10/31/90

DEPARTMENT OF ECOLOGY

In the Matter of the	)	Remedial Action Order
	)	
ITT Rayonier, Inc.	)	No. DE 90-S255
409 East Harvard Avenue	)	
Shelton, Washington 98584	)	

I.

Jurisdiction

This Order is issued pursuant to the authority of RCW 70.105D.050(1).

II.

Statement of Facts

1. The project area in this matter (the "site") is a plywood mill located at 439 Marine Drive, Port Angeles, Washington. The location and boundaries of the site are depicted by the diagram attached as Exhibit A to this Order.

2. Peninsula Plywood Division (PenPly) of ITT Rayonier, Inc. (ITT Rayonier) operated the plywood mill at the site. The facility was owned by ITT Rayonier, Inc., a Delaware Corporation, with offices in Stamford, Connecticut. Klukwan Forest Products (K-Ply) purchased the facility in 1989. ITT Rayonier, as a condition of sale, has entered into an agreement with K-Ply to voluntarily remediate the former PenPly plant. The property on which the facility is located is owned by the Port of Port Angeles.

3. Investigations conducted by Landau Associates, Inc. for ITT Rayonier at the site have detected the presence of petroleum hydrocarbons and an area of pentachlorophenol (PCP) contamination in the soil under the plywood mill building at the site. Petroleum hydrocarbons are present under the plywood mill building in the vicinity of three large hydraulic presses from which hydraulic fluid has leaked. Nine ground water monitoring wells in the vicinity of the presses have been installed, sampled, and analyzed. Soil

samples also have been collected and analyzed during the course of these investigations. Hydraulic oil is floating on the ground water surface located under the presses and appears to have mixed with a gasoline plume suspected of originating off-site. The hydraulic oil plume extends approximately 10 feet south, 45 feet east, 35 feet west, and 70 feet north of the presses. The contaminants are located underneath the floor joists of the building and accessible only through a crawlspace affording minimal human contact. The plywood mill building prevents precipitation from infiltrating into contaminated soils and reaching the ground water. Based on limited sampling, PCP was not detected in the ground water. The site and surrounding property are used for industrial purposes and the site and vicinity are supplied by City of Port Angeles water.

4. A Remedial Investigation/Feasibility Study has not been completed for the site; however, several investigations and design reports have been completed and are listed in Table B-1 of Exhibit B of this Order. Ecology believes these investigations and reports provide justification for the implementation of interim actions as specified in WAC 173-340-430. In particular, the removal of free hydraulic oil from the ground water table and soils contaminated with pentachlorophenol should be implemented to reduce a potential threat to human health and the environment through the ground water exposure pathway and direct contact with contaminated soils.

5. Representatives from ITT Rayonier and PenPly have met with Ecology and have agreed to voluntarily initiate recovery of the free hydraulic oil and removal of the pentachlorophenol contaminated soils. However, ITT Rayonier has requested that an Order be issued as a mechanism for Ecology to oversee and approve the interim cleanup actions.

III.

Ecology Determinations

1. The ITT Rayonier, Inc. is an "owner or operator," as defined at RCW 70.105D.020(6).

2. The site described above is a "facility" as defined at RCW 70.105D.020(3).

3. The substances found at the facility and as described above are "hazardous substances" as defined at RCW 70.105D.020(5).

4. Based on the presence of these hazardous substances at the facility and all factors known to the Department, there is a release or threatened release of hazardous substances from the facility, as defined at RCW 70.105D.020(10).

5. The Department has found the ITT Rayonier, Inc. to be a potentially liable person under RCW 70.105D.040, after notice and opportunity for comment.

6. Pursuant to RCW 70.105D.030(1) and 70.105D.050, the Department may require potentially liable persons to investigate or conduct other remedial actions with respect to the release or threatened release of hazardous substances, whenever it believes such action to be in the public interest. Based on the forgoing facts, Ecology believes the interim actions required by this Order are in the public interest.

IV.

Work to be Performed

Based on the foregoing facts and determinations, it is hereby ordered that ITT Rayonier take the following interim actions.

1. ITT Rayonier shall provide to Ecology documentation by a licensed professional engineer that the containment currently in place is adequate to prevent leakage of hydraulic oil from the plywood presses, if properly maintained by K-Ply, Inc. This documentation shall include as-built specifications to allow an independent analysis by Ecology engineers. ITT Rayonier shall collect hydraulic oil floating on the ground water table, and shall excavate and remove soils contaminated with pentachlorophenol. Exhibit B of this Order provides an overview of the interim actions already completed, or to be performed.

2. Within one hundred twenty (120) calendar days of the effective date of this Order, ITT Rayonier shall submit to Ecology for review, comment, and approval the following draft plans for implementing the interim actions pursuant to WAC 173-340-400 and 430:

a. Engineering Design Report,

b. Safety and Health Plan,

c. Sample and Analysis Plan, and

d. Compliance Monitoring Plan.

Upon receipt of Ecology comments, ITT Rayonier shall incorporate the comments and submit final project plans to Ecology within thirty (30) calendar days. ITT Rayonier may discuss the comments with Ecology. Based on the discussions, Ecology may amend its comments if deemed appropriate.

3. ITT may incorporate into the Engineering Plan, by reference, the Remediation Plans prepared by Landau Associates, Inc. and previously submitted to Ecology. These documents were dated March 20, 1989, and October 17, 1989, and are referenced in Table B-1 of Exhibit B attached to this Order. The Engineering Plan also shall include:

a. Applicable provisions of WAC 173-340-400 not already documented in the Remediation Plans by Landau Associates;

b. Procedures for the designation and testing of hazardous waste generated during the interim actions, if not addressed in the Sample and Analysis Plan;

c. Procedures consistent with Chapter 173-303 WAC for the storage of hazardous substances at the site prior to final disposal;

d. Procedures for documenting the transport and final deposition of all hazardous substances from the site;

e. Identification of all applicable federal, state, and local permits and approvals for implementing the interim actions;

f. Schedule for implementing the interim actions.

4. The Safety and Health plan shall be prepared in accordance with WAC 173-340-810. Prior to initiation of work at the site on the interim actions, ITT Rayonier shall provide the Washington State Department of Labor and Industries a copy of the Safety and Health Plan and documentation that all personnel involved with the interim actions have complied with the training and medical monitoring requirements of the Washington Industrial Safety and Health Act (Chapter 49.17 RCW) and appropriate regulations.

5. The Sampling and Analysis Plan and Compliance Monitoring Plan may be combined into one document. The document shall comply with the applicable provisions of WAC 173-340-410 and -820. The plans shall include provisions to:

a. Monitor the effectiveness of the floating hydraulic oil recovery systems by the monitoring wells identified as PP-1, PP-2, PP-3, PP-5, PP-10, PP-11, PP-12, PP-14, and PP-16 as follows:

(1) During the first seventy-two (72) hours after startup of the recovery system, water levels in selected wells and the sumps shall be monitored to collect ground water elevation data to estimate the rate at which the "cone of depression" expands due to pumping.

(2) During the first two months after start-up of the recovery system, ground water levels within the sumps and monitoring wells shall be measured on a bi-weekly basis to determine that a cone of depression, or capture zone, is created.

(3) During the first two months after start-up of the recovery system, free oil thickness within the wells shall be measured on a bi-weekly basis to determine the effectiveness of the recovery effort. Thereafter, wells with hydraulic oil shall be measured for free oil thickness on a monthly basis.

Ecy approved change to quarterly.

(4) Ground water samples from the three downgradient wells (identified as Well PP-11, PP-15, and PP-16) shall be tested at startup and semi-annually for total petroleum hydrocarbons and benzene, toluene, ethylbenzene, and xylene (BTEX) during oil recovery and annually for a period of three years after recovery has terminated pursuant to paragraph 8 below. In addition, the startup sampling round will include analysis for base/neutral/acids (EPA Method 625) in the downgradient wells, in a sample of oil from the sumps, and in one of the drawdown wells. Ecology may require additional base/neutral/acid sampling if the results indicate the presence of these compounds in significant quantities.

(5) Six wells (identified as Wells PP-10, PP-11, PP-12, PP-14, PP-15, and PP-16) shall be monitored semi-annually during oil recovery, and annually for a minimum of five years after recovery has terminated pursuant to paragraph 8 below to determine the presence and thickness of free oil.

b. Monitor discharges of any recovered ground water.

c. Statistically evaluate cleanup of contaminated soils for compliance with interim cleanup levels.

6. ITT Rayonier shall submit to the appropriate agencies, within sixty (60) calendar days of the effective date of this Order, completed applications for all applicable permits necessary for implementing the interim actions.

7. ITT Rayonier shall implement the interim actions upon receipt of necessary permits, Ecology approval of project plans, and in accordance with the schedule provided in the approved Engineering Plan described in Section IV (3) of this Order. Ecology will allow extensions in the schedule provided in the Engineering Plan if the permitting process causes delays, provided ITT Rayonier has made all due and diligent efforts to obtain such permits.

8. ITT Rayonier shall properly dispose of any ground water recovered during the interim action in accordance with all applicable federal, state, and local laws and regulations. During the first two months of the free product recovery system operation, recovered ground water shall be trucked and treated at ITT Rayonier's permitted treatment facility and discharged at the NPDES outfall at its Port Angeles pulp mill, provided that none of the conditions of that NPDES permit are violated. Upon evaluation of the recovered ground water during the first two months, ITT Rayonier will obtain

all necessary approvals and/or permits for final disposal of the water. Final discharge limits must meet all known and available reasonable treatment (AKART) standards. In the event approvals and/or permits cannot be obtained after the initial two month period, active pumping of ground water wells shall cease until approvals and/or permits are obtained. Until approvals are obtained, the skimmers shall be operated as a passive system.

9. The cleanup level for soils contaminated with pentachlorophenol (PCP) shall be 25 mg/Kg of PCP for the interim action. Though this level does not meet final cleanup levels currently proposed in draft regulations of the Chapter 70.105D RCW; it does provide the most stringent cleanup levels without jeopardizing the structural integrity of the plywood mill building at the site. Ecology reserves the right to require further cleanup of the soil to achieve final cleanup levels promulgated under Chapter 70.105D RCW. ITT Rayonier shall excavate all soils with concentrations greater than 25 mg/Kg PCP in accordance with approved project plans. ITT Rayonier also shall excavate soils with 10-25 mg/kg of PCP, if this can be done without impairing the structural integrity of the plant building. Excavated soil shall be transported to and disposed of at a permitted hazardous waste facility in accordance with local, state, and federal regulations.

10. Under this Order, ITT Rayonier is not required to remove soils contaminated with hydraulic fluid. Ecology reserves the right to require further cleanup of the soil to meet final cleanup levels promulgated under Chapter 70.105D RCW. ITT Rayonier may have the option of conducting further investigations and pilot testing to determine the need for remediation of the soils contaminated with hydraulic oil and to assess cleanup technologies such as in situ bioremediation.

11. ITT Rayonier shall continue to recover floating hydraulic oil from the ground water except as noted in Section IV (8) of this Order and until the following conditions have been met:

a. The free product recovery has slowed to minor amounts as indicated by the accumulation of 1/8 inch or less of free product in the sump. At this time a one week (7 days) trial period without operation of the oil skimmer mechanism will commence. The ground water drawdown system will remain operational during the one week trial period.

b. If, after one week, more than 1/8 inch of free product has accumulated in the sump, the oil skimmer will be restarted and product recovery resumed. However, if 1/8 inch or less of product has accumulated, the oil skimmer will remain turned off for two additional weeks. If there is more than 1/8 inch of accumulated product, the skimmer will be restarted and product recovery resumed.

c. If, after an additional two week period with the skimmer off, there is 1/8 inch or less of accumulated free product, the skimmer will remain turned off for an additional 6 weeks. After this time, if the well has accumulated more than 1/8 inch free oil, the skimmer will be restarted and the product recovered. Since such a condition would indicate slow migration of oil, the skimmer will be turned off and on at six week intervals until the accumulation of free product is 1/8 inch or less during the six week period.

d. When the accumulation of free product is 1/8 inch or less in a six week period, ITT Rayonier shall have the option of shutting down the entire oil recovery system, including the drawdown pumps and back filling the sumps with clean fill. The drawdown wells will be capped

until the ground water monitoring program is complete, at which time all wells will be closed in accordance with regulatory requirements. Following their effective use, the sumps shall be abandoned in accordance with WAC 173-160-455.

e. Prior to the termination of the recovery system, ITT Rayonier shall consult with Ecology to obtain approval and a determination that the above conditions have been met.

11. ITT Rayonier shall provide the Ecology Project Manager a monthly progress report documenting all pertinent information on the status of the interim action. The report shall be delivered to Ecology within twenty-one (21) calendar days of the month's end. At a minimum, each report shall present the following:

a. Available results of any sampling and monitoring conducted;

b. Any modifications or design changes that vary from approved project plans;

c. Total flow, for each week, for hydraulic oil and ground water recovered from each sump and drawdown well;

d. Ultimate disposal location of the recovered oil and ground water from the recovery system;

e. Volumes of contaminated soil excavated and ultimate disposal location;

f. Deviations from approved schedules; and

g. Significant problems encountered.

V.

Terms and Conditions of Order

1. Public Notice

Chapter 70.105D RCW and Chapter 173-340 WAC require that, at a minimum, this Order be subject to concurrent public notice. The Department shall be responsible for providing such public notice and reserves the right to modify or withdraw any provisions of this Order should public comment disclose facts or considerations which indicate to the Department that the Order is inadequate and improper in any respect.

2. Remedial Action Costs

The ITT Rayonier, Inc. shall pay to Ecology those costs incurred by Ecology pursuant to this Order. These costs shall include work performed by Ecology or its contractors for investigations, remedial actions, and Order preparation, oversight and administration. Ecology costs shall include costs of direct activities; e.g., employee salary, laboratory costs, travel costs, contractor fees, and employee benefit packages; and agency indirect costs of direct activities. ITT Rayonier shall pay the required amount within 90 days of receiving from Ecology an itemized statement of costs that includes a summary of costs incurred, a general description of work performed, an identification of involved staff, and the amount of time spent by involved staff members on the project. Failure to pay Ecology's costs within 90 days of receipt of the itemized statement of costs may result in interest charges.

3. Designated Project Coordinators

Within ten (10) days of the effective date of this Order, the ITT Rayonier, Inc. shall designate a project coordinator. The project coordinator shall be responsible for overseeing the implementation of this Decree. To the

maximum extent possible, communications between Ecology and the ITT Rayonier, Inc. and all documents, including reports, approvals, and other correspondence concerning the activities performed pursuant to the terms and conditions of this Order, shall be directed through the project coordinators. Should the ITT Rayonier, Inc. change its project coordinator, written notification shall be given to Ecology at least ten (10) calendar days prior to the change.

Ecology's project coordinator is Philip J. Hertzog of the Ecology Southwest Regional Office.

4. Performance

All remedial work performed pursuant to this Order shall be under the direction and supervision, as necessary, of a professional engineer or certified hydrogeologist, or equivalent, with experience and expertise in hazardous waste site investigation and cleanup. The ITT Rayonier, Inc. shall notify Ecology as to the identity of such engineer(s) or hydrogeologist(s), and of any contractors and subcontractors to be used in carrying out the terms of this Order, in advance of their involvement at the site.

5. Access

Ecology shall obtain agreement from K-Ply that Ecology or any Ecology authorized representative shall have the authority to enter and freely move about all property at the site at all reasonable times for the purposes of, inter alia: inspecting records, operation logs, and contracts related to the work being performed pursuant to this Order; reviewing the progress in carrying out the terms of this Order; conducting such tests or collecting samples as Ecology or the project coordinator may deem necessary; using a camera, sound recording, or other documentary type equipment to record work done pursuant to this Order; and verifying the data submitted to Ecology by

the ITT Rayonier, Inc. Ecology shall provide reasonable notice before entering property unless an emergency prevents notice. Ecology shall split any samples taken during an inspection unless the ITT Rayonier, Inc. fails to make available a representative for the purpose of splitting samples, or splitting samples is otherwise impracticable.

6. Retention of Records

The ITT Rayonier, Inc. shall preserve in a readily retrievable fashion, during the pendency of this Order and for ten (10) years from the date of completion of the work performed pursuant to this Order, all records, reports, documents, and underlying data in its possession relevant to this Order. Should any portion of the work performed hereunder to be undertaken through contractors or agents of the ITT Rayonier, Inc., a record retention requirement meeting the terms of this paragraph shall be required of such contractors and/or agents.

7. Dispute Resolution

The ITT Rayonier, Inc. may request Ecology to resolve factual or technical disputes which may arise during the implementation of this Order. Such request shall be in writing and directed to the signatory of this Order. Ecology resolution of the dispute shall be binding and final. The ITT Rayonier, Inc. is not relieved of any requirement of this Order during the pendency of the dispute and remains responsible for timely compliance with the terms of the Order unless otherwise provided by Ecology in writing.

8. Reservation of Rights

Ecology reserves all rights to issue additional orders or take any action authorized by law in the event or upon the discovery of a release or threatened release of hazardous substances not addressed by this Order, upon

discovery of any factors not known at the time of issuance of this Order or in order to abate an emergency.

In the event Ecology determines that conditions are creating or have the potential to create a danger to the health or welfare of the people on the site or in the surrounding area or to the environment, Ecology may order the ITT Rayonier, Inc. to stop further implementation of this Order for such period of time as needed to abate the danger.

9. Compliance With Other Applicable Laws

All actions carried out by the ITT Rayonier, Inc. pursuant to this Decree shall be done in accordance with all applicable federal, state, and local requirements.

10. Public Participation

ITT Rayonier shall prepare and/or update a public participation plan for the site. Ecology shall maintain the responsibility for public participation at the site. ITT Rayonier shall help coordinate and implement public participation.

Satisfaction of this Order

VI.

The provisions of this Order shall be deemed satisfied upon ITT Rayonier's receipt of written notice from Ecology that ITT Rayonier has completed the remedial activity required by this Order, as amended by any modifications, and that all other provisions of this Agreed Order have been complied with.

VII.

Enforcement

In the event the ITT Rayonier, Inc. refuses, without sufficient cause, to comply with any term of this Order, this Order may be enforced as follows:

a. The Attorney General may bring an action to enforce this Order in state or federal court.

b. In any such action, the ITT Rayonier, Inc. may be liable for up to three times the amount of any costs incurred by the State of Washington as a result of the refusal to comply with the Order.

c. Additionally, in any such action, the ITT Rayonier, Inc. may be liable for civil penalties of up to $25,000 per day for each day the ITT Rayonier, Inc. refuses to comply.

d. Should Ecology conduct or provide for conducting the remedial action, the Attorney General will bring an action to recover all costs incurred by the state for such action.

Effective date of this Order: October 31, 1990.

DATED this 30th day of October, 1990.

Michael A. Wilson
Southwest Region Supervisor
Toxics Cleanup Program

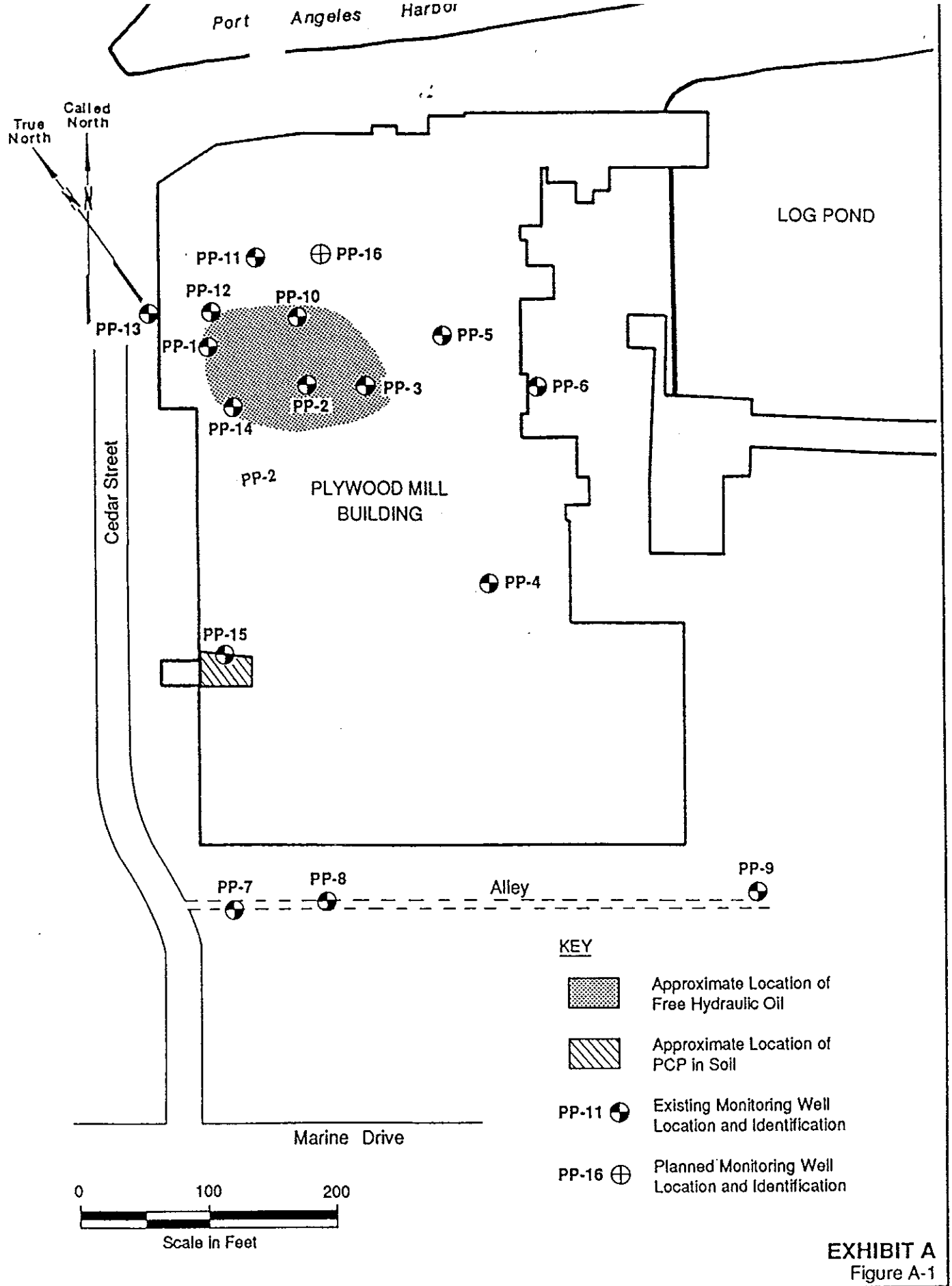


EXHIBIT A
Figure A-1

LANDAU ASSOCIATES, INC.	Hydraulic Oil and PCP Remediation Areas

16-07.20/.30 ITT Rayonier/Pen Ply/Oil and PCP Remediation/Consent Order 5/14/90

EXHIBIT B
REMEDIAL ACTION ORDER NO. DE 90-S255
OVERVIEW OF WORK TO BE PERFORMED

INTRODUCTION

This exhibit provides information regarding the planned remedial action by ITT Rayonier, Inc. for hydraulic oil recovery and pentachlorophenol (PCP) contamination of soils beneath the K-Ply (formerly PenPly) facility in Port Angeles, Washington. Previous investigations by Landau Associates, Inc., describe the presence and distribution of these constituents at the site. The results of these investigations are summarized in the written reports listed in Table B-1.

Oil resulting from leaks in hydraulic systems is present as free product floating on the shallow ground water surface in the vicinity of three hydraulic presses at the plywood facility. The plume is estimated to be about 100 by 140 feet in lateral dimensions and oil thickness up to about 24 inches has been measured in the shallow monitoring wells. The general location of the plume is shown on Figure A-1. Free oil recovery is planned by removal of oil collected in sumps to be constructed in the plume area. A detailed description of the planned oil remedial activities is presented in the following section.

In soils under the plant building, pentachlorophenol is present at concentrations as high as 720 parts per million (ppm) beneath the location of a former panel oiler. The approximate location of these soils is shown on Figure A-1. The remedial plan is to excavate soil containing PCP with concentrations greater than 25 ppm for proper disposal at an appropriate hazardous waste facility. The area expected to be excavated is about 25 by 40 feet in lateral dimensions and a few inches to as much as 6 feet deep. A summary of the planned PCP remediation activities is presented in a following section.

HYDRAULIC OIL

Remedial activities for recovery of free hydraulic oil has four main elements: leak capture/containment, installation and operation of sumps for oil recovery, installation and operation of ground water drawdown wells, and monitoring of oil recovery and ground water quality

Containment: Containment features have been installed to capture leaks from the hydraulic system of each press. Full containment for Press 2 and partial containment for Press 1 were constructed during press installation. Subsequently, construction was accomplished in 1989 for additional containment at Press 1 and full containment at Press 3. Leak capture elements are not yet installed for the adjacent lifting mechanisms' hydraulic systems.

Remedial construction will include additional upgrading of leak collection elements for Press 1 and construction of elements for adjacent hydraulic lifting mechanisms. Captured oil will periodically be transferred from the containment reservoirs to portable containers for appropriate disposal or reuse.

Oil Recovery Sumps: Details of oil recovery are described in Landau Associates' report dated March 20, 1989, and is briefly summarized herein. Recovery of the free oil floating on the ground water surface will be accomplished by the construction of two or more sumps and use of oil-skimmer equipment. The sumps will be located near the center of the oil plume, approximately as shown on Figure B-1. The sumps will be excavated using hand-operated equipment to below the shallow ground water table. The excavation sides will be retained by either casing or wood lagging. Any oil-contaminated soil excavation will be properly disposed of. A schematic cross-section of the oil sump detail is shown on Figure B-2.

Conventional belt-skimming equipment will be used to remove oil from the sump. The recovered oil will flow into a temporary storage container and will be removed periodically for appropriate disposal. The skimming equipment will be operated by a conventional 110 volt electric motor. A float switch will be located in the temporary oil storage container to shut the skimmer off when the container is nearly full. In addition, any overflow from the temporary oil storage container will drain back into the sump.

Drawdown Wells: To increase the flow of free oil to the sumps, a drawdown well will be installed at each sump location to locally depress the water table. The wells will consist of driven well points installed to several feet below the lowest anticipated oil level. Pumping will be adjusted to create a local depression at the ground water surface by about 2-3 feet. The pumping rate is expected to be about 1 to 2 gallons per minute at each well. The anticipated influence area of pumping for two sump locations is shown on Figure B-1. The pumps will be operated by float switches in the sumps, which will shut the pumps off before excessive drawdown causes oil to enter the wells.

For a trial 2-month period of operation, the ground water pumped from the drawdown wells will be collected, tested, and delivered to the ITT Rayonier Pulp Mill wastewater treatment system. After this trial period, ITT Rayonier will use this information to determine if additional treatment is needed and to support an application for either a State Waste Discharge Permit for discharges into the Port Angeles sanitary sewer or a NPDES Permit for discharges into Port Angeles Harbor. After the first two months of operation, the drawdown pumps will be shut off unit approvals are obtained for proper disposition of the pumped ground water. The skimmers will be operated as a

passive recovery system unit until approval for discharge of ground water are obtained.

Compliance Monitoring: During and following operation of the oil recovery system, monitoring will include: measurement of oil thickness and ground water level in several monitoring wells, periodic water quality analysis of the pumped ground water, and measurement of the amount of oil recovered. The results of monitoring will be reported to Ecology in monthly progress reports.

During construction of the oil recovery system, Monitoring Well PP-16 will be installed at the location shown on Figure A-1. During the first 2 months of system operation, water and oil levels in Monitoring Wells PP-1, PP-2, PP-3, PP-5, PP-10, PP-11, PP-12, PP-13, PP-14, and PP-16 will be measured biweekly to determine oil thickness and to determine that a drawdown capture zone has been created. Thereafter, Wells PP-10, PP-11, PP-12, PP-14, and PP-16 will be measured semi-annually during oil recovery and annually for 5 years after recovery has terminated to determine the presence of oil.

During the first 2 months of pumping system operation, a sample of pumped ground water will be obtained weekly for the first 2 weeks and biweekly thereafter. Thereafter, sampling will be in accordance with any conditions set in permit approvals as ground water is being pumped from the wells. In addition, a ground water sample will be obtained for chemical analysis from monitoring wells PP-11 and PP-16 at startup, semi-annually during oil recovery, and annually thereafter for 3 years.

Ground water samples (from PP-11 and PP-16) will be tested for total petroleum hydrocarbons (TPH) and BETX. Water from the pumping wells will be

tested for TPH, BETX, Metals 6 (Cd, Cr, Cu, Pb, Ni, Zn) and those parameters specified in the discharge permit.

A record of the amount of oil recovered will be maintained. In addition, the amount of ground water disposed at ITT Rayonier Pulp Mill will be recorded.

PENTACHLOROPHENOL

Remedial activities for removal of soil containing PCP has two main elements: soil removal and confirmation testing. Details of the planned remediation are described in the Landau Associates, Inc. report dated October 17, 1989, and are briefly summarized herein.

Soil Removal: Excavation of soil will be accomplished using hand-operated and small equipment beneath the floor of the building. Underpinning and other support of the building's structural elements will be accomplished. Excavated soil will be moved to outside the west wall of the building for loading and transportation for disposal to a permitted hazardous waste facility.

Soil containing more than 25 ppm PCP will be removed. Based on previous studies, it is anticipated that the excavation area is about 25 by 40 feet in plan dimensions and a maximum of about 6 feet deep. The excavation is not expected to reach ground water. The anticipated area and depth of removal is shown by the contours on Figure B-3. Following soil removal, the excavation will be backfilled with clean fill soil and a 6-inch thick soil cover will be placed over an additional area about 10 feet to the north and east of the excavation, as shown on Figure B-3.

A ditch about 6 inches deep will be constructed around the perimeter of the filled area to direct any surface water away from the affected area. Access to the crawlspace will be restricted.

Confirmation Testing: During excavation, the PCP oil content of the soil will be evaluated using ultraviolet light to permit effective definition of the amount of soil requiring removal. Following excavation, and before fill placement, samples of the excavation bottom and sides will be obtained for chemical analysis for PCP using EPA Method 604 to confirm that removal of soil exceeding the 25 ppm criteria is complete. The initial sampling frequency will be approximately one composite sample for each 200 square feet of excavated area. Statistical methods will be used to determine if cleanup levels have been met and to determine the need for further sampling. Any soil exceeding the cleanup criteria will be removed, and confirmation testing will be accomplished again for that area.

Following completion of the remedial activities, a report will be prepared which describes the details of the remedial activities, including the location of all confirming sampling points, construction details, and laboratory reports.

TABLE B-1

REFERENCES

Final Report, Petroleum Hydrocarbon Study, Peninsula Plywood Corp., Port Angeles, Washington, Landau Associates, Inc., February 13, 1989.

Proposed Remediation Program, Petroleum Hydrocarbons, Peninsula Plywood Facility, Port Angeles, Washington, March 20, 1989.

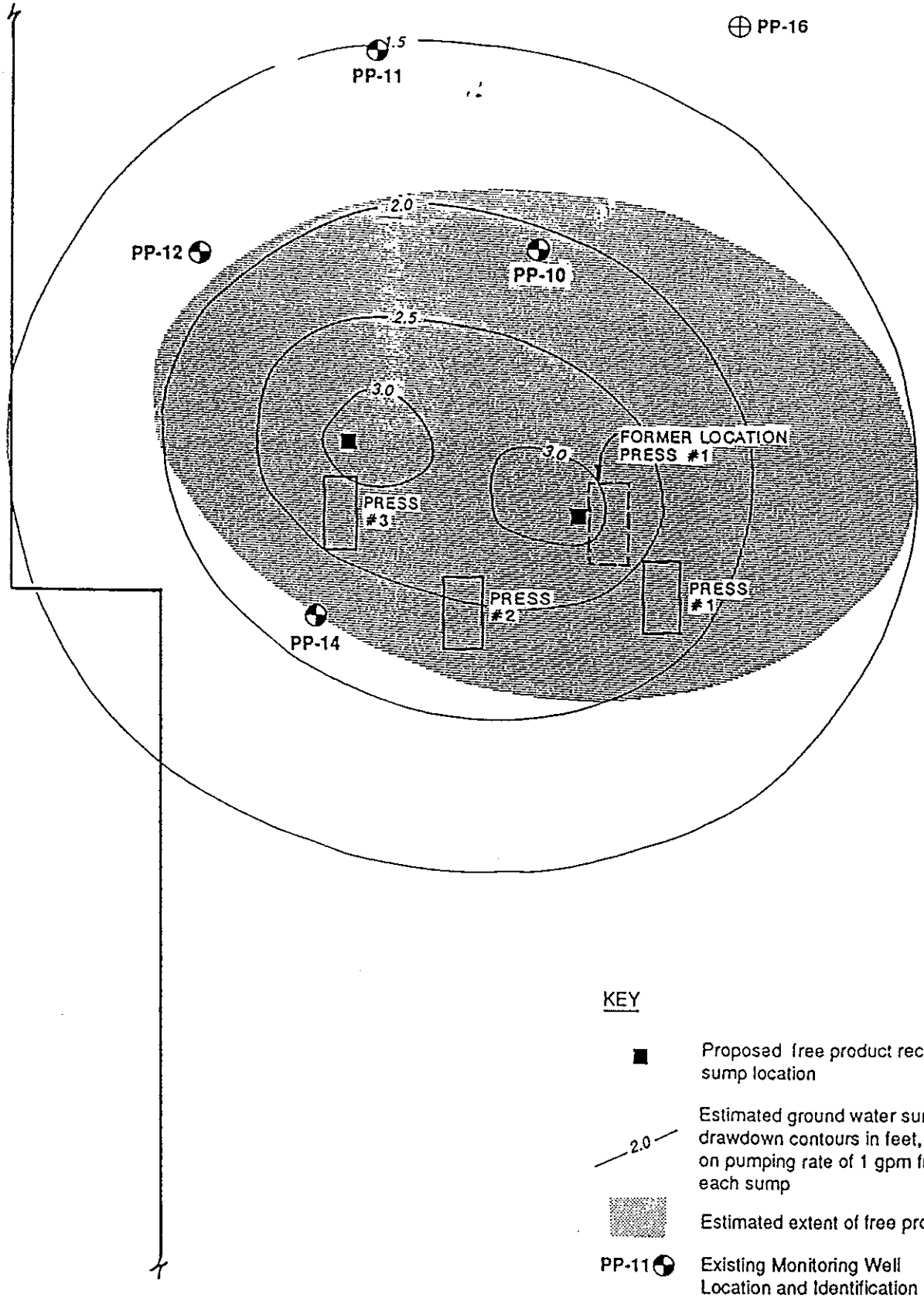
Letter Report, Distribution of Petroleum Hydrocarbons in Soil, PenPly Facility, Port Angeles, Washington, April 27, 1989.

Letter Report, Pentachlorophenol Investigation, Peninsula Plywood Corp., Port Angeles, Washington, Landau Associates, Inc., May 13, 1989.

Final Report, Pentachlorophenol Investigation, Peninsula Plywood Facility, Port Angeles, Washington, Landau Associates, Inc., May 26, 1989.

Planned Remediation for Pentachlorophenol, Former PenPly Facility, Port Angeles, Washington, October 17, 1989.

Summary Report, Ground Water Conditions, Former PenPly Facility, Port Angeles, Washington, Landau Associates, Inc., April 27. 1990.



KEY

- Proposed free product recovery sump location
- 2.0 — Estimated ground water surface drawdown contours in feet, based on pumping rate of 1 gpm from each sump
- Estimated extent of free product
- PP-11 — Existing Monitoring Well Location and Identification
- PP-16 — Planned Monitoring Well Location and Identification

0 30 60

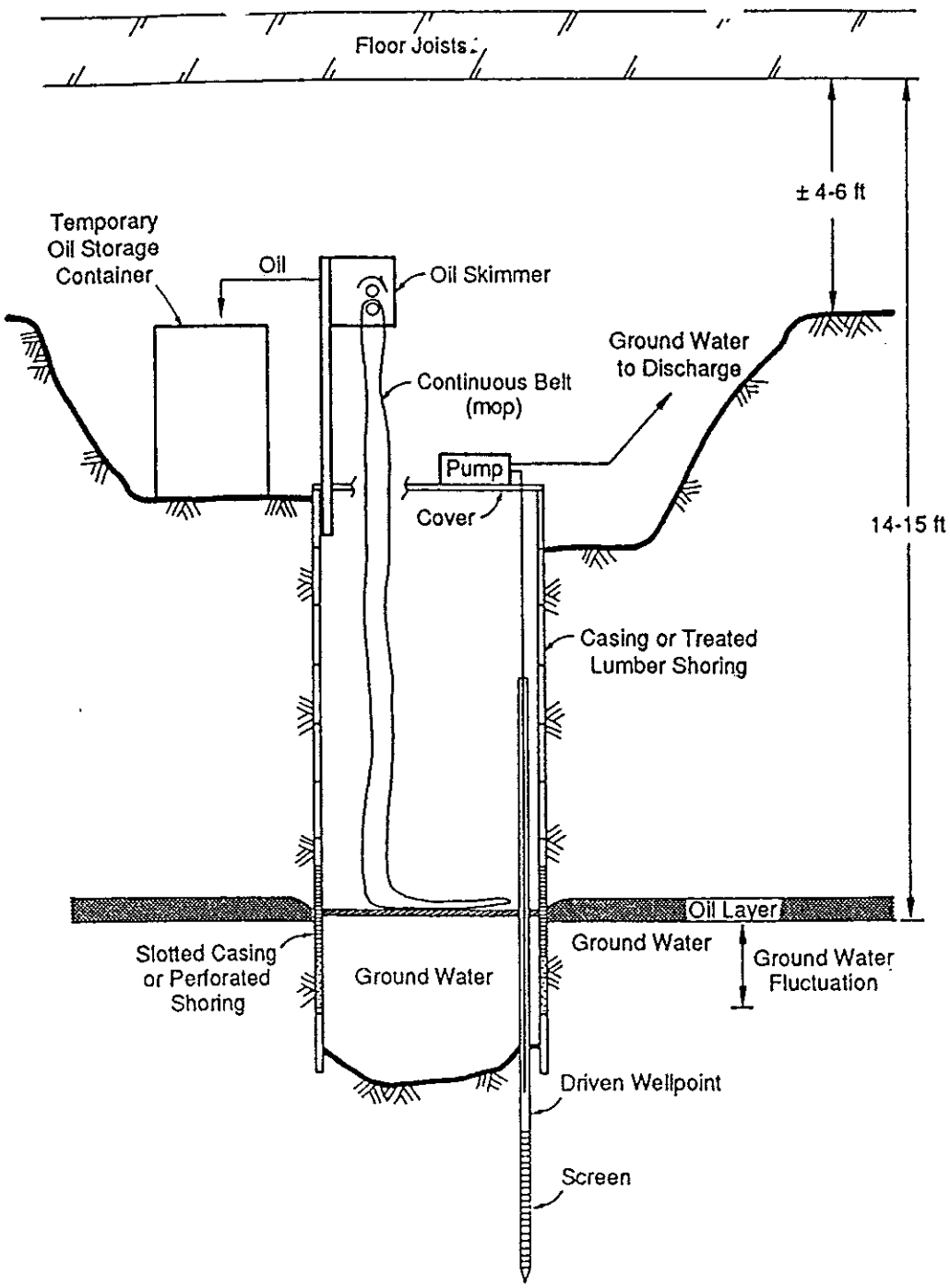
Scale in Feet

EXHIBIT B
Figure B-1

LANDAU ASSOCIATES, INC.

Free Product Recovery Sump Locations and Estimated Ground Water Surface Drawdown

16-07.20/.30 ITT Rayonier/Port Ply/Oil and PCP Remediation/Consent Order 5/14/90

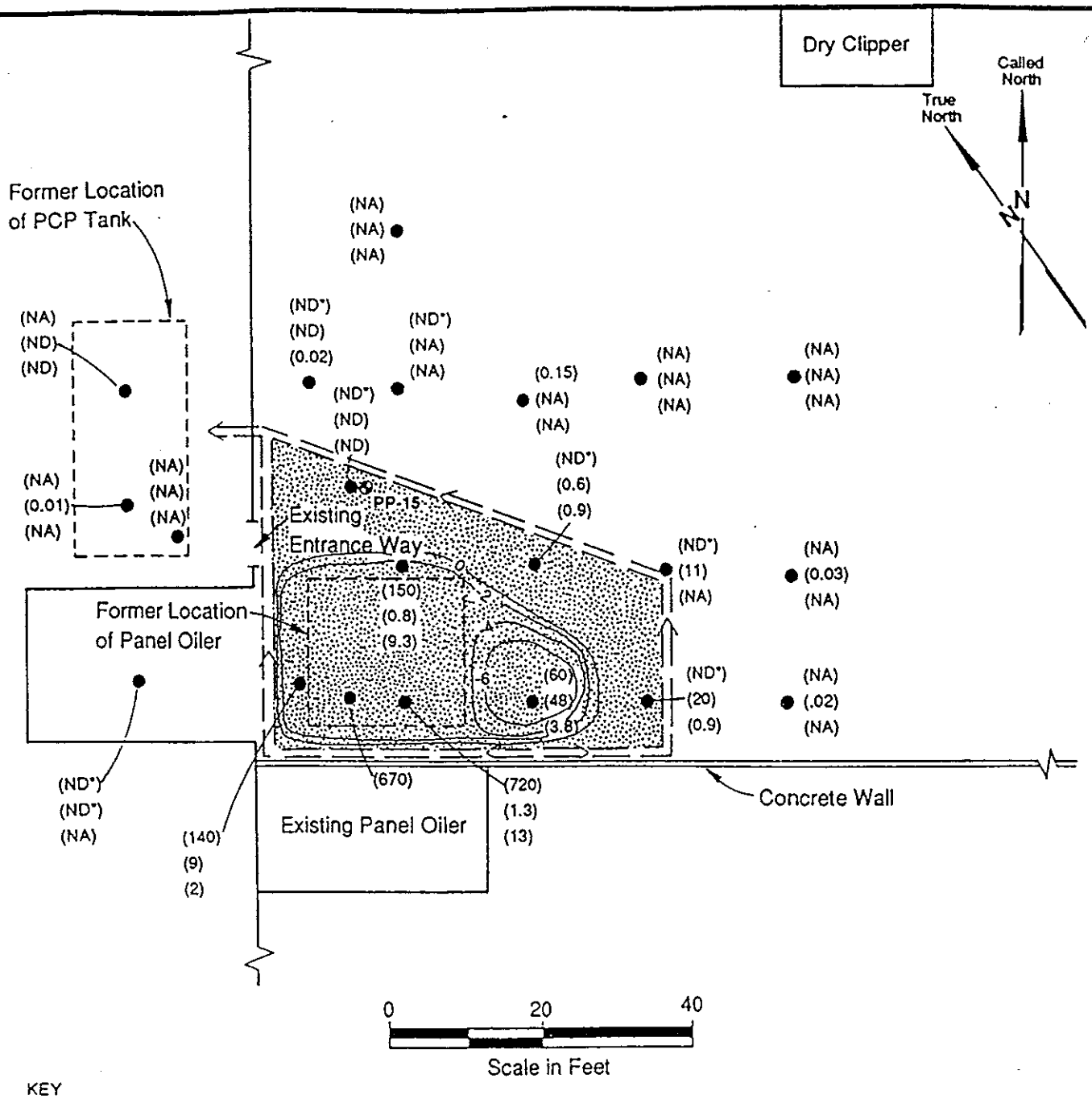


Schematic Drawing
(NOT TO SCALE)

EXHIBIT B
Figure B-2

LANDAU ASSOCIATES, INC.	Schematic Drawing of Free Product Recovery Sump

16-07.20/.30 ITT Rayonier/Pen Ply/Oil and PCP Remediation/Consent Order 5/14/90



KEY

Location of Planned 6-inch Soil Cover

-2- Contour Indicating Depth (in feet) of Planned Excavation from Ground Surface to Achieve Removal of Soil with PCP Concentrations greater than 25 mg/Kg.

Location of Planned Drainage Ditch and Direction of Flow

PP-15 Monitoring Well Location and Identification

Soil Sample Location

PCP Concentration (mg/Kg) for Soil Samples Collected at:
(60) ← 1 ft. Below Grade
(48) ← 4-5 ft. Below Grade
(3.8) ← 8-9 ft. Below Grade (Water Table)

(60) Concentration of PCP in ppm (parts per million)

(ND) Not Detected at Detection Limit of 0.01 ppm

(ND*) Not Detected at Detection Limit of 0.3 ppm

(NA) Not Analyzed

Note: The contours indicate the anticipated depth of soil removal. The actual excavation may be larger if side walls are unstable and require sloping. Additional soil will also be removed if confirmatory testing indicates that PCP concentrations greater than 25 mg/Kg are present.

EXHIBIT B
Figure B-3

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16-07.20/.30 ITT Rayonier/Pen Ply/Oil and PCP Remediation/Consent Order 5/14/90