 35 mm and video will also be undertaken.
2. KVK Vessel 36. Wooden Hydraulic Dredge. Accessible only by water and best at low tide, Vessel 36 will receive partial recordation, including basic dimensions and structural elements. Photo documentation in the form of 35 mm and video will also be undertaken

3. KVK Vessel 37. *Paul E. Thurlow*. Four-Masted Schooner. Accessible only by water and best at low tide, Vessel 37 will receive complete recordation. Architectural documentation will include a plan view of the hull outline, deck stanchions, and holds. Recordation of hull lines will also be undertaken. Diving aspects of the recordation will include recordation of the stern, including rudder, and the bow. Photo documentation in the form of 35 mm and video will also be undertaken.

4. KVK Vessel 38. Floating Drydock. Accessible only by water and best at low tide, Vessel 38 will receive complete recordation. Architectural documentation will include major dimensions, a plan view of the remaining hull, deck stanchions, bulkheads, framing, and the location of any remaining machinery. Since most of the original deck planking is no longer in place, thus allowing access to the internal structure of the pontoon, at least one cross section including internal strengthening of the pontoon will be included. Photo documentation in the form of 35 mm and video will also be undertaken.

5. Shooters Island Vessel 2. Floating Drydock. Accessible only by water, Vessel 2 will receive complete recordation. Architectural documentation will include the profile, the plan view of the deck, and longitudinal cross sections of the vessel along both the centerline and through at least one of the wings. Also, at least one cross section will be obtained including both wings and the location of internal bracing, and remaining machinery, if safe access is possible. Most of the above documentation will be obtainable by non-diving personnel. Photo documentation in the form of 35 mm and video will also be undertaken.

6. Shooters Island Vessel SS16b: Unidentified Type; Composite Construction. Accessible only by water, Vessel SS16b will receive archival research and be fully recorded. Architectural documentation will include the profile, the plan view of the hull, and the longitudinal cross section of the vessel, as well as recordation of the stern, including rudder and propulsion, and the bow. Recordation of hull lines will also be undertaken. All aspects will involve diving personnel. Photo documentation in the form of 35 mm and video will also be undertaken.

2.2 Vessel Access

The locations of the vessels to be recorded mandate the employment of several different types of work boats. For diving, a large crew-type dive vessel will be employed. Shallow draft vessels, will be employed for access to above water portions of the site. The draft of the small work boats will not exceed 2 feet, with the draft of one of the work boats being extremely shallow.

While tide and vessel drafts are important considerations, the most critical factors affecting the proposed documentation project are safety concerns. Certainly project personnel will have the experience and capability to work safely from boats. Because of the often slick and deteriorated timbers, personnel will exercise the utmost caution and

will wear protective clothing, including footwear with sufficient traction to minimize the possibility of injury. Surface personnel will also be faced at times with recording in and around various types and amounts of debris. Some of the debris likely can be moved by hand but project personnel will simply work around the majority of debris.

KVK V33 Main access location is adjacent the vessel's port midship area. This access location can be employed by either of the small project vessels, and can be employed on any tide. This location is, however, affected by the wakes of large tugs which transit at a high rate of speed. A small skiff can be taken into the internal perimeter of her hull on high tide. This will allow recordation of numerous aspects of the vessel by surface personnel. Access can be gained to the main deck of V33 via small boat. However, this will only be attempted if measurements cannot be obtained from the boat and only if the deck is stable enough to support weight.

KVK V36 This vessel is nearly totally submerged and is best accessed by divers. The best access time is at high tide as this area will become very shallow at low tide, perhaps to the point of stranding the dive platform. Surface personnel can access her at low tide using the shallowest draft skiff at this location.

KVK V37 The vessel's stern and midship area can be accessed from the port midship side by small boat only at any tide. The shallowest draft skiff with surface personnel should be able to access this area on a low tide. Diving personnel will be required to access the lower points of the hull, as well as the stern and bow. Surface personnel can record vessel aspects on any tide.

KVK V38 This vessel is nearly totally submerged and is best accessed by divers. The best access time is at high tide as this area will become very shallow at low tide, perhaps to the point of stranding the dive platform. Surface personnel can access her at low tide using the shallowest draft skiff at this location.

Shooters Island V2 The dive platform can access the starboard side of this vessel at high tide. A small skiff with surface personnel can skirt the outer hull for recordation of many aspects, thus allowing recordation of numerous aspects of the vessel by surface personnel. Access can be gained to the main deck of V2 via small boat. However, this will only be attempted if measurements cannot be obtained from the boat and only if the deck is stable enough to support weight.

SS 16b This vessel is totally submerged and is accessible only by divers. The best access time is at high tide although it is accessible at low tide as well.

2.3 Photography

Photodocumentation tools will play an integral role in the recordation process. Both 35 mm and digital cameras will be used for all shots. Video documentation will also be used, as it allows a much more comprehensive view, and will aid in the mapping and analysis. In addition, the video record can be archived, and it can be employed as a teaching or reference tool of our maritime history.

2.4 Mapping

Vessel documentation will include mapping various vessel aspects. Many of the required aspects are above water and can be mapped by surface personnel. A mapping device, such as an Electronic Distance Measure (EDM), will expedite surface operations, and will be much safer than using a tape measure. Documentation will include all extant elements, such as frames, ceiling planking, outer-hull planking, decking, knees, etc. Where possible archaeologists will record evidence of workmanship, repairs, modifications and fastening patterns.

2.5 Artifact Recovery

Apart from documentation, MOA stipulations address recovery of components of Vessel SS16b. Composite framing and propulsion are present and will require specialized salvage equipment, including underwater saws and/or torches to recover. This recordation project will assess the requirements and access for recovery but will not attempt recovery.

2.6 Required Equipment Types

Major Equip. Type	Specific Requirement
Dive Platform	A diving platform large enough to accommodate the entire diving team plus SSA equipment and peripherals such as compressors and/or excavation equipment (i.e., water pump), is required..
Small Runabout	A small runabouts with a draft of no more than two feet will be on site to allow for personnel and equipment movement at the project site. It will also be employed as quick transport to shore in the case of an emergency.
Small Skiff	A small skiff with a draft of no more than 1 foot will be on site to allow surface recordation personnel access into the interior of the vessels at low tide, as well as access to the exterior of the vessels where submerged objects or shallow mud flats may occur.

SSA System	A surface supplied air system (SSA) will be required for many aspects of recordation and excavation. The employment of SSA is in direct response to safety concerns. Bailout bottles will be a part of the SSA divers equipment, and will be required in certain instances.
Environmental Suits	Consisting of a watertight SSA helmet and suit, an environmental suit will be required during recordation in areas where diver/sediment contact might occur.
Ladders	At least two, 8 to 10 foot ladders are required to access various vessel areas. The ladders will be a necessity in the recordation of V2.
EDM	An Electronic Distance Measure will be employed by surface personnel to accurately and expeditiously record many aspects of the vessels, including plan views.
Total Station	A laser transit total station will be employed to accurately and expeditiously record many aspects of the vessels, including hull lines.
Camera Equipment	Both 35 mm and digital cameras will be used for most shots. Black and white and digital still photography will be augmented by both above and underwater video documentation.

2.7 Schedule and Duration of Recordation

The project is tentatively scheduled for August 1st – September 30th, 2004. Not all aspects of the project involve diving, as many portions of the vessels are above water and can be accessed by boat or by land. Work will take place on each day that weather and safe water levels permit safe diving. Work will not commence until the Health and Safety Plan is approved by the USACE Health and Safety Officer.

3.0 HAZARD EVALUATION

Based on the nature of these archaeological activities, which include recordation of deteriorating structures, the hazard potential is deemed moderate. Activities will also be conducted in areas of historic industrial activity. The potential of encountering low levels of industrial contamination exists. The following summarizes the potential hazards associated with deteriorating structures as well as potential chemical, physical and biological hazards.

3.1 Activity Hazard Analysis

3.1.1 Vessel Activity

HAZARD	MEANS OF PREVENTION	ACTION IN CASE
Weather	Monitor weather prior to leaving port. Constantly observe weather while conducting investigations. Indications of imminent foul weather are antithetical to safe investigations.	Do not have vessel leave port. Vessel return to port.
Fire aboard Vessel	All survey crew will become familiar with placement of fuel shutoff and fire suppression equipment.	Contact nearest Coast Guard facility. Engage fire suppression equipment.
Falling objects	All overhead objects will be secured.	Apply first aid or other appropriate treatment.
Falling, Tripping, and Slipping	Crew will be aware of the local environment and wear proper foot gear for environment. One hand for the boat one hand for self rule.	Apply first aid or other appropriate treatment. Seek medical help if necessary.
Man Overboard	Crew will wear Personal Flotation Device (PFD) when applicable.	Discontinue investigation. Recover man overboard.
Hypothermia	Crew will wear appropriate clothing for environmental conditions. Avoid exposure to extreme cold and unnecessary discomfort.	Supply with warm liquids and cover until body temperature returns to normal.
Drowning	Crew will wear Personal Flotation Device (PFD) when applicable. Crew will be familiar with the dive vessel and emergency equipment placement for immediate use if necessary.	Administer CPR as appropriate & seek medical attention immediately.
Vessel Sinking	Evaluate seaworthiness of vessel prior to any survey or work activity. Know location of all floatation devices and life rafts on project vessel. Know radio signal for emergencies "May Day".	Contact nearest Coast Guard facility. Abandon vessel.

3.2.2. Non-Diving Working Activity

<u>ACTIVITY</u>	<u>POTENTIAL PROBLEMS</u>	<u>MEANS OF PREVENTION</u>
Working on above water wrecks	Falling through deteriorated decking	Alternate means of obtaining desired data will be employed where possible.
	Falling through deteriorated decking	No unnecessary walking on deteriorated vessels.
	Shifting/falling objects	Wearing of proper safety equipment including hard hats and steel toed boots
	Undetected worker injury	Working in groups of two or more people.
	Falling off vessel into water	Wearing of proper safety equipment.
	Tripping	Observe tripping hazards and remove, avoid, or mark.
	Slipping, falling	Wearing of proper safety equipment.
		Careful observation of surroundings.
		No unnecessary walking on deteriorated vessels.
	Scrapes and cuts due to exposed sharp edges	Wearing of proper safety equipment
	Splinters	Wearing of proper safety equipment
	Exposure to waste chemicals, solvents, paints and other potentially hazardous items that may have been stored/left behind on vessels	Wearing of proper safety equipment. Avoiding deteriorated chemical storage cans/tanks.

3.2.3. General Hazard Analysis

<u>ACTIVITY</u>	<u>POTENTIAL PROBLEMS</u>	<u>MEANS OF PREVENTION</u>
Work Site	General public, pleasure and commercial vessels	Limit or Prevent Access as necessary Maintain communication via marine band radio.
Accident Prevention	Public and personal injury	Wear proper clothing and safety equipment. Signage and other applicable warning devices.
Emergencies, Injuries and Accident Reporting	Public and personal injury.	Maintain survey crew certification in both CPR and First Aid. Maintain first aid kits. Post local emergency numbers. Promptly report and investigate all accidents.
Machinery And Equipment Operation	Equipment or property damage .Potential for personnel injury.	All machinery and equipment will be operated only by knowledgeable operators
Vehicle Operation.	Equipment or property damage Potential for personnel injury.	All survey crew members will obey local traffic laws Project vehicles will be properly maintained.
Loading and Offloading Equipment	Equipment or property damage Potential for personnel injury.	Each crew member will know abilities and not exceed them. Assign proper number of personnel to each task.
Water Access And Equipment Operation	Drowning, falling, or slipping	All floating plant marine work will be performed in accordance with the requirements of EM385-1-1 Section 26

The above is a list of potential hazards that may be encountered during the current project. This list will be presented to each survey crew member for their review and input prior to any survey activity.

While on site other, not readily definable hazards may occur. A continuous evaluation of hazards will be conducted while engaging in project activities. Each new hazard that presents itself will be listed as they occur and preventive measures will be developed and implemented. Upon the completion of the investigation a review of the effectiveness of the present hazard analysis will be conducted to evaluate the overall effectiveness and determine if any changes or additional input is needed. Any hazards encountered during the investigation not previously listed will be included in a post survey hazard evaluation for better pre-project hazard analysis during future projects.

4.0 SAFE WORKING PRACTICES

4.1 General Practices

The following general safe work practices apply:

- Contact with potentially contaminated substances should be avoided. Puddles, pools, mud, etc. should not be walked through if possible. Kneeling, leaning, or sitting on equipment or on the ground should be avoided whenever possible.
- Unusual site conditions shall be promptly conveyed to the SSO and project management for resolution.
- A first-aid kit shall be available at the site.
- Field personnel should use all their senses to alert themselves to potentially dangerous situations (i.e., presence of strong, irritating, or nauseating odors, deteriorated surfaces, unstable debris, etc.).
- Field personnel must attend safety briefings and should be familiar with the physical characteristics of the investigation, including:
 - Accessibility to associates, equipment, and vehicles.
 - Site access.
 - Routes and procedures to be used during emergencies.
- Personnel will perform all investigation activities with a buddy who is able to:
 - Provide his or her partner with assistance.
 - Notify the SSO or Field Director if emergency help is needed.
- Work activities shall be terminated immediately in event of thunder and/or electrical storm.

The use of alcohol or drugs at the site is strictly prohibited.

5.0 PERSONAL PROTECTIVE EQUIPMENT

As required by OSHA in 29 CFR 1920.132, this plan constitutes a workplace hazard assessment to select personal protective equipment (PPE) to perform the archaeological

and the cultural resources investigation.

Protective clothing and equipment to initiate the project will include:

- Work clothes
- Steel or fiberglass-toed safety boots
- Work gloves
- Hard hat if work is conducted in areas with overhead danger

6.0 EMERGENCY INFORMATION

In the event of an emergency, the field team members or the SSO will employ emergency procedures. A copy of emergency information will be kept in the field vehicle and will be reviewed during the initial site briefing. Copies of emergency telephone numbers and directions to the nearest hospital will be prominently posted in the field vehicle.

6.1 Emergency Medical Treatment And First Aid

A first aid kit large enough to accommodate anticipated emergencies will be kept in the boat. If any injury should require advanced medical assistance, emergency personnel will be notified and the victim will be transported to the hospital. Keys for the field vehicle will be left in or near the ignition.

In the event of an injury or illness, work will cease until the SSO and Field Director have examined the cause of the incident and have taken appropriate corrective action. Any injury or illness, regardless of extent, is to be reported on the Accident Report Form (Appendix A).

6.2 Emergency Telephone Numbers

Emergency telephone numbers for medical and chemical emergencies will be posted in the field vehicle are listed below:

EMERGENCY	911	EMERGENCY
HOSPITAL	201-858-5000	Bayonne Hospital 29 th St. and Ave., E. Bayonne, NJ 07002
HOSPITAL	718-226-9000	Staten Island University Hospital 475 Seaview Ave., Staten Island, NY 10305

HOSPITAL	718-226-2000	Staten Island University Hospital 375 Seguin Ave., Staten Island, NY 10309
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UNITED STATES COAST GUARD, 1ST DISTRICT

GROUP NEW YORK	212-668-7913	
SEARCH AND RESCUE	212-668-7913/7937	24-HOUR HOTLINE
Operations Office	212-668-7913	USCG, 1st District, Governor's Island
Air Station	718-765-2409	USCG Air Station Brooklyn
Waterways Office	212-668-7906	Waterways, Governor's Island

NEW JERSEY STATE MARINE POLICE, PORT NEWARK

State Marine Police	201-578-8173	Port Newark Office
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6.3 Emergency Standard Operating Procedures

The following standard operating procedures are to be implemented by on-site personnel in the event of an emergency. The SSO shall manage response actions.

- Upon notification of injury to personnel, the designated **emergency signal shall be sounded**, if necessary. All personnel are to terminate their work activities and assemble with the SSO. The emergency medical service and hospital emergency room shall be notified of the situation. If the injury is minor, but requires medical attention, the SSO shall accompany the victim to the hospital and provide assistance in describing the circumstances of the accident to the attending physician.
- Upon notification of an equipment failure or accident, the SSO shall determine the effect of the failure or accident on site operations. If the failure or accident affects the safety of personnel or prevents completion of the scheduled operations, all personnel are to leave the area until the situation is evaluated and appropriate actions taken.
- Upon notification of a natural disaster, such as tornado, high winds, flood, thunderstorm or earthquake, on-site work activities are to be terminated by the SSO and all personnel are to evacuate the area.

6.4 Emergency Response Follow-Up Actions

Following activation of the Emergency Response Plan, the SSO shall notify the project manager and other PCI managers. The SSO shall submit a written report documenting the incident within two working days (see Attachments).

6.5 Medical Treatment For Site Accidents/Incidents

The SSO shall be informed of any site-related injury, exposure or medical condition resulting from work activities. All personnel are entitled to medical evaluation and treatment in the event of a site accident or incident.

SITE MEDICAL SUPPLIES AND SERVICES

The SSO or a trained first aid crew member shall evaluate all injuries at the site and render emergency first-aid treatment as appropriate. If an injury is minor but requires professional medical evaluation, the SSO shall escort the employee to the appropriate emergency room. For major injuries occurring at the site, emergency services shall be requested.

First-Aid Kits

A first-aid kit shall be available, readily accessible and fully stocked. The first-aid kit shall be located within specified vehicles used for on-site operations.

7.0 PERSONNEL TRAINING REQUIREMENTS

7.1 Initial Site Entry Briefing

Prior to initial site entry, the SSO shall provide all personnel (including site visitors) with site-specific health and safety training. A record of this training shall be maintained. This training shall consist of the following:

- Discussion of the elements contained within this plan
- Discussion of responsibilities and duties of key site personnel
- Discussion of physical, biological and chemical hazards present at the site
- Discussion of work assignments and responsibilities
- Discussion of the correct use and limitations of the required PPE
- Discussion of the emergency procedures to be followed at the site
- Safe work practices to minimize risk
- Communication procedures and equipment
- Emergency notification and procedures

7.2 Additional Training

The following additional training is required for all full-time site workers.

- Red Cross Standard First Aid
- Red Cross CPR

7.3 Daily Safety Briefings

The SSO will determine if a daily safety briefing with all site personnel is needed. The SSO shall document the daily briefings in the field log book. This documentation shall include health and safety topics covered and attendees at the briefing. The briefing shall discuss the specific tasks scheduled for that day and the following topics:

- Specific work plans
- Physical, chemical or biological hazards anticipated
- Fire or explosion hazards
- PPE required
- Emergency procedures, including emergency escape routes, emergency medical treatment, and medical evacuation from the site
- Weather forecast for the day
- Buddy system
- Communication requirements
- Site control requirements