

MINUTE ITEM

This Calendar Item No. 71 was approved as
Minute Item No. 71 by the California State Lands
Commission by a vote of 3 to 0 at its
4/13/99 meeting.

CALENDAR ITEM

71

A 1

PRC 8074

04/13/99

S 2

W 25513

Pelkofer

MARINE SALVAGE PERMIT

APPLICANT:

Deep Sea Research, Inc.
C/O Fletcher C. Alford, Esq.
Gordon & Rees
275 Battery Street, 20th Floor
San Francisco, CA 94111

AREA, LAND TYPE AND LOCATION:

The area is on State submerged land within the Pacific Ocean approximately four nautical miles from Point St. George and Crescent City, Del Norte County, California.

LAND USE:

Permittee will conduct salvage operations on the *SS Brother Jonathan*, sunk in 1865 and resting on state submerged lands. Salvage operations will be conducted under the terms of the permit and in accord with the research design submitted by Deep Sea Research, Inc. as approved by the Commission.

TERM OF THE PROPOSED PERMIT:

One (1) year commencing upon issuance, and renewable for additional one year periods upon request of Deep Sea Research, Inc. with evidence of substantial compliance with the terms of the permit including due diligence in pursuit of recovery work.

CONSIDERATION:

Permittee and the State shall share the net recovery value as defined in the permit on a 80/20 % basis. The State shall retain ownership of all artifacts until division and any non-monetary artifacts will not be recovered without prior permission of the Commission's onboard representative.

BASIS FOR CONSIDERATION:

Pursuant to Public Resources Code Section 6309(l).

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PREREQUISITE CONDITIONS, FEES AND EXPENSES:

Filing fees have been received.

STATUTORY REFERENCES:

Public Resources Code Sections 6309, 6313 and 6414.

PERMIT STREAMLINING DEADLINE:

N/A

OTHER PERTINENT INFORMATION:

1. The permit to be issued is in furtherance of a stipulation filed with the United States District for the Northern District of California in the matter of *Deep Sea Research, Inc. v. the Brother Jonathan* (C 91 3889 LCB). The Court entered a judgment in the above matter on March 11, 1999 which embodied the terms of the stipulation and of the permit.

Deep Sea Research, Inc. (hereafter DSR) has been conducting salvage operations on the *Brother Jonathan* since 1995 as exclusive salvor under an order of the United States District Court for the Northern District of California. The location of the wreck has become general knowledge and DSR's successful recovery of gold has increased interest in the site and the risk of pillage and damage by other persons. To minimize that risk, DSR will be permitted to continue to conduct salvage operations under the terms of this permit to recover and remove items of value from the wreck.

Operations authorized by this permit shall be conducted in compliance with all federal, state and local laws, rules and regulations and in strict conformity with the terms of the permit and the research design submitted by the permittee as approved by the Commission. Permittee acknowledges that the *Brother Jonathan* is eligible for listing on the National Register of Historic Places and understands the archaeological and historical significance of vessel and the site. All operations shall be conducted with due consideration of the *Brother Jonathan's* historical significance.

2. Pursuant to the Commission's delegation of authority and the State CEQA Guidelines (14 Cal. Code Regs. 15025), the staff has prepared a Proposed Negative Declaration identified as EIR ND 689, State Clearinghouse No.

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99022007. Such Proposed Negative Declaration was prepared and circulated for public review pursuant to the provisions of CEQA. Based upon the Initial Study, the Proposed Negative Declaration, and the comments received in response thereto, there is no substantial evidence that the project will have a significant effect on the environment. (14 Cal. Code Regs. 15074(b)).

3. This activity involves lands identified as possessing significant environmental values pursuant to Public Resources Code Section 6370, et seq. Based upon the staff's consultation with the persons nominating such lands and through the CEQA review process, it is the staff's opinion that the project, as proposed, is consistent with its use classification.

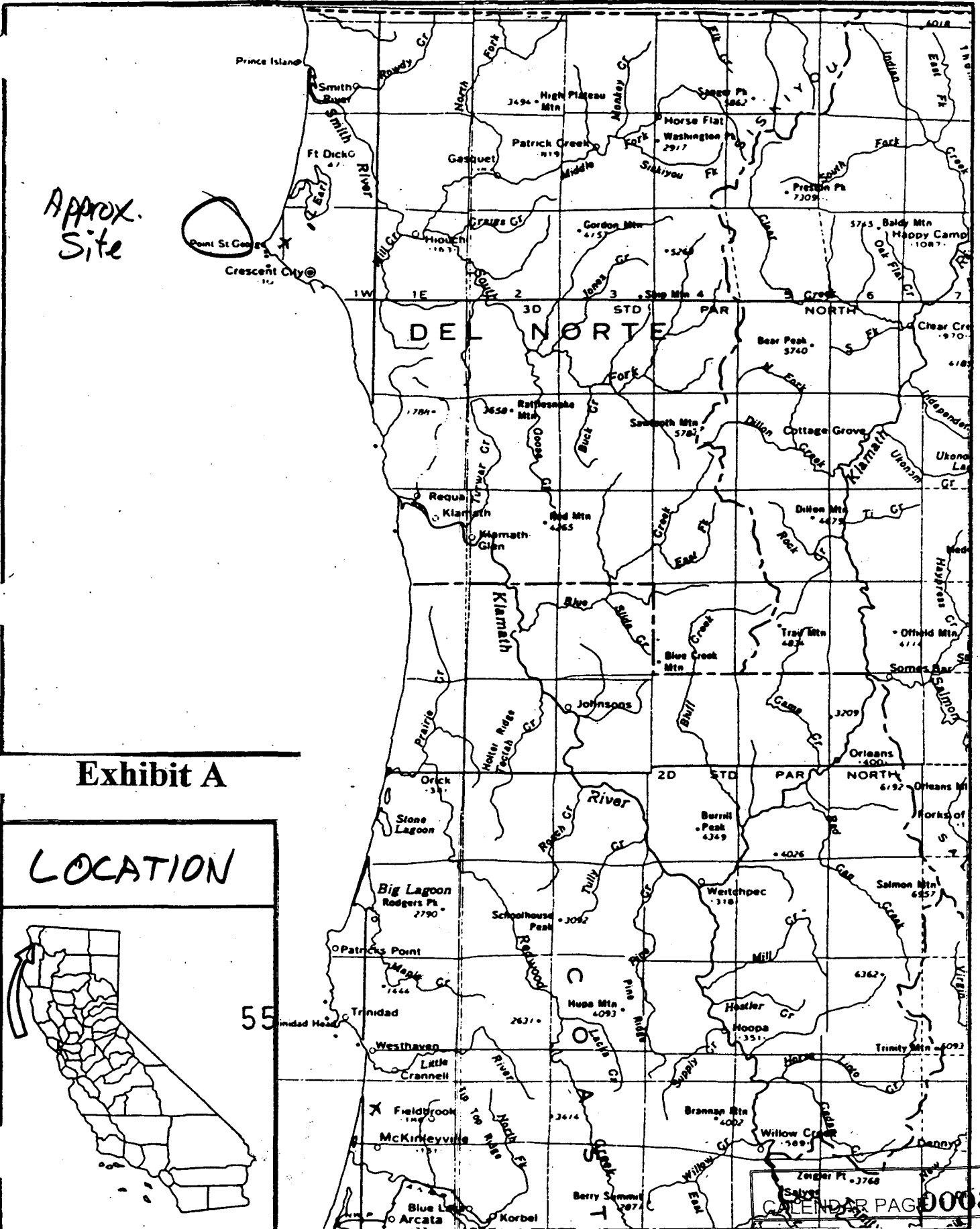
EXHIBITS:

- A. Location Map
- B. Draft Permit
- C. Research Design

IT IS RECOMMENDED THAT THE COMMISSION:

1. CERTIFY THAT A NEGATIVE DECLARATION, EIR ND 689, STATE CLEARINGHOUSE NO. 99022007, WAS PREPARED AND ADOPTED FOR THIS PROJECT PURSUANT TO THE PROVISIONS OF THE CEQA AND THAT THE COMMISSION HAS REVIEWED AND CONSIDERED THE INFORMATION CONTAINED THEREIN, AND THAT THE CONDITIONS OF THE PERMIT ARE PROPERLY COVERED UNDER SAID NEGATIVE DECLARATION.
2. DETERMINE THAT THE PROJECT, AS APPROVED, WILL NOT HAVE A SIGNIFICANT EFFECT ON THE ENVIRONMENT.
3. AUTHORIZE THE ISSUANCE TO DEEP SEA RESEARCH, INC., A ONE-YEAR RENEWABLE SALVAGE PERMIT, COMMENCING WITH THE DATE OF ISSUANCE, TO CONDUCT SALVAGE OPERATION ON THE SS *BROTHER JONATHAN*, UNDER THE TERMS AND CONDITION AS SET OUT IN THE DRAFT PERMIT (ATTACHMENT B) AND IN ACCORD WITH THE RESEARCH DESIGN SUBMITTED BY DEEP SEA RESEARCH, INC. (ATTACHMENT C).

Exhibit A



Approx.
Site

Exhibit A

LOCATION



55

DRAFT

STATE OF CALIFORNIA
STATE LAND COMMISSION
PERMIT NO. W 25513
MARINE SALVAGE PERMIT

This permit is issued by the **STATE LANDS COMMISSION** hereinafter designated as "Commission or the State", under authority of Division 6 of the Public Resources Code Sections 6309, 6313 and 6314 to **DEEP SEA RESEARCH, INC.**, a California Corporation, c/o David Flohr, 1852 Circo Del Cielo Drive, El Cajon, California 92020, hereinafter designated as "Permittee or DSR".

PERMITTED ACTIVITY

Permittee will conduct salvage operations on the *SS Brother Jonathan*, sunk in 1865 and resting on state submerged lands approximately four miles offshore of Crescent City, Del Norte County, California in the Pacific Ocean. Salvage operations shall be conducted under the terms of this permit and in accord to the research design submitted by DSR and approved by the Commission.

TERM OF THE PERMIT

A period of one (1) year beginning on the date of issuance by the Commission. It is renewable for additional one year periods upon the request of DSR and evidence of DSR's substantial compliance with the terms of the existing permit including reasonable diligence in pursuit of recovery work. If weather or other factors not within DSR's control prevent timely completion of the salvage operation, DSR will be granted additional time to complete the salvage. If DSR fails to conduct operations during a permit period when it is not prevented from conducting such operations by conditions not within its control, the state shall not be obligated to grant a permit extension or renewal.

PURPOSE AND CIRCUMSTANCES FOR ISSUANCE OF THE PERMIT

This Permit is issued in furtherance of a stipulation of the parties and a judgment entered on March 11, 1999, in the matter of *Deep Sea Research, Inc. v. The Brother Jonathan*, United States District Court for the Northern District of California, (C 91 3889 LCB).

Deep Sea Research, Inc. has been conducting salvage operations on the *Brother Jonathan* since 1995 under order of the United States District Court for the Northern District of California. The location of the wreck has become general knowledge and DSR's successful recovery of gold has increased interest in the site and the vessel. The State and the Permittee agree that the wreck is at risk of being pillaged and damaged by other persons. To minimize that risk, DSR will be permitted to continue to conduct salvage operation under the terms of this permit to recover and remove items of value from the wreck.

PERMIT AREA

The permission granted under this permit is limited to authorized activities conducted within an area comprised of a circle with a radius of 5,200 feet and a center point at geographic coordinates L . 41.29N and Lo. 124.20.50W as well as a 1,000 foot wide strip, the center of which is a straight line spanning the shortest distance between Jonathan Rock and the center of the above described circular area.

CONDITIONS OF THE PERMIT

Operations authorized by this permit shall be conducted in compliance with all federal, state and local laws, rules and regulations and the terms of this permit and in accord with the research design submitted by Permittee and approved by the Commission. Other state or federal agencies may have approval authority over the activities contemplated. Approval of such agencies shall be secured by Permittee prior to commencing activities. The Commission staff will cooperated with Permittee's efforts to obtaining any other necessary permits. Permittee shall also provide all appropriated notices required by ordinary rules of navigation and safety.

Permittee acknowledges that the *Brother Jonathan* is eligible for listing on the National Register of Historic Places and understand the archaeological and historical significance of the vessel. All operation shall be conducted with due consideration of the *Brother Jonathan's* historical significance.

COMMISSION'S REPRESENTATIVE

The Commission may provide a representative to observe activities conducted under this permit. The representative shall have the right to be aboard any and all vessels used by the Permittee for salvage operations while said operations are being conducted. The representative shall have the right to observe all salvage operations and activities including on site planning and review and may visually inspect, photography and record such activity. Permittee shall maintain space on its vessel for the representative of the Commission and provide transportation to travel to and from the shore to the operations vessel. Permittee's transportation of the

representative between ship and shore shall be at times mutually convenient to Permittee and the representative, and shall not interfere with Permittee's work. Permittee shall reimburse the Commission for the representative's compensation and reasonable expenses, but that cost shall be a allowable cost under the Net Recovery Value.

The representative shall inspect and monitor Permittee's activities to ensure that such activities comply with the terms of this permit. If the representative observes any activity the he or she reasonably believes is in violation of this permit, the representative shall promptly call such matters to the attention of Permittee's designated salvage master. If the salvage master and the representative are not able to resolve the matter between themselves, either party may submit the matter to the California Superior Court for resolution on an ex parte basis, after statutory notice to counsel for the other party. If the Superior Court determines, after an opportunity for both parties to be heard, that the activity in question is in violation of this permit, the Court may award appropriate relief. Permittee, understands and agrees that any dispute between DSR and the Commission arising under the terms of this permit shall be governed by California law and jurisdiction to resolve the dispute shall be in the California Superior Court.

INSURANCE

Permittee shall at all times, during all operations and activities under this permit, carry full and complete workers compensation insurance for its employees, and require such coverage of all independent contractors conducting operations on Permittee's behalf. Permittee shall maintain liability insurance in the minimum amount of ----- during the operations and the State shall be named as an additional insured. Permittee shall also maintain insurance of an amount to adequately cover possible damage, destruction or loss of all items recovered as soon after recovery as such insurance coverage is available.

RECOVERY, CONSERVATION AND ALLOCATION OF RECOVERED ITEMS

Permittee agrees that the term "*Brother Jonathan*" shall include the *Brother Jonathan* vessel, its cargo, freight, treasure, furnishings, engines, hardware, or other manmade object of any kind more than 100 years old that are found on or in the sea floor within the permit area and acknowledges that all such item are the property of the State of California. Ownership of items recovered by DSR may be claimed by the United States or third parties. Either DSR or the Commission may dispute such ownership in an appropriate legal action. DSR may claim a salvage award on items determined to be owned by the United States or other parties, but shall not claim or deduct the cost or expense of recovery of such items against the

Net Recovery Value due the State to the extent such costs and expenses can reasonably be segregated.

This permit is limited to the recovery of "treasure trove" strictly defined as *gold, silver, jewelry, coins, paper money, scrip, or specie* and the recovery of such other items as the state representative shall authorize. DSR agrees that its recovery efforts will be limited to treasure trove. The State does not desire that DSR recover other items unless the state specifically requests DSR to do so. If DSR wishes to recover any non-treasure trove items, it shall request permission from the state representative. The state representative shall have one hour to consider and grant permission for recovery of the requested item. If permission is not granted DSR may never-the-less recover the item, which remain subject to the award provision of this permit, but DSR shall be solely responsible for the expense of its conservation.

DSR shall be responsible for the initial conservation of all items recovered, but the reasonable expenses associated therewith shall be an allowable cost in determining net recovery value. Long term conservation of treasure trove shall be DSR's responsibility. Conservation of items recovered at the request of the State, after initial stabilization by DSR, will be in the responsibility of the State. Except as maybe agreed or adjudicated to be the property of the United States, Wells Fargo and Company or Regina Phelan, all items recovered by DSR from the wreck pursuant to this permit shall be deemed to be the property of the state. None of the items recovered may be removed from the State without the written permission of the Commission. Ownership of items recovered are and shall remain the property of the state unless determined otherwise by agreement or a court determination until such time as the agreed division or salvage award is made as provided below. Any non-treasure trove recovered having an individual value of less that \$5,000 shall not be subject to the salvage award provisions of this permit.

Permittee and the Commission contemplate that division of the items recovered and satisfaction of the salvage award will be made primarily by a division of the items recovered rather than through a sale of those items and a division of the resulting proceeds. The State, however, shall have the right to retain any item recovered and as to such item use its percentage share of the treasure trove as payment for such item. If the value of the item exceeds the State's percentage share of the division, it may still retain the item and reimburse DSR the difference between the appraised value of the item and the State's percentage share allowable under the award. Should the state not have sufficient available funds for such purpose it shall have at one subsequent fiscal year to obtain the funds.

SALVAGE AWARD

The State acknowledges that permittee is entitled to a salvage award of 80 percent of the Net Recovery Value of all treasure trove recovered and of any other item recovered having an individual monetary value exceeding \$5,000.

Net Recovery Value shall be determined as follows:

a. DSR shall arrange for recovered items to be inspected and appraised by an appropriately licensed and reputable independent appraiser experienced in appraising treasure trove and artifacts similar to those recovered and shall promptly provide to the Commission copies of all such appraisals. If the Commission disputes an appraisal, It shall have 30 days in which to conduct, at its own expense, its own appraisal of the item by an appropriately licensed and reputable independent appraiser experienced in appraising object of the kind in question. DSR and the Commission shall then meet and confer in an attempt to resolve any differences between their respective appraisals. If after the meeting, DSR and the Commission are unable to resolve their differences, the appraisers previously selected by DSR and the Commission shall together select a third appraiser who shall appraise the items in question. Whichever of the parties' original appraisals is closest to the third appraisal shall be accepted as conclusively establishing the value of the items in question.

b. Net Recovery Value shall then be calculated by adding together the total appraised value of all recovered items (except non-treasure trove valued at less than \$5,000), and subtracting from that total the allowable reasonable costs and expenses incurred by DSR in the recovery of the items. The resulting sum shall be the Net Recovery Value , to be divided 80 percent to DSR and 20 percent to the State.

DSR's costs of recovery will be deducted prior the agreed division of Net Recovery Value. DSR will keep appropriate, reasonably detailed records of its costs and expenses, and a copy of such records shall be made available to the Commission prior to a division of the Net Recovery Value. Should DSR's cost of recovery exceed the value of the items recovered in any year, to that extent such loss shall be carried forward to subsequent recovery years as a credit due DSR from any proceeds recovered in such subsequent years. The Commission shall have the right, however , to prohibit DSR from selling any item recovered from the *Brother Jonathan* so that the State may purchase DSR's salvage interest in said item at the end of the salvage effort. Such right shall be exercised by the Commission in a reasonable fashion. Any dispute regarding the reasonableness of the costs and expenses shall be conclusively determined by binding arbitration before an arbitrator selected by agreement between DSR and the Commission.

INFORMATIONAL MATERIALS

All charts, maps, drawings, photographs and videotapes or other electronic recording or images that DSR has or makes as part of its salvage efforts of the wreck, wreck site, its operations or any items recovered from the wreck shall be made available to the State and the Commission shall be entitled to view and copy such items. Such review shall be at a time and place mutually agreeable to the parties. Information already in DSR's possession shall be made available prior to their conduct of any activities under this permit. The State agrees that it will not use any such material for commercial purposes whatsoever and that any display or reproduction of such materials will be accompanied by appropriate attribution to DSR. No such materials identified by DSR as proprietary in nature will be disclosed by the Commission to any third party without the written permission of DSR. The Commission understand and agrees that all intellectual property created by DSR relating to the Brother Jonathan shall remain their exclusive property of DSR. This permit neither creates nor transfers any intellectual rights in the Brother Jonathan to the benefit of DSR.

NOTICES

Any notice required under this permit shall be complete when delivered in person to the designated representative on behalf of the State, or to the salvage master on behalf of DSR. Mailed notices shall be sent to:

For the State: Jack Rump, Chief Counsel
 100 Howe Ave., Suite 100 South
 Sacramento, CA 95825

For DSR: Fletcher Alford
 Gordon & Rees
 275 Battery Street, 20th Floor
 San Francisco, CA 94111

EFFECTIVE DATE

This permit and agreement shall be effective when sign and issued by the State Lands Commission and continue in effect for one year from that date, unless sooner abandoned by the permittee or extended by further action of the Commission.

Agreed and Accepted this _____ day of _____ 1999

By _____
(Signature and title of Corporate Officer)
on behalf of **Deep Sea Research, Inc.**

State of California
State Lands Commission

Issued this date: _____ 1999

By _____
(Signature and title)

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Exhibit C

1999

RECONNAISSANCE AND RECOVERY PLAN

FOR

S.S. BROTHER JONATHAN WRECK SITE

Submitted to:

**California State Lands Commission
100 Howe Avenue, Suite 100 South
Sacramento, CA
95825-8202
Attention: Mr. Peter Pelkofer, Esq.**

by

**Deep Sea Research, Inc.
c/o Gordon & Rees
Embarcadero Center West
275 Battery Street,
San Francisco, CA
94111
Attention: Mr. Fletcher C. Alford, Esq.**

via

**R2 Underwater Consultants
P.O. Box 1956
Morehead City, NC
28557**

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1 0 INTRODUCTION

The purpose of this document is to briefly present the objectives proposed by Deep Sea Research (DSR) for its 1999 season of work on the S.S. *Brother Jonathan* shipwreck site off Crescent City, CA, and the reasons for those objectives. It will also describe the equipment and methods DSR will use.

As explained in DSR's *Research Design for Recovery of Cultural Material from the Steam Vessel Brother Jonathan*, previously submitted to the United States District Court, the *Brother Jonathan* project was originally designed to be conducted in multiple phases, each using specific methods to accomplish specific objectives within a specific time frame. Unfortunately, a number of factors beyond DSR's control have resulted in scheduling disruptions which have forced DSR to alter its original recovery plans.

In particular, DSR must consider the relatively short weather window in which it can conduct operations. The only period during which an extended diving operation can be mounted is the period beginning in late July or early August and continuing through early September. Rather than attempt a full-scale recovery operation with the limited planning time and limited resources now available, DSR will instead conduct a thorough survey of the wreck and the debris field, with the objectives detailed in Section 2.0. This procedure will cause far less disturbance to the site than would an attempt to make major retrievals from it. Should recoveries be made, they will be minimal and will be limited to specific items indicated elsewhere in this document. DSR's priority for the 1999 field season will be to gather data for planning a complete, full-scale recovery operation in the year 2000.

While DSR will definitely be able to achieve many of the objectives proposed in its earlier plan, some of the equipment and systems it had intended to use will not be available this dive season. In addition, because the aforementioned delays have kept DSR from diving on the site for over a full year, it will be necessary for DSR to reassess the condition of the wreck before plans for a full-scale recovery operation can be formulated. In short, survey and reassessment objectives must be done before full-scale recovery can recommence.

2 0 1999 OBJECTIVES

During its field work in 1996 and 1997, DSR successfully examined and mapped various portions of the site, recovered a significant number of artifacts for the Del Norte County Historical Society, and recovered a portion of the shipment of gold coins *Brother Jonathan* was carrying. Laboratory conservation and research work on the artifacts continues at the Del Norte County Museum annex in Crescent City. The gold coins are being held under court order pending the outcome of current litigation.

During the 1997 season, in accordance with its stated plan, DSR recovered a representative sample of artifacts and collected site-specific information that should enable it to conduct

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operations more accurately and efficiently when the full-scale recovery operation recommences. Also during 1997, DSR was able to conduct tests of the equipment, systems and methods it intends to use during the full-scale recovery. However, because of the timing of the settlement negotiations with the State of California, and the projected date for issuance of the recovery permit, some items of equipment critical to a full-scale recovery effort (which must be reserved by non-refundable deposits 8 months or more in advance) will not be available for the 1999 season. Such an effort must therefore be postponed until a later date

In the meantime, using the equipment and systems that *are* available, DSR intends to go forward with a modified program designed to achieve a number of important objectives aimed at adding significantly to the available body of knowledge regarding the wreck and the site formation process. As will be explained elsewhere in this document, DSR's current plans, objectives, and expectations are based on data gathered during its previous field operations

For the 1999 season, DSR hopes to accomplish the following

1 *To perform close-tolerance remote sensing of the area between Jonathan Rock and the wreck site.*

During the initial search for the wreck, this area was searched electronically using both magnetometer and side-scan sonar. However, the objective at that time was the location of the remains of an entire ship, which would have registered a large, very distinctive signature. For reasons explained in Section 2.1 of this document, DSR now believes that at least one of the items it would like to recover may lie in this area. The signature this item would provide is considerably smaller than that of the wreck, and would exhibit significantly different characteristics. Close tolerance remote sensing is the best method of determining its presence.

2 *To identify and map items of cultural material in the debris field between Jonathan Rock and the wreck site.*

At the time of DSR's initial search, isolated targets located by remote sensing were noted. However, for the reasons stated in (1) above and in Section 2.2, they were given low priority as potential clues to the location of the wreck. It is now apparent that due to the severe damage inflicted on *Brother Jonathan's* hull at the time of impact, some of the targets lying between Jonathan Rock and the wreck could well be items that fell from inside the ship after she hit the rock, but before she settled to the bottom. It is therefore essential that they be identified and recorded.

3 *To examine the wreck for evidence of disturbance.*

As described in Section 2.3 below, it is entirely possible that the wreck may have been negatively impacted during the period since DSR last dived on the site. As part of its 1999 activities, DSR will survey the site using visual and video techniques to assess any damage

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and/or disturbance to it. This data will be used in developing plans for a future full-scale recovery operation

4 *To recover, if possible, certain selected artifacts from the site.*

Brother Jonathan represents a repository of artifacts from a specific, identifiable moment in historical time. At the time she went down, every item aboard her was something that was either in use or was cargo destined to be used in the immediate future. During its 1997 field operations, DSR gathered a sample of items for conservation and study by the Del Norte County Historical Society. During the 1999 field season DSR intends to recover only those artifacts described in its settlement agreement with the State of California, if any can be located.

5 *To locate and recover the ship's safe*

DSR is a for-profit concern. Its primary interest in *Brother Jonathan* is the gold shipment she reportedly had aboard. Part of this shipment was recovered during the 1995 and 1997 field seasons, primarily in the form of loose coins. However, not all of the shipment was located, nor was the large purser's safe. The location and recovery of the safe and the continued search for additional gold coins, with minimum impact to the site, are two of DSR's primary interests.

6 *To interpret the collected data and add it to the growing body of information regarding the ship and its history.*

The history of *Brother Jonathan* and the technical aspects of the recovery of its cargo will be of particular interest both to scholars and to the general public. Information gathered in the course of projects such as this one is of little significance if it cannot be disseminated. DSR hopes to publish appropriate pieces in selected journals and present the story of the recovery on national television.

Data collected during the 1997 season has resulted in a reassessment of one of DSR's objectives as stated in the original plan. For the reasons given below, it is felt that the purser's safe, which may hold material of great historic as well as intrinsic value, may not be located inside the wreck as was at first thought, but may instead lie in the area between the wreck and Jonathan Rock.

2.1 *Location of the ship's safe*

During the 1996 and 1997 seasons a substantial number of gold coins was recovered from a small area of the wreck thought to have been the location of a strongroom. The ship's safe was known to have been located in the same part of the ship, however, despite a diligent search by divers it was not found.

It is probable that the safe contains a substantial portion of the gold shipment. It also undoubtedly contains many of the personal valuables of the passengers, who would have deposited their jewelry and most of their cash with the purser. More importantly from an

historical perspective, if any of the ship's papers have survived, the safe is the most likely place they would be

Given that the force with which *Brother Jonathan* hit the rock was sufficient to start her deck planks and break out a section of the keel, it can be assumed that serious damage was inflicted on the underwater portions of her hull. It is quite possible that the safe, along with other items of heavy cargo, fell through her bottom between the time she struck and the time she eventually came to rest on the sea floor. The safe may lie somewhere in the two mile area between the rock and the wreck.

2.2 Examination of the debris trail

As noted in 1) above, when the area between Jonathan Rock and the wreck site was examined during the initial search, the objective was to find the wreck. Although a few targets were noted, none was large enough to be the wreck. As stated in 2) above, hits in this area were given low priority since they were obviously *not* the wreck. Most could have been modern debris such as lost or discarded fishing gear.

In addition to the safe which DSR would like to find, *Brother Jonathan's* cargo included a number of very heavy articles. Railroad iron, an ore-crusher, milling equipment, a billiard table, cases of nails, and other weighty items were listed. For reasons of stability these would have been stowed as deep in the hold as possible, consequently they would have been the first items to fall out when the hull was breached.

DSR intends to inspect the debris trail using both side-scan sonar and magnetometer to locate and identify articles from the ship. Should the safe be located it will be recovered using the techniques described in Section 4.0.

2.3 Possibility of damage to the site

By the time the 1999 field season commences, almost two years will have elapsed since DSR personnel have dived on the site. During that period, because of the high-profile nature of the *Brother Jonathan* litigation, its location has become widely known. It is entirely possible, if not probable, that the wreck may have suffered damage from two sources.

As described in DSR's *Research Design for Recovery of Cultural Material from the Steam Vessel Brother Jonathan*, the wreck has in the past been negatively impacted by commercial fishing operations, specifically, damage by deep-sea trawl gear. With the recent publicity the site has received it would be no surprise to find druggers deliberately trawling across the site in hopes of snagging something of value.

Also mentioned in the Research Design is the fact that the recent court proceedings have attracted the attention of numerous individuals in the salvage, recreational, and "technical" diving communities. Whereas in the past, relatively deep sites such as *Brother Jonathan* were beyond the reach of most divers, advances in diving technology, particularly in the areas

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of mixed gases and oxygen rebreathers now put such sites within easy reach of almost any diver. A small but significant number of "technical" divers regularly make dives to over 400ft with no more surface support than a standard recreational dive charter boat. It is entirely possible that "technical" divers may have made intrusive visits to *Brother Jonathan* during the past two years.

DSR sees a definite need to inspect the site for evidence of damage from either of the above sources prior to developing plans for a full-scale recovery operation.

3.0 EQUIPMENT

As mentioned previously, because of the timing of the settlement agreement and permit issuance, some of the systems and equipment DSR had intended to employ in 1999 cannot be obtained in time for the 1999 diving season. The items described below were used by DSR during its previous operations and most are currently available, however, individual pieces of electronic gear might possibly be superseded by more sophisticated models.

3.1 *Surface Platform*

Any of several suitably equipped vessels of sufficient size may be used during the course of the 1999 season. The 110ft research vessel *Cavalier*, which was employed as the mother ship for the *Delta* subs during the 1993-95 expeditions, may be employed. The possibility of using other large research vessels is also being investigated. There is also the possibility that a large commercial fishing craft may be hired locally.

3.2 *Survey Vessel*

For the day-to-day work of remote sensing survey, a smaller craft will be needed. This vessel will probably be in the 25-30ft range, with an enclosed cabin and sufficient room to comfortably house the required electronic equipment and operators. It will also need to have sufficient deck space for handling and storage of the necessary electronic sensor heads and tow cables. DSR will most probably use *M/V Negotiator*, owned by The Undersea Company of Port Townsend, WA. There are also several suitable vessels available for hire locally.

3.3 *Electronics*

The following electronic navigation, positioning, and locating equipment will be installed on board the appropriate surface craft.

Trimble 4000 DL and RL survey grade DGPS receivers

Accpoint RTCM104 correction receiver

486 PC with multi-port capability, Hydro-Nav positioning and data processing software

HP 7550A plotter for real time and post-processing of positions and recorded data

HP Desk Jet printer for real time logging

Helm display and remote keyboard for use during survey operations.

Model 606 EDO 100 kHz side scan sonar
Model 700SS side scan sonar with recording capability and navigation control
EDO 20-inch flat bed recorder with 3-channel capability
2-channel DAT recorder for post-processing and archiving of data
Model G-866 EG&G proton precession magnetometer
486 PC with proprietary software for real time 3-dimensional plotting of magnetic anomalies
EG&G Unimag high resolution magnetometer
Dalton Research gradiometer

Additional electronics are available and may be integrated into the electronics package as necessary.

3.4 *Subsurface Craft*

The 2-man submersible *Delta*, operated by Delta Oceanographics, Inc. of Ventura, CA, is expected to be the primary subsurface vehicle. The 2-man capability is preferable as it allows for the presence of an operator and an observer or technician. *Delta* is equipped with exterior lights, manipulator arms and exterior camera mounts. Specialized recovery appliances and other attachments have been fabricated expressly for this project. A second, similarly equipped *Delta*-type submarine is available if needed.

The 1-man submersible *Snooper*, owned and operated by Under Sea Graphics, Inc., of Torrance, CA, may also be used. This craft is equipped with manipulator arms, exterior lights, and the Sony video camera described in Section 3.5. Specialized recovery appliances and other attachments for *Snooper* have also been fabricated expressly for this project.

Communication with the surface craft will be accomplished using an Ocean Technology Systems Single Side Band acoustic unit. This is an improved version of the instrument that won an Emmy Award for Technical Excellence for the motion picture "The Abyss." All voice communications will be monitored and recorded using a Sony digital recorder.

A Fathom 500 ROV (Remotely Operated Vehicle) may be employed for specific tasks that do not require use of divers or of the submarine. Both the submarines and the ROV use an O.R.E. Trackpoint II acoustic navigation system. The O.R.E. has a sub-mounted transponder and computes range and bearing from the surface vessel by time and signal strength across three receive transducers. Use of the ROV will allow surface personnel to assess targets at close range.

3.5 *Video and Photographic Suite*

Delta is equipped with an externally mounted Photosea 35mm camera with a laser spotting dot feature and strobe flash. This unit has a 200-shot magazine. *Delta's* video equipment includes an externally mounted Sony TR-81 Color Hi8mm camera equipped with precisely aligned parallel lasers for performing video photogrammetry while underway. An internal

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Sony TR-101 for filming through the observation ports is also available. *Snooper* is equipped with a digital format Sony 3-chip video camera in a dedicated port. This system allows individual video frames to be selected and reproduced as still photographs without loss of quality.

In addition, divers using standard hard-hat mixed-gas gear will be equipped with helmet-mounted cameras for recording each step of the recovery process. Video images from all sources will be monitored aboard the surface platform and/or the survey vessel. On board monitoring equipment has the capability to intake and enhance individual video frames. Instrument input can be programmed into each video frame to record such information as time, depth, water temperature, and salinity.

3.6 Diving Systems

In the event that the safe is located, it will probably be necessary to put divers on the site. This will be accomplished from the surface platform using standard surface-supplied mixed gas apparatus. Negotiations for the acquisition of requisite systems, personnel, and peripheral equipment are currently being conducted. The most likely candidate at present is Global Diving and Salvage of Seattle, WA.

3.7 Excavation Equipment

Because the wreck is covered by only a light deposit of silt, little sediment removal from within the hull is currently being contemplated. Accordingly, the use of excavation equipment is expected to be negligible.

Targets outside the wreck, particularly something as heavy as the ship's safe, may require a minimal amount of excavation in order to secure lifting slings. This will be accomplished using either a water induction dredge, water jet, or an airlifting system, depending on the situation. All three are tried and proven devices, long used and approved in both commercial and archaeological applications. Bottom disturbance will be negligible.

4.0 RECOVERY PROCEDURES

During its 1997 operations DSR collected artifacts from the very small area of the wreck to which it had confined its recovery effort. Each of these items was plotted and recorded according to accepted archaeological procedure. The entire collection, along with the few items recovered in 1995, are presently being conserved by the Del Norte County Historical Society. DSR neither wishes nor intends to disturb the *Brother Jonathan* site unnecessarily by simply collecting artifacts at random. It will therefore limit recoveries to the safe and other artifacts falling within the terms of the settlement agreement between DSR and the State of California.

4.1 *Recovery Methods*

Target-specific recovery procedures will be employed according to conditions. The position and orientation of any artifact will be recorded before it is moved, and it will be photographed and/or videoed *in situ*

Depending upon circumstances, recoveries may be performed using *Delta, Snoopers*, or surface-supplied divers. Through analysis of the video obtained during previous operations, specialized arms and attachments for the submarines have been designed and fabricated for recovery of selected items. They are designed specifically to prevent the possibility of damage to recovered artifacts. DSR wishes to impact the site as little as possible. Consequently, the use of excavating equipment such as air lifts and water induction dredges will be used only when absolutely necessary to clear an item for lifting.

5.0 TIME FRAME

As explained in DSR's *Research Design for Recovery of Cultural Material from the Steam Vessel Brother Jonathan*, the most dependable time of year for mounting a serious recovery operation on the *Brother Jonathan* site is the period beginning in late July or early August and continuing through early September. While there are periods of calm weather throughout the year, they are short and unpredictable. Although DSR has not yet set the exact dates for the 1999 operation, they will fall within the period noted above.

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