APPENDIX B

WATER QUALITY MONITORING LOGS

Georgia-Pacific Corporation
Georgia-Pacific West, Inc.
A wholly owned subsidiary

P.O. Box 1236
Bellingham, Washington 98227-1236
Telephone (360) 733-4410
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November 13, 2000

Ms. Lucille T. Pebles, P.E.
Department of Ecology, Northwest Regional Office
3190 160th Ave SE
Bellevue, WA 98008-5452

RE: Interim Remedial Action G-P Log Pond – Weekly QA Report

Dear Ms. Pebles,

Results of quality assurance inspections and testing and monitoring activities for the week of November 6, 2000 are reported in this "Quality Assurance Report."

Activities for the week of November 6th include the following:

- Background water quality monitoring on November 8th 9th and 10th;
- A.H. Powers, Inc. mobilization to the site on November 9th;
- Equipment staging, preparations and piling removal preparations on November 9th, to include cutting of piling cables on dolphins;
- Removal of log booms, dolphins and pilings from 80% of the site on November 10th.

Based on visual observation, minor turbidity was noted immediately around the pilings as they were being broken (pulled sideways using a winch and crane setup), with the turbidity plume limited to an approximately 10 to 15 foot diameter cloud. Currents in the log pond on November 10, 2000 were light and the turbid cloud tended to hang and dissipate over a period of 20 to 30 minutes. No visible turbidity was seen migrating from the immediate vicinity of the pilings. During the late morning piling removal on November 10th the tractor tug Theo Foss was observed starting up at the Port WIST pier. The resultant turbidity plume was 200 feet in diameter and migrated one hundred feet into the Western corner of the log pond.

Water quality monitoring results are documented in the BEK Engineering Field Report enclosed. The background turbidity in the Whatcom Waterway began a steady rise following the heavy rains Tuesday night and Wednesday. The November 10th water quality monitoring was above the previous day's background turbidity by approximately 2 NTU. Readings were also taken 500 yards towards the head of Whatcom Waterway and 200 yards seaward from the G-P Lagoon to validate the background readings. These "background" readings confirmed that the general area turbidity had increased to 10.2 to 10.4 NTU. Based on this information and visual confirmation of the limited extent of turbidity migration from project activities, there was no impact to water quality from the piling removal.

If you have any questions please contact me at (360) 647-5695.

Sincerely,

Roger J. "Chip" Hilarides
Log Pond Interim Action Project Engineer
Senior Environmental Engineer

Enclosure

Cc:
Mr. Hiram Arden, U.S. Army Corps of Engineers
Mr. Clay Patmont, Anchor Environmental LLC
Mr. Mike Stoner, Port of Bellingham
Mr. Al Powers, A.H. Powers Inc.

BEK ENGINEERING & ENVIRONMENTAL, INC.

FIELD REPORT #1

BEK ENGINEERING & ENVIRONMENTAL
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BEK ENGINERING & ENVIRONMENTAL
2733 Colby Avenue
Everett, WA 98201
PH: (425) 258-2059
(800) 835-4971
FAX: (425) 258-5046

CLIENT:	Georgia Pacific	BEK JOB:	200144
PROJECT:	GP Log Pond Water Monitoring	REPORT:	#1
CLIENT JOB:		REPORT DATE:	11-10-00
FIELD REP:	Kim Ninnemann	PAGES:	2

ATTACH: none

Field Activities and Observations:

The water quality meters were supplied by Georgia Pacific. Prior to background data collection, the turbidity meter was laboratory calibrated at Hydrolab and the dissolved oxygen meter was calibrated by BEK on November 7, 2000.

BEK was onsite to collect baseline dissolved oxygen and turbidity data on November 8, 2000 at 11:15, November 9, 2000 at 9:45, and November 10, 2000 at 12:30. The baseline locations and data from the week ending November 10, 2000 are presented in Table 1.

A.R.H. Powers removed wires from the pilings in the log pond to begin the Phase I demolition work on Thursday, November 9, 2000. Breaking and removal of the piling from the log pond began on Friday, November 10, 2000.

Monitoring data was collected on three occasions after the demolition work began. All monitoring occurred 15.0 feet below the water's surface at three stations previously determined in the report entitled *GP Log Pong - Engineering Design Report* (dated July 2000) by Anchor Environmental. The monitoring data taken after the demolition work began is presented in Table 2.

Table 1
GP Log Pond – Baseline Water Quality Data

Date	Time	Weather	Location	Dissolved Oxygen (mg/L)	Turbidity (NTU)
11-8-00	11:15	Rainy	Station #1	7.58	5.7
			Station #2	7.23	6.2
			Station #3	7.41	4.9
11-9-00	9:45	Sunny	Station #1	7.24	5.6
			Station #2	7.3	7.6
			Station #3	7.48	6.7
11-10-00	12:30	Sunny	75' west of chip crane	-	10.4
			600' south of GP Lagoon	-	10.2

- = parameter not measured

Table 2
GP Log Pond - Water Monitoring Data

Date	Time	Weather	Station #1		Station #2		Station #3	
			D.O.	Turbidity	D.O.	Turbidity	D.O.	Turbidity
11-9-00	14:15	Sunny	7.70	7.4	7.81	6.1	7.62	6.5
11-10-00	9:15	Sunny	6.80	10.3	6.77	9.8	6.92	9.8
	12:30	Sunny	7.20	10.1	7.24	8.8	7.31	9.0

Dissolved Oxygen (D.O.) is measured in mg/L.
Turbidity is measured in NTU.

BEK Field Technician: Kim Ninnemann Kim Ninnemann

BEK Project Manager: Tom Bennett

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November 20, 2000

Ms. Lucille T. Pebles, P.E.
Department of Ecology, Northwest Regional Office
3190 160th Ave SE
Bellevue, WA 98008-5452

RE: Interim Remedial Action G-P Log Pond – Weekly QA Report

Dear Ms. Pebles,

Results of quality assurance inspections and testing and monitoring activities for the week of November 13, 2000 are reported in this "Quality Assurance Report."

Activities for the week of November 13th include the following:

- Background water quality monitoring on November 14th;
- A.H. Powers, Inc. piling removal completion and placement on shore on November 13th;
- Placement of Swinomish sand on November 14th (800 yards) and 16th (900 yards).

Water quality monitoring results are documented in the BEK Engineering Field Report enclosed. The background turbidity in the Whatcom Waterway has been highly variable during the first two weeks of the project. Several factors are likely influencing background water quality, including: 1) rain induced turbidity from the Nooksack River; 2) Ship and tugboat created turbidity; 3) Seasonal turnover in the water body resulting in depressed dissolved oxygen at shallower depths. As a result of the fluctuation of water quality readings that do not appear to be a result of the capping activities, we are recording water quality data at two additional "background" stations located 600 feet Southwest of the G-P Lagoon and 100 feet off the pier head line adjacent to the G-P chip crane (500 yards up Whatcom Waterway from the Log Pond). These "background" points will be used to distinguish between external water quality impacts and those that may be caused by the capping project.

The Quality Assurance Report form for the week of November 13th is also enclosed, including the results of a detailed review of the contractor's capping procedures by John Verduin of Anchor Environmental LLC.

If you have any questions please contact me at (360) 647-5695.

Sincerely,

Roger J. "Chip" Hilarides
Log Pond Interim Action Project Engineer
Senior Environmental Engineer

Enclosures

Cc:
Mr. Hiram Arden, U.S. Army Corps of Engineers
Mr. Clay Patmont, Anchor Environmental LLC
Mr. Mike Stoner, Port of Bellingham
Mr. Al Powers, A.H. Powers Inc.

BEK ENGINEERING & ENVIRONMENTAL, INC.

FIELD REPORT #2

BEK ENGINEERING & ENVIRONMENTAL
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CLIENT:	Georgia Pacific	BEK JOB:	200144
PROJECT:	GP Log Pond Water Monitoring	REPORT:	#2
CLIENT JOB:		REPORT DATE:	11-17-00
FIELD REP:	Kim Ninnemann	PAGES:	2

ATTACH: none

Field Activities and Observations:

Water monitoring continued at the GP log pond. Monitoring data was collected on November 13 at 12:45 during the final cleanup of the demolition phase of the project.

The Phase I capping of the log pond began on November 14, 2000. A.H. Powers began spreading sand at 8:00 a.m. Background data and monitoring data was collected at 9:15 and monitoring data was collected again at 13:15. The HMI Brenton Reef ship moored at the GP loading dock within the Whatcom Waterway at 7:00 a.m. on November 14, 2000. The ship had a 23' draft at 9:15 and a 26' draft at 13:15. Due to the position of the ship, the monitoring data was collected 100' from the dock. A comprehensive list of all the baseline data is presented in Table 1. The monitoring data for the week ending November 17, 2000 is presented in Table 2.

A.H. Powers was in LaConner on November 15, 2000 loading the barge with sand, so no monitoring data was collected. The HMI Brenton Reef departed from the dock at 7:00 a.m. The dissolved oxygen membrane was replaced due to a wrinkle in the original membrane, and the meter was re-calibrated.

The phase I capping of the log pond continued on November 16, 2000. A.H. Powers began spreading sand at 8:00 a.m. Monitoring data was collected at 10:20 and 14:15. The F. Burnell barge moored at the GP loading dock within the Whatcom Waterway at 8:00 a.m.

A.H. Powers was in LaConner on November 17, 2000 loading the barge with sand, so no monitoring data was collected.

All monitoring occurred 15.0 feet below the water's surface at three stations previously determined in the report entitled *GP Log Pong - Engineering Design Report* by Anchor Environmental (dated July 2000).

Table 1
GP Log Pond – Baseline Water Quality Data

Date	Time	Weather	Tide	Location	Dissolved Oxygen (mg/L)	Turbidity (NTU)
11-8-00	11:15	Rainy	Flood	Station #1	7.58	5.7
				Station #2	7.23	6.2
				Station #3	7.41	4.9
11-9-00	9:45	Sunny	Slack	Station #1	7.24	5.6
				Station #2	7.3	7.6
				Station #3	7.48	6.7
11-10-00	12:30	Sunny	Flood	75' west of chip crane	-	10.4
				600' south of GP Lagoon	-	10.2
11-14-00	9:15	Sunny	Slight ebb	75' west of chip crane	5.80	13.5
				600' south of GP Lagoon	6.18	12.7

- = parameter not measured
flood = tide is flowing into the Whatcom Waterway
ebb = tide is flowing out of the Whatcom Waterway
slack = tide is close to high or low tide, with very little overall movement

Table 2
GP Log Pond - Water Monitoring Data
(November 13-17, 2000)

Date	Time	Weather	Tide	Station #1		Station #2		Station #3	
				D.O.	Turbidity	D.O.	Turbidity	D.O.	Turbidity
11-13-00	12:45	Sunny	Slight flood	6.99	7.3	6.80	6.9	7.08	6.5
11-14-00	9:15	Sunny	Slight ebb	5.92	13.0	5.97	14.1	5.83	14.5
	13:15		Slight flood	5.94	13.3	5.80	11.3	5.95	10.7
11-16-00	10:20	Sunny	Slight ebb	5.44	10.1	6.10	9.5	5.65	11.0
	14:15	Partly cloudy	Slight ebb	5.54	8.3	5.32	10.1	5.58	9.9

Dissolved Oxygen (D.O.) is measured in mg/L.
Turbidity is measured in NTU.
flood = tide is flowing into the Whatcom Waterway
ebb = tide is flowing out of the Whatcom Waterway
slack = tide is close to high or low tide, with very little overall movement

BEK Field Technician: Kim Ninnemann Kim Ninnemann

BEK Project Manager: Tom Bennett

FIGURE B-2

INTERIM REMEDIAL ACTION: LOG POND CLEANUP/HABITAT RESTORATION

QUALITY ASSURANCE REPORT

Period Covered: 11/13 - 11/19

Description of Work Inspected: MONITORED INITIAL CAP PLACEMENT FROM 8AM TO 11:30AM ON 11/14/00. VERIFIED ADHERANCE TO THE PROCEDURES IDENTIFIED IN THE ENGINEERING DESIGN REPORT. SEE ATTACHED ANCHOR SUMMARY REPORT FOR A MORE DETAILED DESCRIPTION. ANCHOR SUPERVISED THE PLACEMENT FOR THE FULL DAY ON 11/14/00.

WATER QUALITY MONITORING WAS COMPLETED PER PLAN.

Results of Inspection (Including any Out-of-Specs Conditions):

WATER QUALITY DISSOLVED OXYGEN WAS LOW ON 11/14/00 WITH THE LOWEST READING AT 5.32 mg/L AT STATION #2 AT 1415. TURBIDITIES WERE NORMAL COMPARED TO BACKGROUND.

Test Results (Including any Out-of-Spec Conditions):

SEE ABOVE.

Instructions to Contractor and Corrective Action Taken: WATER QUALITY BACKGROUND READINGS WILL BE TAKEN AT REPRESENTATIVE LOCATIONS OFF THE G-P ASB (600' SOUTHWEST) AND UP THE WHATCOM WATERWAY ADJACENT TO THE G-P CHIP CRANE.

SUBMITTED BY: [signature]
TITLE: SENIOR ENVIRONMENTAL ENGINEER DATE: 11/20/00

Memorandum

To: Chip Hilarides – Georgia-Pacific West, Inc.

From: John Verduin, PE – Anchor Environmental, L.L.C.

CC: Clay Patmont – Anchor Environmental, L.L.C.

Date: November 15, 2000

Re: Initial Construction Observations
Interim Remedial Action
Log Pond Cleanup/Habitat Restoration
Whatcom Waterway Site

This memorandum summarizes Anchor's observations on November 13 and 14, 2000 of the Log Pond Cleanup/Habitat Restoration implementation. On November 13, A.H. Powers (Powers) completed pile removal and upland placement of debris. On November 14, Powers began placement of the sand cap's first lift. Below, we summarize Powers' placement methods including quality control/quality assurance procedures they are following and present observed production results from the first day.

Powers Cap Placement and Quality Control Methods

Cap Placement Methods. Powers has developed a grid system for the project based on the construction drawings. The grid divides the site into 25-foot by 50-foot subareas that overlays the capping area. The 50-foot side runs northeast/southwest parallel to Whatcom Waterway. A letter and number identify each grid. Each grid will require 24 cubic yards (CY) of capping material per 6-inch thickness.

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

The operator positions the dredge derrick using the two GPS stations and the grid on the monitor. He lines up the derrick so that the center of the derrick is located along the center of the 50-foot grid side. The derrick is 50 feet wide extending from one side of the grid to the other. A tug at the back of the derrick (Whatcom Waterway side) and a small skiff along the side move the derrick into place. Spuds secure the derrick in position.

Powers is currently using a 6 CY rehandling bucket to place the material. The bucket is six feet wide (roughly one forth the width of each grid). Therefore, the operator places 4 buckets of material in each grid. The operator lines up the bucket using the monitor screen. He can also visually line up the bucket using the edge of the dredge derrick. He slowly opens the bucket and swings it across the grid from one side to the other. After placement of the first bucket he centers the boom and moves it towards the derrick 6 feet. The movement is displayed on the monitor to the nearest foot. Once he has the correct location he swings the bucket over to the sand barge and loads the bucket. He repeats this process until he has capped the grid (four passes). Once he completes a grid the operator marks it on a drawing he has in his cab. A deck hand is also tracking the grid coverage.

The operator can cap two grids (50- by 50-foot area) before he needs to move. Powers generally starts at shore and caps a row of grids working away from shore.

Quality Assurance/Quality Control Methods. Powers will implement two different methods to monitor their placement techniques. The first method involves using lead lines. Prior to placing the cap Powers completed lead line measurements in four select grids (P8, P9, P15, and P16). After capping these areas Powers completed another round of lead line measurements. Measurements in the four grids indicated the following cap thickness 0.4, 0.7, 0.7, and 0.3 feet. This averages out to 6 inches of cap material placed. In addition, the tonnage of material placed was evaluated in the morning. The theoretical volume of material required to cover 18 grids (area covered in the morning) was 408 CY. The barge displacement indicated that roughly 325 CY of material was placed. This is an average cap thickness of 0.4 feet for the first lift in this area.

Based on the results of their measurements the current placement methods appear to obtain the target thickness and within the anticipated vertical tolerances. Powers should continue to do the lead lines as spot checks each day as well as doing the barge displacement confirmations twice per day (at lunch break and either end or start of day).

First Day of Production

Powers placed the first cap lift at 8:05 a.m. November 14, 2000 in grid P16. Powers was averaging 8.5 minutes to complete each rectangle. This production rate is roughly 170 CY/hr during placement. During the morning the net observed production rate (including down time for movement) was 110 CY/hr.

Powers currently has one crew working. They will dredge at Swinomish one day and cap at the Log Pond the other day.

Please do not hesitate to contact me if you have any questions concerning this memorandum.

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November 28, 2000

Ms. Lucille T. Pebles, P.E.
Department of Ecology, Northwest Regional Office
3190 160th Ave SE
Bellevue, WA 98008-5452

RE: Interim Remedial Action G-P Log Pond – Weekly QA Report

Dear Ms. Pebles,

Results of quality assurance inspections and testing and monitoring activities for the week of November 20, 2000 are reported in this "Quality Assurance Report."

Activities for the week of November 20th include the following:

- Background water quality monitoring on November 20th and 22nd;
- Placement of Swinomish sand on November 20th and 22nd.

Water quality monitoring results are documented in the BEK Engineering Field Report enclosed.

The Quality Assurance Report form for the week of November 20th is also enclosed. The contractor now has two fully functioning rigs that will be working simultaneously in Swinomish and the Log Pond. With this parallel production the Phase I capping should finish in January.

If you have any questions please contact me at (360) 647-5695.

Sincerely,

Roger J. "Chip" Hilarides
Log Pond Interim Action Project Engineer
Senior Environmental Engineer

Enclosures

Cc:
Mr. Hiram Arden, U.S. Army Corps of Engineers
Mr. Clay Patmont, Anchor Environmental LLC
Mr. Mike Stoner, Port of Bellingham
Mr. Al Powers, A.H. Powers Inc.

Log Pond QACP Weekly Report 11-27-00.doc

FIGURE B-2

INTERIM REMEDIAL ACTION: LOG POND CLEANUP/HABITAT RESTORATION

QUALITY ASSURANCE REPORT

Period Covered: 20 - 26 NOV 2000

Description of Work Inspected: PLACEMENT OF 6" SAND CAP ON MONDAY, NOV 20TH AND WEDNESDAY NOV 22ND.

Results of Inspection (Including any Out-of-Specs Conditions): CONTRACTOR WAS PLACING MATERIAL PER ENGINEERING DESIGN. PERIODIC DEPTH CHECKS PRIOR TO AND AFTER CAP PLACEMENT INDICATE A CAP THICKNESS OF 0.4 TO 0.7 FT. DISPLACEMENT/VOLUME CHECKS VERIFY AN APPROPRIATE CAP THICKNESS FOR THE FIRST LIFT.

Test Results (Including any Out-of-Spec Conditions): WATER QUALITY MONITORING DOES NOT SHOW IMPACTS FROM THE CAPPING WORK.

Instructions to Contractor and Corrective Action Taken: THE CONTRACTOR HAS BEEN INSTRUCTED TO LIMIT THE USE OF SPUDS AND RELY ON ANCHOR LINES. IN CASES WHEN SPUDS MUST BE USED, THE CAPPING WILL WORK OUTWARD SUCH THAT CAPPING FOLLOWS INTO AREAS WHERE SPUDS ARE USED.

SUBMITTED BY: [signature]

TITLE: SENIOR ENVIRONMENTAL ENGINEER DATE: 11/27/00

BEK ENGINEERING & ENVIRONMENTAL, INC.

FIELD REPORT #3

BEK ENGINEERING & ENVIRONMENTAL
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2733 Colby Avenue
Everett, WA 98201
PH: (425) 258-2059
(800) 835-4971
FAX: (425) 258-5046

CLIENT:	Georgia Pacific	BEK JOB:	200144
PROJECT:	GP Log Pond Water Monitoring	REPORT:	#3
CLIENT JOB:		REPORT DATE:	11-22-00
FIELD REP:	Kim Ninnemann	PAGES:	3

ATTACH: Locations of water quality data

Field Activities and Observations:

Water monitoring continued at the GP log pond during the Phase I sand capping. Baseline water quality data and monitoring data were collected on Monday, November 20 and Wednesday, November 22, 2000. A comprehensive list of all the baseline data is presented in Table 1. Water quality monitoring data for the week ending November 24, 2000 is presented in Table 2.

A.H. Powers was in LaConner on Tuesday, November 21, loading the barge with sand, so no monitoring data was collected.

All monitoring occurred 15.0 feet below the water's surface at three stations previously determined in the report entitled *GP Log Pong - Engineering Design Report* by Anchor Environmental (dated July 2000). A site plan of the water monitoring locations (WQ-1 through WQ-3) and approximate locations of the baseline monitoring sites are presented in the attached figure.

Table 1
GP Log Pond – Baseline Water Quality Data

Date	Time	Weather	Tide	Location	Dissolved Oxygen (mg/L)	Turbidity (NTU)
11-8-00	11:15	Rainy	Flood	Station #1	7.58	5.7
				Station #2	7.23	6.2
				Station #3	7.41	4.9
11-9-00	9:45	Sunny	Slack	Station #1	7.24	5.6
				Station #2	7.3	7.6
				Station #3	7.48	6.7
11-10-00	12:30	Sunny	Flood	75' west of chip crane	-	10.4
				600' south of GP Lagoon	-	10.2
11-14-00	9:15	Sunny	Slight ebb	75' west of chip crane	5.80	13.5
				600' south of GP Lagoon	6.18	12.7
11-20-00	10:45	Partly cloudy	Flood	75' west of chip crane	4.96	6.9
				600' south of GP Lagoon	5.30	7.2
11-22-00	10:45	Sunny	Flood	75' west of chip crane	4.47	10.4
				600' south of GP Lagoon	4.34	6.6

- = parameter not measured
flood = tide is flowing into the Whatcom Waterway
ebb = tide is flowing out of the Whatcom Waterway
slack = tide is close to high or low tide, with very little overall movement

Table 2
GP Log Pond - Water Monitoring Data
(November 20-22, 2000)

Date	Time	Weather	Tide	Station #1		Station #2		Station #3	
				D.O.	Turbidity	D.O.	Turbidity	D.O.	Turbidity
11-20-00	10:45	Partly cloudy	Flood	5.03	6.09	4.97	6.8	5.05	7.2
	2:30		Ebb	5.31	7.8	4.87	8.2	4.97	6.8
11-22-00	10:45	Sunny	Flood	4.50	10.2	4.50	8.2	4.61	9.4

Dissolved Oxygen (D.O.) is measured in mg/L.
Turbidity is measured in NTU.
flood = tide is flowing into the Whatcom Waterway
ebb = tide is flowing out of the Whatcom Waterway
slack = tide is close to high or low tide, with very little overall movement

BEK Field Technician: Kim Ninnemann Kim Ninnemann

BEK Project Manager: Tom Bennett

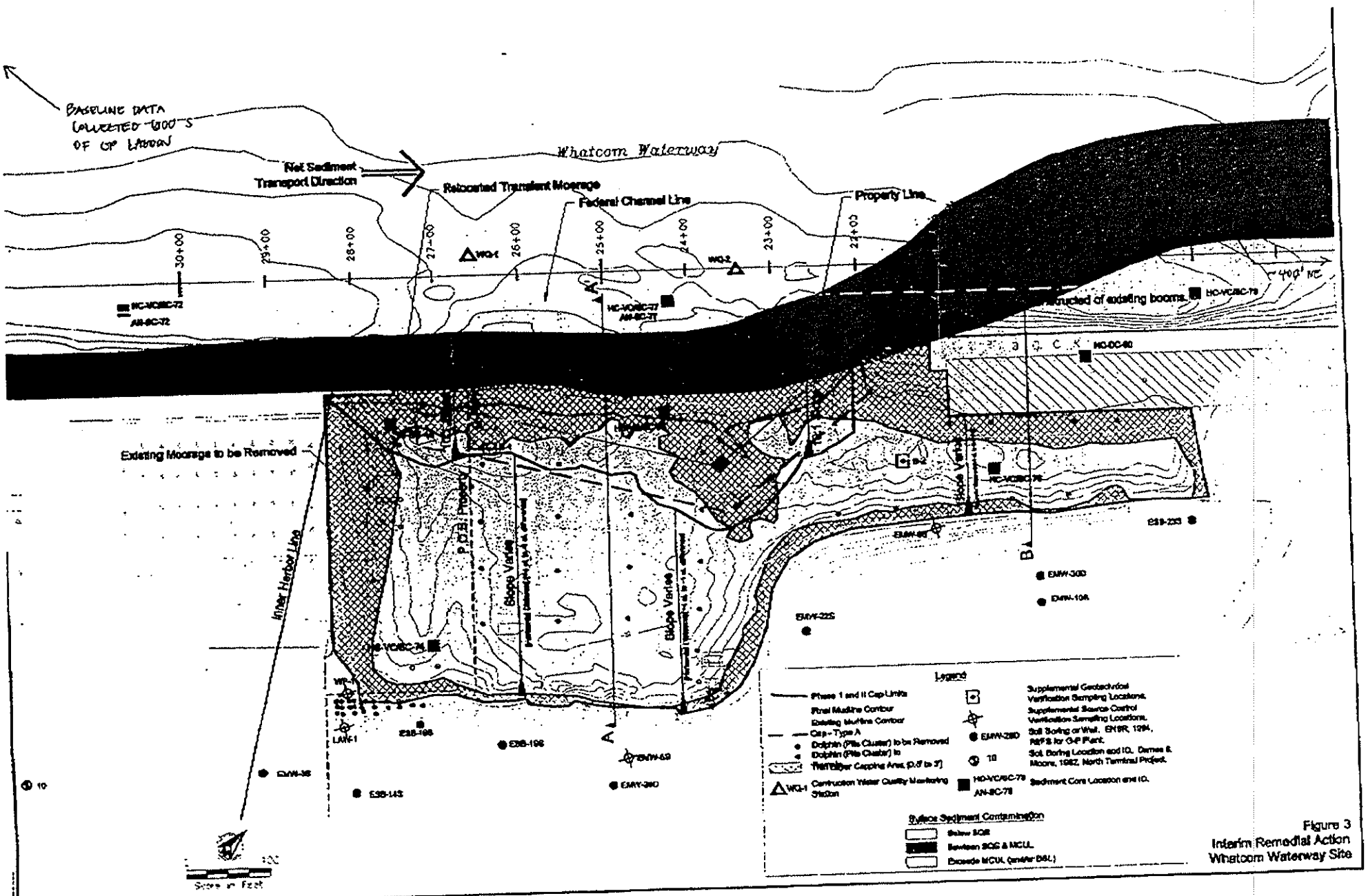

Figure 3
Interim Remedial Action
Whatcom Waterway Site

REFERENCE: GP Log Pond - Engineering Design Report by Anchor Environmental (dated July 2000)

Georgia-Pacific Corporation
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A wholly owned subsidiary

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December 4, 2000

Ms. Lucille T. Pebles, P.E.
Department of Ecology, Northwest Regional Office
3190 160th Ave SE
Bellevue, WA 98008-5452

RE: Interim Remedial Action G-P Log Pond – Weekly QA Report

Dear Ms. Pebles,

Results of quality assurance inspections and testing and monitoring activities for the week of November 27, 2000 are reported in this "Quality Assurance Report."

Activities for the week of November 27th include the following:

- Background water quality monitoring on November 29th;
- Placement of Swinomish sand for the 12 inch lift on November 28th, 29th and 30th in the South west Center of the site.

Water quality monitoring results are documented in the BEK Engineering Field Report enclosed.

The Quality Assurance Report form for the week of November 27th is also enclosed.

If you have any questions please contact me at (360) 647-5695.

Sincerely,

Roger J. "Chip" Hilarides
Log Pond Interim Action Project Engineer
Senior Environmental Engineer

Enclosures

Cc:
Mr. Hiram Arden, U.S. Army Corps of Engineers
Mr. Clay Patmont, Anchor Environmental LLC
Mr. Mike Stoner, Port of Bellingham
Mr. Al Powers, A.H. Powers Inc.

FIGURE B-2

INTERIM REMEDIAL ACTION: LOG POND CLEANUP/HABITAT RESTORATION

QUALITY ASSURANCE REPORT

Period Covered: 27 NOV - 3 DEC

Description of Work Inspected: PLACEMENT OF 12" SAND CAP (2ND LIFT) IN CENTRAL AND SOUTHWEST PORTION OF LOG POND, ON 28, 29 AND 30 NOVEMBER.

Results of Inspection (Including any Out-of-Specs Conditions): QA/QC ANALYSIS AND RANDOM SOUNDINGS SHOW THE AVERAGE THICKNESS OF CAP PLACED DURING THESE 3 DAYS TO BE 12.3 INCHES.

Test Results (Including any Out-of-Spec Conditions): WATER QUALITY PER ATTACHED BEK REPORT.

Instructions to Contractor and Corrective Action Taken: GRID PATTERN WAS SHIFTED 90 DEGREES FROM 1ST LIFT TO 2ND LIFT. CONTRACTOR IS UTILIZING ANCHOR POINTS AND LIMITING SPUD USE.

SUBMITTED BY: [signature]

TITLE: SENIOR ENVIRONMENTAL ENGINEER DATE: 12/4/00

BEK ENGINEERING & ENVIRONMENTAL, INC.

FIELD REPORT #4

BEK ENGINEERING & ENVIRONMENTAL
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FAX: (425) 258-5046

CLIENT:	Georgia Pacific	BEK JOB:	200144
PROJECT:	GP Log Pond Water Monitoring	REPORT:	#4
CLIENT JOB:		REPORT DATE:	11-30-00
FIELD REP:	Kim Ninnemann	PAGES:	3

ATTACH: Locations of water quality data

Field Activities and Observations:

Water monitoring continued at the GP log pond during the Phase I sand capping. A.H. Powers began spreading sand daily this week, and will continue to do so for the remainder of Phase I.

Chip Hilarides and a representative from the Department of Ecology determined that the water monitoring will be accomplished on a "limited" basis for the remainder of the Phase I sand capping. The monitoring will occur once per week, unless an out of compliance reading is measured.

Baseline and water monitoring data were collected on Wednesday, November 29, 2000 at 1:45pm. A comprehensive list of the baseline data is presented in Table 1. Water quality monitoring data for the week ending December 1, 2000 is presented in Table 2.

The Spring Virgo ship moored at the GP loading dock within the Whatcom Waterway at 10:00am on November 29, 2000. The ship had a draft of 13.5' at the time of water monitoring. The Grouse Arrow ship moored at the Port of Bellingham dock at 11:30am on November 29, 2000. The Grouse Arrow had a draft of 24.5' at the time of water monitoring.

All monitoring occurred 15.0 feet below the water's surface at three stations previously determined in the report entitled *GP Log Pong - Engineering Design Report* by Anchor Environmental (dated July 2000). A site plan of the water monitoring locations (WQ-1 through WQ-3) and approximate locations of the baseline monitoring sites are presented in the attached figure.

November 30, 2000
Field Report #4

Table 1
GP Log Pond – Baseline Water Quality Data

Date	Time	Weather	Tide	Location	Dissolved Oxygen (mg/L)	Turbidity (NTU)
11-8-00	11:15	Rainy	Flood	Station #1	7.58	5.7
				Station #2	7.23	6.2
				Station #3	7.41	4.9
11-9-00	9:45	Sunny	Slack	Station #1	7.24	5.6
				Station #2	7.3	7.6
				Station #3	7.48	6.7
11-10-00	12:30	Sunny	Flood	75' west of chip crane	-	10.4
				600' south of GP Lagoon	-	10.2
11-14-00	9:15	Sunny	Slight ebb	75' west of chip crane	5.80	13.5
				600' south of GP Lagoon	6.18	12.7
11-20-00	10:45	Partly cloudy	Flood	75' west of chip crane	4.96	6.9
				600' south of GP Lagoon	5.30	7.2
11-22-00	10:45	Sunny	Flood	75' west of chip crane	4.47	10.4
				600' south of GP Lagoon	4.34	8.8
11-29-00	1:45	Rainy	Slack	75' west of chip crane	6.86	5.2
				600' south of GP Lagoon	6.72	7.0

- = parameter not measured
flood = tide is flowing into the Whatcom Waterway
ebb = tide is flowing out of the Whatcom Waterway
slack = tide is close to high or low tide, with very little overall movement

Table 2
GP Log Pond - Water Monitoring Data
(November 29, 2000)

Date	Time	Weather	Tide	Station #1		Station #2		Station #3	
				D.O.	Turbidity	D.O.	Turbidity	D.O.	Turbidity
11-29-00	1:45	Rainy	Slack	6.76	6.7	6.80	6.8	7.00	5.6

Dissolved Oxygen (D.O.) is measured in mg/L.
Turbidity is measured in NTU.
flood = tide is flowing into the Whatcom Waterway
ebb = tide is flowing out of the Whatcom Waterway
slack = tide is close to high or low tide, with very little overall movement

BEK Field Technician: Kim Ninnemann Kim Ninnemann

BEK Project Manager: Tom Bennett

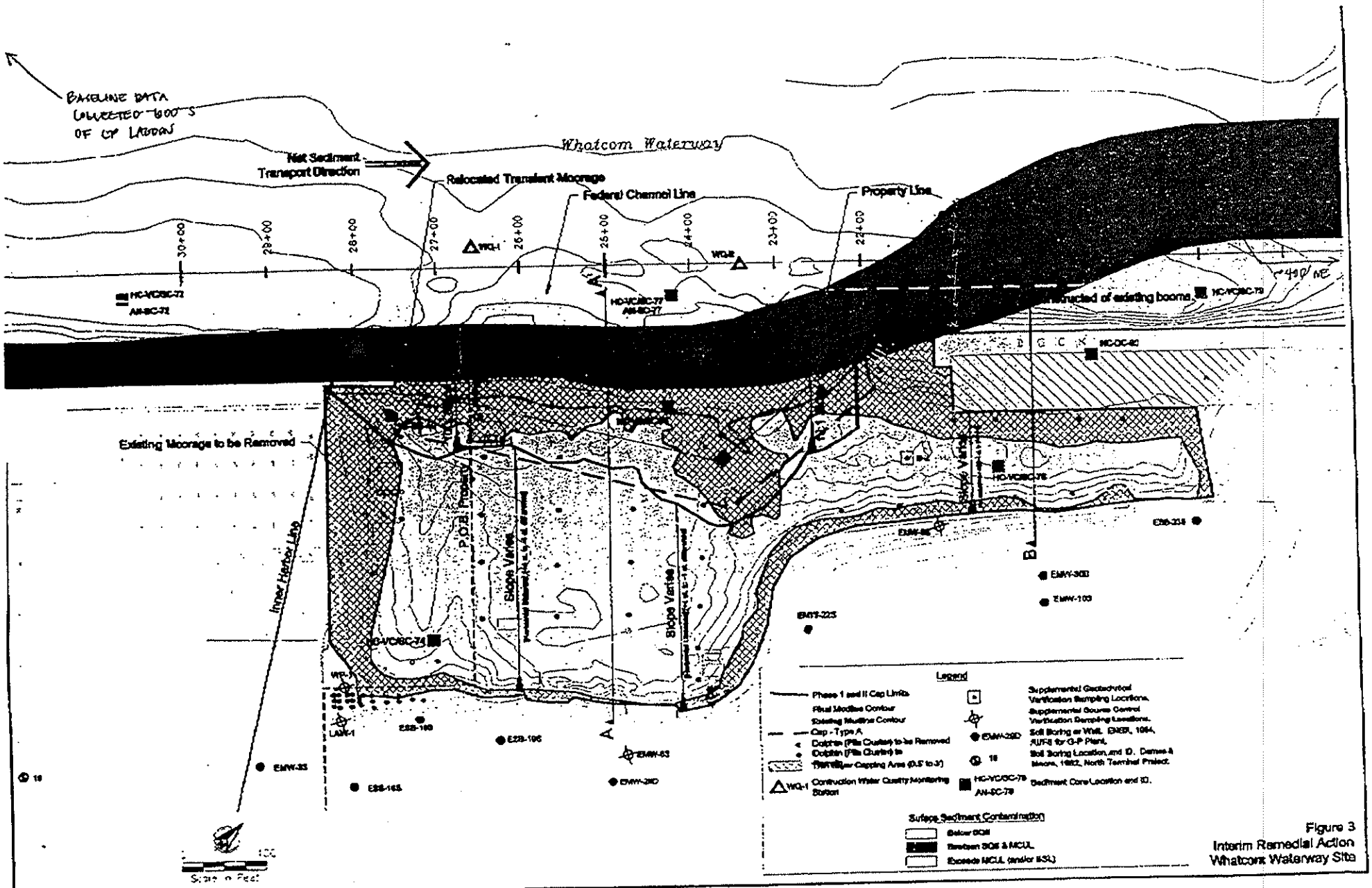


Figure 3
Interim Remedial Action
Whatcom Waterway Site

REFERENCE: GP Log Pond - Engineering Design Report by Anchor Environmental (dated May 2000)

Georgia-Pacific Corporation
Georgia-Pacific West, Inc.
A wholly owned subsidiary

P.O. Box 1236
Bellingham, Washington 98227-1236
Telephone (360) 733-4410
Fax (360) 676-7217

December 11, 2000

Ms. Lucille T. Pebles, P.E.
Department of Ecology, Northwest Regional Office
3190 160th Ave SE
Bellevue, WA 98008-5452

RE: Interim Remedial Action G-P Log Pond – Weekly QA Report

Dear Ms. Pebles,

Results of quality assurance inspections and testing and monitoring activities for the week of December 4, 2000 are reported in this "Quality Assurance Report."

Activities for the week of December 4th include the following:

- Placement of Swinomish sand on December 4th, 5th, 6th, 7th and 8th;
- Water quality monitoring on December 6th and 7th.

Water quality monitoring results are documented in the BEK Engineering Field Report enclosed.

The Quality Assurance Report form for the week of December 4th is also enclosed. The work for the week included completion of the 6-inch lift in the Northeast end of the Log Pond and continued placing the 12-inch lift in the center.

If you have any questions please contact me at (360) 647-5695.

Sincerely,

Roger J. "Chip" Hilarides
Log Pond Interim Action Project Engineer
Senior Environmental Engineer

Enclosures

Cc:
Mr. Hiram Arden, U.S. Army Corps of Engineers
Mr. Clay Patmont, Anchor Environmental LLC
Mr. Mike Stoner, Port of Bellingham
Mr. Al Powers, A.H. Powers Inc.

Log Pond QACP Weekly Report 12-11-00.doc

FIGURE B-2

INTERIM REMEDIAL ACTION: LOG POND CLEANUP/HABITAT RESTORATION

QUALITY ASSURANCE REPORT

Period Covered: 12/4/00 - 12/10/00

Description of Work Inspected: 6-INCH AND 12-INCH PHASE I LIFTS IN THE NORTHEAST AND CENTRAL SECTION OF THE LOG POND.

Results of Inspection (Including any Out-of-Specs Conditions): CAPPING SUMMARY LOG ATTACHED. QA/QC ANALYSIS AND LEAD LINE CHECKS INDICATE LIFT THICKNESS CONFORMANCE TO -7% TO +20%. THE MEAN LIFT THICKNESSES ARE 6.65 INCHES AND 12.7 INCHES.

ALSO ENCLOSED ARE THE RESULTS OF A GRAIN SIZE ANALYSIS ~~THAT~~ FOR THE SWINOMISH DREDGINGS. (97.5% SAND)

Test Results (Including any Out-of-Spec Conditions): WATER QUALITY MONITORING RESULTS ATTACHED.

WATER QUALITY WAS SLIGHTLY DEGRADED AT STATION #1 ON 12/6/00. CAPPING HAD BEEN OCCURRING AT THE NORTHEAST END OF SITE. STATION #1 IS AT THE SOUTHWEST END. THERE HAD BEEN SOME TUG AND BARGE TRAFFIC IN THE WATERWAY THAT MORNING. THERE WERE NO VISIBLE IMPACTS FROM THE LOG POND. BASED ON THE 12/6/00 DATA, WATER QUALITY MONITORING WAS REPERFORMED ON 12/9/00. ALL RESULTS WERE WITHIN SPECIFICATIONS.

Instructions to Contractor and Corrective Action Taken: ALL PREVIOUS CORRECTIVE ACTIONS HAVE BEEN IMPLEMENTED

SUBMITTED BY: [signature]

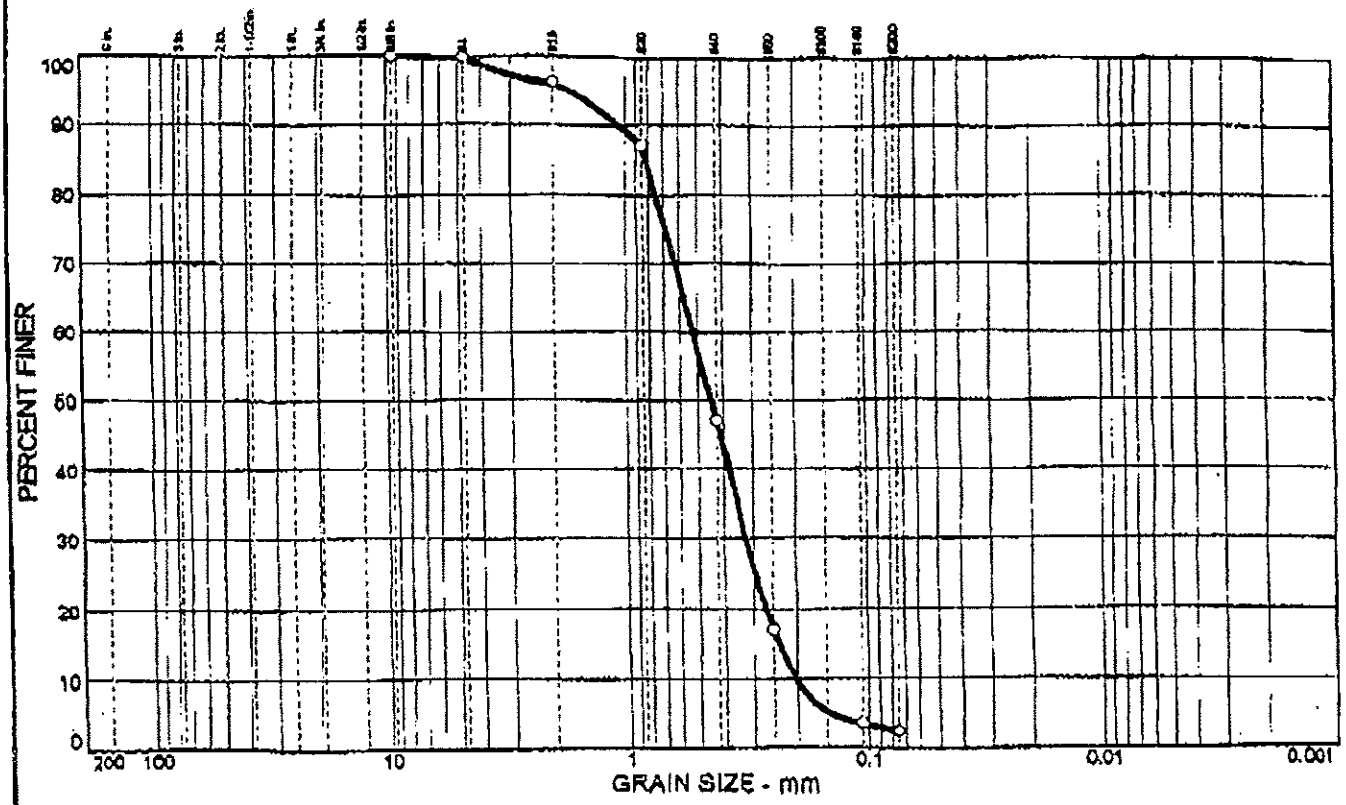
TITLE: SENIOR ENVIRONMENTAL ENGINEER DATE: 12/11/00

CAPPING SUMMARY LOG

Interim Remedial Action
Log Pond Cleanup/Habitat Restoration
Whatcom Waterway Site

		Time in Minutes						Volume in CY				Average Cap	Production Rates in CY/hr		
Date	Lift	Cap	Move	Other	Cap/Move Ratio	Total	Grids Capped	Grid Based	Barge Based	Cummu-lative	Barge/Grid Ratio	Thickness in Inches	Gross	Net	Areas Capped
14-Nov-00	1	346	190	95	1.82	631	37	856	800	800	93%	5.6	139	76	O8-17; P9-17; Q8-16; R7-16
16-Nov-00	1	270	185	145	1.46	600	33.5	775	902	1702	116%	7.0	200	90	N2-11; O2-7; P2-8; Q2-7; R2-8; S2-4
20-Nov-00	1	305	105	170	2.90	580	40.7	942	1118	2820	119%	7.1	220	116	N12-17; M3-17; L3-11; K3-13
22-Nov-00	1	380	115	115	3.30	610	40.2	931	1066	3886	115%	6.9	168	105	L12-17; K14-15; S5-16; T4-16, U4-9, 11-16
28-Nov-00	2	225	150	220	1.50	595	18	833	852	4738	102%	12.3	227	86	K14-16; L15-17; M15-17; N15-17; O15-17; P15-17; Q15-17
29-Nov-00	2	210	195	270	1.08	675	18	833	861	5599	103%	12.4	246	77	K11-13; L11-14; M11-14; N13-14; O13-14; P13-14; Q13-14
30-Nov-00	2	240	170	265	1.41	675	18	833	1002	6601	120%	14.4	251	89	L9-10; M9-10; N9-12; O9-12; P9-12; Q11-12
04-Dec-00	2	265	140	385	1.89	790	17	787	761	7362	97%	11.6	172	58	L5, 7-8; M5-8; N5-8; O5, 7-8; P7-10
TOTAL		2,241	1,250	1,665	1.79	5,156	222.4	6,792	7,362	7,362	108%	-	197	86	

PARTICLE SIZE DISTRIBUTION TEST REPORT



	% COBBLES	% GRAVEL	% SAND	% SILT	% CLAY	USCS	AASHTO	PL	LL
○		0.2	97.5			SP	A-1-b		

SIEVE inches size	PERCENT FINER ○
.375	100.0

	GRAIN SIZE
D_{60}	0.526
D_{30}	0.322
D_{10}	0.203

	COEFFICIENTS
C_c	0.98
C_u	2.59

SIEVE number size	PERCENT FINER ○
#4	99.8
#10	96.2
#20	87.1
#40	47.1
#60	16.9
#140	3.5
#200	2.3

SOIL DESCRIPTION
○ Poorly graded sand

REMARKS:
○ Classification based on grainsize only.

○ Source: Sample No.: Cap Material Elev./Depth:

SOIL TECHNOLOGY, INC.

Client: Anchor Environmental
Project: Georgia Pacific Ballingham 00-030-05-T3
Project No.: J-1369 Plate 1

BEK ENGINEERING & ENVIRONMENTAL, INC.

FIELD REPORT #5

BEK ENGINEERING & ENVIRONMENTAL
2138 Humboldt Street
Bellingham, WA 98225
PH: (360) 676-9589
(800) 859-5597
FAX: (360) 676-4625

BEK ENGINEERING & ENVIRONMENTAL
2733 Colby Avenue
Everett, WA 98201
PH: (425) 258-2059
(800) 835-4971
FAX: (425) 258-5046

CLIENT:	Georgia Pacific	BEK JOB:	200144
PROJECT:	GP Log Pond Water Monitoring	REPORT:	#5
CLIENT JOB:		REPORT DATE:	12-7-00
FIELD REP:	Kim Ninnemann	PAGES:	3

ATTACH: Locations of water quality data

Field Activities and Observations:

Water monitoring continued at the GP log pond during the Phase I sand capping. A.H. Powers spread sand daily. A.H. Powers removed the small boat dock in the southern end of the log pond on Wednesday, December 6, 2000.

Baseline and water monitoring data were collected on Wednesday, December 6, 2000 at 11:30am and Thursday, December 7, 2000 at 11:00am. A chip barge was moored near the chip crane and the F. Bernal was moored at the GP dock near station #1 on December 7, 2000. A comprehensive list of the baseline data is presented in Table 1. Water quality monitoring data for the week ending December 8, 2000 is presented in Table 2.

All monitoring occurred 15.0 feet below the water's surface at three stations previously determined in the report entitled *GP Log Pong - Engineering Design Report* by Anchor Environmental (dated July 2000). A site plan of the water monitoring locations (WQ-1 through WQ-3) and approximate locations of the baseline monitoring sites are presented in the attached figure.

December 7, 2000
Field Report #5

Table 1
GP Log Pond – Baseline Water Quality Data

Date	Time	Weather	Tide	Location	Dissolved Oxygen (mg/L)	Turbidity (NTU)
11-8-00	11:15	Rainy	Flood	Station #1	7.58	5.7
				Station #2	7.23	6.2
				Station #3	7.41	4.9
11-9-00	9:45	Sunny	Slack	Station #1	7.24	5.6
				Station #2	7.3	7.6
				Station #3	7.48	6.7
11-10-00	12:30	Sunny	Flood	75' west of chip crane	-	10.4
				600' south of GP Lagoon	-	10.2
11-14-00	9:15	Sunny	Slight ebb	75' west of chip crane	5.80	13.5
				600' south of GP Lagoon	6.18	12.7
11-20-00	10:45	Partly cloudy	Flood	75' west of chip crane	4.96	6.9
				600' south of GP Lagoon	5.30	7.2
11-22-00	10:45	Sunny	Flood	75' west of chip crane	4.47	10.4
				600' south of GP Lagoon	4.34	6.8
11-29-00	1:45	Rainy	Slack	75' west of chip crane	6.86	5.2
				600' south of GP Lagoon	6.72	7.0
12-6-00	11:30	Sunny	Slight Flood	75' west of chip crane	6.87	6.6
				600' south of GP Lagoon	6.38	8.1
12-7-00	11:00	Foggy	Slight Flood	75' west of chip crane	5.75	6.1
				600' south of GP Lagoon	5.80	7.7

- = parameter not measured
flood = tide is flowing into the Whatcom Waterway
ebb = tide is flowing out of the Whatcom Waterway
slack = tide is close to high or low tide, with very little overall movement

Table 2
GP Log Pond - Water Monitoring Data
(December 6 and 7, 2000)

Date	Time	Weather	Tide	Station #1		Station #2		Station #3	
				D.O.	Turbidity	D.O.	Turbidity	D.O.	Turbidity
12-06-00	11:30	Sunny	Slight Flood	5.94	10.8	6.46	8.0	6.83	7.0
12-07-00	11:00	Foggy	Slight Flood	5.84	7.2	5.99	7.8	5.67	7.9

Dissolved Oxygen (D.O.) is measured in mg/L.
Turbidity is measured in NTU.
flood = tide is flowing into the Whatcom Waterway
ebb = tide is flowing out of the Whatcom Waterway
slack = tide is close to high or low tide, with very little overall movement

BEK Field Technician: Kim Ninnemann Kim Ninnemann

BEK Project Manager: Tom Bennett

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A wholly owned subsidiary

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Bellingham, Washington 98227-1236
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December 18, 2000

Ms. Lucille T. Pebles, P.E.
Department of Ecology, Northwest Regional Office
3190 160th Ave SE
Bellevue, WA 98008-5452

RE: Interim Remedial Action G-P Log Pond – Weekly QA Report

Dear Ms. Pebles,

Results of quality assurance inspections and testing and monitoring activities for the week of December 11, 2000 are reported in this "Quality Assurance Report."

Activities for the week of December 11th include the following:

- Placement of Swinomish sand on December 11th, 12th, 13th and 14th;
- Water quality monitoring on December 13th.

Water quality monitoring results are documented in the BEK Engineering Field Report enclosed.

The Quality Assurance Report form for the week of December 11th is also enclosed. The work for the week included completion of the 12-inch lift in the Northeast end and center of the Log Pond and continued placing the 12-inch lift in the Southwest end.

If you have any questions please contact me at (360) 647-5695.

Sincerely,

Roger J. "Chip" Hilarides
Log Pond Interim Action Project Engineer
Senior Environmental Engineer

Enclosures

Cc:
Mr. Hiram Arden, U.S. Army Corps of Engineers
Mr. Clay Patmont, Anchor Environmental LLC
Mr. Mike Stoner, Port of Bellingham
Mr. Al Powers, A.H. Powers Inc.

Log Pond QACP Weekly Report 12-18-00.doc

Figure B-2

INTERIM REMEDIAL ACTION: LOG POND CLEANUP/HABITAT RESTORATION

QUALITY ASSURANCE REPORT

Period Covered: 11 December to 17 December 2000

Description of Work Inspected:
Placement of Swinomish sand for 12 inch lift of phase I capping.

Results of Inspection (Including any Out-of-Spec Conditions):
Observed capping techniques and adherence to capping grid and spud use guidelines. Observed use of anchor points in-lieu of tug boat. Visual turbidity is nearly non-existent with 12-inch lift in immediate vicinity of placement. The QA/QC analysis continues to indicate uniform thicknesses for the 12-inch lift based on daily spot checks and volume/area analyses.

Test Results (Including any Out-of-Spec Conditions):
Water quality monitoring results are attached. Water quality turbidities are very low and dissolved oxygen are very high, all well within specifications.

Instructions to Contractor and Corrective Action Taken:
The contractor has been instructed to ensure that no area will have any spud use following placement of the 18-inch lift. The contractor reviewed the placement strategy with the Project Manager and a satisfactory approach is planned.

SUBMITTED BY: R.J. "Chip" Hilarides
TITLE: Senior Environmental Engineer **DATE:** December 18, 2000

BEK ENGINEERING & ENVIRONMENTAL, INC.

FIELD REPORT #6

BEK ENGINEERING & ENVIRONMENTAL
2138 Humboldt Street
Bellingham, WA 98225
PH: (360) 676-9589
(800) 859-5597
FAX: (360) 676-4625

BEK ENGINEERING & ENVIRONMENTAL
2733 Colby Avenue
Everett, WA 98201
PH: (425) 258-2059
(800) 835-4971
FAX: (425) 258-5046

CLIENT:	Georgia Pacific	BEK JOB:	200144
PROJECT:	GP Log Pond Water Monitoring	REPORT:	#6
CLIENT JOB:		REPORT DATE:	12-14-00
FIELD REP:	Kim Ninnemann	PAGES:	3

ATTACH: Locations of water quality data

Field Activities and Observations:

Water monitoring continued at the GP log pond during the Phase I sand capping. A.H. Powers spread sand daily. A wood chip barge was moored adjacent to the chip crane and no other ship activity was noted.

Baseline and water monitoring data were collected on Wednesday, December 13, 2000 at 1:45pm. A comprehensive list of the baseline data is presented in Table 1. Water quality monitoring data for the week ending December 15, 2000 is presented in Table 2.

All monitoring occurred 15.0 feet below the water's surface at three stations previously determined in the report entitled *GP Log Pong - Engineering Design Report* by Anchor Environmental (dated July 2000). A site plan of the water monitoring locations (WQ-1 through WQ-3) and approximate locations of the baseline monitoring sites are presented in the attached figure.

Table 1
GP Log Pond – Baseline Water Quality Data

Date	Time	Weather	Tide	Location	Dissolved Oxygen (mg/L)	Turbidity (NTU)
11-8-00	11:15	Rainy	Flood	Station #1	7.58	5.7
				Station #2	7.23	6.2
				Station #3	7.41	4.9
11-9-00	9:45	Sunny	Slack	Station #1	7.24	5.6
				Station #2	7.3	7.6
				Station #3	7.48	6.7
11-10-00	12:30	Sunny	Flood	75' west of chip crane	-	10.4
				600' south of GP Lagoon	-	10.2
11-14-00	9:15	Sunny	Slight ebb	75' west of chip crane	5.80	13.5
				600' south of GP Lagoon	6.18	12.7
11-20-00	10:45	Partly cloudy	Flood	75' west of chip crane	4.96	6.9
				600' south of GP Lagoon	5.30	7.2
11-22-00	10:45	Sunny	Flood	75' west of chip crane	4.47	10.4
				600' south of GP Lagoon	4.34	6.6
11-29-00	1:45	Rainy	Slack	75' west of chip crane	6.86	5.2
				600' south of GP Lagoon	6.72	7.0
12-6-00	11:30	Sunny	Slight Flood	75' west of chip crane	6.87	6.6
				600' south of GP Lagoon	6.38	8.1
12-7-00	11:00	Foggy	Slight Flood	75' west of chip crane	5.75	6.1
				600' south of GP Lagoon	5.80	7.7
12-13-00	1:45	Overcast	Slight Flood	75' west of chip crane	7.78	0.9
				600' south of GP Lagoon	7.72	0.1

- = parameter not measured
flood = tide is flowing into the Whatcom Waterway
ebb = tide is flowing out of the Whatcom Waterway
slack = tide is close to high or low tide, with very little overall movement

Table 2
GP Log Pond - Water Monitoring Data
(December 13, 2000)

Date	Time	Weather	Tide	Station #1		Station #2		Station #3	
				D.O.	Turbidity	D.O.	Turbidity	D.O.	Turbidity
12-13-00	1:45	Overcast	Slight Flood	7.91	0.3	7.77	0.4	7.93	3.1

Dissolved Oxygen (D.O.) is measured in mg/L.
Turbidity is measured in NTU.
flood = tide is flowing into the Whatcom Waterway
ebb = tide is flowing out of the Whatcom Waterway
slack = tide is close to high or low tide, with very little overall movement

BEK Field Technician: Kim Ninnemann Kim Ninnemann

BEK Project Manager: Tom Bennett

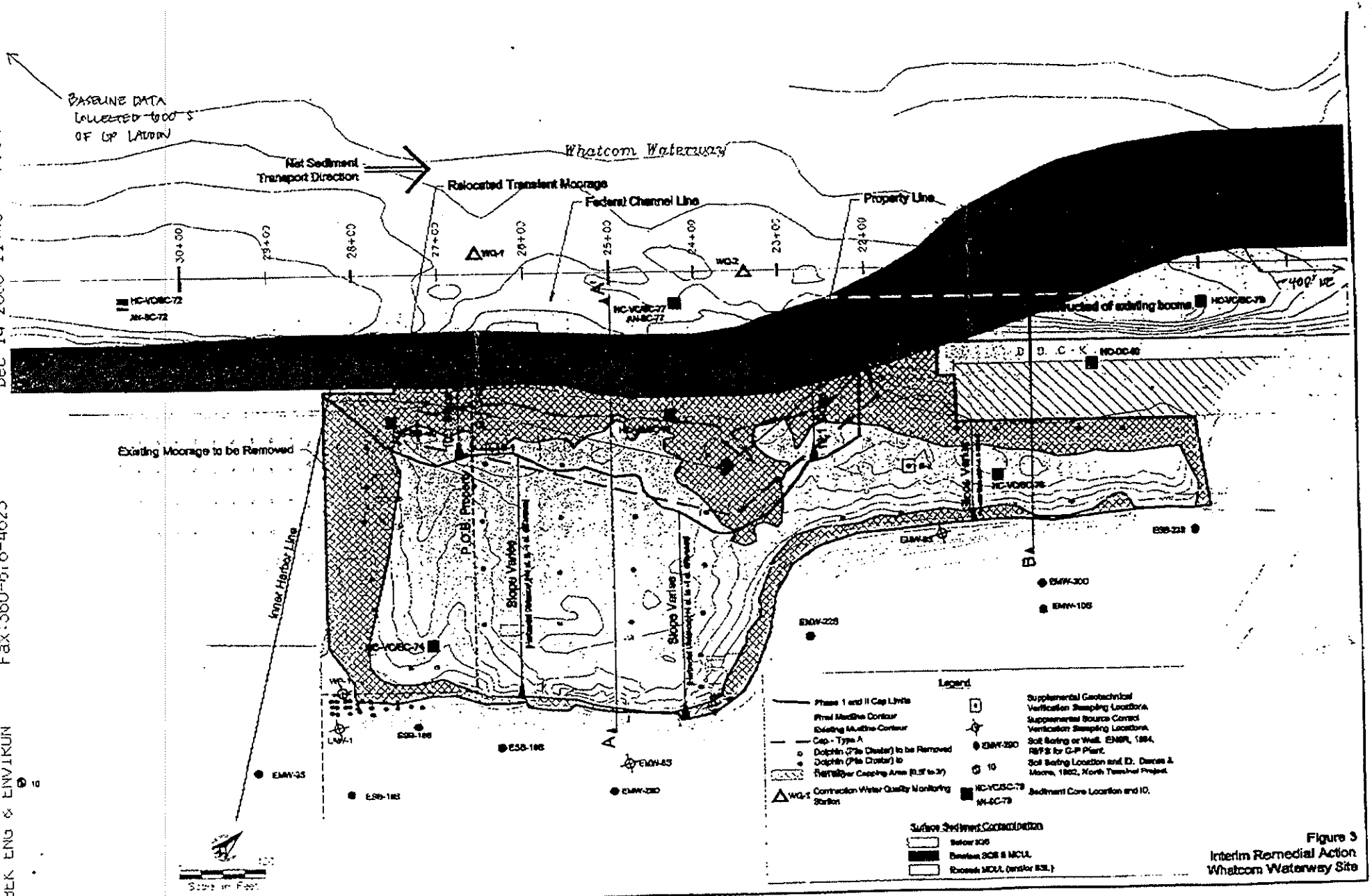

Figure 3
Interim Remedial Action
Whatcom Waterway Site

REFERENCE: GP Log Pond - Engineering Design Report by Anchor Environmental (dated May 2000)

Georgia-Pacific Corporation
Georgia-Pacific West, Inc.
A wholly owned subsidiary

P.O. Box 1236
Bellingham, Washington 98227-1236
Telephone (360) 733-4410
Fax (360) 676-7217

December 26, 2000

Ms. Lucille T. Pebles, P.E.
Department of Ecology, Northwest Regional Office
3190 160th Ave SE
Bellevue, WA 98008-5452

RE: Interim Remedial Action G-P Log Pond – Weekly QA Report

Dear Ms. Pebles,

Results of quality assurance inspections and testing and monitoring activities for the week of December 18, 2000 are reported in this "Quality Assurance Report."

Activities for the week of December 18th include the following:

- Placement of Swinomish sand on December 19th, 20th, 21st and 22nd;
- Water quality monitoring on December 19th and 20th.

Water quality monitoring results are documented in the BEK Engineering Field Report enclosed.

The Quality Assurance Report form for the week of December 18th is also enclosed. The work for the week included completion of the 12-inch lift in all areas of the Log Pond and beginning to place the 18-inch lift in the Northeast end.

If you have any questions please contact me at (360) 647-5695.

Sincerely,

Roger J. "Chip" Hilarides
Log Pond Interim Action Project Engineer
Senior Environmental Engineer

Enclosures

Cc:
Mr. Hiram Arden, U.S. Army Corps of Engineers
Mr. Clay Patmont, Anchor Environmental LLC
Mr. Mike Stoner, Port of Bellingham
Mr. Al Powers, A.H. Powers Inc.

Log Pond QACP Weekly Report 12-26-00.doc

Figure B-2

INTERIM REMEDIAL ACTION: LOG POND CLEANUP/HABITAT RESTORATION

QUALITY ASSURANCE REPORT

Period Covered: 18 December to 24 December 2000

Description of Work Inspected:
Placement of Swinomish sand for 12- and 18-inch lifts of phase I capping.

Results of Inspection (Including any Out-of-Spec Conditions):
All placement techniques and QA checks indicate satisfactory adherence to engineering design guidelines.

Test Results (Including any Out-of-Spec Conditions):
Water quality monitoring results are attached. Water quality turbidities were elevated on 12/19/00 at water quality station #1 (Southwest end near Port Pier). All dissolved oxygen readings were well within specifications. The elevated turbidities are attributed to the arrival of the GearBulk ship "Swift Arrow" which arrived the morning of 12/19. Resampling was conducted on 12/20 and all stations were within 10% of the highest background reading for turbidity.

Instructions to Contractor and Corrective Action Taken:
No corrective action was required.

SUBMITTED BY: R.J. "Chip" Hilarides
TITLE: Senior Environmental Engineer **DATE:** December 26, 2000

BEK ENGINEERING & ENVIRONMENTAL, INC.

FIELD REPORT #7

BEK ENGINEERING & ENVIRONMENTAL
2138 Humboldt Street
Bellingham, WA 98225
PH: (360) 676-9589
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BEK ENGINEERING & ENVIRONMENTAL
2733 Colby Avenue
Everett, WA 98201
PH: (425) 258-2059
(800) 835-4971
FAX: (425) 258-5046

CLIENT:	Georgia Pacific	BEK JOB:	200144
PROJECT:	GP Log Pond Water Monitoring	REPORT:	#7
CLIENT JOB:		REPORT DATE:	12-20-00
FIELD REP:	Kim Ninnemann	PAGES:	4

ATTACH: Locations of water quality data

Field Activities and Observations:

Water monitoring continued at the GP log pond during the Phase I sand capping. A.H. Powers spread sand daily.

Baseline and water monitoring data were collected on Tuesday, December 19, 2000 at 11:00am and Wednesday, December 20, 2000 at 11:00am. A comprehensive list of the baseline data is presented in Table 1. Water quality monitoring data for the week ending December 22, 2000 is presented in Table 2.

A wood chip barge was moored adjacent to the chip crane on both December 19 and 20, 2000 with a draft of 12'. The *Swift Arrow* ship was moored at the Port of Bellingham Dock prior to the December 19 monitoring and departed at approximately 7:00am on December 20, 2000. The *Swift Arrow* had a draft of 24.9' on December 19, 2000. The *F Bernal* was moored at the GP dock during the December 20, 2000 monitoring.

All monitoring occurred 15.0 feet below the water's surface at three stations previously determined in the report entitled *GP Log Pong - Engineering Design Report* by Anchor Environmental (dated July 2000). A site plan of the water monitoring locations (WQ-1 through WQ-3) and approximate locations of the baseline monitoring sites are presented in the attached figure.

Table 1
GP Log Pond – Baseline Water Quality Data

Date	Time	Weather	Tide	Location	Dissolved Oxygen (mg/L)	Turbidity (NTU)
11-8-00	11:15	Rainy	Flood	Station #1	7.58	5.7
				Station #2	7.23	6.2
				Station #3	7.41	4.9
11-9-00	9:45	Sunny	Slack	Station #1	7.24	5.6
				Station #2	7.3	7.6
				Station #3	7.48	6.7
11-10-00	12:30	Sunny	Flood	75' west of chip crane	-	10.4
				600' south of GP Lagoon	-	10.2
11-14-00	9:15	Sunny	Slight ebb	75' west of chip crane	5.80	13.5
				600' south of GP Lagoon	6.18	12.7
11-20-00	10:45	Partly cloudy	Flood	75' west of chip crane	4.96	6.9
				600' south of GP Lagoon	5.30	7.2
11-22-00	10:45	Sunny	Flood	75' west of chip crane	4.47	10.4
				600' south of GP Lagoon	4.34	6.6
11-29-00	1:45	Rainy	Slack	75' west of chip crane	6.86	5.2
				600' south of GP Lagoon	6.72	7.0
12-6-00	11:30	Sunny	Slight Flood	75' west of chip crane	6.87	6.6
				600' south of GP Lagoon	6.38	8.1
12-7-00	11:00	Foggy	Slight Flood	75' west of chip crane	5.75	6.1
				600' south of GP Lagoon	5.80	7.7
12-13-00	1:45	Overcast	Slight Flood	75' west of chip crane	7.78	0.9
				600' south of GP Lagoon	7.72	0.1
12-19-00	11:00	Overcast	Slight Flood	75' west of chip crane	8.25	1.1
				600' south of GP Lagoon	8.18	2.1
12-20-00	11:00	Overcast	Slight Flood	75' west of chip crane	7.83	11.9
				600' south of GP Lagoon	7.73	10.4

- = parameter not measured
flood = tide is flowing into the Whatcom Waterway
ebb = tide is flowing out of the Whatcom Waterway
slack = tide is close to high or low tide, with very little overall movement

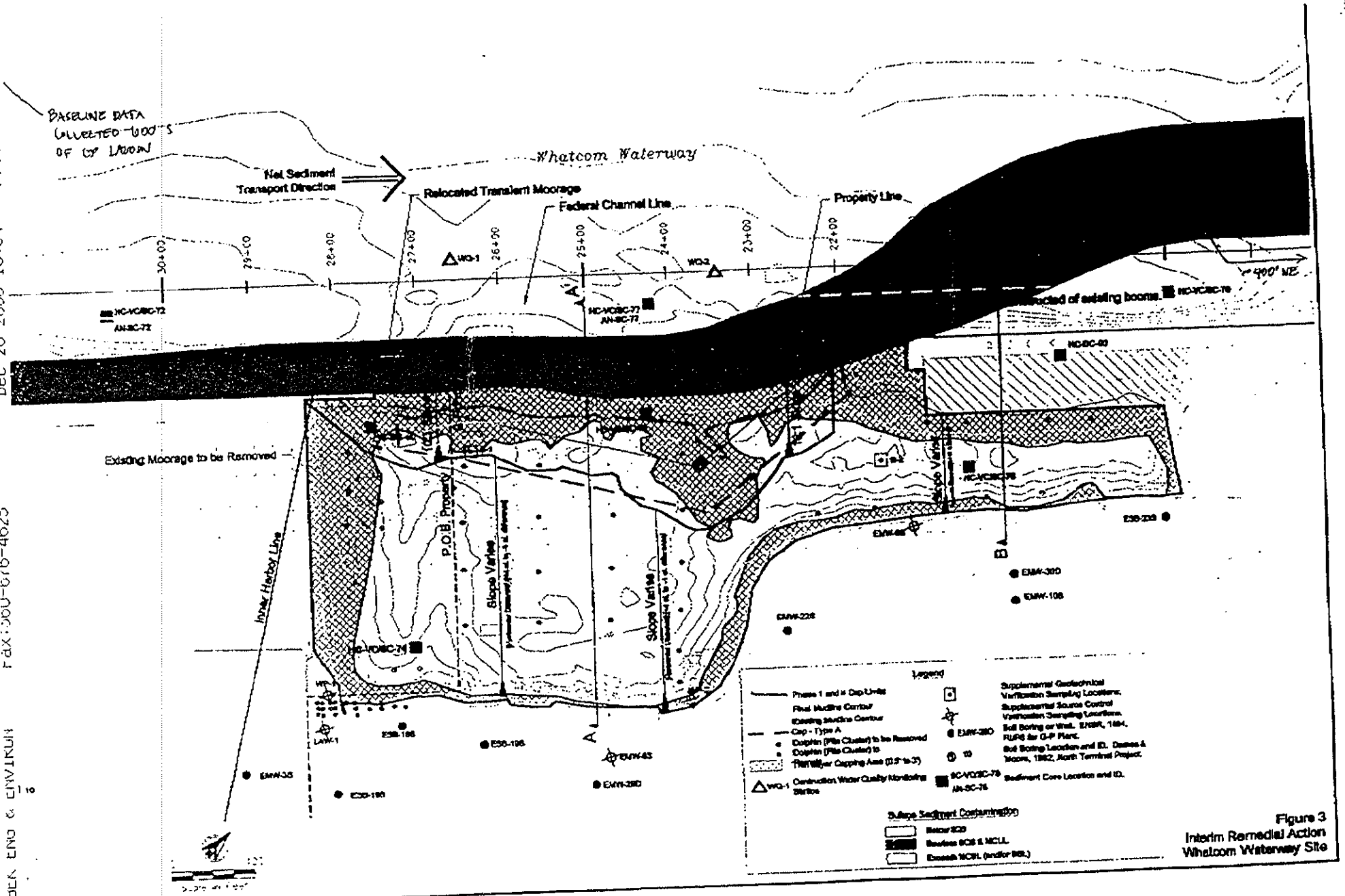
Table 2
GP Log Pond - Water Monitoring Data
(December 19 and 20, 2000)

Date	Time	Weather	Tide	Station #1		Station #2		Station #3	
				D.O.	Turbidity	D.O.	Turbidity	D.O.	Turbidity
12-19-00	11:00	Overcast	Slight Flood	8.27	36.4	8.44	1.9	8.65	4.9
12-20-00	11:00	Overcast	Slight Flood	7.61	12.6	7.85	13.5	7.90	11.9

Dissolved Oxygen (D.O.) is measured in mg/L.
Turbidity is measured in NTU.
flood = tide is flowing into the Whatcom Waterway
ebb = tide is flowing out of the Whatcom Waterway
slack = tide is close to high or low tide, with very little overall movement

BEK Field Technician: Kim Ninnemann Kim Ninnemann

BEK Project Manager: Tom Bennett



REFERENCE: GP Log Pond - Engineering Design Report by Anchor Environmental (dated July 2000)

Georgia-Pacific Corporation
Georgia-Pacific West, Inc.
A wholly owned subsidiary

P.O. Box 1236
Bellingham, Washington 98227-1236
Telephone (360) 733-4410
Fax (360) 676-7217

December 27, 2000

Ms. Lucille T. Pebles, P.E.
Department of Ecology, Northwest Regional Office
3190 160th Ave SE
Bellevue, WA 98008-5452

RE: Interim Remedial Action G-P Log Pond – Monthly Executive Summary

Dear Ms. Pebles,

Georgia-Pacific West, Inc. has completed one month of Phase I capping in the G-P Log Pond. This monthly executive summary is submitted in accordance with the approved "Log Pond Cleanup/Habitat Restoration" Engineering Design Report. This report provides a summary of progress made during the past month of activities (Project start to December 15, 2000).

Demolition:

Piling removal is 97% complete. All submerged pilings were broken at the mud line through the application of a perpendicular force using cables, winches and a crane. The docks and wood debris have been staged on the uplands adjacent to the log pond for further demolition and removal to a permitted solid waste landfill.

The piling located above MLLW at the South corner of the Log Pond were removed by cutting at the mud line using a chainsaw. Fourteen (14) pilings remain in the South corner for use by the contractor as anchor points. These pilings will be cut by hand at the mud line near the completion of the project.

Environmental Capping:

Capping with Swinomish sand began on November 14, 2000. Twelve thousand nine hundred eighty four (12,984) cubic yards of sand had been placed in the Log Pond as of December 14th. The average cap thickness has been approximately 110% of design based on volume-placement QA/QC verification. Phase I capping will likely be complete by January 10, 2001. Preliminary bathymetry will be conducted after Phase I capping to estimate cap uniformity and settlement and to guide the placement of sediments for the subsequent Phase II (Habitat Restoration) work.

Habitat Restoration:

The habitat restoration portion of the Log Pond Project will commence immediately following completion of Phase I capping. The habitat restoration action will have two components. First,

an additional 10,000 cubic yards of sand from the Swinomish Channel will be placed in the Log Pond to uniformly raise the finished elevation throughout the Log Pond, consistent with the Engineering Design Report. This work should finish by the last week in January. Second, up to 10,000 yards of silty-sands from Squalicum Channel, if available, will be used to further enhance the habitat function of the cap surface by providing a substrate with native infauna and a shallow final elevation. If the Squalicum materials are not available due to dredge timing, they could be substituted with additional material from Swinomish to provide the desired finished elevations. Our analysis of options has determined that it is superior to complete the habitat restoration project during this current period to minimize the potential short-term impacts to native wildlife (from capping again in subsequent years) and rapidly create the finished elevations that will provide the most habitat benefit. Additionally, the high siltation rates in the Whatcom Waterway Site and particularly the Log Pond will rapidly regenerate the silty surface sediments.

If you have any questions please contact me at (360) 647-5695.

Sincerely,

Roger J. "Chip" Hilarides
Log Pond Interim Action Project Engineer
Senior Environmental Engineer

Enclosures

Cc:
Mr. Hiram Arden, U.S. Army Corps of Engineers
Mr. Clay Patmont, Anchor Environmental LLC
Mr. Mike Stoner, Port of Bellingham
Mr. Al Powers, A.H. Powers Inc.

Georgia-Pacific Corporation
Georgia-Pacific West, Inc.
A wholly owned subsidiary

P.O. Box 1236
Bellingham, Washington 98227-1236
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Fax (360) 676-7217

January 1, 2001

Ms. Lucille T. Pebles, P.E.
Department of Ecology, Northwest Regional Office
3190 160th Ave SE
Bellevue, WA 98008-5452

RE: Interim Remedial Action G-P Log Pond – Weekly QA Report

Dear Ms. Pebles,

Results of quality assurance inspections and testing and monitoring activities for the week of December 25, 2000 are reported in this "Quality Assurance Report."

Activities for the week of December 25th include the following:

- Placement of Swinomish sand on December 26th and 28th;
- Water quality monitoring on December 28th.

Water quality monitoring results are documented in the BEK Engineering Field Report enclosed.

The Quality Assurance Report form for the week of December 25th is also enclosed. The work for the week included completion of the 18-inch lift in the Northeast end of the Log Pond.

If you have any questions please contact me at (360) 647-5695.

Sincerely,

Roger J. "Chip" Hilarides
Log Pond Interim Action Project Engineer
Senior Environmental Engineer

Enclosures

Cc:
Mr. Hiram Arden, U.S. Army Corps of Engineers
Mr. Clay Patmont, Anchor Environmental LLC
Mr. Mike Stoner, Port of Bellingham
Mr. Al Powers, A.H. Powers Inc.

Figure B-2

INTERIM REMEDIAL ACTION: LOG POND CLEANUP/HABITAT RESTORATION

QUALITY ASSURANCE REPORT

Period Covered: 25 December to 31 December 2000

Description of Work Inspected:
Placement of Swinomish sand for 18-inch lift of phase I capping.

Results of Inspection (Including any Out-of-Spec Conditions):
All placement techniques and QA checks indicate satisfactory adherence to engineering design guidelines. Soundings indicate a daily placed cap thickness of 1.7 feet (average).

Test Results (Including any Out-of-Spec Conditions):
Water quality monitoring results are attached. All results are well within specifications.

Instructions to Contractor and Corrective Action Taken:
No corrective action was required.

SUBMITTED BY: R.J. "Chip" Hilarides
TITLE: Senior Environmental Engineer **DATE:** January 1, 2001

BEK ENGINEERING & ENVIRONMENTAL, INC.

FIELD REPORT #8

BEK ENGINEERING & ENVIRONMENTAL
2138 Humboldt Street
Bellingham, WA 98225
PH: (360) 676-9589
(800) 859-5597
FAX: (360) 676-4625

BEK ENGINEERING & ENVIRONMENTAL
2733 Colby Avenue
Everett, WA 98201
PH: (425) 258-2059
(800) 835-4971
FAX: (425) 258-5046

CLIENT:	Georgia Pacific	BEK JOB:	200144
PROJECT:	GP Log Pond Water Monitoring	REPORT:	#8
CLIENT JOB:		REPORT DATE:	12-28-00
FIELD REP:	Ken Koenig	PAGES:	4

ATTACH: Locations of water quality data

Field Activities and Observations:

Water monitoring continued at the GP log pond during the Phase I sand capping. A.H. Powers spread sand on Tuesday and today. A.H. Powers was loading sand yesterday. A wood chip barge was moored adjacent to the chip crane. A Foss Maritime tug was located at the Port of Bellingham Dock.

Baseline and water monitoring data were collected on Thursday, December 28, 2000 at 10:00. A comprehensive list of the baseline data is presented in Table 1. Water quality monitoring data for the week ending December 29, 2000 is presented in Table 2.

All monitoring occurred 15.0 feet below the water's surface at three stations previously determined in the report entitled *GP Log Pong - Engineering Design Report* by Anchor Environmental (dated July 2000). A site plan of the water monitoring locations (WQ-1 through WQ-3) and approximate locations of the baseline monitoring sites are presented in the attached figure.

December 28, 2000
Field Report #8

Table 1
GP Log Pond – Baseline Water Quality Data

Date	Time	Weather	Tide	Location	Dissolved Oxygen (mg/L)	Turbidity (NTU)
11-8-00	11:15	Rainy	Flood	Station #1	7.58	5.7
				Station #2	7.23	6.2
				Station #3	7.41	4.9
11-9-00	9:45	Sunny	Slack	Station #1	7.24	5.6
				Station #2	7.3	7.6
				Station #3	7.48	6.7
11-10-00	12:30	Sunny	Flood	75' west of chip crane	-	10.4
				600' south of GP Lagoon	-	10.2
11-14-00	9:15	Sunny	Slight ebb	75' west of chip crane	5.80	13.5
				600' south of GP Lagoon	6.18	12.7
11-20-00	10:45	Partly cloudy	Flood	75' west of chip crane	4.96	6.9
				600' south of GP Lagoon	5.30	7.2
11-22-00	10:45	Sunny	Flood	75' west of chip crane	4.47	10.4
				600' south of GP Lagoon	4.34	6.6
11-29-00	1:45	Rainy	Slack	75' west of chip crane	6.86	5.2
				600' south of GP Lagoon	6.72	7.0
12-6-00	11:30	Sunny	Slight Flood	75' west of chip crane	6.87	6.6
				600' south of GP Lagoon	6.38	8.1
12-7-00	11:00	Foggy	Slight Flood	75' west of chip crane	5.75	6.1
				600' south of GP Lagoon	5.80	7.7
12-13-00	1:45	Overcast	Slight Flood	75' west of chip crane	7.78	0.9
				600' south of GP Lagoon	7.72	0.1
12-19-00	11:00	Overcast		75' west of chip crane	8.25	1.1
				600' south of GP Lagoon	8.18	2.1
12-20-00	11:00	Overcast	Slight Flood	75' west of chip crane	7.83	11.9
				600' south of GP Lagoon	7.73	10.4
12-28-00	10:00	Overcast	Slight Flood	75' west of chip crane	8.13	0.1
				600' south of GP Lagoon	7.26	1.5

- = parameter not measured
flood = tide is flowing into the Whatcom Waterway
ebb = tide is flowing out of the Whatcom Waterway
slack = tide is close to high or low tide, with very little overall movement

December 28, 2000
Field Report #8

Table 2
GP Log Pond - Water Monitoring Data
(December 28, 2000)

Date	Time	Weather	Tide	Station #1		Station #2		Station #3	
				D.O.	Turbidity	D.O.	Turbidity	D.O.	Turbidity
12-28-00	10:00	Overcast	Slight Flood	7.10	1.3	7.03	1.2	7.40	0.8

Dissolved Oxygen (D.O.) is measured in mg/L.
Turbidity is measured in NTU.
flood = tide is flowing into the Whatcom Waterway
ebb = tide is flowing out of the Whatcom Waterway
slack = tide is close to high or low tide, with very little overall movement

BEK Field Technician: Ken Koenig _____

BEK Project Manager: Tom Bennett _____

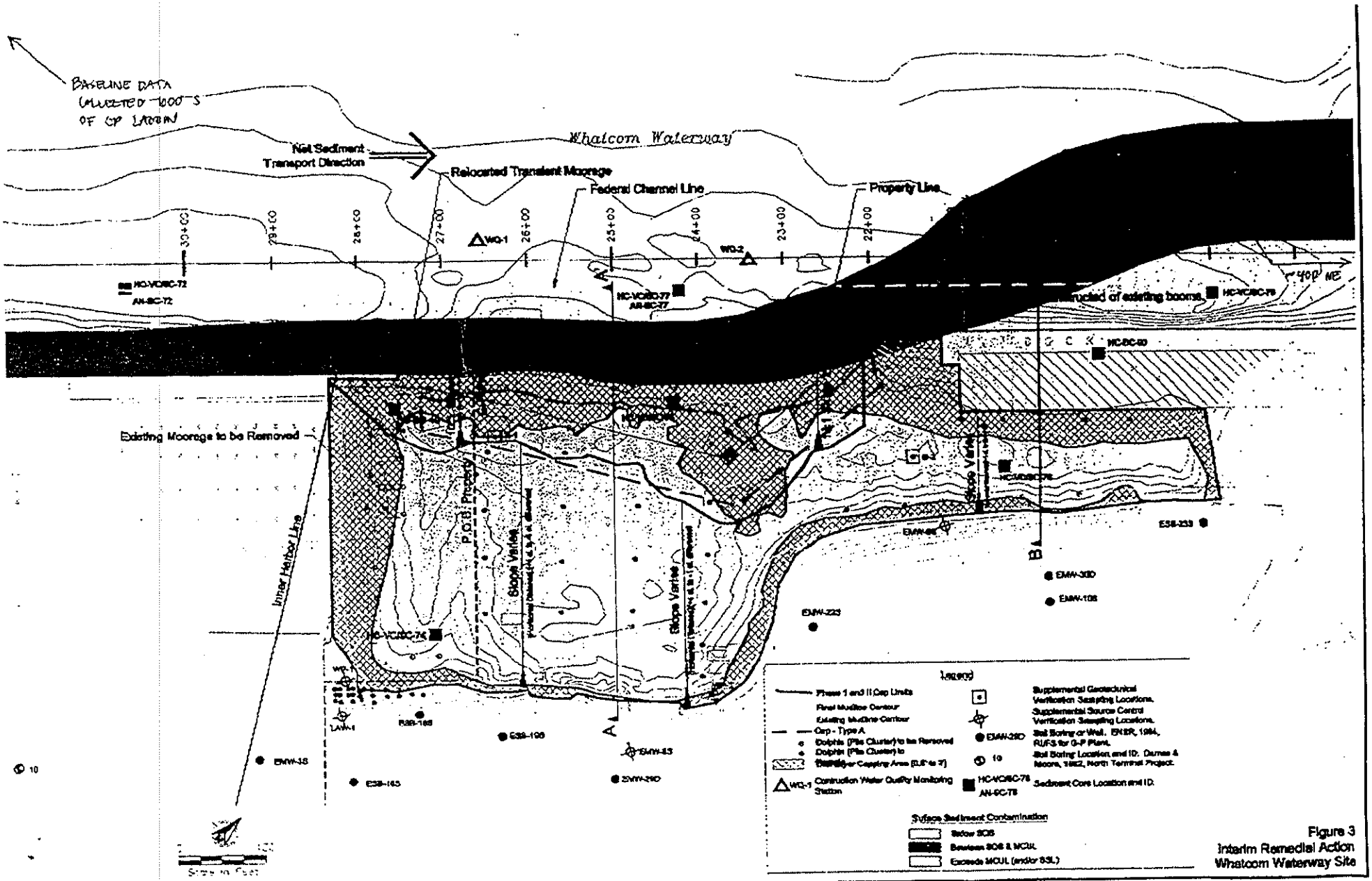

Figure 3
Interim Remedial Action
Whatcom Waterway Site

REFERENCE: GP Log Boom - Engineering Design Report
by Anchor Environmental (dated July 2007)

Georgia-Pacific Corporation
Georgia-Pacific West, Inc.
A wholly owned subsidiary

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Bellingham, Washington 98227-1236
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January 8, 2001

Ms. Lucille T. Pebles, P.E.
Department of Ecology, Northwest Regional Office
3190 160th Ave SE
Bellevue, WA 98008-5452

RE: Interim Remedial Action G-P Log Pond – Weekly QA Report

Dear Ms. Pebles,

Results of quality assurance inspections and testing and monitoring activities for the week of January 1, 2001 are reported in this "Quality Assurance Report."

Activities for the week of January 1st include the following:

- Placement of Swinomish sand on January 2nd, 3rd, 4th, and 5th;
- Water quality monitoring on January 2nd.

Water quality monitoring results are documented in the BEK Engineering Field Report enclosed.

The Quality Assurance Report form for the week of January 1st is also enclosed. The work for the week included continued placement of the 18-inch lift in the Central section of the Log Pond. The Phase I capping will likely by complete on 15 January 2001.

If you have any questions please contact me at (360) 647-5695.

Sincerely,

Roger J. "Chip" Hilarides
Log Pond Interim Action Project Engineer
Senior Environmental Engineer

Enclosures

Cc:
Mr. Hiram Arden, U.S. Army Corps of Engineers
Mr. Clay Patmont, Anchor Environmental LLC
Mr. Mike Stoner, Port of Bellingham
Mr. Al Powers, A.H. Powers Inc.

Log Pond QACP Weekly Report 1-8-01.doc

Figure B-2

INTERIM REMEDIAL ACTION: LOG POND CLEANUP/HABITAT RESTORATION

QUALITY ASSURANCE REPORT

Period Covered: 1 January to 7 January 2001

Description of Work Inspected:
Placement of Swinomish sand for 18-inch lift of phase I capping.

Results of Inspection (Including any Out-of-Spec Conditions):
All placement techniques and QA checks indicate satisfactory adherence to engineering design guidelines. Soundings indicate a daily placed cap thickness of 1.6 feet (average).

Test Results (Including any Out-of-Spec Conditions):
Water quality monitoring results are attached. All results are well within specifications.

Instructions to Contractor and Corrective Action Taken:
No corrective action was required.

SUBMITTED BY: R.J. "Chip" Hilarides
TITLE: Senior Environmental Engineer **DATE:** January 8, 2001

BEK ENGINEERING & ENVIRONMENTAL, INC.

FIELD REPORT #9

BEK ENGINEERING & ENVIRONMENTAL
2138 Humboldt Street
Bellingham, WA 98225
PH: (360) 676-9589
(800) 859-5597
FAX: (360) 676-4625

BEK ENGINEERING & ENVIRONMENTAL
2733 Colby Avenue
Everett, WA 98201
PH: (425) 258-2059
(800) 835-4971
FAX: (425) 258-5046

CLIENT:	Georgia Pacific	BEK JOB:	200144
PROJECT:	GP Log Pond Water Monitoring	REPORT:	#9
CLIENT JOB:	n/a	REPORT DATE:	01-03-01
FIELD REP:	Kim Ninnemann	PAGES:	4

ATTACH: Site plan with water monitoring locations

Field Activities and Observations:

Water monitoring continued on Tuesday, January 2, 2001 at the GP log pond during the Phase I sand capping.

Baseline and water monitoring data were collected on Wednesday, January 3, 2001 at 12:00. A comprehensive list of the baseline data is presented in Table 1. Water quality monitoring data for the week ending January 5, 2001 is presented in Table 2.

A Foss tug was moored at the Port of Bellingham and chip barges were moored at the GP dock and near the chip crane at the time of monitoring.

All monitoring occurred 15.0 feet below the water's surface at three stations previously determined in the report entitled *GP Log Pong - Engineering Design Report* by Anchor Environmental (dated July 2000). A site plan of the water monitoring locations (WQ-1 through WQ-3) and approximate locations of the baseline monitoring sites are presented in the attached figure.

Table 1
GP Log Pond – Baseline Water Quality Data

Date	Time	Weather	Tide	Location	Dissolved Oxygen (mg/L)	Turbidity (NTU)
11-8-00	11:15	Rainy	Flood	Station #1	7.58	5.7
				Station #2	7.23	6.2
				Station #3	7.41	4.9
11-9-00	9:45	Sunny	Slack	Station #1	7.24	5.6
				Station #2	7.3	7.6
				Station #3	7.48	6.7
11-10-00	12:30	Sunny	Flood	75' west of chip crane	-	10.4
				600' south of GP Lagoon	-	10.2
11-14-00	9:15	Sunny	Slight ebb	75' west of chip crane	5.80	13.5
				600' south of GP Lagoon	6.16	12.7
11-20-00	10:45	Partly cloudy	Flood	75' west of chip crane	4.96	6.9
				600' south of GP Lagoon	5.30	7.2
11-22-00	10:45	Sunny	Flood	75' west of chip crane	4.47	10.4
				600' south of GP Lagoon	4.34	6.6
11-29-00	1:45	Rainy	Slack	75' west of chip crane	6.86	5.2
				600' south of GP Lagoon	6.72	7.0
12-6-00	11:30	Sunny	Slight Flood	75' west of chip crane	6.87	6.6
				600' south of GP Lagoon	6.38	8.1
12-7-00	11:00	Foggy	Slight Flood	75' west of chip crane	5.75	6.1
				600' south of GP Lagoon	5.80	7.7
12-13-00	1:45	Overcast	Slight Flood	75' west of chip crane	7.78	0.9
				600' south of GP Lagoon	7.72	0.1
12-19-00	11:00	Overcast	Slight Flood	75' west of chip crane	8.25	1.1
				600' south of GP Lagoon	8.18	2.1
12-20-00	11:00	Overcast	Slight Flood	75' west of chip crane	7.83	11.9
				600' south of GP Lagoon	7.73	10.4
12-28-00	10:00	Overcast	Slight Flood	75' west of chip crane	8.13	0.1
				600' south of GP Lagoon	7.26	1.5
01-03-01	12:00	Overcast and windy	Slack	75' west of chip crane	7.61	0.2
				600' south of GP Lagoon	7.90	2.2

- = parameter not measured
flood = tide is flowing into the Whatcom Waterway
ebb = tide is flowing out of the Whatcom Waterway
slack = tide is close to high or low tide, with very little overall movement

Table 2
GP Log Pond - Water Monitoring Data
(January 3, 2001)

Date	Time	Weather	Tide	Station #1		Station #2		Station #3	
				D.O.	Turbidity	D.O.	Turbidity	D.O.	Turbidity
01-03-01	12:00	Overcast and windy	Slack	7.73	1.6	7.93	2.2	7.59	1.0

Dissolved Oxygen (D.O.) is measured in mg/L.
Turbidity is measured in NTU.
flood = tide is flowing into the Whatcom Waterway
ebb = tide is flowing out of the Whatcom Waterway
slack = tide is close to high or low tide, with very little overall movement

BEK Field Technician: Kim Ninnemann Kim Ninnemann

BEK Project Manager: Tom Bennett

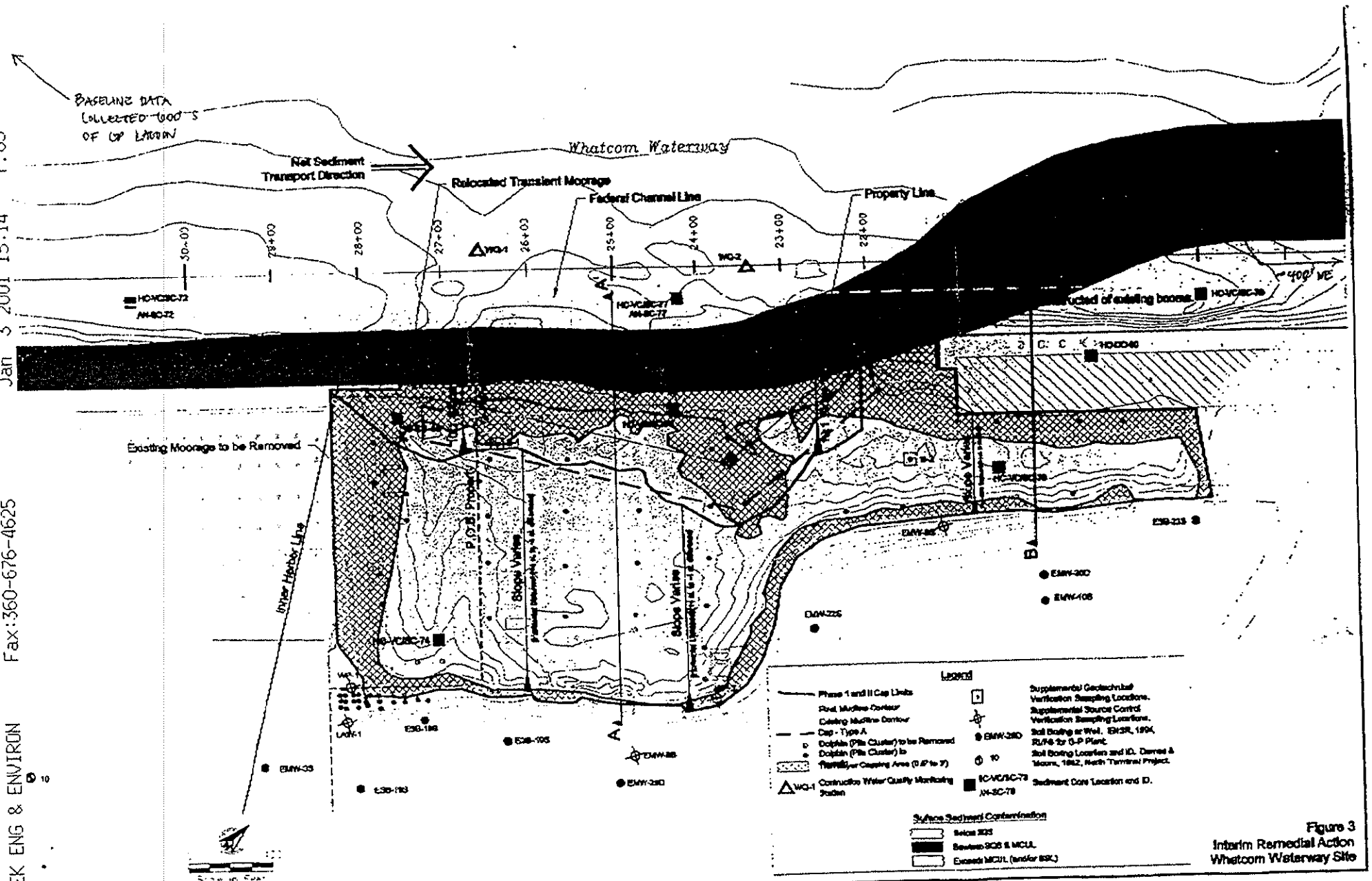

Figure 3
Interim Remedial Action
Whatcom Waterway Site

REFERENCE: Of Log Pond - Engineering Design Report by Anchor Environmental (dated May 2000)

Georgia-Pacific Corporation
Georgia-Pacific West, Inc.
A wholly owned subsidiary

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Bellingham, Washington 98227-1236
Telephone (360)733-4410
Fax (360)676-7217

January 15, 2001

Ms. Lucille T. Pebles, P.E.
Department of Ecology, Northwest Regional Office
3190 160th Ave SE
Bellevue, WA 98008-5452

RE: Interim Remedial Action G-P Log Pond – Weekly QA Report

Dear Ms. Pebles,

Results of quality assurance inspections and testing and monitoring activities for the week of January 8, 2001 are reported in this "Quality Assurance Report."

Activities for the week of January 1st include the following:

- Placement of Swinomish sand on January 8th through the 12th;
- Water quality monitoring on January 11th.

Water quality monitoring results are documented in the BEK Engineering Field Report enclosed.

The Quality Assurance Report form for the week of January 8th is also enclosed. The work for the week included continued placement of the 18-inch lift in the Central and Southwest sections of the Log Pond. The Phase I capping will be complete on 15 January 2001.

If you have any questions please contact me at (360) 647-5695.

Sincerely,

Roger J. "Chip" Hilarides
Log Pond Interim Action Project Engineer
Senior Environmental Engineer

Enclosures

Cc:
Mr. Hiram Arden, U.S. Army Corps of Engineers
Mr. Clay Patmont, Anchor Environmental LLC
Mr. Mike Stoner, Port of Bellingham
Mr. Al Powers, A.H. Powers Inc.

Log Pond QACP Weekly Report 1-15-01.doc

Figure B-2

INTERIM REMEDIAL ACTION: LOG POND CLEANUP/HABITAT RESTORATION

QUALITY ASSURANCE REPORT

Period Covered: 8 January to 14 January 2001

Description of Work Inspected:
Placement of Swinomish sand for 18-inch lift of phase I capping.

Results of Inspection (Including any Out-of-Spec Conditions):
All placement techniques and QA checks indicate satisfactory adherence to engineering design guidelines. Soundings indicate a daily placed cap thickness of 1.5 feet (average). Daily surveillance of placement techniques continue to show high uniformity in contractor techniques, including drop heights, bucket volumes, site housekeeping and rig positioning/spud use.

Test Results (Including any Out-of-Spec Conditions):
Water quality monitoring results are attached. All results are well within specifications.

Instructions to Contractor and Corrective Action Taken:
No corrective action was required. The contractor has been effectively eliminating tug use in the log pond, through the use of anchor points and winches.

SUBMITTED BY: R.J. "Chip" Hilarides
TITLE: Senior Environmental Engineer **DATE:** January 15, 2001

BEK ENGINEERING & ENVIRONMENTAL, INC.

FIELD REPORT #10

BEK ENGINEERING & ENVIRONMENTAL
2138 Humboldt Street
Bellingham, WA 98225
PH: (360) 676-9589
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BEK ENGINEERING & ENVIRONMENTAL
2733 Colby Avenue
Everett, WA 98201
PH: (425) 258-2059
(800) 835-4971
FAX: (425) 258-5046

CLIENT:	Georgia Pacific	BEK JOB:	200144
PROJECT:	GP Log Pond Water Monitoring	REPORT:	#10
CLIENT JOB:	n/a	REPORT DATE:	01-11-01
FIELD REP:	Kim Ninnemann	PAGES:	4

ATTACH: Site plan with water monitoring locations

Field Activities and Observations:

Water monitoring continued at the GP log pond during the Phase I sand capping. A.H. Powers spread sand daily.

Baseline and water monitoring data were collected on Thursday, January 11, 2001 at 10:45am. A comprehensive list of the baseline data is presented in Table 1. Water quality monitoring data for the week ending January 12, 2001 is presented in Table 2.

A Foss tug was moored at the Port of Bellingham and a chip barge was moored near the chip crane at the time of monitoring.

All monitoring occurred 15.0 feet below the water's surface at three stations previously determined in the report entitled *GP Log Pong - Engineering Design Report* by Anchor Environmental (dated July 2000). A site plan of the water monitoring locations (WQ-1 through WQ-3) and approximate locations of the baseline monitoring sites are presented in the attached figure.

Table 1
GP Log Pond – Baseline Water Quality Data

Date	Time	Weather	Tide	Location	Dissolved Oxygen (mg/L)	Turbidity (NTU)
11-8-00	11:15	Rainy	Flood	Station #1	7.58	5.7
				Station #2	7.23	6.2
				Station #3	7.41	4.9
11-9-00	9:45	Sunny	Slack	Station #1	7.24	5.6
				Station #2	7.3	7.6
				Station #3	7.48	6.7
11-10-00	12:30	Sunny	Flood	75' west of chip crane	-	10.4
				600' south of GP Lagoon	-	10.2
11-14-00	9:15	Sunny	Slight ebb	75' west of chip crane	5.80	13.5
				600' south of GP Lagoon	6.18	12.7
11-20-00	10:45	Partly cloudy	Flood	75' west of chip crane	4.96	6.9
				600' south of GP Lagoon	5.30	7.2
11-22-00	10:45	Sunny	Flood	75' west of chip crane	4.47	10.4
				600' south of GP Lagoon	4.34	6.6
11-29-00	1:45	Rainy	Slack	75' west of chip crane	6.86	5.2
				600' south of GP Lagoon	6.72	7.0
12-6-00	11:30	Sunny	Slight Flood	75' west of chip crane	6.87	6.6
				600' south of GP Lagoon	6.38	8.1
12-7-00	11:00	Foggy	Slight Flood	75' west of chip crane	5.75	6.1
				600' south of GP Lagoon	5.80	7.7
12-13-00	1:45	Overcast	Slight Flood	75' west of chip crane	7.78	0.9
				600' south of GP Lagoon	7.72	0.1
12-19-00	11:00	Overcast	Slight Flood	75' west of chip crane	8.25	1.1
				600' south of GP Lagoon	8.18	2.1
12-20-00	11:00	Overcast	Slight Flood	75' west of chip crane	7.83	11.9
				600' south of GP Lagoon	7.73	10.4
12-28-00	10:00	Overcast	Slight Flood	75' west of chip crane	8.13	0.1
				600' south of GP Lagoon	7.26	1.5
01-03-01	12:00	Overcast and windy	Slack	75' west of chip crane	7.61	0.2
				600' south of GP Lagoon	7.90	2.2
01-11-01	10:45	Overcast	Ebb	75' west of chip crane	8.11	4.4
				600' south of GP Lagoon	8.33	5.4

. = parameter not measured
flood = tide is flowing into the Whatcom Waterway
ebb = tide is flowing out of the Whatcom Waterway
slack = tide is close to high or low tide, with very little overall movement

Table 2
GP Log Pond - Water Monitoring Data
(January 11, 2001)

Date	Time	Weather	Tide	Station #1		Station #2		Station #3	
				D.O.	Turbidity	D.O.	Turbidity	D.O.	Turbidity
1-11-00	10:45	Overcast	Ebb	7.96	7.9	7.73	5.1	7.97	5.0

Dissolved Oxygen (D.O.) is measured in mg/L.
Turbidity is measured in NTU.
flood = tide is flowing into the Whatcom Waterway
ebb = tide is flowing out of the Whatcom Waterway
slack = tide is close to high or low tide, with very little overall movement

BEK Field Technician: Kim Ninnemann Kim Ninnemann

BEK Project Manager: Tom Bennett

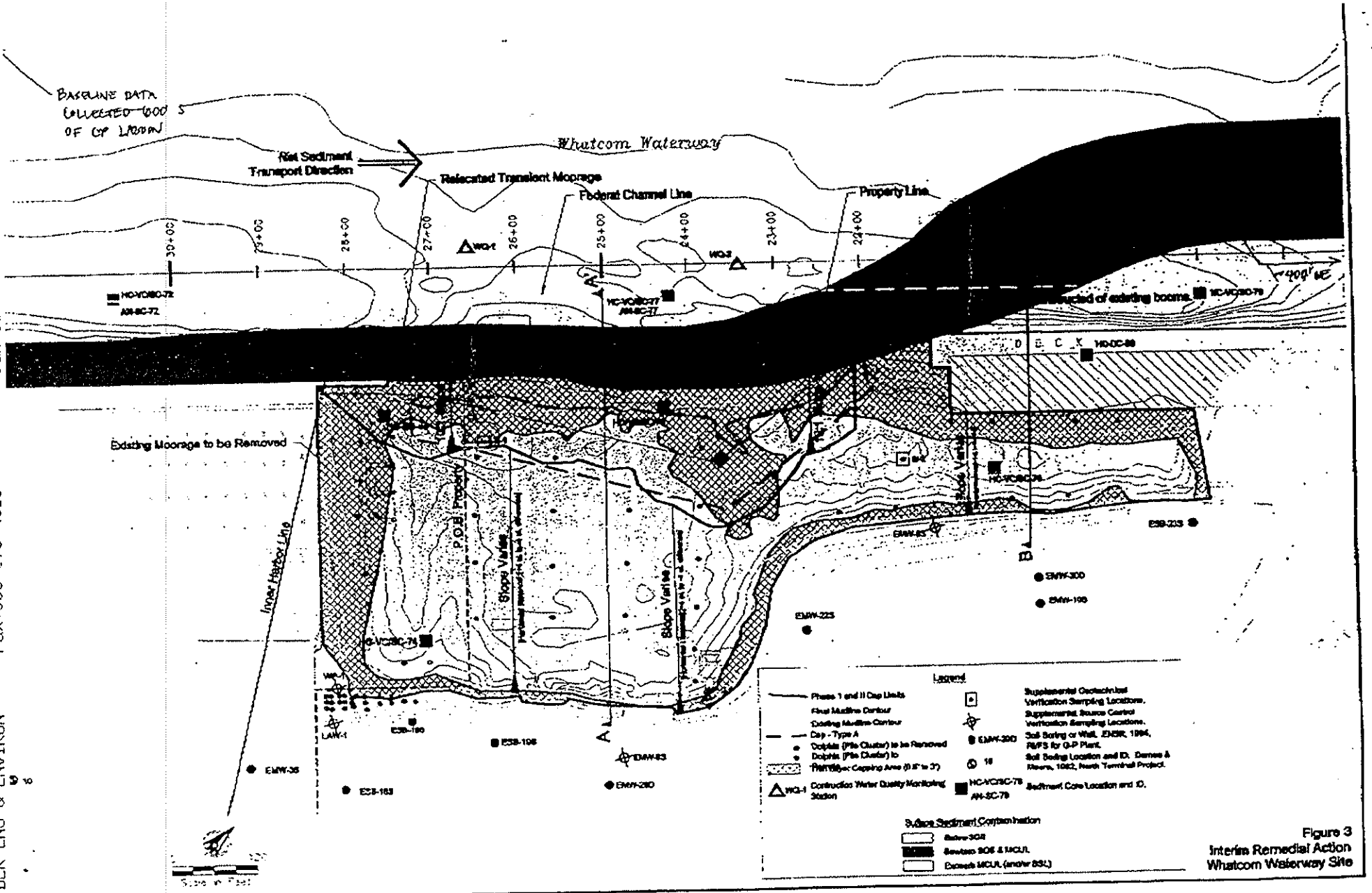

Figure 3
Interim Remedial Action
Whatcom Waterway Site

REFERENCE: GP Log Pond - Engineering Design Report by Anchor Environmental (dated May 2000)

Georgia-Pacific Corporation
Georgia-Pacific West, Inc.
A wholly owned subsidiary

P.O. Box 1236
Bellingham, Washington 98227-1236
Telephone (360)733-4410
Fax (360)676-7217

January 22, 2001

Ms. Lucille T. Pebles, P.E.
Department of Ecology, Northwest Regional Office
3190 160th Ave SE
Bellevue, WA 98008-5452

RE: Interim Remedial Action G-P Log Pond – Weekly QA Report

Dear Ms. Pebles,

Results of quality assurance inspections and testing and monitoring activities for the week of January 15, 2001 are reported in this "Quality Assurance Report."

Activities for the week of January 15th include the following:

- Placement of Swinomish sand on January 15th through the 19th;
- Water quality monitoring on January 17th.

Water quality monitoring results are documented in the BEK Engineering Field Report enclosed.

The Quality Assurance Report form for the week of January 15th is also enclosed. The work for the week included completion of the 18-inch lift in the Southwest section of the Log Pond. The Phase I capping was completed on 15 January 2001. Additional Swinomish sediments are being placed to raise finished elevations throughout the Log Pond as part of Phase II work.

If you have any questions please contact me at (360) 647-5695.

Sincerely,

Roger J. "Chip" Hilarides
Senior Environmental Engineer

Enclosures

Cc:
Mr. Hiram Arden, U.S. Army Corps of Engineers
Mr. Clay Patmont, Anchor Environmental LLC
Mr. Mike Stoner, Port of Bellingham
Mr. Al Powers, A.H. Powers Inc.

Log Pond QACP Weekly Report 1-22-01.doc

Figure B-2

INTERIM REMEDIAL ACTION: LOG POND CLEANUP/HABITAT RESTORATION

QUALITY ASSURANCE REPORT

Period Covered: 15 January to 21 January 2001

Description of Work Inspected:
Placement of Swinomish sand for 18-inch lift of phase I capping and beginning of phase II habitat restoration work.

Results of Inspection (Including any Out-of-Spec Conditions):
All placement techniques and QA checks indicate satisfactory adherence to engineering design guidelines. Daily surveillance of placement techniques continue to show high uniformity in contractor techniques, including drop heights, bucket volumes, site housekeeping and rig positioning/spud use.

Test Results (Including any Out-of-Spec Conditions):
Water quality monitoring results are attached. All results are well within specifications.

Instructions to Contractor and Corrective Action Taken:
No corrective action was required. The contractor has been effectively eliminating tug use in the log pond, through the use of anchor points and winches. Spud use was effectively managed to cap in areas following spud use.

SUBMITTED BY: R.J. "Chip" Hilarides
TITLE: Senior Environmental Engineer **DATE:** January 15, 2001

BEK ENGINEERING & ENVIRONMENTAL, INC.

FIELD REPORT #11

BEK ENGINEERING & ENVIRONMENTAL
2138 Humboldt Street
Bellingham, WA 98225
PH: (360) 676-9589
(800) 859-5597
FAX: (360) 676-4625

BEK ENGINEERING & ENVIRONMENTAL
2733 Colby Avenue
Everett, WA 98201
PH: (425) 258-2059
(800) 835-4971
FAX: (425) 258-5046

CLIENT:	Georgia Pacific	BEK JOB:	200144
PROJECT:	GP Log Pond Water Monitoring	REPORT:	#11
CLIENT JOB:	n/a	REPORT DATE:	01-17-01
FIELD REP:	Kim Ninnemann	PAGES:	4

ATTACH: Site plan with water monitoring locations

Field Activities and Observations:

Water monitoring continued at the GP log pond during the Phase I sand capping. A.H. Powers spread sand daily.

Baseline and water monitoring data were collected on Wednesday, January 17, 2001 at 10:30am. A comprehensive list of the baseline data is presented in Table 1. Water quality monitoring data for the week ending January 19, 2001 is presented in Table 2.

A chip barge was moored near the chip crane at the time of monitoring.

All monitoring occurred 15.0 feet below the water's surface at three stations previously determined in the report entitled *GP Log Pong - Engineering Design Report* by Anchor Environmental (dated July 2000). A site plan of the water monitoring locations (WQ-1 through WQ-3) and approximate locations of the baseline monitoring sites are presented in the attached figure.

Table 1
GP Log Pond – Baseline Water Quality Data

Date	Time	Weather	Tide	Location	Dissolved Oxygen (mg/L)	Turbidity (NTU)
11-8-00	11:15	Rainy	Flood	Station #1	7.58	5.7
				Station #2	7.23	6.2
				Station #3	7.41	4.9
11-9-00	9:45	Sunny	Slack	Station #1	7.24	5.6
				Station #2	7.3	7.6
				Station #3	7.48	6.7
11-10-00	12:30	Sunny	Flood	75' west of chip crane	-	10.4
				600' south of GP Lagoon	-	10.2
11-14-00	9:15	Sunny	Slight ebb	75' west of chip crane	5.80	13.5
				600' south of GP Lagoon	6.18	12.7
11-20-00	10:45	Partly cloudy	Flood	75' west of chip crane	4.96	6.9
				600' south of GP Lagoon	5.30	7.2
11-22-00	10:45	Sunny	Flood	75' west of chip crane	4.47	10.4
				600' south of GP Lagoon	4.34	6.6
11-29-00	1.45	Rainy	Slack	75' west of chip crane	6.86	5.2
				600' south of GP Lagoon	6.72	7.0
12-6-00	11:30	Sunny	Slight Flood	75' west of chip crane	6.87	6.6
				600' south of GP Lagoon	6.38	8.1
12-7-00	11:00	Foggy	Slight Flood	75' west of chip crane	5.75	6.1
				600' south of GP Lagoon	5.80	7.7
12-13-00	1:45	Overcast	Slight Flood	75' west of chip crane	7.78	0.9
				600' south of GP Lagoon	7.72	0.1
12-19-00	11:00	Overcast	Slight Flood	75' west of chip crane	8.25	1.1
				600' south of GP Lagoon	8.18	2.1
12-20-00	11:00	Overcast	Slight Flood	75' west of chip crane	7.83	11.9
				600' south of GP Lagoon	7.73	10.4
12-28-00	10:00	Overcast	Slight Flood	75' west of chip crane	8.13	0.1
				600' south of GP Lagoon	7.26	1.5
01-03-01	12:00	Overcast and windy	Slack	75' west of chip crane	7.61	0.2
				600' south of GP Lagoon	7.90	2 2
01-11-01	10:45	Overcast	Ebb	75' west of chip crane	8.11	4.4
				600' south of GP Lagoon	8.33	5.4
01-17-01	10:30	Overcast	Slack	75' west of chip crane	7.94	0.9
				600' south of GP Lagoon	7.82	1.1

- = parameter not measured
flood = tide is flowing into the Whatcom Waterway
ebb = tide is flowing out of the Whatcom Waterway
slack = tide is close to high or low tide, with very little overall movement

Table 2
GP Log Pond - Water Monitoring Data
(January 17, 2001)

Date	Time	Weather	Tide	Station #1		Station #2		Station #3	
				D.O.	Turbidity	D.O.	Turbidity	D.O.	Turbidity
1-17-00	10:30	Overcast	Slack	7.83	0.9	7.93	0.7	7.84	1.3

Dissolved Oxygen (D.O.) is measured in mg/L.
Turbidity is measured in NTU.
flood = tide is flowing into the Whatcom Waterway
ebb = tide is flowing out of the Whatcom Waterway
slack = tide is close to high or low tide, with very little overall movement

BEK Field Technician: Kim Ninnemann Kim Ninnemann

BEK Project Manager: Tom Bennett

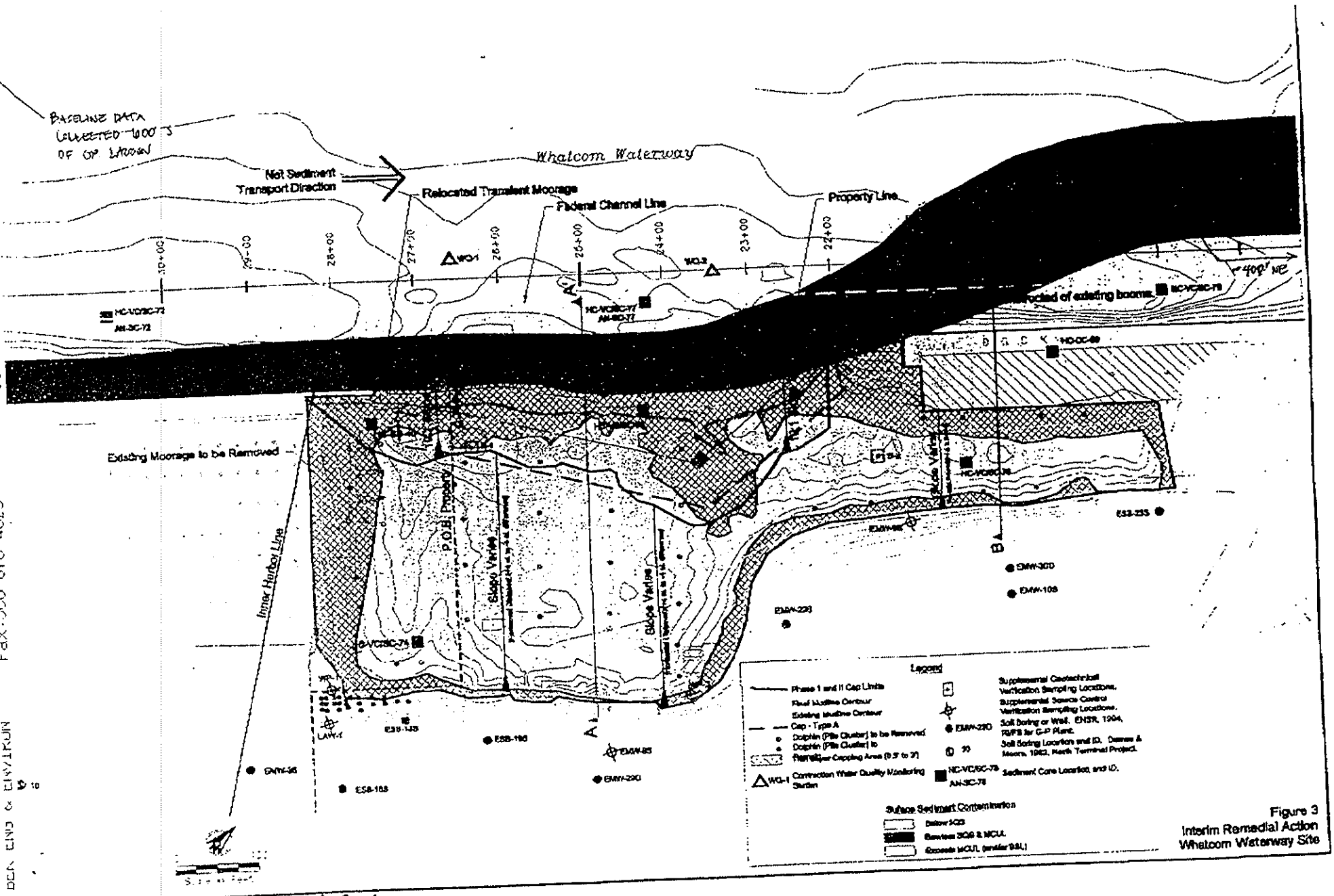

Figure 3
Interim Remedial Action
Whatcom Waterway Site

REFERENCE: Of Log Pond - Engineering Design Report by Anchor Environmental (dated July 2000)

Georgia-Pacific Corporation
Georgia-Pacific West, Inc.
A wholly owned subsidiary

P.O. Box 1236
Bellingham, Washington 98227-1236
Telephone (360)733-4410
Fax (360)676-7217

January 29, 2001

Ms. Lucille T. Pebles, P.E.
Department of Ecology, Northwest Regional Office
3190 160th Ave SE
Bellevue, WA 98008-5452

RE: Interim Remedial Action G-P Log Pond -- Weekly QA Report

Dear Ms. Pebles,

Results of quality assurance inspections and testing and monitoring activities for the week of January 22, 2001 are reported in this "Quality Assurance Report."

Activities for the week of January 22nd include the following:

- Placement of Swinomish sand on January 22nd and 24th;
- Placement of Squalicum sediments on January 23rd, 25th and 26th;
- "Intensive" water quality monitoring on January 23rd and 25th, and routine monitoring on January 26th.

Water quality monitoring results are documented in the BEK Engineering Field Report enclosed. Routine monitoring will continue for two more days during the week of January 29th.

The Quality Assurance Report form for the week of January 22nd is also enclosed. The work for the week included continued building of the Phase II habitat layer in the central sections of the Log Pond. Approximately 37,000 cubic yards of material has been placed in the Log Pond to date. Phase I achieved all desired cap thicknesses, with some overplacement, using 28,000 cubic yards of Swinomish sediment. 9,000 cubic yards of additional material has been placed in the Phase II operation. 5,000 more yards of Phase II material from the Squalicum Channel will be placed over the next week to 10 days to achieve the final elevations and substrate to meet the objectives of the habitat restoration action.

If you have any questions please contact me at (360) 647-5695.

Sincerely,

Roger J. "Chip" Hilarides
Senior Environmental Engineer

Log Pond QACP Weekly Report 1-29-01.doc

Figure B-2

INTERIM REMEDIAL ACTION: LOG POND CLEANUP/HABITAT RESTORATION

QUALITY ASSURANCE REPORT

Period Covered: 22 January to 28 January 2001

Description of Work Inspected:
Placement of Swinomish and Squalicum sediments for the phase II habitat restoration work..

Results of Inspection (Including any Out-of-Spec Conditions):
All placement techniques and QA checks indicate satisfactory adherence to engineering design guidelines. Daily surveillance of placement techniques continues to show high uniformity in contractor technique, including drop heights, bucket volumes, site housekeeping and rig positioning/spud use.

Test Results (Including any Out-of-Spec Conditions):
Water quality monitoring results are attached. All results are well within specifications.

Instructions to Contractor and Corrective Action Taken:
No corrective action was required. The contractor was directed to place Squalicum sediments starting at the beach and working their way toward the channel. The contractor was also directed to use the last three barges of Swinomish sand along the Whatcom Waterway side of the Log Pond to provide a "berm" to help retain the Squalicum sediments during the period of time they stabilize.

SUBMITTED BY: R.J. "Chip" Hilarides
TITLE: Senior Environmental Engineer **DATE:** January 29, 2001

BEK ENGINEERING & ENVIRONMENTAL, INC.

FIELD REPORT #12

BEK ENGINEERING & ENVIRONMENTAL
2138 Humboldt Street
Bellingham, WA 98225
PH: (360) 676-9589
(800) 859-5597
FAX: (360) 676-4625

BEK ENGINEERING & ENVIRONMENTAL
2733 Colby Avenue
Everett, WA 98201
PH: (425) 258-2059
(800) 835-4971
FAX: (425) 258-5046

CLIENT:	Georgia Pacific	BEK JOB:	200144
PROJECT:	GP Log Pond Water Monitoring	REPORT:	#12
CLIENT JOB:	n/a	REPORT DATE:	01-26-01
FIELD REP:	Kim Ninnemann	PAGES:	4

ATTACH: Site plan with water monitoring locations

Field Activities and Observations:

A.H. Power completed the Phase I sand capping on Wednesday, January 24, 2001. The Phase II capping began on the afternoon of Tuesday, January 23, 2001 and continued on Thursday and Friday, January 25 and 26, 2001. The Phase II capping material is being barged from Squalicum Harbor and has a larger percentage of fine materials and organic matter than the Phase I sand.

Baseline and water monitoring data during the Phase II capping were collected on Tuesday, Thursday, and Friday, January 23, 25, and 26, 2001. A comprehensive list of the baseline data is presented in Table 1. Water quality monitoring data for the week ending January 26, 2001 is presented in Table 2.

A chip barge was moored near the chip crane during all monitoring events. The F. Bernal barge docked at the GP dock during the water monitoring on Tuesday, January 23, 2001 at 2:45pm.

All monitoring occurred 15.0 feet below the water's surface at three stations previously determined in the report entitled *GP Log Pong - Engineering Design Report* by Anchor Environmental (dated July 2000). A site plan of the water monitoring locations (WQ-1 through WQ-3) and approximate locations of the baseline monitoring sites are presented in the attached figure.

Table 1
GP Log Pond – Baseline Water Quality Data

Date	Time	Weather	Tide	Location	Dissolved Oxygen (mg/L)	Turbidity (NTU)
11-8-00	11:15	Rainy	Flood	Station #1	7.58	5.7
				Station #2	7.23	6.2
				Station #3	7.41	4.9
11-9-00	9:45	Sunny	Slack	Station #1	7.24	5.6
				Station #2	7.3	7.6
				Station #3	7.48	6.7
Phase I Sand Capping Began						
11-10-00	12:30	Sunny	Flood	75' west of chip crane	-	10.4
				600' south of GP Lagoon	-	10.2
11-14-00	9:15	Sunny	Slight ebb	75' west of chip crane	5.80	13.5
				600' south of GP Lagoon	6.18	12.7
11-20-00	10:45	Partly cloudy	Flood	75' west of chip crane	4.96	6.9
				600' south of GP Lagoon	5.30	7.2
11-22-00	10:45	Sunny	Flood	75' west of chip crane	4.47	10.4
				600' south of GP Lagoon	4.34	6.6
11-29-00	1:45	Rainy	Slack	75' west of chip crane	6.86	5.2
				600' south of GP Lagoon	6.72	7.0
12-6-00	11:30	Sunny	Slight Flood	75' west of chip crane	6.87	6.6
				600' south of GP Lagoon	6.38	8.1
12-7-00	11:00	Foggy	Slight Flood	75' west of chip crane	5.75	6.1
				600' south of GP Lagoon	5.80	7.7
12-13-00	1:45	Overcast	Slight Flood	75' west of chip crane	7.78	0.9
				600' south of GP Lagoon	7.72	0.1
12-19-00	11:00	Overcast	Slight Flood	75' west of chip crane	8.25	1.1
				600' south of GP Lagoon	8.18	2.1
12-20-00	11:00	Overcast	Slight Flood	75' west of chip crane	7.83	11.9
				600' south of GP Lagoon	7.73	10.4
12-28-00	10:00	Overcast	Slight Flood	75' west of chip crane	8.13	0.1
				600' south of GP Lagoon	7.26	1.5
01-03-01	12:00	Overcast and windy	Slack	75' west of chip crane	7.61	0.2
				600' south of GP Lagoon	7.90	2.2
01-11-01	10:45	Overcast	Ebb	75' west of chip crane	8.11	4.4
				600' south of GP Lagoon	8.33	5.4
01-17-01	10:30	Overcast	Slack	75' west of chip crane	7.94	0.9
				600' south of GP Lagoon	7.82	1.1
Phase II capping began						
01-23-01	2:45	Sunny	Slack	75' west of chip crane	7.67	0.1
				600' south of GP Lagoon	7.40	2.3
	4:40	Sunny	Slight Ebb	75' west of chip crane	7.11	1.3
				600' south of GP Lagoon	6.72	4.1
01-25-01	9:45	Sunny	Ebb	75' west of chip crane	8.52	0.1
				600' south of GP Lagoon	8.27	1.5
	11:35	Sunny	Slack	75' west of chip crane	8.28	1.2
				600' south of GP Lagoon	8.21	0.1
01-26-01	10:45	Sunny	Ebb	75' west of chip crane	8.40	0.1
				600' south of GP Lagoon	7.98	0.1

- = parameter not measured
flood = tide is flowing into the Whatcom Waterway
ebb = tide is flowing out of the Whatcom Waterway
slack = tide is close to high or low tide, with very little overall movement

Table 2
GP Log Pond - Water Monitoring Data
(January 23, 25, 26, 2001)

Date	Time	Weather	Tide	Station #1		Station #2		Station #3	
				D.O.	Turbidity	D.O.	Turbidity	D.O.	Turbidity
01-23-01	2:45	Sunny	Slack	7.27	2.6	7.42	1.2	7.35	1.1
	4:40	Sunny	Slight Ebb	7.21	1.8	6.90	1.0	7.22	0.9
01-25-01	9:45	Sunny	Ebb	8.44	0.4	8.10	1.2	8.22	1.1
	11:35	Sunny	Slack	8.57	5.6	8.05	7.1	8.56	1.3
01-26-01	10:45	Sunny	Ebb	8.15	0.1	8.07	0.3	8.36	0.1

Dissolved Oxygen (D.O.) is measured in mg/L.
Turbidity is measured in NTU.
flood = tide is flowing into the Whatcom Waterway
ebb = tide is flowing out of the Whatcom Waterway
slack = tide is close to high or low tide, with very little overall movement

BEK Field Technician: Kim Ninnemann Kim Ninnemann

BEK Project Manager: Tom Bennett

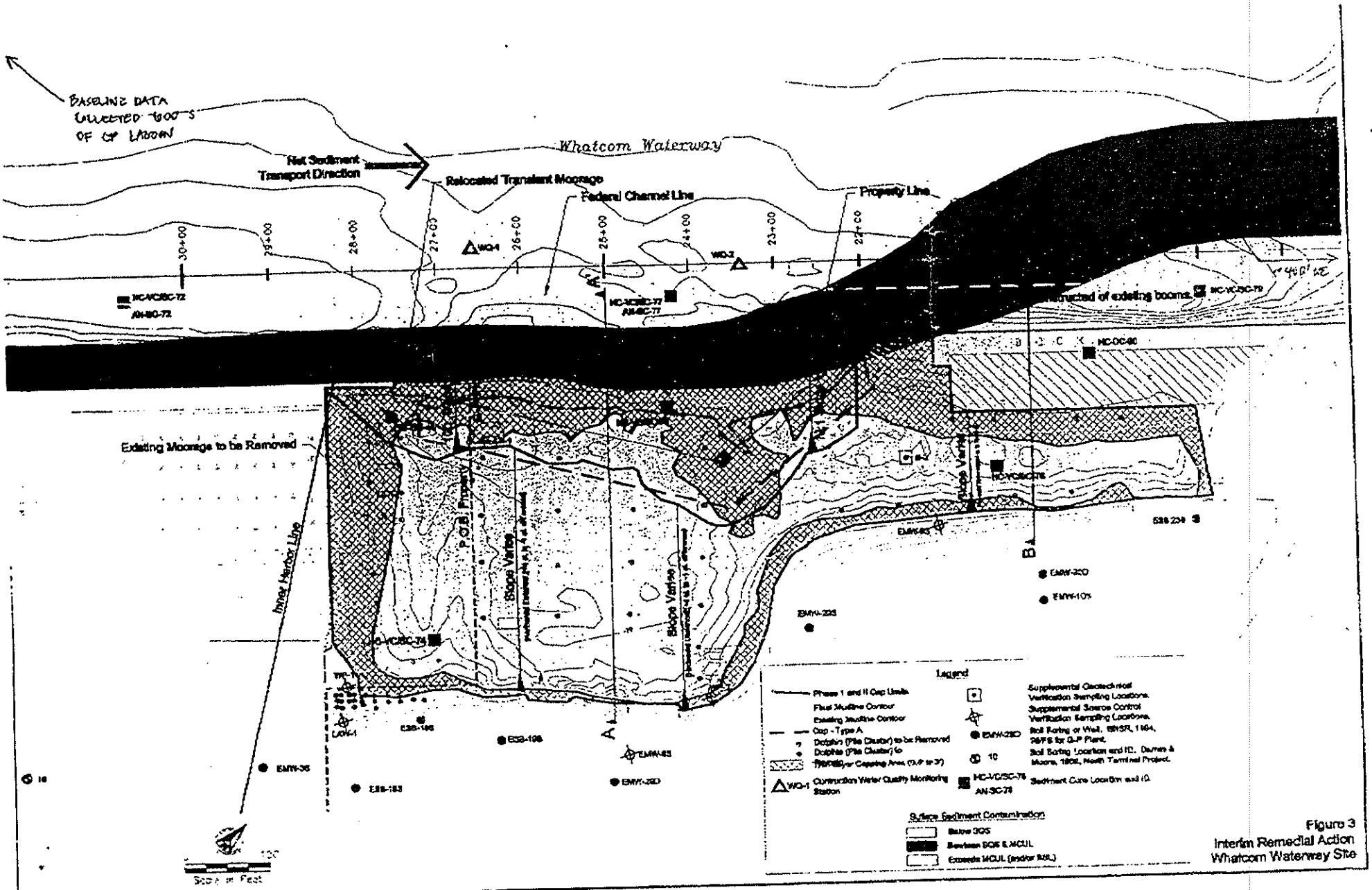

Figure 3
Interim Remedial Action
Whatcom Waterway Site

REFERENCE: of Log Pond - Engineering Design Report by Anchor Environmental (dated July 2000)

Georgia-Pacific Corporation
Georgia-Pacific West, Inc.
A wholly owned subsidiary

P.O. Box 1236
Bellingham, Washington 98227-1236
Telephone (360)733-4410
Fax (360)676-7217

February 19, 2001

Ms. Lucille T. Pebles, P.E.
Department of Ecology, Northwest Regional Office
3190 160th Ave SE
Bellevue, WA 98008-5452

RE: Interim Remedial Action G-P Log Pond – Monthly Executive Summary - Final

Dear Ms. Pebles,

Georgia-Pacific West, Inc. completed Phase I capping in the G-P Log Pond on January 15, 2001 and Phase II capping on February 2, 2001. This monthly executive summary is submitted in accordance with the approved "Log Pond Cleanup/Habitat Restoration" Engineering Design Report. This report provides a summary of progress made from December 15, 2000 through project completion.

Demolition:

Demolition activities are complete. All submerged pilings were broken at the mud line through the application of a perpendicular force using cables, winches and a crane. The docks and wood debris were staged on the uplands adjacent to the log pond. Demolition of pilings and docks was completed by Georgia-Pacific West, Inc. labor crews. Minor yard cleanup activities are largely complete.

The fourteen (14) pilings remaining in the South corner of the Log Pond that were used by the contractor as anchor points remain in place. These pilings were not removed prior to the fish window closing. Demolition of these pilings will be coordinated with future activities at the upland remediation site.

Environmental Capping:

Capping with Swinomish sand for Phase I was completed on January 15, 2001. Twenty-eight thousand five (28,005) cubic yards of sand were placed in the Log Pond as part of Phase I capping. The average cap thickness was approximately 120% of design based on volume-placement QA/QC verification. Phase I capping average thickness was 3.6 feet.

Preliminary bathymetry was performed on January 14, 2001. This bathymetry data was compared to pre-project bathymetry and the elevation change and the resultant volume estimate is 26,915 cubic yards of material placed. The barge-based volume at the time of the survey was 27,125 cubic yards. The difference between the two volumes is remarkably small and could be

accounted for by movement of sand out of the region during placement or due to settlement. Even if the change were due solely to settlement, the net elevation change due to settlement would be less than one-half inch.

Habitat Restoration:

The habitat restoration portion of the Log Pond Project commenced immediately following completion of Phase I capping. The habitat restoration action included placement of approximately 7,000 additional yards of Swinomish sand through January 24, 2001. The Swinomish material was used to raise general elevations thoughout the log pond. The Swinomish materials were also used to build a slight berm along the Whatcom Waterway side of the Log Pond to provide a barrier to minimize any sluffing of Squalicum sediments while those sediments settled and built strength. A total of 34,685 yards of Swinomish sediments were placed in the Log Pond as part of Phase I and II work.

Squalicum materials were first placed on January 23, 2001. A total of 7,779 cubic yards of Squalicum sediments were placed in the log pond, focusing on the central and shoreline regions of the log pond, as well as the Northeast section (the "panhandle"). Finished elevations are expected to equilibrate close to the elevation estimates shown in the Engineering Design Report. The Squalicum material was dark in color, indicative of its high organic content. The Bellingham Bay native benthic infauna appeared to be abundant from visual observations and the high activity of native birds in the sediments at low tide.

Summary:

The total volume of sediments placed was 42,464 cubic yards. A completion report is being prepared by Anchor Environmental LLC and will be submitted to Ecology in two weeks.

This Executive Summary is the last project report that will be submitted as part of direct project management. Subsequent post construction monitoring work will be performed in accordance with the Operations, Maintenance, and Monitoring Plan (OMMP). The Draft Final OMMP has been sent to Ecology under separate cover.

If you have any questions please contact me at (360) 647-5695.

Sincerely,

Roger J. "Chip" Hilarides
Log Pond Interim Action Project Engineer
Senior Environmental Engineer

Cc:
Mr. Hiram Arden, U.S. Army Corps of Engineers
Mr. Clay Patmont, Anchor Environmental LLC
Mr. Mike Stoner, Port of Bellingham
Mr. Al Powers, A.H. Powers Inc.

Georgia-Pacific Corporation
Georgia-Pacific West, Inc.
A wholly owned subsidiary

P.O. Box 1236
Bellingham, Washington 98227-1236
Telephone (360)733-4410
Fax (360)676-7217

February 19, 2001

Ms. Lucille T. Pebles, P.E.
Department of Ecology, Northwest Regional Office
3190 160th Ave SE
Bellevue, WA 98008-5452

RE: Interim Remedial Action G-P Log Pond – Weekly QA Report

Dear Ms. Pebles,

Results of quality assurance inspections and testing and monitoring activities for the week of January 29, 2001 are reported in this "Quality Assurance Report."

Activities for the week of January 29th include the following:

- Placement of Squalicum sediments on January 30th through February 2nd;
- Water quality monitoring was performed on January 30th and 31st.

Water quality monitoring results are documented in the BEK Engineering Field Report enclosed. The Quality Assurance Report form for the week of January 29th is also enclosed. The work for the week included completion of the Phase II habitat layer in the Log Pond. Approximately 43,000 cubic yards of material was placed in the Log Pond through the course of this project.

A final bathymetric survey is being scheduled to document finished elevations in the Log Pond. The Draft Final OMMP is being forwarded to Ecology and the Corps for review and comment. If you have any questions please contact me at (360) 647-5695.

Sincerely,

Roger J. "Chip" Hilarides
Senior Environmental Engineer

Enclosures

Cc:
Mr. Hiram Arden, U.S. Army Corps of Engineers
Mr. Clay Patmont, Anchor Environmental LLC
Mr. Mike Stoner, Port of Bellingham
Mr. Al Powers, A.H. Powers Inc.

Log Pond Final QACP Weekly Report 1-12-01.doc

Figure B-2

INTERIM REMEDIAL ACTION: LOG POND CLEANUP/HABITAT RESTORATION

QUALITY ASSURANCE REPORT

Period Covered: 29 January to 4 February 2001

Description of Work Inspected:
Placement of Squalicum sediments for the phase II habitat restoration work..

Results of Inspection (Including any Out-of-Spec Conditions):
All placement techniques adhered to engineering design guidelines. Daily surveillance of placement techniques continues to show high uniformity in contractor technique, including drop heights, bucket volumes, site housekeeping and rig positioning/spud use.

Test Results (Including any Out-of-Spec Conditions):
Water quality monitoring results are attached. All results are within specifications.

Instructions to Contractor and Corrective Action Taken:
No corrective action was required. The contractor was directed to place Squalicum sediments starting at the beach and working their way toward the channel.

SUBMITTED BY: R.J. "Chip" Hilarides
TITLE: Senior Environmental Engineer **DATE:** February 19, 2001

BEK ENGINEERING & ENVIRONMENTAL, INC.

FIELD REPORT #13

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CLIENT:	Georgia Pacific	BEK JOB:	200144
PROJECT:	GP Log Pond Water Monitoring	REPORT:	#13
CLIENT JOB:	n/a	REPORT DATE:	01-31-01
FIELD REP:	Kim Ninnemann	PAGES:	4

ATTACH: Site plan with water monitoring locations

Field Activities and Observations:

The Phase II capping continued on Tuesday, January 30, 2001. A.H. Powers was not able to spread material on Monday due to stormy weather conditions. A.H. Powers anticipates that the Phase II capping will be completed this week.

Baseline and water monitoring data during the Phase II capping were collected on Tuesday and Wednesday, January 30 and 31, 2001. A comprehensive list of the baseline data is presented in Table 1. Water quality monitoring data for the week ending February 2, 2001 is presented in Table 2.

A chip barge was moored near the chip crane during all monitoring events. A Foss Tug was moored at the Port of Bellingham dock on Wednesday, January 31, 2001.

All monitoring occurred 15.0 feet below the water's surface at three stations previously determined in the report entitled *GP Log Pong - Engineering Design Report* by Anchor Environmental (dated July 2000). A site plan of the water monitoring locations (WQ-1 through WQ-3) and approximate locations of the baseline monitoring sites are presented in the attached figure.

Table 1
GP Log Pond – Baseline Water Quality Data

Date	Time	Weather	Tide	Location	Dissolved Oxygen (mg/L)	Turbidity (NTU)
11-8-00	11:15	Rainy	Flood	Station #1	7.58	5.7
				Station #2	7.23	6.2
				Station #3	7.41	4.9
11-9-00	9:45	Sunny	Slack	Station #1	7.24	5.6
				Station #2	7.3	7.6
				Station #3	7.48	6.7
Phase I Sand Capping Began						
11-10-00	12:30	Sunny	Flood	75' west of chip crane	-	10.4
				600' south of GP Lagoon	-	10.2
11-14-00	9:15	Sunny	Slight ebb	75' west of chip crane	5.80	13.5
				600' south of GP Lagoon	6.18	12.7
11-20-00	10:45	Partly cloudy	Flood	75' west of chip crane	4.96	6.9
				600' south of GP Lagoon	5.30	7.2
11-22-00	10:45	Sunny	Flood	75' west of chip crane	4.47	10.4
				600' south of GP Lagoon	4.34	6.6
11-29-00	1:45	Rainy	Slack	75' west of chip crane	6.86	5.2
				600' south of GP Lagoon	6.72	7.0
12-6-00	11:30	Sunny	Slight Flood	75' west of chip crane	6.87	6.6
				600' south of GP Lagoon	6.38	8.1
12-7-00	11:00	Foggy	Slight Flood	75' west of chip crane	5.75	6.1
				600' south of GP Lagoon	5.80	7.7
12-13-00	1:45	Overcast	Slight Flood	75' west of chip crane	7.78	0.9
				600' south of GP Lagoon	7.72	0.1
12-19-00	11:00	Overcast	Slight Flood	75' west of chip crane	8.25	1.1
				600' south of GP Lagoon	8.18	2.1
12-20-00	11:00	Overcast	Slight Flood	75' west of chip crane	7.83	11.9
				600' south of GP Lagoon	7.73	10.4
12-28-00	10:00	Overcast	Slight Flood	75' west of chip crane	8.13	0.1
				600' south of GP Lagoon	7.26	1.5
01-03-01	12:00	Overcast and windy	Slack	75' west of chip crane	7.61	0.2
				600' south of GP Lagoon	7.90	2.2
01-11-01	10:45	Overcast	Ebb	75' west of chip crane	8.11	4.4
				600' south of GP Lagoon	8.33	5.4
01-17-01	10:30	Overcast	Slack	75' west of chip crane	7.94	0.9
				600' south of GP Lagoon	7.82	1.1
Phase II capping began						
01-23-01	2:45	Sunny	Slack	75' west of chip crane	7.67	0.1
				600' south of GP Lagoon	7.40	2.3
	4:40	Sunny	Slight Ebb	75' west of chip crane	7.11	1.3
				600' south of GP Lagoon	6.72	4.1
01-25-01	9:45	Sunny	Ebb	75' west of chip crane	8.52	0.1
				600' south of GP Lagoon	8.27	1.5
	11:35	Sunny	Slack	75' west of chip crane	8.28	1.2
				600' south of GP Lagoon	8.21	0.1
01-26-01	10:45	Sunny	Ebb	75' west of chip crane	8.40	0.1
				600' south of GP Lagoon	7.98	0.1
01-30-01	1:30	Stormy	Ebb	75' west of chip crane	9.58	4.8
				600' south of GP Lagoon	11.71	6.9
01-31-01	9:30	Overcast	Slack	75' west of chip crane	8.23	3.6
				600' south of GP Lagoon	8.59	2.9

- = parameter not measured
flood = tide is flowing into the Whatcom Waterway
ebb = tide is flowing out of the Whatcom Waterway
slack = tide is close to high or low tide, with very little overall movement

Table 2
GP Log Pond - Water Monitoring Data
(January 30 and 31, 2001)

Date	Time	Weather	Tide	Station #1		Station #2		Station #3	
				D.O.	Turbidity	D.O.	Turbidity	D.O.	Turbidity
01-30-01	1:30	Stormy	Ebb	9.86	7.8	9.22	12.3	9.17	6.0
01-31-01	9:30	Overcast	Slack	8.29	3.6	8.43	2.9	8.54	3.1

Dissolved Oxygen (D.O.) is measured in mg/L.
Turbidity is measured in NTU.
flood = tide is flowing into the Whatcom Waterway
ebb = tide is flowing out of the Whatcom Waterway
slack = tide is close to high or low tide, with very little overall movement

BEK Field Technician: Kim Ninnemann Kim Ninnemann

BEK Project Manager: Tom Bennett

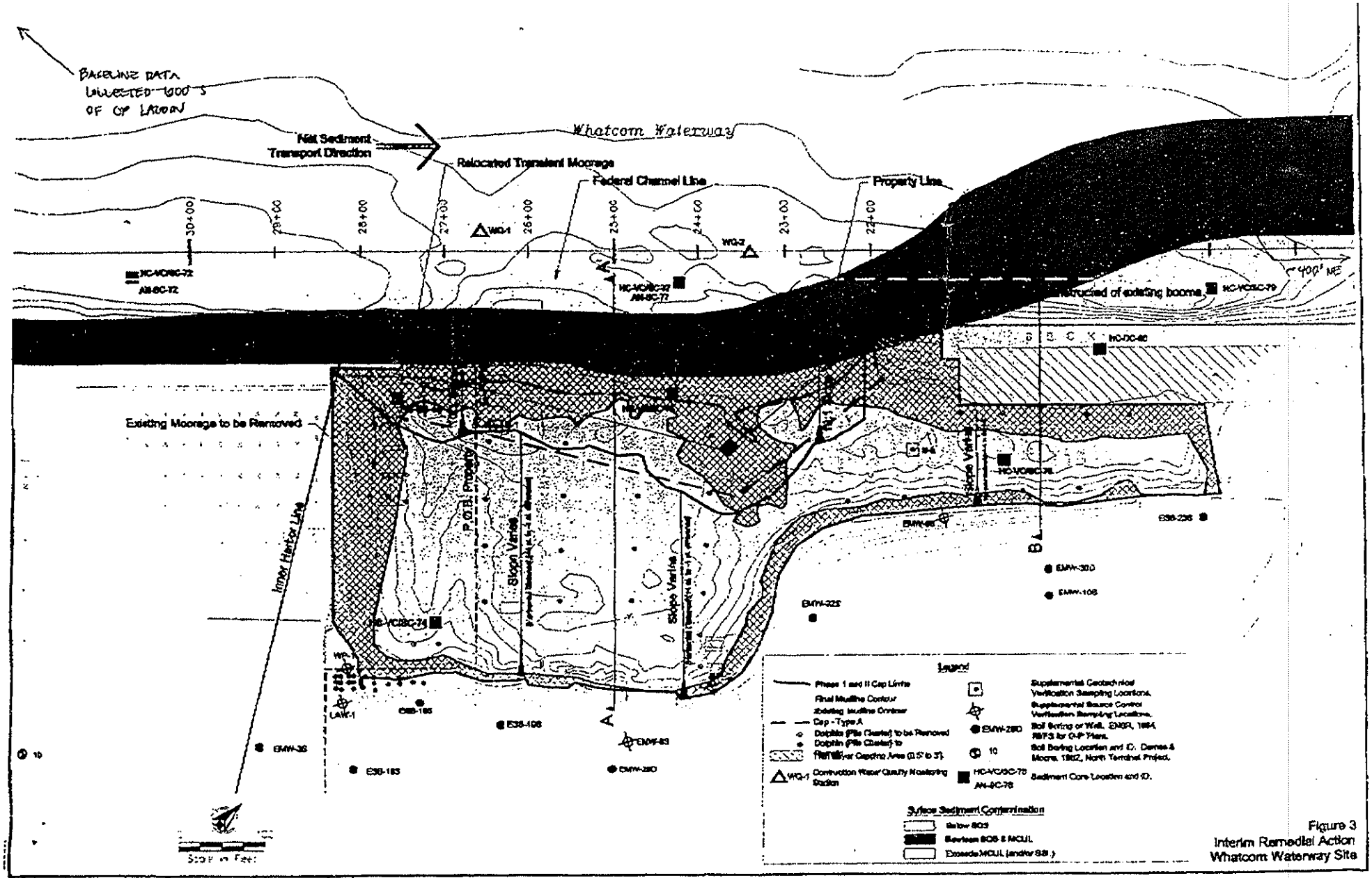

Figure 3
Interim Remedial Action
Whatcom Waterway Site

REFERENCE: GP Log Pond - Engineering Design Report by Anchor Environmental (dated May 2000)