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January 14, 2000

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Subject: Ketchikan Pulp Company Site, Uplands Operable Unit
Early Action for the Retaining Wall Area
Project No. 8600B4Q.001 1005

Dear Dianne and Bill:

This letter presents a summary of early actions conducted at the retaining wall area of the Ketchikan Pulp Company site. As part of site demolition, an area was found where periodic overfilling of a diesel storage tank had resulted in contamination of soil on the northern edge of the former No. 3 evaporator (Figure 1, attached). Preliminary sampling of stained surface soil in this area found a concentration of "diesel" above the ADEC cleanup standard of 8,250 mg/kg (Table 1, attached).

On November 13–15, 1999, visibly contaminated soil was excavated at the area. All work was performed in accordance with *Supplemental Soil Sampling at the Railroad Tracks and Retaining Wall Areas* (Exponent 1999). Soil was removed to bedrock on the bottom and the northern, western, and southern sides of the excavation, which measured approximately 12 ft wide by 30 ft long by 1.5 ft deep. The excavation was stopped on the western end because visibly clean soil was encountered. Four soil samples were collected (Figure 1). Samples RW-01, -02, and -03 were collected from *de minimus* amounts of soil along the bedrock, which could not be removed with the trackhoe. Sample RW-4 was collected from the visibly clean soil at the western edge of the excavation. The samples were analyzed for diesel- and residual-range organic hydrocarbons (DRO/RRO), benzene, toluene, ethylbenzene, and xylenes (BTEX), and polycyclic aromatic hydrocarbons (PAHs). Because Sample RW-04 had a concentration of RRO above the ADEC soil cleanup standard of 8,300 mg/kg (Table 2, attached), the excavation


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was extended an additional 36 ft to the west on December 6, 1999. One composite soil sample was collected from the western end of the excavation and analyzed for DRO, RRO, BTEX, and PAHs. All analytes were below ADEC soil cleanup standards (Table 2).

A total of approximately 40 yd³ of soil was removed during the two excavations. Excavated soil was loaded into lined roll-off containers and disposed of at an out-of-state solid waste landfill. The excavation has been covered with a geotextile membrane and backfilled with D-1 crushed rock to the original grade.

If you have any questions, please call me at (425) 643-9803 or Barry Hogarty at (907) 228-2187.

Sincerely,



Lisa Yost, MPH, DABT
Managing Scientist

Attachments

Reference

Exponent. 1999. Addendum no. 6 to the RI/FS work plan, supplemental soil sampling at the railroad tracks and retaining wall areas. Prepared for Ketchikan Pulp Company, Ketchikan, AK. Exponent, Bellevue, WA.

cc: Ron Klein, Alaska DEC
Barry Hogarty, KPC, Ketchikan
Andy Maloy, Louisiana-Pacific, Seattle
Walt Shields, Exponent
Dan Peek, Exponent

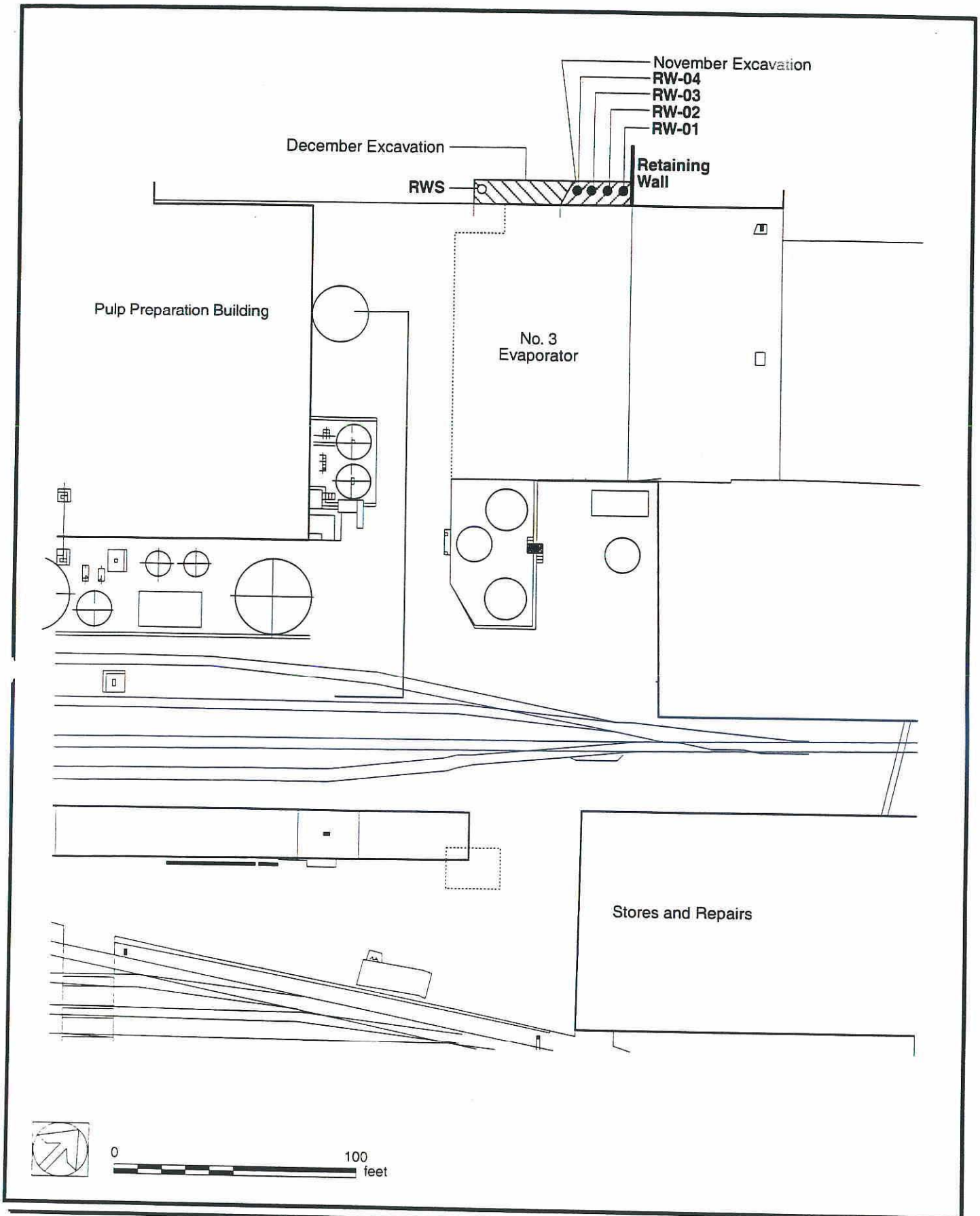


Figure 1. Retaining wall area

**Table 1. Analytical results for Soil Sample AA61605
from the retaining wall area**

| Analyte | Concentration |
|-----------------------------------|---------------|
| TCLP silver | 0.01 U mg/L |
| TCLP arsenic | 0.1 U mg/L |
| TCLP barium | 0.1 U mg/L |
| TCLP cadmium | 0.2 U mg/L |
| TCLP chromium | 0.005 U mg/L |
| TCLP lead | 0.01 U mg/L |
| TCLP selenium | 0.3 U mg/L |
| TCLP mercury | 0.0004 U mg/L |
| Diesel | 31,000 mg/kg |
| Benzene | 278 U µg/kg |
| Toluene | 920 µg/kg |
| Ethylbenzene | 410 µg/kg |
| <i>m</i> - and <i>p</i> - Xylenes | 1,300 µg/kg |
| <i>o</i> -Xylenes | 730 µg/kg |

Note: TCLP - toxicity characteristic leaching procedure
 U - undetected at the detection limit shown

Table 2. Analytical results for retaining wall soil samples

| Analyte | Units | ADEC Soil Cleanup Standard ^a | November Samples | | | | December Sample (west end, soil) |
|-------------------------|-------|---|-------------------------------------|--|--|-------------------------------|----------------------------------|
| | | | Sample RW-01 (east end, on bedrock) | Sample RW-02 (east-central on bedrock) | Sample RW-03 (west-central on bedrock) | Sample RW-04 (west end, soil) | |
| Hydrocarbons | | | | | | | |
| Diesel-range organics | mg/kg | 8,250 | 13,000 | 28,800 | 13,900 | 10,700 | 25.5 |
| Residual-range organics | mg/kg | 8,300 | 2,770 U | 1,730 | 1,160 | 1,430 | 86.4 |
| BTEX | | | | | | | |
| Benzene | µg/kg | 230,000 | 139 U | 50 U | 50 U | 50 U | 50 U |
| Toluene | µg/kg | 17,000,000 | 223 | 386 | 88 | 50 U | 50 U |
| Ethylbenzene | µg/kg | 8,300,000 | 139 U | 62 | 50 U | 50 U | 50 U |
| Total Xylenes | µg/kg | 166,000,000 | 139 U | 391 | 210 | 56 | 50 U |
| PAHs | | | | | | | |
| Acenaphthene | µg/kg | 5,000,000 | 670 U | 201 U | 16,100 U | 6,700 U | 67 U |
| Acenaphthylene | µg/kg | NE | 1,300 U | 390 U | 7,800 U | 13,000 U | 130 U |
| Anthracene | µg/kg | 24,900,000 | 402 U | 121 U | 4,820 U | 1,340 U | 6.70 U |
| Benzo[a]anthracene | µg/kg | 9,000 | 670 U | 683 U | 14,900 U | 6,700 U | 6.70 U |
| Benzo[a]pyrene | µg/kg | 900 | 67 U | 20.1 U | 402 U | 670 U | 6.70 U |
| Benzo[b]fluoranthene | µg/kg | 9,000 | 134 U | 60.3 U | 804 U | 670 U | 15 U |
| Benzo[g,h,i]perylene | µg/kg | NE | 134 U | 40.2 U | 804 U | 1,340 U | 15 U |
| Benzo[k]fluoranthene | µg/kg | 93,000 | 67 U | 20.1 U | 402 U | 670 U | 15 U |
| Chrysene | µg/kg | 930,000 | 469 U | 221 U | 3,220 U | 6,700 U | 6.70 U |
| Dibenz[a,h]anthracene | µg/kg | 900 | 134 U | 40.2 U | 804 U | 1,340 U | 15 U |
| Fluoranthene | µg/kg | 3,300,000 | 402 U | 281 U | 10,100 U | 1,340 U | 15 U |
| Fluorene | µg/kg | 3,300,000 | 1,640 U | 131 | 3,930 | 2,770 | 15 U |
| Indeno[1,2,3-cd]pyrene | µg/kg | 9,000 | 268 U | 80.4 U | 1,610 U | 2,680 U | 15 U |
| Naphthalene | µg/kg | 3,300,000 | 670 U | 201 U | 4,020 U | 6,708 U | 67 U |
| Phenanthrene | µg/kg | NE | 5,480 | 443 | 15,108 | 9,990 | 6.7 U |
| Pyrene | µg/kg | 2,500,000 | 804 U | 322 U | 6,030 U | 2,010 U | 6.7 U |

Note: NE - none established

U - undetected at detection limit shown

^a ADEC soil cleanup standard for ingestion (over 40-in. precipitation zone).