GARY PAXTON INDUSTRIAL PARK

BOARD OF DIRECTOR'S MEETING

MONDAY, JUNE 22, 2020 - AGENDA
3:00 PM

Room 5 Harrigan Centennial Hall/Zoom Meeting

Regular Meeting	**3:00 PM**
Item	**Action**
A. Call to Order	Acknowledge
B. Roll Call	Acknowledge
C. Review of Minutes	Motion to Approve
APRIL 27TH, 2020	
D. Correspondence & Other Information	Acknowledge/Questions
E. Changes/Additions/Deletions to Agenda	Change/Add/Delete
F. Reports	
G. Persons To Be Heard	
H. Unfinished Business	
1. GPIP Waterfront Development/Haul Out Proposals	Discussion/Recommendation
I. New Business	
1. Sitka Salmon Shares Proposal	Discussion/Recommendation
2. Block 4, Lot 1 Potential Sale Discussion	Discussion/Recommendation
J. Adjournment	

EXECUTIVE SESSION POTENTIAL

The Mission

It is the mission of the Gary Paxton Industrial Park Board and management, by direction of the Sitka Assembly, to strategically develop the park in a fiscally responsible manner that maximizes its economic benefit to the community through creation of meaningful jobs in conformance with established community plans and policies.

Gary Paxton Industrial Park – Board of Directors Meeting
April 27, 2020 3:00pm – Zoom Meeting
DRAFT Meeting Minutes

A. CALL TO ORDER: The Chair, Scott Wagner, called the meeting to order at 3:02pm.

B. ROLL CALL

Members Present: Scott Wagner, Vaughn Morrison, Al Stevens, Mike Johnson, Sheila Finkenbinder

City Representatives: John Leach, Michael Harmon

Others Present: Garry White, Brigette Klakring, other members of the public

C. Review of Minutes – February 28, 2020

MOTION: **M/S Morrison/Johnson** moved to approve the minutes of February 28, 2020
ACTION: **Motion PASSED 4/0** on a voice vote.

D. Correspondence & Other Information – None

E. Changes/Additions/Deletions to Agenda – None

F. Reports – Mr. White gave a brief GPIP Report. He noted that CBS was hoping to acquire an $8 million grant from the US Department of Transportation to fund the GPIP Waterfront Development/Haul Out. The proposal package will be on the May 12th CBS Assembly Meeting agenda for review and would require a 20% match from CBS ($1.6 million). The grant is due May 18th and funds would be awarded by September 15th.

G. Persons to Be Heard – None

H. Unfinished Business – None

I. New Business

1. GPIP Waterfront Development/ Haul Out Proposals-

Mr. White gave a brief overview of the history, scope and needs of the GPIP Waterfront Development/Haul Out. He then explained two RFP's have been received, one from Sitka Sound Industrial and one from WC Enterprises. Mr. Wagner explained the criteria that would be used to evaluate the two proposals by the selection committee. The selection committee was comprised of the GPIP Board Members, Mr. Leach and Mr. Harmon from CBS. Mr. Wagner asked the selection committee if they were clear on the process and suggested instead of fully evaluating one proposal then moving onto the second that they would alternate back and forth between proposals as they worked through each of the four criterion. The committee agreed.

At that point Mr. Wagner opened the evaluation process up to public comment. Mr. Farvour noted that though the two proposals were very different they could possibly work together. Mrs. Behnken agreed and stressed that the proposal that moves forward for recommendation to the assembly would need to be able to service smaller boats. Mr. Serka pointed out both plans

required public funding. Mr. Farvour explained that he wanted clarification on who would maintain a gravel ramp and that a travel lift was a necessity. At that point Mr. Wagner gave SSI and WC Enterprises five minutes to explain their proposal.

Mr. Hensley from SSI explained his proposal was created to serve the current Sitka fleet and that is why he went with the smaller lift and that he was planning to apply for a grant to fund a very necessary travel lift. Mr. Cooper from WC Enterprises explained their primary goal was to serve the current Sitka fleet, but saw an opportunity to serve larger vessels in an effort to financially support the employee wages, equipment maintenance, and city lease rates/taxes.

At that point the selection committee began scoring each proposal.

1. **Award 0 to 30 points based upon the proposer's plan to finance and operate a marine vessel haul out facility.** After a brief discussion the committee selected as 10 for SSI primarily because it fully relied on the city for funding. The committee awarded WC Enterprises as 18 it still relied on city funding, but the 3 phase operation plan seemed clearly laid out for operational success.
2. **Award 0 to 15 points based upon the proposer's plan to accommodate public use of the existing waterfront ramp.** The committee unanimously gave both WC Enterprises and SSI 15 points for this category because both focused on developing a plan that accommodated the public.
3. **Award 0 to 30 points for proposer's plan to develop and facilitate the creation of an uplands marine services sector shipyard.** The committee awarded SSI with 8 points because the plan for upland marine services wasn't very developed and it was a limited capital proposal. The committee awarded WC Enterprises 20 points for a very well thought out and developed plan that would accommodate the creation of an uplands marine services sector shipyard.
4. **Award up to 25 points for proposer's bid price to lease the GPIP uplands.** SSI received a 0 because they did not provide a price. WC Enterprises received a 25.

Based on the committee's evaluation SSI received a total score of 33, WC Enterprises received a 78. Based on this evaluation Mr. White suggested the committee make a motion to recommend WC Enterprises proposal to the Assembly. Mr. Wagner opened it up to public comment before an official motion and vote. A handful of comments were made challenging the committee to ensure a 300 ton lift (proposed in WC Enterprises proposal) would be able to service Sitka's smaller fleet before moving forward. Mr. Johnson explained that his understanding was that this proposal was meant to be brought forward to the assembly and could be reviewed and negotiated, this was just a jumping off point and that he would suspect adding a smaller lift if need be could certainly be discussed. The board agreed to move forward with a vote.

MOTION: **M/S Morrison/Johnson** moved the GPIP Board recommends the WC Enterprises proposal to the CBS Assembly based on the criteria evaluated by the Selection Committee which was comprised of the GPIP Board and Mr. Leach and Mr. Harmon of CBS.

ACTION: **Motion PASSED 4/0 on a roll call vote.** Mrs. Finkenbinder was no longer on the call.

2. Silver Bay Seafoods Lot 9C Request –

Mr. White explained Silver Bay Seafoods (SBS) was requesting a short term lease of 10,000 SF of lot 9c to located six camper trailers to house temporary employees for the summer. The lease will be from retroactive from March 1st – the end of September. The terms would state this is a month to month lease to ensure once the Haul Out Development project begins it can be terminated with 30 days notice.

After a brief discussion the board decided they would move forward with a motion. Mr. Stevens noted because of his involvement in this project he would be abstaining from a vote.

MOTION: **M/S Morrison/Johnson** moved to approve the month to month lease to SBS as presented.

ACTION: **Motion PASSED 3/0 on a roll call vote.** Mrs. Finkenbinder was no longer on the call and Mr. Stevens abstained.

J. Adjournment: Mr. Wagner adjourned the meeting at 4:26pm.

329 Harbor Drive, Suite 212, Sitka, AK 99385
Phone: 907-747-2660

Monday, June 1, 2020

MEMORANDUM

TO: GPIP Board of Directors

FROM: Garry White, Director

SUBJECT: Gary Paxton Industrial Park (GPIP) Management Report

1. **GPIP Dock**

   The GPIP Dock is open for business. The dock had a lot of traffic during the spring of 2019. Most use was related to the commercial fishing fleet with vessel moving nets and other fishing gear across the dock.

   Security cameras were installed in April, which allows for better management and tracking of use.

   Next steps are to continue to monitor uses and adjust the Port Tariff to accommodate users of the facility. Additionally, prepayment or pay for use electric meters are being investigating to allow for better management of electric use. **(05/06/2019)**

   Dock Revenues: FY2018 - $689, FY2019 - $10,464, FY2020 (as of 10/9) - $13,436 **(10/14/2019)**

2. **Marine Services Industries at the GPIP.**

   The CBS is moving forward with design, engineering and permitting of an access ramp to support the marine service sector. **(03/27/2018)**

   The Director is researching cost and management options for the storage of fishing gear on GPIP properties. **(07/24/2018)**

   The GPIP Board held meetings on June 28th and July 26th to discuss the development of an access ramp at the GPIP to promote the marine service industry. PND Engineers of Juneau is under contract with the CBS to design, engineer and permit an access ramp. PND presented different concepts for the development of an access ramp. The consensus was to develop a ramp at an 8% grade to accommodate both barges and larger commercial vessels. The existing gravel ramp constructed by Northline Seafoods is already at an 8% grade and could be improved to allow more use. PND engineers provided a cost estimate of $6.7 million dollars to construct a fully operational concrete

access ramp, EPA approved wash down pad, and all the associated upland improvement for a fully operational haul out yard. The Board is in the process of prioritizing development with current funds available. **(07/31/2018)**

The GPIP Board met and set the priority order for the development of a haul out as the following recommended priorities phases:

1. EPA approved water treatment infrastructure.

2. EPA approved wash down pad or water collection infrastructure.

3. Ramp infrastructure improvements, including installing a concrete ramp.

4. Upland improvements (Electric, water, lighting, etc.).

5. Timber float.

6. Potential CBS owned infrastructure to haul vessel (Hydraulic trailer or lift).
(10/22/2018)

The GPIP Board and Assembly approved additional funding of $22,000 for PND Engineers to provide detailed analysis for the phased development of the haul out facilities. **(05/06/2019)**

The Director has received word from CBS Administration that Halibut Point Marina will be transitioning out of the marine haul out business in the next few years. **(07/03/2019)**

The GPIP Board reviewed and discussed the phase development estimates for the construction of an access ramp and associated infrastructure to construct a haul out facility at the park. Total project costs are estimated to be $7.5mm. **(11/12/2019)**

The CBS received a proposal from the owners of Halibut Point Marina (HPM) stating that it will be reducing service within the next two years. HPM additionally submitted a proposal to the CBS to construct marine haul out infrastructure to include; haul out piers, an EPA approved wash down pad with a water treatment facility, and a 100 ton lift. HPM is requesting a trade of other CBS property to offset the cost of construction. The GPIP Board has been unable to secure funding for the construction of haul out infrastructure to date.

The GPIP Board held a meeting on December 4th to discuss the proposed haul out infrastructure. Discussion from the public and board focused on travel lift capacity, pier width, upland improvements needed, access, and future management. The Board recommended the Assembly move forward with negotiations with HPM for a facility that has a new 100 tons lift, piers that are 26' apart, infrastructure to include a float to help vessel navigate into the lift, a larger or additional wash down pad be included, and that infrastructure is added to allow people to exit vessels before being lifted.
(12/9/2019)

Halibut Point Marina has withdrew with its proposal to construct a vessel haul out at the GPIP in exchange for other CBS property due the CBS general code that requires CBS property to be disposed of via competitive bid. The CBS Assembly and GPIP Board held

a joint work session on January 30th to discuss next steps. The CBS Assembly directed the CBS Administrator to prepare and release a RFP for private sector development of vessel haul out at the GPIP. **(02/10/2020)**

The GPIP Board met on Feb. 28th and approved a draft RFP for CBS Administration approval to be release to the public for private sector development of a vessel haul out at the GPIP. **(03/09/2020)**

The CBS received two proposals for development of a vessel haul out at the GPIP. The GPIP Board met via Zoom on April 27th and vetted the proposals as part of a selection committee, containing the 5 members of the Board, the CBS Administrator and Public Works Director. The Selection Committee scored a proposal from WC Enterprises as the best proposal. The RFP Scoring results were presented to the Assembly on May 12th. The Assembly gave direction to the CBS Administrator to work with WC Enterprises to develop a detailed agreement to move forward with the development of the haul out. The CBS Administrator, Public Works Director, and the GPIP Director have been meeting twice a week with WC Enterprises on the agreement. **(06/01/2020)**

3. Bulk Water

The Director continues to work with entities interested in the export of Sitka's water. **(05/06/2019)**

The CBS Assembly met on April 30th to discuss needed repairs to the Raw Water delivery infrastructure. No funding or repair plan was determined. The CBS's ability to delivery water will need to be fixed before the bulk water export venture can move forward. The Assembly directed the GPIP Director to continue to work with potential investors and exports to find a funding solution to repair the system. The CBS does not believe that the infrastructure can be repaired until the penstock is shut down and dewatered. Estimate timeframe for penstock shut down is estimated to be the fall of 2021. **(06/03/2019)**

The Director met with Eckert Fine Beverage's engineering firm to finalize the design for the low volume water loading system. The goal is to have Eckert design, engineer, construct, and fund the water loading station. The water loading station will be strategically located on the GPIP properties next to the Raw Water Meter building. The infrastructure will be turned over to the CBS upon completion for future use of all low volume water exporters. Eckert wishes to have a project completed this summer and start exporting water for vodka production. **(06/03/2019)**

4. Bottled Water

The Director continues to receive inquires for bottled water. The Director has recently had conversations with entities from China, Costa Rica, and South Korea. **(11/12/2019)**

5. Public Industrial Water

The Director has met with both NSRAA and the Electric Department to find a way to ensure public industrial water is available to the park for economic development opportunities. **(06/03/2019)**

The CBS and NSRAA have come to an agreement on a water delivery agreement to allow NSRAA to use public industrial water for raising salmon. **(02/10/2020)**

6. Blue Lake Dam Expansion Project

The Blue Lake Dam Expansion Project has been completed. Evacuated rock from the project is still being stored on park property. Rock needs to be removed from the property for economic development to continue on the site. The CBS is still working on a solution. **(05/12/2015)**

The CBS Electrical Department intends to release a request for proposals of entities interested in purchasing rock stored at GPIP. **(06/29/2015)**

The CBS Electrical Department has recently investigated several plans to remove rock from the property. **(09/22/2015)**

Rock is actively leaving the park via contracts between the CBS Electric Department and various entities. **(07/11/2016)**

The Director is currently working with various groups to continue to remove rock from the industrial site and bring the industrial site condition back to leasable condition. **(05/31/2017)**

The CBS Electric Department reports that a contractor has purchase all the remaining rock left in the GPIP. The rock will be barged out of the park for use in a private waterfront development. The contractor anticipates that all rock will be removed from the park by the end of the calendar year. **(08/01/2017)**

A majority of the rock in the park has been removed. Rock remains on lots 15, 16b, 19, and 20. **(10/16/2017)**

More rock has left the park. Rock only remains on lots 16b, 19, & 20. The Assembly has approved funding to clean up the waterfront and interior lots to bring back to a usable state. **(01/18/2018)**

The GPIP Board met in September and agreed to allow the CBS another 6 months to store rock on lots 16b, 19, & 20. **(10/22/2018)**

The Assembly has approved a MOA between the GPIP and Electric Department to allow the GPIP to charge for use of Lots 16b and 20. Rock has been stored on these lots since the Blue Lake Dam Expansion project. **(06/03/2019)**

7. Utility Dock

The CBS Assembly met on April 22, 2019 and voted to reverse the condemnation notice the CBS Building Official issued for the Utility Dock in January 2019. The Assembly directed staff to draft a purchase and sales agreement, using outside legal counsel, to include language specific to requiring Hanson Maritime to complete a conditional assessment of the facility and to repair for safe use of the facility. **(05/06/2019)**

The Director and CBS Attorney has met with outside counsel and is preparing a term sheet of contract details for the Assembly to approve on lieu of preparing a full purchase and sales agreement. **(06/03/2019)**

The Assembly approved a term sheet with Hanson Maritime at its August 27th meeting. A detailed purchase and sales agreement is being drafted for Assembly approval. Additionally, the process to subdivide the lot for sale is moving forward with CBS planning. **(09/03/2019)**

The Assembly approved a purchase agreement between the CBS and Hanson Maritime to purchase the Utility Dock at the GPIP.
(02/10/2020)

8. GPIP Dock Fuel Sales

Delta Western has received its build permit to establish a fueling operation on the GPIP Dock. The fuel tanks will be relocated from the dock itself to the uplands above the dock. **(07/03/2019)**

Delta Western has completed its fuel delivery infrastructure on the GPIP dock.
(11/12/2019)

GARY PAXTON INDUSTRIAL PARK

329 Harbor Drive, Suite 202
Sitka, AK 99835
Phone: 907-747-2660

Friday, June 19, 2020

MEMORANDUM

To: Gary Paxton Industrial Park (GPIP) Board of Directors

From: Garry White, GPIP Director

Subject: GPIP Waterfront Development/Haul Out Proposal

Introduction

The CBS haul out negotiation team has met the past month with WC Enterprises, the entity selected by the CBS Selection Committee from the CBS RFP process to develop a haul out the GPIP. WC Enterprises has since changed its entity name to Sitka Industrial Marine Shipyard, LLC (SIMS).

Attached are proposed terms for the development of a haul out and shipyard at the GPIP for the Board's discussion and recommendation to the CBS Assembly.

Background

The GPIP Board has long recognized the importance of the fishing and maritime industry to the community of Sitka. The GPIP Board and CBS have been working on vessel haul out development concepts since the GPIP properties were acquired.

The public announcement in the fall of 2019, that Halibut Point Marina (HPM) will cease public haul out operations in the next few years has intensified the priority of establishing a marine haul out facility at the GPIP.

The GPIP Board and Assembly held a joint work session on January 30th, 2020 to discuss different concept regarding; ownership of facility and operations, infrastructure needed to support the fleet, and funding for the haul out construction and operations. The Assembly gave direction to develop a RFP to investigate private ownership and operations of a haul out. The GPIP Board met on February 27th, 2020 to recommend approval of the RFP. The CBS Assembly met on March 10th, 2020 and approved the RFP for release. On March 11th, 2020, the City and Borough of Sitka (CBS) released a Request for Proposal (RFP) for the Construction and Operation of a Marine Haul Out and Shipyard. The RFP was open until April 15th, 2020. The CBS received two proposals from the RFP process.

The GPIP Board met on April 27th to discuss and score both proposal as part of the CBS RFP Selection Committee. The CBS Selection Committee scored the proposal from WC Enterprises (Now SIMS) with the highest score. The CBS Assembly accepted the GPIP Board's recommendation to move forward with negotiating terms to move forward on a haul out at the GPIP with WC/SIMS at its May 12th, 2020 meeting.

Negotiations

The CBS negotiation teams consisting of the CBS Administrator, CBS Public Works Director, and the GPIP Director met multiple times since May 12th with the SIMS' principal owners and have presented the attached proposed terms for consideration and recommendation.

CBS negotiation team brought forward points regarding haul out operations and equipment types presented by the public during the GPIP and Assembly meetings.

The SIMS team has provided the following points to the CBS negotiation team which resulted in the proposed terms presented:

1. After considering all available information and studies provided concerning the existing ramp, SIMS has concluded that its use for a large amphibious marine lift is not possible. Sims will continue usage of the ramp for smaller vessels, public use, and be available for barge repairs through SIMS scheduled access. SIMS has also concluded that the associated cost and negative impact on the environment that would result from improving the ramp to accommodate a large amphibious lift is too great.

2. Due to the negative environmental impact resulting from any ramp improvements as well as the input we received from the public, SIMS has decided to use a traditional sling lift and slip to haul the majority of the fleet. SIMS believes that using a sling lift will shorten the construction timeline, reduce the overall construction cost, and reduce environmental impact. This plan change also provides a marine lift that will satisfy the requirements stated in this agreement while meeting the needs and desires of the fleet.

3. A modern 200 to 300-ton marine travel lift is capable of hauling vessels from 32 ft to 100 ft which allows us to haul a larger percentage of the fleet with a machine that the fleet is accustom to and comfortable with which will improve their overall haul out experience.

Action

- GPIP Board discussion and recommendations on proposed terms for a haul out and shipyard at the GPIP.
    - Are the performance metrics righteous?
    - Are the lease rates appropriate?
    - Are the risks of the project spread appropriately?
    - Are the fleet needs being met with the plan?
    - Most importantly – Does the board feel SIMS can do the job?

CITY AND BOROUGH OF SITKA (CBS) PROPOSED LEASE TERMS WITH SITKA INDUSTRIAL MARINE SHIPYARD, LLC (SIMS) FOR A MARINE HAULOUT AT THE GARY PAXTON INDUSTRIAL PARK (GPIP)

A. PROJECT FINANCING:

1. CBS: will offer financial assistance of 25% of third party loan up to $375,000 at an interest rate of 2.5%, with the following payment schedule:

    - Principal and Interest lump sum due at 24 months of loan execution.
    - Principal and interest lump sum due annually for remaining 13 years on loan execution date.
      *Based off 15 year term.
      *CBS will take a second position in equipment collateral.

B. LEASE TERMS:

1. SIMS: Initial lease term of 5 years with option to renew for an additional 10-year term with the following lease rates. A long-term lease of up to 99 years would be available following the full payoff of the initial CBS loan and successfully meeting performance benchmarks.

    **Lease rate CPI Adjustment will start year 6. (Not to exceed 2% per year)*

    - **Phase 1: Lots 9A, 9B, 9C and 15 totaling 199,225 SF**

Month	Rate/Sq. Ft./YR	Space	Monthly Payment	Total
1st through 36th	$0.00	199,225 sq. ft.	$0	$0
37th - 60th	$0.245	199,225 sq. ft.	$4,067.50	$48,810

    - **Phase 2:** Lots 6, 7 and 8 totaling 106,269 SF
        - SIMS will evaluate success of Phase 1 to determine start date or release of right to lease Phase 2 lots within 5 years of Phase 1 lease execution.
        - CBS Reserves the right to lease these lots on a short term month to month basis.
          Lease rate CPI Adjustment will start year 6. (Not to exceed 2% per year)

Month	Rate/Sq. Ft./YR	Space	Monthly Payment	Total
1st through 12th	$0.06	106,268 sq. ft.	$531.33	$6,376
13th – 24th	$0.12	106,268 sq. ft.	$1,062.66	$12,752
25th – 36th	$0.18	106,268 sq. ft	$1,594	$19,128
37th – 60th	$0.245	106,268 sq. ft.	$2,169.67	$26,036

    - **Phase 3:** Lots 16B, 19, & 20

    SIMS Enterprises reserves the right to refusal to lease these lots during contract terms. Lease rates will be based on $0.245/SF with CPI adjustments starting in year 3 *(Not to exceed 2% per year)*. SIMS is requesting that CBS consider a lease purchase option on these lots

SIMS would like the option to lease Block 4 Lot 1 to use for additional vessel storage during Phase 3 of the shipyard expansion.

C. CBS PERFORMANCE REQUIREMENTS for SIMS:

1. SIMS Enterprises is required to perform the following or the CBS has rights to terminate the lease agreement:

   I. SIMS must provide analysis or an operational plan that demonstrates equipment and operation can service vessels 32' - 86' in length within 6 months of lease execution. This plan will be vetted by the GPIP Board and/or Assembly.

   II. SIMS must provide documentation that 100 vessels have been hauled within 24 months of CBS completion infrastructure requirements. This provides SIMS a "ramp-up" period to build their operation up to capacity.

   III. SIMS must provide documentation that it has ability to lift at least 5 vessels per day.

   IV. SIMS must provide vessel haul out numbers annually and no later than 30 days prior to lease anniversary date for first five years of lease.

D. Infrastructure Requirements for CBS (Contingent on CBS being award Build or PDIP Grant):

1. CBS will provide a pier supported haul out slip capable of supporting at least a 150 metric ton Marine Travel Lift. (If awarded grant, CBS will pursue grant adjustment to allow 300 metric ton lift.)

2. CBS will provide a 40 ft by 80 ft EPA approved Wash Rack.

3. CBS will ensure that all roadway and utilities will accommodate at least a 150 metric ton Marine Travel Lift. (If awarded grant, CBS will pursue grant adjustment to allow 300 metric ton lift)

4. CBS will provide upland utilities to mutually agree upon locations for adequate yard, SIMS shop and SIMS office needs.

E. Additional Terms

1. SIMS shall be an independent contractor who has the exclusive right to operate a marine haul out and shipyard at GPIP. SIMS shall lease upland areas from CBS and SIMS shall have the right to sublease those lands.

2. SIMS shall be responsible for operating in accordance with all codes and laws and for enforcing the same requirements with any subleases that SIMS may create.

3. SIMS will be required to pay all published CBS utility fees and charges.

4. SIMS shall collect and remit CBS sales tax for services or sales that WC provides at GPIP.

5. SIMS is responsible for the safety of persons using facilities.

6. SIMS shall provide a port security plan, if required in the future

7. SIMS shall be responsible for maintenance of SIMS' infrastructure and equipment.

8. CBS will be responsible for maintaining all CBS infrastructure.

9. SIMS shall provide insurance requirements outlined in the RFP.

10. SIMS will maintain, ensure non-competitive access, and scheduled use of the waterfront access ramp for existing business of the GPIP. Any issues will be vetted by GPIP Board.

11. SIMS shall provide annually user agreements of tenants of the haul out yard to ensure all environmental and safety precautions are being followed.

12. All other standard CBS lease agreement terms.

F. Phased Construction

1. CBS recommends that SIMS initial construction focuses on haul out equipment.

2. If CBS is awarded BUILD or PIDP grant funding within Phase 1 of this lease agreement, lease credits to SIMS will cease, SIMS will continue to pay the initial CBS loan, and CBS will fund necessary capital improvements with grant funds. Federal procurement policies may apply, and SIMS will remain the contracted operator of the haul out. SIMS shall be responsible for maintenance of SIMS' infrastructure.

REQUEST FOR PROPOSALS (RFP)
by
THE CITY AND BOROUGH OF SITKA, ALASKA
for
THE CONSTRUCTION AND OPERATION OF A MARINE HAULOUT AND SHIPYARD

Overview

The City and Borough of Sitka (CBS) is requesting proposals from qualified Developers for the project described herein. The following subjects are discussed in this RFP to assist you in preparing your proposal.

Table of Contents

A. Introduction and Additional Information

In 1999 the Gary Paxton Industrial Park (GPIP) property was transferred from Alaska Pulp Corporation to the City and Borough of Sitka. (CBS).

The property and the near-shore, submerged tidelands were extensively studied, and an environmental Memorandum of Understanding was concluded between CBS and the State of Alaska. Details of that memorandum are included in the Appendices.

GPIP is managed by a five-member Board of Directors (GPIP Board) who are appointed by the CBS Assembly.

During the ensuing years some of the original GPIP property has been sold and leased, and portions of the GPIP infrastructure have been improved. In 2018 the GPIP Board began actively planning for a private entity to fund, construct and operate a marine vessel haulout and related marine shipyard services.

B. Preferred Outcome

The goal of CBS is to create a privately funded and managed marine services shipyard at the GPIP. Specifically, CBS is seeking a private sector Developer to construct and operate a marine vessel haul out facility and an EPA approved boat washdown area(s).

CBS desires that Developer have a functional vessel haul out system in place by June 1, 2021.

Additionally, CBS has available for long-term lease up to 6.8 acres of GPIP uplands for the Developer to create opportunities for marine tradesmen and support businesses that support Sitka's commercial and sport fishing fleets.

A map and a listing of the GPIP uplands that are available for lease under this RFP are included in the Appendices.

Developer will be able to sublease the GPIP parcels and set its own haul out service fees and sublease rates for the GPIP uplands.

Any long-term lease of GPIP property to the Developer will have use restrictions consistent with the preferred outcome as negotiated with CBS. All use of any leased GPIP property will be subject to regulatory action by federal, state, and municipal regulators, which is the sole responsibility of the selected Developer to determine.

Access to the existing waterfront ramp by the public must be maintained to assure access to the GPIP uplands for those entities who have existing businesses at the Park. However, the Developer will be authorized to schedule and manage third party access to the ramp if Developer elects to use the ramp in its boat haul out operations.

C. Scope of Services

Developer shall perform environmental permitting, design and construction of infrastructure necessary to support its marine haul out and shipyard operations. Additional permits may be required from the City and Borough of Sitka for connections to City utilities and construction of structures at the site.

Developer shall also be responsible for its own investigations to determine subsurface construction conditions at the GPIP site. There are buried concrete foundations and other remnants from the pulp mill that may increase the cost of construction.

Sitka has a substantial marine customer base. Approximately 665 vessels between 32 feet and 86 feet are permanently moored in the Sitka harbor system. Of those 665 vessels about 97% are 58 feet or less. Developer is expected to provide vessel haul out equipment and services that will support the Sitka fleet.

D. Insurance Requirements

The Developer shall provide the following types of insurance:

1. Worker's Compensation at the limits required by the Alaska State Worker's Compensation Statues.

2. Comprehensive General Liability	Minimum Limits
Single Limit	$1,000,000
General Aggregate	$2,000,000
3. Comprehensive Automobile Liability Including all owned, hired and non-owned vehicles	$1,000,000

Developer's insurance shall name CBS as an additional insured and shall contain a waiver of subrogation against CBS.

E. Facility Operations

Developer shall be responsible for the day to day operation of the marine haul out and marine shipyard sublease areas. Developer is expected to work closely with the CBS and the GPIP Board to create a fully functional marine haul out service sector at GPIP.

CBS has a established a retail and business use zoning code for the GPIP. This information is included in the Appendices.

F. Relationship with CBS

Developer shall be an independent contractor who has the exclusive right to operate a marine haul out and shipyard at GPIP. Developer shall lease upland areas from CBS and Developer shall have the right to sublease those lands.

Developer shall be responsible for operating in accordance with all codes and laws and for enforcing the same requirements with any subleases that Developer may create.

CBS will operate all municipal utility systems such as electricity, water and sewer. Developer will be expected to connect to CBS utilities at Developer's expense.

Developer will also be required to pay all published CBS utility fees and charges.

Developer shall collect and remit CBS sales tax for services or sales that Developer provides at GPIP.

Developer is responsible for the safety of persons using Developer's facilities.

Developer shall provide a port security plan, if required in the future.

Developer shall provide a spill prevention, control and countermeasure plan, if required in the future.

G. Proposal Format and Content

Please direct questions regarding this RFP to:

Garry White
Gary Paxton Industrial Park Director
City and Borough of Sitka
100 Lincoln Street
Sitka, Alaska 99835
907-747-2660
garrywhite@gci.net

Proposal Format

1. Letter of Transmittal

2. Narrative
Brief description of your company including its experience and the experience of its key individuals. Include sufficient financial information to demonstrate your ability to finance this project.

3. Provide a list of other, similar marine facilities owned or operated.

4. Include a time schedule for providing vessel haul out services and for developing uplands marine service sector businesses at GPIP.

5. Provide a listing of proposed haul out equipment and a concept level layout of upland facilities.

6. Provide a concept level operations plan for the facility including the number of employees.

Submit three (3) copies of your Proposal in a sealed, secure envelope marked as follow:

Gary Paxton Industrial Park
Proposal to Fund, Construct and Operate a Marine Haul Out and Shipyard
Proposal Dated: _____, 2020

Proposals shall be addressed to:
Municipal Clerk
City and Borough of Sitka
100 Lincoln Street
Sitka, Alaska 99835

Proposals shall be received until 2:00 PM on April 15, 2020.

H. Evaluation Criteria and Selection Process

A selection committee consisting of the GPIP Board of Directors and the CBS Public Works Department will evaluate the proposals and make a recommendation of award to the CBS Assembly.

The committee will use the following criteria in deriving a numerical score for each proposal:

1. Award 0 to 30 points based upon the proposer's plan to finance and operate a marine vessel haul out facility.

2. Award 0 to 15 points based upon the proposer's plan to accommodate public use of the existing waterfront ramp.

3. Award 0 to 30 points for proposer's plan to develop and facilitate the creation of an uplands marine services sector shipyard.

4. Award up to 25 points for proposer's bid price to lease the GPIP uplands

   Points will be awarded based upon this formula:

   $$\frac{\text{Proposer's lease price per square foot}}{\text{Highest lease price received per square foot}} \times 25 = \text{Bid Price Points}$$

The total maximum number of points = 100

CBS reserves the right to negotiate with any proposer, to waive informalities in any of the proposals and to award the marine shipyard development contract to whichever proposer is deemed to provide the best value for the Municipality at the sole discretion of CBS. CBS will notify the selected proposer and work with that selected proposer to draft and enter into an exclusive agreement that best satisfies the preferred outcome of this RFP.

I. Schedule

Advertise Request for Proposals	March 11, 2020 to April 12, 2020
Proposals Due	April 15, 2020
Internal Review and Negotiations	April 16, 2020 to April 30, 2020
Possible CBS Assembly Award	May 2020

I. Appendices

Appendix A Environmental MOU between the State of Alaska and CBS

Appendix B GPIP Uplands Lease Lots and Their Areas

Appendix C GPIP Uplands Parcel Map of Potential Lease Lots

Appendix D GPIP Zoning Code Table of Permitted Uses

Appendix E GPIP Utilities

RFP Requested Proposal Format

1.

04/15/2020

Proposal: Marine Haul-out Facility

From:

Kelly Warren 907-752-0676 and Dan Cooper 907-738-8430

WC Enterprises

Formal proposal to locally fund and operate the Marine Haul-out Facility (MHF) at the Gary Paxton Industrial Park (GPIP) in the City and Borough of Sitka, AK (CBS)

2.

Our company (The Company), which will be created upon the acceptance of the proposal by CBS will be a new company specifically designed to manage and operate the new Marine Haul-out Facility in Sitka. The partners forming the Company are Kelly Warren with 29 years in the fishing and boat repair industries and Dan Cooper with over 30 years in commercial and industrial electrical, refrigeration, environmental compliance, and project management areas.

3.

The Company has no previous experience operating other marine haul out facilities, however the industries that each partner does have experience within is more than adequate to effectively and safely operate the new MHF.

4.

There will be three phases of construction to complete the proposed MHF.

Phase One of the MHF will be completed on or about 6/1/2021
Phase Two of the MHF will be completed as funds allow on or about 6/1/2023
Phase Three of the MHF will be completed as funds allow on or about 6/1/2025
The completion schedule for all three phases are subject to change based on contractor availability, equipment delivery schedules, income availability and financing approval.

CBS will be responsible for any and all clean up and debris removal on all lots leased by The Company prior to beginning construction.

Phase One: Lot 8, Lot 9A and Lot 15.

Lot 8 utilized for office, restroom, and EPA approved wash rack. The Company will contract out for minimal grading, construction of the wash rack, wash rack support building with waste water processing equipment, office and restroom.

Lot 9A East utilized for ramp access. The Company will contract services for minimal grading and necessary repairs to the existing ramp.

Lot 15 utilized for vessel storage and work area. The Company will contract services for minimal grading as required for this purpose.

The Company will contract services for electrical and power pedestal installation as required for the purposes stated for each lot during the construction of Phase One of the MHF.

Phase One will also include accommodating as much as is possible marine service businesses in order to promote as many services as possible during this phase of construction. The Company hopes to construct at least one covered area during this phase to make certain work on vessels possible that would otherwise not be able to be done.

Phase Two: Lot 6, Lot 7 and Lot 9C

Lots 6, 7 and 9C will be utilized for additional boat storage and repair locations.

The Company will contract out for minimal grading, electrical and power pedestals as required.

During Phase Two, The Company will continue to seek and promote marine service businesses to serve the needs of the fleet.

Lease rates for Lots 6, 7 and 9C of Phase Two will be the same per square foot as agreed by CBS and The Company for Phase One Lots 8, 9A and 15.

Phase Three: Lot 16B, 19, 20

Lots 16B, 19 and 20 will be utilized for additional boat storage and work area.

At the completion of Phase Three, The Company will have a fully functioning MHF to include as many marine services as possible and the infrastructure to facilitate meeting the needs of a multifaceted fleet.

Lease rates for the lots included in Phase Two and Phase Three of the MHF will remain the same as the agreed upon rates for all lots used in Phase One of the MHF.
Please see attached lease rate proposal.

5.

The Company will provide a marine boat lift that will utilize the existing ramp on Lot 9A to haul and transport vessels to the wash rack and storage area for repairs. The proposed lift will be capable of

lifting vessels from 35 feet up to 100 feet weighing as much as 300 tons. The company will also provide all jack stands and necessary equipment for blocking up vessels for work or storage

6.

The Company's conceptual operation plan will consist of a minimum of two full time employees for equipment operation, book keeping, maintenance of equipment and wash rack, monitoring waste water treatment system and ensuring safe operation in all areas of the MHF.

RFP Subsection Responses from the Company

Section A

It is our desire to construct and operate a marine haul out facility to support Sitka's growing marine industry. Our intention is to construct this facility in three phases. Building in three phases allows us to minimize the overall construction time by completing Phase One, which is a basic facility utilizing the current ramp structure, a new EPA approved wash rack, a 300T haul out machine and lots 8, 9A and 15 for boat storage and work area with the funds currently available by June of 2021. During the Phase One construction we will be actively seeking marine service businesses to support the fleet while they are hauled out at the facility in an effort to be able to provide a full service marine shipyard to meet the needs of a growing fleet.

Phase Two of the facility which will expand the facility by including lots 6, 7 and 9C for boat storage and work area will begin during the first year of operation and is scheduled to be completed by June of 2023 using funds generated by the facility during the first two years of operation.

Once Phase Two has been completed we will immediately begin construction of Phase Three which will again expand the shipyard by including lots 16B, 19 and 20 for boat storage and work area.

The Company proposes to Lease GPIP lots 8, 9A East and 15 for Phase One of the MHF for five years at which time the Company will have the right to extend the lease up to 99 years or purchase these lots. Additionally, The Company intends to lease lots 6, 7, 9C, 16B, 19 and 20 at values stated in this proposal. *See Appendix 1 for the Companies proposed lease rates and purchase values.*

For the purposes of the MHF The Company requires that lots 6, 7, 8, 9A, 9C and 15 remain available to The Company in order to complete the first two phases of construction. Furthermore The Company requires First Right of Refusal on lots 16B, 19 and 20 before they are leased or sold to any other entity in order to ensure the success of the MHF.

Section B

Funding. The Company proposes using the economic development fund through SEDA for the purchase of equipment, construction, permitting, and associated startup costs for Phase One of the MHF. We propose the fund be used in a loan form that The Company will pay back using proceeds from the MHF. The Loan amount would be approximately $1.5m with a 15 year term, not to exceed a 4.5% interest rate

with the first payment due in the fall of 2021. The Company also proposes that CBS redirect 25% of The Company's loan payments per year back to The Company for infrastructure improvements at the MHF.

Ramp Utilization. The existing ramp will be managed and used by The Company for the MHF operation. The company will make the ramp available to the public for other uses such as hauling barges to and from an area to have work done or hauling other such equipment that could not otherwise be hauled without the use of the ramp as long as there is no risk of damage to the ramp and it is being used in a safe manner. The Company will maintain the right to refuse use of the ramp for any reason if its use impairs the safe operation of the MHF. Public use will also be available by scheduled use managed by The Company. The Company will not be held liable for any damage to property or persons arising from use of the ramp for operations other than or outside of the MHF.

Section C

Existing conditions, disclosed or undisclosed by CBS, that limit or prevent the marine haul out as proposed by The Company and that have incurred expenses by The Company shall be reimbursed to the company by CBS.

Significant changes to the land development requirements, permitting, environmental cleanup, environment studies, and local, State, and Federal requirements that are unforeseen where The Company has incurred expenses shall be reimbursed to The Company by CBS.

The Company will not assume responsibility or associated expenses for the remediation of any existing environmental contamination or conditions that require repair, replacement, installation, engineering, or other associated expenses.

Preliminary baseline environmental testing will be completed by The Company prior to final acceptance of a contract and construction of the MHF.

No dredging or tideland construction is required for this plan at this time.

Section D

The Company will provide insurance as required and additionally name CBS upon lease acceptance.

Section E

The Company will provide marine services and haul out services and will consider all suggestions from CBS and the GPIP Board.

Section F

The Company will operate within all Lease, Zoning, and Environmental requirements and will pay appropriate sales taxes on all services and sub-leases The Company provides.

The Company will provide a Port Security Plan and a Spill Prevention, Control and Countermeasure Plan as necessary.

We hope you will consider The Company's proposal and look forward to negotiating the fine details of this project with CBS and the GPIP Board. Sitka needs this facility, let's make it happen.

Kelly Warren	Daniel K Cooper	Date
	Daniel K Cooper	04/15/2020

Appendix 1

		SqFt	Per SqFt		Annually
Land Lease	Lot 8	32,362	$0.245		$7,929
	Lot 9A East	43,634	$0.245		$10,690
	Lot 15	113,369	$0.245		$27,775
				Total	**$46,394**

Lease rates based on previous sale of adjasent land at 2.61/ft at 9% value per year = 0.245/ SqFt with tax included

GARY PAXTON INDUSTRIAL PARK

329 Harbor Drive, Suite 212
Sitka, AK 99835
Phone: 907-747-2660

Friday, June 16, 2020

MEMORANDUM

To: Gary Paxton industrial Park (GPIP) Board of Directors

From: Garry White, Director

Subject: Sitka Salmon Shares Proposal

Introduction

Sitka Salmon Shares is proposing to lease portions of the GPIP dock to place either a 20' or 40' freezer container and a dock crane to assist in their fish buying operation. Please see the attached proposal from Salmon Shares.

GPIP Dock

The GPIP dock was opened for operation in the spring of 2018. The GPIP dock is managed by the CBS Harbor Department. Activity at the GPIP dock has increased substantially every year the facility has been open to the public for use.

GPIP Dock Tariff Rates

Rate for using the GPIP dock can be found on the CBS Harbor Department website. http://www.cityofsitka.com/government/departments/harbor/documents/MasterTariffNo.39-4-2018DRAFT-3.pdf

Current the only published rates for storage of equipment on the GPIP dock are:

	STORAGE RATE in Dollars				
	2018	2019	2020	2021	2022
(1) Annual rate for storage of fishing nets on 8'x12' pallets:	$1,000	$1,060	$1,123.60	$1,191	$1,262.50
Storage rate per month: $125/month (2 month minimum, paid up front).	$250	$265	$280.90	$297.75	$315.62
Storage rate per month for fishing nets stored on dock.	$250	$265	$280.90	$297.75	$315.62

Additional Information

• The Harbor Master has advised against a permanent monthly loss of moorage space as demand is high for the GPIP dock face.

Action

- GPIP Discussion of Sitka Salmon Shares Proposal.
    - Location of freezer container
    - Rates for on dock storage rate of freezer container
    - Location for storage of crane of forklift
    - Rates for on dock or upland storage of crane or forklift.

SITKA SALMON
SITKASALMONSHARES.COM

Dear Gary Paxton Industrial Park Board,

Sitka Salmon Shares is looking to lease a portion of the Silver Bay dock to potentially put either a 20’ or a 40’ freezer container as well as a forklift to assist with our fish buying operations.

The freezer container would be mobile, but it would need to be plugged into your 3 phase 460V power supply.
The Forklift would also be mobile and would not need any power supply.

We are interested in leasing space for both of these for the end of June through september 1st.

I look forward to speaking with you all at the next upcoming board meeting about how we can work together.

Thank you,

Marsh Skeele

Vice President

Sitka Salmon Shares


40' Freezer container
Crane Truck

GARY PAXTON
INDUSTRIAL PARK

329 Harbor Drive, Suite 212
Sitka, AK 99835
Phone: 907-747-2660

Friday, June 19, 2020

MEMORANDUM

To: Gary Paxton Industrial Park (GPIP) Board of Directors

From: Garry White, Director

Subject: Block 4, Lot 1 Potential Sale Discussion

Introduction

The GPIP Director has been approached by a member of the public that is interested in purchasing Block 4, Lot 1 (former sawmill farm lease site) at the GPIP.

During the GPIP Board's December 2019 meeting, the Board gave direction on holding off on accepting offers to lease or purchase property at the GPIP until the haul out development plan could be further investigated. The subject property is located outside of the GPIP properties proper.

Background

Lot 1, Block 4 is a 6.69 acre parcel of undeveloped property located adjacent to Sawmill Creek, across the creek from the GPIP proper. Lot1, Block 4 is the former location of the APC landfill. The landfill was capped in 1999 with crushed concrete and vegetation. Maintaining the integrity of the landfill cap (including soils and grasses) and existing surface water drainage around the landfill are required per the CBS agreement with the State of Alaska Department of Environmental Conservation. Please see attached information from 12/99 APC-Sitka Landfill Closure Improvement Project report.

The uplands restrictions on the landfill area exist until July 11, 2097.

Lot 1, Block 4 has been assessed at $101,996 for the 6.69 (291,418 SF) acre site.

Additional Information

- The sale of GPIP property will need to go through a competitive bid process.

Action

- GPIP Board discussion on starting a competitive sale process for Block 4, Lot1

12/99 COMPLETION REPORT: APC-SITKA LANDFILL POST-CLOSURE IMPROVEMENTS PROJECT

Sawmill Creek
Sitka, Alaska

Prepared for

Alaska Pulp Corporation
1301 Fifth Avenue, Suite 3300
Seattle, WA 98101-2662

Prepared by

Southeast Management Services
1061 Mendenhall Peninsula Road; Juneau, Alaska 99801

12/99 COMPLETION REPORT:
APC/SITKA LANDFILL POST-CLOSURE IMPROVEMENTS PROJECT

Sawmill Creek
Sitka, Alaska

TABLE OF CONTENTS

12/99 COMPLETION REPORT: APC/SITKA LANDFILL POST-CLOSURE IMPROVEMENTS PROJECT

I. SUMMARY

Beginning 5/6/99 and continuing until 12/9/99, extensive post-closure improvements were made to Alaska Pulp Corporation's 4.5-acre former APC/Sitka Solid Waste Disposal Facility, located about 5 miles east of Sitka along the Sawmill Creek Road. All post-closure improvements at the facility now are completed, except for establishing the final grass cover which is scheduled for next spring.

The APC-Sitka solid waste disposal site was closed in 1993, but subsequent Alaska Dept. of Environmental Conservation (ADEC) inspections raised concerns about site stability and leachate generation. On 11/24/98 a detailed site inspection was made by Southeast Management Services and resulted in the report, "11/24/98 Inspection Report & Post-Closure Completion Recommendations - APC-Sitka Solid Waste Disposal Facility". ADEC approved the recommended post-closure improvements with some minor changes, and site construction began soon after snow left the site on 5/6/99. Since then all agreed-to improvements have been completed or scheduled at the closed site, including the following:

1. The alder growth on the top surface was removed and open burned;
2. The large amounts of 4'-6' dia. barrier logs previously along the roadway were removed by open burning;
3. The cyclone fencing around the site's asbestos disposal area was removed;
4. All surface metal and other debris on the embankment slopes were removed;
5. The previously over-steep southern embankment was excavated back to an overall 1.8:1 slope in a benched fashion with 3 access roads;
6. The extensive quantities of metal and other debris from the southern embankment area were reburied elsewhere at the site, and covered over with at least a 2'-deep cover;
7. The 200'-long culvert through the northwestern portion of the fill was abandoned, and replaced with an open-surface water drainage ditch. All excavated material was relocated to the top surface of the site and covered with at least 2' of inert fill;
8. About 320 lineal feet of tideland embankment were stabilized with armor rock, and all miscellaneous steel debris in the tideland area was removed;
9. The upland surface drainage ditches were excavated, lined with a 30-mil membrane, and then protected from surface erosion by at least a 6"-thick crushed-concrete layer;
10. A new 3'-dia. culvert was placed across the Sawmill Creek Roadway, to be certain of handling any increased surface water flows along the upslope side of the road;
11. The site's top surfaces were smoothed and vibratory-compacted to promote surface water drainage. The top surfaces then were covered with an 18"-thick layer of crushed-concrete fill, followed by a 6"-thick layer of soil cover;

12. All embankment surfaces that were reworked or created during the project were covered with a 6"-thick soil cover;
13. Barrier logs were placed along the downslope ditchline bordering Sawmill Creek Road, to protect against unauthorized vehicle access;
14. Two small leachate streams were substantially reduced but continued to flow along the northwestern embankment toe of the site. Sampling sites were created on each stream and samples taken to fully characterize each stream, and
15. Barrier logs were placed along both sides of the Sawmill Creek Roadway and across the site entrance, to provide a reasonable level of security against unauthorized vehicle access;
16. An as-built survey was completed and is included in this report. As part of the survey, 4 site-stability monuments were established along the top of the main embankment area, and
17. Commitments have been made to establish surface water erosion control along the site's embankments next spring, followed by grass-seeding of the entire site.

This report provides a summary of the project to 9/17/99, details the work activities from 9/18/99 to 12/9/99, and documents the completion of post-closure improvements at the APC/Sitka Solid Waste Disposal Facility. Because of the extensive nature of the project, an interim status report was submitted to ADEC and the Sitka Borough on 9/23/99 entitled, "9/17/99 Status Report - APC/Sitka Landfill Post-Closure Improvements Project". That report documented the progress through 9/17/99, and should be referenced for any detailed review of the project's 5/6/99 – 9/17/99 timeframe.

The site will be transferred soon to the Sitka Borough, which then will be responsible for maintaining site security and planning for the future use of the site if any. It will be very important to recognize that

1. The 6"-thick soil cover needs time to settle into place, and the site should not be used for any activities until the grass cover has become well established next summer. Even then, it will be important to allow only those activities which will be compatible with allowing the soil and its grass cover to remain in place, and
2. Nearly all surface water drainage ditches have a 30-mil membrane liner within 6" – 12" of the ditchline rock surface, and the rocked cover was carefully placed to avoid exposing the membrane. Consequently the ditchlines should receive little if any cleanout activity, particularly by a backhoe. Fortunately the ditchline design should minimize any undesirable growth. Furthermore, any sediment buildup should be largely self-cleaning in the main drainage ditch because of its periodic high flow volumes.

II. PROJECT ACTIVITY TO 9/17/99

II.A. Site Description & Initial Conditions

The APC-Sitka Solid Waste Disposal Facility is located at 5-Mile Sawmill Creek Road, as indicated on Figure I, page 3a. Figure II, page 3b, provides a site plan of the facility, and Figure III, page 2c, provides site reference stations for every 100' along the fill areas. Figure IV, page 3d, summarizes the site conditions when the improvements project was initiated:

1. The **asbestos waste disposal area** was a 0.8-acre area situated on the flat upper surface of the facility and surrounded by cyclone fencing with a locked gate. This area had been used for depositing about 1,600 c.y. of asbestos-containing material within the other solid waste fill. An empty 8'x8'x16' container box was situated just inside the locked gate, and much of the top surface was covered with a dense growth of small alder trees. Just beyond the asbestos disposal fencing was a 50'-60' high embankment, sloped at about 2:1 down to tideland. Most of the embankment was covered with large alders and brush, and miscellaneous metal and other debris were present along its surface. Three leachate seepages were present near tideland between Sta. 4+90' to Sta. 5+40', and there were several areas of tideland erosion along the embankment toe;
2. The **northwestern waste disposal area** covered about 0.5 acres and made up the northwestern end of the facility. Several piles of metal banding, cable strands and some piping were present on the area's surface. In addition, miscellaneous debris and a few tires were visible along the embankment toe. The entire area was covered with dense small alder growth. A 200'-long culvert extended through the fill deposits and routed upland surface water drainage to tidelands, and there were indications that the culvert was at least partially plugged;
3. The **southeastern waste disposal area** covered 2.1 acres and was immediately adjacent to the asbestos disposal area. Its 120' – 200' wide upper surface was covered with a dense small alder growth, and its 60'-80' high embankment slopes were exceedingly steep along its southern end. The southern embankment slope also had several cracks along its upper lip, and there was metal and other debris throughout its surface that made this area a considerable safety concern. The toe of the embankment had several areas of erosion along tideland, and miscellaneous metal debris could be found just below the embankment toe on the Sawmill Creek tidal flats;
4. The **northeastern waste disposal area** covered about 0.5 acres and was the only disposal area on the upslope side of Sawmill Creek Road. Its 300'-long fill was partially covered with small alders, had no drainage ditch along the roadway and inadequate ditching along its upslope side, and
5. An **upslope surface water ditch along Sawmill Creek Road** extended along about 350' of the ADOT/PF Sawmill Creek Road, and emptied into a 3'-dia. culvert that crossed the road near the APC-Sitka Solid Waste Disposal Facility's northwestern end. However, there were four abandoned old cross-road culverts along the ditchline, two of which were allowing substantial amounts of water to flow directly into the deposited fill on the other side of the road. In addition, the ditchline was shallow and not lined with any material that would keep water from filtering into the roadbed fill.

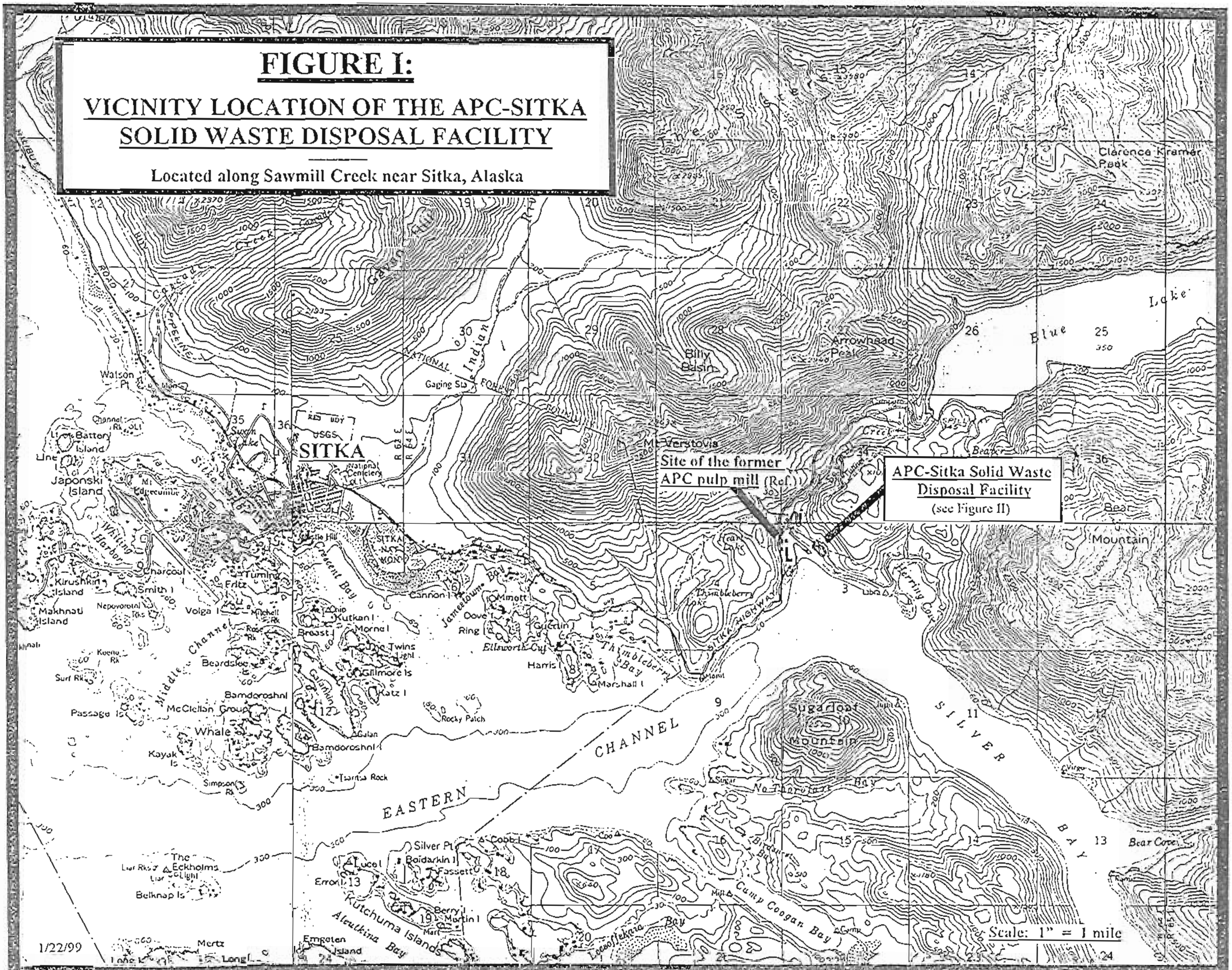


FIGURE I:

VICINITY LOCATION OF THE APC-SITKA SOLID WASTE DISPOSAL FACILITY

Located along Sawmill Creek near Sitka, Alaska

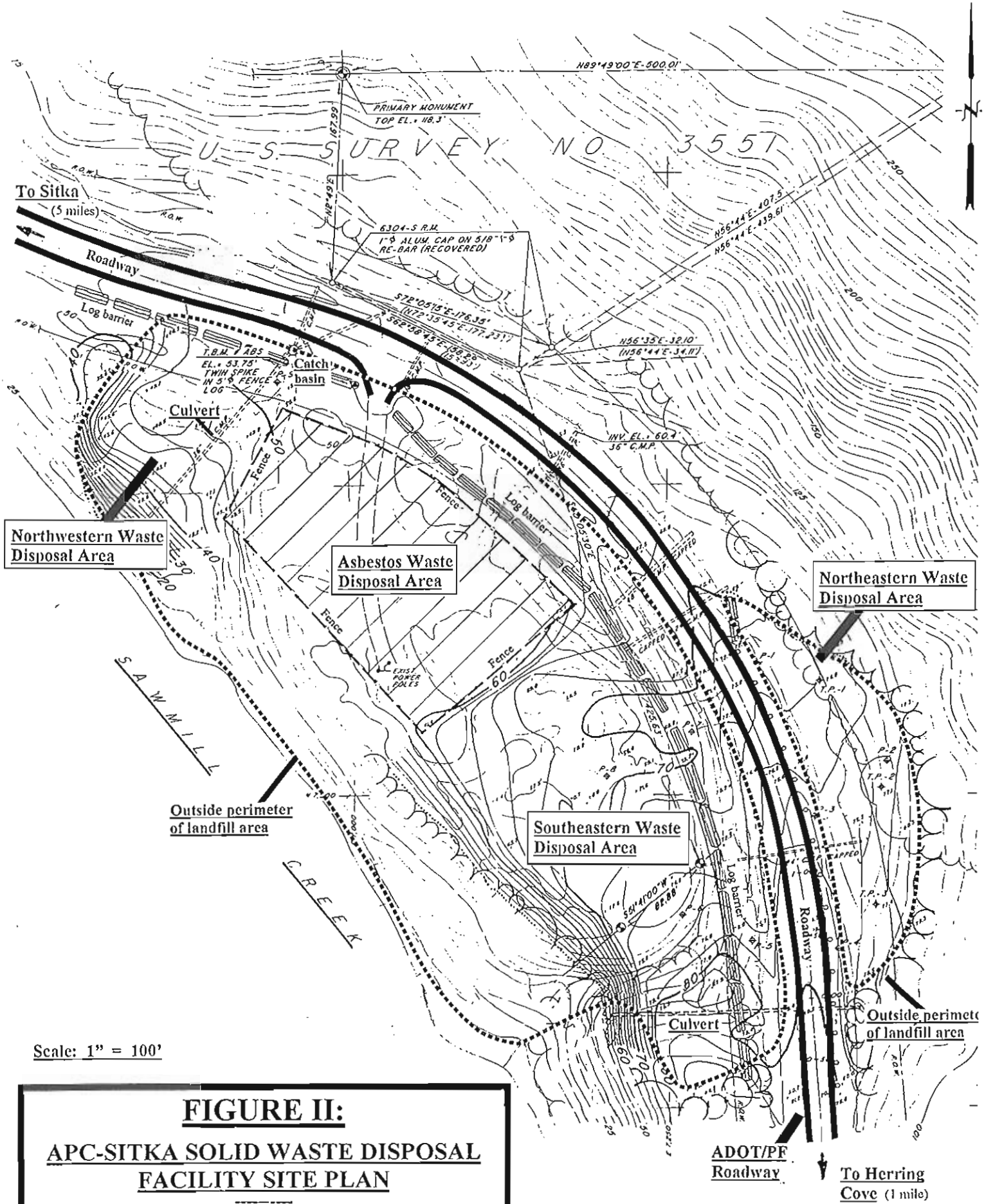


FIGURE II:

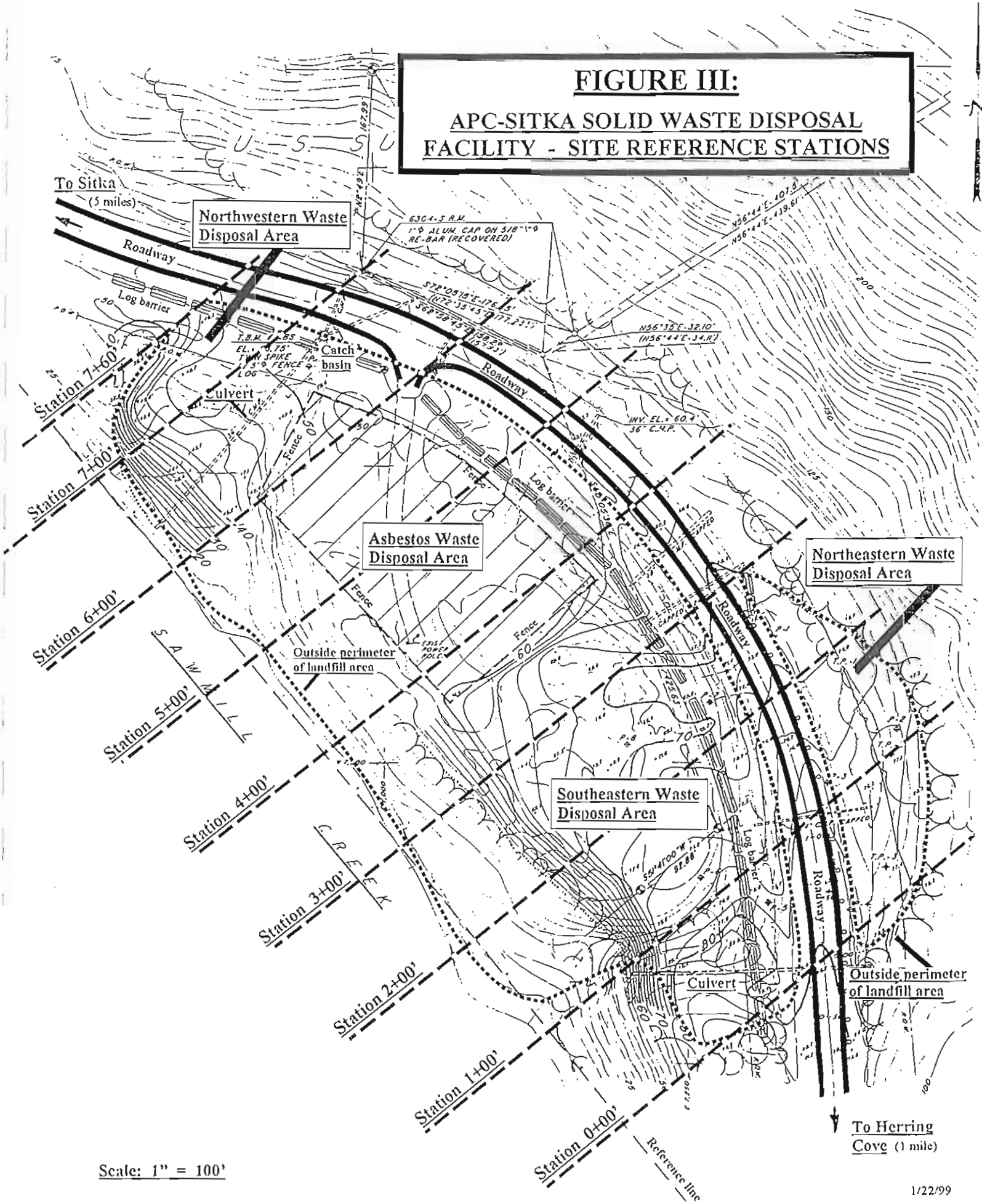
APC-SITKA SOLID WASTE DISPOSAL FACILITY SITE PLAN

Located along Sawmill Creek near Sitka, Alaska

1/22/99

FIGURE III:

APC-SITKA SOLID WASTE DISPOSAL FACILITY - SITE REFERENCE STATIONS



Scale: 1" = 100'

1/22/99

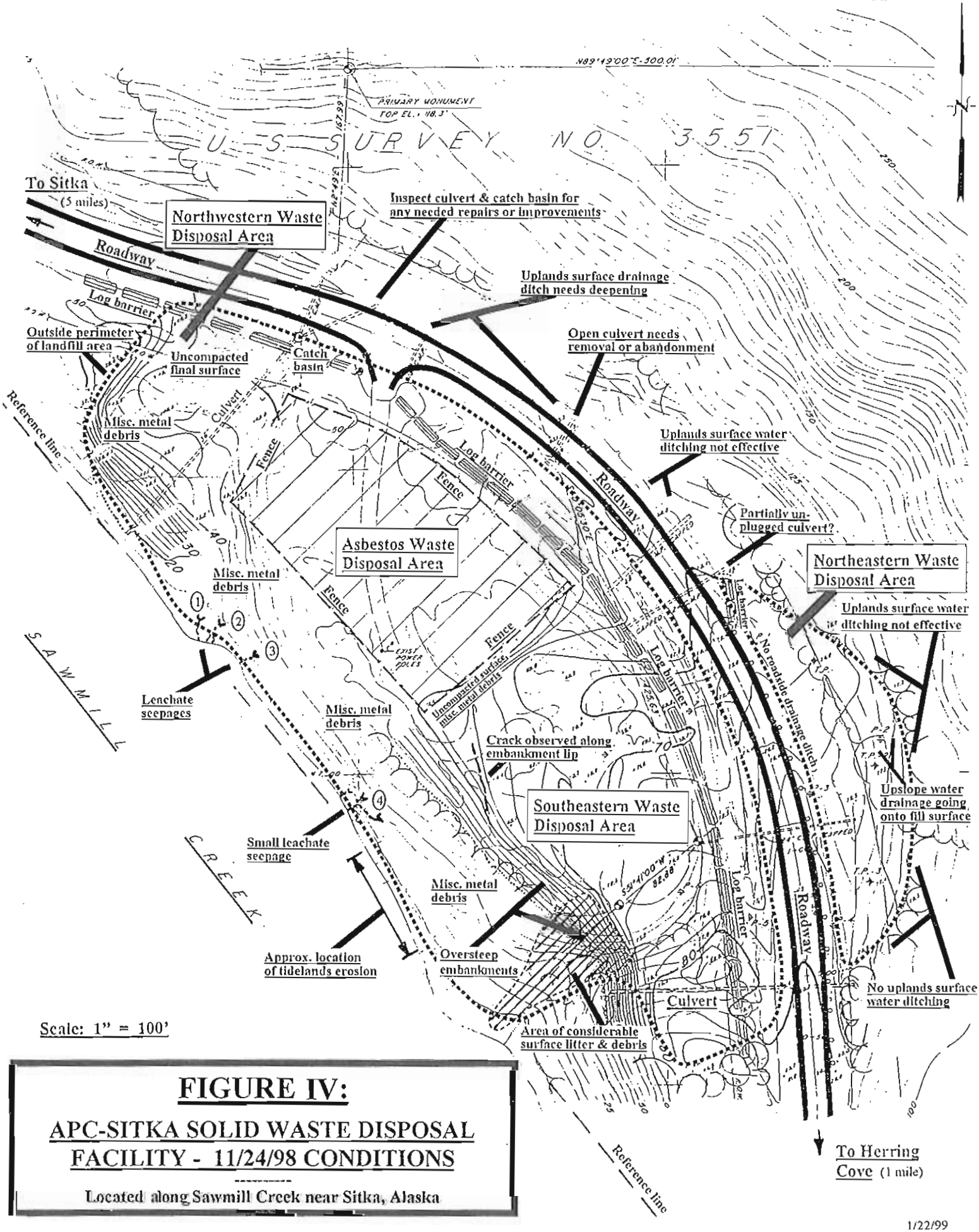


FIGURE IV:

APC-SITKA SOLID WASTE DISPOSAL FACILITY - 11/24/98 CONDITIONS

Located along Sawmill Creek near Sitka, Alaska

1/22/99

II.B. Initial Agency Reviews & Permits

On 2/22/99 a permit application was made to the Corps of Army Engineers, to carry out bank stabilization activities at several tideland erosion areas along the APC-Sitka Solid Waste Disposal Facility's embankment toe.[1] The Corps issued a 'Nationwide-13' permit on 3/12/99 for the activity,[2] authorizing the bank stabilization work during the time window of June 1 – July 15.

On 2/23/99 ADEC provided review comments on APC's 11/24/98 inspection report's post-closure improvement recommendations. The letter[3] indicated the following:

1. An initial set of excavations had to be made every 50' along the fill's centerline, to document the amount of surface cover placed over the deposited wastes at the time of the 1993 closure;
2. An evaluation of both culverts going through the APC-Sitka Solid Waste Disposal Facility had to be made, with the intention of replacing them with open-drainage ditches if at all possible;
3. The asbestos disposal area's perimeter fencing could be removed from the site;
4. Any metal or other deposits that had to be excavated from over-steep areas may be redeposited elsewhere on the facility site, as long as all redeposited materials are covered with at least 2' of inert fill;
5. A follow-up effort will be necessary to assure that a good vegetative cover of grass gets established across the entire facility surface, and
6. ADEC did not agree with the recommendation for a 3-year post-closure monitoring period, once the site improvements are completed. ADEC indicated that it would wait until the improvements project was over, and then evaluate what would be appropriate based on the condition of the landfill.

On 3/17/99 SE Management Services confirmed that all of ADEC's comments and recommendations were being incorporated into the APC-Sitka Solid Waste Disposal Facility's post-improvements project.[4]

On 5/12/99 the project's drainage improvement details were submitted to ADOT/PF for agency review and approval. ADOT/PF gave approval on 7/1/99, and on 9/7/99 ADOT/PF was provided updated ditchline design details that incorporated a 30-mil liner.[5]

On 5/14/99 a detailed assessment of the two surface water drainage culverts going through the fill at the APC-Sitka Solid Waste Disposal Facility was submitted for ADEC review.[6] The recommended conclusions were to (1) abandon the facility's northwestern culvert and create an open-ditch drainage channel around the northwestern edge of the fill, and (2) leave the facility's southern culvert in place as the best option for providing upslope drainage in that area of the site. The second conclusion was reached after finding no practical open-ditch option, and determining the existing culvert to be in good structural shape and repairable if necessary in future years. During a 6/2/99 site inspection, both ADEC and Sitka Borough personnel agreed with the drainage culvert conclusions.

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[1]/ Refer to pages B2-B7 of the project's 9/17/99 status report, submitted to ADEC on 9/23/99 and entitled, "9/17/99 Status Report - APC-Sitka Landfill Post-Closure Improvements Project".

[2]/ Ref. pages B12-B16 of the project's 9/17/99 status report.

[3]/ Ref. pages B8-B9 of the project's 9/17/99 status report.

[4]/ Ref. pages B10-B11 of the project's 9/17/99 status report.

[5]/ Ref. pages B20-B21 and B25-B30 of the project's 9/17/99 status report.

[6]/ Ref. pages B22-B24 of the project's 9/17/99 status report

Photographs of project work activity are included in Appendix A of the earlier report entitled, "9/17/99 Status Report - APC/Sitka Landfill Post-Closure Improvements Project", which should be consulted for a more detailed description of the extensive work progress during 5/6/99-9/17/99.

II.C. Summary of Project Work Activity, 5/6/99 - 9/17/99

Figure IV, page 3d, provides a site plan of the original conditions at the APC/Sitka Solid Waste Disposal Facility, prior to the beginning of any post-closure improvements. On 5/6/99 the field work activities at the APC-Sitka Solid Waste Disposal Facility began with clearing of the dense small alder growth that covered much of the site's top surface. By 5/20/99 all of the top-surface alders had been removed and were piled in preparation for open burning.

Once the top surface of the APC-Sitka Solid Waste disposal Facility was cleared of vegetation, excavations were made on 5/20-21/99 to determine the surface cover depths along every 50' of the facility's top surface centerline and are summarized below:[7]

Excavation Site No.	Sta. Location	Cover Depth
#1	Sta. 0+30'	4'
#2	Sta. 0+80'	3' – 4'
#3	Sta. 1+20'	1'
#4	Sta. 1+70'	3'
#5	Sta. 2+20'	3.5'
#6	Sta. 2+70'	3.5'
#7	Sta. 3+20'	3'
#8	Sta. 3+70'	1' - 2'
#9	Sta. 5+95'	2'
#10	Sta. 6+40'	0.8'
#11	Sta. 6+90'	1'
#12	Sta. 7+30'	1.3'

For the most part, the initial soil surface depths over the top surface of the APC-Sitka Solid Waste Disposal Facility were in excess of the required 2'-depth of cover, except for the northwestern end where soil depths were averaged about 1'.

II.C.1. Embankment Surface Debris Removal & Access Roads

A major initial concern for the project was whether any useable access roads could be constructed on the steep embankments of the APC-Sitka Solid Waste Disposal Facility. Consequently several access roads were pioneered down the embankment slopes within weeks of the project's beginning. While the roadways provided effective for backhoes, they were too steep for trucks and therefore all steel and other debris found on the embankments had to be bucketed and transported to the upper surface of the site by backhoe.

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[7] Refer to Figure V, page 4a of the project's 9/17/99 status report, for a site plan showing the locations of the initial surface-cover depths along the APC/Sitka Solid Waste Disposal Facility's centerline.

The embankment surfaces of the APC-Sitka Solid Waste Disposal Facility were cleared of most surface debris within the first month of field activity. Also, a large section of overhead crane track that had been lying just outside of the asbestos disposal fencing (at about Sta. 5+00', refer to Figure III, page 3c) was cut up and removed from the site. During June, the underlying vegetation around the embankment alders was cut out to better expose any remaining metal, and an additional slope hand-cleaning took place. In addition, several large pieces of steel debris near tidelands were removed by backhoe.

II.C.2. Tideland Erosion Controls & Cleanup

A primary objective in May was to get ready for the tideland erosion controls that had to be completed during the June 1 – July 15 time window. About 350 c.y. of rock were brought in from the Herring Cove rock-slide area, to make an access roadway across the APC-Sitka Solid Waste Disposal Facility's top surface. The access road then was used to deliver larger rock to the embankment area for placement along the tidelands.

Backhoe access to tidelands was quickly established along Sta.5+15' in the first part of June, by means of the access roadway down the northwestern embankment. Cleanup then took place of the considerable amounts of small steel debris along Sawmill Creek's intertidal area in front of the APC-Sitka Solid Waste Disposal Facility. On 6/13/99 a closer review of the entire tidelands embankment took place, and several additional areas than originally anticipated were found that needed bank stabilization:

1. Over-steep tideland conditions were found along about Sta. 3+90' – Sta. 4+90', and
2. While erosion was known to exist along Sta. 2+10' – Sta. 3+30' that had to be corrected, additional erosion was found almost continuously for another 100' to the south, where the tideland alder trees had undercut embankments and exposed roots.

By 6/30/99 the bank stabilization work along Sta. 3+90' – Sta. 4+90' was completed, and all miscellaneous metal debris was removed from the tidelands. By 7/12/99 the remaining bank stabilization areas along the APC-Sitka Solid Waste Disposal Facility's southern tidelands were completed.

II.C.3. Southwestern Embankment Area Improvements

Extremely steep conditions existed along the APC/Sitka Solid Waste Disposal Facility's southeastern embankments when the post-closure improvements project began. Once the initial embankment access roads were in place by 5/20/99, two backhoes worked together for six weeks to excavate and slowly relocate the excess material from the southeastern embankment area to the top surface of the site. The 9/17/99 status report provides photos and details of the substantial quantities of fill that had to be removed from the embankment, to make it less steep.

Excavation of the over-steep southern embankment area quickly became the major and most difficult part of the entire project. The excess fill material removed from near the bottom of the embankment had to be handled at least 4 times by the backhoes, before it finally reached the top surface of the site where it then could be redeposited elsewhere. Over a 4-5 week period of almost continuous excavation in this fashion, the 70'-high embankment slowly began to lose its steepness.

As the excavation process began, several batteries were found. All construction personnel immediately were instructed on the proper means of identifying and removing batteries from the site. One construction laborer was used throughout the remaining embankment excavation periods as a battery spotter, to assure that any batteries encountered were immediately detected and removed for recycling. In addition, considerable amounts of household garbage were found in this area, and undoubtedly came from the substantial amounts of roadside public dumping that occurred when the facility was still operating in the 1980's.

On 6/3/99 the initial lower embankment slope area along Sta. 1+30' – Sta. 2+10' was compacted into place by backhoe bucket, and armor rock was placed along the toe of the embankment where a small surface water drainage stream was present (see Photo #56 on page A29). By 6/14/99 the steep cliff area about halfway up the embankment near the southern culvert discharge was lined with armor rock, to make this rock-cliff transition area both safe and stable. The adjacent stepped-embankments then were completed at an overall 1.8:1 slope, and by 6/30/99 an initial portion of the embankments was covered with a 4"-thick layer of soil. By 8/18/99 the southeastern embankment excavations were completed, and were ready for soil covering.

II.C.4. Excavation & Pulling Back of the Northwestern Embankment

On 7/12/99 work began on pulling back the northwestern end of the APC-Sitka Solid Waste Disposal Facility's fill, to develop an effective open drainage ditchline for the upslope drainage water from the roadside culvert. Over the next 3 weeks approximately 50' of the original fill deposits were removed from the northwestern end. About 4,400 c.y. of solid waste fill were excavated and redeposited along the top surface of the fill, in much the same manner as had occurred for the southeastern embankment area. By 8/18/99 the northwestern embankment excavations were complete and all slopes were final-contoured for placement of the final soil cover. An access path was created for walking down to the Sawmill Creek tidelands at Sta. 5+15', and the discharge end of the original northwestern culvert was removed from the site.

II.C.5. Reburying of Excavated Debris, New Surface Contours

Large amounts of steel and other solid waste debris were excavated from the APC-Sitka Solid Waste Disposal Facility's embankments during the project. About 50% of the excavated material appeared to be made up of Mg0 ash, power boil ash and composted wood debris which typically appeared as mud and topsoil. Nearly all of the remaining 50% of fill was made up of cable and steel objects of a wide variety, which were brought to the site's top surface and then separated into piles for redepositing. No barrels with any liquids or other products were encountered at any time during the excavations. All batteries found were carefully removed from the working areas as soon as found and then sent in for recycling.

The excavations are estimated to have removed and redeposited about 16,000 c.y. from the southern embankment area, and about 4,400 c.y. from the northwestern end of the site. The redeposition process was very time-consuming because the metal debris had to be carried by backhoe to the redeposition areas, to be laid in a 2'-3' layer at the bottom of each new fill area. The ash/soil material from the excavations then would be dozed over the top of the redeposited metal in a 2'-3' layer, thereby increasing about two-thirds of the site's top surface elevation by 5" – 8'.

II.C.6. Upslope & Road Drainage Controls

On 5/20/99 the end of the cross-road culvert in the northwestern portion of the APC-Sitka Solid Waste Disposal Facility was excavated to find and determine the condition of its catch basin. At that time, the culvert end appeared plugged because water was upwelling where the catchment basin should have been located, and was draining along the roadway. However, no catch basin was found, in spite of excavating and removing at least an additional 30' of the culvert extending into the fill. At that point the end of the culvert end was bent over and buried. A temporary surface water ditch was created around the northwestern end of the APC/Sitka landfill site, and ditchline work was temporarily stopped until crushed concrete fill material was available from the APC millsite's demolition project.

On 7/1/99 work began on creating a ditchline around the APC-Sitka Solid Waste Disposal Facility's northeastern area above the Sawmill Creek Road, to cut off surface waters draining from the upslope hillside. By 8/18/99 a ditchline had been formed around the entire northeastern disposal area. Ditchline work then was temporarily stopped until crushed concrete rock became available from the APC millsite demolition project.

III. PROJECT COMPLETION ACTIVITY, 9/18/99 - 12/9/99

Progress on completing the post-closure improvements at the APC/Sitka Solid Waste Disposal Facility was slowed considerably for about 4 weeks starting in mid-September, because crushed-concrete fill material continued to be unavailable from the APC millsite demolition project. In early-November some crushed-concrete material was made, thereby allowing surface water drainage improvements to begin. By 11/23/99 the entire upper surface of the site was covered with 1.5' of crushed-concrete fill and the final 6"-thick soil cover.

Figure V, page 8a, provides a site plan of the finalized site conditions. Photographs of project work activity are included in Appendix A, and are referenced in the following subsections which describe activity accomplished during 9/18/99 – 12/9/99 to complete the final post-closure improvements

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III.A. Cross-Road Culvert Installation

The installation a new 36"-dia. culvert across the Sawmill Creek Road took place on 10/7/99 along the northwestern end of the APC/Sitka Solid Waste Disposal Facility. Photos on page A2 show the excavation and installation process that took place on the 110'-long culvert, which was installed near the existing 36"-dia. culvert as shown on Figure V, page 8a.

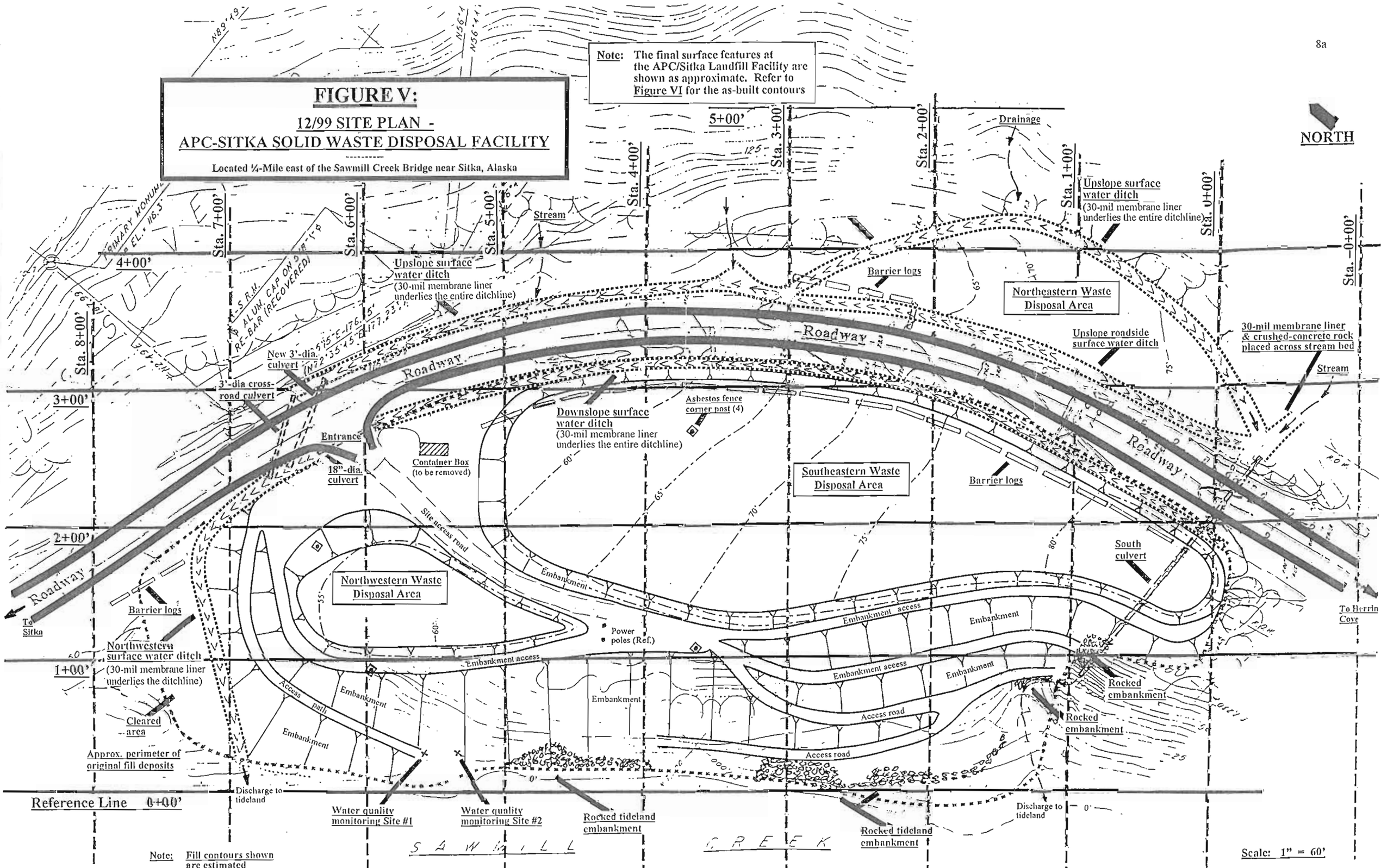
On 10/12/99 the existing 36"-dia culvert was lengthened about 8' to get its discharge end further away from the roadway's shoulder (refer to Photo #9, page A6). The inlet and outlet ends of the completed new-culvert installation can be seen on page A12, in relation to the existing culvert.

FIGURE V:

12/99 SITE PLAN - APC-SITKA SOLID WASTE DISPOSAL FACILITY

Located ¼-Mile east of the Sawmill Creek Bridge near Sitka, Alaska

Note: The final surface features at the APC/Sitka Landfill Facility are shown as approximate. Refer to Figure VI for the as-built contours



Note: Fill contours shown are estimated

Scale: 1" = 60'

III.B. Surface Water Drainage Ditches

An extensive effort started on 10/11/99 and continued through 11/11/99, to complete all surface water drainage ditches and underlay most of them with a 30-mil membrane liner. The ditchlines are shown on Figure V and were installed as shown in the cross-sectional drawings on pages C10-C12. Their completion activities are described as follows:

1. *Downslope surface water ditchline along Sawmill Creek Road.* Photos on page A3 show the initial preparation and installation of the 30-mil by 10'-wide membrane liner, immediately upslope of the two Sawmill Creek Road culverts. A 6" layer of crushed-concrete was placed on top of the membrane to bed the 18"-dia culvert across the site entrance (see page A4). After that, the entire 720'-long ditchline was covered with the 30-mil membrane liner, and its edges were carefully embedded into the adjacent bank soils (refer to page A5). The entire membrane liner then was covered with at least 6" of crushed concrete to insure erosion protection (see photos on page C12).

   Details of the final ditchline are shown in Cross-Section B-B on page C10. In addition, a 6"-thick layer of soil was added to the roadside bank and extended over the edges of the crushed-concrete layer as shown in Photo #25, page A14, and continued to the upslope end of the ditch (see Photo #51, page A27). As the project neared completion on 11/23/99, the 6"-thick soil layer along the fill embankment had been extended over the crushed-concrete sides of the ditchline as shown in Photo 80 on page A41.

2. *Upslope surface water ditchlines.* A primary objective of the APC/Sitka Solid Waste Disposal Facility's post-closure improvement project was to cut off as much as practicable of the upslope surface water draining onto the site, and route it around the fill areas. Three ditchline areas were involved, and were completed as follows:

   A. *Upslope ditchline around the Northeastern Disposal Area.* As shown on Figure IV, page 3d, the original surface water ditch around the site's Northeastern Waste Disposal Area was ineffective at intercepting any surface waters. An initial ditchline was excavated around its southern end on 7/1/99, and by 8/18/99 the entire ditchline had been excavated (refer to the 9/17/99 Status Report photos on pages A24 and A33-A34 of that document). By 10/13/99 the northwest-draining portion of the ditch had been lined with the 30-mil membrane liner (refer to Photo #10, page A6).

   Photo #11, page A7, shows the care taken to make certain that the upper edges of the 30-mil membrane were definitely sealed into the ditchline's upper soil embankments. By 10/13/99 a 6"-thick layer of crushed-concrete fines were being placed over the membrane, and by 10/20/99 the entire membrane was covered with crushed-concrete (refer to Photo #12 on page A7, and Photo #18 on page A10). To help insure the crushed-concrete fines would not wash away, the entire ditchline then was covered with 4"-minus crushed-concrete to complete the ditch as shown in Photos #61 & #63, pages A32-A33.

   The southeast-draining portion of the ditch along the south end of the Northeastern Waste Disposal Area was still unlined as of 10/20/99 (see Photos #26 & #27 on pages A14-A15). However, it was completely lined by 11/11/99 with plastic membrane and rock (see Photos on page A34). In addition, a 30-mil membrane liner was placed along the bottom of the small stream flowing along the southern edge of the fill area for about 30' from the roadside culvert's inlet.

   B. *Roadside drainage ditch along the Northeastern Waste Disposal Area.* The Northeastern Waste Disposal Area borders the Sawmill Creek Road for 360', most of which is lined with a guardrail. An ADOT/PF closure requirement was to establish a roadside ditch in this area, and by 10/20/99 an initial ditchline had been established.

As shown in Photo #26, page A14, the vegetation was removed from under the guardrail post to the new ditchline, in preparation to covering the area with soil.

By 11/11/99 the entire ditchline was sealed with a 6"-thick layer of soil that extended to under the guardrail posts, as shown in Photos #62-#65, pages A32-A34. While this ditchline does not include a plastic membrane (refer to Cross-Section F-F on page C12), the thick soil cover appears to have created an effective seal because considerable surface water runoff is being observed during rainy periods.

C. *Upslope ditchline along Sawmill Creek Road.* Photos #13-#16, pages A8-A9, show the placement and extension on 10/14/99 of the 30-mil membrane from the Northeastern Disposal Area, for a distance of 310' along the Sawmill Creek Roadside to the cross-road culvert inlet. Prior to placing the membrane, 4 cross-road culverts that had been in the roadway but not serving any useful purpose had at least 10' of their upslope ends excavated and removed.

The 30-mil membrane's 10'-width was extended as necessary to capture the several upslope drainages (see Photos #13-#15, pages A8-A9). The photos also show the initial placements for a 6"-thick cover of crushed-concrete fines, to protect the 30-mil membrane liner from potential erosion. The photos on pages A10-A11 show the crushed-rock covering the entire liner surface by 10/20/99, and the initial placement of larger rock to protect against the water erosion potential along the bottom of the ditchline.

The final upslope ditchline is shown in the photos on page A31, after large rock had been placed over its entire bottom and sides to protect against potential erosion during high-flow conditions (refer to Cross-Section E-E on page C12, and the additional photos on pages C16-C18 and C20).

3. *Northwestern surface water ditchline.* A major effort was required to create a surface water ditchline around the APC/Sitka landfill's northwestern end, to route the upland drainage from the roadside culverts and ditches around the fill area. Previously, there had been a long 36"-dia culvert extending through this fill area, which was found to be plugged and had to be eliminated (refer to the last paragraph in Section II.B. on page 4 for further discussion).

The work activity started on 7/12/99, by excavating and pulling back all of the fill from the first 50'-60' of the site's original northwestern edge. As documented in the 9/17/99 Status Report (refer to Section III.E. on pages 6-7, Photo #50 on page A26, and the photos on page A32 of that report), an estimated 4,400 c.y. of fill were excavated by 8/18/99 from the area to finally create a drainage channel suitable for a permanent ditchline. Photo #22 on page A12 shows additional excavation on 10/20/99 that was made to move the ditchline as far away as possible from the Sawmill Creek Roadway, including the removal of a large tree stump.

On 10/28/99 the area just below the roadside culvert discharge ends was prepared for laying the 30-mil by 20'-wide membrane liner. Photos #33-#36, pages A18-A19, show the process in securing the liner and then methodically covering it with crushed-concrete fines and finally larger rock to hold the fines in place. Armor rock was placed along both sides of the ditchline, and the completed ditchline is shown on pages A20-A21 (refer to Cross-Section D-D on page C11 for installation details).

	Monitoring Site #1	Monitoring Site #2
1. B.O.D.	0.1 mg/l	0.3 mg/l
4. Estimated Flow	7.7 gal/min	15.5 gal/min

III.J. Removal of Lead-Contaminated Soil

During the extensive excavation of the southeastern and northwestern embankments, a number of lead-acid batteries were encountered and nearly all were processed for recycling through the NAPA auto parts store in Sitka. However, some batteries inadvertently were broken during the excavation process or were found in a deteriorated condition. Consequently the battery pieces and soil found around the shattered or deteriorated batteries had to be removed from the site and were initially placed in plastic-lined fish totes that were kept secured in the site's 16'-long cargo container box. On 11/10/99 the recyclable portions of batteries were separated and sent to the NAPA store for recycling, and the remaining battery pieces and soil were placed into 2 plastic-lined drums that were sealed and labeled for disposal as hazardous waste.

At this point the two drums of lead-contaminated soil remain in the 16'-long container box near the entrance to the APC/Sitka landfill site (refer to Figure V, page 8a for location), which is locked and has been placarded as a 270-day Temporary Accumulation Area. Arrangements will be made by Alaska Pulp Corporation to remove the 2 barrels for disposal as hazard wastes, and the container box will be removed from the site as well. The disposal of the 2 drums and removal of the container box from the APC/Sitka landfill site will occur at least by next spring, and prior to the final surface erosion controls and grass-seeding at the site.

IV. SURFACE EROSION CONTROL & GRASS COVER

Because the APC/Sitka Landfill's post-closure improvements were completed so late in the year, the final water drainage controls on the site's steep embankments and planting of grass across the site will have to be done in the spring. Consequently a contract will be negotiated soon by APC for Winnop's Excavation Inc. of Sitka to inspect the site next spring as soon as snow leaves the site and then complete the site's embankment erosion controls as follows:

1. Repair any soil slumpages that may have occurred. Several small areas along the upper northwestern embankment are known to have slumped because the soil was too water-saturated to hold up when it was placed in late-November. There also may be other minor areas on the site where surface water erosion may have redeposited the soil cover, and those areas will be corrected as well;
2. Smooth out and eliminate where practical any water ponding that might be apparent along the top surfaces of the APC/Sitka landfill site, at the same time making certain to remove any survey stakes that might still remain along the top surfaces;
3. Place 1-5 rock-or-netting-lined surface water drainage channels over the embankments, and the creation of small drainage ditches to direct the surface waters as appropriate to those channels;
4. Inspect all embankment surfaces to smooth out minor erosion channels & provide erosion prevention measures such as strips of netting where necessary, and

5. The estimated time & resources to complete the items described in (1)-(3) is provided below, and will be included in the APC contract:

A. 2 days of backhoe (8 hrs/d @ $100/hr)	$ 1,600
B. 2 days of truck (8 hrs/d @ $65)	$ 1,040
C. 5 loads of 2"-minus rock @ $100/load	$ 500
D. 2 men @ 3 days (10 hrs/d @ $40/hr)	$ 2,400
E. Netting & misc. materials	$ 700
Estimated Total Cost:	$ 6,240

A contract also will be negotiated by APC with Winnop's Excavation, Inc. to make certain that grass-seeding of the entire site is accomplished, as soon as the springtime erosion control measures are finished. It is expected that R&B Enterprises of Sitka will do the hydroseeding of the site, as described below:

1. The grass-seed mixture to be used at the site will be made up of 33% Perennial Ryegrass, 34% Creeping Red Fescue, and 33% Alpine Bluegrass, spread across the site at an application rate of 40-45 lb./acre.

   The grass-seed mixture was selected after first obtaining the USFS's grass-seed criteria and information, and then reviewing the site requirements several times with the seed-supplier UAP-Northwest in Burlington, WA. The resulting mixture should result in a good medium-to-low ground cover, be drought tolerant, able to stand up to wet rainy conditions, establish a good root base and be able to fill into any areas that might be missed in the hydroseeding activity;

2. The fertilizer to be used will be 8-32-16, as recommended by UAP-Northwest for quickly developing a good root base for the grass, spread with the grass-seed at a rate of 200-250 lb./acre. No re-fertilization should be necessary for the remainder of the first year, but some additional fertilization should be considered for application in following years to maintain a reasonable nitrogen level in the soil;

3. Approximately 2 acres of the site consist of embankments and inclines that will be hydroseeded with mulch to help control erosion until the grass seed begins to germinate, and

4. Approximately 2.5 acres of the site are made up of relatively flat areas that will be hydroseeded but no mulch will be used.

V. AGENCY APPROVALS

Corps of Army Engineers. A Nationwide-13 Army Corps of Engineers permit was issued to APC on 3/12/99 for completing the APC/Sitka Solid Waste Disposal Facility's tideland bank stabilization activities. All work had to be completed during the time window of June 1-July 15, and all work was completed by July 12 as documented in the 9/17/99 Status Report. Photos of the completed bank stabilization work can be found on pages A27-A28 of that report. On 9/8/99 a completion report on the work was submitted to the Corps (refer to pages C2-C9 of the 9/17/99 Status Report, which includes additional photos of the completed stabilization work). A subsequent call to the Corps' Stephen Penaluna confirmed that he had recently visited the site, found the work acceptable under the terms of the original permit, and considered the permit closed on the basis of the final completion report that had just been received.

Alaska Dept. of Environmental Conservation. On 11/23/99 a completion inspection was made of the APC/Sitka Solid Waste Disposal Facility site by ADEC, with representatives from the Sitka Borough, SE Management Services and the contractor Winnop's Excavation in attendance. While there were a few site details still had to be completed, the majority of the site was ready for final inspection. A follow-up 11/30/99 letter with updated site plans and photographs was submitted to ADEC for its review and acceptance of the site's post-closure improvements (see pages C3-C6). On 12/3/99 ADEC sent its acceptance letter for the APC/Sitka Solid Waste Disposal Facility's post-closure improvements, and it is included on pages C22-26. ADEC's approval was contingent on APC or the Sitka Borough following through with surface erosion control and grass-seeding in the spring (refer to the preceding Section IV for a discussion of how APC will complete these items by contract). It also indicated the following:

1. There is no need to excavate holes every 50' along the top surface centerline to confirm the final depth of crushed-concrete & soil cover. The survey-stakes method of confirming the depth (refer to Section II.E., page 12, for more detail), observed during the 11/23/99 site inspection, was accepted as sufficient documentation of this item;
2. Exhibits 5 & 6 of ADEC's Memorandum of Understanding with the Sitka Borough were attached to emphasize the follow-up monitoring requirements that are required to be addressed for the APC/Sitka landfill site by the Sitka Borough. They can be found on pages C24-C26.

   ADEC's letter also pointed out that there were two very small seepages along the embankment which, although they were not large enough to monitor for water quality parameters, their locations should be inspected and described in the quarterly visual inspections required of the Sitka Borough starting next year (refer to Section III.I for a more detailed description of the sites), and
3. As a summary the ADEC letter concluded with,

   > *"As you know, at the start of this project I was very concerned about the conditions at the APC industrial landfill. The high, steep slopes at the southeastern waste disposal area may have presented unsafe conditions in the future. Fortunately, your project removed a much greater portion of this material than required under our agreement. With this accomplishment, I believe the site is in fairly good shape to stand the test of time."*

Alaska Dept. of Transportation/Public Facilities. On 11/30/99 a letter with photographs was submitted to ADOT/PF, documenting the completion of all right-of-way improvements along the Sawmill Creek Road as it adjoined the APC/Sitka Solid Waste Disposal Facility and requesting the agency's acceptance (refer to pages C7-C21). On 12/9/99 the final upslope roadway improvement requested by ADOT/PF was made, resulting in ADOT/PF's final inspection and acceptance of the road right-of-way improvements as documented by letter included on page C27.

In conclusion, no other agencies are known to be involved with the closed APC/Sitka Solid Waste Disposal Facility's post-closure improvements project. APC therefore should be considered to have met all regulatory agency requirements for post-closure of this site, contingent on following through with the finalizing of contracts and their funding for the springtime surface drainage controls and grass-seeding.

III.C. Crushed-Concrete Layer Over Top Surface

By 9/17/99 all of the excavated metal and debris from the APC/Sitka landfill's embankments had been reburied and levelled out across the top of the site, as documented in the 9/17/99 Status Report. By 10/20/99 the entire top surface of the main Southeastern Waste Disposal Area (refer to Figure V, page 8a) was vibratory-compacted and beginning to be covered with crush-concrete fill (refer to Photos on page A13). At the same time, the entire Northeastern Waste Disposal Area also was being covered with crushed-concrete fines, as shown on pages A14-A15.

The purpose of the crushed-concrete fill was to insure that all of the miscellaneous sharp wire fragments sticking out of the redeposited fill would be completely covered. Because the State of Alaska closure requirements were for 2' of inert fill cover across the top of the site, the crushed-concrete layer was made to be 18" thick and the final 6"-thick soil layer would make up the remaining cover depth. The only top-surface areas that did not receive an 18"-thick layer of crushed-concrete were

1. The site access road between Sta. 3+50' – Sta. 6+00', and the nearby container box area (refer to Figure V, page 8a for locations). These areas were directly over the original asbestos disposal area that had been previously closed with at least 2' of soil cover, and
2. The first 100' along the southern end of the site, where the fill was found to be clean and no solid waste was encountered for the first 3'-6' of depth.

Because the crushed-concrete fill was coming from the former APC millsite's demolition project, a substantial effort was made to separate any residual metal that may have remained after the concrete was crushed. The crushed-concrete was inspected and metal hand-separated by several laborers as it was exiting from the rock screen set up at the millsite. In addition, the millsite's demolition contractor used an electromagnet to pick out most remaining pieces of metal from the crushed-concrete prior to its leaving the APC millsite. Once the crushed-concrete was delivered to the APC/Sitka landfill, it was spread in thin layers and 1-2 laborers were constantly inspecting the spread-out material to remove any remaining pieces of metal that might be found. All metal, and chunks of other debris such as fiberglass and plastic materials, picked out of the crushed-concrete at the APC/Sitka landfill were placed into hoppers and periodically returned to the APC millsite. Photos #24 and #28, pages A13 & A15, show typical views of the crushed concrete as it was delivered to the project, and the final product turned out to be essentially free of any large metal pieces and most small ones including pieces of wire.

By 11/8/99 the Northeastern Waste Disposal Area (refer to Figure V, page 8a) was completely covered with its 18"-thick layer of crushed-concrete, and at that time its surface was covered with the final 6"-thick layer of soil as shown on pages A32-A33. By 11/11/99 most of the APC/Sitka landfill's main top surface area was well on its way to being covered with crushed concrete, as shown in the photos on pages A23-A26. Photos #46-#48, pages A24-A25, show the survey stakes that were placed across the top surface as the crushed-concrete rock was spread, to make certain that the final 18" depth was achieved throughout the area. The site's Northwestern Waste Disposal Area's top surface was beginning to be covered with crushed-concrete by 11/11/99 (see photos on page A35), and its 18"-thick layer was completed by 11/13/99.

III.D. Final Embankment Improvements & Soil Cover

The 9/17/99 Status Report documented the completion of the APC/Sitka landfill's southeastern and northwestern embankment excavations, but only a small area along Sta. 0+90' – Sta. 1+40' had been covered with soil and grass-seeded by that time. By 10/20/99 the embankments immediately below the embankment access road (refer to Sta. 2+00' – Sta. 4+40' in Figure V, page

8a) were covered with at least a 6"-thick layer of soil. The soil layer was hand-raked to break up any soil clumps and to insure a reasonably smooth final surface, as shown on pages A16-A17. By 10/20/99 more of the southeastern embankments were covered with soil (refer to page A24), and by 11/11/99 nearly all southeastern embankment surfaces were covered (refer to Photos #52-#58, pages A27-A30). The only area that remained uncovered was along the upper embankment at about Sta. 0+90 – 1+40' (refer to Photo # 53, page A28). That area was completed by 11/23/99 as shown in Photos #82-#87 on pages A42-A45, including the placement of

1. Additional soil material along the entire upper embankment area, as well as completely covering the previously excavated areas from the new embankment toe to the undisturbed vegetation along the tidelands and rockwork placed earlier for bank stabilization (see particularly Photos #55-#57, pages A29-A30);
2. A crushed-rock layer over the embankment access road and over a vehicle turn-around area that was created along the embankment toe near tidelands, and
3. Perimeter logs along the outside of the embankment access road and its turn-around area.

The APC/Sitka landfill's northwestern embankments could not be completed until the surface water drainage ditchline was completed on 11/3/99, at which time soil was spread across the upper embankments along both sides of the ditchline as shown in Photos #38-#42, pages A20-A22. The outer embankments along the APC/Sitka landfill's northwestern end were contoured and covered with its final 6"-thick layer of soil by 11/11/99, as shown in the photos on pages A35-A36. By 11/23/99, the entire embankment surfaces around the APC/Sitka landfill's northwestern end were covered with the final soil layer as shown in Photo #92 on page A47 and Photos #95-#96 on page A49.

III.E. Soil Layer Over Top Surface

The APC/Sitka landfill's Northeastern Waste Disposal Area was the first to have its final 6"-thick soil layer completed, as shown in the 11/11/99 photos on pages A33-A34. At that same time the 6"-thick soil layer was just beginning to be placed over the main Southeastern Waste Disposal Area (see photos on page A26). By 11/23/99 the entire Southeastern and Northwestern Waste Disposal Areas were covered with their final 6"-thick soil layer as shown in the photos on pages A39 and A41-A43. As shown in Photo #81, page A42, the survey stakes placed earlier to confirm the 18"-thick crushed-concrete and 6"-thick layer of soil were still present on 11/23/99 with their tops showing above the top of the soil (compare with Photo #48 on page A25).

III.F. Site Security

As the final soil layer was spread across the APC/Sitka landfill's top surface, barrier logs were obtained from the APC millsite's demolition project and placed along the entrance of the Northeastern Waste Disposal Area's entrance by 11/11/99 (see Photos #61-#63 on pages A32-A33). Nearly all of the barrier logs were placed on creosoted saddle logs, to raise them for the purposes of creating a higher barrier and keep them out of direct contact with the underlying soil layer. Barrier logs then were placed along the entire lower side of the Sawmill Creek Roadway by 11/23/99 as shown in the photos on pages A40-A43. Several additional logs along both sides of the site entrance area were placed on 12/9/99, to more completely block off any easy access for unauthorized vehicles. A barrier log also was placed across the site entrance, thereby completing the site security measures for the closed APC/Sitka Solid Waste Disposal Facility

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III.G. As-Built Survey, Recording of Site Details

Once the final soil layer was completed at the APC/Sitka Solid Waste Disposal Facility on 11/23/99, O'Neill Surveying & Engineering of Sitka began to establish corner monuments and develop an as-built survey of the entire site. The completed as-built survey is shown as Figure VI, page 17a, and a full-scale copy at 1" = 30' is enclosed at the back of the report.

Because the APC/Sitka Solid Disposal Facility has undergone substantial changes to its contours and surface features, the site details recorded earlier to satisfy State Solid Waste Regulation 18 AAC 60.450(i) for the regulated asbestos-containing material deposits need to be updated and re-recorded. As shown on Figure VI, the site now is defined by 7 survey monuments and new contours, and that information will be used for the new recording that will be completed by APC this winter.

III.H. Site Stability Monitoring Stations

Four 'Site Stability' monuments were created during the latter part of 11/99 along the top lip of the APC/Sitka Solid Waste Disposal Facility, as shown in Figure VI. Their elevations and locations relative to the survey's 'TBM' on the site-located power poles are indicated, and the elevations are tied back to the site corner monuments and other reference points including the Sawmill Creek Bridge. It should be relatively easy to re-confirm these locations and their elevations whenever necessary by the Sitka Borough for reporting to ADEC.

III.I. Leachate Monitoring Stations, Initial Sampling Results

Two leachate water sampling sites were established along the toe of the APC/Sitka landfill's northwestern embankment, as shown on Figure V, page 8a, where considerable water flowrates had been observed previously from three sites. Two of these sites were combined into a common discharge at Monitoring Site #1, as shown in the photos on page 37. Monitoring Site #2 was located about 45' to the southeast, and is shown in the photos on Page A38. Comprehensive water sampling was conducted on 11/11/99 by SE Management Services, and samples sent to Analytical Resources Inc. in Seattle WA for analysis and those results are included in their entirety in Appendix B, pages B2-B44. The results that were determined in the field on 11/23/99 by SE Management Services are the following:

		Monitoring Site #1	Monitoring Site #2
1.	pH	6.99	7.70
2.	Dissolved Oxygen	5.8 mg/l	6.4 mg/l
3.	Conductivity	674 uS/cm2	927 uS/cm2
4.	Estimated Flow	3 – 10 gal/min	10 – 20 gal/min

The Sitka Borough collected water quality samples on 11/18/99 and evaluated them for biological oxygen demand. Their results were the following (refer to page B45):

		Monitoring Site #1	Monitoring Site #2
1.	B.O.D.	0.1 mg/l	0.3 mg/l
2.	Estimated Flow	7.7 gal/min	15.5 gal/min

A review of the Analytical Resources Inc. laboratory results from the 11/11/99 water quality sampling suggests that both discharges are meeting all water quality standards and criteria for surface water discharges, and even meet the groundwater cleanup standards in 18 AAC 75.345(b). A summary of the results (refer to Appendix B for the complete analytical results) are the following:

		Monitoring Site #1	Monitoring Site #2
1.	Chemical Oxygen Demand	26 mg/l	22 mg/l
2.	Gasoline (AK-101)	U @ .25 mg/l	U @ .25 mg/l
3.	Diesel oil (AK-102)	U @ .25 mg/l	U @ .25 mg/l
4.	Motor oil (AK-103)	U @ .50 mg/l	U @ .50 mg/l
5.	BETX	U @ 1.0 ug/l	U @ 1.0 ug/l
6.	Volatile Compounds		
	A. Carbon disulfide	0.3 ug/l	4.6 ug/l
	B. All other compounds	U @ 0.2-0.5 ug/l	U @ 0.2-0.5 ug/l
7.	Semi-volatile compounds		
	A. Bis(2-ethylhexyl)phthalate	28 ug/l[8]	U @ 1.0 ug/l
	B. All other compounds	U @ 1.0-6.0 ug/l	U @ 1.0-6.0 ug/l
8.	Recoverable metals		
	a. Aluminum	.06 mg/l	.09 mg/l
	b. Barium	.031 mg/l	.039 mg/l
	c. Calcium	19.3 mg/l	20.1 mg/l
	d. Iron	0.66 mg/l	0.66 mg/l
	e. Magnesium	138 mg/l	150 mg/l
	f. Manganese	0.295 mg/l	0.289 mg/l
	g. Potassium	2.6 mg/l	6.0 mg/l
	h. Sodium	8.7 mg/l	18.2 mg/l
	i. Vanadium	0.006 mg/l	0.003 mg/l
	j. Zinc	0.016 mg/l	0.009 mg/l

III.J. Removal of Potentially Lead-Contaminated Soil

During the extensive excavation of the southeastern and northwestern embankments, a number of lead-acid batteries were encountered and nearly all were processed for recycling through the NAPA auto parts store in Sitka. However, some batteries inadvertently were broken during the excavation process or were found in a deteriorated condition. Consequently the battery pieces and soil found around the shattered or deteriorated batteries had to be removed from the site and were initially placed in plastic-lined fish totes that were kept secured in the site's 16'-long cargo container box. On 11/10/99 the recyclable portions of batteries were separated and sent to the NAPA store for recycling, and the remaining battery pieces and soil were placed into 2 plastic-lined drums that were sealed and labeled for potential disposal as hazardous waste, pending results of the analytical analyses of the two drum samples that were taken on 11/23/99.

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[8]/ Note: The analytical results (see pages B15 & B19) indicated that this compound also was detected in the Method Blank at 2.7 ug/l. There appears to be no surface water standard or criteria for this compound.

At this point the two drums of lead-contaminated soil remain in the 16'-long container box near the entrance to the APC/Sitka landfill site (refer to Figure V, page 8a for location), which is locked and has been placarded as a 270-day Temporary Accumulation Area. As shown on pages B35-B36, the two drums had total recoverable lead concentrations of 167,000 & 23,900 mg/kg. Thus far the soil samples taken from the two drums have been evaluated twice for their TCLP-lead concentrations and have not exceeded the 5-mg/kg level for being labeled as 'hazardous'. Consequently the two drums will undergo further evaluation to determine the appropriate method for disposing of their contents. In any event the disposal of the 2 drums and removal of the container box from the APC/Sitka landfill site will occur at least by next spring, and prior to the final surface erosion controls and grass-seeding at the site.

IV. SURFACE EROSION CONTROL & GRASS COVER

Because the APC/Sitka Landfill's post-closure improvements were completed so late in the year, the final water drainage controls on the site's steep embankments and planting of grass across the site will have to be done in the spring. Consequently a contract will be negotiated soon by APC for Winnop's Excavation Inc. of Sitka to inspect the site next spring as soon as snow leaves the site and then complete the site's embankment erosion controls as follows:

1. Repair any soil slumpages that may have occurred. Several small areas along the upper northwestern embankment are known to have slumped because the soil was too water-saturated to hold up when it was placed in late-November. There also may be other minor areas on the site where surface water erosion may have redeposited the soil cover, and those areas will be corrected as well;
2. Smooth out and eliminate where practical any water ponding that might be apparent along the top surfaces of the APC/Sitka landfill site, at the same time making certain to remove any survey stakes that might still remain along the top surfaces;
3. Place 1-5 rock-or-netting-lined surface water drainage channels over the embankments, and the creation of small drainage ditches to direct the surface waters as appropriate to those channels;
4. Inspect all embankment surfaces to smooth out minor erosion channels & provide erosion prevention measures such as strips of netting where necessary, and
5. The estimated time & resources to complete the items described in (1)-(3) is provided below, and will be included in the APC contract:

A. 2 days of backhoe (8 hrs/d @ $100/hr)	$ 1,600
B. 2 days of truck (8 hrs/d @ $65)	$ 1,040
C. 5 loads of 2"-minus rock @ $100/load	$ 500
D. 2 men @ 3 days (10 hrs/d @ $40/hr)	$ 2,400
E. Netting & misc. materials	$ 700
Estimated Total Cost:	$ 6,240

A contract also will be negotiated by APC with Winnop's Excavation, Inc. to make certain that grass-seeding of the entire site is accomplished, as soon as the springtime erosion control measures are finished. It is expected that R&B Enterprises of Sitka will do the hydroseeding of the site which will be included in the contract, as described below:

1. The grass-seed mixture to be used at the site will be made up of 33% Perennial Ryegrass, 34% Creeping Red Fescue, and 33% Alpine Bluegrass, spread across the site at an application rate of about 40-45 lb./acre.

   The grass-seed mixture was selected after first obtaining the USFS's grass-seed criteria and information, and then reviewing the site requirements several times with the seed-supplier UAP-Northwest in Burlington, WA. The resulting mixture should result in a good medium-to-low ground cover, be drought tolerant, able to stand up to wet rainy conditions, establish a good root base and fill into any areas that might be missed in the hydroseeding activity;

2. The fertilizer to be used will be 8-32-16, as recommended by UAP-Northwest for quickly developing a good root base for the grass. It will be spread with the grass-seed at a rate of about 200-250 lb./acre. No re-fertilization should be necessary for the remainder of the first year, but some additional fertilization should be considered by the Sitka Borough for application in following years to maintain a reasonable nitrogen level in the soil;

3. Approximately 2 acres of the site consist of embankments and inclines, which will be hydroseeded with mulch to help control erosion until the grass seed begins to germinate, and

4. Approximately 2.5 acres of the site are made up of relatively flat areas that will be hydroseeded, but no mulch will be used.

V. AGENCY APPROVALS

Corps of Army Engineers. A Nationwide-13 Army Corps of Engineers permit was issued to APC on 3/12/99 for completing the APC/Sitka Solid Waste Disposal Facility's tideland bank stabilization activities. All work had to be completed during the time window of June 1-July 15, and all work was completed by July 12 as documented in the 9/17/99 Status Report. Photos of the completed bank stabilization work can be found on pages A27-A28 of that report. On 9/8/99 a completion report on the work was submitted to the Corps (refer to pages C2-C9 of the 9/17/99 Status Report, which includes additional photos of the completed stabilization work). A subsequent call to the Corps' Stephen Penaluna confirmed that he had recently visited the site, found the work acceptable under the terms of the original permit, and considered the permit closed on the basis of the final completion report that had just been received.

Alaska Dept. of Environmental Conservation. On 11/23/99 a completion inspection was made of the APC/Sitka Solid Waste Disposal Facility site by ADEC, with representatives from the Sitka Borough, SE Management Services and the contractor Winnop's Excavation in attendance. While there were a few site details still had to be completed, the majority of the site was ready for final inspection. A follow-up 11/30/99 letter with updated site plans and photographs was submitted to ADEC for its review and acceptance of the site's post-closure improvements (see pages C3-C6). On 12/3/99 ADEC sent its acceptance letter for the APC/Sitka Solid Waste Disposal Facility's post-closure improvements, and it is included on pages C22-C26. ADEC's approval was contingent on APC or the Sitka Borough following through with surface erosion control and grass-seeding in the spring (refer to the preceding Section IV for a discussion of how APC will complete these items by contract). It also indicated the following:

1. There is no need to excavate holes every 50' along the top surface centerline to confirm the final depth of crushed-concrete & soil cover. The survey-stakes method of

confirming the depth (refer to Section II.E, page 12, for more detail), observed during the 11/23/99 site inspection, was accepted as sufficient documentation of this item;

2. Exhibits 5 & 6 of ADEC's Memorandum of Understanding with the Sitka Borough were attached to emphasize the follow-up monitoring requirements that are required to be addressed for the APC/Sitka landfill site by the Sitka Borough. They can be found on pages C24-C26.

   ADEC's letter pointed out that there were two very small seepages along the embankment which are of some concern to the agency and should observed in subsequent site inspections. These seepages (refer to photos on pages A45-A48) are not large enough to monitor for water quality parameters. However, they should be inspected and described in the quarterly visual inspections required of the Sitka Borough starting next year (refer to Section III.I for a more detailed description of the sites), and

3. As a summary the ADEC letter concluded with,

   > *"As you know, at the start of this project I was very concerned about the conditions at the APC industrial landfill. The high, steep slopes at the southeastern waste disposal area may have presented unsafe conditions in the future. Fortunately, your project removed a much greater portion of this material than required under our agreement. With this accomplishment, I believe the site is in fairly good shape to stand the test of time."*

Alaska Dept. of Transportation/Public Facilities. On 11/30/99 a letter with photographs was submitted to ADOT/PF, documenting the completion of all right-of-way improvements along the Sawmill Creek Road as it adjoined the APC/Sitka Solid Waste Disposal Facility and requesting the agency's acceptance (refer to pages C7-C21). On 12/9/99 the final upslope roadway improvement requested by ADOT/PF was made, resulting in ADOT/PF's final inspection and acceptance of the road right-of-way improvements as documented by letter included on page C27.

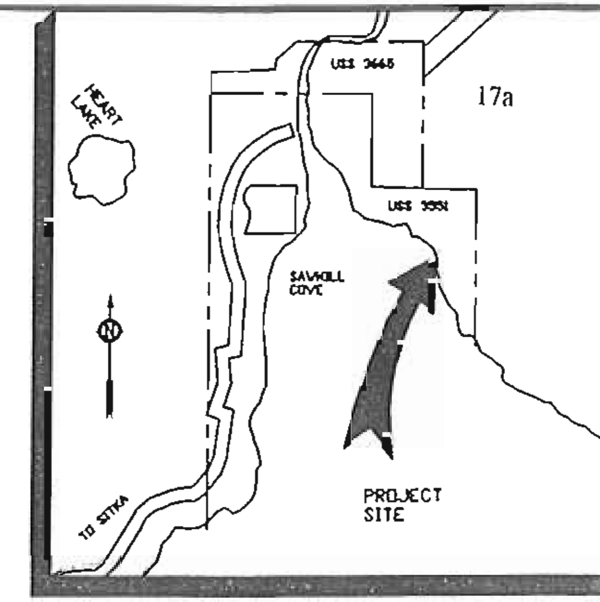
In summary conclusion, no other agencies are known to be involved with the closed APC/Sitka Solid Waste Disposal Facility's post-closure improvements project. APC therefore should be considered to have met all regulatory agency requirements for post-closure of this site, contingent on following through with the finalizing of contracts and their funding for the springtime surface drainage controls and grass-seeding.

FIGURE VI:

12/99 AS-BUILT SURVEY - APC-SITKA SOLID WASTE DISPOSAL FACILITY

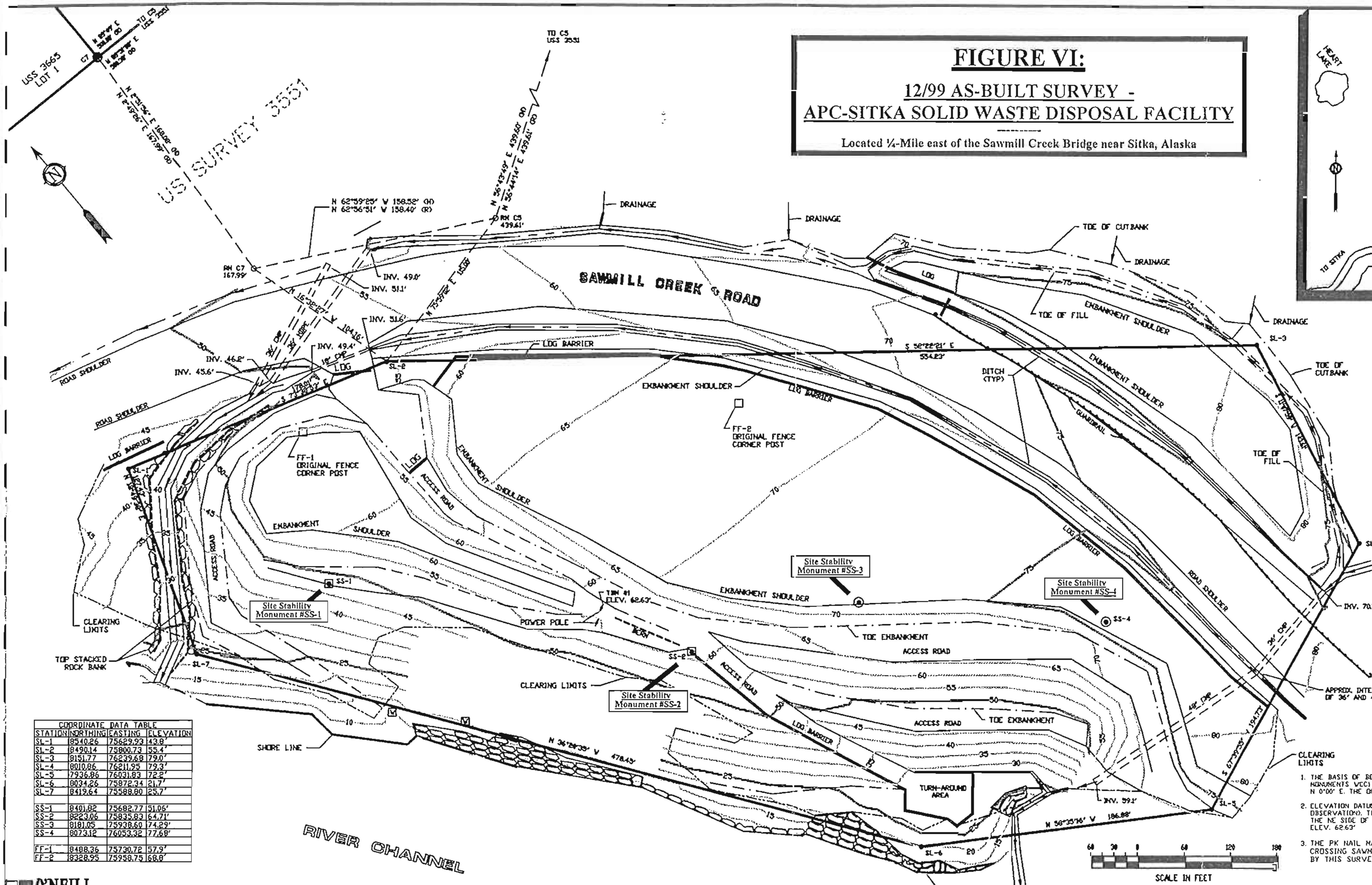
Located ¼-Mile east of the Sawmill Creek Bridge near Sitka, Alaska

17a



VICINITY MAP

SCALE 1"=1,000'



LEGEND

- GLO/BLM PRIMARY BRASS CAP (RECOVERED)
- SECONDARY MONUMENT (SET)
- REBAR AND ALUM CAP (RECOVERED)
- SITE STABILITY POST (FORMER ASBESTOS FENCE CORNER POST)
- SITE STABILITY REBAR AND ALUM CAP (SET)
- WATER SAMPLING STATION
- FORMER ASBESTOS FENCE CORNER POST
- STACKED ROCK EROSION PROTECTION
- STACKED ROCK STREAM BANK
- (R) RECORDED DATA
- (C) COMPUTED DATA
- (M) MEASURED DATA

COORDINATE DATA TABLE

STATION	NORTHING	EASTING	ELEVATION
SL-1	8540.26	75629.93	43.8'
SL-2	8490.14	75800.73	55.4'
SL-3	8151.77	76239.68	79.0'
SL-4	8010.86	76211.95	79.3'
SL-5	7936.86	76031.83	72.2'
SL-6	8034.26	75872.34	21.7'
SL-7	8419.64	75588.80	25.7'
SS-1	8401.82	75682.77	51.06'
SS-2	8223.06	75835.83	64.71'
SS-3	8181.05	75938.60	74.29'
SS-4	8073.12	76053.32	77.68'
FF-1	8488.36	75730.72	57.9'
FF-2	8328.95	75958.75	68.8'

PLAT NOTES

1. THE BASIS OF BEARINGS FOR THIS SURVEY IS BETWEEN GLO MONUMENTS WCC1 AND C2 USS 3551 HAVING A RECORD BEARING N 0°00' E. THE ORIGIN OF RECORD COORDINATES IS WCC1, USS 3551.
2. ELEVATION DATUM IS MLLW=0.0' (ESTABLISHED BY TIDAL OBSERVATION). TBM #1, A SPIKE APPROX. 1.1' ABOVE GROUND ON THE NE SIDE OF THE NORTHERLY OF 2 POWER POLES IS SET AT ELEV. 62.63'
3. THE PK NAIL MARKING THE WESTERLY CENTERLINE OF THE BRIDGE CROSSING SAWMILL CREEK IS AT ELEV. 29.76' AS ESTABLISHED BY THIS SURVEY.

POWER POLES

O'NEILL
LAND SURVEYING AND ENGINEERING
BOX 1849 SITKA, ALASKA 99835
(907) 747-6700

BY	DATE	REV	DESCRIPTION OF CHANGE
RECORD OF REVISIONS			

DESIGNED P. O'NEILL
DRAWN GDS/ACAD
CHECKED PKO
DATE OF PLAT: DEC. 06, 1999 W 12/13/99
SCALE: 1"=60'
DRAWING NAME: 11x17
PROJECT NO. 30185-01-00

SURVEYOR'S CERTIFICATE

I HEREBY CERTIFY THAT I AM A REGISTERED SURVEYOR, LICENSED IN THE STATE OF ALASKA, AND THAT IN Nov. 1999 A SURVEY OF THE HEREIN DESCRIBED LANDS WAS CONDUCTED UNDER MY DIRECT SUPERVISION AND THAT THIS PLAT IS A TRUE AND ACCURATE REPRESENTATION OF THE FIELD NOTES OF SAID SURVEY, AND THAT ALL DIMENSIONS AND OTHER DETAILS ARE CORRECT ACCORDING TO SAID FIELD NOTES.

12/13/99 DATE — PATRICK K O'NEILL LS 6304

12-3-99 AS-BUILT SITE PLAN

1992 CLOSED APC/SITKA SOLID WASTE DISPOSAL FACILITY

CLIENT: SOUTHEAST MANAGEMENT SERVICES, 1061 MENDENHALL PENINSULA ROAD, JUNEAU, AK 99801

SHEET 1 of 1

12/99 COMPLETION REPORT:
APC/SITKA LANDFILL POST-CLOSURE IMPROVEMENTS PROJECT

Sawmill Creek
Sitka, Alaska

APPENDIX A

Site Photographs

Pages A2-A49

Photo #1: 10/7/99 view of the initial section of new 3'-dia. culvert being installed across the Sawmill Creek Roadway near Sta. 6+50' of the APC/Sitka landfill site.

Photo #2: 10/7/99 view looking southwest at the inlet to the new 3'-dia. culvert being installed across the Sawmill Creek Road to drain the upslope surface water away from the APC/Sitka landfill deposits.

Photo #3: 10/11/99 view of the new 3'-dia. culvert discharge from across the Sawmill Creek Road, looking up the roadside drainage ditch being prepared for placement of the 30-mil membrane (see next photo).

Photo #4: 10/11/99 view of the Sawmill Creek Road's downslope drainage ditch, just after the 10'-wide 30-mil membrane material had been rolled out.

Photo #5: 10/11/99 placement of the 18"-dia culvert at the entrance to the APC/Sitka landfill site, showing the 6" of crushed-concrete fill placed between the membrane and the culvert.

Photo #6: View of the downslope drainage ditch between the Sawmill Creek Roadway and the APC/Sitka landfill on 10/11/99, showing the 6" layer of crushed concrete and the 30-mil membrane below the now-installed 18"-dia culvert under the APC/Sitka landfill's access road.

Photo #7: Continued laying and securing of the 10'-wide 30-mil membrane along the downslope water drainage ditch between the Sawmill Creek Road and the APC-Sitka landfill on 10/11/99.

Photo #8: 10/12/99 placement of the 30-mil membrane along the upper end of the of the surface water drainage ditch between the APC/Sitka landfill and the Sawmill Creek Road, showing the careful securement of the membrane's edge within the adjacent roadside soil.

Photo #9: 10/12/99 view of the culvert extension and band placed on the end of the original 3'-dia culvert, to extend it further away from the edge of the Sawmill Creek Roadway.

Photo #10: 10/13/99 view of the surface water drainage ditch along the upland side of the APC/Sitka landfill's northeastern area. Note that the left edge of its 30-mil liner is rolled back to allow the backhoe to dig a shallow trench where the liner's edge will be secured within the soil embankment (see next photo).

Photo #11: 10/12/99 close-up view of the 30-mill membrane edge being secured into the soil embankment, to assure positive drainage of all upslope water from the APC/Sitka landfill's northeastern area.

Photo #12: Continuing work on the APC/Sitka landfill's upslope ditch along the northeastern area, showing the 30-mil membrane and 6" of overlying crushed concrete cover, 10/13/99. Note the substantial water runoff.

Photo #13: Laying of the 30-mil membrane liner along the Sawmill Creek Roadway's upland surface water drainage ditch on 10/14/99.

Photo #14: Continued placement of the 6"-layer of crushed concrete over the 30-mil membrane at about Sta. 3+50' in the APC/Sitka Landfill's ditch, along the upland side of Sawmill Creek Road. Note the extension of liner to catch the small stream coming in from the left site of the photo.

Photo #15: Extension of the 30-mil membrane liner to catch the runoff from a small upland creek at about Sta. 4+70' of the APC/Sitka landfill site, along the upland side of Sawmill Creek Road, 10/14/99.

Photo #16: Looking across the inlet of the new 3'-dia. culvert now carrying all of the upland surface water drainage across the Sawmill Creek Road at about Sta. 6+40' of the APC/Sitka landfill site, 10/14/99.

Photo #17: 10/14/99 placement of large rock to protect against erosion in the nearly completed drainage ditch along the Sawmill Creek Road's upland side at the APC/Sitka landfill site.

Photo #18: 10/20/99 view at about Sta. 3+20' of the APC/Sitka landfill project site, where the upland drainage ditch flows from the northeastern fill area above the Sawmill Creek Road. Note the considerable volume of water flowing in the ditch, where previously no water had ever flowed.

Photo #19: Looking down the nearly completed upland drainage ditch along the Sawmill Creek Road from about Sta. 3+50', showing the substantial water flowing in the ditch, 10/20/99.

Photo #20: 10/20/99 view of the main creek coming into the drainage ditchline along the upland side of Sawmill Creek Road, showing the large rock placed along its entrance to protect against erosion.

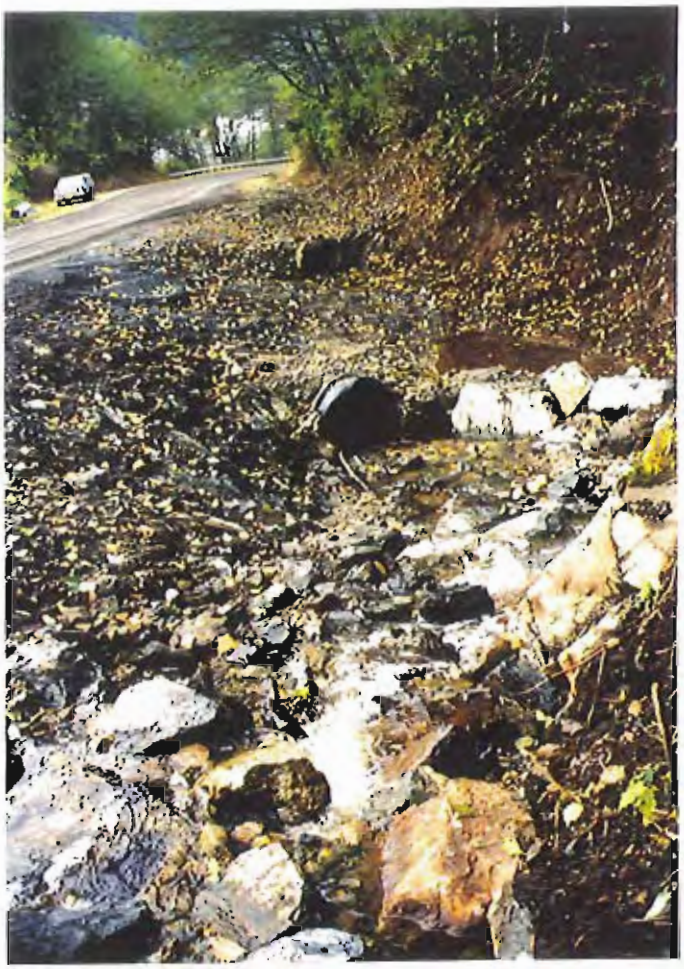


Photo #21: 10/20/99 view of the two 3'-dia culverts now providing positive surface water drainage from along the upland side of Sawmill Creek Road. The new culvert in the foreground is about 4' lower than the old culvert.

Photo #22: 10/20/99 view looking upstream around the APC/Sitka landfill's northwestern corner, showing the conditions prior to any preparation work for placement of its 30-mil membrane liner. The arrow points to a large stump that was removed the next day, to move the drainage centerline further away from the road.

Photo #23: 10/20/99 view looking southeast across the upper surface of the APC/Sitka landfill surface from about Sta. 4+00', showing the well-compacted top surface of the fill. Also shown is the 1.5' lift of new crushed-concrete rock (see arrow) that eventually will cover the entire surface of the landfill.

Photo #24: Closer view of the top surface of the 1.5'-thick lift of crushed concrete fill being added to the top of the APC/Sitka landfill surface, showing its clean and porous appearance (10/20/99).

Photo #25: 10/20/99 view looking southeast along the drainage ditchline between the Sawmill Creek Road and the APC/Sitka landfill, showing the initial placement of soil from the roadside to the ditch to insure positive runoff to the membrane-lined ditch.

Photo #26: 10/20/99 view looking north across the APC/Sitka landfill's northeastern area, showing the surface water ditchlines along both sides of the fill and the stockpiled loads of crushed-concrete fill (about 200 c.y.) waiting to be spread across the top surface and then covered with 4" of final surface soil.

Photo #27: Looking south across the end of the APC/Sitka landfill's northeastern area on 10/20/99, showing the existing volcanic-ash soil cover's ability to provide a good seal for surface water drainage. A 1.5' layer of crushed rock will be placed across the surface, followed by a 4"-thick soil layer, and a 30-mil membrane liner will be placed in the ditch along the left side of the photo.

Photo #28: Close-up view of the crushed rock being loaded out for placement over the APC/Sitka landfill's northeastern area, showing its clean and porous appearance.

Photo #29: 10/20/99 view looking northwest along the nearly completed embankment area of the APC/Sitka landfill, showing the soil cover that now is in place and ready for grass-seeding.

Photo #30: 10/20/99 view of the lower embankment of the APC/Sitka landfill, taken from about Sta. 2+00' and showing the completed placement of soil cover. The fresh-appearing soil along the far end of the embankment has just been hand-raked, to smooth out the soil that had been cast by the backhoe.

Photo #31: 10/20/99 view looking down the APC/Sitka landfill embankment from about Sta. 3+00', showing the complete covering of soil that extended to the stabilization rock along the tidelands.

Photo #32: Hand-raking and smoothing out of the embankment soil along about Sta. 3+50', 10/20/99.

Photo #33: 10/28/99 view of the drainage ditch just below the culvert, with the subbase gravels prepared for placing the 30-mil membrane liner. Note that the ditchline is moved further away from the roadside, and now goes directly over where the large tree stump shown in Photo #22 (see page A12) had been located.

Photo #34: Initial placement of the 20'-wide by 30-mil membrane liner in the APC/Sitka landfill's northwestern ditch on 10/28/99. Arrow points to where the liner section already beneath the culvert discharge has been lapped over the end of the new liner.

Photo #35: 10/29/99 view of the APC/Sitka landfill's northwestern ditch, showing the protective rock layer being placed over the 20'-wide by 30-mil membrane liner. Large rock is placed along and on the upper edges of the liner, with a 1'-thick layer of smaller rock placed across the inner surface of the liner.

Photo #36: 10/29/99 view looking down the turn in the APC/Sitka landfill's northwestern ditch, showing the 20'-wide by 30-mil membrane liner now completely covered with protective rock (compare with Photo #34, page A18).

Photo #37: 11/11/99 view of the APC/Sitka landfill's entrance area, showing the completed roadside ditch and logs in the ditch in preparation for final placement along the top outside top of the ditch once the surfacing fill and soil are completed.

Photo #38: 11/11/99 view of the APC/Sitka landfill's northwestern ditch, now completed.

Photo #39: 11/11/99 view looking northwest and across the APC/Sitka drainage ditch, showing the completed landscaping and barrier logs placed along the Sawmill Creek Roadway.

Photo #40: 11/11/99 view looking down the APC/Sitka landfill's northwestern ditchline, showing the completed soil placement and landscaping along both sides of the ditch. Also shown are the large armor rock along the sides of the ditch, and the 6"-8" rock completely covering the ditch bottom for erosion control.

Photo #41: 11/11/99 view across the bottom area of the APC/Sitka landfill's northwestern drainage ditch. The 20'-wide by 30-mil membrane liner now is completely covered with 6"-8" rock to protect against erosion. The arrow shows where the membrane liner ends, after which hard rock makes up the bottom of the ditch.

Photo #42: Closer 11/11/99 view near the end of the APC/Sitka landfill's northwestern surface water drainage ditch, showing the completed rockwork to protect against bank erosion.

Photo #43: Looking northwest across the Sawmill Creek Road at the APC/Sitka landfill on 11/11/99, showing the spreading of crushed concrete over the top surface.

Photo #44: Closer view of the backhoe spreading the crushed concrete fill in thin layers along the APC/Sitka landfill's roadside ditch, 11/11/99. A laborer can be seen watching out for and picking up any remaining pieces of metal that might be seen in the fill material.

Photo #45: Looking northwest across the upper surface and embankment of the APC/Sitka landfill on 11/11/99. The crushed-concrete surfacing layer is completed throughout this area until just beyond the green hopper bin.

Photo #46: Closer view of the crushed-concrete fill already spread and levelled in preparation for the final 6"-thick covering of soil, 11/11/99. Crushed-concrete fill is continuing to be placed in the far background, where survey stakes are present to guide the final placement of fill.

Photo #47: 11/11/99 view looking southeast across the upper surface of the APC/Sitka landfill site, showing the initial 6"-thick layer in the process of being placed. Survey stakes can be seen throughout the area being filled, to make certain that the 18"-thickness will be achieved throughout the area.

Photo #48: Close-up view of the survey stakes being marked to assure that the crushed-concrete fill is 18" thick throughout, followed by a 6"-thick layer of soil.

Photo #49: 11/11/99 view of the final 6"-thick surfacing layer of soil being placed along the south end of the APC/Sitka landfill.

Photo #50: Closer view of the 6"-thick layer of surfacing soil being placed across the south end of the APC/Sitka landfill site on 11/11/99.

Photo #51: Looking southeast across the end of the Sawmill Creek Roadway's lower ditchline, now completed with its 10'-wide by 30-mil membrane liner completely covered with crushed concrete fill and a soil layer covering the roadside embankment (compare with Photo #8 on page A5).

Photo #52: Looking northwest across much of the APC/Sitka landfill's main embankment area, showing the final 6"-thick layer of soil to be in place except for the far right-hand edge of the photo.

Photo #53: Looking southeast across the upper embankment of the APC/Sitka landfill on 11/11/99, showing it to be completely covered with a 6"-thick layer of soil. The only area still remaining to be covered is just beyond the arrow.

Photo #54: 11/11/99 view looking southeast across the mid-&-lower levels of the APC/Sitka landfill's embankment, showing the entire area to be covered with its final 6"-thick layer of soil.

Photo #55: Looking southeast across the top of the tidelands stabilization rockwork at about Sta. 3+00', showing the completed 6"-thick soil layer to extend to the top of the rock and to the undisturbed embankment in the far right of the photo.

Photo #56: 11/11/99 view of the completed stabilization rockwork along the bottom toe of the APC/Sitka landfill embankment at about Sta. 1+30'. Also shown is the completed 6"-thick layer of soil over the upper pathway and along the lower embankment to the left side of the rockwork.

Photo #57: 11/11/99 view looking northwest from about Sta. 1+70' along the toe of the APC/Sitka landfill's embankment, showing the completed placement of the area's 6"-thick soil cover. Arrow points to the location of a very small water seep, refer to the photo below.

Photo #58: Closer 11/11/99 view of a damp soil area at about Sta. 3+50' along the APC/Sitka landfill's embankment toe, where a very small unmeasurable water seepage appears to be present.

Photo #59: Looking south across the Sawmill Creek Road from about Sta. 3+50', showing the completed upslope ditchline including its armor rock on the right side of the photo, 11/11/99.

Photo #60: Closer 11/11/99 view of the upslope surface water drainage ditch along the Sawmill Creek road, showing the completed placement of armor rock along the sides of the ditch (compare with Photo #20, page A11).

Photo #61: 11/11/99 view looking southeast across the lower end of the APC/Sitka landfill's northeastern disposal area, showing the completed ditchlines, final soil cover and roadside log barriers.

Photo #62: 11/11/99 looking up the completed roadside ditchline between the Sawmill Creek Roadway and the APC/Sitka landfill's northeastern fill area, and the area's now-completed layer of 6"-thick soil.

Photo #63: 11/11/99 view of the upslope surface water drainage ditchline around the APC/Sitka landfill's northeastern disposal area, showing the completed crushed-concrete rock now throughout the entire ditchline and the adjacent landfill's 6"-thick soil extending over the rock to the ditch bottom.

Photo #64: 11/11/99 view looking up the completed ditchline between the Sawmill Creek Road shoulder and the APC/Sitka landfill's northeastern disposal area, showing the area with its 6"-thick soil cover.

Photo #65: 11/11/99 view looking across the APC/Sitka landfill's northeastern area, showing its completed upslope ditchline and the 6"-thick covering of soil throughout the area which extends to the roadway's edge.

Photo #66: 11/11/99 view looking across the small creek entering the south-end culvert at the APC/Sitka landfill site, showing the crushed-concrete surfacing that completely covers the 30-mil liner that underlies the entire rocked area. The upslope drainage ditchline extending to the right is lined with four 6-mil plastic layers, followed by a 6"-thick layer of crushed concrete.

Photo #67: Looking north on 11/11/99 along the APC/Sitka landfill's top surface from about Sta. 3+50', showing the crushed-concrete surfacing fill beginning to be extended across the area (see arrow). Also shown in the far upper portion of the photo is the site's northwestern area, which still has to be covered with 18" of crushed rock and 6" of soil.

Photo #68: Looking across the APC/Sitka landfill's northwestern end, showing the final 6"-thick soil cover already in place across its outer embankment (arrow points to the former asbestos fence corner post that has been left in place for reference). Its upper surface still needs a 18" lift of crushed concrete and a final 6"-thick cover of soil before it is completed.

Photo #69: Closer view of the APC/Sitka landfill's northwestern embankment area on 11/11/99, showing the completed 6"-thick soil cover across the lower access path to the leachate sampling site (see next 5 photos).

Photo #70: Looking across the lower portion of the APC/Sitka landfill's northwestern embankment area (photo taken from the embankment edge near the drainage ditch), showing the completed 6"-thick soil layer across the entire area and that has been merged into the undisturbed soil along its edge.

Photo #71: Looking up the access path around the APC/Sitka landfill's northwestern embankment corner, showing the leachate sampling site #1 (see next photo below).

Photo #72: Closer 11/11/99 view of the APC/Sitka landfill's leachate sampling site #1 along its northwestern embankment toe. The sampling site consists of an 18"-dia. plastic pipe with a sampling depth of about 12" and an overflow notch to measure leachate flowrate.

Photo #73: Looking northwest along the APC/Sitka landfill's northwestern embankment toe, showing the leachate sampling site #2 (see white arrow) perched just above tideline (see next photo below), 11/11/99. The leachate sampling site #1 is just out of view at about the location of the black arrow.

Photo #74: Closer 11/11/99 view looking down on the APC/Sitka landfill's leachate sampling site #2 located at about Sta. 5+20', showing its 18"-dia plastic pipe and its discharge notch.

Photo #75: 11/23/99 view looking southeast across the APC/Sitka landfill, showing its entire top area and northwestern embankment to be completely covered with a 6"-thick soil layer.

Photo #76: Closer view of the APC/Sitka landfill's northwestern end, showing the completed rockwork along the edge of the open drainage ditch and the final soil cover over the entire area.

Photo #77: 11/23/99 view looking down the open ditch around the northwestern end of the APC/Sitka landfill, showing the rocked open drainage ditch and the landscaped area on its far side where the site meets the undisturbed forested area.

Photo #78: Looking down the open surface water ditch around the APC/Sitka landfill's northwestern end on 11/23/99, showing the roadside culverts and the large rock lining both sides of the ditch (compare with Photo #34 on page A18).

Photo #79: 11/23/99 view looking across the top area of the APC/Sitka landfill's northwestern end, showing the completed 6"-thick soil cover. Arrow points to the cornerpost still remaining as a reference point from the asbestos cyclone fencing taken down at the start of the post-closure improvements project. The post will be cut down once the as-built survey is completed.

Photo #80: 11/23/99 view looking southeast along the new barrier logs separating the completed ditchline by the roadway from the main top surface of the APC/Sitka landfill site.

Photo #81: Looking northwest across the main top area of the APC/Sitka landfill site on 11/23/99, showing its smoothed-out surface and the fill stakes placed to confirm the needed depth of the underlying 18"-thick crushed concrete rock and the top 6"-thick soil cover (compare with photos on page A25).

Photo #82: 11/23/99 view of the APC/Sitka landfill's southeastern end, showing its completed final soil cover along the top and upper embankment surfaces, and the barrier logs along the roadside edge of the site (compare with the photos on page A26 & A28).

Photo #83: Looking northwest across the upper surface of the APC/Sitka landfill site on 11/23/99, showing its completed soil extending over the sides of the roadside ditchline, and the barrier logs along the top of the ditchline embankment (compare with the photos on page A23).

Photo #84: 11/23/99 view looking across the terraced outer embankment of the APC/Sitka landfill site, showing the final 6"-thick soil layer in place and the access road to the bottom of the embankment now surfaced with crushed concrete fill and lined with creosoted logs.

Photo #85: 11/23/99 view looking southeast along the APC/Sitka landfill's terraced embankment slopes, showing the completed soil layer and the access road with its lower turn-around area now surfaced with crushed-concrete fill and lined with creosoted logs.

Photo #86: 11/23/99 view looking up the APC/Sitka landfill's embankment roadway, showing the creosoted logs lining the outside edge and the crushed-concrete fill now covering the entire roadway surface. A drainage ditch was created along its inside edge to keep surface water away from the lower embankment slope.

Photo #87: 11/23/99 view of the APC/Sitka landfill's embankment toe near its southern end, showing the drainage ditch for the surface water coming from the embankments and roadway.

Photo #88: Looking southeast along the embankment toe of the APC/Sitka landfill from about Sta. 4+00', showing two very small water seepage areas (see next 3 photos)

Photo #89: Another 11/23/99 view of the two very small water seepages along the APC/Sitka landfill's embankment toe at about Sta. 3+60' to 3+80' (see next two photos).

Photo #90: Closer 11/23/99 view of the very small water seepage #1 along the APC/Sitka landfill's embankment toe at about Sta. 3+60' (see previous 2 photos for location).

Photo #91: Closer 11/23/99 view of the very small water seepage #2 along the APC/Sitka landfill's embankment toe at about Sta. 3+60' (see Photos #88-#89 for location).

Photo #92: 11/23/99 view looking across the APC/Sitka landfill's northwestern lower embankment slopes, showing the protective rock along the surface water drainage ditch and the completed 6"-soil layer covering all slopes. Arrow points to the water sampling location #1, shown on the next photo).

Photo #93: 11/23/99 view of a very small water seepage area (see arrow) just above the APC/Sitka landfill's water sampling site #1 which is in the lower right corner of the photo at about Sta. 5+50', refer to next photo.

Photo #94: Closer view of the very small water seepage area shown in Photo #93, just above the APC/Sitka landfill's water sampling site #1 at about Sta. 3+60', 11/23/99.

Photo #95: 11/23/99 view looking across the northwestern end of the APC/Sitka landfill, showing the final 6"-thick soil cover over the entire fill surface and the rock lining the surface water drainage ditch embankment (compare with Photo #38, page A20).

Photo #96: 11/23/99 view of the completed surface water drainage ditch around the APC/Sitka landfill's northwestern end, showing the gentle embankment slope along the roadside near the culverts, and the rock-lined ditch.

12/99 COMPLETION REPORT:
APC/SITKA LANDFILL POST-CLOSURE IMPROVEMENTS PROJECT

Sawmill Creek
Sitka, Alaska

APPENDIX B

11/11-17/99 Water & Soil Sampling Analysis Results

Chain of Custody Record & Laboratory Analysis Request

C-O-C #1

Date: 11/11/99

Page 1 of 1

Number of coolers: 1

Cooler Temp: 4°C 10.0

Analytical Resources, Incorporated
Analytical Chemist and Consultants
400 Ninth Avenue North
Seattle, WA 98109-4708
(206) 621-6490
(206) 621-7523 (Fax)

ARI Client: ALASKA PULP CORP. ATTN: SOUTHEAST MANAGEMENT SERVICES Phone#: 907-789-0637

Client Contact: 1061 MENDENHALL PENINSULA RD., JUNEAU, AK

Client Project ID: APC/SITKA LANDFILL

Samplers: T. HANNA

	Sample ID	Date	Time	Matx	No Cont	Lab ID	Analysis Required: AK-101 BETX	AK-102/103	VOLATILES	VOLATILES METHOD 502	SEMI-VOLATILES	C.O.D.	EPA-CLP METALS	RCRA METALS	Notes/Comments
1	LAN-1	11/11/99	9:29	WATER	9		X	X	X	X	X	X	X		99-17347-10 99-17350 AZ63
2	LAN-2		9:49	WATER	9		X	X	X	X	X	X	X	*one vial w/ HNO3 pH<2	11/15 cl
3	LAN-3		14:05	SOIL	1									X	
4	LAN-4		14:07	SOIL	1									X	
5															
6															
7															

ARI Project No: 521

T.A.T. Requested: STD

Comments/Special Instructions:

FAX PRELIM. RESULTS TO 907-789-9487

Relinquished by: (Signature)	Relinquished by: (Signature)	Relinquished by: (Signature)
Printed Name: THOMAS RITANNA	Printed Name:	Printed Name:
Company: SE MANAGEMENT	Company:	Company:
Date: 11/12/99 Time: 1:15 pm	Date: Time:	Date: Time:
Received by: (Signature) Diane Nash	**Received by: (Signature)** Darrell McDougal	**Received by: (Signature)**
Printed Name: Diane Nash	Printed Name: Darrell McDougal	Printed Name:
Company: DHL Worldwide Express	Company: ARI	Company:
Date: 11/12/99 Time: 1315	Date: 11/15/99 Time: 850	Date: Time:

Analytical Resources, Incorporated
Analytical Chemists and Consultants

November 30, 1999

Tom Hanna
Southeast Management Services
2470 Engineers Cutoff
Juneau, AK 99801

RE: Project: APC Millsite
ARI Job No: AZ63

Dear Tom:

Please find enclosed an original chain of custody (COC) record and a set of analytical results for the above referenced project. Analytical Resources, Inc. received two and two soil samples in good condition on November 15, 1999.

The samples were analyzed for AK101, BETX, AK102/103, volatiles, semivolatiles, chemical oxygen demand, EPA-CLP metals, and RCRA metals. Method 602 pertains to benzene; chlorobenzene; 1,2-dichlorobenzene; 1,3-dichlorobenzene; 1,4-dichlorobenzene; ethylbenzene; and toluene.

Bis(2-ethylhexyl)phthalate was detected in the semivolatile method blank. No other analytical complications were encountered during analysis.

A copy of these reports will be kept on file at ARI. Should you have any questions or problems, please feel free to contact me at your convenience.

Sincerely,

ANALYTICAL RESOURCES, INC.

Jennifer M. Baier
Project Manager
(206) 389-6154
jennifer@arilabs.com

Enclosures
JMB/sl

ANALYTICAL RESOURCES INCORPORATED

WATER VOLATILE SYSTEM MONITORING COMPOUND SUMMARY

Matrix: Water (Low Level) QC Report No: AZ63

Lab ID	Client ID	DCE	TOL	BFB	DCB	TOT OUT
111899MB	Method Blank	100%	97%	98%	102%	0
AZ63A	LAN-1	102%	96%	96%	99%	0
AZ63LCS	Lab Cntrl Sample	100%	98%	102%	91%	0
AZ63B	LAN-2	105%	96%	101%	103%	0

	LCS/MB LIMITS	QC LIMITS
(DCE) = 1,2-Dichloroethane-d4	(70-130)	(70-130)
(TOL) = Toluene-d8	(70-130)	(70-130)
(BFB) = Bromofluorobenzene	(70-130)	(70-130)
(DCB) = 1,2-Dichlorobenzene-d4	(70-130)	(70-130)

\# Column to be used to flag recovery values

* Values outside of required QC limits

D System Monitoring Compound diluted out

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
Volatiles by Purge & Trap GC/MS

Sample No: LAN-1

Lab Sample ID: AZ63A
LIMS ID: 99-17347
Matrix: Water
Data Release Authorized: BG
Reported: 11/22/99

QC Report No: AZ63-Southeast Management Services
Project: APC/SITKA Landfill
Date Sampled: 11/11/99
Date Received: 11/15/99

Instrument: FINN3
Date Analyzed: 11/18/99

Sample Amount: 20.0 mL
Purge Volume: 20.0 mL

CAS Number	Analyte	ug/L
74-87-3	Chloromethane	0.2 U
74-83-9	Bromomethane	0.2 U
75-01-4	Vinyl Chloride	0.2 U
75-00-3	Chloroethane	0.2 U
75-09-2	Methylene Chloride	0.3 U
67-64-1	Acetone	1.0 U
75-15-0	Carbon Disulfide	0.3
75-35-4	1,1-Dichloroethene	0.2 U
75-34-3	1,1-Dichloroethane	0.2 U
156-60-5	trans-1,2-Dichloroethene	0.2 U
156-59-2	cis-1,2-Dichloroethene	0.2 U
67-66-3	Chloroform	0.2 U
107-06-2	1,2-Dichloroethane	0.2 U
78-93-3	2-Butanone	1.0 U
71-55-6	1,1,1-Trichloroethane	0.2 U
56-23-5	Carbon Tetrachloride	0.2 U
108-05-4	Vinyl Acetate	0.2 U
75-27-4	Bromodichloromethane	0.2 U
78-87-5	1,2-Dichloropropane	0.2 U
10061-01-5	cis-1,3-Dichloropropene	0.2 U
79-01-6	Trichloroethene	0.2 U
124-48-1	Dibromochloromethane	0.2 U
79-00-5	1,1,2-Trichloroethane	0.2 U
71-43-2	Benzene	0.2 U
10061-02-6	trans-1,3-Dichloropropene	0.2 U
110-75-8	2-Chloroethylvinylether	0.5 U
75-25-2	Bromoform	0.5 U
108-10-1	4-Methyl-2-Pentanone (MIBK)	1.0 U
591-78-6	2-Hexanone	1.0 U
127-18-4	Tetrachloroethene	0.2 U
79-34-5	1,1,2,2-Tetrachloroethane	0.2 U
108-88-3	Toluene	0.2 U
108-90-7	Chlorobenzene	0.2 U
100-41-4	Ethylbenzene	0.2 U
100-42-5	Styrene	0.2 U
75-69-4	Trichlorofluoromethane	0.2 U
76-13-1	1,1,2-Trichlorotrifluoroethane	0.2 U
1330-20-7	m,p-Xylene	0.4 U

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
Volatiles by Purge & Trap GC/MS
Page 2 of 2

Sample No: LAN-1

Lab Sample ID: AZ63A
LIMS ID: 99-17347
Matrix: Water
Data Release Authorized: *JHS*
Reported: 11/22/99

QC Report No: AZ63-Southeast Management Services
Project: APC/SITKA Landfill
Date Sampled: 11/11/99
Date Received: 11/15/99

Instrument: FINN3
Date Analyzed: 11/18/99

Sample Amount: 20.0 mL
Purge Volume: 20.0 mL

CAS Number	Analyte	ug/L
95-47-6	o-Xylene	0.2 U
95-50-1	1,2-Dichlorobenzene	0.2 U
541-73-1	1,3-Dichlorobenzene	0.2 U
106-46-7	1,4-Dichlorobenzene	0.2 U
107-02-8	Acrolein	5.0 U
74-88-4	Methyl Iodide	0.2 U
74-96-4	Bromoethane	0.2 U
107-13-1	Acrylonitrile	1.0 U
563-58-6	1,1-Dichloropropene	0.2 U
74-95-3	Dibromomethane	0.2 U
630-20-6	1,1,1,2-Tetrachloroethane	0.2 U
96-12-8	1,2-Dibromo-3-chloropropane	1.0 U
96-18-4	1,2,3-Trichloropropane	0.5 U
110-57-6	trans-1,4-Dichloro-2-butene	1.0 U
108-67-8	1,3,5-Trimethylbenzene	0.2 U
95-63-6	1,2,4-Trimethylbenzene	0.2 U
87-68-3	Hexachlorobutadiene	0.5 U
106-93-4	Ethylene Dibromide	0.2 U
74-97-5	Bromochloromethane	0.2 U
594-20-7	2,2-Dichloropropane	0.2 U
142-28-9	1,3-Dichloropropane	0.2 U
98-82-8	Isopropylbenzene	0.2 U
103-65-1	n-Propylbenzene	0.2 U
108-86-1	Bromobenzene	0.2 U
95-49-8	2-Chlorotoluene	0.2 U
106-43-4	4-Chlorotoluene	0.2 U
98-06-6	tert-Butylbenzene	0.2 U
135-98-8	sec-Butylbenzene	0.2 U
99-87-6	4-Isopropyltoluene	0.2 U
104-51-8	n-Butylbenzene	0.2 U
120-82-1	1,2,4-Trichlorobenzene	0.5 U
91-20-3	Naphthalene	0.5 U
87-61-6	1,2,3-Trichlorobenzene	0.5 U

Volatile Surrogate Recovery	
d4-1,2-Dichloroethane	102%
d8-Toluene	95.5%
Bromofluorobenzene	95.5%
d4-1,2-Dichlorobenzene	99.2%

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
Volatiles by Purge & Trap GC/MS
Page 1 of 2

Sample No: LAN-2

Lab Sample ID: AZ63B
LIMS ID: 99-17348
Matrix: Water
Data Release Authorized:
Reported: 11/22/99

QC Report No: AZ63-Southeast Management Services
Project: APC/SITKA Landfill
Date Sampled: 11/11/99
Date Received: 11/15/99

Instrument: FINN3
Date Analyzed: 11/18/99

Sample Amount: 20.0 mL
Purge Volume: 20.0 mL

CAS Number	Analyte	ug/L
74-87-3	Chloromethane	0.2 U
74-83-9	Bromomethane	0.2 U
75-01-4	Vinyl Chloride	0.2 U
75-00-3	Chloroethane	0.2 U
75-09-2	Methylene Chloride	0.3 U
67-64-1	Acetone	1.0 U
75-15-0	**Carbon Disulfide**	**4.6**
75-35-4	1,1-Dichloroethene	0.2 U
75-34-3	1,1-Dichloroethane	0.2 U
156-60-5	trans-1,2-Dichloroethene	0.2 U
156-59-2	cis-1,2-Dichloroethene	0.2 U
67-66-3	Chloroform	0.2 U
107-06-2	1,2-Dichloroethane	0.2 U
78-93-3	2-Butanone	1.0 U
71-55-6	1,1,1-Trichloroethane	0.2 U
56-23-5	Carbon Tetrachloride	0.2 U
108-05-4	Vinyl Acetate	0.2 U
75-27-4	Bromodichloromethane	0.2 U
78-87-5	1,2-Dichloropropane	0.2 U
10061-01-5	cis-1,3-Dichloropropene	0.2 U
79-01-6	Trichloroethene	0.2 U
124-48-1	Dibromochloromethane	0.2 U
79-00-5	1,1,2-Trichloroethane	0.2 U
71-43-2	Benzene	0.2 U
10061-02-6	trans-1,3-Dichloropropene	0.2 U
110-75-8	2-Chloroethylvinylether	0.5 U
75-25-2	Bromoform	0.5 U
108-10-1	4-Methyl-2-Pentanone (MIBK)	1.0 U
591-78-6	2-Hexanone	1.0 U
127-18-4	Tetrachloroethene	0.2 U
79-34-5	1,1,2,2-Tetrachloroethane	0.2 U
108-88-3	Toluene	0.2 U
108-90-7	Chlorobenzene	0.2 U
100-41-4	Ethylbenzene	0.2 U
100-42-5	Styrene	0.2 U
75-69-4	Trichlorofluoromethane	0.2 U
76-13-1	1,1,2-Trichlorotrifluoroethane	0.2 U
1330-20-7	m,p-Xylene	0.4 U

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
Volatiles by Purge & Trap GC/MS

Sample No: LAN-2

Lab Sample ID: AZ63B
LIMS ID: 99-17348
Matrix: Water
Data Release Authorized:
Reported: 11/22/99

QC Report No: AZ63-Southeast Management Services
Project: APC/SITKA Landfill
Date Sampled: 11/11/99
Date Received: 11/15/99

Instrument: FINN3
Date Analyzed: 11/18/99

Sample Amount: 20.0 mL
Purge Volume: 20.0 mL

CAS Number	Analyte	ug/L
95-47-6	o-Xylene	0.2 U
95-50-1	1,2-Dichlorobenzene	0.2 U
541-73-1	1,3-Dichlorobenzene	0.2 U
106-46-7	1,4-Dichlorobenzene	0.2 U
107-02-8	Acrolein	5.0 U
74-88-4	Methyl Iodide	0.2 U
74-96-4	Bromoethane	0.2 U
107-13-1	Acrylonitrile	1.0 U
563-58-6	1,1-Dichloropropene	0.2 U
74-95-3	Dibromomethane	0.2 U
630-20-6	1,1,1,2-Tetrachloroethane	0.2 U
96-12-8	1,2-Dibromo-3-chloropropane	1.0 U
96-18-4	1,2,3-Trichloropropane	0.5 U
110-57-6	trans-1,4-Dichloro-2-butene	1.0 U
108-67-8	1,3,5-Trimethylbenzene	0.2 U
95-63-6	1,2,4-Trimethylbenzene	0.2 U
87-68-3	Hexachlorobutadiene	0.5 U
106-93-4	Ethylene Dibromide	0.2 U
74-97-5	Bromochloromethane	0.2 U
594-20-7	2,2-Dichloropropane	0.2 U
142-28-9	1,3-Dichloropropane	0.2 U
98-82-8	Isopropylbenzene	0.2 U
103-65-1	n-Propylbenzene	0.2 U
108-86-1	Bromobenzene	0.2 U
95-49-8	2-Chlorotoluene	0.2 U
106-43-4	4-Chlorotoluene	0.2 U
98-06-6	tert-Butylbenzene	0.2 U
135-98-8	sec-Butylbenzene	0.2 U
99-87-6	4-Isopropyltoluene	0.2 U
104-51-8	n-Butylbenzene	0.2 U
120-82-1	1,2,4-Trichlorobenzene	0.5 U
91-20-3	Naphthalene	0.5 U
87-61-6	1,2,3-Trichlorobenzene	0.5 U

Volatile Surrogate Recovery	
d4-1,2-Dichloroethane	105%
d8-Toluene	96.0%
Bromofluorobenzene	101%
d4-1,2-Dichlorobenzene	103%

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
Volatiles by Purge & Trap GC/MS

Sample No: Method Blank

Lab Sample ID: 111899MB
LIMS ID: 99-17347
Matrix: Water
Data Release Authorized: JHA
Reported: 11/22/99

QC Report No: AZ63-Southeast Management Services
Project: APC/SITKA Landfill
Date Sampled: NA
Date Received: NA

Instrument: FINN3
Date Analyzed: 11/18/99

Sample Amount: 20.0 mL
Purge Volume: 20.0 mL

CAS Number	Analyte	ug/L
74-87-3	Chloromethane	0.2 U
74-83-9	Bromomethane	0.2 U
75-01-4	Vinyl Chloride	0.2 U
75-00-3	Chloroethane	0.2 U
75-09-2	Methylene Chloride	0.3 U
67-64-1	Acetone	1.0 U
75-15-0	Carbon Disulfide	0.2 U
75-35-4	1,1-Dichloroethene	0.2 U
75-34-3	1,1-Dichloroethane	0.2 U
156-60-5	trans-1,2-Dichloroethene	0.2 U
156-59-2	cis-1,2-Dichloroethene	0.2 U
67-66-3	Chloroform	0.2 U
107-06-2	1,2-Dichloroethane	0.2 U
78-93-3	2-Butanone	1.0 U
71-55-6	1,1,1-Trichloroethane	0.2 U
56-23-5	Carbon Tetrachloride	0.2 U
108-05-4	Vinyl Acetate	0.2 U
75-27-4	Bromodichloromethane	0.2 U
78-87-5	1,2-Dichloropropane	0.2 U
10061-01-5	cis-1,3-Dichloropropene	0.2 U
79-01-6	Trichloroethene	0.2 U
124-48-1	Dibromochloromethane	0.2 U
79-00-5	1,1,2-Trichloroethane	0.2 U
71-43-2	Benzene	0.2 U
10061-02-6	trans-1,3-Dichloropropene	0.2 U
110-75-8	2-Chloroethylvinylether	0.5 U
75-25-2	Bromoform	0.5 U
108-10-1	4-Methyl-2-Pentanone (MIBK)	1.0 U
591-78-6	2-Hexanone	1.0 U
127-18-4	Tetrachloroethene	0.2 U
79-34-5	1,1,2,2-Tetrachloroethane	0.2 U
108-88-3	Toluene	0.2 U
108-90-7	Chlorobenzene	0.2 U
100-41-4	Ethylbenzene	0.2 U
100-42-5	Styrene	0.2 U
75-69-4	Trichlorofluoromethane	0.2 U
76-13-1	1,1,2-Trichlorotrifluoroethane	0.2 U
1330-20-7	m,p-Xylene	0.4 U

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
Volatiles by Purge & Trap GC/MS

Sample No: Method Blank

Lab Sample ID: 111899MB
LIMS ID: 99-17347
Matrix: Water
Data Release Authorized: JM
Reported: 11/22/99

QC Report No: AZ63-Southeast Management Services
Project: APC/SITKA Landfill
Date Sampled: NA
Date Received: NA

Instrument: FINN3
Date Analyzed: 11/18/99

Sample Amount: 20.0 mL
Purge Volume: 20.0 mL

CAS Number	Analyte	ug/L
95-47-6	o-Xylene	0.2 U
95-50-1	1,2-Dichlorobenzene	0.2 U
541-73-1	1,3-Dichlorobenzene	0.2 U
106-46-7	1,4-Dichlorobenzene	0.2 U
107-02-8	Acrolein	5.0 U
74-88-4	Methyl Iodide	0.2 U
74-96-4	Bromoethane	0.2 U
107-13-1	Acrylonitrile	1.0 U
563-58-6	1,1-Dichloropropene	0.2 U
74-95-3	Dibromomethane	0.2 U
630-20-6	1,1,1,2-Tetrachloroethane	0.2 U
96-12-8	1,2-Dibromo-3-chloropropane	1.0 U
96-18-4	1,2,3-Trichloropropane	0.5 U
110-57-6	trans-1,4-Dichloro-2-butene	1.0 U
108-67-8	1,3,5-Trimethylbenzene	0.2 U
95-63-6	1,2,4-Trimethylbenzene	0.2 U
87-68-3	Hexachlorobutadiene	0.5 U
106-93-4	Ethylene Dibromide	0.2 U
74-97-5	Bromochloromethane	0.2 U
594-20-7	2,2-Dichloropropane	0.2 U
142-28-9	1,3-Dichloropropane	0.2 U
98-82-8	Isopropylbenzene	0.2 U
103-65-1	n-Propylbenzene	0.2 U
108-86-1	Bromobenzene	0.2 U
95-49-8	2-Chlorotoluene	0.2 U
106-43-4	4-Chlorotoluene	0.2 U
98-06-6	tert-Butylbenzene	0.2 U
135-98-8	sec-Butylbenzene	0.2 U
99-87-6	4-Isopropyltoluene	0.2 U
104-51-8	n-Butylbenzene	0.2 U
120-82-1	1,2,4-Trichlorobenzene	0.5 U
91-20-3	Naphthalene	0.5 U
87-61-6	1,2,3-Trichlorobenzene	0.5 U

Volatile Surrogate Recovery	
d4-1,2-Dichloroethane	100%
d8-Toluene	97.2%
Bromofluorobenzene	97.8%
d4-1,2-Dichlorobenzene	102%

ORGANICS ANALYSIS DATA SHEET
Volatiles by Purge & Trap GC/MS
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ANALYTICAL RESOURCES INCORPORATED

Lab Sample ID: AZ63SB
LIMS ID: 99-17347
Matrix: Water
Data Release Authorized:
Reported: 11/22/99
Date Analyzed: 11/18/99
Instrument: FINN3

QC Report No: AZ63-Southeast Management Services
Project: APC/SITKA Landfill
Date Received: 11/15/99

LABORATORY CONTROL SAMPLE CONSTITUENT	SPIKE VALUE	SPIKE AMT	% RECOVERY
Chloromethane	3.42	4.0	85.5%
Bromomethane	3.49	4.0	87.2%
Vinyl Chloride	3.32	4.0	83.0%
Chloroethane	3.39	4.0	84.8%
Methylene Chloride	3.53	4.0	88.2%
Acetone	20.2	20.0	101%
Carbon Disulfide	3.31	4.0	82.8%
1,1-Dichloroethene	3.45	4.0	86.2%
1,1-Dichloroethane	3.60	4.0	90.0%
trans-1,2-Dichloroethene	3.47	4.0	86.8%
cis-1,2-Dichloroethene	3.53	4.0	88.2%
Chloroform	3.52	4.0	88.0%
1,2-Dichloroethane	3.60	4.0	90.0%
2-Butanone	19.7	20.0	98.5%
1,1,1-Trichloroethane	3.32	4.0	83.0%
Carbon Tetrachloride	3.21	4.0	80.2%
Vinyl Acetate	3.67	4.0	91.8%
Bromodichloromethane	3.41	4.0	85.2%
1,2-Dichloropropane	3.40	4.0	85.0%
cis-1,3-Dichloropropene	3.49	4.0	87.2%
Trichloroethene	3.35	4.0	83.8%
Dibromochloromethane	3.80	4.0	95.0%
1,1,2-Trichloroethane	3.85	4.0	96.2%
Benzene	3.39	4.0	84.8%
trans-1,3-Dichloropropene	3.60	4.0	90.0%
2-Chloroethylvinylether	3.75	4.0	93.8%
Bromoform	3.83	4.0	95.8%
4-Methyl-2-Pentanone (MIBK)	19.8	20.0	99.0%
2-Hexanone	20.8	20.0	104%
Tetrachloroethene	3.53	4.0	88.2%
1,1,2,2-Tetrachloroethane	3.74	4.0	93.5%
Toluene	3.37	4.0	84.2%
Chlorobenzene	3.63	4.0	90.8%
Ethylbenzene	3.56	4.0	89.0%
Styrene	3.64	4.0	91.0%
Trichlorofluoromethane	3.29	4.0	82.2%
1,1,2-Trichlorotrifluoroethane	3.33	4.0	83.2%
m,p-Xylene	7.26	8.0	90.8%
O-Xylene	3.64	4.0	91.0%

Reported in ug/L

ORGANICS ANALYSIS DATA SHEET
Volatiles by Purge & Trap GC/MS
Page 2 of 2

ANALYTICAL RESOURCES INCORPORATED

Lab Sample ID: AZ63S8
LIMS ID: 99-17347
Matrix: Water
Data Release Authorized: JH
Reported: 11/22/99
Date Analyzed: 11/18/99
Instrument: FINN3

QC Report No: AZ63-Southeast Management Services
Project: APC/SITKA Landfill
Date Received: 11/15/99

LABORATORY CONTROL SAMPLE CONSTITUENT	SPIKE VALUE	SPIKE AMT	% RECOVERY
1,2-Dichlorobenzene	3.55	4.0	88.8%
1,3-Dichlorobenzene	3.59	4.0	89.8%
1,4-Dichlorobenzene	3.58	4.0	89.5%
Acrolein	20.5	20.0	102%
Methyl Iodide	3.52	4.0	88.0%
Bromoethane	3.50	4.0	87.5%
Acrylonitrile	3.95	4.0	98.8%
1,1-Dichloropropene	3.42	4.0	85.5%
Dibromomethane	3.60	4.0	90.0%
1,1,1,2-Tetrachloroethane	3.73	4.0	93.2%
1,2-Dibromo-3-chloropropane	5.09	4.0	127%
1,2,3-Trichloropropane	4.03	4.0	101%
trans-1,4-Dichloro-2-butene	3.72	4.0	93.0%
1,3,5-Trimethylbenzene	3.43	4.0	85.8%
1,2,4-Trimethylbenzene	3.38	4.0	84.5%
Hexachlorobutadiene	3.51	4.0	87.8%
Ethylene Dibromide	3.57	4.0	89.2%
Bromochloromethane	3.69	4.0	92.2%
2,2-Dichloropropane	3.39	4.0	84.8%
1,3-Dichloropropane	3.86	4.0	96.5%
Isopropylbenzene	3.46	4.0	86.5%
n-Propylbenzene	3.36	4.0	84.0%
Bromobenzene	3.53	4.0	88.2%
2-Chlorotoluene	3.24	4.0	81.0%
4-Chlorotoluene	3.40	4.0	85.0%
tert-Butylbenzene	3.39	4.0	84.8%
sec-Butylbenzene	3.35	4.0	83.8%
4-Isopropyltoluene	3.35	4.0	83.8%
n-Butylbenzene	3.32	4.0	83.0%
1,2,4-Trichlorobenzene	3.58	4.0	89.5%
Naphthalene	3.70	4.0	92.5%
1,2,3-Trichlorobenzene	3.56	4.0	89.0%

Lab Control Surrogate Recovery	
d4-1,2-Dichloroethane	100%
d8-Toluene	97.5%
Bromofluorobenzene	102%
d4-1,2-Dichlorobenzene	91.0%

Reported in ug/L

ANALYTICAL RESOURCES INCORPORATED

WATER SEMIVOLATILE SURROGATE RECOVERY SUMMARY

Matrix: Water

QC Report No: AZ63-Southeast Management Services
Project: APC/SITKA Landfill

Client ID	NBZ	FBP	TPH	PHL	2FP	TBP	2CP	DCB	TOT OUT
Method Blank	87.6%	77.8%	99.8%	84.9%	83.8%	75.7%	83.0%	68.2%	0
Lab Control	84.3%	81.9%	95.9%	79.7%	72.1%	66.4%	77.1%	64.9%	0
LAN-1	87.7%	83.8%	89.8%	90.1%	88.9%	79.8%	90.9%	72.8%	0
LAN-2	88.5%	79.1%	106%	83.4%	81.7%	83.7%	83.9%	64.7%	0

LIQUID-LIQUID SW3520B		LCS/MB LIMITS	QC LIMITS
(NBZ)	= Nitrobenzene-d5	(49-109)	(43-110)
(FBP)	= 2-Fluorobiphenyl	(46-100)	(45-103)
(TPH)	= p-Terphenyl-d14'	(50-134)	(29-145)
(PHL)	= Phenol-d5	(26-119)	(32-116)
(2FP)	= 2-Fluorophenol	(42-109)	(38-106)
(TBP)	= 2,4,6-Tribromophenol	(44-120)	(45-129)
(2CP)	= 2-Chlorophenol-d4	(54-108)	(48-108)
(DCB)	= 1,2-Dichlorobenzene-d4	(36-100)	(35-100)

\# Column to be used to flag recovery values

* Values outside of required QC limits

D Surrogate Compound diluted out

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
Semivolatiles by GC/MS

Sample No: LAN-1

Lab Sample ID: AZ63A
LIMS ID: 99-17347
Matrix: Water
Data Release Authorized: [signature]
Reported: 11/24/99

QC Report No: AZ63-Southeast Management Services
Project: APC/SITKA Landfill
Date Sampled: 11/11/99
Date Received: 11/15/99

Date extracted: 11/16/99
Date analyzed: 11/23/99
Instrument: finn8

Sample Amount: 500 mL
Final Extract Volume: 0.5 mL
Dilution Factor: 1:1

CAS Number	Analyte	ug/L
108-95-2	Phenol	2.0 U
111-44-4	Bis-(2-Chloroethyl) Ether	2.0 U
95-57-8	2-Chlorophenol	1.0 U
541-73-1	1,3-Dichlorobenzene	1.0 U
106-46-7	1,4-Dichlorobenzene	1.0 U
100-51-6	Benzyl Alcohol	5.0 U
95-50-1	1,2-Dichlorobenzene	1.0 U
95-48-7	2-Methylphenol	2.0 U
108-60-1	2,2'-Oxybis(1-Chloropropane)	1.0 U
106-44-5	4-Methylphenol	1.0 U
621-64-7	N-Nitroso-Di-N-Propylamine	2.0 U
67-72-1	Hexachloroethane	2.0 U
98-95-3	Nitrobenzene	1.0 U
78-59-1	Isophorone	1.0 U
88-75-5	2-Nitrophenol	5.0 U
105-67-9	2,4-Dimethylphenol	3.0 U
65-85-0	Benzoic Acid	10 U
111-91-1	bis(2-Chloroethoxy) Methane	1.0 U
120-83-2	2,4-Dichlorophenol	3.0 U
120-82-1	1,2,4-Trichlorobenzene	1.0 U
91-20-3	Naphthalene	1.0 U
106-47-8	4-Chloroaniline	3.0 U
87-68-3	Hexachlorobutadiene	2.0 U
59-50-7	4-Chloro-3-methylphenol	2.0 U
91-57-6	2-Methylnaphthalene	1.0 U
77-47-4	Hexachlorocyclopentadiene	5.0 U
88-06-2	2,4,6-Trichlorophenol	5.0 U
95-95-4	2,4,5-Trichlorophenol	5.0 U
91-58-7	2-Chloronaphthalene	1.0 U
88-74-4	2-Nitroaniline	5.0 U
131-11-3	Dimethylphthalate	1.0 U
208-96-8	Acenaphthylene	1.0 U
99-09-2	3-Nitroaniline	6.0 U
83-32-9	Acenaphthene	1.0 U
51-28-5	2,4-Dinitrophenol	10 U
100-02-7	4-Nitrophenol	5.0 U
132-64-9	Dibenzofuran	1.0 U
606-20-2	2,6-Dinitrotoluene	5.0 U

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
Semivolatiles by GC/MS
Page 2 of 2

Sample No: LAN-1

Lab Sample ID: AZ63A
LIMS ID: 99-17347
Matrix: Water
Data Release Authorized: [signature]
Reported: 11/24/99

QC Report No: AZ63-Southeast Management Services
Project: APC/SITKA Landfill
Date Sampled: 11/11/99
Date Received: 11/15/99

Date extracted: 11/16/99
Date analyzed: 11/23/99
Instrument: finn8

Sample Amount: 500 mL
Final Extract Volume: 0.5 mL
Dilution Factor: 1:1

CAS Number	Analyte	ug/L
121-14-2	2,4-Dinitrotoluene	5.0 U
84-66-2	Diethylphthalate	1.0 U
7005-72-3	4-Chlorophenyl-phenylether	1.0 U
86-73-7	Fluorene	1.0 U
100-01-6	4-Nitroaniline	5.0 U
534-52-1	4,6-Dinitro-2-Methylphenol	10 U
86-30-6	N-Nitrosodiphenylamine	1.0 U
101-55-3	4-Bromophenyl-phenylether	1.0 U
118-74-1	Hexachlorobenzene	1.0 U
87-86-5	Pentachlorophenol	5.0 U
85-01-8	Phenanthrene	1.0 U
86-74-8	Carbazole	1.0 U
120-12-7	Anthracene	1.0 U
84-74-2	Di-n-Butylphthalate	1.0 U
206-44-0	Fluoranthene	1.0 U
129-00-0	Pyrene	1.0 U
85-68-7	Butylbenzylphthalate	1.0 U
91-94-1	3,3'-Dichlorobenzidine	5.0 U
56-55-3	Benzo(a)anthracene	1.0 U
117-81-7	**bis(2-Ethylhexyl)phthalate**	**28 B**
218-01-9	Chrysene	1.0 U
117-84-0	Di-n-Octyl phthalate	1.0 U
205-99-2	Benzo(b)fluoranthene	1.0 U
207-08-9	Benzo(k)fluoranthene	1.0 U
50-32-8	Benzo(a)pyrene	1.0 U
193-39-5	Indeno(1,2,3-cd)pyrene	1.0 U
53-70-3	Dibenz(a,h)anthracene	1.0 U
191-24-2	Benzo(g,h,i)perylene	1.0 U

Semivolatiles Surrogate Recovery

d5-Nitrobenzene	87.7%	d5-Phenol	90.1%
2-Fluorobiphenyl	83.8%	2-Fluorophenol	88.9%
d14-p-Terphenyl	89.8%	2,4,6-Tribromophenol	79.8%
d4-1,2-Dichlorobenzene	72.8%	d4-2-Chlorophenol	90.9%

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
Semivolatiles by GC/MS
Page 1 of 2

Sample No: LAN-2

Lab Sample ID: AZ63B
LIMS ID: 99-17348
Matrix: Water
Data Release Authorized: AJS
Reported: 11/24/99

QC Report No: AZ63-Southeast Management Services
Project: APC/SITKA Landfill
Date Sampled: 11/11/99
Date Received: 11/15/99

Date extracted: 11/16/99
Date analyzed: 11/23/99
Instrument: finn8

Sample Amount: 500 mL
Final Extract Volume: 0.5 mL
Dilution Factor: 1:1

CAS Number	Analyte	ug/L
108-95-2	Phenol	2.0 U
111-44-4	Bis-(2-Chloroethyl) Ether	2.0 U
95-57-8	2-Chlorophenol	1.0 U
541-73-1	1,3-Dichlorobenzene	1.0 U
106-46-7	1,4-Dichlorobenzene	1.0 U
100-51-6	Benzyl Alcohol	5.0 U
95-50-1	1,2-Dichlorobenzene	1.0 U
95-48-7	2-Methylphenol	2.0 U
108-60-1	2,2'-Oxybis(1-Chloropropane)	1.0 U
106-44-5	4-Methylphenol	1.0 U
621-64-7	N-Nitroso-Di-N-Propylamine	2.0 U
67-72-1	Hexachloroethane	2.0 U
98-95-3	Nitrobenzene	1.0 U
78-59-1	Isophorone	1.0 U
88-75-5	2-Nitrophenol	5.0 U
105-67-9	2,4-Dimethylphenol	3.0 U
65-85-0	Benzoic Acid	10 U
111-91-1	bis(2-Chloroethoxy) Methane	1.0 U
120-83-2	2,4-Dichlorophenol	3.0 U
120-82-1	1,2,4-Trichlorobenzene	1.0 U
91-20-3	Naphthalene	1.0 U
106-47-8	4-Chloroaniline	3.0 U
87-68-3	Hexachlorobutadiene	2.0 U
59-50-7	4-Chloro-3-methylphenol	2.0 U
91-57-6	2-Methylnaphthalene	1.0 U
77-47-4	Hexachlorocyclopentadiene	5.0 U
88-06-2	2,4,6-Trichlorophenol	5.0 U
95-95-4	2,4,5-Trichlorophenol	5.0 U
91-58-7	2-Chloronaphthalene	1.0 U
88-74-4	2-Nitroaniline	5.0 U
131-11-3	Dimethylphthalate	1.0 U
208-96-8	Acenaphthylene	1.0 U
99-09-2	3-Nitroaniline	6.0 U
83-32-9	Acenaphthene	1.0 U
51-28-5	2,4-Dinitrophenol	10 U
100-02-7	4-Nitrophenol	5.0 U
132-64-9	Dibenzofuran	1.0 U
606-20-2	2,6-Dinitrotoluene	5.0 U

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
Semivolatiles by GC/MS
Page 2 of 2

Sample No: LAN-2

Lab Sample ID: AZ63B
LIMS ID: 99-17348
Matrix: Water
Data Release Authorized: JVS
Reported: 11/24/99

QC Report No: AZ63-Southeast Management Services
Project: APC/SITKA Landfill
Date Sampled: 11/11/99
Date Received: 11/15/99

Date extracted: 11/16/99
Date analyzed: 11/23/99
Instrument: finn8

Sample Amount: 500 mL
Final Extract Volume: 0.5 mL
Dilution Factor: 1:1

CAS Number	Analyte	ug/L
121-14-2	2,4-Dinitrotoluene	5.0 U
84-66-2	Diethylphthalate	1.0 U
7005-72-3	4-Chlorophenyl-phenylether	1.0 U
86-73-7	Fluorene	1.0 U
100-01-6	4-Nitroaniline	5.0 U
534-52-1	4,6-Dinitro-2-Methylphenol	10 U
86-30-6	N-Nitrosodiphenylamine	1.0 U
101-55-3	4-Bromophenyl-phenylether	1.0 U
118-74-1	Hexachlorobenzene	1.0 U
87-86-5	Pentachlorophenol	5.0 U
85-01-8	Phenanthrene	1.0 U
86-74-8	Carbazole	1.0 U
120-12-7	Anthracene	1.0 U
84-74-2	Di-n-Butylphthalate	1.0 U
206-44-0	Fluoranthene	1.0 U
129-00-0	Pyrene	1.0 U
85-68-7	Butylbenzylphthalate	1.0 U
91-94-1	3,3'-Dichlorobenzidine	5.0 U
56-55-3	Benzo(a)anthracene	1.0 U
117-81-7	bis(2-Ethylhexyl)phthalate	1.0 U
218-01-9	Chrysene	1.0 U
117-84-0	Di-n-Octyl phthalate	1.0 U
205-99-2	Benzo(b)fluoranthene	1.0 U
207-08-9	Benzo(k)fluoranthene	1.0 U
50-32-8	Benzo(a)pyrene	1.0 U
193-39-5	Indeno(1,2,3-cd)pyrene	1.0 U
53-70-3	Dibenz(a,h)anthracene	1.0 U
191-24-2	Benzo(g,h,i)perylene	1.0 U

Semivolatiles Surrogate Recovery

d5-Nitrobenzene	88.5%	d5-Phenol	83.4%
2-Fluorobiphenyl	79.1%	2-Fluorophenol	81.7%
d14-p-Terphenyl	106%	2,4,6-Tribromophenol	83.7%
d4-1,2-Dichlorobenzene	64.7%	d4-2-Chlorophenol	83.9%

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
Semivolatiles by GC/MS
Page 1 of 2

Sample No: Method Blank

Lab Sample ID: AZ63MB
LIMS ID: 99-17347
Matrix: Water
Data Release Authorized: *BJ*
Reported: 11/24/99

QC Report No: AZ63-Southeast Management Services
Project: APC/SITKA Landfill
Date Sampled: NA
Date Received: NA

Date extracted: 11/16/99
Date analyzed: 11/22/99
Instrument: finn8

Sample Amount: 500 mL
Final Extract Volume: 0.5 mL
Dilution Factor: 1:1

CAS Number	Analyte	ug/L
108-95-2	Phenol	2.0 U
111-44-4	Bis-(2-Chloroethyl) Ether	2.0 U
95-57-8	2-Chlorophenol	1.0 U
541-73-1	1,3-Dichlorobenzene	1.0 U
106-46-7	1,4-Dichlorobenzene	1.0 U
100-51-6	Benzyl Alcohol	5.0 U
95-50-1	1,2-Dichlorobenzene	1.0 U
95-48-7	2-Methylphenol	2.0 U
108-60-1	2,2'-Oxybis(1-Chloropropane)	1.0 U
106-44-5	4-Methylphenol	1.0 U
621-64-7	N-Nitroso-Di-N-Propylamine	2.0 U
67-72-1	Hexachloroethane	2.0 U
98-95-3	Nitrobenzene	1.0 U
78-59-1	Isophorone	1.0 U
88-75-5	2-Nitrophenol	5.0 U
105-67-9	2,4-Dimethylphenol	3.0 U
65-85-0	Benzoic Acid	10 U
111-91-1	bis(2-Chloroethoxy) Methane	1.0 U
120-83-2	2,4-Dichlorophenol	3.0 U
120-82-1	1,2,4-Trichlorobenzene	1.0 U
91-20-3	Naphthalene	1.0 U
106-47-8	4-Chloroaniline	3.0 U
87-68-3	Hexachlorobutadiene	2.0 U
59-50-7	4-Chloro-3-methylphenol	2.0 U
91-57-6	2-Methylnaphthalene	1.0 U
77-47-4	Hexachlorocyclopentadiene	5.0 U
88-06-2	2,4,6-Trichlorophenol	5.0 U
95-95-4	2,4,5-Trichlorophenol	5.0 U
91-58-7	2-Chloronaphthalene	1.0 U
88-74-4	2-Nitroaniline	5.0 U
131-11-3	Dimethylphthalate	1.0 U
208-96-8	Acenaphthylene	1.0 U
99-09-2	3-Nitroaniline	6.0 U
83-32-9	Acenaphthene	1.0 U
51-28-5	2,4-Dinitrophenol	10 U
100-02-7	4-Nitrophenol	5.0 U
132-64-9	Dibenzofuran	1.0 U
606-20-2	2,6-Dinitrotoluene	5.0 U

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
Semivolatiles by GC/MS
Page 2 of 2

Sample No: Method Blank

Lab Sample ID: AZ63MB
LIMS ID: 99-17347
Matrix: Water
Data Release Authorized:
Reported: 11/24/99

QC Report No: AZ63-Southeast Management Services
Project: APC/SITKA Landfill
Date Sampled: NA
Date Received: NA

Date extracted: 11/16/99
Date analyzed: 11/22/99
Instrument: finn8

Sample Amount: 500 mL
Final Extract Volume: 0.5 mL
Dilution Factor: 1:1

CAS Number	Analyte	ug/L
121-14-2	2,4-Dinitrotoluene	5.0 U
84-66-2	Diethylphthalate	1.0 U
7005-72-3	4-Chlorophenyl-phenylether	1.0 U
86-73-7	Fluorene	1.0 U
100-01-6	4-Nitroaniline	5.0 U
534-52-1	4,6-Dinitro-2-Methylphenol	10 U
86-30-6	N-Nitrosodiphenylamine	1.0 U
101-55-3	4-Bromophenyl-phenylether	1.0 U
118-74-1	Hexachlorobenzene	1.0 U
87-86-5	Pentachlorophenol	5.0 U
85-01-8	Phenanthrene	1.0 U
86-74-8	Carbazole	1.0 U
120-12-7	Anthracene	1.0 U
84-74-2	Di-n-Butylphthalate	1.0 U
206-44-0	Fluoranthene	1.0 U
129-00-0	Pyrene	1.0 U
85-68-7	Butylbenzylphthalate	1.0 U
91-94-1	3,3'-Dichlorobenzidine	5.0 U
56-55-3	Benzo(a)anthracene	1.0 U
117-81-7	bis(2-Ethylhexyl)phthalate	2.7
218-01-9	Chrysene	1.0 U
117-84-0	Di-n-Octyl phthalate	1.0 U
205-99-2	Benzo(b)fluoranthene	1.0 U
207-08-9	Benzo(k)fluoranthene	1.0 U
50-32-8	Benzo(a)pyrene	1.0 U
193-39-5	Indeno(1,2,3-cd)pyrene	1.0 U
53-70-3	Dibenz(a,h)anthracene	1.0 U
191-24-2	Benzo(g,h,i)perylene	1.0 U

Semivolatiles Surrogate Recovery

d5-Nitrobenzene	87.6%	d5-Phenol	84.9%
2-Fluorobiphenyl	77.8%	2-Fluorophenol	83.8%
d14-p-Terphenyl	99.8%	2,4,6-Tribromophenol	75.7%
d4-1,2-Dichlorobenzene	68.2%	d4-2-Chlorophenol	83.0%

ORGANICS ANALYSIS DATA SHEET
Semivolatiles by GC/MS
Page 1 of 1

ANALYTICAL RESOURCES INCORPORATED

Lab Sample ID: AZ63SB
LIMS ID: 99-17347
Matrix: Water

QC Report No: AZ63-Southeast Management Services
Project: APC/SITKA Landfill

Data Release Authorized:
Reported: 11/24/99

LABORATORY CONTROL SAMPLE
Date extracted: 11/16/99
Date analyzed: 11/22/99

CONSTITUENT	SPIKE VALUE	SPIKE ADDED	% RECOVERY
Phenol	29.2	37.5	77.9%
2-Chlorophenol	28.5	37.5	76.0%
1,4-Dichlorobenzene	15.5	25.0	62.0%
N-Nitroso-Di-N-Propylamine	18.2	25.0	72.8%
1,2,4-Trichlorobenzene	16.4	25.0	65.6%
4-Chloro-3-methylphenol	27.5	37.5	73.3%
Acenaphthene	18.2	25.0	72.8%
4-Nitrophenol	30.4	37.5	81.1%
2,4-Dinitrotoluene	21.1	25.0	84.4%
Pentachlorophenol	24.6	37.5	65.6%
Pyrene	22.3	25.0	89.2%

Lab Control Surrogate Recovery

d5-Nitrobenzene	84.3%	d5-Phenol	79.7%
2-Fluorobiphenyl	81.9%	2-Fluorophenol	72.1%
d14-p-Terphenyl	95.9%	2,4,6-Tribromophenol	66.4%
d4-1,2-Dichlorobenzene	64.9%	d4-2-Chlorophenol	77.1%

Reported in Total ug/L

ANALYTICAL RESOURCES INCORPORATED

TOTAL DIESEL HYDROCARBONS COMPOUND SUMMARY

Matrix: Water QC Report No: AZ63

LIMS ID	Lab ID	Extracted	Client ID	MeArach	TOT OUT
99-17347MB	111999MB	11/16/99	Method Blank	116%	0
99-17347LC	111999LC	11/16/99	Lab Control	105%	0
99-17347	AZ63A	11/16/99	LAN-1	106%	0
99-17348	AZ63B	11/16/99	LAN-2	108%	0

	Control QC LIMITS	Sample QC LIMITS
(MeArach) = Methylarachidate	(52-138)	(30-156)

\# Column to be used to flag recovery values

* Values outside of required QC limits

D System Monitoring Compound diluted out

FORM-II TPH-D

TOTAL DIESEL RANGE HYDROCARBONS
AK102 TPHd Range C10 to C24 by GC/FID
and Motor Oil

ANALYTICAL RESOURCES INCORPORATED

Lab ID: 99-17347
Matrix: Water

QC Report No: AZ63-Southeast Management Services
Project: APC/SITKA Landfill

Date Received: 11/15/99

Data Release Authorized: CH
Reported: 11/26/99 11/24/99

Lab ID	Sample ID	Date Extracted	Date Analyzed	Dilution Factor	Diesel Range	*HC ID	Motor Oil Range	Surr Rec
AZ63MB	Method Blank	11/16/99	11/19/99	1:1	0.25 U	---	0.50 U	116%
AZ63A	LAN-1	11/16/99	11/19/99	1:1	0.25 U	---	0.50 U	106%
AZ63B	LAN-2	11/16/99	11/19/99	1:1	0.25 U	---	0.50 U	108%

Surrogate is Methyl-Arachidate.

* ID indicates, in the opinion of the analyst, the petroleum product with the best pattern match. 'NO' indicates that there was not a good match for any of the requested products.
Values reported in ppm (mg/L)
Diesel quantitation on total peaks in the range from C10 to C24.

Data Qualifiers

U	Compound not detected at the given detection limit.
J	Indicates an estimated value below the calculated detection limit.
S	No value reported due to saturation of the detector. Dilution required.
D	Indicates the surrogate was not detected because of dilution of the extract.
E	Indicates a value above the linear range of the detector. Dilution required.
NR	Indicates no recovery due to matrix interference.
B	Indicates compound also detected in the method blank.

FORM-1 WA TPHD

TOTAL DIESEL RANGE HYDROCARBONS
AK102 TPHd Range C10 to C24 by GC/FID

ANALYTICAL RESOURCES INCORPORATED

Lab Sample ID: AZ63SB
LIMS ID: 99-17347
Matrix: Water

QC Report No: AZ63-Southeast Management Services
Project: APC/SITKA Landfill

Data Release Authorized: CH
Reported: 11/26/99 11/24/99

LABORATORY CONTROL SAMPLE RECOVERY REPORT
Extracted: 11/16/99
Analyzed 11/19/99

CONSTITUENT	SPIKE FOUND	SPIKE ADDED	% RECOVERY
Diesel Range Hydrocarbons	0.92	1.00	92.0%

TPHd Surrogate Recovery

Methylarachidate	105%

Values reported in parts per million (mg/L)

ANALYTICAL RESOURCES INCORPORATED

WATER TPHg SYSTEM MONITORING COMPOUND SUMMARY

Matrix: Water

QC Report No: AZ63

LIMS ID	Lab ID	Client ID	TFT	BB	TOT OUT
99-17347	AZ63A	LAN-1	85.9%	73.9%	0
99-17348MB	111699MB	Method Blank	81.4%	72.2%	0
99-17348LC	111699LC	Lab Control	101%	107%	0
99-17348	AZ63B	LAN-2	84.7%	94.2%	0

	MB/LCS QC LIMITS	SAMPLE QC LIMITS
(TFT) = Trifluorotoluene	(30.0-160)	(30.0-160)
(BB) = Bromobenzene	(30.0-160)	(30.0-160)

Advisory Limits

\# Column to be used to flag recovery values

* Values outside of required QC limits

D System Monitoring Compound diluted out

ANALYTICAL RESOURCES INCORPORATED

TOTAL GASOLINE RANGE HYDROCARBONS
WTPHg Range Toluene to C12 by GC/FID

QC Report No: AZ63-Southeast Management Services
Matrix: Water Project: APC/SITKA Landfill

Data Release Authorized: CP Date Received: 11/15/99
Reported: 11/18/99 11/18/99

Lab ID	Client Sample ID	Date Analyzed	Dilution Factor	Gas Range	Gas ID	Surr A Rec	Surr B Rec
99-17347-AZ63A	LAN-1	11/16/99	1:1	0.25 U	NO	85.9%	73.9%
AZ63-1116MB	Method Blank	11/16/99	1:1	0.25 U	NO	81.4%	72.2%
99-17348-AZ63B	LAN-2	11/16/99	1:1	0.25 U	NO	84.7%	94.2%

Surrogate A is Trifluorotoluene.
Surrogate B is Bromobenzene.

Values reported in ppm (mg/L).
Quantitation on total peaks in the gasoline range from Toluene to C12.

Data Qualifiers

U Compound not detected at the given detection limit.
X Value detected above linear range of instrument. Dilution required.
J Indicates an estimated value below the calculated detection limit.
S No value reported due to saturation of the detector. Dilution required.
D Indicates the surrogate was not detected because of dilution of the extract.
NR Indicates no recovery due to matrix interference.

FORM-1 TPH-g

ANALYTICAL RESOURCES INCORPORATED

TOTAL GASOLINE RANGE HYDROCARBONS
WTPHg Range Toluene to C12 by GC/FID

Lab Sample ID: AZ63SB
LIMS ID: 99-17348
Matrix: Water

QC Report No: AZ63-Southeast Management Services
Project: APC/SITKA Landfill

Data Release Authorized: CM
Reported: 11/18/99 11/17/99

LABORATORY CONTROL SAMPLE RECOVERY REPORT
Analyzed 11/16/99

CONSTITUENT	SPIKE FOUND	SPIKE ADDED	% RECOVERY
LABORATORY CONTROL SAMPLE			
Gasoline Range Hydrocarbons	2.13	250	0.85%

TPHg Surrogate Recovery

Trifluorotoluene	101%
Bromobenzene	107%

Values reported in parts per million (mg/L)

TPHg SPIKE CONTROL LIMITS

Percent Recovery	50-150%
Duplicate RPD	<50%

Advisory QA Limits

ANALYTICAL RESOURCES INCORPORATED

WATER BETX SYSTEM MONITORING COMPOUND SUMMARY

Matrix: Water

QC Report No: AZ63

LIMS ID	Lab ID	Client ID	TFT	BB	TOT OUT
99-17347	AZ63A	LAN-1	85%	75%	0
99-17348MB	111699MB	Method Blank	81%	74%	0
99-17348	AZ63B	LAN-2	94%	84%	0

	MB/LCS QC LIMITS	SAMPLE QC LIMITS
(TFT) = Trifluorotoluene	(30-160)	(30-160)
(BB) = Bromobenzene	(30-160)	(30-160)

Advisory Limits

\# Column to be used to flag recovery values

* Values outside of required QC limits

D System Monitoring Compound diluted out

ORGANICS ANALYSIS DATA SHEET
BETX by Method 8020

ANALYTICAL RESOURCES INCORPORATED

Sample No: LAN-1

Lab Sample ID: AZ63A
LIMS ID: 99-17347
Matrix: Water

QC Report No: AZ63-Southeast Management Services
Project: APC/SITKA Landfill

Date Sampled: 11/11/99
Date Received: 11/15/99

Data Release Authorized:
Reported: 11/18/99

Date analyzed: 11/16/99

Volume Purged: 5.0 mL
Dilution: 1:1

Reported in ppb (ug/L)

CAS Number	Analyte	Value
71-43-2	Benzene	1.0 U
108-88-3	Toluene	1.0 U
100-41-4	Ethylbenzene	1.0 U
	m,p-Xylene	1.0 U
95-47-6	o-Xylene	1.0 U

BETX 8020 Surrogate Recovery

Trifluorotoluene	85.0%
Bromobenzene	75.2%

Data Qualifiers

U Indicates compound was analyzed for, but not detected at the given detection limit.
J Indicates an estimated value when that result is less than the calculated detection limit.
E Indicates a value above the linear range of the detector. Dilution Required
S Indicates no value reported due to saturation of the detector.
D Indicates the surrogate was diluted out.
B Found in associated method blank.
Y Indicates a raised reporting limit due to matrix interferences. The analyte may be present at or below the listed concentration, but in the opinion of the analyst, confirmation was inadequate.
NA Indicates compound was not analyzed.
NR Indicates no recovery due to interferences.

ORGANICS ANALYSIS DATA SHEET
BETX by Method 8020

ANALYTICAL RESOURCES INCORPORATED

Sample No: LAN-2

Lab Sample ID: AZ63B
LIMS ID: 99-17348
Matrix: Water

QC Report No: AZ63-Southeast Management Services
Project: APC/SITKA Landfill

Date Sampled: 11/11/99
Date Received: 11/15/99

Data Release Authorized: CA
Reported: 11/18/99 11/18/99

Date analyzed: 11/16/99

Volume Purged: 5.0 mL
Dilution: 1:1

Reported in ppb (ug/L)

CAS Number	Analyte	Value
71-43-2	Benzene	1.0 U
108-88-3	Toluene	1.0 U
100-41-4	Ethylbenzene	1.0 U
	m,p-Xylene	1.0 U
95-47-6	o-Xylene	1.0 U

BETX 8020 Surrogate Recovery

Trifluorotoluene	93.5%
Bromobenzene	84.4%

Data Qualifiers

U Indicates compound was analyzed for, but not detected at the given detection limit.
J Indicates an estimated value when that result is less than the calculated detection limit.
E Indicates a value above the linear range of the detector. Dilution Required
S Indicates no value reported due to saturation of the detector.
D Indicates the surrogate was diluted out.
B Found in associated method blank.
Y Indicates a raised reporting limit due to matrix interferences. The analyte may be present at or below the listed concentration, but in the opinion of the analyst, confirmation was inadequate.
NA Indicates compound was not analyzed.
NR Indicates no recovery due to interferences.

ORGANICS ANALYSIS DATA SHEET
BETX by Method 8020

ANALYTICAL RESOURCES INCORPORATED

Sample No: Method Blank

Lab Sample ID: AZ63MB
LIMS ID: 99-17348
Matrix: Water

QC Report No: AZ63-Southeast Management Services
Project: APC/SITKA Landfill

Date Sampled: NA
Date Received: NA

Data Release Authorized: CH
Reported: 11/18/99 11/17/99

Date analyzed: 11/16/99

Volume Purged: 5.0 mL
Dilution: 1:1

Reported in ppb (ug/L)

CAS Number	Analyte	Value
71-43-2	Benzene	1.0 U
108-88-3	Toluene	1.0 U
100-41-4	Ethylbenzene	1.0 U
	m,p-Xylene	1.0 U
95-47-6	o-Xylene	1.0 U

BETX 8020 Surrogate Recovery

Trifluorotoluene	81.4%
Bromobenzene	73.7%

Data Qualifiers

U Indicates compound was analyzed for, but not detected at the given detection limit.
J Indicates an estimated value when that result is less than the calculated detection limit.
E Indicates a value above the linear range of the detector. Dilution Required
S Indicates no value reported due to saturation of the detector.
D Indicates the surrogate was diluted out.
B Found in associated method blank.
Y Indicates a raised reporting limit due to matrix interferences. The analyte may be present at or below the listed concentration, but in the opinion of the analyst, confirmation was inadequate.
NA Indicates compound was not analyzed.
NR Indicates no recovery due to interferences.

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
TOTAL METALS

Sample No: LAN-1

Lab Sample ID: AZ63A
LIMS ID: 99-17347
Matrix: Water

QC Report No: AZ63-Southeast Management Services
Project: APC/SITKA Landfill

Date Sampled: 11/11/99
Date Received: 11/15/99

Data Release Authorized:
Reported: 12/06/99

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	RL	mg/L
3010	11/18/99	6010	11/22/99	7429-90-5	**Aluminum**	0.02	0.06
3005	11/18/99	7041	11/19/99	7440-36-0	Antimony	0.002	0.002 U
7060	11/18/99	7060	11/22/99	7440-38-2	Arsenic	0.001	0.001 U
3010	11/18/99	6010	11/22/99	7440-39-3	**Barium**	0.003	0.031
3010	11/18/99	6010	11/22/99	7440-41-7	Beryllium	0.001	0.001 U
3020	11/18/99	7131	11/23/99	7440-43-9	Cadmium	0.0002	0.0002 U
3010	11/18/99	6010	11/22/99	7440-70-2	**Calcium**	0.05	19.3
3010	11/18/99	6010	11/22/99	7440-47-3	Chromium	0.005	0.005 U
3010	11/18/99	6010	11/22/99	7440-48-4	Cobalt	0.003	0.003 U
3010	11/18/99	6010	11/22/99	7440-50-8	Copper	0.002	0.002 U
3010	11/18/99	6010	11/22/99	7439-89-6	**Iron**	0.02	0.66
3020	11/18/99	7421	11/23/99	7439-92-1	Lead	0.001	0.001 U
3010	11/18/99	6010	11/22/99	7439-95-4	**Magnesium**	0.02	138
3010	11/18/99	6010	11/22/99	7439-96-5	**Manganese**	0.001	0.295
7470	11/18/99	7470	11/19/99	7439-97-6	Mercury	0.0001	0.0001 U
3010	11/18/99	6010	11/22/99	7440-02-0	Nickel	0.01	0.01 U
3010	11/18/99	6010	11/22/99	7440-09-7	**Potassium**	0.5	2.6
7740	11/18/99	7740	11/22/99	7782-49-2	Selenium	0.002	0.002 U
3020	11/18/99	7761	11/19/99	7440-22-4	Silver	0.0002	0.0002 U
3010	11/18/99	6010	11/22/99	7440-23-5	**Sodium**	0.05	8.70
3020	11/18/99	7841	11/19/99	7440-28-0	Thallium	0.001	0.001 U
3010	11/18/99	6010	11/22/99	7440-62-2	**Vanadium**	0.003	0.006
3010	11/18/99	6010	11/22/99	7440-66-6	**Zinc**	0.006	0.016

Calculated Hardness (mg-CaCO3/L): 620

U Analyte undetected at given RL

RL Reporting Limit

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET Sample No: LAN-2
TOTAL METALS

Lab Sample ID: AZ63B QC Report No: AZ63-Southeast Management Services
LIMS ID: 99-17348 Project: APC/SITKA Landfill
Matrix: Water

Date Sampled: 11/11/99
Date Received: 11/15/99

Data Release Authorized:
Reported: 12/06/99

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	RL	mg/L	
3010	11/18/99	6010	11/22/99	7429-90-5	Aluminum	0.02	0.09	
3005	11/18/99	7041	11/19/99	7440-36-0	Antimony	0.002	0.002	U
7060	11/18/99	7060	11/22/99	7440-38-2	Arsenic	0.001	0.001	U
3010	11/18/99	6010	11/22/99	7440-39-3	Barium	0.003	0.039	
3010	11/18/99	6010	11/22/99	7440-41-7	Beryllium	0.001	0.001	U
3020	11/18/99	7131	11/23/99	7440-43-9	Cadmium	0.0002	0.0002	U
3010	11/18/99	6010	11/22/99	7440-70-2	Calcium	0.05	20.1	
3010	11/18/99	6010	11/22/99	7440-47-3	Chromium	0.005	0.005	U
3010	11/18/99	6010	11/22/99	7440-48-4	Cobalt	0.003	0.003	U
3010	11/18/99	6010	11/22/99	7440-50-8	Copper	0.002	0.002	U
3010	11/18/99	6010	11/22/99	7439-89-6	Iron	0.02	0.66	
3020	11/18/99	7421	11/23/99	7439-92-1	Lead	0.001	0.001	U
3010	11/18/99	6010	11/22/99	7439-95-4	Magnesium	0.02	150	
3010	11/18/99	6010	11/22/99	7439-96-5	Manganese	0.001	0.289	
7470	11/18/99	7470	11/19/99	7439-97-6	Mercury	0.0001	0.0001	U
3010	11/18/99	6010	11/22/99	7440-02-0	Nickel	0.01	0.01	U
3010	11/18/99	6010	11/22/99	7440-09-7	Potassium	0.5	6.0	
7740	11/18/99	7740	11/22/99	7782-49-2	Selenium	0.002	0.002	U
3020	11/18/99	7761	11/19/99	7440-22-4	Silver	0.0002	0.0002	U
3010	11/18/99	6010	11/22/99	7440-23-5	Sodium	0.05	18.2	
3020	11/18/99	7841	11/19/99	7440-28-0	Thallium	0.001	0.001	U
3010	11/18/99	6010	11/22/99	7440-62-2	Vanadium	0.003	0.003	
3010	11/18/99	6010	11/22/99	7440-66-6	Zinc	0.006	0.009	

Calculated Hardness (mg-CaCO3/L): 670

U Analyte undetected at given RL

RL Reporting Limit

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
TOTAL METALS

Sample No: Method Blank

Lab Sample ID: AZ63MB
LIMS ID: 99-17347
Matrix: Water

QC Report No: AZ63-Southeast Management Services
Project: APC/SITKA Landfill

Date Sampled: NA
Date Received: NA

Data Release Authorized:
Reported: 11/30/99

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	RL	mg/L
3010	11/18/99	6010	11/22/99	7429-90-5	Aluminum	0.02	0.02 U
3005	11/18/99	7041	11/19/99	7440-36-0	Antimony	0.002	0.002 U
7060	11/18/99	7060	11/22/99	7440-38-2	Arsenic	0.001	0.001 U
3010	11/18/99	6010	11/22/99	7440-39-3	Barium	0.003	0.003 U
3010	11/18/99	6010	11/22/99	7440-41-7	Beryllium	0.001	0.001 U
3020	11/18/99	7131	11/23/99	7440-43-9	Cadmium	0.0002	0.0002 U
3010	11/18/99	6010	11/22/99	7440-70-2	Calcium	0.05	0.05 U
3010	11/18/99	6010	11/22/99	7440-47-3	Chromium	0.005	0.005 U
3010	11/18/99	6010	11/22/99	7440-48-4	Cobalt	0.003	0.003 U
3010	11/18/99	6010	11/22/99	7440-50-8	Copper	0.002	0.002 U
3010	11/18/99	6010	11/22/99	7439-89-6	Iron	0.02	0.02 U
3020	11/18/99	7421	11/23/99	7439-92-1	Lead	0.001	0.001 U
3010	11/18/99	6010	11/22/99	7439-95-4	Magnesium	0.02	0.02 U
3010	11/18/99	6010	11/22/99	7439-96-5	Manganese	0.001	0.001 U
7470	11/18/99	7470	11/19/99	7439-97-6	Mercury	0.0001	0.0001 U
3010	11/18/99	6010	11/22/99	7440-02-0	Nickel	0.01	0.01 U
3010	11/18/99	6010	11/22/99	7440-09-7	Potassium	0.5	0.5 U
7740	11/18/99	7740	11/22/99	7782-49-2	Selenium	0.002	0.002 U
3020	11/18/99	7761	11/19/99	7440-22-4	Silver	0.0002	0.0002 U
3010	11/18/99	6010	11/22/99	7440-23-5	Sodium	0.05	0.05 U
3020	11/18/99	7841	11/19/99	7440-28-0	Thallium	0.001	0.001 U
3010	11/18/99	6010	11/22/99	7440-62-2	Vanadium	0.003	0.003 U
3010	11/18/99	6010	11/22/99	7440-66-6	Zinc	0.006	0.006 U

U Analyte undetected at given RL

RL Reporting Limit

INORGANICS ANALYSIS DATA SHEET
TOTAL METALS

ANALYTICAL RESOURCES INCORPORATED

Lab Sample ID: AZ63LCS
LIMS ID: 99-17347
Matrix: Water

QC Report No: AZ63-Southeast Management Services
Project: APC/SITKA Landfill

Data Release Authorized:
Reported: 11/30/99

BLANK SPIKE QUALITY CONTROL REPORT

Analyte	Spike mg/L	Spike Added	% Recovery	Q
Aluminum	2.65	2.50	106%	
Antimony	0.09	0.10	90.0%	
Arsenic	0.104	0.100	104%	
Barium	2.09	2.00	104%	
Beryllium	0.052	0.050	104%	
Cadmium	0.020	0.020	100%	
Calcium	10.5	10.0	105%	
Chromium	0.254	0.250	102%	
Cobalt	0.253	0.250	101%	
Copper	0.103	0.100	103%	
Iron	2.57	2.50	103%	
Lead	0.094	0.100	94.0%	
Magnesium	10.6	10.0	106%	
Manganese	0.504	0.500	101%	
Mercury	0.0020	0.0020	100%	
Nickel	0.53	0.50	106%	
Potassium	11.0	10.0	110%	
Selenium	0.10	0.10	100%	
Silver	0.020	0.020	100%	
Sodium	10.4	10.0	104%	
Thallium	0.098	0.100	98.0%	
Vanadium	0.100	0.100	100%	
Zinc	0.515	0.500	103%	

'Q' codes: N = control limit not met

Control Limits: 80-120%

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
TOTAL METALS

Sample No: LAN-3

Lab Sample ID: AZ63C
LIMS ID: 99-17349
Matrix: Soil

QC Report No: AZ63-Southeast Management Services
Project: APC/SITKA Landfill

Date Sampled: 11/11/99
Date Received: 11/15/99

Data Release Authorized:
Reported: 11/29/99

Percent Total Solids: 75.5%

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	RL	mg/kg-dry
3050	11/16/99	6010	11/22/99	7440-38-2	Arsenic	30	510
3050	11/16/99	6010	11/22/99	7440-39-3	Barium	2	223
3050	11/16/99	6010	11/22/99	7440-43-9	Cadmium	1	1 U
3050	11/16/99	6010	11/22/99	7440-47-3	Chromium	3	30
3050	11/16/99	6010	11/22/99	7439-92-1	Lead	10	167,000
CLP	11/16/99	7471	11/19/99	7439-97-6	Mercury	0.06	0.15
3050	11/16/99	6010	11/22/99	7782-49-2	Selenium	30	30 U
3050	11/16/99	6010	11/22/99	7440-22-4	Silver	2	11

U Analyte undetected at given RL

RL Reporting Limit

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
TOTAL METALS

Sample No: LAN-4

Lab Sample ID: AZ63D
LIMS ID: 99-17350
Matrix: Soil

QC Report No: AZ63-Southeast Management Services
Project: APC/SITKA Landfill

Date Sampled: 11/11/99
Date Received: 11/15/99

Data Release Authorized:
Reported: 11/29/99

Percent Total Solids: 69.0%

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	RL	mg/kg-dry
3050	11/16/99	6010	11/22/99	7440-38-2	Arsenic	7	108
3050	11/16/99	6010	11/22/99	7440-39-3	Barium	0.4	264
3050	11/16/99	6010	11/22/99	7440-43-9	Cadmium	0.3	1.3
3050	11/16/99	6010	11/22/99	7440-47-3	Chromium	0.7	87.0
3050	11/16/99	6010	11/22/99	7439-92-1	Lead	3	23,900
CLP	11/16/99	7471	11/19/99	7439-97-6	Mercury	0.07	0.07 U
3050	11/16/99	6010	11/22/99	7782-49-2	Selenium	7	7 U
3050	11/16/99	6010	11/22/99	7440-22-4	Silver	0.4	0.8

U Analyte undetected at given RL

RL Reporting Limit

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
TOTAL METALS

Sample No: Method Blank

Lab Sample ID: AZ63MB
LIMS ID: 99-17349
Matrix: Soil

QC Report No: AZ63-Southeast Management Services
Project: APC/SITKA Landfill

Date Sampled: NA
Date Received: NA

Data Release Authorized:
Reported: 11/29/99

Percent Total Solids: NA

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	RL	mg/kg-dry
3050	11/16/99	6010	11/22/99	7440-38-2	Arsenic	5	5 U
3050	11/16/99	6010	11/22/99	7440-39-3	Barium	0.3	0.3 U
3050	11/16/99	6010	11/22/99	7440-43-9	Cadmium	0.2	0.2 U
3050	11/16/99	6010	11/22/99	7440-47-3	Chromium	0.5	0.5 U
3050	11/16/99	6010	11/22/99	7439-92-1	Lead	2	2 U
CLP	11/16/99	7471	11/19/99	7439-97-6	Mercury	0.05	0.05 U
3050	11/16/99	6010	11/22/99	7782-49-2	Selenium	5	5 U
3050	11/16/99	6010	11/22/99	7440-22-4	Silver	0.3	0.3 U

U Analyte undetected at given RL

RL Reporting Limit

INORGANICS ANALYSIS DATA SHEET
TOTAL METALS

ANALYTICAL RESOURCES INCORPORATED

Lab Sample ID: AZ63LCS
LIMS ID: 99-17349
Matrix: Soil

QC Report No: AZ63-Southeast Management Services
Project: APC/SITKA Landfill

Data Release Authorized:
Reported: 11/29/99

BLANK SPIKE QUALITY CONTROL REPORT

Analyte	Analysis Method	Spike mg/kg-dry	Spike Added	% Recovery	Q
Arsenic	6010	257	250	103%	
Barium	6010	210	200	105%	
Cadmium	6010	9.9	10.0	99.0%	
Chromium	6010	24.8	25.0	99.2%	
Lead	6010	101	100	101%	
Mercury	7471	1.00	1.00	100%	
Selenium	6010	265	250	106%	
Silver	6010	25.4	25.0	102%	

'Q' codes: N = control limit not met

Control Limits: 80-120%

ANALYTICAL RESOURCES INCORPORATED

Final Report
Laboratory Analysis of Conventional Parameters

Sample No: LAN-1

Lab Sample ID: AZ63A
LIMS ID: 99-17347
Matrix: Water

QC Report No: AZ63-Southeast Management Services
Project: APC/SITKA Landfill

Date Sampled: 11/11/99
Date Received: 11/15/99

Data Release Authorized:
Reported: 11/29/99 Dr. M.A. Perkins

Analyte	Analysis Date & Batch	Method	RL	Units	Result
Chemical Oxygen Demand	11/17/99 111799#1	EPA 410.4	5.0	mg/L	26

RL Analytical reporting limit
U Undetected at reported detection limit

Report for AZ63 received 11/15/99

ANALYTICAL RESOURCES INCORPORATED

Final Report
Laboratory Analysis of Conventional Parameters

Sample No: LAN-2

Lab Sample ID: AZ63B
LIMS ID: 99-17348
Matrix: Water

QC Report No: AZ63-Southeast Management Services
Project: APC/SITKA Landfill

Date Sampled: 11/11/99
Data Release Authorized: MS Date Received: 11/15/99
Reported: 11/29/99 Dr. M.A. Perkins

Analyte	Analysis Date & Batch	Method	RL	Units	Result
Chemical Oxygen Demand	11/17/99 111799#1	EPA 410.4	5.0	mg/L	22

RL Analytical reporting limit
U Undetected at reported detection limit

Report for AZ63 received 11/15/99

ANALYTICAL RESOURCES INCORPORATED

QA Report - Method Blank Analysis

QC Report No: AZ63-Southeast Management Services
Matrix: Water
Project: APC/SITKA Landfill

Date Received: NA

Data Release Authorized:
Reported: 11/29/99 Dr. M.A. Perkins

METHOD BLANK RESULTS
CONVENTIONALS

Analysis Date & Batch	Constituent	Units		Result	
11/17/99 111799#1	Chemical Oxygen Demand	mg/L	<	5.0	U

ANALYTICAL RESOURCES INCORPORATED

QA Report - Standard Reference Material Analysis

QC Report No: AZ63-Southeast Management Services
Project: APC/SITKA Landfill

Date Received: NA

Data Release Authorized: [signature]
Reported: 11/29/99 Dr. M.A. Perkins

STANDARD REFERENCE MATERIAL ANALYSIS
CONVENTIONALS

Constituent	Units	Value	True Value	Recovery
SPEX #15-79				
Chemical Oxygen Demand	mg/L	97.8	90.0	109%
Date analyzed: 11/17/99	Batch ID: 111799#1			

ANALYTICAL RESOURCES INCORPORATED

QA Report - Replicate Analysis

QC Report No: AZ63-Southeast Management Services
Matrix: Water Project: APC/SITKA Landfill

Date Received: 11/15/99

Data Release Authorized:
Reported: 11/29/99 Dr. M.A. Perkins

DUPLICATE ANALYSIS RESULTS
CONVENTIONALS

Constituent	Units	Sample Value	Duplicate Value	RPD
ARI ID: 99-17347, AZ63 A	Client Sample ID: LAN-1			
Chemical Oxygen Demand	mg/L	26	28	7.4%

ANALYTICAL RESOURCES INCORPORATED

QA Report - Matrix Spike/Matrix Spike Duplicate Analysis

QC Report No: AZ63-Southeast Management Services
Matrix: Water Project: APC/SITKA Landfill

Date Received: 11/15/99

Data Release Authorized:
Reported: 11/29/99 Dr. M.A. Perkins

MATRIX SPIKE QA/QC REPORT
CONVENTIONALS

Constituent	Units	Sample Value	Spike Value	Spike Added	Recovery
ARI ID: 99-17347, AZ63 A Client Sample ID: LAN-1					
Chemical Oxygen Demand	mg/L	25.9	60.3	38.0	90.5%

MS/MSD Recovery Limits: 75 - 125 %

City and Borough of Sitka

100 LINCOLN STREET,SITKA, ALASKA 99835

To: Tom Hanna

November 23, 1999

Subject: APC/ Sitka Landfill

Sample Date : 11/17/99				Test Test : 11/17/99			Analyst: Mark Ojala		
BIOCHEMICAL OXYGEN DEMAND:				Date In: 11/17/99			Date Out: 11/22/99		
	Initial Blank DO: 8.4			mg/L	Final Blank DO:		8.3 mg/L		
	Drainage Culvert #1 North			Drainage Culvert #2 South			SEED CHECK		
Mls of sample	200	200	200	200	200	200	15	15	15
Initial DO mg/L	8.4	8.4	8.4	8.4	8.4	8.4	8.4	8.4	8.4
Final DO mg/L	4.7	4.6	4.7	4.5	4.5	4.5	4.7	4.8	4.6
DO Depletion mg/L	0.0	0.1	0.0	0.2	0.2	0.2	3.7	3.6	3.8
Dilution Factor	1.5	1.5	1.5	1.5	1.5	1.5	20	20	20
BOD mg/L	0.0	0.2	0.0	0.3	0.3	0.3	74.0	72.0	76.0
Average BOD mg/L		0.1			0.3			74	

Drainage Culvert #1 North Flow	7.7	gpm	Drainage Culvert #2 South Flow	15.5	gpm
Drainage Culvert #1 North Color	<5	units	Drainage Culvert #2 South Color	<5	units

Comments:

Seed Check / Sitka Primary Effluent @15ml SCF=	3.7

Report Prepared by: Mark Ojala

File: Microsoft Excel - Apcs99.XLS

12/99 COMPLETION REPORT:
APC/SITKA LANDFILL POST-CLOSURE IMPROVEMENTS PROJECT

Sawmill Creek
Sitka, Alaska

APPENDIX C

Reference Documentation

SOUTHEAST MANAGEMENT SERVICES
1061 Mendenhall Peninsula Road
Juneau, Alaska 99801
(907) 789-0637 Fax (907) 789-9487

September 23, 1999

Glenn Miller
Environmental Specialist
Solid Waste Program
Alaska Department of Environmental Conservation
410 Willoughby Avenue, Suite 105
Juneau, Alaska 99801

Dear Mr. Miller:

On behalf of Alaska Pulp Corporation, attached for your review and approval is the report entitled, "9/17/99 Status Report - APC-Sitka Landfill Post-Closure Improvements Project".

The enclosed report details the progress made thus far in completing the post-closure improvements agreed to earlier this year between ADEC and APC for the closed APC-Sitka Solid Waste Disposal Facility. Field construction began on 5/6/99, and has continued since then to complete the most difficult improvements and work activities involved at the site. The project would have been completed by now, except that the large quantity of crushed concrete to have been used as cover material and supplied from the APC millsite's demolition activity has not yet been created. We have good reason to believe that the needed crusher equipment will begin work at the APC millsite by the end of the month. Assuming that occurs, our projected completion schedule indicates that the site's post-closure improvements can be completed by the end of October or very soon thereafter.

We would be glad to meet with you or provide whatever additional information that ADEC might need in its review. With the exception of not having the crushed concrete rock available for surfacing fill, the rest of the project has gone well. Not only has the site's appearance dramatically improved, but we believe the site can be put to highly beneficial public by the Sitka Borough once the project is completed.

We are looking forward to hearing from you, and to the successful completion of this project.

Sincerely yours,

Thomas R Hanna

Thomas R. Hanna

Enclosure: 9/17/99 Status Report on the APC/Sitka Landfill post-closure improvements project

cc: Mark Buggins, City & Borough of Sitka (2 copies)
Frank Roppel, Alaska Pulp Corporation
Warren Lee, Alaska Pulp Corporation
Jim Clark, Robertson, Monagle & Eastaugh

SOUTHEAST MANAGEMENT SERVICES

1061 Mendenhall Peninsula Road
Juneau, Alaska 99801
(907) 789-0637 Fax (907) 789-9487

November 30, 1999

Glenn Miller
Environmental Specialist
Solid Waste Program
Alaska Department of Environmental Conservation
410 Willoughby Avenue, Suite 105
Juneau, Alaska 99801

Dear Mr. Miller:

On behalf of Alaska Pulp Corporation, enclosed for your review are updated site plans and photographs of the final completion stages at the APC/Sitka solid waste disposal facility's post-improvements project.

The enclosed photographs cover the project's activities from the 9/17/99 status report to its near-completion on 11/23/99. At that time a site inspection was conducted with you, Chris Combs of the Sitka Borough, the project contractor Gary Winnop and me. Based on that inspection, we believe that all of the APC/Sitka landfill's post-improvements proposed to be done in the report, "11/24/98 Inspection Report & Post-Closure Completion Recommendations - APC-Sitka Solid Waste Disposal Facility", are now completed except for the miscellaneous items described below which Alaska Pulp Corporation is taking steps to assure their completion by this coming spring:

1. Removal of the container van. The container van shown on Figure 1 will be removed within the next few weeks, as soon as the two barrels of lead-contaminated soil have been manifested and transported from the site;
2. Placement of several additional barrier logs along both sides of the site entrance. The additional barrier logs are to provide a more secure barrier to unauthorized vehicle access, and will be placed within the next few weeks;
3. Placement of surface water erosion-control structures along the site embankments. As soon as snow leaves the landfill this coming spring, the site will be inspected and water drainage structures will be placed to minimize the potential for embankment soil cover erosion;
4. Fertilization and grass-seeding of the entire site. Once the erosion control structures of Item (3) are completed, the entire site will be fertilized and grass-seeded, and
5. Facility description recorded with the State Recorder's Office. The site's contents and boundaries will be described and recorded with the State Recorder's Office, to meet the requirements of 18 AAC 60.490(a).

Based on the 11/23/99 site inspection and contingent on completing the above-described five items, Alaska Pulp Corporation requests the Alaska Dept. of Environmental Conservation's concurrence that all of the APC/Sitka Solid Waste Disposal Facility's post-improvements have been completed to ADEC's satisfaction. We hope to include ADEC's approval letter in the final project report that will be completed within the next few weeks. The final project report will document the project completion details including an as-built survey and the initial water quality monitoring results of the two leachate streams, as well as any other project details that ADEC may want to have in the document. We also are requesting ADOT/PF's approval and acceptance of the project's road right-of-way improvements, and hope to have their response in the final report as well.

We are looking forward to hearing from you, and would be glad to meet with you if needed to discuss any portion of the project's details.

Sincerely yours,

/Thomas R. Hanna

Thomas R. Hanna

Enclosures: Figures 1 & 2, and final-completion photographs of the APC/Sitka landfill post-improvements project

cc: Mark Buggins, City & Borough of Sitka (2 copies)
Frank Roppel, Alaska Pulp Corporation
Warren Lee, Alaska Pulp Corporation
Jim Clark, Robertson, Monagle & Eastaugh

FIGURE 1:

VICINITY LOCATION OF THE APC-SITKA SOLID WASTE DISPOSAL FACILITY

Located along Sawmill Creek near Sitka, Alaska

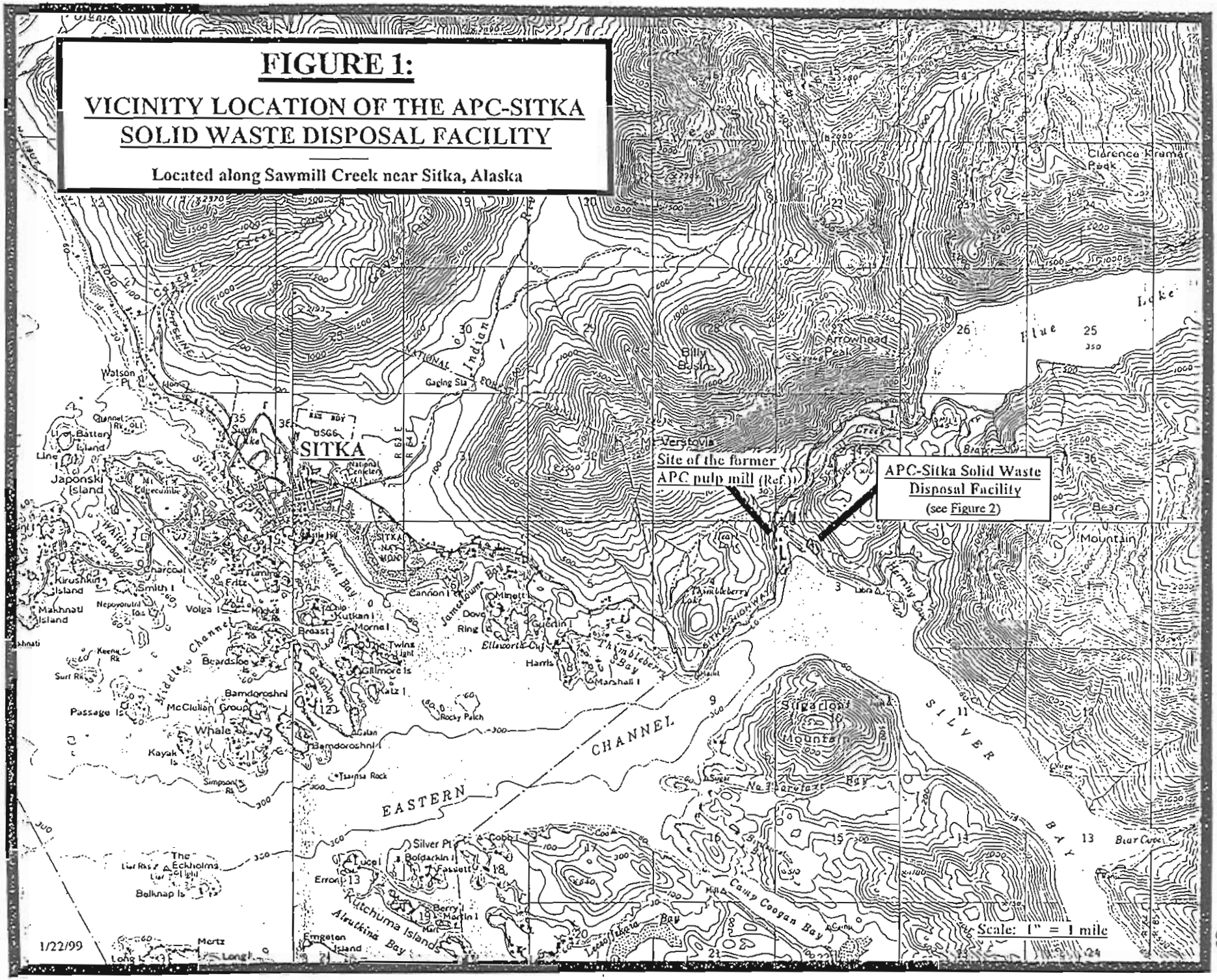
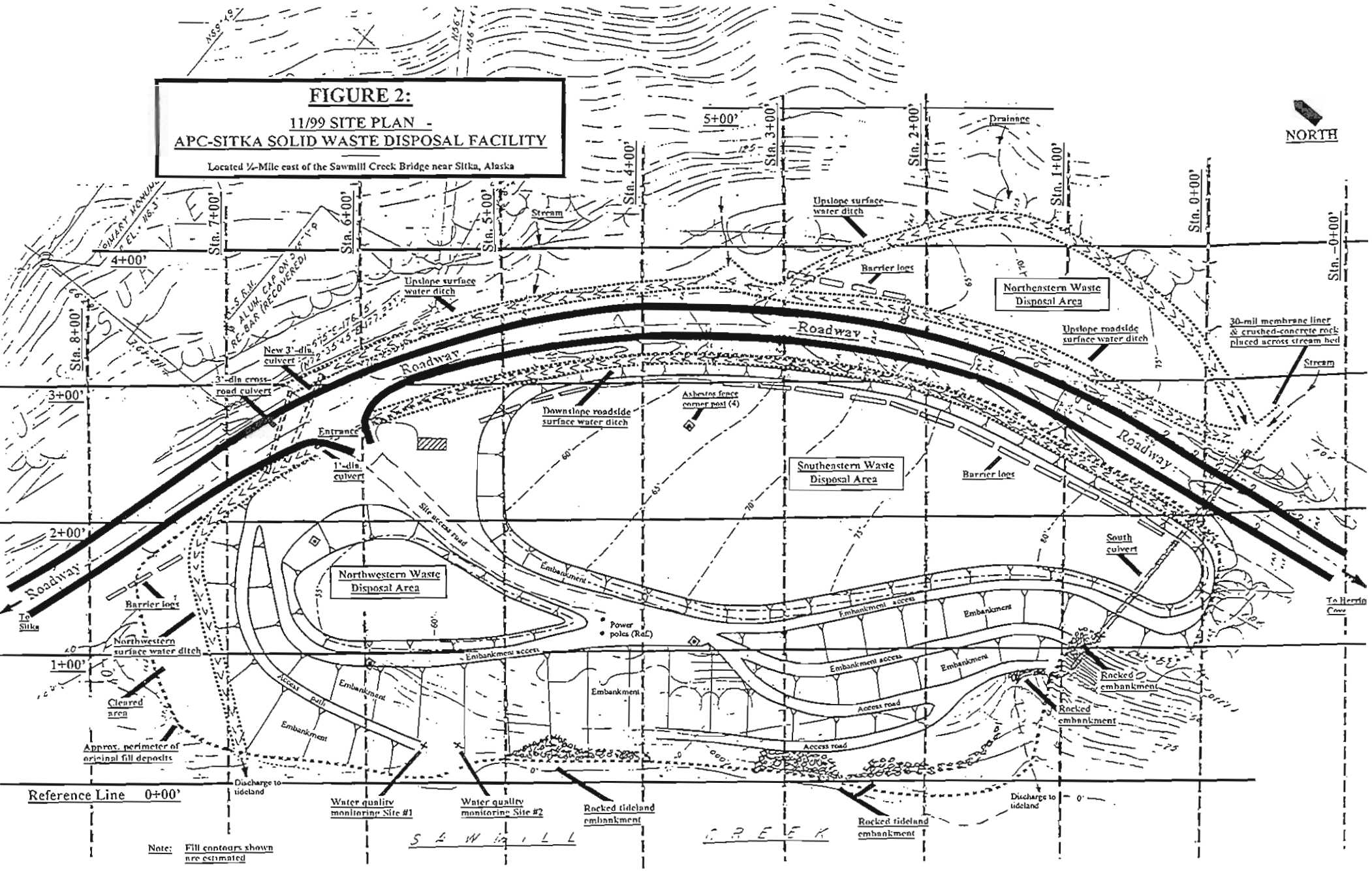


FIGURE 2:

11/99 SITE PLAN - APC-SITKA SOLID WASTE DISPOSAL FACILITY

Located ¼-Mile east of the Sawmill Creek Bridge near Sitka, Alaska



C6

SOUTHEAST MANAGEMENT SERVICES

1061 Mendenhall Peninsula Road
Juneau, Alaska 99801
(907) 789-0637 Fax (907) 789-9487

November 30, 1999

Barry E . Rohm
Right of Way Agent, Southeast Region
Alaska Dept. of Transportation
& Public Facilities
6860 Glacier Highway
Juneau, Alaska 99801-7999

Dear Mr. Rohm:

The Alaska Pulp Corporation's APC/Sitka waste disposal landfill improvements project, located at about 5-Mile Sawmill Creek Highway, is now completed except for a few minor items. Our contractor has worked extensively with your Sitka maintenance personnel throughout this project, and we believe all of their concerns have been addressed as we completed the project's road right-of-way activities. Therefore we request ADOT/PF's acceptance of the final improvements that were made in the Sawmill Creek Road right-of-way to facilitate surface water runoff and drainage control, described as follows:

1. Attached are Figures 1-5, which show the project's location, site plans and details of each surface water ditchline that affects the Sawmill Creek Roadway. The ditchline cross-sectional details were transmitted earlier to you, and all but one ditch incorporates a 30-mil membrane liner.
2. Photographs are attached which show the site details as they affect the Sawmill Creek Road right-of-way. By next spring we expect to have the entire site including the adjacent road shoulders planted in grass, to stabilize the new soil cover, and
3. The contractor Gary Winnop is coordinating with Dave Luchinetti to complete the final placement of some D-1 fill to better define the upslope road shoulder. With that final remaining detail, which should be completed within the next week or two, we believe all right-of-way improvements will be completed to ADOT/PF's satisfaction.

By all means call if you wish to discuss any aspect of the project, and I would be glad to meet with you if needed to further discuss this project. If the project results meet with ADOT/PF's approval, we request being notified in writing of that acceptance at your earliest convenience.

We greatly appreciated the assistance provided by Ron Kingman, Dave Luchinetti and you throughout this project. We believe the area's surface water drainage has been greatly improved, not only for the post-closure aspects of the solid waste disposal facility, but also for the roadway as well. Thank you for helping us complete this project.

Sincerely yours,

Thomas R. Hanna
Project Manager

Attachments: Figures 1-5, nine pages of photographs

cc: Ron Kinman, Maintenance & Operations, Sitka-ADOT/PF
Glenn Miller, ADEC Solid Waste Program
Frank Roppel, Alaska Pulp Corporation
Jim Clark, Robertson, Monagle & Eastaugh

FIGURE 1:

VICINITY LOCATION OF THE APC-SITKA SOLID WASTE DISPOSAL FACILITY

Located along Sawmill Creek near Sitka, Alaska

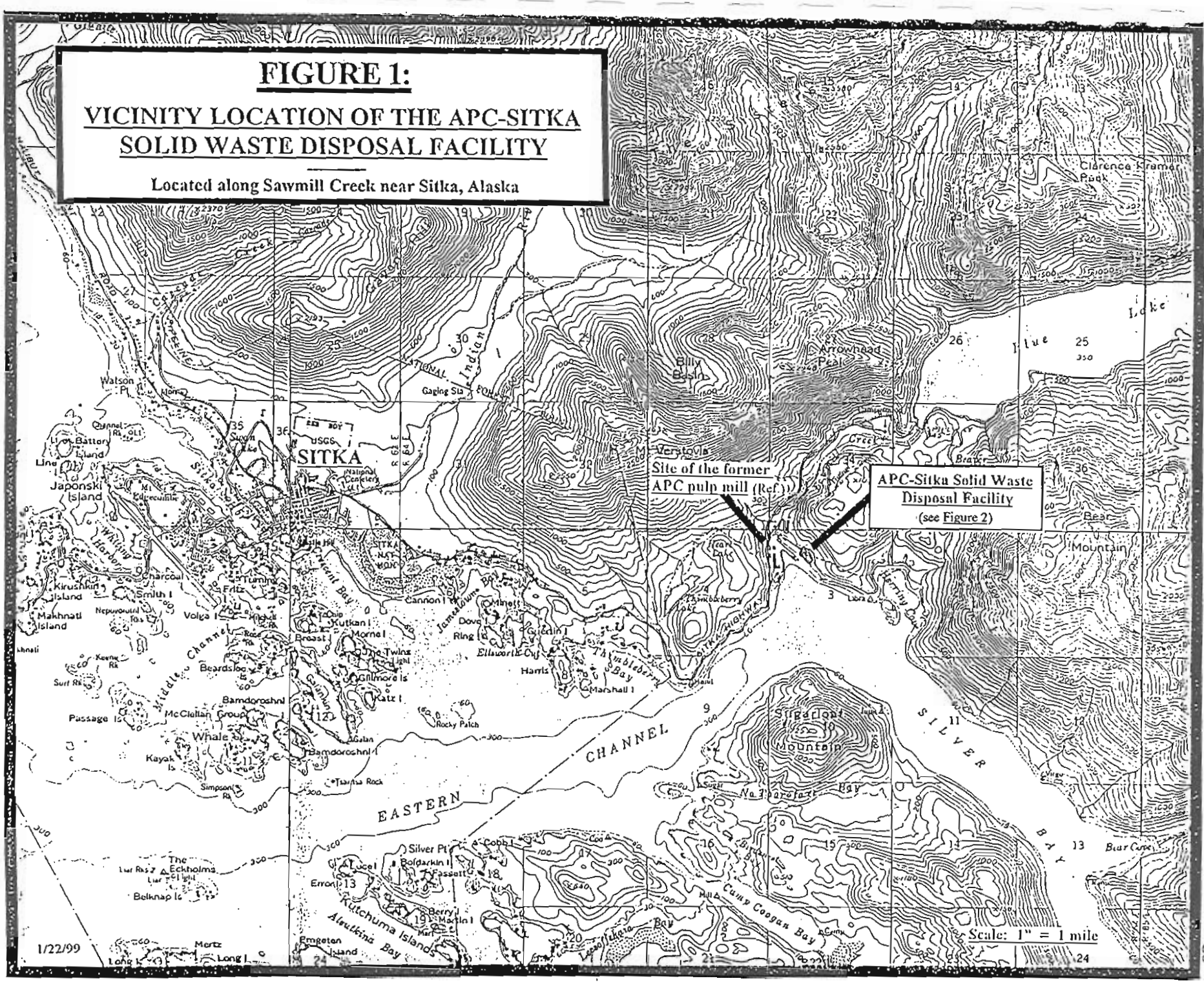
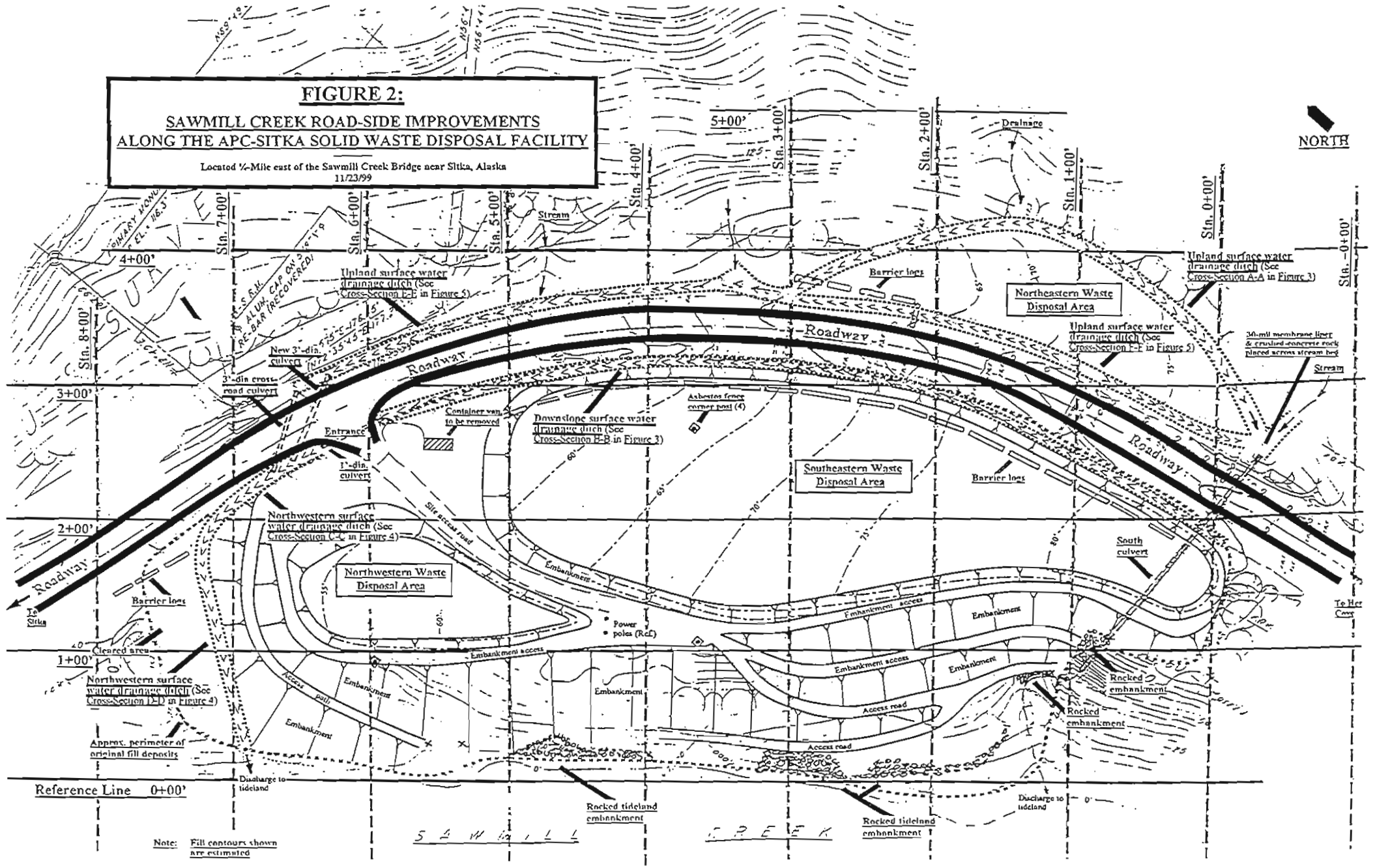
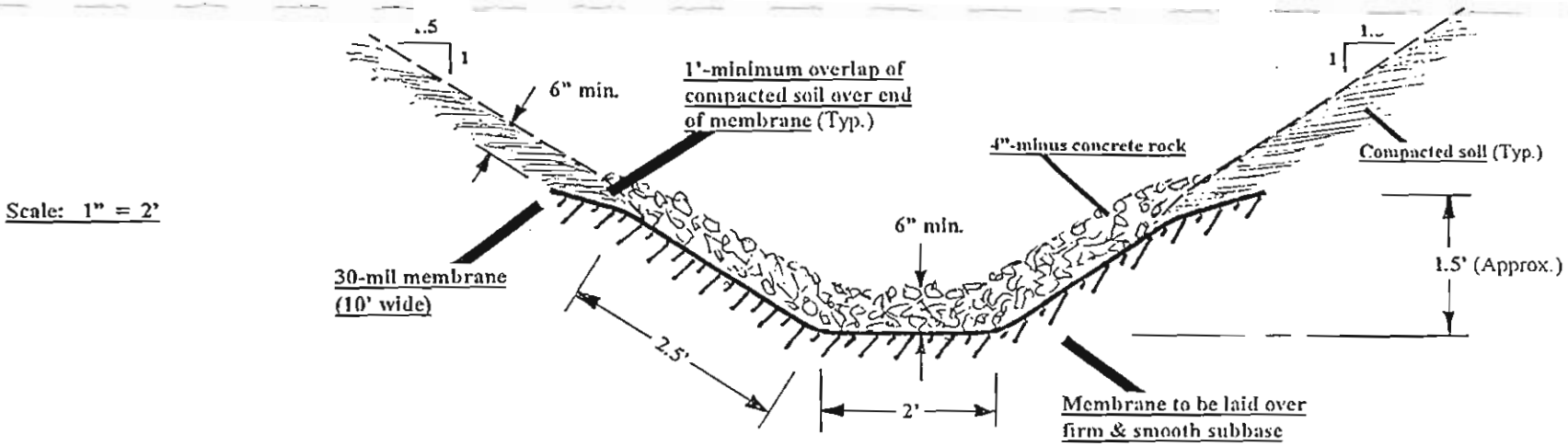


FIGURE 2:

SAWMILL CREEK ROAD-SIDE IMPROVEMENTS ALONG THE APC-SITKA SOLID WASTE DISPOSAL FACILITY

Located ½-Mile east of the Sawmill Creek Bridge near Sitka, Alaska
11/23/99

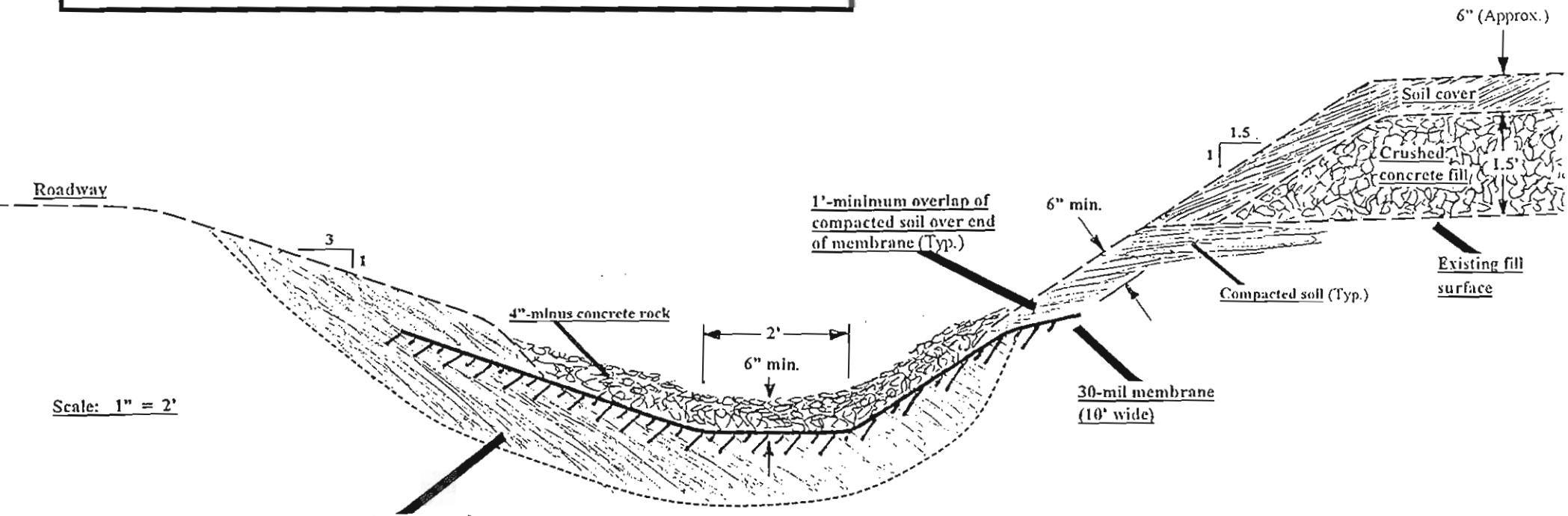




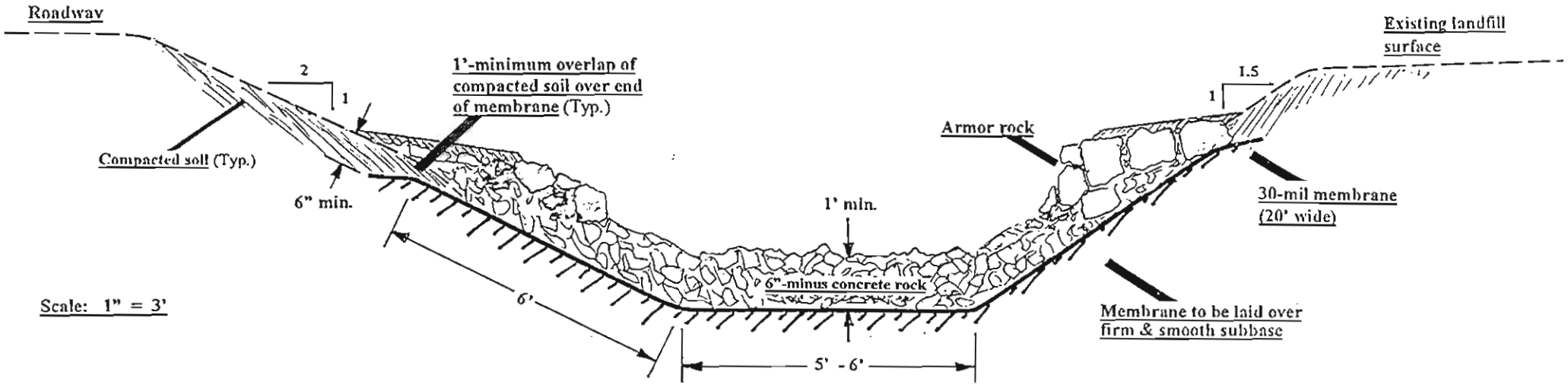
CROSS-SECTION A - A:
UPSLOPE DITCH MEMBRANE INSTALLATION

FIGURE 3:

MEMBRANE INSTALLATION DETAIL - UPSLOPE & LOWER ROADWAY DRAINAGE DITCHES



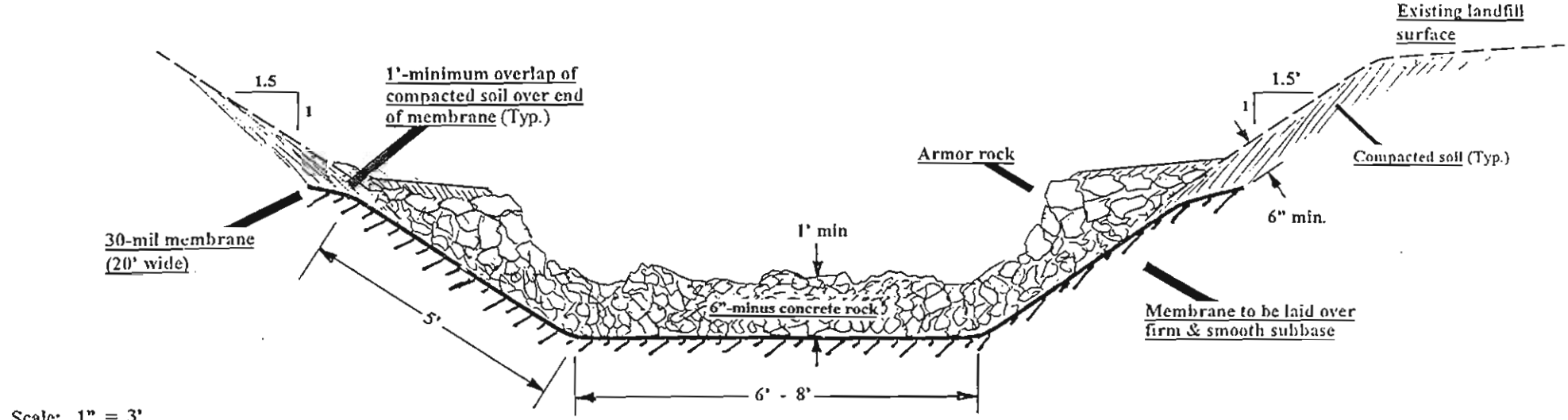
CROSS-SECTION B - B:
DOWNSLOPE ROADWAY DITCH MEMBRANE INSTALLATION



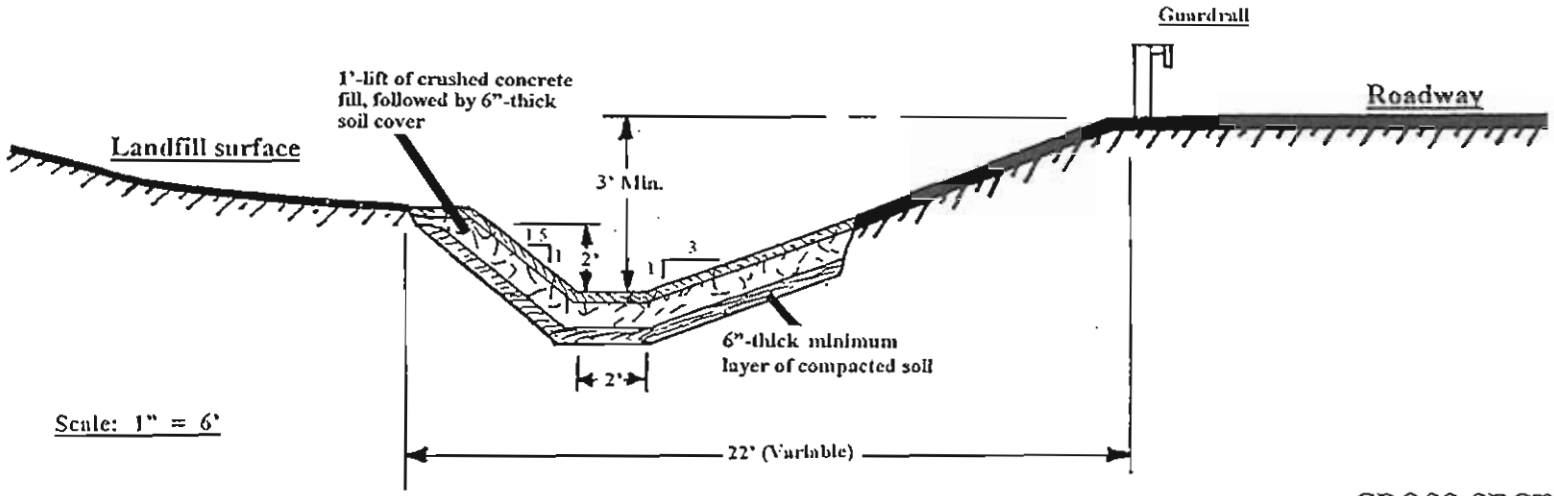
CROSS-SECTION C - C:
NW DITCH MEMBRANE INSTALLATION ALONG ROADWAY

FIGURE 4:

MEMBRANE INSTALLATION DETAIL - NORTHWEST SURFACE WATER DRAINAGE DITCH



CROSS-SECTION D - D:
NW DITCH MEMBRANE INSTALLATION

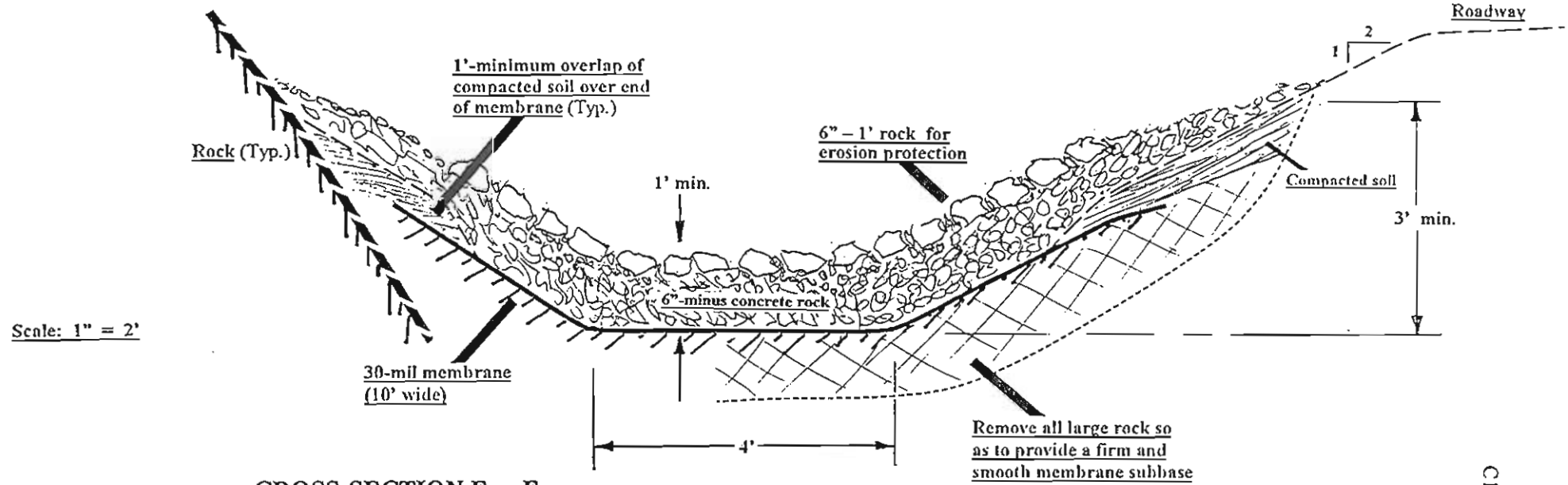


CROSS-SECTION F - F:

UPSLOPE ROADWAY DITCH DETAIL ALONG GUARDRAIL

FIGURE 5:

INSTALLATION DETAIL - UPSLOPE ROADWAY DRAINAGE DITCHES



CROSS-SECTION E - E:

MAIN UPSLOPE ROADWAY DITCHLINE MEMBRANE INSTALLATION

Photo #1: 11/23/99 view looking southeast across the main portion of the APC/Sitka landfill site, showing the Sawmill Creek Road and the completed downslope ditchline.

Photo #2: Looking northwest across the APC/Sitka landfill on 11/23/99, showing the roadside drainage ditch along Sawmill Creek Road and the access barrier logs placed around the landfill's periphery (compare with Photos #16 & #17).

Photo #3: 11/23/99 view of the completed surface water drainage ditch along Sawmill Creek Road near the APC/Sitka landfill's southeastern end (compare with Photo #17).

Photo #4: Looking across the end of the upper end of the APC/Sitka landfill's northeastern disposal area, showing the new roadside drainage ditch along Sawmill Creek Road (see arrow).

Photo #5: Looking down on the Sawmill Creek Road's culvert that goes through the APC/Sitka landfill's south end, showing the rock-lined creek which has a 30-mil membrane liner under the rock.

Photo #6: Looking across the middle portion of the APC/Sitka landfill's northeastern disposal area on 11/23/99, showing the newly created drainage ditch along Sawmill Creek Road.

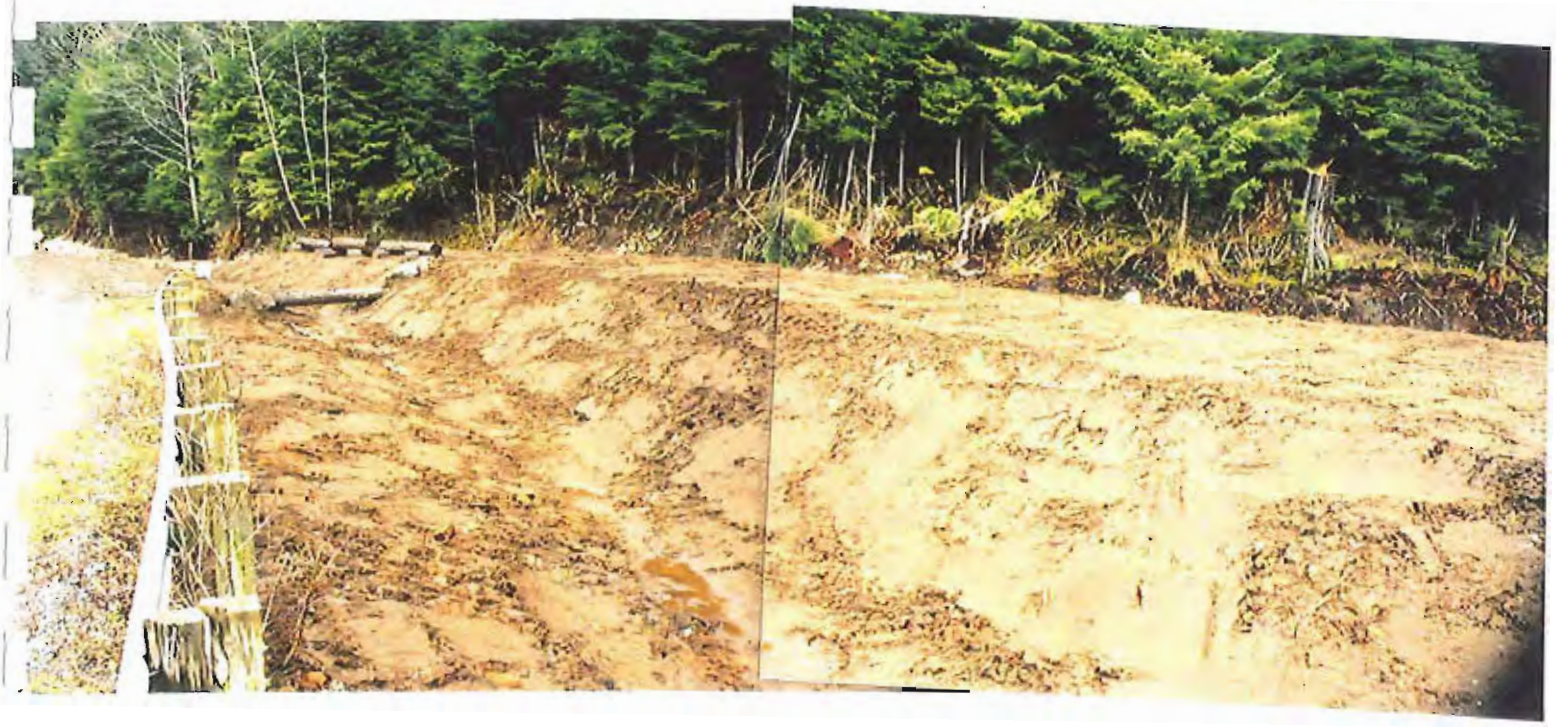


Photo #7: View of the lower end of the APC/Sitka landfill's northeastern disposal area, showing the barrier logs placed to limit vehicle access and the soil-lined roadside drainage ditch just beyond the Sawmill Creek Road guardrail.

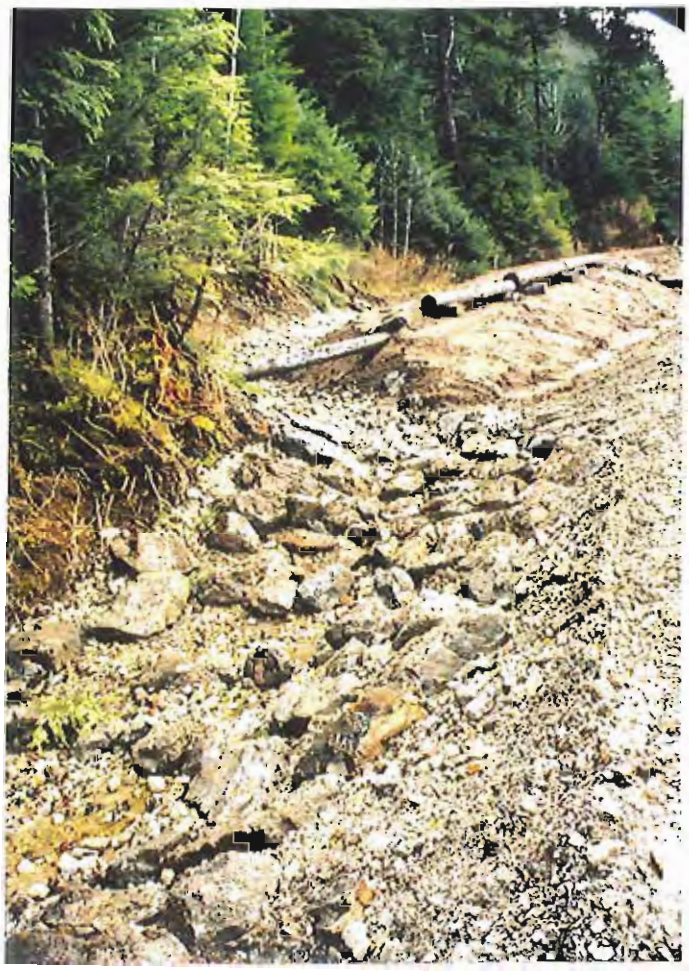


Photo #8: 11/23/99 view looking up the surface water drainage ditch along the upslope side of Sawmill Creek Road, showing the barrier logs at the end of the APC/Sitka landfill's northeastern disposal area.

Photo #9: Looking down the Sawmill Creek Road's upslope surface water drainage ditch from about Sta. 3+80', showing the large rock placed in the ditchline to prevent erosion of the protective rock cover over the underlying 30-mil membrane liner, 11/11/99.

Photo #10: 11/11/99 view looking up the APC/Sitka landfill's upslope drainage ditch along Sawmill Creek Road taken from about Sta. 6+50', showing the large rock placed over the underlying 30-mil membrane liner to prevent surface water erosion.

Photo #11: 11/11/99 view of the 3'-dia. culvert inlets going diagonally across Sawmill Creek road near the northwestern end of the APC/Sitka landfill. The new culvert (see arrow) takes all of the water flow, and the old culvert in the background is unlikely to experience any water except during extreme-flood conditions.

Photo #12: 11/11/99 view of the 3'-dia culvert discharges along the northwestern end of the APC/Sitka landfill. The new culvert is on the right site (see next two photos).

Photo #13: Looking across the northwestern end of the APC/Sitka landfill, showing the gentle banks of the surface water drainage ditchlines along Sawmill Creek road (see next photo).

Photo #14: 11/11/99 view looking down the APC/Sitka landfill's surface water drainage ditch just beyond the Sawmill Creek Road's culvert discharge, showing the gentle roadside embankment and barrier logs placed well away from the road (refer to Photo #15).

Photo #15: Earlier 10/28/99 view of placing the 20'-wide by 30-mil membrane liner in the surface water drainage ditch just below the Sawmill Creek Road's culvert at the APC/Sitka landfill's northwestern end (compare with Photo #14).

Photo #16: Earlier 10/14/99 view of the 10'-wide by 30-mil membrane liner being placed along the Sawmill Creek Roadway's upslope drainage ditch (compare with Photo #9).

Photo #17: Earlier 10/11/99 view of the 10'-wide by 30-mil liner having been placed in the downslope surface water drainage ditch along Sawmill Creek Road, with a 6"-thick layer of rock over the membrane for protection against erosion (compare with Photo #2).

Photo #18: Earlier 10/12/99 view of the 10'-wide by 30-mil membrane liner being laid to the end of the downslope surface water ditch along the Sawmill Creek Road, near the southeastern end of the APC/Sitka landfill site (compare with Photo #3).

STATE OF ALASKA

TONY KNOWLES, GOVERNOR

DEPT. OF ENVIRONMENTAL CONSERVATION

DIVISION OF ENVIRONMENTAL HEALTH
SOLID WASTE PROGRAM
410 WILLOUGHBY AVENUE, SUITE 105
JUNEAU, ALASKA 99801-1795
http://www.state.ak.us/dec/home/htm

Telephone: (907) 465-5153
Fax: (907) 465-5362

December 3, 1999

Tom Hanna
Southeast Management Services
10061 Mendenhall Peninsula Road
Juneau, AK 99801

Dear Mr. Hanna:

I read your letter and reviewed the information you sent on November 30th 1999 concerning the status of the improvements to the APC industrial solid waste disposal facility. I agree that the site has been substantially improved. All of the post-closure improvements agreed upon earlier this year for the site have been completed except for those items described in your letter, and as clarified by my comments below. I have only a few comments, and with your next report I believe it is time to continue on with the post-closure period for this landfill.

You noted in your latest correspondence that the grass has not yet been planted on the final cover. Because of this there may be some erosion problems over the winter. The state will expect either APC or the City and Borough of Sitka to repair any erosion problems before the planting begins. This could be an expensive problem if we have heavy rains before the soils become properly frozen or after they thaw.

In some of the photographs you submitted there are grade stakes showing. The grade stakes were used to verify the control of the thickness of the various cover layers applied to the landfill. I will accept this as an effective system for documenting cover thickness. I see no reason to require any test pits to verify the thickness of the cover. You are therefore excused from the obligation to dig test pits at 50 foot intervals.

I have attached exhibits 5 and 6 from our memorandum of understanding with the City and Borough of Sitka. These exhibits are related to the monitoring requirements at the site. According to our agreement with the City and Borough of Sitka, visual monitoring will be conducted four times during the first year, twice during the second year, and then annually thereafter until the end of the year 2022 unless DEC agrees to some other schedule. As we discussed during our recent site visit I would like to make sure that the two locations near the base of the landfill that previously had leachate seeps are checked during each visual inspection. Exhibit six is a spreadsheet containing the list of test parameters for the surface water monitoring. Both of these exhibits are available to you in electronic form upon request.

As you know, at the start of this project I was very concerned about the conditions that the APC industrial landfill. The high, steep slopes at the southeastern waste disposal area may have presented unsafe conditions in the future. Fortunately, your project removed a much larger portion of this material than required under our agreement. With this accomplishment, I believe the site is in fairly good shape to stand test the time.

Sincerely,

Glenn J. Miller, P.E.
Environmental Specialist

GJM\ (g:\es\sw\miller\apc\hanna1299.doc)

Cc: Mark Buggins, City and Borough of Sitka

EXHIBIT 5
APC INDUSTRIAL WASTE DISPOSAL SITE
POST-CLOSURE INSPECTION FORM

Today's Date: _____
Weather Today: _____
Weather During Previous Few Weeks:

(Use additional sheets where necessary)

A. VISUAL MONITORING	Satisfactory Yes	Satisfactory No	Comments
1. Any Surface Water Pooling?			
2. Surface or Tidal Erosion?			
3. Any Stressed Vegetation?			
4. Condition of Ditches			
5. Any flow in culverts?			
6. Any leachate seeps?			
7. Embankment, Any Cracks?			
8. Any Exposed Waste?			
9. Wildlife signs observed?			
10. Safety hazards/concerns?			
11. Visual Appearance?			

B. DAMAGE ASSESSMENT	Damage? Yes	Damage? No	Comments/Location
1. Erosion 2. Settlement 3. Leakage 4. Ponding 5. Frost/Freezing 6. Ditches 7. Fire Potential			
Additional Comments:			

C. MAINTENANCE *Comment on effectiveness of recent work, or need for any site maintenance:*

D. Visual characteristics of each seepage along the landfill toe:

a. Seepage #1

1. Estimated flow (gpm)
2. Odor
3. Clarity (clear, coloration)

b. Seepage #2

1. Estimated flow (gpm)
2. Odor
3. Clarity (clear, coloration)

c. Seepage #3

1. Estimated flow (gpm)
2. Odor
3. Clarity (clear, coloration)

d. Seepage #4

1. Estimated flow (gpm)
2. Odor
3. Clarity (clear, coloration)

e. Other seeps (if any)

1. Estimated flow (gpm)
2. Odor
3. Clarity (clear, coloration)

E. Water Sampling Yes_____ No_____

Note; The management plan (paragraph II.B.3.) calls for sampling certain seeps if flowing during site inspections. Detailed requirements must be met to ensure quality data.

Time of Sampling (if done): _____

Site Photos & Inspector Signature

Please Attach copies of any photos taken;

Certification; After a careful investigation of the entire landfill over a period of three or more hours I certify the information in this report in is complete and accurate.

Signed: _____ Title: _____ Date: _____

EXHIBIT 6 - Management Plan For Sawmill Cove Property

Table 1. Leachate monitoring parameters.

1. Field - determined parameters for each leachate stream	Method Reporting Limits	Method
a. Visual characteristics (color, odor, texture, any growth, etc)	na	Record Observations in the Field
b. Temperature	na	DEC approved Equip
c. pH	na	DEC approved Equip
d. Conductivity	na	DEC approved Equip
e. Dissolved oxygen	na	DEC approved Equip
f. Turbidity	na	DEC approved Equip
g. Flow rate (estimated)	na	Bucket and Stopwatch
2. Lab - determined parameters		
a. Total suspended solids	na	SM 2540D
b. Color (true and apparent)	na	SM 2120B
c. COD	na	SM 5220D
d. BOD	2.0 mg/l	SM 5210B
e. Sulfide	50 ug/l	EPA 9030M
f. Hardness	na	130.1,130.2, or SM2340
g. Volatile hydrocarbons	1 ug/l each	EPA 602 or EPA 8020
h. Semivolatile hydrocarbons	1 ug/l each	EPA 8270 or EPA 625
j. Dissolved metals (*filtered in the Sitka lab and transported to contract lab)		
Arsenic	< 36 ug/l	EPA 6010/EPA 200.8
Cadmium	< 9.3 ug/l	EPA 6010/EPA 200.8
Chromium	< 50 ug/l	EPA 6010/EPA 200.8
Copper	< 2.9 ug/l	EPA 6010/EPA 200.8
Lead	< 5.6 ug/l	EPA 6010/EPA 200.8
Mercury	< 0.2 ug/l	EPA 254.1
k. Total recoverable metals (unfiltered)		
Nickel	< 7.1 ug/l	EPA 6010/EPA 200.8
Selenium	< 54 ug/l	EPA 6010/EPA 200.8
Silver	< 2.3 ug/l	EPA 6010/EPA 200.8
Zinc	< 56 ug/l	EPA 6010/EPA 200.8

* Samples for Dissloved metals will be filtered in the Sitka Laboratory and acidified for transport as per Standards Methods.
Note: other methods may be substituted for the methods above if the reporting limits can be met, and DEC approves.

STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION
AND PUBLIC FACILITIES
DESIGN & ENGINEERING SERVICES DIVISION
SOUTHEAST REGION / RIGHT OF WAY

TONY KNOWLES, GOVERNOR

6860 GLACIER HIGHWAY
JUNEAU, ALASKA 99801-7999
PHONE: (907) 465-4540
FAX: (907) 465-6216
TTY/TDD: (907) 465-4617
1-800-575- 4540

December 10, 1999

Re: Acknowledgement of
Completion of Roadside
Drainage Plan - APC, Sitka

Thomas R. Hanna, Project Manager
Southeast Management Services
1061 Mendenhall Peninsula Road
Juneau, AK 99801

Dear Mr. Hanna:

This letter acknowledges satisfactory completion, and acceptance of the improvements, of the Roadside Drainage Plan at the APC-Sitka Solid Waste Disposal Facility located at about 5 Mile Sawmill Creek Road, Sitka. This work was required as part of the post-closure improvement project.

Sitka DOT, M&O personnel, Dave Luchinetti and Ron Kinman, have inspected the work and are satisfied with the results.

Thank you for your good work. If you have any further questions please contact me at 465-4541.

Sincerely,

Frank Mielke
Chief Right of Way

By: Barry E. Rohm
Right of Way Agent

cc: Ron Kinman, M&O Foreman, Sitka
Glen Miller, Environmental Specialist, DEC

12/99 COMPLETION REPORT:
APC/SITKA LANDFILL POST-CLOSURE IMPROVEMENTS PROJECT

5-Mile Sawmill Creek Road
Sitka, Alaska

APPENDIX D

Sampling & Analysis Quality Assurance Procedures

Pages D2-D3

Sampling & Analysis Quality Assurance Procedures

APC/Sitka Solid Waste Disposal Facility Water & Soil Sampling
5-Mile Sawmill Creek Road; Sitka, Alaska

Sample taking and analysis for determining the level of contamination in soils and water will follow the steps outlined below and criteria described in Sections II-VII of the Alaska Department of Environmental Conservation's 7/17/91 document entitled, Interim Guidance for Non-UST Contaminated Soil Cleanup Levels - Guidance Number 001, Revision Number 1, as updated to utilize the cleanup requirements and criteria described in 18 AAC 75.335-355. Prior to sampling, a sketch of the site to be sampled including the sampling grid will be defined and each sampling point assigned its own identification number.

All samples taken for evaluation by a laboratory will be handled in the following manner, to assure that no sample contamination occurs, all analyses are done in a proper manner and sample analyses will be carried out by a qualified laboratory:

1. The laboratory to be used for sample analyses will be Analytical Resources, Inc. in Seattle, Washington;

2. Sample bottles will be obtained from Analytical Resources, Inc. in pre-made cooler sampling kits appropriate for the sampling to be accomplished and analysis to be done by Analytical Resources, Inc.;

3. All field soil sampling will be carried out by Southeast Management Services, which will be responsible for custody and handling of the sample coolers and sample jars during the time they are away from the laboratory, including establishment of chain-of-custody paperwork and seals when the samples are sent back to the laboratory;

4. Field sampling for pH, conductivity and dissolved oxygen will be performed by the use of a CIBA-Corning 58902-00 Checkmate Hand-held Analysis System, capable of evaluating pH to +/- 0.01 pH, conductivity to +/- 0.5%, +/- 1% for dissolved oxygen, and +/1 0.5^0C for temperature. The Checkmate shall be calibrated prior to testing on the day of testing, with the use of pre-calibrated sachets provided by CIBA-Corning and designed specifically for use with the analysis system. Temperature may also be tested with the use of Cole-Parmer 8" digital Multi-Thermometer, with an accuracy to +/-1^0F.

5. Sampling in the field for subsequent analysis by Analytical Resources Inc. will adhere to the following procedures, to assure that no contamination of samples will occur;

   A. Prior to sampling, sample jars will be identified and numbered according to the sampling grid established for the site,

B. For each individual sample, a new set of disposable latex gloves will be put on by the sampler just prior to sampling,

C. Blue-ice packs will be kept constantly in the Analytical Resources, Inc. cooler at all times when samples were inside, to maintain sample storage temperatures to as near freezing as possible throughout the time that samples are stored or in transit within the cooler,

D. For each individual soil sample, a new and clean plastic spoon will be used to place soil samples into the sample jar. Care is to be taken to assure that any soils that may have been directly in contact with equipment used to dig the sampling hole are not placed into the sampling bottle. As soon as each sampling jar is filled with a representative soil sample, the lid will be tightly screwed onto the top and the jar then carefully placed into the cooler and the cooler closed,

E. For each individual water sample, care is to be taken to make certain that each site to be sampled is deep enough to completely submerge the sampling container. To the extent possible without affecting the water to be sampled, visible solids will be excluded from entering the sampling bottle. At all times the jar will be held in a position behind the flow of water into the bottle, to be doubly certain of avoiding potential contamination. Once each sampling bottle is completed filled, care will be taken to make certain that a convex meniscus is clearly present before the lid is securely tightened onto the bottle,

F. At the end of sampling, all of the sample jars will be carefully arranged and padded with packing material. The sample cooler will remain in the custody of Southeast Management Services at all times while at the APC/Sitka landfill and including the transit back to Juneau. Once the cooler and its sampling jars arrive back in Juneau, Southeast Management Services will carefully repack the sample jars and freshly-chilled blue-ice packets will be placed in each cooler prior to final taping for shipment to Analytical Resources, Inc.,

G. A chain-of-custody form will be filled out to identify the analyses to be carried out for each sample jar. Then, a chain-of-custody seal will be signed and secured across each cooler lid once all sample jars have been placed in the cooler and the cooler lid has been securely taped shut, and

H. Once taped and sealed, each sample cooler will be shipped via DHL to Analytical Resources, Inc. with the chain-of-custody paperwork signed over to DHL and placed in its own clear envelope along the top of the cooler so that it will not be missed.
