COMPLETION REPORT
INTERIM REMEDIAL ACTION
LOG POND CLEANUP/HABITAT RESTORATION PROJECT
BELLINGHAM, WASHINGTON

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Prepared for:

Georgia-Pacific West, Inc.
P.O. Box 1236
300 W Laurel Street
Bellingham, WA 98227-1236

Prepared by:

Anchor Environmental, L.L.C.
1411 Fourth Avenue, Suite 1210
Seattle, Washington 98101

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1 INTRODUCTION

This Completion Report describes the implementation of the sediment cleanup/habitat restoration action at the Georgia-Pacific (G-P) Log Pond, part of the Whatcom Waterway Site located in inner Bellingham Bay, Washington (Figure 1). The integrated remediation and habitat restoration project was performed as an Interim Remedial Action under the authorities of the State Model Toxics Control Act (MTCA; Chapter 173-340 WAC; RCW 70.105D), as set forth in an Agreed Order for this action between G-P and the Washington Department of Ecology (Ecology). The project was also authorized under Clean Water Act Permit No. 2000-2-00424 administered by the U.S. Army Corps of Engineers (Corps). The project included two interrelated components:

- Remediation of contaminated sediments within the Whatcom Waterway Log Pond; and
- Restoration of approximately 5.6 acres of intertidal and shallow subtidal mudflat habitat.

This report presents a concise narrative discussion of project implementation.

1.1 Summary of Construction

1.1.1 Interim Action Contractor and Construction Management Team

Prior to and separate from this project, A.H. Powers (Powers) of Seattle contracted with the Corps to perform specific maintenance dredging activities within the Swinomish Channel (La Conner) and Squalicum Waterway (Bellingham). The Corps contract called for open water disposal in Rosario Strait of approximately 43,000 cubic yards (cy) from both of these material sources, consistent with Dredge Material Management Program (DMMP) suitability determinations, with an option for contractor-furnished disposal, should such a suitable site be identified. Following determinations by Ecology, the Corps, and other stakeholders that these materials could be beneficially reused for integrated capping and habitat restoration within the Log Pond, G-P contracted separately with Powers to place such materials within the Log Pond.

G-P provided on-site construction management. Anchor Environmental, LLC (Anchor) provided engineering support during construction. BEK

Engineering and Environmental (BEK) of Bellingham completed all water quality monitoring during the project. Consistent with the Agreed Order and WAC 173-340-400(7)(b)(i), all remedial construction within the Log Pond was performed under the supervision of Roger J. "Chip" Hilarides, P.E., a professional engineer registered in Washington.

1.1.2 Sediment Capping

Between November 2000 and February 2001, approximately 43,000 cy of cap/habitat restoration material was placed in the Log Pond. A three-foot thick cap of courser sand dredged material from the Swinomish Channel was first placed throughout the majority of the Log Pond. The finer-grained Squalicum Waterway materials were used to construct the final surface. The total placed thickness ranged from 0.5 feet along the cap perimeter (e.g., adjacent to structures) to up to 10 feet within the interior of the project area. Sections 3 and 4 of this report detail the achieved thickness. Figure 8 presents the total thickness across the Log Pond based on pre- and post-capping bathymetric data. Nearly all of the Log Pond received more than 3 feet of cap/habitat restoration material, tapering to 0.5-foot-thick along the perimeter, consistent with the MTCA Agreed Order and associated remedial design (Anchor 2000b). Long-term monitoring will be performed to verify the integrity and performance of the cap (see Operations, Maintenance, and Monitoring Plan [OMMP]; Appendix C).

1.1.3 Habitat Restoration Implemented

Consistent with the project design (Anchor 2000a & 2000b), the Log Pond remedial/ restoration project converted 1.8 acres of deep subtidal, 2.7 acres of shallow subtidal mudflat/debris, and 1.1 acres of low intertidal riprap, all of which was previously contaminated at levels above MTCA/ Sediment Management Standards (SMS) cleanup criteria, into 2.7 acres of shallow subtidal and 2.9 acres of low intertidal clean silt and sand habitat. The project achieved its intended goal of restoring shallow subtidal and low intertidal habitat to the Log Pond. Figure 9 presents the final cap surface bathymetric map. Figure 15 presents the finished habitat elevation zones created by the project. Table 5 summarizes the change in acres for the different habitat zones. Long-term monitoring

will be performed to document the development of habitat functions within the Log Pond (see OMMP; Appendix C).

1.2 Background

The Whatcom Waterway Site, located within inner Bellingham Bay, Washington consists of intertidal and subtidal aquatic lands within and adjacent to the Whatcom and I&J Street Waterways in Bellingham, Washington (Figure 1). Figure 2 depicts property ownership and general land use within the site area.

In January 1996, G-P and Ecology entered into an Agreed Order to perform a Remedial Investigation/Feasibility Study (RI/FS) of the Whatcom Waterway Site under MTCA. The RI/FS (Anchor and Hart Crowser 2000), provides data, analysis, and engineering evaluations to enable Ecology to select a sediment cleanup action alternative that is protective of human health and the environment and considers local site development plans. The study found that the Log Pond contained elevated concentrations of mercury, phenolic compounds, and woody debris that exceeded SMS cleanup levels.

The Draft Final Whatcom Waterway RI/FS was issued for public and stakeholder review in summer/fall 1999. Concurrently, the public also reviewed and commented on an Environmental Impact Statement (EIS) for the Bellingham Bay Comprehensive Strategy (Ecology 2000). The Comprehensive Strategy, developed by a cooperative partnership of 15 federal, tribal, state and local organizations, examined integrating cleanup of the Whatcom Waterway Site, including the Log Pond, with broad source control, habitat restoration, and land use objectives. The Whatcom Waterway RI/FS and Comprehensive Strategy EIS were both finalized in October 2000. The recommended action for the Log Pond, as set forth in both the RI/FS and EIS, was to integrate capping of contaminated sediments with restoration of intertidal and shallow subtidal habitat in this area.

During the finalization of the Whatcom Waterway RI/FS and Comprehensive Strategy EIS described above, G-P collected additional engineering, source control, and biological data from the Log Pond area to support the detailed design of the Log Pond capping/habitat restoration action. The Engineering

Design Report for the Interim Action (Anchor 2000b) was approved by Ecology in September 2000. As set forth in RCW 70.105D.090, through its review of the Engineering Design Report and associated project documentation, Ecology also provided the Water Quality Certification of the project and ensured, based on consultation with other agencies, substantive compliance of this action with other state and local regulations, including Hydraulic Project Approval, Coastal Zone Management, Shoreline Substantial Development, and Critical Areas regulations. The Clean Water Act Permit No. 2000-2-00424 for this action was issued by the Corps, following public notice and consultation with the federal services.

1.3 Performance Standards

As set forth in the Agreed Order and associated Statement of Work (SOW) for the Whatcom Waterway Log Pond Interim Remedial Action, performance standards to verify long-term protection provided by the remedial action include both sediment and water quality criteria, as summarized in Tables 1 and 2, respectively.

The point of compliance with water quality standards during the construction period was defined at a point 150 feet from the location of capping material release into the Log Pond. As described in the Engineering Design Report (Anchor 2000b), turbidity/TSS increases predicted at the 150-foot mixing zone boundary during project capping operations were anticipated to be well within water quality standards. Water quality monitoring was completed by BEK during the capping operations to verify that turbidity and dissolved oxygen concentrations were maintained within water quality criteria (see Sections 3.3.4 and 4.3.4 below).

1.4 Summary of Pre-Capping Conditions

1.4.1 Pre-Project Characterization of Whatcom Waterway Log Pond

As outlined above, the Final RI/FS of the Whatcom Waterway Site provides detailed data, analysis, and engineering evaluations of the Log Pond and adjoining areas (Anchor and Hart Crowser 2000). The Log Pond was established as a separate and distinct site sediment unit in the RI/FS. Figure 3 depicts RI/FS sampling locations and bathymetry. A summary of the RI/FS site characterization is provided below:

- **Shoreline and bathymetry.** The pre-construction shoreline of the Log Pond was comprised largely of sheet pile, wooden bulkheads, riprap, and concrete debris down to an elevation of approximately -5 feet MLLW. Mudline elevations within the Log Pond previously ranged from -5 to -15 feet MLLW, averaging -10 feet MLLW.
- **Land use.** The Log Pond is located within the middle of a well-established heavy industrial land use area with a Maritime shoreline designation. Prior to construction, the area was used for transient moorage of boats and log rafts, and included structures such as pilings, dolphins, log booms, and floating docks. As described below, the action resulted in removal of these structures, and eliminated limited existing log rafting, small boat moorage, and occasional ship berthing that previously occurred within this area by the Port of Bellingham (Port) and G-P.
- **Currents/wave action.** The majority of the Log Pond is isolated from currents and wave action, though portions are exposed to Bellingham Bay to the west.
- **Subsurface geotechnical characteristics.** Prior to construction, subsurface conditions within the Log Pond consisted of 5 to 8 feet of very soft recent deposits over 16 to 22 feet of fluvial medium dense to dense non-silty to silty, sand. Below this layer is a glacial marine outwash deposit of stiff silty clay.

1.4.2 Pre-Project Characterization of Log Pond Sediments

The Engineering Design Report (Anchor 2000b; Table 3) summarizes selected physical and chemical characteristics of the sediments within the Log Pond. The capped sediments have the following general characteristics:

- **Physical.** Sediments underlying the Log Pond cap consist primarily of sandy to very sandy organic silt and clay. Near the shorelines the sediment gradation changes to a slightly clayey, silty sand with

varying amounts of gravel. Sediments consisting of greater than 50 percent shell fragments were observed near the northeast end of the Log Pond. The solids content of these sediments ranges from 25 to 40 percent, averaging approximately 30 to 35 percent. Prior to construction, total organic carbon (TOC) concentrations in the Log Pond area ranged from 2.7 to 15 percent, averaging approximately 6 to 10 percent. Surface and subsurface sediments within the Log Pond contain various remnant woody materials from historical log rafting, log haul-out, and other operations. In April 2000, 13 field vane shear tests were completed on surface sediments within the Log Pond to better understand the material's strength. The undrained shear strength ranged from 0.5 to 0.2 tons per square foot (tsf) averaging 0.1 tsf, classifying the material as very soft to soft organic silt/clay.

- **Biological/Chemical.** Accumulated soft sediments in the Log Pond contain elevated total mercury levels, with surface concentrations (prior to construction) ranging up to approximately 12 milligrams per kilogram (mg/kg; Anchor and Hart Crowser 2000). Sediments in the Log Pond also contain greater than 50 percent wood material by volume, and contain elevated concentrations of phenol and 4-methylphenol. Pre-construction biological testing performed in the Log Pond vicinity confirmed that such sediments may adversely affect the production of benthic infauna.

1.4.3 Capping Material Characteristics

Two potential capping materials sources were used for the project:

- **Swinomish Channel Dredge Material.** Between November 2000 and January 2001, 34,673 cy of navigational dredge material was dredged from the Swinomish Channel near La Conner (see Figure 1) and placed within the Log Pond. Based on prior channel characterization data collected by the Corps, the material typically contains less than 4 percent fines and 1 to 8 percent gravel (d_{50} = 1 mm; Corps

unpublished data). A grab sample collected during Log Pond construction contained less than 3 percent fines and less than 1 percent gravel (d_{50} = 0.45 mm).

An August 1, 1994 Memorandum for Record (Corps 1994) determined that the material is suitable for unconfined open-water disposal at a PSDDA dispersive or non-dispersive site. Since chemical concentrations are also below SMS Sediment Quality Standards (SQS), the material is also suitable for beneficial reuse.

- **Squalicum Waterway Dredge Material.** During January and February 2001, approximately 7,600 cy of navigational dredge material was dredged from the Squalicum Creek Waterway in Bellingham (see Figure 1) and placed in the Log Pond to construct final grades for habitat restoration. Based on previous Corps data, this dredged area of the Squalicum Waterway typically contains 65 to 95 percent fines (d_{50} = 0.1 mm) and 1.5 to 1.7 percent TOC. A grab sample collected during the Log Pond construction project was analyzed for grain size, Atterberg limit, and specific gravity. The sample was classified as an organic clay with a liquid limit of 61 percent and a plasticity index of 31 percent. The material had 5 percent sand, 78 percent silt and 17 percent clay (d_{50} = 0.02 mm). The specific gravity of the sample was 2.71 gms/cm^3.

  An April 7, 1995 Memorandum for Record (Corps 1995) determined that the dredged material from the Squalicum Waterway was suitable for unconfined open water disposal at either the PSDDA Bellingham Bay nondispersive site or the PSDDA Rosario Strait dispersive site. More recent PSDDA characterization data collected by the Corps also confirmed the suitability of these materials. Chemical concentrations of the dredged material were below SQS criteria, and suitable for beneficial reuse within the Log Pond.

1.5 Summary of Cap Design

The Engineering Design Report (Anchor 2000b) presents the detailed cap design. As outlined above, the remedial/restoration project was designed and constructed to convert approximately 1.8 acres of deep subtidal, 2.7 acres of shallow subtidal mudflat/debris, and 1.1 acres of low intertidal riprap (along with sheet pile, bulkheads, and concrete debris), all of which was previously contaminated at levels above SQS criteria, into 2.7 acres of shallow subtidal and 2.9 acres of low intertidal clean silt and sand habitat (Anchor 2000a). The design called for the bottom (Phase I) layer of the cap to be constructed with sand, and placed in such a manner as to minimize the potential for mixing of the cap with underlying sediments. The design also called for the use of the finer-grained native silt material for the final (Phase II) cap surface, providing a base seeding of endemic Bellingham Bay benthic fauna, to help facilitate rapid colonization of the mudflat.

The cap design called for a minimum thickness of 3 feet throughout most of the Log Pond, tapering to a 0.5-foot-thickness at the cap periphery to provide additional cap coverage near the Whatcom Waterway, and to minimize impacts to adjacent structures and slopes. The design called for final cap slopes of no greater than approximately 10 horizontal to 1 vertical (10H:1V), in order to facilitate the development of habitat functions. Other key elements of the design are summarized below:

- **Source Control.** Advection and diffusion modeling of groundwater flow through the cap, along with generalized contaminant transport analysis, indicated that the risk of future recontamination of the Log Pond cap is low.
- **Cap Stability/Constructability.** Bearing analysis of the cap indicated that the Log Pond sediments are capable of supporting the cap, also minimizing the risk of mixing of the clean cap with underlying sediments, assuming slow, even placement of the initial cap lifts.
- **Surface Water Quality during Cap Placement.** Computer modeling predicted that peak turbidity/TSS levels at the 150-foot mixing zone boundary during capping would be within water quality standards.
- **Cap-induced Settlement.** Pore water migration from the underlying sediments into the cap as a result of cap-induced settlement was

predicted to be minimal. Caps were offset from some structures such as the large dolphin structure, the G-P pier, and the edge of the Port of Bellingham structures, to minimize settlement-related structural risks.

- **Long-term Cap Integrity**. A number of different long-term factors were considered in the cap design including:
  - **Propeller wash and anchor drag**. The cap was designed to be capable of resisting erosion induced by reasonable worst-case propeller wash currents. In addition, the design called for limiting vessel access to the area through the construction of a log boom, which would also preclude potential anchor drag-induced damage to the cap.
  - **Waves/currents**. Based on modeling of design wave and current conditions, the constructed cap surface should be maintained at elevations very similar to the constructed condition, even following major storm events. Nevertheless, periodic disturbances of the surface from variable storm conditions, resulting in dynamic beach equilibrium processes typical of relatively flat mudflat slopes, are expected to result in periodic disturbances of the mudflat surface, leading to localized areas of accretion and erosion. However, these changes are expected to be relatively minor, are unlikely to result in significant adverse effects on habitat functions, and are characteristic of such normally dynamic natural systems. The OMMP (Appendix C) includes a contingency plan that considers such expected future changes.
  - **Human contact**. Bearing capacity analysis indicated that the cap will support the weight of a person walking on the mudflat, preventing potential penetration into the underlying soft sediment.
  - **Bioturbation**. Detailed sediment core analyses performed within Bellingham Bay suggest that no discernable bioturbation occurs below a depth of approximately 0.5 feet (Officer and Lynch 1989; Anchor and Hart Crowser 2000). For all but the marginal boundary areas of the cap, the minimum cap thickness is 3 feet. Thus, the Log

Pond cap will provide sufficient protection from bioturbation and possible benthic penetration.

- **Static slope stability**. Slope stability modeling indicated that the cap should be stable under the critical short-term (i.e., immediately after construction) static condition.
- **Seismic stability**. Seismic stability modeling predicted that the cap would experience less than 0.3 feet of displacement during a relatively major design level earthquake, not enough to impact the function of the cap.

1.6 Report Organization

The report was completed in conformance with the Agreed Order and WAC 173-340-400(7), including required final inspection and cleanup construction documentation elements. The report is organized in the following sections:

- **Section 2 – Pre-Cap Placement Demolition**. This section describes the demolition process that occurred prior to cap placement.
- **Section 3 – Phase I Cap Placement**. This section describes the placement of the Swinomish Channel dredged material in the lower Phase I section of the cap.
- **Section 4 – Phase II Cap Placement**. This section describes the placement of the Swinomish Channel and Squalicum Waterway dredged material in the upper Phase II section of the cap.
- **Section 5 – Final Inspection**. This section summarizes final the final inspection observations of the project.
- **Section 6 – References**

Appendix A contains the daily construction logs

Appendix B contains the water quality monitoring logs

Appendix C presents the final Operation, Maintenance, and Monitoring Plan (OMMP)

2 PRE-CAP PLACEMENT DEMOLITION

2.1 Monitoring Procedures

Water quality monitoring was completed by BEK prior to and during the construction period using submersible field monitoring equipment. All water quality monitoring was performed at the typical Log Pond mudline depth of 15 feet below the water surface, at three compliance monitoring stations located approximately 150 feet from the cap placement area, as identified in the Engineering Design Report (Anchor 2000b). Figures 2 and 3 locate the monitoring stations. The following information was recorded at all three stations:

- Date and time
- Weather
- Dissolved oxygen (DO) in mg/L
- Turbidity in NTU

Prior to initiating each water quality monitoring event, both the DO and turbidity monitors were calibrated in the lab to ensure reliable measurements.

2.2 Piling Removal Procedures

Pile and dock demolition was completed over the period from November 10 - 13, 2000. Pre-cap placement demolition included dock and piling removal. Approximately 300 tons of material was removed from the Log Pond prior to capping. Consistent with the approved construction plans, Powers performed all piling demolition by breaking the piles near the former mudline (i.e., no piles were pulled). Demolition in this case was performed by securing the piling with the hoist line while pulling it laterally with the winch line. The piling generally broke one to two feet below the pre-cap mudline. Once a piling was broken it was placed on a flat haul barge. Powers then offloaded the material onto G-P property adjacent to the Log Pond. In addition, floating dock structures along the southwestern edge of the Log Pond were removed and placed on G-P property. Structures and materials were disposed or recycled as practicable.

2.3 Monitoring Results

Appendix B contains the water quality logs completed by BEK. BEK completed baseline monitoring on November 8, 9, and 10 (a.m.), 2000. Water quality measurements were made on November 10 (p.m.) and 13 during demolition activities. Based on water quality data and visual confirmation of the limited extent of turbidity migration from project activities, there was no impact to water quality from the demolition work (see Table 3 and Figures 4 and 5).

3 PHASE I CAP PLACEMENT

3.1 Monitoring Procedures

Two types of monitoring were completed during cap placement:

- Cap thickness and volume monitoring
- Water quality monitoring

3.1.1 Cap Volume and Thickness

Three methods were used to monitor and verify the volume and thickness of cap material placed within the Log Pond:

- **Lead line measurements**. Prior to placing cap material within a given grid, Powers performed lead line measurements of the pre-construction mudline elevation. After capping these areas, Powers would complete another round of lead line measurements to obtain the post-placement mudline elevation. Powers typically completed three to four lead line measurements within each grid evaluated. The difference between pre- and post-placement elevations provided a preliminary indication of the cap thickness placed. Lead line measurements were typically performed and compared twice per day.
- **Tonnage tracking.** Additionally, the tonnage of material placed over given areas was monitored. Cap material tonnage was determined by measuring the barge displacement. The cap material tonnage was then converted into a volume measurement based on characteristic cap material unit weights. The calculated volume of material required to cover a set number of grids was compared against this measured volume. This comparison provided another means to check Powers' placement procedures.
- **Detailed bathymetric surveys.** Blue Water Engineering completed detailed bathymetric surveys of the Log Pond area on three occasions: 1) prior to construction (these data were reported in Anchor [2000b]); 2) immediately following completion of the Phase I cap and prior to placement of Phase II materials; and 3) shortly following completion of

the Phase II cap. Bathymetric monitoring procedures are described in Anchor (2000b). These bathymetric verification surveys were completed to provide highly accurate and precise measurements of the thickness (and volume) of cap material placed.

3.1.2 Water Quality

Water quality monitoring was completed following the same procedures described in Section 2.1. However, rather than relying solely on pre-project baseline data for water quality comparisons, and to separate regional water quality variations unrelated to the Log Pond activities, local background stations were established near the head and mouth of the Whatcom Waterway at locations removed from potential project influence. These stations are shown on Figure 2. The local background stations were positioned to address several potential influences on regional water quality conditions suspected during the winter (November to February) capping period, including: 1) rain-induced turbidity increases resulting from Nooksack River discharges; 2) seasonal turnover in the Bellingham Bay thermal structure, resulting in upwelling of relatively low DO bottom waters into shallower depths; and 3) turbidity increases induced by local ship and tugboat operations within the Whatcom Waterway. Thus, these background sampling data, collected concurrently with the Log Pond area measurements, were used to distinguish between external water quality impacts and those attributable to the capping project.

Intensive water quality monitoring (twice per construction shift) was completed for the first three days of Phase I capping (November 14, 16, and 20, 2000). Routine monitoring (one per day) was completed on November 22 and 29, 2000. Limited monitoring (once per week) was completed for the remainder of Phase I capping.

3.2 Capping Procedures

Powers dredged the Swinomish Channel material and hauled it to the Log Pond on 1,500-ton barges. They generally used one crew to dredge the Swinomish Channel, and another to cap the Log Pond. In some instances

they used a single crew for both tasks. Under this situation, Powers would dredge one day and cap the next.

Powers developed a grid system for the project based on the construction drawings to allow precise placement of cap material. Figure 6 illustrates Powers' grid system. The grid divided the site into 25- by 50-foot subareas that extended throughout the capping area. The 50-foot side ran northeast/southwest, or parallel to the Whatcom Waterway, while the 25-foot side was oriented perpendicular to the Waterway. A letter and number identified each grid. Each grid required 24 cy of capping material per 0.5-foot of placed thickness.

Powers used two GPS receivers on the dredging derrick. One was located on the crest of the boom directly above the bucket. The other was located on the back of the derrick. Powers used a location control software package (WinOps by Lyman Burke and Associates) that presented real time location of the derrick's two points over the grid system and the project area. A monitor showing the grid was located in the operator's cab.

The operator positioned the dredge derrick using the two GPS stations and the grid on the monitor. He lined up the derrick so that the center of the derrick was located along the center of the 50-foot grid side. The derrick was 50 feet wide, and thus extended from one side of the grid to the other. A tug at the back of the derrick and a small skiff along the side moved the derrick into place during initial capping. Tug use was replaced early in the project by using shore structures as anchor points and relocating the derrick using winches and cables.

Powers used a 6 cy rehandling bucket to place the material. The bucket was 6 feet wide (roughly one fourth the width of each grid). Therefore, the operator placed 4 buckets of material in each grid for each 0.5 feet of cap thickness. The operator lined up the bucket using the monitor screen, and visually positioned the bucket using the edge of the dredge derrick. He then slowly opened the bucket and swung it across the grid from one side to the other to allow more even dispersal of cap material within the grid, as described in the project design (Anchor 2000b). After placement of the first bucket, the operator centered the boom and moved it towards the derrick 6 feet. The movement was displayed on the monitor to the nearest foot. Once he had the correct location, the operator swung the bucket over to the sand barge and loaded the bucket. He repeated this process until he had capped

the grid (four passes). The operator then recorded completion of the grid on a project drawing. A deck hand also tracked the grid coverage.

The operator typically capped two grids (i.e., a 50- by 50-foot area) before moving the derrick. Powers generally started at shore and capped a row of grids working away from shore, or alternatively, moved from one end of the Log Pond to the other, parallel to the waterway, such that freshly capped areas were not disturbed by derrick operations or movements.

Powers placed the Phase I material in three lifts, as specified in the project design (Anchor 2000b). The first lift was 0.5-feet thick, the second lift 1.0-foot thick, and the last lift 1.5 feet thick.

During the initial few days of placement, Powers used a small tug to maneuver the derrick around the Log Pond. Thereafter, Powers maneuvered the derrick using cables and winch lines. Cables were usually tied off to structures to avoid dropping anchors on the cap. Powers deployed spuds on the offshore end of the derrick to secure the vessel during cap placement. Spud use was restricted as much as practicable within the capping area to minimize potential disruption of the cap surface. The derrick was always positioned over an area yet to be capped in the lift so that small vessel propeller wash and intermittent spud use didn't occur over areas recently capped and resulted in capping occurring following the path of the derrick.

3.3 Monitoring Results

3.3.1 Observed Cap Thickness

Figure 7 presents the bathymetry of the Phase I cap surface. Figure 8 shows the thickness of the Phase I material placed across the site based on pre- and post-Phase I capping bathymetric surveys. The bathymetric data confirmed that the majority of the Log Pond area received at least 3 feet of Phase I material, with some areas receiving slightly more and others receiving slightly less. The perimeter areas near structures received the design thickness of 0.5 feet during the Phase I work.

Figures 11 through 14 present cross sections through the Log Pond cap. The sections present the pre-capping mudline and the Phase I cap surface. The Phase I cap thickness can be interpreted as the difference between these two lines.

3.3.2 Cap Quantity and Volume Checks

Lead line results indicated that the operator was placing 0.3 to 0.7 feet of material during the first nominal 0.5-foot lifts, with similar thickness ranges placed during subsequent lifts. Comparisons of the actual tonnage of material placed over the cap area indicated that operator placed on average 120 percent of the design thickness with each lift.

Table 4 summarizes the quantities of Phase I material placed within the Log Pond. Haul tickets show that roughly 28,000 cy of Swinomish Channel material was brought to the Log Pond for placement during Phase I. However, comparison of pre- and post-capping bathymetric surveys indicated that approximately 27,000 cy of material was placed at the Log Pond during this Phase I work period. The difference in volume can be attributed to a combination of factors, including measurement accuracy, tonnage to volume conversion uncertainties, cap subgrade settlement, and cap material density compaction.

3.3.3 Production Rates

Table 4 summarizes the production rates observed during the Phase I capping. Powers spent approximately 130 hours placing the 28,000 cy of cap material. This time included only actual capping time, and equates to a gross production rate of 220 cy/hr. Total production time to place the 28,000 cy was 346 hours. This time includes capping, equipment movement, maintenance, downtime, and other non-productive time. Therefore, the net production rate was 80 cy/hr.

3.3.4 Water Quality

Table 3 and Figures 4 and 5 summarize water quality data collected during the Phase I capping work. Although water quality at the three monitoring stations located immediately adjacent to the Log Pond (i.e., WQ-1 through WQ-3; see Figure 2) differed from pre-project baseline conditions, particularly as Phase I work progressed, similar water quality characteristics were measured at background monitoring points located at the head and mouth of the Whatcom Waterway. These differences were attributable to seasonal changes in water quality conditions,

including runoff and upwelling influences. A single elevated turbidity reading (36 NTU) at Station WQ-1 during the December 19, 2000, sampling event was attributable to the arrival at that time of the GearBulk ship "Swift Arrow"(Figure 5). Resampling after the vessel had docked revealed that turbidities had returned to background levels. Overall, there was no impact to water quality (as defined by the Table 2 performance standards) that was attributable to the Phase I capping project.

4 PHASE II CAP PLACEMENT

4.1 Monitoring Procedures

4.1.1 Cap Volume and Thickness

Cap thickness and volume measurements were monitored with the same procedures as described in Section 3.1.1.

4.1.2 Water Quality

Water quality monitoring was completed with the same procedures as described in Section 3.1.2.

Intensive water quality monitoring (twice per construction shift) was completed during the first two days of Phase II capping (January 23 and 25, 2001). Routine monitoring (once per day) was completed on January 26, 30, and 31, 2001.

4.2 Capping Procedures

Powers generally followed the same placement techniques described in Section 3.2 for the Phase I material. The main differences were that the cap material was placed into select areas and placed in thicker sections. As described in Anchor (2000b), the presence of the granular Phase I base material allowed thicker lifts (2- to 4-feet-thick) of Phase II material to be placed without compromising cap stability.

Swinomish Channel material was used for part of the Phase II work; these relatively granular materials were generally placed in grids closest to the Whatcom Waterway, to provide further protection of the interior cap from potential propeller wash and wave/wake erosive forces that are generated offshore of the Log Pond (Anchor 2000b). The Swinomish Channel sand material was also used to create a berm to help contain the finer-grained Squalicum Waterway material placed closer to shore.

4.3 Monitoring Results

4.3.1 Observed Cap Thickness

Figure 9 presents the bathymetry of the Phase II (final) cap surface. The majority of the Phase II capping material was placed in two areas: 1) the central portion of the Log Pond near the former log ramp; and 2) the "panhandle" located in the northeast portion of the Log Pond. The Phase II capping thickness in these areas ranged from 0 to 6 feet, averaging approximately 2 to 3 feet.

Figure 10 presents the total cap (Phase I and II combined) thickness across the Log Pond, based on a comparison of pre- and post-construction bathymetric surveys. Cap thickness varied from 0.5 feet along the periphery and adjacent to structures, to up to 10 feet in the thicker Phase II cap placement areas. Consistent with the design (Anchor 200b), nearly 90 percent of the Log Pond area received at least 3 feet of capping material.

Figures 11 through 14 are cross sections through the Log Pond cap. The sections present the pre-capping mudline, the Phase I cap surface, and the final cap surface. The Phase II and total cap thicknesses can be interpreted as the difference between these two lines.

Long-term monitoring will be performed to verify that the integrity and performance of the cap (see OMMP; Appendix C).

4.3.2 Cap Quantity and Volume Checks

Lead line results indicated that the operator was placing within 20 percent of the target thickness on each lift. Comparisons of the actual tonnage of material placed over the cap area indicated that operator placed on average 125 percent of the design thickness with each lift.

Table 4 summarizes the quantities of Phase II material placed for the project. Haul tickets show that roughly 6,700 cy of Swinomish Channel materials and 7,600 cy of Squalicum Waterway materials were placed as part of Phase II construction. A total of 14,300 cy of material was reportedly placed during Phase II work. However, similar to the Phase I records discussed above, comparison of pre- and post-capping bathymetric data indicated that that a smaller volume - roughly 10,100

cy - of material was placed at the Log Pond during Phase II work. As in Phase I, this apparent difference in volume can be attributed to measurement accuracy, tonnage to volume conversions, cap subgrade settlement, and cap density compaction.

The volume of Phase II material, and hence final grades, was somewhat lower than that called for in the original design, largely because the final scope and volume of the Corps' Squalicum Waterway maintenance dredging project was less than initially anticipated. Moreover, scheduling difficulties, particularly the approaching fisheries closure beginning on February 15, 2001, as specified in the Corps permit for this action, limited the time available to coordinate and place additional Phase II material. Nevertheless, the Phase II work achieved the desired cap and habitat restoration objectives, as discussed below.

4.3.3 Production Rates

Table 4 summarizes the production rates observed during Phase II capping. Powers spent approximately 50 hours placing the 14,300 cy of cap material. This time only includes actual capping time, and equates to a gross production rate of 280 cy/hr. Total production time to place the 14,300 cy was 104 hours. This time includes capping, equipment movement, maintenance, downtime, and other non-productive time. Therefore, the net production rate was 140 cy/hr. Overall, Phase II production rates were higher than those achieved during Phase I.

4.3.4 Water Quality

Table 3 and Figures 4 and 5 summarize water quality data collected during the Phase II work. Similar to the condition observed during Phase I, water quality at the three monitoring stations located immediately adjacent to the Log Pond (i.e., WQ-1 through WQ-3; see Figure 2) was similar to that measured at background monitoring points located at the head and mouth of the Whatcom Waterway. There was no impact to water quality (as defined by the Table 2 performance standards) that was attributable to the Phase II capping project.

5 FINAL INSPECTION

Consistent with the project design (Anchor 2000a & 2000b), the Log Pond remedial/ restoration project capped underlying contaminated sediments and converted 1.8 acres of deep subtidal, 2.7 acres of shallow subtidal mudflat/debris, and 1.1 acres of low intertidal riprap (along with sheet pile, bulkheads, and concrete debris), into 2.7 acres of shallow subtidal and 2.9 acres of low intertidal clean silt and sand habitat. Although the finished cap surface elevations within parts of the project area were constructed slightly lower than the original design (to accommodate actual delivered quantities; discussed in Section 4.3.2), the project achieved its intended goals of accomplishing sediment cleanup and restoring shallow subtidal and low intertidal habitat to the Log Pond.

Figure 9 presents the final surface bathymetric map. Figure 15 presents the finished habitat elevation zones created by the project. Table 5 summarizes the change in acres for the different habitat elevation zones resulting from the combined Phase I and II work.

Long-term monitoring will be performed to document the development of habitat functions within the Log Pond (see OMMP; Appendix C).

6 REFERENCES

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Table 1 - Applicable Surface Sediment Quality Criteria
Log Pond Interim Action, Bellingham Bay

PARAMETER [1]	Sediment Quality Standard (SQS)	Minimum Sediment Cleanup Level (MCUL)
Metals (mg/kg dry weight):		
Cadmium	5.1	6.7
Mercury	0.41	0.59
Zinc	410	960
Phenols (µg/kg dry weight):		
Phenol	420	1,200
2-Methylphenol	63	63
4-Methylphenol	670	670
2,4-Dimethylphenol	29	29
Pentachlorophenol	360	690
Benzyl Alcohol	57	73
Benzoic Acid	650	650
Polyncuclear Aromatic Hyrdocarbons (mg/kg OC):		
Naphthalene	99	170
Acenaphthylene	66	66
Acenaphthene	16	57
Flourene	23	79
Phenanthrene	100	480
Anthracene	220	1,200
2-Methylnaphthalene	38	64
Total LPAHs[2]	370	780
Fluoranthene	160	1,200
Pyrene	1,000	1,400
Benzo(a)anthracene	110	270
Chrysene	110	460
Total benzofluoranthenes[3]	230	450
Benzo(a)pyrene	99	210
Indeno(1,2,3-cd)pyrene	34	88
Dibenzo(a,h)anthracene	12	33
Benzo(g,h,i)perylene	31	78
Total HPAHs[4]	960	5,300
Phthalates (mg/kg OC):		
Dimethylphthalate	53	53
Diethylphthalate	61	110
Di-n-Butylphthalate	220	1,700
Butylbenzylphthalate	5	64
Bis(2-ethylhexyl)phthalate	47	78
Di-n-Octyl phthalate	58	4,500
Miscellaneous Extractable Compounds (mg/kg OC):		
1,2-Dichlorobenzene	2.3	2.3
1,3-Dichlorobenzene	na	na
1,4-Dichlorobenzene	3.1	9.0
1,2,4-Trichlorobenzene	0.8	1.8
Hexachlorobenzene	0.38	2.3
Dibenzofuran	15	58

Table 1 - Applicable Surface Sediment Quality Criteria (continued)
Log Pond Interim Action, Bellingham Bay

PARAMETER [1]	Sediment Quality Standard (SQS)	Minimum Sediment Cleanup Level (MCUL)
Confirmatory Biological Testing Determinations (optional):		
Overall Interpretation	The SQS is exceeded when any one of the confirmatory marine sediment biological tests of WAC 173-204-315(1) demonstrates the following results:	The MCUL is exceeded when any two of the biological tests exceed the SQS biological criteria, or one of the following test determinations is made:
Amphipod Toxicity Bioassay	The test sediment has a lower (statistically significant, t-test, p=0.05) mean survival than the reference sediment, and the test sediment mean survival is less than 75 percent, on an absolute basis.	The test sediment has a lower (statistically significant, t-test, p=0.05) mean survival than the reference sediment, and the test sediment mean survival is 30 percent lower than a value represented by the reference sediment mean mortality plus thirty percent.
Larval Toxicity/Abnormality Bioassay	The test sediment has a mean survivorship of normal larvae that is less (statistically significant, t-test, p=0.10) than the mean normal survivorship in the reference sediment, and the test sediment mean normal survivorship is less than 85 percent of the mean normal survivorship in the reference sediment (i.e., the test sediment has a mean combined abnormality and mortality that is greater than 15 percent relative to time-final in the reference sediment).	The test sediment has a mean survivorship of normal larvae that is less (statistically significant, t-test, p=0.10) than the mean normal survivorship in the reference sediment, and the test sediment mean normal survivorship is less than 70 percent of the mean normal survivorship in the reference sediment (i.e., the test sediment has a mean combined abnormality and mortality that is greater than 30 percent relative to time-final in the reference sediment).
Juvenile Polychaete Growth Bioassay	The test sediment has a mean individual growth rate of less than 70 percent of the reference sediment mean individual growth rate and the test sediment mean individual growth rate is statistically different (t-test, p=0.05) from the reference sediment mean individual growth rate.	The test sediment has a mean individual growth rate of less than 50 percent of the reference sediment mean individual growth rate and the test sediment mean individual growth rate is statistically different (t-test, p=0.05) from the reference sediment mean individual growth rate.

NOTES:

(1) Including all analytes detected above SQS criteria in surface or subsurface sediments at the Whatcom Waterway Site (Anchor and Hart Crowser 2000).

(2) Total LPAHs represents the sum of detected naphthalene, acenaphehylene, acenaphthene, fluorene, phenanthrene, and anthracene.

(3) Total benzofluoranthenes represent the sum of the concentrations of the b, j, and k isomers.

(4) Total HPAHs represents the sum of detected fluoranthene, pyrene, benzo(a)anthracene, chrysene, total benzofluoranthenes, benzo(a)pyrene, indeno(1,2,3-cd)pyrene, dibenzo(a,h)anthracene, and benzo(g,h,i)perylene.

Table 2 - Applicable Surface Water Quality Criteria
Log Pond Interim Action, Bellingham Bay

PARAMETER [1]	Chronic Criterion[3]	Acute Criterion[4]
Conventionals[2]:		
Dissolved Oxygen (mg/L)	6.0 or < 0.2 change	N/A
Turbidity (NTU)	< 5 NTU or 10% change	N/A

NOTES:

(1) Including all chemicals of concern identified in source areas within or adjacent to the Log Pond (Anchor and Hart Crowser 2000).

(2) Water quality standards for these parameters are set forth in WAC 173-201A-030(2)

(3) 48-hour average concentration

(4) 1-hour average concentration

Table 3 - Summary of Water Quality Sampling Data Collected Prior and During Phase I and II Log Pond Construction

Activity and Date	Time	Tidal Condition	Water Depth in feet	Ref-Head		Ref-Mouth		WQ-1		WQ-2		WQ-3	
				Dissolved Oxygen (mg/L)	Turbidity (NTU)	Dissolved Oxygen (mg/L)	Turbidity (NTU)	Dissolved Oxygen (mg/L)	Turbidity (NTU)	Dissolved Oxygen (mg/L)	Turbidity (NTU)	Dissolved Oxygen (mg/L)	Turbidity (NTU)
Pre-Construction Baseline Sampling:													
8-Nov-00	11:00	Flood	15	-	-	-	-	7.58	5.7	7.23	6.2	7.41	4.9
9-Nov-00	10:00	Slack	15	-	-	-	-	7.24	5.6	7.30	7.6	7.48	6.7
9-Nov-00	14:00	-	15	-	-	-	-	7.70	7.4	7.81	6.1	7.62	6.5
10-Nov-00	9:00	-	15	-	-	-	-	6.80	10.3	6.77	9.8	6.92	9.8
Demolition:													
10-Nov-00	12:00	Flood	15	-	10.2	-	10.4	-	-	-	-	-	-
10-Nov-00	12:00	-	15	-	-	-	-	7.20	10.1	7.24	8.8	7.31	9.0
13-Nov-00	1:00	Slight flood	15	-	-	-	-	6.99	7.3	6.80	6.9	7.08	6.5
Phase I Capping Using Swinomish Materials:													
14-Nov-00	9:00	Slight ebb	15	6.18	12.7	5.80	13.5	-	-	-	-	-	-
14-Nov-00	9:00	Slight ebb	15	-	-	-	-	5.92	13.0	5.97	14.1	5.83	14.5
14-Nov-00	13:00	Slight flood	15	-	-	-	-	5.94	13.3	5.80	11.3	5.95	10.7
16-Nov-00	10:00	Slight ebb	15	-	-	-	-	5.44	10.1	6.10	9.5	5.65	11.0
16-Nov-00	14:00	Slight ebb	15	-	-	-	-	5.54	8.3	5.32	10.1	5.58	9.9
20-Nov-00	11:00	Flood	15	5.30	7.2	4.96	6.9	-	-	-	-	-	-
20-Nov-00	11:00	Flood	15	-	-	-	-	5.03	6.09	4.97	6.8	5.05	7.2
20-Nov-00	14:00	Ebb	15	-	-	-	-	5.31	7.8	4.87	8.2	4.97	6.8
22-Nov-00	11:00	Flood	15	4.34	6.6	4.47	10.4	-	-	-	-	-	-
22-Nov-00	11:00	Flood	15	-	-	-	-	4.50	10.2	4.50	8.2	4.61	9.4
29-Nov-00	12:00	Slack	15	6.72	7.0	6.86	5.2	-	-	-	-	-	-
29-Nov-00	14:00	Slack	15	-	-	-	-	6.76	6.7	6.80	6.8	7.00	5.6
6-Dec-00	11:00	Slight flood	15	6.38	8.1	6.87	6.6	-	-	-	-	-	-
6-Dec-00	11:00	Slight flood	15	-	-	-	-	5.94	10.8	6.46	8.0	6.83	7.0
7-Dec-00	11:00	Slight flood	15	5.80	7.7	5.75	6.1	-	-	-	-	-	-
7-Dec-00	11:00	Slight flood	15	-	-	-	-	5.84	7.2	5.99	7.8	5.67	7.9
13-Dec-00	14:00	Slight flood	15	7.72	0.1	7.78	0.9	-	-	-	-	-	-
13-Dec-00	14:00	Slight flood	15	-	-	-	-	7.91	0.3	7.77	0.4	7.93	3.1
19-Dec-00	11:00	Slight flood	15	8.18	2.1	8.25	1.1	-	-	-	-	-	-
19-Dec-00	11:00	Slight flood	15	-	-	-	-	8.27	36.4	8.44	1.9	8.65	4.9
20-Dec-00	11:00	Slight flood	15	7.73	10.4	7.83	11.9	-	-	-	-	-	-
20-Dec-00	11:00	Slight flood	15	-	-	-	-	7.61	12.6	7.85	13.5	7.90	11.9
28-Dec-00	10:00	Slight flood	15	7.26	1.5	8.13	0.1	-	-	-	-	-	-
28-Dec-00	10:00	Slight flood	15	-	-	-	-	7.10	1.3	7.03	1.2	7.40	0.8
3-Jan-01	12:00	Slack	15	7.90	2.2	7.61	0.2	-	-	-	-	-	-
3-Jan-01	12:00	Slack	15	-	-	-	-	7.73	1.6	7.93	2.2	7.59	1.0
11-Jan-01	11:00	Ebb	15	8.33	5.4	8.11	4.4	-	-	-	-	-	-
11-Jan-01	11:00	Ebb	15	-	-	-	-	7.96	7.9	7.73	5.1	7.97	5.0
Phase II Capping Using Swinomish Materials:													
17-Jan-01	10:00	Slack	15	7.82	1.1	7.94	0.9	-	-	-	-	-	-
17-Jan-01	10:00	Slack	15	-	-	-	-	7.83	0.9	7.93	0.7	7.84	1.3
Phase II Capping Using Squalicum Materials:													
23-Jan-01	3:00	Slack	15	7.40	2.3	7.67	0.1	-	-	-	-	-	-
23-Jan-01	3:00	Slack	15	-	-	-	-	7.27	2.6	7.42	1.2	7.35	1.1
23-Jan-01	5:00	Slight ebb	15	6.72	4.1	7.11	1.3	-	-	-	-	-	-
23-Jan-01	5:00	Slight ebb	15	-	-	-	-	7.21	1.8	6.90	1.0	7.22	0.9
25-Jan-01	10:00	Ebb	15	8.27	1.5	8.52	0.1	-	-	-	-	-	-
25-Jan-01	10:00	Ebb	15	-	-	-	-	8.44	0.4	8.10	1.2	8.22	1.1
25-Jan-01	12:00	Slack	15	8.21	0.1	8.28	1.2	-	-	-	-	-	-
25-Jan-01	12:00	Slack	15	-	-	-	-	8.57	5.6	8.05	7.1	8.56	1.3
26-Jan-01	11:00	Ebb	15	7.98	0.1	8.40	0.1	-	-	-	-	-	-
26-Jan-01	11:00	Slack	15	-	-	-	-	8.15	0.1	8.07	0.3	8.36	0.1
30-Jan-01	2:00	Ebb	15	11.71	6.9	9.58	4.8	-	-	-	-	-	-
30-Jan-01	2:00	Ebb	15	-	-	-	-	9.86	7.8	9.22	12.3	9.17	6.0
31-Jan-01	10:00	Slack	15	8.59	2.9	8.23	3.6	-	-	-	-	-	-
31-Jan-01	10:00	Slack	15	-	-	-	-	8.29	3.6	8.43	2.9	8.54	3.1

Table 4 - Capping Material Volume and Production Rates

Material Source	Volume in CY[1]	Time in hours		Production rate in CY/hr	
		Capping[2]	Total[3]	Capping[2]	Total[3]
Phase I					
Swinomish Channel	28,005	130	346	220	80
Squalicum Harbor	0	0	0	0	0
Total	28,005	130	346	220	80
Phase II					
Swinomish Channel	6,668	26	65	260	100
Squalicum Harbor	7,647	25	39	310	200
Total	14,315	50	104	280	140
Phase I and II					
Swinomish Channel	34,673	155	411	220	80
Squalicum Harbor	7,647	25	39	310	200
Total	42,320	180	450	240	90

[1]Volumes are based on barge measurements

[2]Time when only placing cap material (does not include any down time) (Gross)

[3]Time operating including capping, moving, and down time (Net)

Table 5 - Habitat Restoration Acreages

Habitat Zone Elevations in feet MLLW	Pre-Capping Acres	Post-Capping Aces	Change in Acres
8 to 11	0.0	0.0	0.0
4 to 8	0.0	0.01	0.01
0 to 4	0.27	0.96	0.69
-4 to 0	0.78	1.89	1.11
-10 to –4	2.67	2.69	0.02
-20 to –10	2.21	0.4	-1.81
Deeper than -20	0.0	0.0	0.0

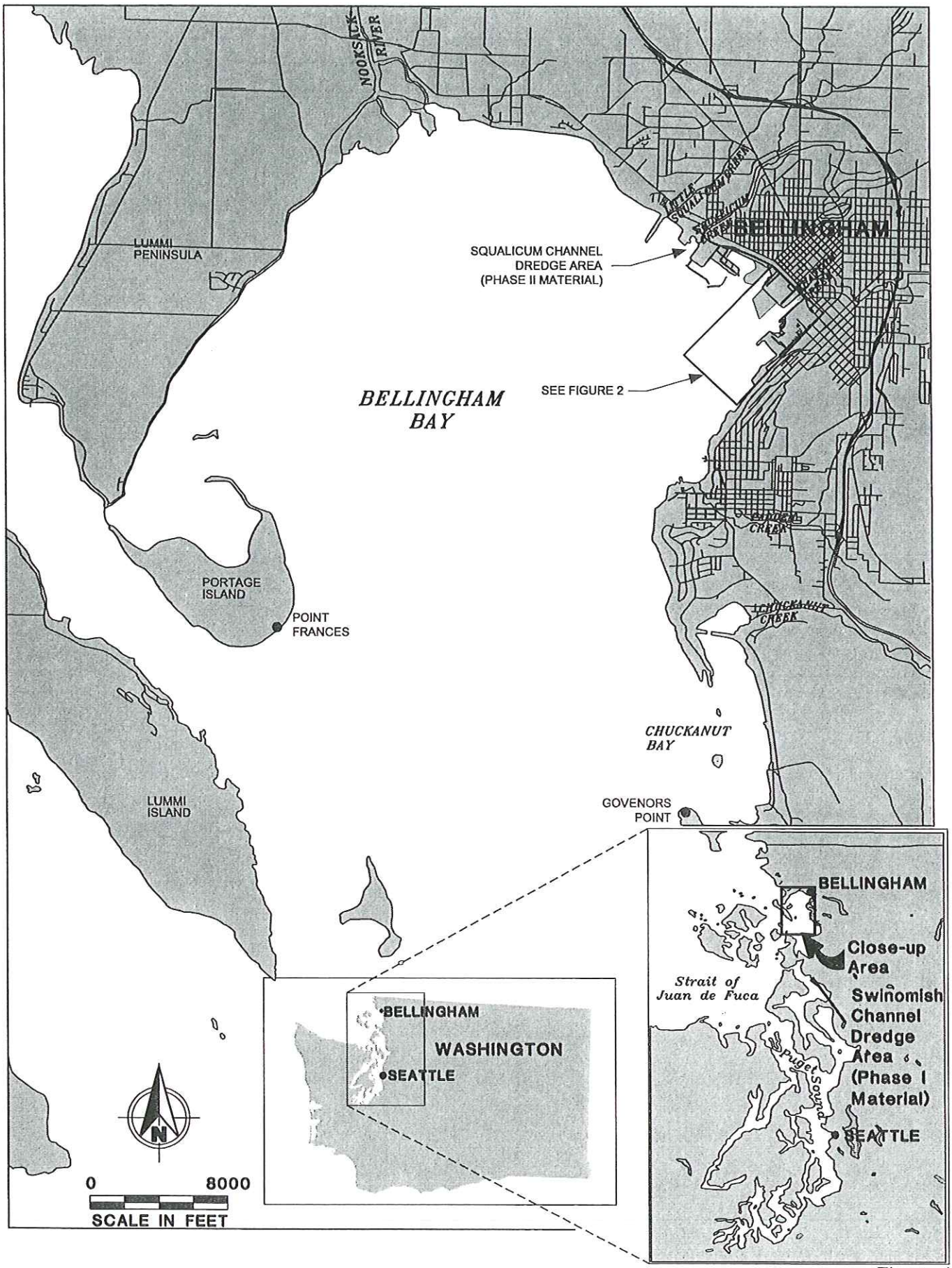

Figure 1
Vicinity Map
Whatcom Waterway Area
Log Pond Cleanup and Habitat Restoration

ANCHOR ENVIRONMENTAL, L.L.C.

04/16/01 GPB001-01.dwg 99-030-01

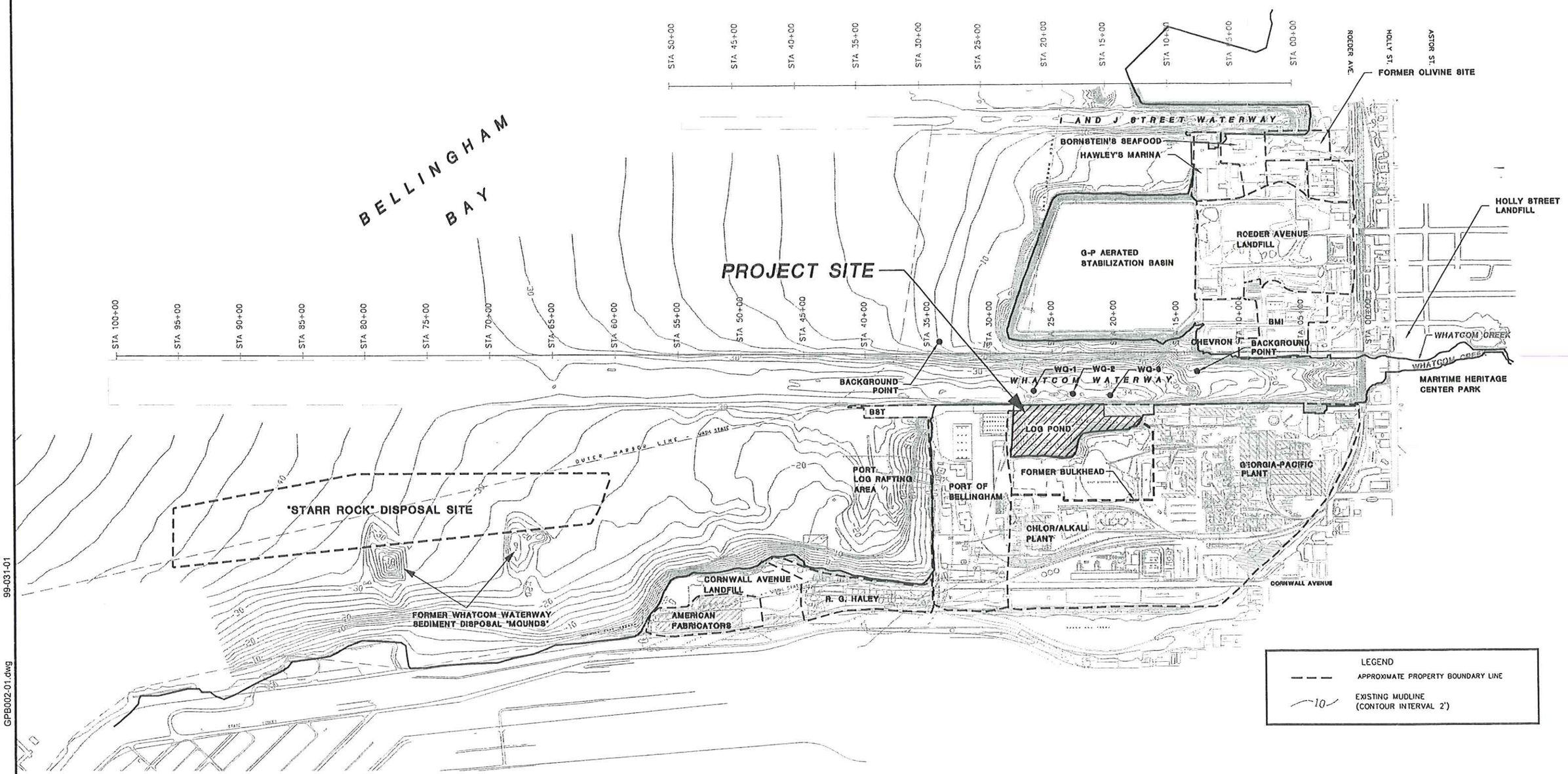

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Figure 2
Log Pond Project Area
Log Pond Cleanup and Habitat Restoration

Whatcom Waterway

Federal Channel Line

Harbor Line

32+00 31+00 30+00 29+00 28+00 27+00 26+00 25+00 24+00 23+60 23+00 22+00 21+00 20+00 19+00 18+00 17+00

WQ-1 WQ-2 WQ-3

HC-VC/SC-73
AN-SC-73

HC-VC/SC-78
AN-SC-78

HC-VC/SC-72
AN-SC-72

HC-VC/SC-77
AN-SC-77

HC-VC/SC-79

HC-DC-88

HC-DC-89

HC-DC-90

HC-SS-40

HC-VC/SC-75

HC-VC/SC-76

HC-VC/SC-74

B-1 B-2

A A' B

STA 1 STA 2 STA 3 STA 4 STA 5 STA 6 STA 7 STA 8 STA 9 STA 10 STA 11 STA 12 STA 13

DOCK

LOADING DOCK

CONVEYOR

ESB-23S

EMW-9S

EMW-30D

EMW-10S

EMW-22S

EMW-11S

LOGS

LOG RAMP

ESB-18S

ESB-19S

EMW-3S

EMW-8S

EMW-29D

EMW-20S

ESB-16S

10

8

-30 -28 -26 -24 -22 -20 -18 -16 -14 -12 -10 -8 -6 -4 -2 0 2 4 6 8 10 12 14 16

Capping Area

Existing Mudline Contour

Dolphin (Pile Cluster) to be Removed

Dolphin (Pile Cluster) to Remain

WQ-2 Water Quality Sampling Location

STA 13 Vane Shear Test Identification and Location

B-2 Hollow-stem Boring Identification and Location

EMW-29D Soil Boring or Well. ENSR, 1994, RI/FS for G-P Plant.

10 Soil Boring Location and ID. Dames & Moore, 1962, North Terminal Project.

HC-VC/SC-78 AN-SC-78 Sediment Core Location and ID.

99-031-01

GPB016-01.dwg

05/30/01

ANCHOR ENVIRONMENTAL, L.L.C.

0 100

Scale in Feet

Figure 3
Pre-Capping Bathymetry and Exploration Plan
Log Pond Cleanup and Habitat Restoration

Figure 4 - Temporal Variation of Dissolved Oxygen Levels During Log Pond Cap/Habitat Construction Period

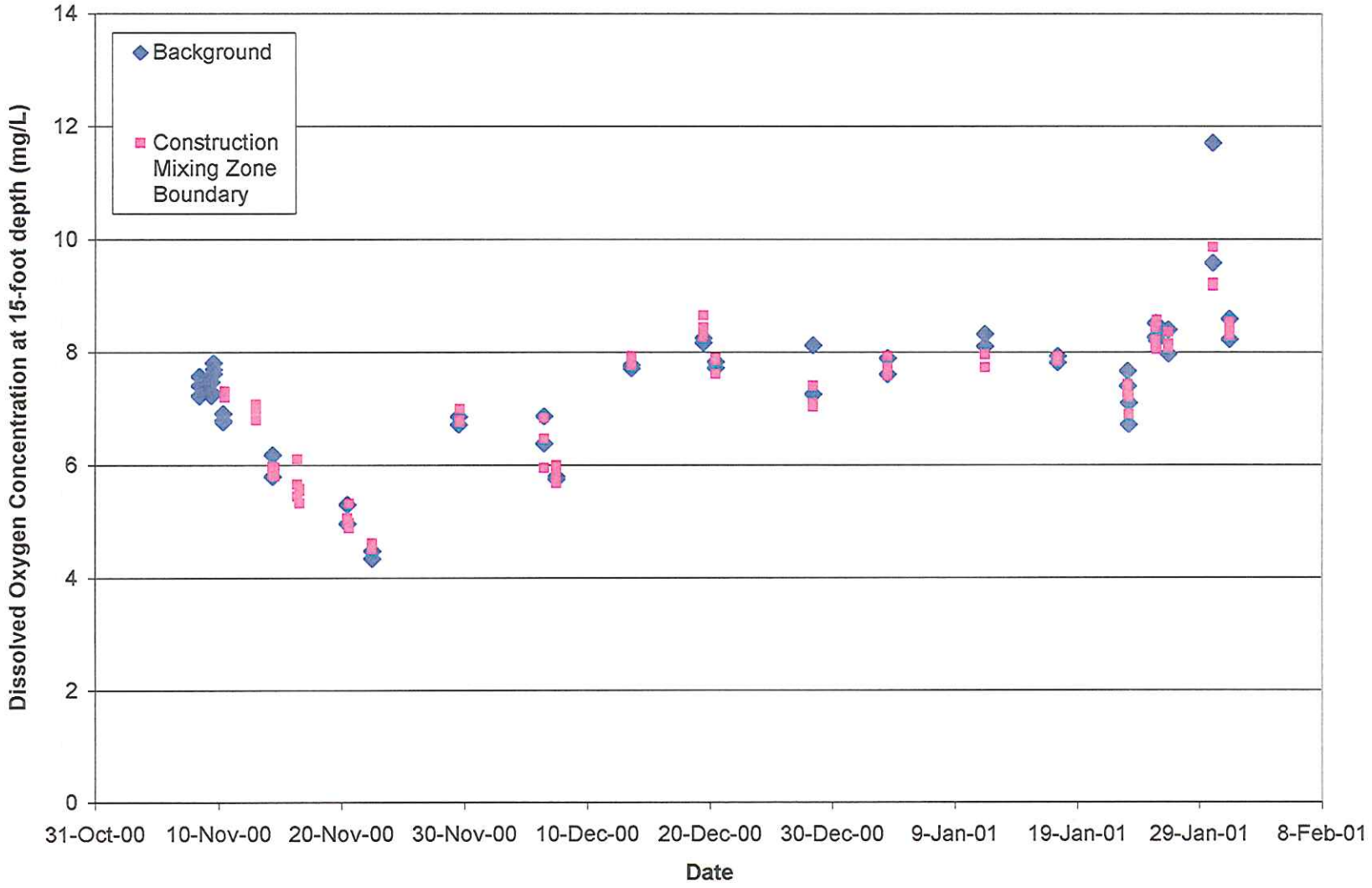
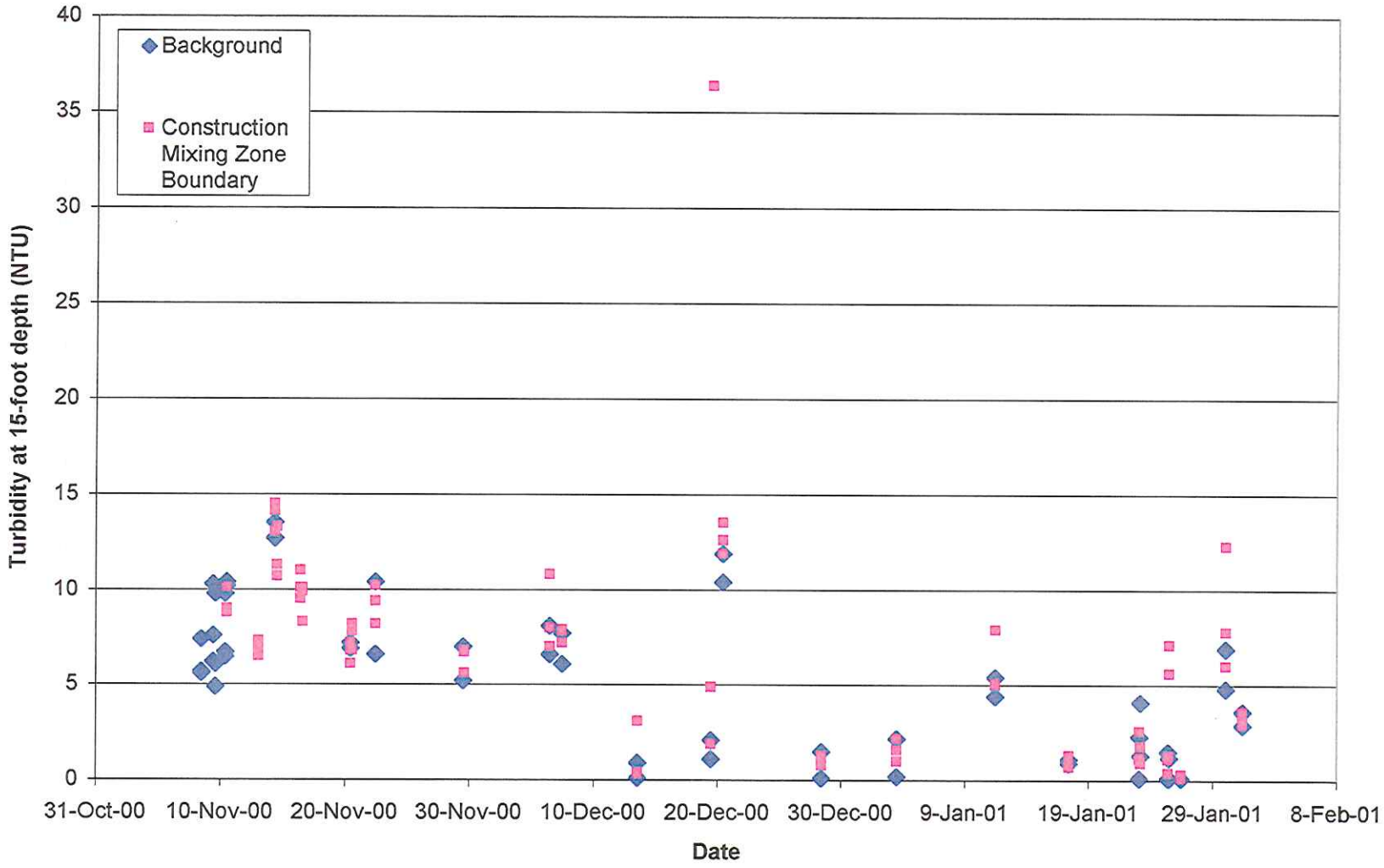


Figure 5 - Temporal Variation of Turbidity
During Log Pond Cap/Habitat Construction Period



Federal Channel Line

Property Line

29+00 28+00 27+00 26+00 25+00 24+00 23+00 22+00 21+00 20+00 19+00 18+00 17+00

WQ-1 WQ-2 WQ-3

HC-VC/SC-77
AN-SC-77

HC-VC/SC-79

U T S R Q P O N M L K J I H G F E D C B A

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17

HC-DC-90

HC-SS-40

HC-VC/SC-75

B-1

B-2

HC-VC/SC-76

DOCK

DOCK

HC-DC-90

ING DOCK

Inner Harbor Line

P.O.B. Property

Gap Property

H6-VC/SC-74

LOG RAMP

LOGS

LOGS

LOGS

LOGS

LOGS

CONVEY

COVERED CONVEYOR

Approximate stockpile location

ANCHOR ENVIRONMENTAL, L.L.C.

0 80

Scale In Feet

Figure 6
Contractor Construction Grid System
Log Pond Cleanup and Habitat Restoration

Note: Bathymetric Survey completed 01/11/01 by Bluewater Engineering

ANCHOR ENVIRONMENTAL, L.L.C.

0 80
Scale in Feet

Figure 7
Post-Phase I Bathymetric Map
Log Pond Cleanup and Habitat Restoration

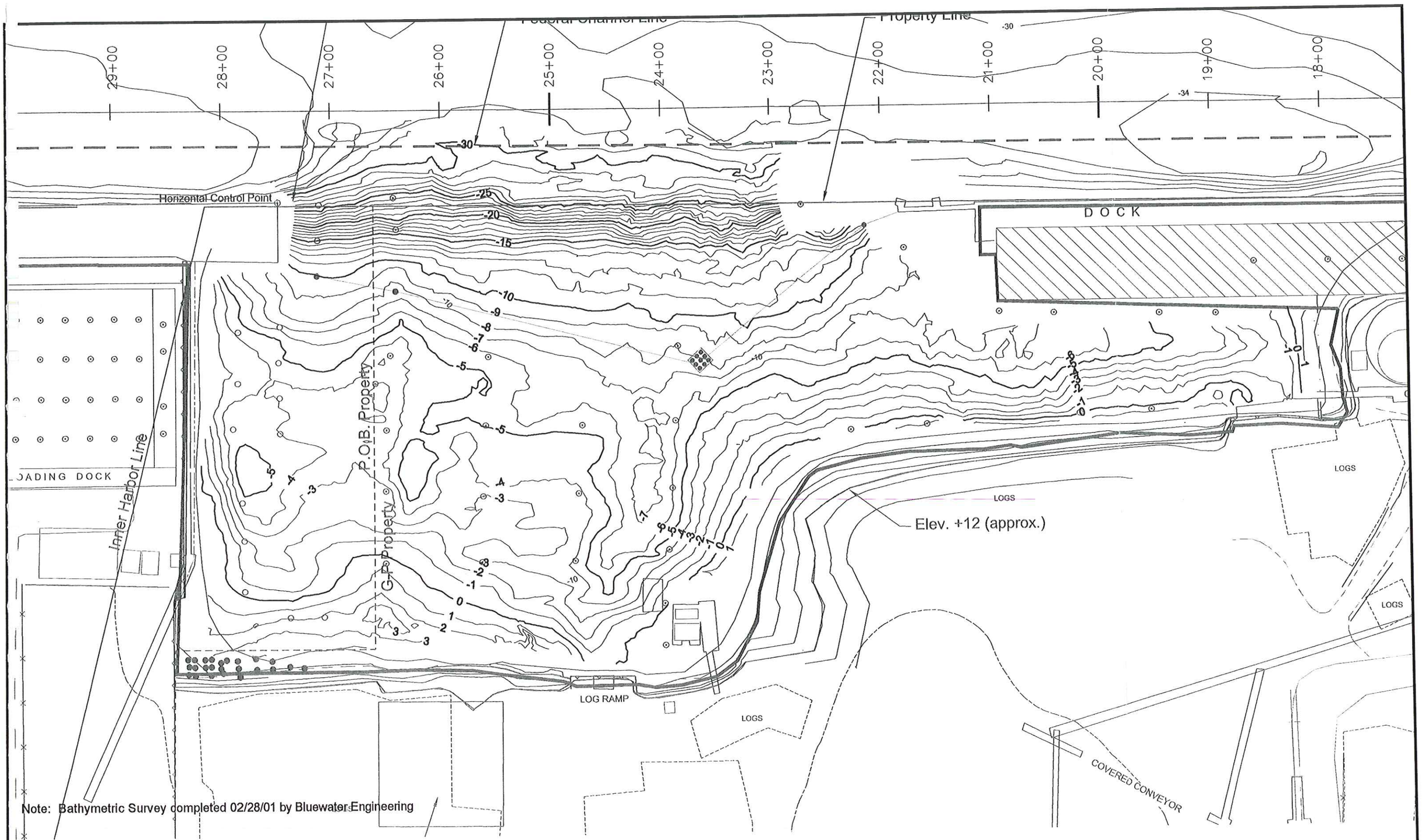
Cap Thickness
Above - 10.00
10.00
9.00
8.00
7.00
6.00
5.00
4.00
3.00
2.00
1.00
0.50
0.00

Federal Channel Line
Property Line
28+00
27+00
26+00
25+00
24+00
23+00
22+00
21+00
20+00
19+00
18+00
-30
-34
Horizontal Control Point
DOCK
0.5' Cap
0.5' Cap
0.5' Cap
Harbor Line
LOGS
Elev. +12 (approx.)
LOG RAMP
COVERED CONVEYOR

ANCHOR ENVIRONMENTAL, L.L.C.

0 80
Scale in Feet

Figure 8
Phase I Material Thickness Plan
Log Pond Cleanup and Habitat Restoration



Note: Bathymetric Survey completed 02/28/01 by Bluewater Engineering

ANCHOR ENVIRONMENTAL, L.L.C.

0 80
Scale in Feet

Figure 9
Final Log Pond Bathymetric Map
Log Pond Cleanup and Habitat Restoration

Cap Thickness
Above - 10.00
10.00
9.00
8.00
7.00
6.00
5.00
4.00
3.00
2.00
1.00
0.50
0.00

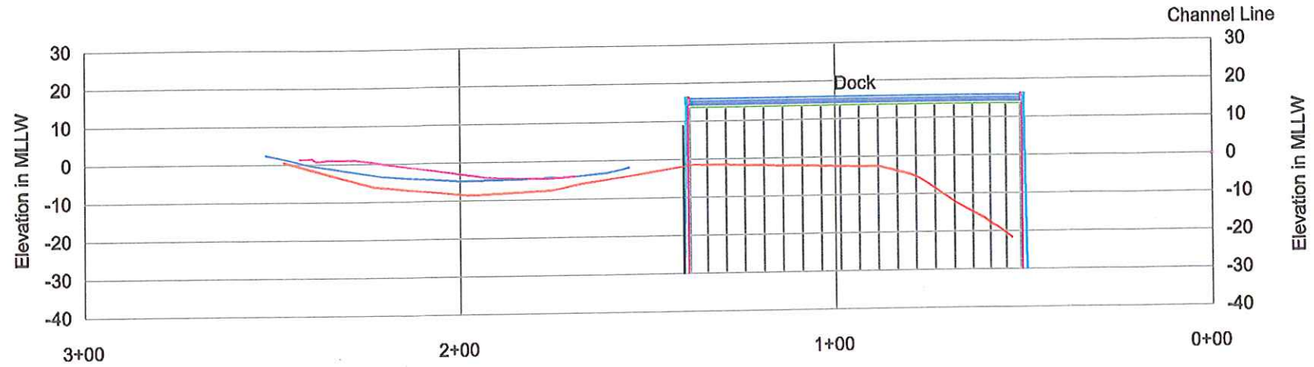
Federal Channel Line
Property Line
28+00
27+00
26+00
25+00
24+00
23+00
22+00
21+00
20+00
19+00
18+00
-30
-34
Horizontal Control Point
DOCK
0.5' Cap
0.5' Cap
0.5' Cap
Elev. +12 (approx.)
LOGS
LOGS
LOGS
LOGS
LOG RAMP
COVERED CONVEYOR

99-030.01 GPB01ah-01.dwg 04/16/01

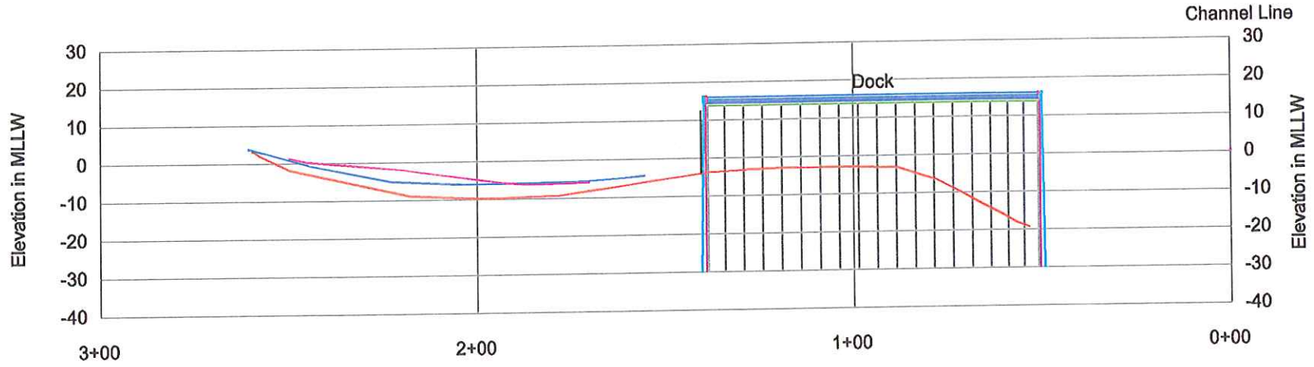
ANCHOR ENVIRONMENTAL, L.L.C.

0 80
Scale In Feet

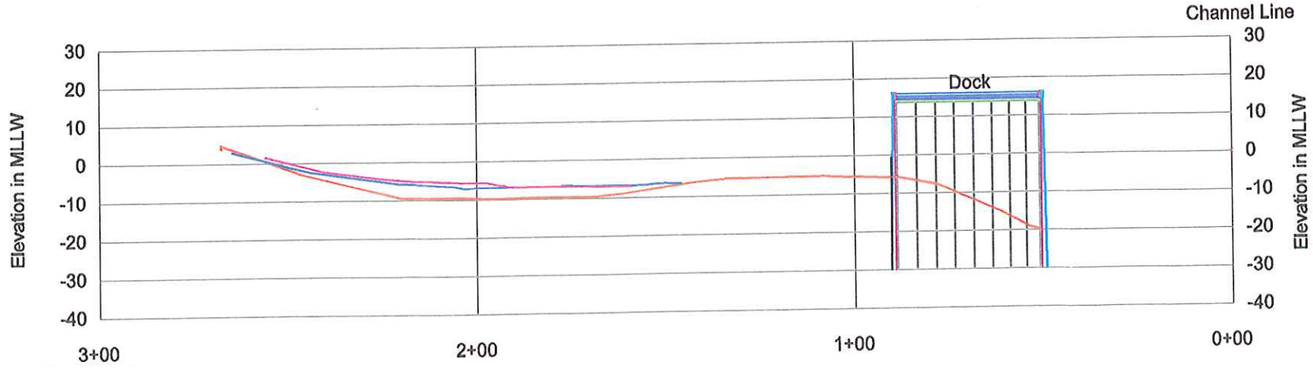
Figure 10
Total Phase I and II Material Thickness Plan
Log Pond Cleanup and Habitat Restoration



Section 19+00



Section 20+00



Section 21+00

Legend

Pre-Construction Mudline

Phase I Mudline 01/12/01

Phase II Mudline 02/28/01

Note: See Figure 3 for section locations.

Horizontal 0 40

Vertical 0 40

ANCHOR ENVIRONMENTAL, L.L.C.

Figure 11
Cross Sections 19, 20, and 21
Log Pond Cleanup and Habitat Restoration

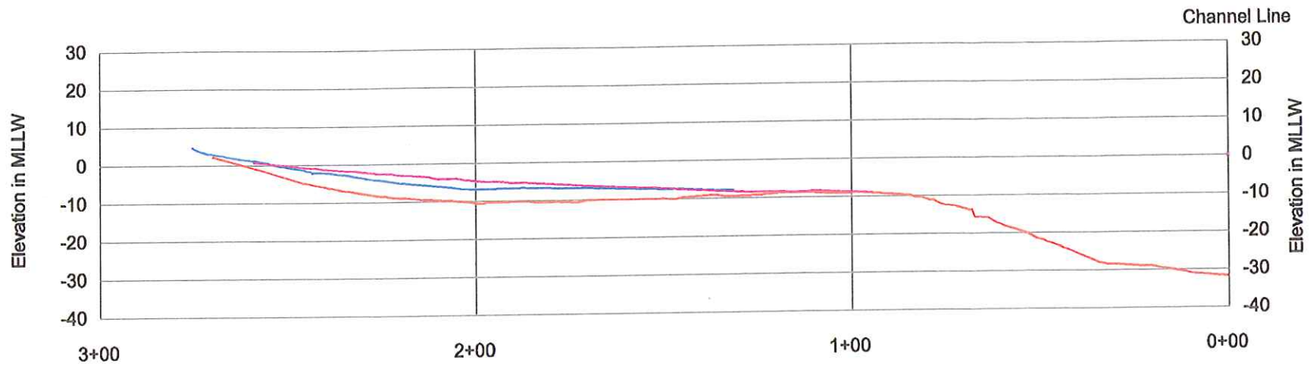
Legend

Pre-Construction Mudline

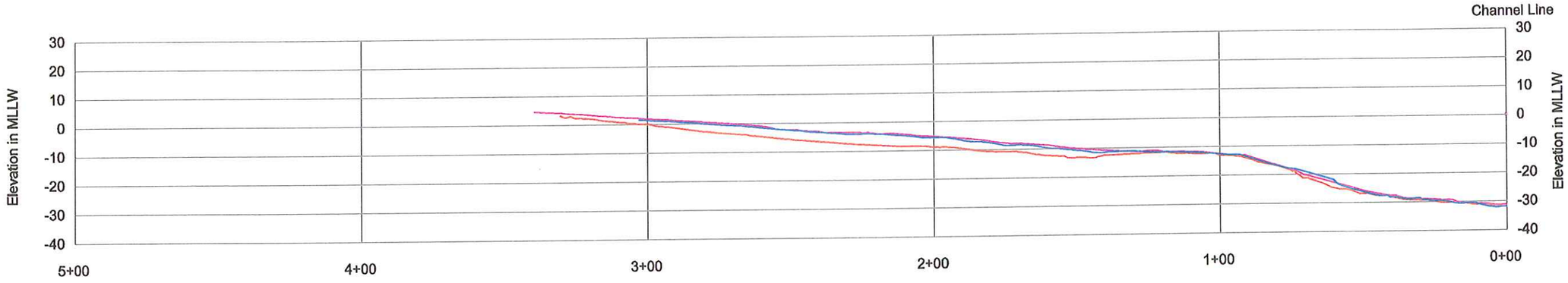
Phase I Mudline 01/12/01

Phase II Mudline 02/28/01

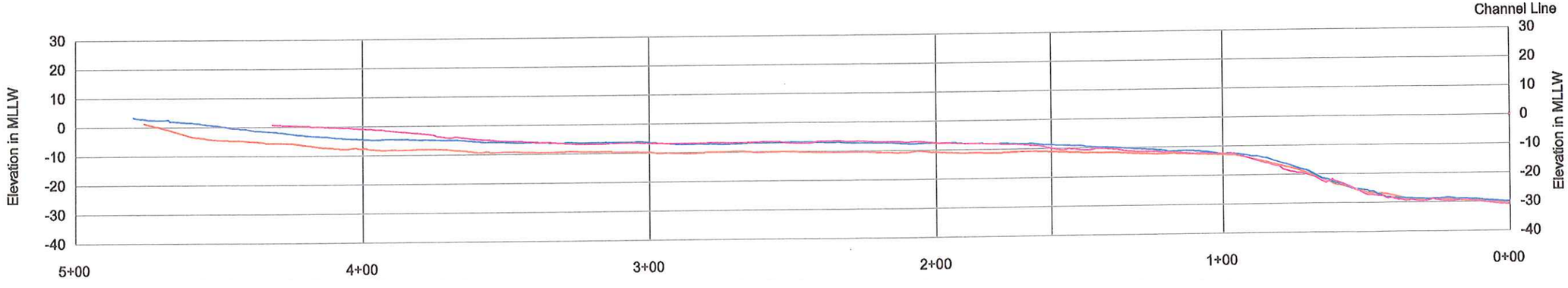
Note: See Figure 3 for section locations.



Section 22+00



Section 23+00

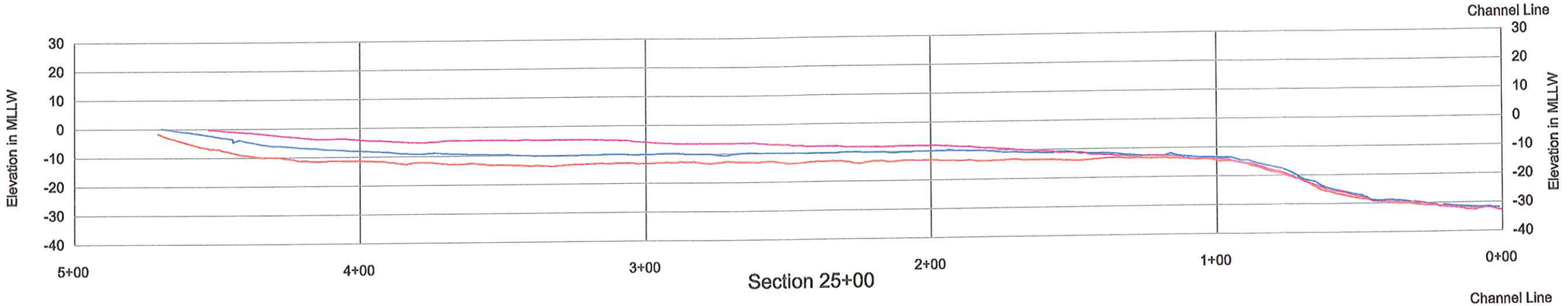


Section 24+00

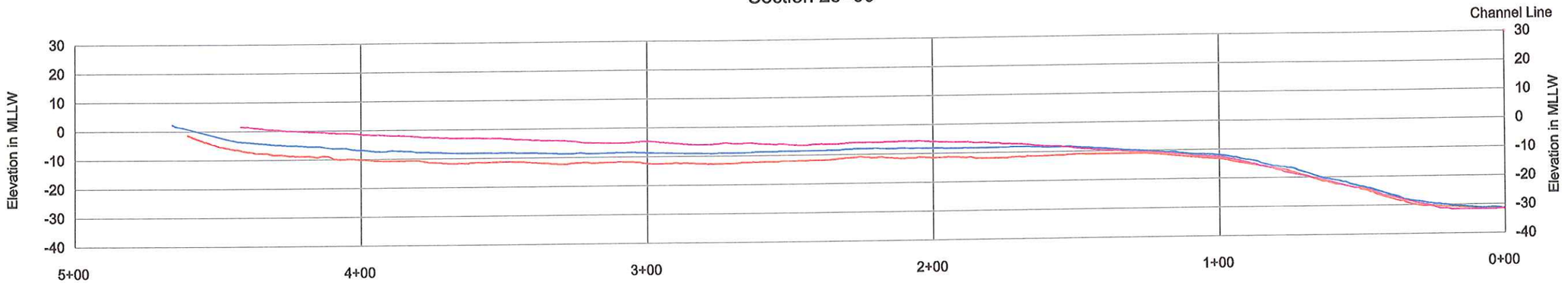
Horizontal
0 40
0 40
Vertical

ANCHOR ENVIRONMENTAL, L.L.C.

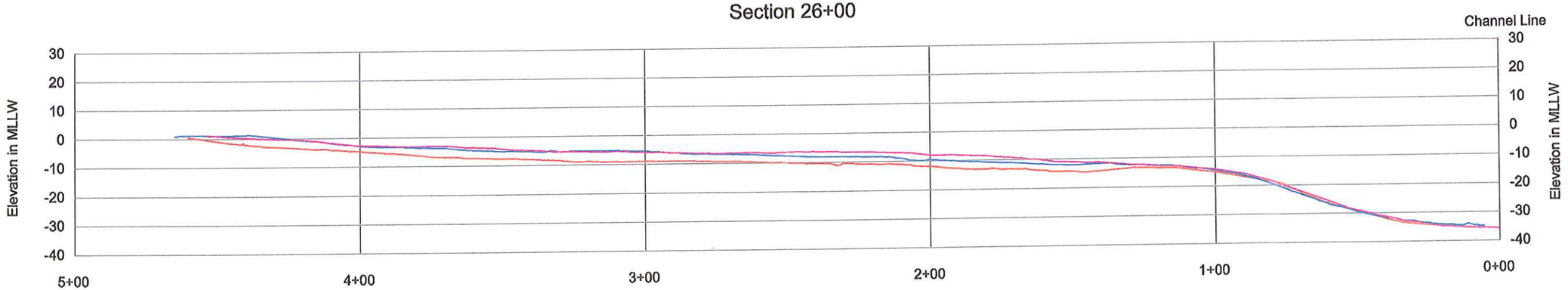
Figure 12
Cross Sections 22, 23, and 24
Log Pond Cleanup and Habitat Restoration



Section 25+00



Section 26+00



Section 27+00

Legend

- Pre-Construction Mudline
- Phase I Mudline 01/12/01
- Phase II Mudline 02/28/01

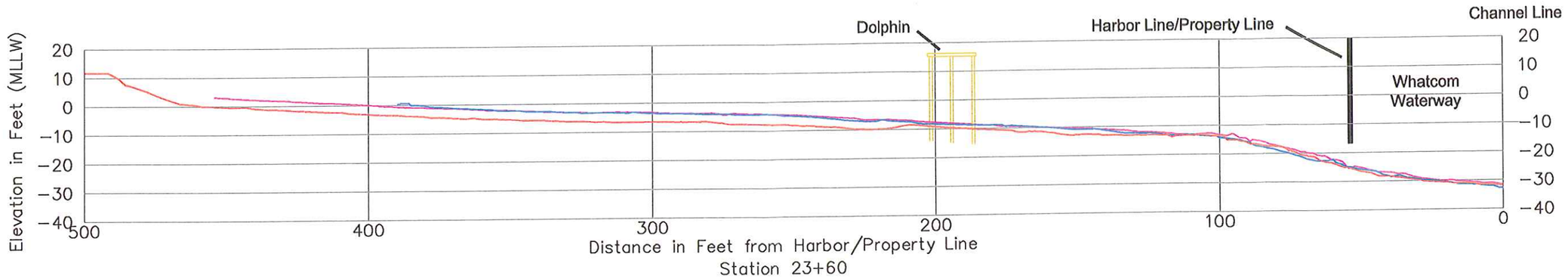
Note: See Figure 3 for section locations.

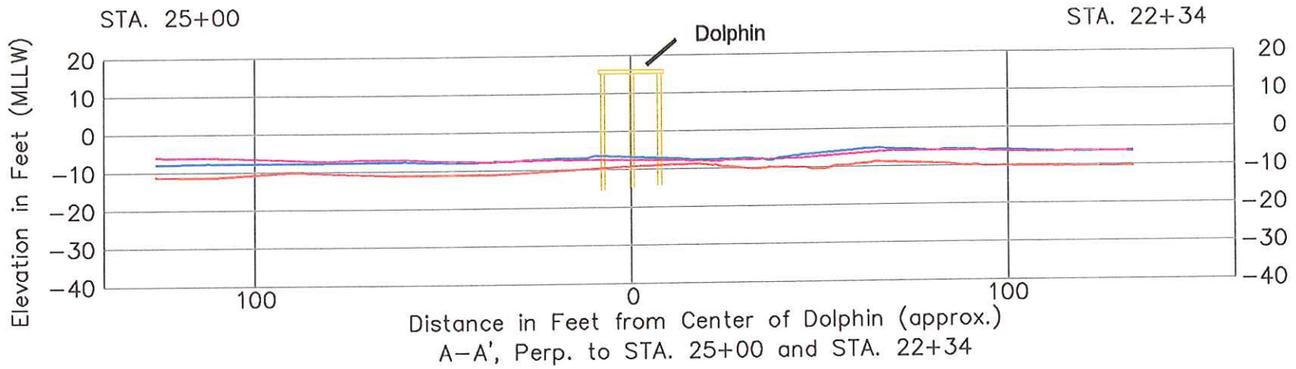
Horizontal 0 40
Vertical 0 40

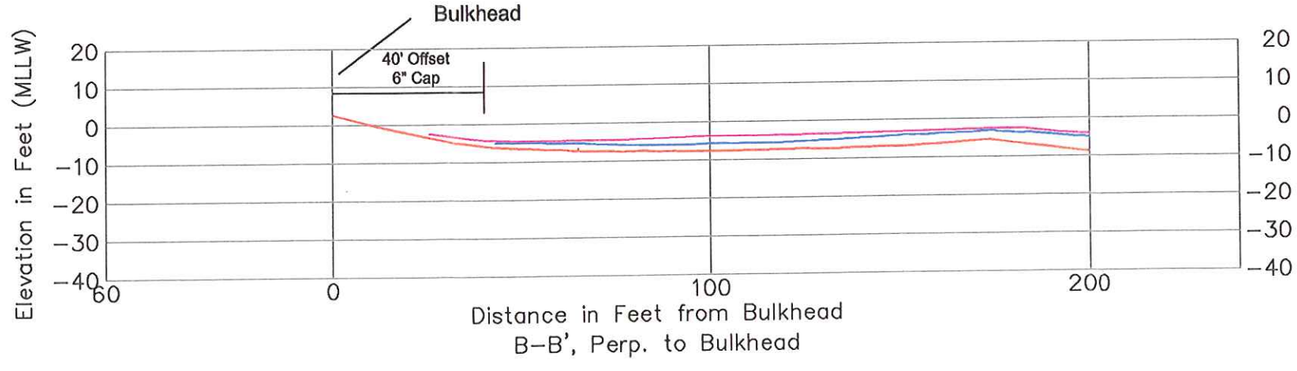
ANCHOR ENVIRONMENTAL, L.L.C.

Figure 13
Cross Sections 25, 26, and 27
Log Pond Cleanup and Habitat Restoration

GPB[illegible].dwg
04/16/01







Legend

- Pre-Construction Mudline
- Phase I Mudline 01/12/01
- Phase II Mudline 02/28/01

Note: See Figure 3 for section locations.

Horizontal
0 40
0 40
Vertical

ANCHOR ENVIRONMENTAL, L.L.C.

Figure 14
Miscellaneous Cross Sections
Log Pond Cleanup and Habitat Restoration

Whatcom Waterway

Federal Channel Line

Harbor Line

30+00

DOCK

CONVEYOR

LOADING DOCK

LOGS

LOG RAMP

COVERED CONVEYOR

CHIP STORAGE AREA

Habitat Zones
(Elev in MHHW)

- +04 to +08
- 00 to +04
- -04 to 00
- -10 to -04
- -20 to -10

ANCHOR ENVIRONMENTAL, L.L.C.

0 100

Scale in Feet

Figure 15
Final Created Habitat Zones
Log Pond Cleanup and Habitat Restoration

99-031-04

GPB017-01.dwg

04/16/01

APPENDIX A

DAILY CONSTRUCTION LOGS

A.H. POWERS, INC.
DREDGE REPORT

PROJECT: GP LAGOON
DATE: 11/16/00

WEATHER: SUNNY + COLD

CREW
PB 2
OP 3
SUP 1

STATION P 17
OFFSET
TO
STATION
OFFSET

NARRATIVE BEGIN SPREADING

BOW
LOAD # 1
STERN

DEBRIS SUMMARY

ACTIVITY	START	STOP	DIG	MOVE	GREASE	WX	BREAK DOWN	MISC	DUMP	LUNCH		TOTAL
BEGIN SHIFT	700	730						30				30
WARM UP	730	745						15				15
SHIFT	745	805		20								20
SPREAD	805	836	31								P17, 16, 15	30
MOVE	836	841		5								5
SPREAD	841	0900	20								P14, 13, 12	20
MOVE	0900	0915		15								15
SPREAD	0915	0945	30								P11+10	30
MOVE	0945	0955		10								10
SPREAD	0955	1020	25								P9	25
MOVE	1020	1030		10								10
SPREAD	1030	1050	20								Q16+15	20
MOVE	1050	1055		5								5
SPREAD	1055	1110	15								Q14+13	15
MOVE	1110	1115		5								5
SPREAD	1115	1130	15								Q12+11	15
MOVE	1130	1135		5								5
SPREAD	1135	1145	10								Q10+9	10
MOVE	1145	1150		5								5
SPREAD	1150	1200	10								Q8	10
MOVE	1200	1205		5			108 YDS/HR					5
GREASE	1205	1240			35							35
SPREAD	1240	1255	15								R16+15	15
MOVE	1255	1300		5								5
SPREAD	1300	1310	10								R14+13	10
MOVE	1310	1315		5								5
SPREAD	1315	1330	15								R12+11	15
MOVE	1330	1340		10								10
TOTALS												400

CONT.

A.H. POWERS, INC.
DREDGE REPORT

PROJECT: _____ WEATHER: _____
DATE: 11/14 (CONT)

CREW
PB
OP
SUP

STATION
OFFSET
TO
STATION
OFFSET

NARRATIVE

Long spread times at the end of the day due to stalling material

8.0
7.9

BOW 8.5
LOAD "A"
STERN 8.3

DEBRIS SUMMARY

ACTIVITY	START	STOP	DIG	MOVE	GREASE	WX	BREAK DOWN	MISC	DUMP	LUNCH		TOTAL
BEGIN SHIFT												400
SPREAD	1340	1350	10								R10+9	10
MOVE	1350	1400		10								10
SPREAD	1400	1425	25								R8+7	25
MOVE	1425	1440		15								15
SPREAD	1440	1450	10								017+16	10
MOVE	1450	1500		10								10
SPREAD	1500	1515	15								015+14	15
MOVE	1515	1520		5								5
SPREAD	1520	1550	30								013+12	30
MOVE	1550	1555		5								5
SPREAD	1555	1620	25								011+10	25
MOVE	1620	1625		5								5
SPREAD	1625	1630	5								09	5
MOVE	1630	1635		5								5
SPREAD	1635	1645	10								08	10
MOVE 180	1645	1715		30								30
SECURE	1715	1730						15				15
											38 SQUARES	
											800 YDS	
											21 YDS/SQ	
TOTALS												630 MIN

12

A.H. POWERS, INC.
DREDGE REPORT

PROJECT: GP LOG POND
DATE: 11/16/00

WEATHER: COLD + SUNNY

CREW
PB 2
OP 3
SUP 1

STATION 5-2
OFFSET
TO
STATION
OFFSET

NARRATIVE

BOW
LOAD # 2
STERN

DEBRIS SUMMARY

ACTIVITY	START	STOP	DIG	MOVE	GREASE	WX	BREAK DOWN	MISC	DUMP	LUNCH		TOTAL
BEGIN SHIFT												
WARM-UP	7:00	7:45						45				45
LOADER	7:45	8:15						30				30
MOVE	8:15	8:45		30								30
SPREAD	8:45	9:20	35								S-2,3,4	35
MOVE	9:20	9:30		10								10
SPREAD	9:30	9:50	20								R-2,3	20
MOVE	9:50	10:00		10								10
SPREAD	10:00	10:35	35								R 4,5,6	35
MOVE	1035	1100		35								35
SPREAD	1100	1115	15								Q2,3	15
MOVE	1115	1125		10								10
SPREAD	1125	1140	15								Q4,5	15
MOVE	1140	1145		5								5
SPREAD	1145	1205	20								Q6,7	20
LUNCH	1205	1235								30		30
MOVE	1235	1250		15								15
SPREAD	1250	1315	25								P6,7,8	25
MOVE	1315	1320		5								5
SPREAD	1320	1330	10								P4,5	10
MOVE	1330	1335		5								5
SPREAD	1335	1345	10								P2,3	10
MOVE	1345	1400		15								15
SPREAD	1400	1410	10								Q2,3	10
MOVE	1410	1415		5								5
SPREAD	1415	1425	10								Q4,5	10
MOVE	1425	1430		5								5
SPREAD	1430	1445	15								Q6,7	15
TOTALS												465

(CONT.)

2/2

A.H. POWERS, INC.
DREDGE REPORT

PROJECT: GP LOG PONDS WEATHER: COLD
DATE: 11/16 CONT.

CREW
PB
OP
SUP

STATION
OFFSET
TO
STATION
OFFSET

NARRATIVE

902cy

BOW
LOAD # 2
STERN

DEBRIS SUMMARY

ACTIVITY	START	STOP	DIG	MOVE	GREASE	WX	BREAK DOWN	MISC	DUMP	LUNCH		TOTAL
BEGIN SHIFT												
												15
MOVE	1445	1500		15						(30)	N2,3,4	10
SPREAD	1500	1510	10									5
MOVE	1510	1515		5							N5,6	10
SPREAD	1515	1525	10									5
MOVE	1525	1530		5							N7,8	15
SPREAD	1530	1545	15									5
MOVE	1545	1550		5							N9,10	10
SPREAD	1550	1600	10									5
MOVE	1600	1605		5							N11	5
SPREAD	1605	1610	5									40
GREASE	1610	1650			40							
											37 SQUARES	
TOTALS												

A.H. POWERS, INC.
DREDGE REPORT

PROJECT: Bellingham / G-P log Pond WEATHER: Overcast / Sun
DATE: 11/20/00 Monday Jim, Mark, Rob, Barb.

CREW
PB 1
OP 3
SUP
—

STATION N-11
OFFSET —
TO
STATION —
OFFSET —

NARRATIVE
SEE SHT #2

BOW
3 5 1 1
LOAD # 3
4 6 2 2
1118 cy
STERN

DEBRIS SUMMARY

ACTIVITY	START	STOP	DIG / Spread	MOVE	GREASE	WX	BREAK DOWN	MISC	DUMP	LUNCH		TOTAL
BEGIN SHIFT												
Prep	0700	0845						105				105
Spread	0845	0900	15									15
Move	0900	0905		5								5
Spread	0905	0915	10									10
Move	0915	0925		10								10
Spread	0925	0940	15									15
Move	0940	0950		10								10
Spread	0950	1010	20									20
Move	1010	1015		5								5
Spread	1015	1030	15									15
Move	1030	1035		5								5
Spread	1035	1050	15									15
Move	1050	1055		5								5
Spread	1055	1110	15									15
Move	1110	1115		5								5
Spread	1115	1130	15									15
Move	1130	1135		5								5
Spread	1135	1150	15									15
Move	1150	1155		5								5
Spread	1155	1210	15									15
Move	1210	1215		5								5
Grease	1215	1250			35							35
Spread	1250	1305	15									15
Move	1305	1310		5								5
Spread	1310	1325	15									15
Move	1325	1330		5								5
Spread	1330	1350	10									10
TOTALS												

A.H. POWERS, INC.
DREDGE REPORT

PROJECT: GP Log Pond
DATE: 11/20/00

WEATHER: C.I.D

CREW
PB 1
OP 3
SUP
___ ___

STATION ____
OFFSET ____
TO
STATION ____
OFFSET ____

NARRATIVE
N 12 - 17 | 6
M 3 - 17 | 15
L 3 - 11 | 9
K 3 - 13 | 11
41 GRIDS

BOW
3.5 / 7.7
4.6 / 7.5
LOAD # 3
STERN
1.1 / 7.9
2.2 / 7.4

DEBRIS SUMMARY

ACTIVITY	START	STOP	DIG spread	MOVE	GREASE	WX	BREAK DOWN	MISC	DUMP	LUNCH		TOTAL
BEGIN SHIFT												
Move	1350	1400		10								10
Spread	1400	1415	15									15
Move	1415	1420		5								5
Spread	1420	1435	15									15
Move	1435	1440		5								5
Spread	1440	1450	10									10
move	1450	1510		10								10
spread	1510	1540	30									30
move	1540	1545		5								5
spread	1545	1630	45									45
Shut Down	1630	1700						30				30
B/F	1700											

Received: 11/30/ 0 5:30PM; 360 676 7247
GEORGIA PACIFIC ADMIN. Fax:360-676-7247 Nov 30 '00 17:21 P.03

WED.

A.H. POWERS, INC.
DREDGE REPORT

PROJECT: G.P Log Pond
DATE: 11/22/00
WEATHER: Clear Cold
Jim, Mark, [illegible]

CREW
PB 1
OP 3
SUP

STATION
OFFSET
TO
STATION
OFFSET

NARRATIVE
S-5
13 13.5 13.5
12.3 13 13

L-16
8 8.5 8
7.2 7.1 7.4

BOW
3.3 3.1
LOAD # 4
3.5 3.1
STERN

DEBRIS SUMMARY

ACTIVITY	START	STOP	DIG / Spread	MOVE	GREASE	WX	BREAK DOWN	MISC	DUMP	LUNCH		TOTAL
BEGIN SHIFT											S5-S16 T4-T16 U4-U9	
Fire up	0700	0800						60			U11-16	60
Second Barge	0800	0825						25			L12-17	25
Spread	0825	0835	10								K14-15	10
move	0835	0840		5								5
Spread	0840	0930	50									50
Move	0930	0935		5								5
Spread	0935	1010	35									35
Move	1010	1015		5								5
Spread	1015	1045	30									[illegible]
Move	1045	1100		15								5
Spread	1100	1135	35									35
Move	1130	1130		5								5
Spread	1130	1200	30									30
Grease	1200	1235			30							30
Spread	1235	1335	65									65
Move	1335	1340		5								5
Spread	1340	1420	40									40
move	1410	1445		25								25
Spread	1445	1530	45									45
Move	1530	1535		5								5
Spread	1535	1615	40									40
Move	1615	1700		45								45
[illegible]												
weekend												
	1700											
TOTALS												

A.H. POWERS, INC.
DREDGE REPORT

PROJECT: GP LOG POND WEATHER: FOG, 35°, CLEAR 50
DATE: NOV 28 TUES
JIM HENRIKSEN · BOB KING · BARB SCHNEPF

CREW
PB BK
OP JH, BK
SUP
—

STATION
OFFSET
TO
STATION
OFFSET

NARRATIVE
PREDICTED: 17.75
ACTUAL - 17
12" LIFT 852 CUYDS

BOW 3.6 34
AM → 4.1
LOAD # 5
3.8 STERN

DEBRIS SUMMAR

ACTIVITY	START	STOP	DIG SPREAD	MOVE	GREASE	WX	BREAK DOWN	MISC	DUMP	LUNCH		TOTAL
BEGIN SHIFT												30
FIRE UP	700	730						30				15
MOVE SCOW	730	745						15				15
SET FLEETING WIRES	745	800						15				15
MOVE	815	830		15'								20
2 K13 14	830	850	20'									10
1 L17	850	900	10'									25
2 L15 L16	900	925	25'									10
2 K15 16	925	935	10'									10
MOVE	935	945		15'								10
SOUND	945	1000										15
2 M15 16	1000	1025	25'									10
SOUND	1025	1035										10
1 M17	1035	1045	10'									15
MOVE	1045	1100		15'								25
2 N15 N16	1100	1125	25'									10
1 N17	1125	1135	10'									20
MOVE	1135	1155		20'						50		50
LUNCH	1155	1245			50							50
GREASE	1155	1245										20
MOVE	1245	105		20'								25
2 C15 C16	105	130	25'									10
1 C17	130	140	10'									20
MOVE	140	200		20								5
P17	200	205	5'						30			30
RACK KNEE	205	235										20
P15 16	235	255	20'									15
MOVE	255	310		15								
TOTALS												

A.H. POWERS, INC.
DREDGE REPORT

PROJECT: GP LOG POND WEATHER: _____
DATE : NOV 28 TUES.

CREW
FB. ____
OP. ____
SUP. ____
____ ____

STATION ____
OFFSET ____
TO
STATION ____
OFFSET ____

NARRATIVE
K 14 15 16 P 15 16 17
L 15 16 17 Q 15 16 17
M 15 16 17
N 15 16 17
O 15 16 17 12" LIFT

BOW
LOAD #
STERN

DEBRIS SUMMA

ACTIVITY	START	STOP	DIG / SPREAD	MOVE	GREASE	WX	BREAK DOWN	MISC	DUMP	LUNCH		TOTA
BEGIN SHIFT												
SOUND	310	320						10				10
Q15 Q16 Q17	320	350	30									30
MOVE	350	420		30								30
GREASE	420	440			20							20
LOCK DOWN	440											
TOTALS			225	150	70			100		50		565

A.H. POWERS, INC.
DREDGE REPORT

PROJECT: GP LOG POND WEATHER: OVERCAST 45° LIGHT RAIN
DATE: NOV 29 WED
JIM HENRIKSEN, BOB KING BARB SCINEFF

CREW
PB BC
OR JH BK
SUP

STATION
OFFSET
TO
STATION
OFFSET

NARRATIVE 12" LIFT
TARGET: 18
ACTUAL: 18
28 | 29
34 | 33
861 CUYD DRY

BOW 24 23
LOAD # 6
STERN 3 3
WET

DEBRIS SUMMARY

ACTIVITY	START	STOP	DIG / SPREAD	MOVE	GREASE	WX	BREAK DOWN	MISC	DUMP	LUNCH		TOTAL
BEGIN SHIFT												
FIRE UP	700	730						30				30
GREASE	730	745			15							15
MOVE SOW	745	815		30								30
GET FLEETING WIRE	815	830						15				15
MOVE	830	915		45								45
L13 L14	915	945	30									30
MOVE	945	950		5								5
K13	950	1005	15									15
MOVE	1005	1020		15								15
SOUND	1020	1035						15				15
M13 M14	1035	1055	20									20
SOUND	1055	1100						5				5
MOVE	1100	1110		10								10
N13 N14	1110	1135	25									25
MOVE	1135	1140		5								5
O13O14	1140	1210	25									25
MOVE	1210	1220		10								10
LUNCH	1220	1250								30		30
GREASE	1220	1250			30							30
P12 P14	1250	1115	25									20
MAKE HOLE FOR LOADER	115	130						15				15
PICK LOADER AND SWEEP	135	215						40				40
MOVE	130	135		5								5
H2O QC	135	210	NO TIME OUT FROM WORK - RECORD ONLY									0
Q13Q14	215	240	25									
MOVE	240	300		20								
K11 K12	300	320										
TOTALS												

A.H. POWERS, INC.
DREDGE REPORT

PROJECT: _____
DATE: _____
WEATHER: _____

CREW
PB ____
OP ____
SUP ____
____ ____

STATION ____
OFFSET ____
TO
STATION ____
OFFSET ____

NARRATIVE
14 - LMNOPQ
13 - KLMNOPQ
12 KLM
11 - KLM

BOW
LOAD #
STERN

DEBRIS SUMMARY
AM Δ
.8 / 1.0 / .8
PM Δ
.7 / 1.6 / 1.1

ACTIVITY	START	STOP	DIG ~~SPREAD~~	MOVE	GREASE	WX	BREAK DOWN	MISC	DUMP	LUNCH		TOTAL
BEGIN SHIFT												
MOVE	320	330		10								10
SOUND	330	335						5				5
L11 L12	335	400	25									25
SOUND	400	405						5				5
MOVE	405	410		5								5
M11 M12	410	430	20									20
FLEET SCAN	430	450						20				20
PICK LOADER	450	515						25				25
MOVE SCOW	515	530		15								15
TUG DERRICK	530	550		20								20
SHUT DOWN	550	615						20				20
TOTALS			210	195				195		30		630

A.H. POWERS, INC.
DREDGE REPORT

PROJECT: GP LOG POND
DATE: THURS NOV 30
WEATHER: 45° OVERCAST, RAIN
JIM HENRIKSEN BOB KING CARL SCHNEIDER

CREW
PB EC
OP ERK
SUP
STATION
OFFSET
TO
STATION
OFFSET

NARRATIVE
TARGET: 21
ACTUAL: 18
1002 CUYD DRY

35	33	32
35	32	31

BOW
LOAD # 7
STERN

DEBRIS SUMMARY
AM .7 .8 1.1
PM .9 .9 .9

ACTIVITY	START	STOP	DIG / SPREAD	MOVE	GREASE	WX	BREAK DOWN	MISC	DUMP	LUNCH		TOTAL
BEGIN SHIFT												
FIRE UP	700	730						30				30
PACK GREASE	730	750						20				20
GREASE	750	810			20							20
FLUSHING HOSES	810	825						15				15
MOVE	825	830		5								5
SWINGING ANCHOR	830	840	10									10
MOVE	840	850		10								10
SOUND	850	855						5				5
SWING	855	920	25									25
SOUND	920	925						5				5
MOVE	925	940		10								10
SWING	940	1005	25									25
MOVE	1005	1015		10								10
DIG FIX	1015	1045	30									30
MOVE	1045	1055		10								10
SWING	1055	1120	25									25
MOVE	1120	1150		30								30
SWING	1150	1220	30									30
LUNCH	1220	1256								30		30
GREASE	1220	1250			30							30
MOVE ANCHOR	1301	125						35				35
FLUSH HOSES	125	135						10				10
MOVE	125	145		10								10
SWING	145	215	30									30
MOVE	215	225		10								10
SWING	225	250	25									25
TOTALS			200	95	50			125		30		

A.H. POWERS, INC.
DREDGE REPORT

PROJECT: GP LOG POND
DATE : NOV 30 THURS

WEATHER: OVERCAST 45°

CREW
PB ____
OP ____
SUP ____
____ ____

STATION ____
OFFSET ____
TO
STATION ____
OFFSET ____

NARRATIVE
12 NOPQ 7
11 NOPQ 418
10 LMNOP
9 LMNOP

BOW
LOAD #
STERN

DEBRIS SUMMARY

ACTIVITY	START	STOP	DIG / SPREAD	MOVE	GREASE	WX	BREAK DOWN	MISC	DUMP	LUNCH		TOTAL
BEGIN SHIFT			200	95	50			120		30		
MOVE	250	310		20								20
SOUND	310	320						10				10
09 010	320	345	25									25
SOUND	345	350						5				5
MOVE	350	405		15								15
09 010	405	420	15									
MOVE	420	440		20								
MOVE TO BOOM	440	500		20								
PICK [illegible]	500	515						15				
PICK SKIFF	515	530						15				
SERVICE EQUIPMENT	530	550						20				
TOTALS			240	170	50			185		30		625

A.H. POWERS, INC.
DREDGE REPORT

PROJECT: GP LOG POND WEATHER: CLEAR 46°
DATE: DEC 4 MON
JIM HENRICKSEN, BOB KING, BARB SCHNEFF

CREW
PB EC
OP JHK
SUP
STATION
OFFSET
TO
STATION
OFFSET

NARRATIVE
TARGET: 16
ACTUAL: 16

39	39	36	36
38	39	32	32

BOW
LOAD # E
STERN

CUYD 761 DEC WET

DEBRIS SUMMARY

ACTIVITY	START	STOP	DIG	MOVE	GREASE	WX	BREAK DOWN	MISC	DUMP	LUNCH		TOTAL
BEGIN SHIFT												
START UP	700	730						30				30
GREASE	730	745			15							15
40 HR GREASE	745	815			30							30
MOVE	815	835		20								20
JACK LOADER	835	845						10				10
JACK [illegible]	945	900						15				15
FLEETING	900	915						15				15
[illegible]	915	920						5				5
MOVE	925	930		5								5
FLEET [illegible]	930	935						5				5
PU BOOM	935	950	15									15
MOVE ANCHOR 4	950	1030						40				40
MOVE	1030	1050	20									20
LOG	1050	1130	40									40
MOVE	1130	1135		5								5
MAKE	1135	1200	25									25
MOVE	1200	1210		10								10
LUNCH	1210	1240								30		30
MAKE	1240	105	25									25
MOVE	105	115		10								10
PU LOG	115	140	25									25
MOVE	140	145		5								5
PU BOOM	145	210	25									25
MOVE ANCHOR 1	210	250						40				40
MOVE ANCHOR	250	310						20				20
MOVE	310	320		10								10
TOTALS			175	65	45			180		30		

H. POWERS, INC.
DREDGE REPORT

PROJECT: GP LOG POND WEATHER:
DATE : MON DEC 4

CREW
PB
OP
SUP

STATION
OFFSET
TO
STATION
OFFSET

NARRATIVE
10 P
9 P
8 LMNOP
7 LMNOP
6 MN
5 LMNO

BOW
LOAD #
STERN

DEBRIS SUMMARY

ACTIVITY	START	STOP	DIG / SPREAD	MOVE	GREASE	WX	BREAK DOWN	MISC	DUMP	LUNCH		TOTAL
BEGIN SHIFT			175	65	45			180		30		
L5	320	335	15									
MOVE	335	340		5								
M5 M6	340	405	25									
MOVE	405	415										
N5 N6	415	445	30									
ADEP DISABLED	330	430					60					0
MOVE	445	500		15								
O5	500	520	20									
PICK LOADER	520	540						20				
MOVE SCOW	540	635		55								
SCOW	130	1330			30							
SECURE	635	650						20				
TOTALS			265 ✓	140 ✓	75 ✓		0 60	190 220		30 30		700 790

12" & 6" LIFT

PG 1 OF 2

A.H. POWERS, INC.
DREDGE REPORT

PROJECT: GP LOG POND WEATHER: CLEAR 40°
DATE: TUES NOV 5
JIM HENRIKSEN BOB KING BARB SCHNEFF

CREW
PB BS
OP JH BK
SUP
___ ___

STATION ___
OFFSET ___ 12"
TO
STATION ___
OFFSET ___ 6"

NARRATIVE
PROJECTED: 22
ACTUAL
PROJECTED 44
& ACTUAL
& 1096 CUYD 12" LIFT & 6" LIFT

3°	3'	27
27	27	21

BOW 3
LOAD # 9
STERN 24

DEBRIS SUMMARY

ACTIVITY	START	STOP	DIG	MOVE	GREASE	WX	BREAK DOWN	MISC	DUMP	LUNCH		TOTAL
BEGIN SHIFT												
FIRE UP	700	720						20				20
GREASE	720	740			20							20
MOVE LOADER	740	750						10				10
SET FLEETING WIRES	750	800						10				10
HANG BUCKET	800	815						15				15
C#6	815	830	15									15
MOVE	830	835		5								5
PS P6	835	900	25									25
PUMP SCOW	835											-0-
MOVE	900	920		20								20
L4	920	935	15									15
MOVE	935	940		5								5
M4	940	945	5									5
MOVE	945	950		5								5
N4	950	1000	10									10
MOVE	1000	1010		10								10
O4	1010	1020	10									10
MOVE	1020	1025		5								5
P4	1025	1035	10									10
MOVE	1035	1050		15								15
MOVE I4	1050	1130						40				40
MOVE ANCHORS	1/2 1130	1210						40				40
LUNCH	1210	1240								30		30
GREASE	1210	1240			30							-0-
MOVE	1240	100		20								20
J4 J5	100	115	15									15
TOTALS			105	85 ALL	50 12"	11	LIFT	135 BEFORE		30 LUNCH		275

A.H. POWERS, INC.
DREDGE REPORT

PROJECT: BP LOG POND
DATE : TUES DEC 5

WEATHER: _____

CREW
PB
OP
SUP
_____

STATION _____
OFFSET _____
TO
STATION _____
OFFSET _____

NARRATIVE 12.5
6" LIFT =
J 2345678910
I 12345

BOW
LOAD #
STERN

DEBRIS SUMMARY
AM
A.5 B.6 C.6
PM
A.8 B.4 C.5

ACTIVITY	START	STOP	DIG	MOVE	GREASE	WX	BREAK DOWN	MISC	DUMP	LUNCH		TOTAL
BEGIN SHIFT			105	85	50			135				275
MOVE	115	125		10								10
SOUND	125	130						5				5
I4 I5	130	145	15									15
SOUND	145	150						5				5
MOVE	150	200		10								10
J6 J7	200	215	15									15
MOVE	215	220		5								5
J8	220	230	10									10
MOVE	230	240		10								10
J9 10	240	255	15									15
MOVE	255	315		20								20
J2 J3	315	330	15									15
MOVE	330	340		10								10
SOUND	340	350						10				10
I1 I2 I3	350	410	20									20
SOUND	410	415						5				5
MOVE	415	425		10								10
K4	425	435	10									10
FLEET ZON	435	440						5				5
K5	440	450	10									10
FLEET ZON	450	500						10				10
MOVE	500	510		10								10
GREASE	510	530			20							20
SHUT DOWN	530	545						15				15
TOTALS			215	170	70			190		30		645

12" LIFT & 6" FG 1 OF 1

A.H. POWERS, INC.
DREDGE REPORT

PROJECT: GP LOG POND WEATHER: CLEAR 40°
DATE: WED DEC 6
JIM HENRIKSEN, BOB KING, BARB SANEFF

CREW
PB PS
OR HBK
SUP
__ __

STATION ____
OFFSET ____
TO
STATION ____
OFFSET ____

NARRATIVE
WISHED FOR: 9
GOT: 3 @ 12"
FINISH OFF LOAD 9
#9 433 CUYD LEFT
#10 993

BOW 2' 2' 1' 1' LOAD #: 9 10 STERN

DEBRIS SUMMARY
Δ (A).6 (B).7 (C).3

CTIVITY	START	STOP	DIG	MOVE	GREASE	WX	BREAK DOWN	MISC	DUMP	LUNCH		TOTAL
EGIN SHIFT												
IKE UP	7:00	720						20				20
[illegible] EAGLE	720	740						20				20
MOVE	740	750		10								10
[illegible]	750	755						5				5
[illegible]	755	815	20									20
MOVE	815	820		5								5
K7K8	820	900	40									40
LOST ERICTSON SPUD #2					9:00/1:15		255					255
MOVE	115	140		25								25
H7H8H9	140	155	15									15
MOVE	155	200		5								5
SOUND	200	210						10				10
G7G8	210	225	15									15
SOUND	225	230						5				5
END OF LOAD #9												
[illegible] LOADER	230	240						10				10
[illegible]	240	325						45				45
[illegible]	325	335						5				5
G9	335	345	10									10
MOVE	345	350		5								5
F8F9	350	405	15									15
MOVE	405	410		5								5
F8E9	410	425	15									
MOVE	425	450										
DIG OUT LOADER	450	510										
PICK SKIFF	510	525										0
[illegible] DOWN	525	545										
TOTALS							255					

420 QC 1000 - 1030

A.H. POWERS, INC.
DREDGE REPORT

PROJECT: GP LOG POND
DATE: THURS DEC 7 BOB KING BARB SCHNOFF
JIM HENRIKSEN

WEATHER: FOG 35°

CREW
PB BK
OP JH BK
SUP

STATION
OFFSET
TO
STATION
OFFSET

NARRATIVE
WISHED: 36
GOT: 135
993 LOAD 10
132 USED 12/6
861 AVAILABLE
6" LIFT
LOAD #10 BEGUN 12/6

BOW 24 2C
LOAD # 10
13 13
STERN

DEBRIS SUMMARY Δ

ACTIVITY	START	STOP	DIG	MOVE	GREASE	WX	BREAK DOWN	MISC	DUMP	LUNCH		TOTAL
BEGIN SHIFT								20				20
START UP	7:00	720			30							30
GREASE	720	750						5				5
FLEET SWING	750	755										15
D6 E7	755	810	15									10
MOVE	810	815		10								15
E7 C7	815	835	15									10
MOVE	825	845		10								15
H4 H5	845	900	15									15
MOVE	900	915		15								5
FLEET SWING	915	920							5			10
H5	920	930	10									5
MOVE	930	935		5								140
LOST COMPUTER	925	1145					140					
OIL CHANGE MAIN GEN	NO LUNCH											5
MOVE	1145	1150		5								15
D7 D8	1150	1210	15									5
MOVE	1210	1215		5								20
C7 C8	1215	1235	20									15
MOVE	1225	1250		15								10
D7 B2	1250	100	10									5
MOVE	100	105		5								
D7 D8	105	115	10									
MOVE	115	145		30					75			
MOVE 100 TO 115	115	300										
CHANGE AIR FAN BWING PUMP					300	330	30					
TRANSFER MATERIAL 100 TO 115					330	5:30			BC			
TOTALS												

H2O QC @ 11:00 - 1130

LTU 1185

FT [redacted]

A.H. ROWERS, INC.
DREDGE REPORT

PROJECT: GP LOG POND
DATE: FRI DEC. 8
WEATHER: FOG/OVERCAST 35°
JIM HENRIKSEN, BOB. KING, CAPT. CHIEF

CREW
PB EC
OP JBK
SUP
STATION
OFFSET
TO
STATION
OFFSET

NARRATIVE
WISH 22
GOT 21

REMAINING LOAD #10 537

BOW
LOAD # 10
STERN

DEBRIS SUMMARY
Δ
(A).8 (B).4 (C).

ACTIVITY	START	STOP	DIG	MOVE	GREASE	WX	BREAK DOWN	MISC	DUMP	LUNCH		TOTAL
BEGIN SHIFT												
SHIFT UP	7:00	7:30						30				30
GREASE	7:30	8:00			30							30
MOVE TO ENTRY	8:00	8:45						45				45
KINK IN TAIL	8:45	9:10					25					25
MOVE	9:10	9:15		5								5
CS CC	9:15	9:30	15									15
MOVE	9:30	9:35		5								5
ES EC	9:35	9:45	10									10
MOVE	9:45	9:55		10								10
ES EC	9:55	10:15	20									20
MOVE	10:15	10:20		5								5
DS DC	10:20	10:35	15									15
MOVE	10:35	10:40		5								5
SOUND	10:40	10:45						5				5
CS CC	10:45	11:00	15									15
SOUND	11:00	11:10						10				10
MOVE	11:10	11:25		15								15
BS BC	11:25	11:40	15									15
CLEAN SCOW	11:40	11:55						15				15
MOVE	11:55	12:00		5								5
AS AC	12:00	12:15	15									15
MOVE	12:15	12:40		25								25
LH2 HB	12:40	12:55	15									15
GREASE	12:55	1:25			30							30
LUNCH	1:25	1:55								30		30
SWITCH SCOWS	1:55	2:35						40				40
TOTALS												

[redacted]

A.H. POWERS, INC.
DREDGE REPORT

PROJECT: GP LOG POND
DATE: FRIDAY DEC 8

WEATHER: OVERCAST 35°

CREW	STATION	NARRATIVE	BOW / LOAD # / STERN	DEBRIS SUMMARY
PB ____	STATION ______ OFFSET ______ TO STATION ______ OFFSET ______		LOAD # 10	
OP ____				
SUP ____				

ACTIVITY	START	STOP	DIG	MOVE	GREASE	WX	BREAK DOWN	MISC	DUMP	LUNCH		TOTAL
BEGIN SHIFT FINISH			120	75			25	145				
H1 H2 H3	235	250	15									15
MOVE	250	300		10								10
G1 G2 G3	300	320	20									20
MOVE	320	330		10								10
G4	330	340	10									10
PICK LOADER	340	410						30				30
MOVE TO SAFE H2O	410	510						60				60
SHUT DOWN	510	5:30						20				20
TOTALS			165	95	60		25	255		30		

12 1/4 LIFT

A.H. POWERS, INC.
DREDGE REPORT

PROJECT: GP LOG POND
DATE: 12.11.00 MON
WEATHER: CLEAR 25°
JM HENRICKSEN, BOB KING, DARB SHNEPF

CREW
PB ES
OR JH BK
SUP
—

STATION
OFFSET
TO
STATION
OFFSET

NARRATIVE
WISH 20
GOT 19

CUYD: 998

36	38	33	34
34	36	3	34

BOW
LOAD # 11
STERN

DEBRIS SUMMARY
A 1.2 B 1.0
C 1.1

ACTIVITY	START	STOP	DIG	MOVE	GREASE	WX	BREAK DOWN	MISC	DUMP	LUNCH		TOTAL
BEGIN SHIFT												
START UP	7.00	7:30						30				30
GREASE	7:30	8:00			30							30
BRAKES FROZE SWING AIR HOSE	800	825					25					25
PICK KUFF	825	830						5				5
FETCH SONS	830	845						15				15
BLK SHIFT DOWN QUILCENA WEST	845	945					20	40				60
PICK BLK SKIFFOUT	945	1005					20					20
MOVE BARS	1005	1030						25				25
MOVE	1030	1045		15								15
J1, J2	1045	1100	15									15
MOVE	1100	1110		10								10
J4 J5	1110	1135	25									25
MOVE	1135	1150		15								15
H4HC	1150	1215	25									25
LUNCH	1215	1245								30		0
GREASE	1215	1245			30							30
MOVE	1245	1250		5								5
J6 J7 J8	1250	130	40									40
MOVE	130	140		10								10
MOVE J4	140	200						20				20
J9	200	215	15									15
MOVE	215	220		5								5
J10	220	235	15									15
SOUND	235	240						5				5
K9 K10	240	305	25									25
SOUND	305	310						15				15
TOTALS												

ROLOFF

A.H. POWERS, INC.
DREDGE REPORT

PROJECT: GP LOG POND
DATE: MON DEC 11

WEATHER: CLEAR 25°

CREW
PB
OP
SUP

STATION
OFFSET
TO
STATION
OFFSET

NARRATIVE

BOW
LOAD #
STERN

DEBRIS SUMMARY

ACTIVITY	START	STOP	DIG	MOVE	GREASE	WX	BREAK DOWN	MISC	DUMP	LUNCH		TOTAL
BEGIN SHIFT			160	60	60		65	155		30		
MOVE	310	315		5								5
16 17	315	350	35									35
MOVE	350	405		15								15
18 19	405	435	30									30
MOVE	435	440		5								5
G5 G6	440	510	30									30
MOVE TO SAFETY	510	540						30				30
BCKLOADER	540	600						20				20
SHUT DOWN	600	615						15				15
TOTALS			255	85	60		65	220		30		

IC CH PG1 OF2

A.H. POWERS, INC.
DREDGE REPORT

PROJECT: GP LOG POND WEATHER: CLEAR 27°
DATE: TIDES DEC 12 00

CREW
PB
OP
SUP

STATION
OFFSET
TO
STATION
OFFSET

NARRATIVE
PROJECTED: 13
ACTUAL; 13

TOTAL CUYD: 652

BOW
6 5³
LOAD # 12
2² 2⁸
STERN

DEBRIS SUMMARY
Δ
(A) 1.2 (B) .7
(C) .9

ACTIVITY	START	STOP	DIG	MOVE	GREASE	WX	BREAK DOWN	MISC	DUMP	LUNCH		TOTAL
BEGIN SHIFT												
FIRE UP	7:00	720						20				20
GREASE	720	740			20							20
SET FLEETING WIRES	740	800						20				20
HCK LOADER	800	805						5				5
RIG BASKET	805	815						5				5
MOVE	815	845		30								30
B7 B8	9:00	930	30									30
PICK SKIFF	930	940						10				10
MOVE	940	950		10								10
C7C8	950	1020	30									30
MOVE SLOW	1020	1035						15				15
MOVE	1035	1045		10								10
SOUND	1045	1050						5				5
D7D8	1050	1120	30									30
SOUND	1120	1125						5				5
MOVE	1125	1130		5								5
E7E8E9	1130	1200	30									30
MOVE	1200	1205		5								5
LUNCH	1205	1235								30		30
GREASE	1205	1235			30							~~0~~
F7F8F9	1235	115	40									40
MOVE	115	135		20								20
FLEET SLOW	135	145						10				10
A7A8	145	220										
MOVE	220	250		30								
G7G8G9	250	310	20									
TOTALS												

PB ~ OFFSET
OP TO
SUP STATION
OFFSET

TUES DEC 12.00

TOC OF 2

LOAD # STERN

SUMMARY

ACTIVITY	START	STOP	DIG	MOVE	GREASE	WX	BREAK DOWN	MISC	DUMP	LUNCH		TOTAL
BEGIN SHIFT												
MOVE TO SAFE H2O	310	335						25				25
PICK LOADER	335	350						15				15
TO HR GREASE	350	430			40							40
SHUT DOWN	430	445						15				15
TOTALS												

A.H. POWERS, INC.
DREDGE REPORT

PROJECT: GP LOG POND
DATE: WED DEC 13 00
JIM HENRIKSEN, BOB KING, BARB SCHNEE

WEATHER: CLEAR 28°

CREW
PB BS
OR HGK
SUP

STATION
OFFSET
TO
STATION
OFFSET

NARRATIVE
EXPECTED: 19
ACTUAL

12" LIFT
TOTAL CUYD: 942

BOW 3³ 3⁴
LOAD # 13
STERN 3⁴ 3⁵

DEBRIS SUMMARY

ACTIVITY	START	STOP	DIG	MOVE	GREASE	WX	BREAK DOWN	MISC	DUMP	LUNCH			TOTAL
BEGIN SHIFT								30					30
START UP	7 00	7.30			30			25					30
GREASE	7:30	800											25
MOVE H	8:00	825						55					0
SET WIRES	825	900											55
TRANSFER MATERIAL	825	920			25								25
MOVE	920	945											30
D5D6	945	1015	30										5
MOVE	1015	1020			5								30
C.C.C.C	1020	1045	25										5
MOVE	1045	1050			5								40
P.C.B.G.	1050	1130	40										5
MOVE	1130	1135			5								30
A5A6	1135	1205	30										20
MOVE	1205	1225			20								20
GREASE	1225	1245				20				30			30
LUNCH	1245	115							30				30
MOVE 7	115	145											15
H8	145	200	15										10
MOVE	200	210			10								40
H7 H8 H9	210	250	40										5
MOVE	250	255			5								20
FINISH G7 G8 G9	255	315	20										15
MOVE 14	315	330							15				75
TRANSFER MATERIAL	330	445							75				15
MOVE 14	445	500							15				5
MOVE	500	505			5								
TOTALS					H20 QC @ 200'								

POL of C

A.H. POWERS, INC.
DREDGE REPORT

PROJECT: GP LOG POND WEATHER:
DATE: WED DEC 13 00

CREW
PB
OP
SUP

STATION
OFFSET
TO
STATION
OFFSET

NARRATIVE

Δ = (A) .8 (B) 1.0 (C) .9

BOW
LOAD #
STERN

DEBRIS SUMMARY

ACTIVITY	START	STOP	DIG	MOVE	GREASE	WX	BREAK DOWN	MISC	DUMP	LUNCH		TOTAL
BEGIN SHIFT			200	100	50			245		30		
SOUND	505	515						10				10
F5 F6	515	535	20									20
SOUND	535	540						5				5
MOVE	540	545		5								
F5 F6	545	615	30									
MOVE TO SAFE H20	615	655						40				
PICK LOADER	655	710						15				
MOVE IN	715	735						20				
SHUTDOWN	735	750						15				
TOTALS												

PG 1 OF 2

6" [redacted] "LIFTS

A.H. POWERS, INC.
DREDGE REPORT

PROJECT: GP LOG POND WEATHER: OVERCAST 35°
DATE: THURS 14 DEC
Jim HENRIKSEN, BOB KING BARB SCHNEPF

CREW
PB BS
OR HB
SUP
STATION
OFFSET
TO
STATION
OFFSET

NARRATIVE
EXPECTED: 19 @6" 17.5
ACTUAL 17

TOTAL CUYD 941

BOW
25 23
LOAD # 14
24 22
STERN

DEBRIS SUMMARY
AM
A B C
.7 .5 .5

ACTIVITY	START	STOP	DIG	MOVE	GREASE	WX	BREAK DOWN	MISC	DUMP	LUNCH		TOTAL
BEGIN SHIFT												
START UP	7:00	730						30				30
GREASE	730	800			30							30
PICK LOADER	800	815						15				15
MOVE 43	815	830						15				15
GRAPPLE SKID DOWN	830	845					15					15
PICK ANCHORS	845	1015						90				90
RESET ANCHORS	1015	1050						40				40
MOVE 43	1050	1105						15				15
RIG BUCKET	1105	1125						20				20
SET FLEET WIRES	1125	1140						15				15
MOVE	1140	1150		10								10
T9T10	1150	1205	15		6"							15
MOVE	1205	1210		5								5
T7T8	1210	1220	10		6"							10
MOVE	1220	1225		5								5
SOUND	1225	1235						10				10
T5T6	1235	1250	15		6"							15
SOUND	1250	105						15				15
MOVE	105	125		20								20
R15&16	125	150	25									25
MOVE	150	200		10								10
S15S16	200	215	15									15
DEBRIS REMOVAL	215	235						20				20
MOVE	235	245		10								10
T15T16	245	300	15									15
MOVE	300	320		20								20
TOTALS												

PG 2 OF 2

A.H. POWERS, INC.
REDGE REPORT

PROJECT: GP LOG POND
DATE: THURS DEC 14

WEATHER: _____

CREW
PB BS
OR JD DK
SUP ___
___ ___

STATION ___
OFFSET ___
TO
STATION ___
OFFSET ___

NARRATIVE

BOW
LOAD #
STERN

DEBRIS SUMMARY
PM Δ
(A) (B) (C)
1.1 1.0 12.1

ACTIVITY	START	STOP	DIG	MOVE	GREASE	WX	BREAK DOWN	MISC	DUMP	LUNCH		TOTAL
BEGIN SHIFT			95	90			15	285				
R13 R14	320	340	20									20
MOVE	340	355		15								15
SOUND	355	405						10				10
S13 S14	405	430	25									25
SOUND	430	440						10				10
MOVE	440	445		5								5
T13 T14	445	505	20									20
MOVE	505	520		5								5
R11 R12	520	550	30									30
MOVE	550	555		5								5
S11 S12	555	620	25									25
MOVE TO SAFE H2O	620	645						25				25
SECURE GEAR	645	700						15				15
PICK LOADED	700	715						15				15
SHUT DOWN	715	730						15				15
TOTALS												

A.H. POWERS, INC.
DREDGE REPORT

PROJECT: GP LOG POND WEATHER: CLEAR 38°
DATE: DEC 18, 00 MON
JIM HENRIKSEN BOB KING, BARR & NEFF

CREW
PB BE
OP JH BK
SUP ___
___ ___

STATION ___
OFFSET ___
TO
STATION ___
OFFSET ___

NARRATIVE
EXPECTED 21
ACTUAL
TOTAL CUYD 1039
12" LIFT

BOW
3³ 2²
LOAD # 15
2⁴ 1³
STERN

DEBRIS SUMMARY
(A) 1⅝ E 1½
(C) 1½
R7RE

ACTIVITY	START	STOP	DIG	MOVE	GREASE	WX	BREAK DOWN	MISC	DUMP	LUNCH		TOTAL
BEGIN SHIFT												
[illegible]	[illegible]	721						30				30
[illegible]	[illegible]	756						30				30
MCR LOADER	800	820						20				20
SWAP SLEEVES	820	850						30				30
SET FLEETING WIRES	850	900						10				10
MOVE	900	920		20								20
[illegible]	920	1245						205				205
[illegible]	1245	115	GREASE		30					30		30
TRACK SHOES	115	125	10	FINISH FROM 12/14 - 6 CUYD								10
MOVE	125	130		5								5
[illegible]	130	140	10									10
MOVE	140	145		5								5
[illegible]	145	205	20									20
MOVE	205	210		5								5
R9 R10	210	225	15									15
MOVE	225	230		5								5
R9 R10	230	250	20									20
MOVE	240	250		10								10
[illegible]	250	255						5				5
[illegible]	255	320	25									25
[illegible]	320	325						5				5
MOVE	325	330		5								5
[illegible]	330	400					30					30
T9 T10	400	430	30									30
MOVE	430	450		20								20
R7 R8	450	515	25									25
TOTALS												

A.H. POWERS, INC.
DREDGE REPORT

PROJECT: GP LOG POND
DATE: DEC 18 MON

WEATHER: CLEAR 42

CREW
PB ____
OP ____
SUP ____
____ ____

STATION ____
OFFSET ____
TO
STATION ____
OFFSET ____

NARRATIVE

BOW
LOAD #
STERN

DEBRIS SUMMARY
Δ
(A) 1° (B) 1°
(C) 1° 5%

ACTIVITY	START	STOP	DIG	MOVE	GREASE	WX	BREAK DOWN	MISC	DUMP	LUNCH		TOTAL
BEGIN SHIFT												
MOVE	515	520		5								5
SOUND	520	530						10				10
T7T8	530	555	25									25
SOUND	555	605						10				10
MOVE	605	615		10								10
T7T8	615	635	20									20
MOVE	635	640		5								5
T7T8	640	705	25	PARTIAL								25
MOVE TO SAFE H2O	705	730						25				25
PICK LOADER	730	750						20				20
SHUT DOWN	750	815						25				25
				5								
TOTALS			220	95	30		30	475				800

A.H. POWERS, INC.
EDGE REPORT

PROJECT: GP LOG POND
DATE: TUES DEC 19, 00
WEATHER: OVERCAST 46°
JIM HENRIKSEN BOB KING BARR SCHNEPF

CREW
B BE
UP JHBK
CUP
STATION
OFFSET
TO
STATION
OFFSET

NARRATIVE
EXPECTED 11 @ 12" 48
6 @ 18" 72
ACTUAL - 11 @ 12"
H2O QC @ 11:00
TOTAL CUYD 987

BOW
24 24
LOAD # 16
16 16
STERN

DEBRIS SUMMARY
A 12 B 13
C 1
Q5 Q6

ACTIVITY	START	STOP	DIG	MOVE	GREASE	WX	BREAK DOWN	MISC	DUMP	LUNCH		TOTAL
BEGIN HAUL												
SETUP	7:00	730						30				30
GREASE	7 30	800			30							30
MOVE	800	815						15				15
LOADER	815	825						10				10
BUCKET	825	835						10				10
FINISH LT8	835	845	10	(FROM DEC 18)								10
MOVE	845	850		5								5
LT6	850	915	25									25
MOVE	915	925		10								10
GREASE	925	950	25									25
MOVE	950	955		5								5
LT RG	955	1020	25									25
MOVE	1020	1030		10								10
GRIND	1030	1040						10				10
LT Q6	1040	1100	20									20
GRIND	1100	1110						10				10
MOVE	1110	1115		5								5
LT R4	1115	1135	20									20
MOVE	1135	1140		5								5
LT T4	1140	1200	20	12" LIFT FINISHED								20
GREASE	1200	1230			30							30
LUNCH	1230	100								30		30
MOVE 14	100	120						20				20
BOOM # DIG	120	135						15				15
BLOWS	135	245						75				75
MOVE NITRO	245	300						15				15
TOTALS												

A.H. POWERS, INC.
DREDGE REPORT

PROJECT: GP LOG POND
DATE : DEC 19 TUES

WEATHER: _____

CREW
PB ____
OP ____
SUP ____
____ ____

STATION ____
OFFSET ____
TO
STATION ____
OFFSET ____

NARRATIVE

BOW
LOAD #
STERN

DEBRIS SUMMARY

ACTIVITY	START	STOP	DIG	MOVE	GREASE	WX	BREAK DOWN	MISC	DUMP	LUNCH		TOTAL
BEGIN SHIFT												
RESET SLOW	300	315						15				15
SET ANCHORS	315	345						30				30
SET FLEET WIRES	345	400						15				15
COLLECT HOSE FOR DSII	400	420						20				20
MOVE	420	440		20								20
K10 J10	440	/			BEGIN 18" LIFT							
K9 J9	/	610	90									90
MOVE	610	630		20								20
19	630	705	25									25
MOVE TO SAFE H2O	705	720						15				15
REMOVE FLEET WIRES	720	730						10				10
MOVE LINES DSII	730	750						20				20
PICK LOADER	750	800						10				10
SHUT DOWN	800	815						15				15
TOTALS			260	80	60			390		30		790

A.H. POWERS, INC.
DREDGE REPORT

PROJECT: GP LOG POND WEATHER: OVERCAST 38°
DATE: DEC 20 WED
JIM HENRIKSEN BOB KING BARB SCHNEPF

CREW
PB ____
OP ____
SUP ____
____ ____

STATION ____
OFFSET ____
TO
STATION ____
OFFSET ____

NARRATIVE
EXPECTED 13
ACTUAL

3° BOW 3°
LOAD # 17
3° STERN 3°

18" 4FT TOTAL CUYD 973

DEBRIS SUMMARY
Δ
(A) 14 (B) 16
(C) 16
C5 C6

ACTIVITY	START	STOP	DIG	MOVE	GREASE	WX	BREAK DOWN	MISC	DUMP	LUNCH		TOTAL
BEGIN SHIFT												
START UP	700	730						30				30
GREASE	730	800						30				30
PICK LOADER	800	810						10				10
PICK SKIFF	810	830						20				20
RIG BUCKET	830	840						10				10
MOVE	840	900						20				20
MOVE 14	900	920						20				20
LOAD 14	920	1020						40				40
MOVE 14	1020	1040						20				20
MOVE	1040	1115		35								35
C5 C6	1115	1155	40									40
MOVE	1155	1210		15								15
LOAD	1210	1245	35									35
MOVE	1245	1250		5								5
SOUND	1250	1255						5				5
C5 C6	1255	135	40									40
SOUND	135	140						5				5
MOVE	140	150		10								10
RELOAD 14	150	240						5				10
MOVE	240	305		25								25
C7 C8	305	340	35									35
MOVE	340	345		5								5
C7 C8	345	415	30									30
MOVE	415	430		15								15
MOVE 14	430	450						20				20
GREASE	450	515			25							25
TOTALS												

A.H. POWERS, INC.
DREDGE REPORT

PROJECT: GP LOG POND
DATE : DEC 20 WED

WEATHER: OVERCAST 40°

CREW
PB ____
OP ____
SUP ____
____ ____

STATION ____
OFFSET ____
TO
STATION ____
OFFSET ____

NARRATIVE

BOW
LOAD #
STERN

DEBRIS SUMMARY

ACTIVITY	START	STOP	DIG	MOVE	GREASE	WX	BREAK DOWN	MISC	DUMP	LUNCH		TOTAL
BEGIN SHIFT												
RELOAD 14	515	545						30				30
COLLECT U87	545	555						10				10
MOVE TO SAFE H_2O	555	610						15				15
PICK LOADER	610	620						10				10
SHUT DOWN	620	650						20				20
			6" LIFT DONE IN ABC 4									
			REMAINING MATERIAL LOADED ONTO									
				14 BARGE TO BE SPREAD 12/21								
TOTALS												

A.H. POWERS, INC.
DREDGE REPORT

PROJECT: GP LOG POND WEATHER: OVERCAST 40°
DATE: DEC 21 THURS.
JIM HENRIKSEN BOB KING BARB SCHNEAR

CREW
PB GS
OR JG BK
SUP
___ ___

STATION ___ OFFSET ___ TO STATION ___ OFFSET ___

NARRATIVE
EXPECTED 14
ACTUAL 14

18" LIFT TOTAL CU YD 1005

BOW 2° 2°
17 LOAD # 18 18
STERN

DEBRIS SUMMARY
A 17 B 1
C 2°
E7 E8

ACTIVITY	START	STOP	DIG	MOVE	GREASE	WX	BREAK DOWN	MISC	DUMP	LUNCH		TOTAL
BEGIN SHIFT												
START UP	7(0)	730						30				30
MOB LOADER	730	740						10				10
RIG BUCKET	740	750						10				10
MOVE TO PIER 3	750	820						30				30
BLOWN FUSE SWING FIGURE NITRO	820	930					70					70
MOVE	930	940						10				10
DROP BOOM	940	945						5				5
MOVE NITRO	945	1005		20								20
A7 A8	1005	1045	40									40
MOVE	1045	1100		15								15
COLLECT	1100	1125						25				25
MOVE	1125	1145		20								20
D7 D8	1145	1215	30									30
MOVE	1215	1220		5								5
SOUND	1220	1225						5				5
E7 E8 E9	1225	105	40									40
SOUND	105	110						5				5
MOVE	110	120		10								10
F7 F8 F9	120	155	35									35
MOVE	155	200		5								5
G7 G8 G9	200	240	40									40
MOVE	240	245		5								5
GREASE	245	300			15							15
SOUND	300	305						5				5
H7 H8 H9	305	350	45									45
TOTALS												

PG 2 OF 2

A.H. POWERS, INC.
DREDGE REPORT

PROJECT: GP LOG POND
DATE: THURS DEC 21

WEATHER: OVERAST 40

CREW
PB
OP
SUP

STATION
OFFSET
TO
STATION
OFFSET

NARRATIVE

BOW
LOAD #
STERN

DEBRIS SUMMARY
(A) 17 (B) 14
(C) 17
H7 H8

ACTIVITY	START	STOP	DIG	MOVE	GREASE	WX	BREAK DOWN	MISC	DUMP	LUNCH		TOTAL
BEGIN SHIFT												
SOUND	350	400						10				10
MOVE	400	410		10								10
18	410	435	25									25
MOVE	435	440		5								5
17	440	500	20									20
MOVE OFF SWDG	500	510		10								10
REMOVE WIRES	510	515						5				5
PICK LOADER	515	525						10				10
SHUT DOWN	525	610						45				45
TOTALS			275	105	15		75	100		-0-		575

A.H. POWERS, INC.
DREDGE REPORT

PROJECT: GP 406 POND WEATHER: RAIN 40°
DATE: DEC 22 FRIDAY!! JIM HENRIKSEN BOB KING BARB SCHNEFF

CREW
PB BZ
OR JHBK
SUP

STATION
OFFSET
TO
STATION
OFFSET

NARRATIVE
EXPECTED 135
ACTUAL - 135

18" LIFT TOTAL CUYD 985

BOW 29 29
LOAD # 19
29 28
STERN

DEBRIS SUMMARY

ACTIVITY	START	STOP	DIG	MOVE	GREASE	WX	BREAK DOWN	MISC	DUMP	LUNCH		TOTAL
BEGIN SHIFT												30
START UP	700	730						30				30
MOVE L4	730	800						30				10
ACE LOADER	800	810						10				10
RIG BUCKET	810	820						10				5
SET FLEET WIRES	820	825						5				65
LOAD L4 BARGE	825	930						65				10
DROP SCOW	930	940						10				10
MOVE	940	950		10								25
C4 C5 C6	950	1015	25		FINISH FROM 12/20							5
MOVE	1015	1020		5								20
D4 D5 D6	1020	1110	20									10
MOVE	1110	1120		10								30
GREASE	1120	1150			30					30		40
E4 E5 E6	1150	1230	40									10
MOVE	1230	1240		10				45				45
RELOAD L4	1240	125										10
MOVE	125	135		10				5				5
SOUND	135	140										30
F4 F5 F6	140	210	30					5				5
SOUND	210	215										5
MOVE	215	220		5								20
G5 G6	220	240	20									5
MOVE	240	245		5								60
H4 H5 H6	245	345	60					15				15
MOVE L4	345	400										15
MOVE	400	415		15								
TOTALS												

A.H. POWERS, INC.
DREDGE REPORT

PROJECT: GP LOG POND
DATE: DEC 22 FRIDAY

WEATHER: _____

CREW
PB ____
OP ____
SUP ____
____ ____

STATION ____
OFFSET ____
TO
STATION ____
OFFSET ____

NARRATIVE
F5-F6
Δ (A) 15 (B) 15 (C) 15

BOW
LOAD #
STERN

DEBRIS SUMMARY

ACTIVITY	START	STOP	DIG	MOVE	GREASE	WX	BREAK DOWN	MISC	DUMP	LUNCH		TOTAL
BEGIN SHIFT			MTS	65'				230				
J8	415	445	30									30
MOVE	445	450		5								5
J7	450	625	35									35
MOVE TO SAFEHO	625	635		10								10
PICK LOADER	635	650						15				15
PICK SKIFF	650	700						10				10
SECURE FOR HOLIDAY	700	730						30				30
				6" LIFTS DONE IN					D4			
									E4			
									F4			
TOTALS			260	90	30		295			30/0		655

PG 1 OF 1

A.H. POWERS, INC.
DREDGE REPORT

PROJECT: GP LOG POND WEATHER: OVERCAST 40
DATE: DEC 26 TUES
JIM HENRIKSEN, BOB KING BARG SOUNDER

CREW
PB PA
OR JACK
SUP

STATION
OFFSET
TO
STATION
OFFSET

NARRATIVE
EXPECTED B
ACTUAL 12
Δ = (A) 1½ (B) 1' (C) 1' (1516) L2

BOW
2½ 2¾
LOAD IN 20
2½
STERN

TOTAL YD³ = 971

DEBRIS SUMMARY

ACTIVITY	START	STOP	DIG	MOVE	GREASE	WX	BREAK DOWN	MISC	DUMP	LUNCH		TOTAL
BEGIN SHIFT												
START UP	7:00	730						30				30
GREASE	730	800			30							30
MOVE TO DOUBLE FALLS	800	820						20				20
CHANGE AIR CAN	820	945					85					85
VICE LOADING	945	1000						15				15
6 HR GREASE	1000	1025			25							25
MOVE	1025	1040		15								15
K7 K8	1040	1125	45									46
MOVE	1125	1135		10								10
I4	1135	1155	20									20
MOVE	1155	1200		5								5
SOUND	1200	1215						15				15
LUNCH	1215	1240								25		25
I5 I6	1240	110	30									30
SOUND	110	115						5				5
MOVE	115	120		5								5
J4	120	140	20									20
MOVE	140	145		5								5
J5 J6	145	220	35									35
MOVE	220	230		10								10
L7 L8	230	310	40									40
GREASE	310	325			15							15
K6	325	345	20									20
MOVE	345	355		10								10
K5	355	420	25	(PARTIAL)								25
MOVE TO SAFE HARB	420	440		20								20
UNION GREASE	440	500			20			15				20 / 15
TOTALS			235	80	90		85	100		25		615

SECURE @ 500 615

PG1 OF 1

A.H. POWERS, INC.
DREDGE REPORT

PROJECT: GP LOG POND
DATE: DEC 28 THURS
WEATHER: PARTLY CLOUDY 45°
JIM HENRIKSEN, BOB KING, BARB SUNDET

CREW
PB BC
OR JK
SUP
STATION
OFFSET
TO
STATION
OFFSET

NARRATIVE
EXPECTED = 8
ACTUAL = 8
M4 M5 Δ = (A) 1½ (B) 1½ (C) 15
TOTAL YD³ = 586

BOW
61 57
LOAD #21
21 22
STERN

DEBRIS SUMMARY

ACTIVITY	START	STOP	DIG	MOVE	GREASE	WX	BREAK DOWN	MISC	DUMP	LUNCH		TOTAL
BEGIN SHIFT												
SHIFT UP	700	730						30				30
MOVE TUG FLIP BARGE	730	800						30				30
MOVE	800	820		20								20
PICK 3 H ANCHORS	820	915						55				55
MOVE	915	930		15								15
K4 K5	930	950	20		FINISH	FROM		12/26				20
MOVE	950	955		5								5
L4 L5	955	1020	25									25
MOVE	1020	1025		5								5
SOUND	1025	1030						5				5
M4 M5	1030	1105	35									35
SOUND	1105	1110						5				5
MOVE ANCHORS	1110	1125						15				15
MOVE	1125	1130		5								5
M6 M7	1130	1200	30									30
GREASE	1200	1230			30							30
LUNCH	1230	100								30		30
MOVE	100	125		25								25
L9 L10	125	200	35									35
BARGE AWAY	200	220						20				20
RIG HEAD BLOCK AND WHIP	220	230						10				10
START OIL CHANGE	230	245			15							15
PICK ANCHORS	245	320						35				35
MOVE TO SAFE HR	320	345		25								25
FINISH OIL CHANGE	345	615			30							30
BECOME FOR HOLIDAY	515	600						45				45
& OIL CHANGE - MAIN AND SWING												
TOTALS			145	100	75			250		30		600

H20 QC @ 1000

PG 1 OF 1

A.H. POWERS, INC.
DREDGE REPORT

PROJECT: GP LOG POND
DATE: JAN 2 01 TUESDAY
WEATHER: LT RAIN 44°
JIM HENRICKSEN, BOB KING, BARB SHAFER

CREW
PB BS
OR HB
SUP
STATION
OFFSET
TO
STATION
OFFSET

NARRATIVE
EXPECTED = 11
ACTUAL = 11

BOW
LOAD # 22
STERN

DEBRIS SUMMARY

380

ACTIVITY	START	STOP	DIG	MOVE	GREASE	WX	BREAK DOWN	MISC	DUMP	LUNCH		TOTAL
BEGIN SHIFT												
START UP	700	745						45				
1 H2O IN SEINE SKIFF	745	810					25					
SET BLACK SKIFF	810	815						5				
RIG BUCKET	815	830						15				
MOVE 14	830	845						15				
MOVE	845	910		25								
K15 K16	910	945	35									
MOVE	945	950		5								
K15 K16	950	1100	70									
MOVE	1100	1110		10								
M15 M16 M17	1110	1200	50									
MOVE	1200	1205		5								
LUNCH GREASE	1205	1225			20					20/0		
SOUND	1225	1230						5				
M15 M16 M17	1230	115	45									
SOUND	115	120						5				
MOVE	120	130		10								
017	130	200										
DEBRIS REMOVAL	200	220										
MOVE OFFSHORE	220	230										
DEBRIS TRANSFER	230	240										
PICK LOADER	240	255										
GREASE	255	315										
CHANGE OIL RAT SKIFF	315	345										
SHUT DOWN	345	400										
TOTALS												

A.H. POWERS, INC.
DREDGE REPORT

PROJECT: GP LOG POND
DATE: JAN 3 '07 WED
WEATHER: 45° CLEAR
JIM HENRIKSEN, BOB KING BARB SANGF

CREW
PB BS
OP JHBK
SUP ___
___ ___

STATION ___
OFFSET ___
TO
STATION ___
OFFSET ___

NARRATIVE
EXPECTED 14.
ACTUAL 14

TOTAL CUYD 1063

BOW
32 33
LOAD # 23
20 21
STERN

DEE
SUI

ACTIVITY	START	STOP	DIG	MOVE	GREASE	WX	BREAK DOWN	MISC	DUMP	LUNCH	
BEGIN SHIFT											
START-UP	700	730						30			30
PICK LOADER	730	740						10			10
RIG BUCKET	740	750						10			10
MOVE	750	820		30							30
O15 O16	820	900	40								40
DEBRIS REMOVAL	900	940						40			40
MOVE	940	945		5							5
P15 P16 P17	945	1025	40								40
MOVE	1025	1035		10							10
Q15 Q16 Q17	1035	1135	60								60
MOVE	1135	1145		10							10
K13 K14	1145	1235	50								50
MOVE	1235	1240		5							5
GREASE/LUNCH	1240	125			45					45/0	45
L13 L14 ~~L14 L15~~	125	215	50								50
MOVE	215	220		5							5
M13 M14 ~~M14 M15~~	220	300	40								40
DEBRIS REMOVAL	300	325						25			25
MOVE OFFSHORE	325	350		25							25
SECURE 427	350	400						10			10
RIG HEAD BLOCK/WHIP	400	415						15			15
PICK LOADER	415	425						10			10
GREASE	425	455			30						30
SHUT DOWN	455	530						35			35
TOTALS			280	90	75			95		0	540

H20 QC @ 1145

A.H. POWERS, INC.
DREDGE REPORT

PROJECT: GP LOG POND
DATE: JAN 4 01 THURS
WEATHER: LT RAIN 43°
JM HENRIKSEN BOB KING BARB SUNDET

CREW
PB BS
OR JH BK
SUP
__ __

STATION
OFFSET
TO
STATION
OFFSET

NARRATIVE
EXPECTED = 11
ACTUAL = 10
Δ = 013014 Ⓐ 1ft Ⓑ 1 7/8 Ⓒ 1ft
TOTAL CUYD = 853

BOW
3ft 3ft
LOAD # 24
2ft 2ft
STERN

DEBR SUM

ACTIVITY	START	STOP	DIG	MOVE	GREASE	WX	BREAK DOWN	MISC	DUMP	LUNCH		TC
BEGIN SHIFT												
START-UP	700	740						40				40
PICK LOADER	740	745						5				5
SET FLEET WIRES	745	750						5				5
RIG BUCKET	750	755						5				5
MOVE	755	820		25								30
FLEET SCOW	820	830						10				10
N13 N14	830	910	40									40
MOVE	910	920		10								10
SOUND	920	925						5				5
013 014	925	955	30									30
SOUND	955	1000						5				5
MOVE	1000	1010		10								10
P13 P14	1010	1105	55									55
MOVE	1105	1120		15								15
FLEET SCOW	1120	1130						10				10
Q13 Q14	1130	1210	40									40
MOVE	1210	1220		10								10
GREASE / LUNCH	1220	1250			30					30/0		30
R15 R16	1250	150	60									60
WASH SCOW	150	215						25				25
MOVE OFFSHORE	215	240		25								25
RIG HEAD BLOCK	240	255						15				15
PICK LOADER	255	305						10				10
SECURE	305	330						25				
TOTALS			225	95	30			160		0		510

A.H. POWERS, INC.
DREDGE REPORT

PROJECT: GP LOG POND WEATHER: 48° RAIN
DATE: JAN 5 FRIDAY
JIM HENRIKSEN BOB KING BARB SCHNEAF

CREW
PB ES
OP JHBK
SUP
— —

STATION —
OFFSET —
TO
STATION —
OFFSET —

NARRATIVE
EXPECTED 14
ACTUAL 12
4 M11 M12 Ⓐ 15 Ⓑ 14 Ⓒ 14
TOTAL CUYD = 1051

BOW 34 — 34
LOAD # 25
2' — 2'
STERN

DEBRIS SUMMA

ACTIVITY	START	STOP	DIG	MOVE	GREASE	WX	BREAK DOWN	MISC	DUMP	LUNCH		TOTA
BEGIN SHIFT												30
START UP	700	730						30				10
MOVE DOUBLE EAGLE	730	740						10				5
PICK LOADER	740	745						5				5
SET WIRES	745	750						5				10
RIG BUCKET	750	800						10				45
MOVE	800	845		45								65
K11 K12	845	950	65									10
MOVE	950	1000		10								40
L11 L12	1000	1040	40									5
MOVE	1040	1045		5								5
SOUND	1045	1050						5				30
M11 M12	1050	1120	30									5
SOUND	1120	1125						5				5
MOVE	1125	1130		5								40
N11 N12	1130	1210	40									5
MOVE	1210	1215		5								30
LUNCH/GREASE	1215	1245			30					30/0		40
O11 O12	1245	125	40									5
MOVE	125	130		5								45
P11 P12	130	215	45									35
MOVE OFF STAKE	215	250		35								10
SECURE SCOW	250	300						10				10
RIG HEAD BLOCK	300	310						10				10
SET GATE	310	320						10				5
PICK LOADER	320	325						5				5
PICK SKIFF	325	330						5				40
SECURE	330	410						40				55
TOTALS				260	110	30		150		0		

A.H. POWERS, INC.
DREDGE REPORT

PROJECT: GP LOG POND
DATE: JAN 8, 01 MONDAY
WEATHER: 42° OVERCAST
JIM HENRIKSEN BOB KING BARB SCHNEF

CREW
PB BS
OR MIKE
SUP
— —

STATION —
OFFSET —
TO
STATION —
OFFSET —

NARRATIVE
EXPECTED 13
ACTUAL 13
A Q11 Q12 Ⓐ 16 Ⓑ 17 Ⓒ 18
TOTAL CUYD 992

BOW 2' 2"
LOAD # 26
STERN 17 18

DEBRIS SUMMARY

ACTIVITY	START	STOP	DIG	MOVE	GREASE	WX	BREAK DOWN	MISC	DUMP	LUNCH		TOTAL
BEGIN SHIFT												
START UP	700	745						45				45
CLEAR LOG JAM	745	800						15				15
PICK LOADER	800	810						10				10
STOW SMALL SKIFF	810	820						10				10
SET GRATE SKIFF	820	830						10				10
SNAP SKIFF RATCHETS	830	840						10				10
RIG BUCKET	840	850						10				10
MOVE	850	905		15								15
M8 M9	905	1000	55									55
MOVE	1000	1005		5								5
M10	1005	1040	35									35
MOVE	1040	1100		20								20
SOUND	1100	1110						10				10
Q11 Q12	1110	1145	35									35
SOUND	1145	1150						5				5
MOVE	1150	1200		10								10
LUNCH / GREASE	1200	1230			30					30/0		30
R13 R14	1230	130	60									60
MOVE	130	140		10								10
N9 N10	140	210	30									30
MOVE	210	215		5								5
O9 O10	215	300	45									45
MOVE	300	305		5								5
P9 P10	305	50	50									50
MOVE	355	415		20								20
SECURE SCOW	415	425										10
PICK LOADER	425	435								0		10
TOTALS												

Received: 1/11/ 1 9:46AM; 360 676 7247 -> ANCHOR ENV. ...
GEORGIA PACIFIC ADMIN. Fax:360-676-7247 Jan 11 '01 9:37 P.03

A.H. POWERS, INC.
DREDGE REPORT

PROJECT:
DATE: JAN 08.01

WEATHER:

CREW
PB.
OP.
SUP.

STATION
OFFSET
TO
STATION
OFFSET

NARRATIVE

BOW
LOAD #
STERN

DEBRIS SUMMARY

ACTIVITY	START	STOP	DIG	MOVE	GREASE	WX	BREAK DOWN	MISC	DUMP	LUNCH		TOTAL
BEGIN SHIFT												
PICK SKIFF	435	440						5				5
SECURE FOR WEATHER	440	445						5				5
SHUT DOWN	445	515						30				30
TOTALS			310	90	30			185				615

PG1 OF 1

A.H. POWERS, INC.
DREDGE REPORT

PROJECT: GP LOG POND WEATHER: 44 OVERCAST
DATE: TUES JAN 9.01
JIM HENRIKSEN, BOB KING, BARB SCHNEPF

CREW
PB
OP
SUP

STATION
OFFSET
TO
STATION
OFFSET

NARRATIVE
EXPECTED: 13
ACTUAL: 12
0700 A - (A) 12 (B) 14 (C) 15 28
TOTAL CUYD 962

BOW 30 32
LOAD # 27
29
STERN

DEBRIS SUMMARY

ACTIVITY	START	STOP	DIG	MOVE	GREASE	WX	BREAK DOWN	MISC	DUMP	LUNCH		TOTAL
BEGIN SHIFT												
START UP	700	730						30				30
PICK LOADER	730	740						10				10
SET SCOW	740	750						10				10
10HR GREASE	750	825						35				35
MOVE	825	915		50								50
R9 R10	915	950	35									35
MOVE	950	1000		10								10
R11 R12	1000	1050	50									50
MOVE	1050	1100		10								10
R9 R10	1100	1200	60									60
MOVE	1200	1210		10								10
GREASE LUNCH	1210	1240			30							30
N7 N8	1240	115	35									35
MOVE	115	120		5								5
SOUND	120	125						5				5
0708	125	205	40									40
SOUND	205	210						5				5
MOVE	210	250	40									40
WASH SCOW	250	320						30				30
MOVE	320	340		20								20
SECURE SCOW	340	350						10				10
PICK LOADER	350	400						10				10
SECURE FOR WIND	400	410						10				10
GREASE	410	440			30							20
SHUT DOWN	440	500						20				
TOTALS			260	105	60			175				600

PG 1 OF 2

H POWERS, INC.
DAILY CHANGE REPORT

PROJECT: GP LOG POND WEATHER: 40° LT RAIN
DATE: JAN 10 WED
JIM HENRIKSEN, BOB KING BARB SWINGLE

CREW
PB BS
OR WBK
SUP
—

STATION —
OFFSET —
TO
STATION —
OFFSET —

NARRATIVE
EXPECTED: 12
ACTUAL: Q708 Δ (A) 16 (B) 16 (C) 15
0506 Δ = (A) 17 (B) 15 (C) 13
TOTAL CU-ID 870

BOW 4L 13
LOAD # 28
STERN 4L 12

DEBRIS SUMMARY

ACTIVITY	START	STOP	DIG	MOVE	GREASE	WX	BREAK DOWN	MISC	DUMP	LUNCH		TOTAL
BEGIN SHIFT												30
START UP	700	730						30				15
MOVE & SECURE TUG	730	745						15				5
GET SCOW	745	750						5				10
PICK LOADER	750	800						10				25
MOVE	800	825		25								5
ELEC SCAN	825	830						5				
"			10									10
P7P8	830	840	(3 BUCKETS - FINISH FROM 1-09-01)									5
MOVE	840	845		5								5
SOUND	845	850						5				25
Q708	950	925	35									5
SOUND	925	930						5				5
MOVE	930	935		5								65
R7R8	935	1040	65									5
MOVE	1040	1045		5								50
NSNG	1045	1135	50									5
MOVE	1135	1140		5								5
SOUND	1140	1145						5				30
SHIFT LOAD ELEC SCAN	1145	1215			30			30		30/0		30
LUNCH GREASE	1215	1245										45
0506	1245	130	45					5				5
SOUND	130	135										10
MOVE	135	145		10								30
P5P6	145	215	30									15
MOVE	215	230		15								30
N4	230	300	30									
TOTALS												

[redacted] PG 2 OF 2

A.H. POWERS, INC.
DREDGE REPORT

PROJECT: GP LOG POND
DATE: JAN 10 WED

WEATHER:

CREW
PB
OP
SUP

STATION
OFFSET
TO
STATION
OFFSET

NARRATIVE

BOW
LOAD #
STERN

DEBRIS SUMMARY

ACTIVITY	START	STOP	DIG	MOVE	GREASE	WX	BREAK DOWN	MISC	DUMP	LUNCH		TOTAL
BEGIN SHIFT												
MOVE	300	315		15								15
SECURE SOW	315	320						5				5
PICK SKIFF	320	325						5				5
PICK LOADER	325	330						5				5
SECURE FOR WIND	330	335						5				5
SHUT DOWN	335	400						25				25
TOTALS			265	95	30			160				540

A.H. POWERS, INC.
DREDGE REPORT

PROJECT: GP LOG POND
DATE: JAN 11 01 THURS
WEATHER: 46 OVERCAST CLEARING
JIM HENRIKSEN BOB KING BARB SCHNEPF

CREW
PB BS
OR JH BK
SUP
STATION
OFFSET
TO
STATION
OFFSET

NARRATIVE
EXPECTED 12
ACTUAL

TOTAL CUYD 904

BOW
36 35
LOAD #
33 31
STERN

DEBRIS SUMMARY

ACTIVITY	START	STOP	DIG	MOVE	GREASE	WX	BREAK DOWN	MISC	DUMP	LUNCH		TOTAL
BEGIN SHIFT												
START UP	700	730						30				30
PICK LOADER	730	740						10				10
PICK SKIFF	740	745						5				5
R16 BUCKET	745	800						15				15
4 ANGE BUCKET WIRE	800	950					110					110
SET WIRES	950	1000						10				10
MOVE	1000	1020		20								20
Q4	1020	1035	15									15
MOVE	1035	1040		5								5
PH	1040	1050	10									10
MOVE	1050	1055		5								5
Q4	1055	1105	15									15
MOVE	1105	1110		5								5
SOUND	1110	1120						10				10
RESET	1120	1155	35									35
SOUND	1155	1200						5				5
MOVE	1200	1210		10								10
GREASE	1210	1240			30							30
MOVE	1240	1250		10								10
RUN ANCHORS	1250	215						85				85
ADJUST LOAD ADJUST ANCHORS	215	245						30				30
MOVE	245	315		30								30
R4 RESET	315	400	45									45
MOVE	400	415		15								15
TEST 16	415	500	45									45
MOVE	500	505		5								5
S16	505	540	35									35
TOTALS												

[redacted] H20 QC @ 11:00

Received: 1/12/ 1 12:57PM; 360 676 7247 -> ANCHOR ENV. L.L.C.; Page 3
GEORGIA PACIFIC ADMIN. Fax:360-676-7247 Jan 12 '01 12:48 P.03

PG 2 OF 2

A.H. POWERS, INC.
DREDGE REPORT

PROJECT: GP LOG POND
DATE: JAN 11 01 THURS.
WEATHER: 45 OVERCAST

CREW		NARRATIVE	BOW / LOAD # / STERN	DEBRIS SUMMARY
PB.	STATION			
OP.	OFFSET			
SUP.	TO			
	STATION			
	OFFSET			

ACTIVITY	START	STOP	DIG	MOVE	GREASE	WX	BREAK DOWN	MISC	DUMP	LUNCH		TOTAL
BEGIN SHIFT												
MOVE OFF SHORE	540	625		45								45
PICK SKIFF	626	635						10				10
PICK LOADER	635	645						10				10
SHUT DOWN	645	715						30				30
TOTALS			200	150	30		110	250				740

[redacted] PG1

A.H. POWERS, INC.
DREDGE REPORT

PROJECT: GP LOG POND WEATHER: 43° OVERCAST
DATE: JANUARY 12 01 FRIDAY
Jim HENRIKSEN, BOB KING BARB SUNDE

CREW
PB
OP
SUP
____

STATION
OFFSET
TO
STATION
OFFSET

NARRATIVE
EXPECTED - 12
ACTUAL - 12

TOTAL CU-YD: 880

BOW
3E 3E
LOAD # 30
2' 2'
STERN

DEBRIS SUMMARY

ACTIVITY	START	STOP	DIG	MOVE	GREASE	WX	BREAK DOWN	MISC	DUMP	LUNCH		TOTAL
BEGIN SHIFT												
START UP	700	730						30				30
GREASE	730	760			20							20
PICK LOADER	750	800						20				20
PICK SKIFF	800	805						5				5
MOVE	805	825		20								20
SIG 614	825	905	40									40
MOVE	905	910		5								5
T14 T13	910	950	40									40
MOVE	950	955		5								5
T12	955	1020										25
SOUND	1020	1025						5				5
T11	1025	1050	25									25
SOUND	1050	1055						5				5
MOVE	1055	1100		5								5
T9 T10	1100	1145	45									45
GREASE	1145	1210			25							25
LUNCH	1210	1235								25		25
MOVE	1235	1240		5								5
E12 S3	1240	105	25									25
MOVE	105	110		5								5
S11 S10	110	150	40									40
MOVE	150	210		20								20
SECURE SCOW	210	220						10				10
SECURE BOOM	220	230						10				10
GREASE RING GEAR	230	300			30							30
SHUT DOWN	300	330										30
TOTALS			215	65	75			85		25		465

A.H. POWERS, INC.
DREDGE REPORT

PROJECT: GP LOG POND WEATHER: 35 OVERCAST
DATE: JAN 15 01 MON
JIM HENRIKSEN, BOB KING, BOBB [illegible]

CREW
PB 135
OR M BIG
SUP
_ _

STATION
OFFSET
TO
STATION
OFFSET

NARRATIVE
EXPECTED 12
ACTUAL

S7 S6 Δ = (A) 1½ (B) 1½ (C) 1½ 28
TOTAL CUYD 999

BOW 3½
LOAD # 31
STERN 3½

DEBRIS SUMMARY

ACTIVITY	START	STOP	DIG	MOVE	GREASE	WX	BREAK DOWN	MISC	DUMP	LUNCH		TOTAL
BEGIN SHIFT												
START UP	700	800						60				60
SETWIRES	800	810						10				10
PICK LOADER	810	815						5				5
RIG BUCKET	815	825						10				10
MOVE	825	900		35								35
T7 T8	900	945	45									45
MOVE	945	950		5								5
T5 T6	950	1025	35									35
MOVE	1025	1030		5								5
S8 S9	1030	1150	80									80
MOVE	1150	1200		10								10
GREASE	1200	1230			30							30
SOUND	1230	1240						10				10
S6 S7	1240	125	45									45
SOUND	125	135						10				10
T4	135	200	25									25
MOVE	200	220		20								20
S4 S5	220											
R.E.		330	70	6" WET #4								70
MOVE OFF SHORE	330	350		20								20
SECURE & ON	350	400						10				10
PICK LOADER	400	420						10				10
SHUT DOWN	420	515						65				55
TOTALS			300	95	30			180				605

[redacted] PG1 OF 2

A.H. POWERS, INC.
DREDGE REPORT

PROJECT: GP LOG POND WEATHER: 38 CLEAR
DATE: JAN 16 01 TUESDAY
JIM HENRICKSEN, BOB KING CARB SHEAF

CREW
PB 135
OP JHBK
SUP
STATION
OFFSET
TO
STATION
OFFSET

NARRATIVE
EXPECTED 9 LIFTS
ACTUAL 9 (2@1')
A = A 2⅝ B 2³ C 2²
TOTAL CU-YD 983

BOW 2⅜ 2²
LOAD # 32
1⅛ 1⅞
STERN

DEBRIS SUMMARY

ACTIVITY	START	STOP	DIG	MOVE	GREASE	WX	BREAK DOWN	MISC	DUMP	LUNCH		TOTAL
BEGIN SHIFT												
JAG UP	7:00	740						40				40
SET LOADER	740	750						10				10
SET WIRES	750	800						10				10
PICK BUNK SIDE	800	805						5				5
SET GRAPPLE SHEAF	805	810						5				5
RIG BUCKET	810	815						5				5
GREASE	815	840			25							25
MOVE	840	910		30								30
Q16 Q15	910	955	45									45
MOVE	955	1000		5								5
P16 P15	1000	1045	45									45
MOVE	1045	1050		5								5
Q16 Q15	1050	1150	60									60
MOVE	1150	1155		5								5
S12	1155	1225	30									30
MOVE	1225	1230		5								5
SOUND	1230	1235						5				5
S13	1235	115	40									40
SOUND	115	125						5				5
MOVE	125	130		5								5
LUNCH	130	200								30		30
GREASE	200	215			15							15
S8	215	225	10		1' LIFT							10
MOVE	225	230		5								5
S7	230	245	15		1' LIFT							15
WASH	245											
LARGE		300						15				15
TOTALS												

Received: 1/17/ 1 5:49PM; 360 676 7247 -> ANCHOR ENV. L.L.C.; Page 4
GEORGIA PACIFIC ADMIN. Fax:360-676-7247 Jan 17 '01 17:40 P.04

A.H. POWERS, INC.
DREDGE REPORT

PROJECT: GP LOG POND
DATE: JAN 16 TUES
WEATHER:

CREW
PB
OP
SUP

STATION
OFFSET
TO
STATION
OFFSET

NARRATIVE

BOW
LOAD #
STERN

DEBRIS SUMMARY

ACTIVITY	START	STOP	DIG	MOVE	GREASE	WX	BREAK DOWN	MISC	DUMP	LUNCH		TOTAL
BEGIN SHIFT												
MOVE OFFSHORE	300	310		10								10
RIG HEAD BLOCK	310	320						10				10
RUN ANCHORS	320	530						130				130
MOVE	630	545		15								15
SET SCOW	545	550						5				5
TACK LOADER	550	600						10				10
SHUT DOWN	600	630						30				30
TOTALS												

PG 1 OF 2

A.H. POWERS, INC.
DREDGE REPORT

PROJECT: GP 106 POND WEATHER: 35° CLEAR
DATE: JANUARY 17 WEDNESDAY
JIM HENRICKSEN, BOB KING BARB SUNEAR

CREW
PB BS
OR HB
SUP
—

STATION
OFFSET
TO
STATION
OFFSET

NARRATIVE
EXPECTED 9

A7 4 = (A) 2° (B) 2 3/8 (C) 2'
TOTAL CUTS 910

2' BOW 2 3/8
1 1/2 LOAD # 33 4 6
STERN

DEBRIS SUMMARY

ACTIVITY	START	STOP	DIG	MOVE	GREASE	WX	BREAK DOWN	MISC	DUMP	LUNCH		TOTAL
BEGIN SHIFT												
START UP	5[illegible]00	600						30				30
PICK LOAD	600	610						10				10
RIG BUCKET	610	620						10				10
MOVE 14	620	635						15				15
LOAD 14	635	725						50				50
SECURE 437	725	735						10				10
MOVE 14	735	800						25				25
MOVE	800	840		40								40
A7 1/2 BG	840	915	35									35
MOVE	915	920		5								5
1/2 BG C7	920	1005	45									45
MOVE	1005	1015		10								10
C7	1015	1100	45									45
MOVE	1100	1120		20								20
MOVE 14	1120	1135						15				15
LOAD 14	1135	1210						35				35
GREASE/LUNCH	1210	1230			20					⊖		20
LOAD 14	1230	130						60				60
MOVE	130	135		5								5
D7	135	200	25									25
MOVE	200	205		5								5
E7	205	220	15									15
MOVE	220	225		5								5
F7	225	250	25									25
MOVE	250	255		5								5
G7	255	315	20									20
TOTALS				210	95	20		260				

A.H. POWERS, INC.
DREDGE REPORT

PROJECT: GP LOG POND
DATE: JAN 17 01 WED.

WEATHER:

CREW
PB
OP
SUP

STATION
OFFSET
TO
STATION
OFFSET

NARRATIVE

BOW
LOAD #
STERN

DEBRIS SUMMARY

ACTIVITY	START	STOP	DIG	MOVE	GREASE	WX	BREAK DOWN	MISC	DUMP	LUNCH		TOTAL
BEGIN SHIFT												
MOVE 14	315	330						15				15
MOVE BTE STORE	330	350		20				20				20
SECURE 37	350	400						10				10
PICK LOADER	400	415						15				15
SHUT DOWN	415	510						55				
TOTALS			210	115	20			375				720

H. POWERS, INC.
DREDGE REPORT

PROJECT: GP LOG POND
DATE: JAN 18 01 THURS
JIM HENRIKSEN, BOB KING, BOBB SWINDLE

WEATHER: 38 OVERCAST

CREW
PB 35
OP JHBK
SUP

STATION
OFFSET
TO
STATION
OFFSET

NARRATIVE
EXPECTED 8
ACTUAL

Δ = I8 (A) 2' (B) 2' (C) 2½ 2½
TOTAL CUYD = 783

BOW 37 39
LOAD # 34 2½
STERN

DEBRIS SUMMARY

ACTIVITY	START	STOP	DIG	MOVE	GREASE	WX	BREAK DOWN	MISC	DUMP	LUNCH		TOTAL
BEGIN SHIFT								30				30
STARTUP	700	730			20			10				20
GREASE	720	740						5				10
PICLOADER	740	750										5
SETWIRES	750	755			15							15
4b MAGREASE	755	810										20
MOVE	810	830	20					15				15
MOVE 14	830	845						10				10
FLEET 6/57	845	855										40
H6H7	855	935	40									5
MOVE	935	940			5							2
H8	940	1000	20						25			2
PICK UP	1000	1025										1
MOVE	1025	1035			10				5			
SOUND	1035	1040										
I8	1040	1110	30						5			
SOUND	1110	1115							10			
SHIFTLOAD	1115	1125							5			
FLEET SON	1125	1130			5							
MOVE	1130	1135										
I6 I7	1135	1220	45				20				30	
GREASE	1220	1240								80		
LUNCH	1240	110										
RUN ANCHORS	110	230			20							
MOVE	230	250										
O.S.	250	300	5	6"	LIFT							
MOVE	300	305		5								
TOTALS												

[redacted] PG 2 OF 2

A.H. POWERS, INC.
DREDGE REPORT

PROJECT: GP LOG POND WEATHER: 38 RAIN
DATE: JAN 18 01 THURS.

CREW
PB
OP
SUP
STATION
OFFSET
TO
STATION
OFFSET

NARRATIVE

BOW
LOAD #
STERN

DEBRIS SUMMARY

ACTIVITY	START	STOP	DIG	MOVE	GREASE	WX	BREAK DOWN	MISC	DUMP	LUNCH		TOTAL
BEGIN SHIFT												
PS	305	320	15	6" LIFT								15
MOVE	320	325		5								5
PS	325	345	20	1' LIFT								20
MOVE CHANGE OF LINE	345	355		10								10
FLEET SON	355	400						5				5
RIG HEAD BLOCK	400	405						5				5
PICK LOADER	405	415						10				10
SECURE	415	445						30				30
TOTALS			195	60	55			250		30		590

[redacted] P61

A.H. POWERS, INC.
DREDGE REPORT

PROJECT: GP LOG POND
DATE: JANUARY 19.01 FB1
WEATHER: 46 LT RAIN
JM HENRIKSEN, BOB KING, BARB SCHNEPF

CREW
PB BS
OP JH BK
SUP

STATION
OFFSET
TO
STATION
OFFSET

NARRATIVE
EXPECTED - 10

TOTAL CUYD - 1070

BOW
2B 2B
LOAD # 35
2S 2S
STERN

DEBRIS SUMMARY

ACTIVITY	START	STOP	DIG	MOVE	GREASE	WX	BREAK DOWN	MISC	DUMP	LUNCH		TOTAL
BEGIN SHIFT												
START UP	700	730						30				30
RIG LOADER	730	735						5				5
SET WIRES	735	740						5				5
RIG BUCKET	740	745						5				5
FLEET SCOW	745	750						5				5
MOVE	750	820		30								30
LIG LIS	820	910	50									50
MOVE	910	915		5								5
MIS M16 N17	915	1015	60									60
BREAK ANCHOR 1	1015	1040						25				25
MOVE	1040	1045		5								5
N15 N16 N17	1045	1150	65									65
MOVE	1150	1200		10								10
SOUND	1200	1205						5				5
GREASE	1205	1225			20							20
LUNCH	1225	1255								30		30
Q13 Q14	1255	200	65									65
MOVE OFFSHORE	200	215		15								15
RIG HEAD BLOCK	215	220						5				5
SECURE L27	220	230						10				10
MOVE BIKE	230	240						10				10
RIG LOADER	240	245						5				5
PUT WIRES	245	255						10				10
SECURE	255	400						65				35
TOTALS			340	65	20			185		30		540

[redacted] PG 1 OF 1

A.H. POWERS, INC.
DREDGE REPORT

PROJECT: GP L06 POND WEATHER: 40 FOG
DATE: 1.22.01 MON
JIM HENRIKSEN, BOB KING, CARL SWINSON

CREW
PG PS
OP WPK
SUP ___
___ ___

STATION ___
OFFSET ___
TO
STATION ___
OFFSET ___

NARRATIVE

PG 1 @ A 2' B 2' C 2'
TOTAL CUYD - 864

3' 2' BOW
LOAD # 36
2' 2' STERN

DEBRIS SUMMARY
SWINOM SAND

ACTIVITY	START	STOP	DIG	MOVE	GREASE	WX	BREAK DOWN	MISC	DUMP	LUNCH		TOTAL
BEGIN SHIFT												
FIRE UP	700	800						60				60
PICKLOADER	800	805						5				5
SET WIRES	805	810						5				5
RIG BUCKET	810	820						10				10
MOVE	820	845		25								25
Q6	845	1020	95	3' LIFT								95
DISCUSSED GRADE CHANGES W/CHIP HILARIDES												
MOVE	1020	1025		5								5
RG R7	1025	1130	65	3' LIFT / 1' LIFT								65
MOVE	1130	1135		5								5
SOUND	1135	1145						5				5
P6	1145	1220	35	3' LIFT								35
SOUND	1220	1225						5				5
MOVE	1225	1230		5								5
LUNCH	1230	100			30					30/0		30
Q6	100	130	30	3' LIFT								30
MOVE	130	135		5								5
N6	135	230	55	2' LIFT								55
MOVE	230	235		5								5
M7	235	255	20	1' LIFT								20
MOVE OFF BARGE	255	310		15								15
WPSH BARGE	310	325						15				15
CLEAN SWEEPERS	325	330						5				5
P6 BUCKET	330	340						10				10
HCR LOADER	340	350						10				10
RETRIEVE BARGERS	350	500						70				70
TOTALS			300	60	30			200		0		590

GP LOG POND / BELLINGHAM COLD STORAGE 161

A.H. POWERS, INC.
DREDGE REPORT

PROJECT: BELLINGHAM COLD STORAGE WEATHER: 40 CLEAR
DATE: JANUARY 23 01 TUES
JM HENRIKSEN, BOB KING, BARB SCHNOPF

CREW
PB BS
OP MCK
SUP ___
___ ___

STATION 16+00
OFFSET Ø-60R
TO
STATION 15+76
OFFSET Ø-60R

NARRATIVE
APPROX 218 CUYD PER GRID SQ (4)
TOTAL 873 CUYD

BOW
3² 3¹
LOAD # 1
3¹ 3⁰
STERN

DEBRIS SUMMARY
MUD

ACTIVITY	START	STOP	DIG	MOVE	GREASE	WX	BREAK DOWN	MISC	DUMP	LUNCH		TOTAL
BEGIN SHIFT	STATION										OFFSET	
FIRE UP	700	800						60				60
TOW TO BELLINGHAM COLD STORAGE	800	835		35								35
GET FEEDING WIRES	835	905						30				30
DREDGE FEED	905	1020						75				75
16+00	1020	1220	120	CLEAN TO			15+76				Ø-60R	120
TOW TO GP LOG POND	1220	110		50								50
MISC NISNI6	110	400	170									170
BOAT TROUBLE	400	425					25					25
MOVE OFF SHORE	425	445		20								20
MOVE SCOW	445	455						10				10
RIG HEAD BLOCK	455	505						10				10
SWEEP LINES	505	520						15				15
RETRIEVE ANCHOR 3	620	630						10				10
SHUT DOWN	530	615						45				45
			H20	AC	@ 200		½ @ 4.30					
TOTALS			290	105			25	255				675

PG 2 OF 2

A.H. POWERS, INC.
DREDGE REPORT

PROJECT: GP LOGPOND
DATE: 1.24 01 W30

WEATHER: LT RAIN 42°

CREW
PB
OP
SUP

STATION
OFFSET
TO
STATION
OFFSET

NARRATIVE

BOW
LOAD #
STERN

DEBRIS SUMMARY

ACTIVITY	START	STOP	DIG	MOVE	GREASE	WX	BREAK DOWN	MISC.	DUMP	LUNCH		TOTAL
BEGIN SHIFT												
M8	215	240	25		1' LIFT							25
MOVE	240	245		5								5
R8 E8	245	310	25		6" LIFT		1' LIFT					25
MOVE	310	315		5								5
R8	315	335	20		1' LIFT							20
MOVE	335	340		5								5
P7	340	415	35		1' LIFT.			OUT OF MATERIAL				35
RIG HEAD BLOCK	415	425						10				10
PACK LOADER	425	430						5				5
MOVE W37 GATE	430	445						15				15
RIG BRIDGE BUCKET	445	500						15				15
WASH BRIDGE	500	545						45				45
MOVE BF SLOPE	545	600						15				15
RIG HEAD BLOCK	600	610						10				10
MOVE UNNEEDED EQUIP TO SCOW	610	640						30				30
LUNCH	640	700						20				20
TOTALS												

[redacted]

PG 1 OF 2

A.H. POWERS, INC.
DREDGE REPORT

PROJECT: GP LOG POND WEATHER: 42 OVERCAST
DATE JANUARY 24.01 WED.
Jim HENRICSEN, BOB KING, BARB SHNEP

CREW
PB 135
OP
SUP
STATION
OFFSET
TO
STATION
OFFSET

NARRATIVE

4 Q8 (A) .7 (B) 1' (C) 1½
TOTAL CUYD = 1059

BOW 2⁶ 2⁸
LOAD # 37
2³ 2³
STERN

DEBRIS SUMMARY
SPANISH SAND

ACTIVITY	START	STOP	DIG	MOVE	GREASE	WX	BREAK DOWN	MISC	DUMP	LUNCH		TOTAL
BEGIN SHIFT												
START UP	700	725						25				25
FEL LOADER	725	730						5				5
GREASE	730	750			20							20
SET WIRES	750	755						5				5
RIG BUCKET	755	805						15				15
RUN ANCHORS	805	920						75				75
MOVE	920	945		25								25
Q7	945	1015	30	2' LIFT								30
MOVE	1015	1025		10								10
Q7	1025	1100	35	2' LIFT								35
MOVE	1100	1105		5								5
Q7	1105	1130	25	2' LIFT								25
MOVE	1130	1135		5								5
N7	1135	1205	30	2' LIFT								30
LUNCH	1205	1235								30		30
MOVE	1235	1240		5								5
SOUND	1240	1245						5				5
Q8	1245	115	30	1' LIFT								30
SOUND	115	120						5				5
MOVE	120	125		5								5
P8	125	135	10	1' LIFT								10
MOVE	135	140		5								5
Q8	140	150	10	1' LIFT								10
MOVE	150	155		5								5
N8	155	210	15	1' LIFT								15
MOVE	210	215		5								5
TOTALS												

[redacted] SQUALICUM

A.H. POWERS, INC.
DREDGE REPORT

PROJECT: GP LOG POND
DATE: JANUARY 25 01
JIM HENRIKSEN BOB KING, BOBB SCHAFF

WEATHER: CLEAR 40°

CREW
PB BS
OP JH BK
SUP
—

STATION 1
OFFSET —
TO
STATION —
OFFSET —

NARRATIVE
EXPECTED 3 1/2:

TOTAL CUYD = 730

BOW 39 49
LOAD 2
27 28
STERN

DEBRIS SUMMARY

ACTIVITY	START	STOP	DIG	MOVE	GREASE	WX	BREAK DOWN	MISC	DUMP	LUNCH		TOTAL
BEGIN SHIFT												30
								30				40
FIRE UP	700	730						40				25
RUN ANCHORS	730	810						25				10
RECEIVE TOW	810	835						10				15
R16 BUCKET	835	845						15				20
BUCKET MTN. MEADOWS	845	900			20							20
GREASE	900	920										125
MOVE	920	940		20								15
O16 & P16	940	1145	125	4' LIFT			(1/2 OF P15)	15				5
WASH BARGE	1145	1200										5
MOVE OFF BARGE	1200	1215		15				5				30
MAKE UP TO TOW	1215	1220										120
TOW TO SQUALICUM	1220	1250		30	(30/0 GREASE)						∅-GOR	5
15 + 25	1250	250	120									5
MOVE	250	255		5				5			∅-GOR	30
SOUND	255	300										30
14 + 24	300	330	30									30
TOW TO GP LOG POND	330	400		30	(30/0 PINION GREASE)							
SECURE	400	430						30				
												570
TOTALS				275	100	20			175			

SQUALICUM

A.H. POWERS, INC.
DREDGE REPORT

PROJECT: GP LOG POND WEATHER: 37° CLEAR
DATE: JANUARY 26 FRIDAY
JIM HENRIKSEN, BOB KING, BARB SCHNEPF

CREW
PB BS
OR JH BK
SUP
— —

STATION —
OFFSET —
TO
STATION —
OFFSET —

NARRATIVE
TOTAL CUYD #4 824

36 37
#4
29 25

TOTAL CUYD = 875 #3

BOW
22 24
LOAD # 3
38 37
STERN

DEBRIS SUMMARY

ACTIVITY	START	STOP	DIG	MOVE	GREASE	WX	BREAK DOWN	MISC	DUMP	LUNCH		TOTAL
BEGIN SHIFT												
ICE UP	700	730						30				30
MOVE	730	755		25								25
1/2 P15	755	800	5									5
TOKEN LINK N BUCKET	800	810					10					10
MOVE	810	820		10								10
1/2 P15	820	840	20			LOAD #3 - 4' LIFT						20
P15 R16 R15	840	1100	140									140
TOW TO SQUALICUM	1100	1130		30								30
14+84	1130	210	160		CLEAN TO 14+46						Ø-60R	160
TOW TO GP LOG POND	210	300		50								50
P13 Q14 P13 P14	300	540	160		LOAD # 4 - 4' LIFT							160
WASH BARGE	540	555						15				15
MOVE TO SHORE	555	610		15								15
SECURE BARGE	610	615						10				10
RIG HEAD BLOCK	615	620						5				5
SECURE	620	645						25				25
TOTALS			485	130			10	85				710

[redacted] CALCUM

A.H. POWERS, INC.
DREDGE REPORT

PROJECT: GP LOG POND
DATE: JAN 30, 01 TUES
WEATHER: WIND/RAIN 38°
JIM HENRICSEN, BOB KING, BARB SCHNEFF

CREW
PB BS
OR HRK
SUP
STATION
OFFSET
TO
STATION
OFFSET

NARRATIVE
P11, P12 275 CUYD EA
@ 11 @ 12 190 CUYD EA

TOTAL CUYD: 949

33 BOW 34
18 LOAD # 5 19
STERN

DEBRIS SUMMARY
MUD

ACTIVITY	START	STOP	DIG	MOVE	GREASE	WX	BREAK DOWN	MISC	DUMP	LUNCH		TOTAL
BEGIN SHIFT												
FUEL UP	7.00	730						30				30
40 HR GREASE	730	755			25							25
RETRIEVE #3	755	810						15				15
TOW TO CALCUM	810	900		50								50
RIG BUCKET	900	910						10				10
SECURE GANG	910	920						10				10
13+80 - 13+50	922	1150	150	NOT YET TO GRADE							@ 60R	150
SECURE GANG	1150	1200						10				10
TOW TO GP	1202	1246		40								40
P11 P12 @ 11 @ 12	1240	440	200									200
TOW TO CALCUM	440	440		40								40
FUEL SAW	440	445						5			@ 60R	5
MEADOW GANG	445	450						5				5
14+46 - 14+00	450	710	140		LOAD # 6							140
TOW TO GP	710	746		30	30							30
SECURE	746	800						20				20
			490	160	25			105				780

LOAD #6
H2O @ C @ 100 PM
TOTAL CUYD - 846

[redacted]

A.H. POWERS, INC.
DREDGE REPORT

PROJECT: GP LOG POND WEATHER: CALM OVERCAST 40
DATE: JAN 31 WED
JIM HENRIKSEN, BOB KING BARB SCHNEF

CREW
PB BS
OR HBK
SUP ___
___ ___

STATION ___
OFFSET ___
TO
STATION ___
OFFSET ___

NARRATIVE

TOTAL CUYD 840

BOW
3' 3'
LOAD # 6
2' 2'
STERN

DEBRIS SUMMARY

ACTIVITY	START	STOP	DIG	MOVE	GREASE	WX	BREAK DOWN	MISC	DUMP	LUNCH		TOTAL
BEGIN SHIFT												
FIRE UP	700	730						30				30
GREASE	730	745			15							15
RIG BUCKET	745	755						10				10
MOVE	755	815		20								20
N13 N14 Q13 Q14	815	1100	165		LOAD #6							165
TOW TO ERICKSON	1100	1200		60	30							60
14+06	1200	115	75								Ø-60R	75
MOVE	115	120		5								5
12+57	120	230	70								Ø-60R	70
RELEASE 37	230	245						15				15
RECIEVE 14	245	255						10				10
12+57	255	325	30								Ø60R	30
MOVE	325	330		5								5
18+20	330	400	30								Ø60R	30
TOW TO GP	400	430		30								30
MOVE 14	430	445						15				15
MOVE NITRO	445	505		20								20
FETCH 27	505	520						15				15
N11 N12 O11 O12	520	635	75		TO LOAD #7			INCOMPLETE			½ load 7	75
SHUT DOWN	635	700						25				25
				HZO	DC @	920	AM					

445 445

[redacted] LOG POND

A.H. POWERS, INC.
DREDGE REPORT

PROJECT: SQUALICUM WEATHER: FOG 88'
DATE: FEB 01 · 01 THURS
JIM HENRICSEN, BOB KING, BARB SCHNEPF

CREW
PB BS
OR JH BK
SUP
— —

STATION —
OFFSET —
TO
STATION —
OFFSET —

NARRATIVE

TOTAL CU YD 768

38 BOW 43
LOAD # 9
29 STERN 34

DEBRIS SUMMARY

ACTIVITY	START	STOP	DIG	MOVE	GREASE	WX	BREAK DOWN	MISC	DUMP	LUNCH		TOTAL
BEGIN SHIFT												
START UP	700	730						30				30
N11 N12 O11 O12	730	900	90		½ load 7							90
TOW TO SQUALICUM	900	940		40								40
13+25	940	1130	110								Ø-60R	110
TOW TO GP	1130	1210		40								40
DROP 27 BARGE	1210	1220						10				10
MOVE 14	1220	1230						10				10
MOVE NITRO	1230	1245		15								15
27/B7/C2	1245	130	45									45
MOVE	130	145		15								15
FETCH 14	145	200						15				15
FETCH 27	200	215						15				15
LOAD 14	215	240			(317 CU YD)			25				25
MOVE 14	240	255						15				15
MOVE NITRO	255	315		20								20
N11 N12 O11 O12	315	510	115									115
MOVE 27	510	540						30				30
RIG HEAD BLOCK	540	600						20				20
SECURE FOR WIND	600	630						30				30
TOTALS			360	130				200				690

A.H. POWERS, INC.
DREDGE REPORT

PROJECT: [redacted] LOG POND
DATE: ~~FEB~~ FEB 02
WEATHER: WIND 38
JIM [illegible] BOB KING, BARB [illegible]

CREW
PB BB
OP ~~BK~~
SUP
__ __

STATION
OFFSET
TO
STATION
OFFSET

NARRATIVE
TOTAL CY'D - 894
317 CY'D
REMAINDER LOAD - 9

3' BOW 27
LOAD # 10
3' STERN 27

DEBRIS SUMMARY

ACTIVITY	START	STOP	DIG	MOVE	GREASE	WX	BREAK DOWN	MISC	DUMP	LUNCH		TOTAL
BEGIN SHIFT												
JOG UP	700	730						30				30
GREASE	730	750			20							20
MOVE	750	800		10								10
D7	800	815	15				LOAD #9					15
MOVE	815	820		5								5
E7 E8	820	840	20				LOAD #9					20
BLOWN FILTER ENGINE	840	1015					95					95
E7 E8	1015	1100	45									45
MOVE N TO	1100	1115		15								15
FETCH #7	1115	1135						20				20
TOW TO EQUALCUM	1135	1220		45								45
12+40	1220	200	100								Ø COR.	100
TOW TO GP	200	245		45								45
GREASE	245	310			25							25
NOISE OVHD	310	430	80				LOAD #10			65 [illegible]		80
MOVE	430	450		20								20
SECURE	450	520						30				30
TOTALS			260	140	45		95	80				620

Table 4 - Summary of Water Quality Data

				Ref-Head		Ref-Mouth		WQ-1		WQ-2		WQ-3	
				Dissolved		Dissolved		Dissolved		Dissolved		Dissolved	
Date	Time	Tide	Depth in feet	Oxygen (mg/L)	Turbidity (NTU)	Oxygen (mg/L)	Turbidity (NTU)	Oxygen (mg/L)	Turbidity (NTU)	Oxygen (mg/L)	Turbidity (NTU)	Oxygen (mg/L)	Turbidity (NTU)
8-Nov-00	11:00	Flood	15	-	-	-	-	7.58	5.7	7.23	6.2	7.41	4.9
9-Nov-00	10:00	Slack	15	-	-	-	-	7.24	5.6	7.30	7.6	7.48	6.7
10-Nov-00	12:00	Flood	15	-	10.2	-	10.4	-	-	-	-	-	-
9-Nov-00	14:00	-	15	-	-	-	-	7.70	7.4	7.81	6.1	7.62	6.5
10-Nov-00	9:00	-	15	-	-	-	-	6.80	10.3	6.77	9.8	6.92	9.8
10-Nov-00	12:00	-	15	-	-	-	-	7.20	10.1	7.24	8.8	7.31	9.0
14-Nov-00	9:00	Slight ebb	15	6.18	12.7	5.80	13.5	-	-	-	-	-	-
13-Nov-00	1:00	Slight flood	15	-	-	-	-	6.99	7.3	6.80	6.9	7.08	6.5
14-Nov-00	9:00	Slight ebb	15	-	-	-	-	5.92	13.0	5.97	14.1	5.83	14.5
14-Nov-00	13:00	Slight flood	15	-	-	-	-	5.94	13.3	5.80	11.3	5.95	10.7
16-Nov-00	10:00	Slight ebb	15	-	-	-	-	5.44	10.1	6.10	9.5	5.65	11.0
16-Nov-00	14:00	Slight ebb	15	-	-	-	-	5.54	8.3	5.32	10.1	5.58	9.9
20-Nov-00	11:00	Flood	15	5.30	7.2	4.96	6.9	-	-	-	-	-	-
22-Nov-00	11:00	Flood	15	4.34	6.6	4.47	10.4	-	-	-	-	-	-
20-Nov-00	11:00	Flood	15	-	-	-	-	5.03	6.09	4.97	6.8	5.05	7.2
20-Nov-00	14:00	Ebb	15	-	-	-	-	5.31	7.8	4.87	8.2	4.97	6.8
22-Nov-00	11:00	Flood	15	-	-	-	-	4.50	10.2	4.50	8.2	4.61	9.4
29-Nov-01	12:00	Slack	15	6.72	7.0	6.86	5.2	-	-	-	-	-	-
29-Nov-00	14:00	Slack	15	-	-	-	-	6.76	6.7	6.80	6.8	7.00	5.6
6-Dec-00	11:00	Slight flood	15	6.38	8.1	6.87	6.6	-	-	-	-	-	-
7-Dec-00	11:00	Slight flood	15	5.80	7.7	5.75	6.1	-	-	-	-	-	-
6-Dec-00	11:00	Slight flood	15	-	-	-	-	5.94	10.8	6.46	8.0	6.83	7.0
7-Dec-00	11:00	Slight flood	15	-	-	-	-	5.84	7.2	5.99	7.8	5.67	7.9
13-Dec-00	14:00	Slight flood	15	7.72	0.1	7.78	0.9	-	-	-	-	-	-
13-Dec-00	14:00	Slight flood	15	-	-	-	-	7.91	0.3	7.77	0.4	7.93	3.1
19-Dec-00	11:00	Slight flood	15	8.18	2.1	8.25	1.1	-	-	-	-	-	-
20-Dec-00	11:00	Slight flood	15	7.73	10.4	7.83	11.9	-	-	-	-	-	-
19-Dec-00	11:00	Slight flood	15	-	-	-	-	8.27	36.4	8.44	1.9	8.65	4.9
20-Dec-00	11:00	Slight flood	15	-	-	-	-	7.61	12.6	7.85	13.5	7.90	11.9

				Ref-Head		Ref-Mouth		WQ-1		WQ-2		WQ-3	
				Dissolved		Dissolved		Dissolved		Dissolved		Dissolved	
Date	Time	Tide	Depth in feet	Oxygen (mg/L)	Turbidity (NTU)	Oxygen (mg/L)	Turbidity (NTU)	Oxygen (mg/L)	Turbidity (NTU)	Oxygen (mg/L)	Turbidity (NTU)	Oxygen (mg/L)	Turbidity (NTU)
28-Dec-00	10:00	Slight flood	15	7.26	1.5	8.13	0.1	-	-	-	-	-	-
28-Dec-00	10:00	Slight flood	15	-	-	-	-	7.10	1.3	7.03	1.2	7.40	0.8
3-Jan-01	12:00	Slack	15	7.90	2.2	7.61	0.2	-	-	-	-	-	-
3-Jan-01	12:00	Slack	15	-	-	-	-	7.73	1.6	7.93	2.2	7.59	1.0
11-Jan-01	11:00	Ebb	15	8.33	5.4	8.11	4.4	-	-	-	-	-	-
11-Jan-01	11:00	Ebb	15	-	-	-	-	7.96	7.9	7.73	5.1	7.97	5.0
17-Jan-01	10:00	Slack	15	7.82	1.1	7.94	0.9	-	-	-	-	-	-
17-Jan-01	10:00	Slack	15	-	-	-	-	7.83	0.9	7.93	0.7	7.84	1.3
23-Jan-01	3:00	Slack	15	7.40	2.3	7.67	0.1	-	-	-	-	-	-
23-Jan-01	5:00	Slight ebb	15	6.72	4.1	7.11	1.3	-	-	-	-	-	-
25-Jan-01	10:00	Ebb	15	8.27	1.5	8.52	0.1	-	-	-	-	-	-
25-Jan-01	12:00	Slack	15	8.21	0.1	8.28	1.2	-	-	-	-	-	-
26-Jan-01	11:00	Ebb	15	7.98	0.1	8.40	0.1	-	-	-	-	-	-
23-Jan-01	3:00	Slack	15	-	-	-	-	7.27	2.6	7.42	1.2	7.35	1.1
23-Jan-01	5:00	Slight Ebb	15	-	-	-	-	7.21	1.8	6.90	1.0	7.22	0.9
25-Jan-01	10:00	Ebb	15	-	-	-	-	8.44	0.4	8.10	1.2	8.22	1.1
25-Jan-01	12:00	Slack	15	-	-	-	-	8.57	5.6	8.05	7.1	8.56	1.3
26-Jan-01	11:00	Slack	15	-	-	-	-	8.15	0.1	8.07	0.3	8.36	0.1
30-Jan-01	2:00	Ebb	15	11.71	6.9	9.58	4.8	-	-	-	-	-	-
31-Jan-01	10:00	Slack	15	8.59	2.9	8.23	3.6	-	-	-	-	-	-
30-Jan-01	2:00	Ebb	15	-	-	-	-	9.86	7.8	9.22	12.3	9.17	6.0
31-Jan-01	10:00	Slack	15	-	-	-	-	8.29	3.6	8.43	2.9	8.54	3.1