

POST-CLOSURE PERMIT

U.S. Environmental Protection Agency
1200 Sixth Avenue, Region 10
Seattle, Washington 98101
Telephone: (206) 553-1200

Issued in accordance with the applicable provisions of the Solid Waste Disposal Act (42 U.S.C. 3251 et seq.), as amended by the Resource Conservation and Recovery Act (RCRA) and the Hazardous and Solid Waste Amendments of 1984 (HSWA), and regulations promulgated thereunder in Title 40 of the Code of Federal Regulations (C.F.R.).

ISSUED TO:

Tesoro Kenai Refinery
Tesoro Alaska Company LLC
54741 Tesoro Road
Kenai, Alaska 99611
Telephone: (907) 776-8191

This Permit is effective as of [REDACTED], 2017 and shall remain in effect through [REDACTED], 2027, unless revoked and reissued (per 40 C.F.R. § 270.41), terminated (in accordance with 40 C.F.R. § 270.43), or continued (in accordance with 40 C.F.R. § 270.51(a) and Permit Condition I.H). The Permit was originally issued in 1995 and expired on December 9, 2005. The Permit was reissued on April 7, 2007 and expired on March 31, 2017. This Permit constitutes the reissued Permit in accordance with §3005(c)(3) of RCRA, 42 U.S.C. § 6925(c)(3) and 40 C.F.R. § 270.50.

ISSUED BY: U.S. ENVIRONMENTAL PROTECTION AGENCY

Timothy B. Hamlin, Director
Office of Air and Waste
U.S. Environmental Protection Agency Region 10

Date _____

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- Attachment B Part B Hazardous Waste Permit Application
- Attachment C Sampling and Analysis Plan
- Attachment D Corrective Action Program Plan
- Attachment E Reference Documents (CAMPs and Quarterly Progress Report Appendices)

INTRODUCTION

PERMITTEE: Tesoro Alaska Company

EPA IDENTIFICATION NUMBER: AKD 04867 9682

Pursuant to the Solid Waste Disposal Act as amended by the Resource Conservation and Recovery Act of 1976 (42 U.S.C. § 6901 et. seq.) (RCRA) and the Hazardous and Solid Waste Amendments of 1984 (HSWA); regulations promulgated thereunder by the U.S. Environmental Protection Agency (EPA), codified, and to be codified, in Title 40 of the Code of Federal Regulations (40 C.F.R.); this Permit is issued to Tesoro Alaska Company LLC (hereinafter called the Permittee), to administer post-closure care and corrective action at the Kenai, Alaska refinery located at 54741 Tesoro Road, Kenai, Alaska, 99611, at latitude 60 degrees 40 minutes 44 seconds North and longitude 151 degrees 25 minutes 59 seconds West.

The Permittee shall comply with all terms and conditions set forth in this Permit and in Attachments A through E. When the Permit and the above attachments conflict, the wording of the Permit shall prevail. The Permittee shall comply with all applicable federal regulations, including 40 C.F.R. Parts 260 through 264, Part 266, Part 268, Part 270, Part 273 and Part 124.

Nothing in this Permit shall limit the Agency's authority to undertake, or require any person to undertake, response action or corrective action under any law, including, but not limited to, Section 104 or 106 of CERCLA, 42 U.S.C. §§ 9604 and 9606, and Section 7003 of RCRA, 42 U.S.C. § 6973. Nor shall any permit condition relieve the Permittee of any obligations under any law, including, but not limited to, Section 103 of CERCLA, 42 U.S.C. § 9603 to report releases of hazardous wastes, constituents, or substances to, at, or from the facility.

Applicable federal regulations are those which are in effect on the date of final administrative action on this Permit and any self-implementing statutory provisions and related regulations which, according to the requirements of RCRA (as amended), are automatically applicable to the Permittee's hazardous waste management activities, notwithstanding the conditions of this Permit.

This Permit is based upon the administrative record, as required by 40 C.F.R. § 124.9. The Permittee's failure in the application or during the Permit issuance process to fully disclose all relevant facts or the Permittee's misrepresentation of any relevant facts at any time, shall be grounds for the termination or modification of this Permit and/or initiation of an enforcement action, including criminal proceedings. The Permittee shall inform the Agency of noncompliance with any condition of the Permit or changes to the information provided in the Part B Permit application that might affect the ability of the Permittee to comply with applicable regulations and permit conditions, or which alter any of the conditions of the Permit in any way.

The Permit includes the provisions of Sections 206, 212, and 224 of HSWA, which amended Sections 3004 and 3005 of RCRA, 42 U.S.C. §§ 6924 and 6925. In particular, Section 3004(u) of

RCRA, 42 U.S.C. § 6924(u), requires corrective action for all releases of hazardous waste or constituents from any solid waste management unit (SWMU) for all permitted treatment, storage, or disposal facilities, regardless of the time the waste was placed in the unit. Section 212 of HSWA provides that permits shall be for a fixed term, not to exceed ten years. Section 3005 of RCRA, 42 U.S.C. § 6925(c), provides the Administrator of EPA with authority to review and modify the permit at any time. Under Section 3005(h) of RCRA, 42 U.S.C. § 6925(h), RCRA permits for hazardous waste management on the premises where the waste was generated must require the Permittee to certify efforts taken to minimize the amount, and the toxicity, of hazardous wastes generated.

At this time the State of Alaska does not have an authorized RCRA program (pursuant to Section 3006 of RCRA, 42 U.S.C. § 6926). This Permit, therefore, is issued by EPA.

LIST OF ATTACHMENTS

The following listed documents are hereby incorporated, in their entirety, by reference into this Permit. Some of the documents are excerpts from the Permittee's Hazardous Waste Permit Renewal Application dated June 29, 2016. In the event of any inconsistencies between a permit condition and an Attachment, the permit condition shall prevail. These incorporated Attachments are enforceable conditions of this Permit, as modified by the specific permit condition.

Attachment A	Part A Hazardous Waste Permit Application
Attachment B	Part B Hazardous Waste Permit Application
Attachment C	Sampling and Laboratory Analysis Plan
Attachment D	Corrective Action Program Plan
Attachment E	Reference Documents (CAMPs and Quarterly Progress Report Appendices)

DEFINITIONS

For purposes of this Permit, the following definitions shall apply:

- a. The term "**Permit**" shall mean the Permit issued by the Environmental Protection Agency, Region 10, pursuant to 42 U.S.C. § 3251 et seq. and 40 C.F.R. Parts 124 and 270.
- b. The term "**Commissioner**" shall mean the Commissioner of the Alaska State Department of Environmental Conservation (ADEC) or a designated representative.
- c. The term "**Administrator**" shall mean the Administrator of the U.S. Environmental Protection Agency (EPA), or a designated representative. The Director of the Office of Air and Waste, EPA Region 10, (with the address as specified on page one of this Permit), is a duly authorized and designated representative of the Administrator for purposes of this Permit.

- d. The term "**Agency**" shall mean the U.S. Environmental Protection Agency, Region 10, (with the address as specified on page one of this Permit).
- e. The term "**Department**" shall mean the Alaska Department of Environmental Conservation.
- f. The term "**solid waste management unit**" shall mean any discernible unit at which solid waste has been placed at any time, irrespective of whether the unit was intended for the management of solid or hazardous waste. Such units include any area at a facility at which hazardous waste or hazardous constituents (40 C.F.R. Part 261, Appendix VIII, or Part 264, Appendix IX) have been routinely and systematically released.
- g. The term "**release**" shall mean any spilling, leaking, pumping, pouring, emitting, emptying, discharging, injecting, escaping, leaching, dumping, or disposing into the environment of any hazardous waste or hazardous constituent.
- h. The term "**daily**" shall mean regular work days, except that no more than four (4) consecutive calendar days shall fall between "daily" activities required by this Permit.
- i. The term "**in writing**" shall mean written notification, including notification by facsimile or electronic mail followed by hard copy sent on the next business day. Notification in writing shall be delivered either by certified mail or by a commercial overnight delivery service which requires signature upon receipt.
- j. Unless otherwise noted, all schedules refer to calendar time; i.e. thirty (30) days means thirty (30) calendar days.
- k. All definitions contained in 40 C.F.R. Parts 260 - 264, 266, 268, 270, 273 and 124 are hereby incorporated in their entirety by reference into this Permit. Where terms are not defined in the regulations or the Permit, the meaning associated with such terms shall be defined by a standard dictionary reference or the generally accepted scientific or industrial meaning of the term

PART I - STANDARD CONDITIONS

I.A EFFECT OF PERMIT

This Permit requires the Permittee to provide post-closure care for the closed hazardous waste disposal surface impoundments, conduct ground water monitoring, and conduct corrective action, in accordance with the conditions of this Permit. This Permit does not authorize any other management of hazardous waste. Any accumulation, storage, treatment, or disposal of hazardous waste by the Permittee at this facility that is not authorized by this Permit, or by 40 C.F.R. § 262.14 - 17, and for which a permit is required under § 3005 of RCRA, is prohibited. Subject to 40 C.F.R. § 270.4, compliance with this Permit constitutes compliance, for purposes of enforcement, with Subtitle C of RCRA for the hazardous waste activities identified and included in this Permit, except for any self-implementing provisions and related regulations provided by HSWA. All other RCRA requirements, including 40 C.F.R. Part 262 generator requirements, remain applicable to the Permittee, and are not replaced or affected by this Permit.

I.B PERSONAL LIABILITY

The Permittee shall hold harmless and indemnify the United States, the Agency, and officers, employees, and agents of the United States or the State of Alaska from any claim, suit, or action arising from the activities of the Permittee or its contractors, agents, or employees under this Permit.

I.C PERSONAL AND PROPERTY RIGHTS

Issuance of this Permit does not convey any property rights of any sort or any exclusive privilege. Issuance of this Permit does not authorize any injury to persons or property, any invasion of other private rights, or any infringement of state or local law or regulations.

I.D PERMIT ACTIONS AND MODIFICATIONS

I.D.1 This Permit may be modified, revoked and reissued, or terminated for cause, as specified in 40 C.F.R. §§ 270.41, 270.42, and 270.43.

Failure to submit the information required in this Permit, or falsification of any submitted information is grounds for termination of the Permit (40 C.F.R. § 270.43).

I.D.2 The filing of a request for a permit modification, revocation and reissuance, or termination, or the notification of planned changes or anticipated noncompliance on the part of the Permittee, does not stay the applicability or enforceability of any permit condition.

- I.D.3 Except as provided by specific language in this Permit, any modification or change in a hazardous waste management practice covered by this Permit must be accomplished in accordance with 40 C.F.R. §§ 270.41 or 270.42.
- I.D.3.a The Permittee must submit a written request for a permit modification to authorize a change in the approved post-closure care plan (included in Attachment B) whenever a change in the facility design or operation affects the plan. The written request must include a copy of the proposed post-closure care plan. This written request must be submitted at least sixty (60) days prior to the proposed change, or no later than sixty (60) days after an unexpected event has occurred which has affected the post-closure care plan. The Agency will approve, disapprove, or modify this proposed plan in accordance with applicable procedures in 40 C.F.R. Parts 124 and 270.
- I.D.3.b If the Permittee determines that the corrective action or groundwater monitoring programs required by this Permit no longer satisfy the requirements of the regulations, the Permittee must, within ninety (90) days, submit a written request for a permit modification to make those changes deemed necessary to satisfy the regulations.
- I.D.3.c Within ninety (90) calendar days of a written request by the Agency, the Permittee shall submit a written request for a permit modification to modify the corrective action or groundwater monitoring program under 40 C.F.R. §§ 264.99 and/or 264.100, whichever is determined to be appropriate by the Agency.

I.E SEVERABILITY

- I.E.1 The provisions of this Permit are severable, and if any provision of this Permit, or the application of any provision of this Permit to any circumstance is held invalid, the application of such provision to other circumstances and the remainder of this Permit shall not be affected thereby. Invalidation of any state or federal statutory or regulatory provision which forms the basis for any condition of this Permit does not affect the validity of any other state or federal statutory or regulatory basis for said condition.
- I.E.2 In the event that a condition of this Permit is stayed for any reason, the Permittee shall continue to comply with the related provisions in the existing Permit, effective April 1, 2017, until final resolution of the stayed condition unless the Agency determines that compliance with the related condition in the existing Permit would be technologically incompatible with compliance with other conditions of this Permit which have not been stayed.

I.F DUTY TO COMPLY

I.F.1 The Permittee must comply with all conditions of this Permit, except to the extent and for the duration such noncompliance has been authorized by an emergency permit issued under 40 C.F.R. § 270.61. Any permit noncompliance, other than noncompliance authorized by an emergency permit, constitutes a violation of RCRA and is grounds for enforcement action, permit termination, revocation and reissuance, or modification, and/or denial of a permit renewal application.

I.F.2 Compliance with the terms of this Permit does not constitute a defense to any order issued, or any action brought, under any other federal or state law providing for protection of public health or the environment, including any order issued or any action brought under Sections 3007, 3008, 3013, or 7003 of RCRA, 42 U.S.C. §§ 6927, 6928, 6934 and 6973, or under authority of the Comprehensive Environmental Response, Compensation, and Liability Act of 1980, 42 U.S.C. 9601 et seq.

I.G DUTY TO REAPPLY

The Permittee must submit a complete application for a new Permit at least one hundred and eighty (180) calendar days before this Permit expires, unless a later date is granted by the Agency.

I.H CONTINUATION OF EXPIRING PERMIT

This Permit and all conditions herein will remain in effect, and fully enforceable, beyond the Permit's expiration date until the effective date of any subsequent Permit, provided the Permittee has submitted a timely, complete application (under 40 C.F.R. Part 270), and, through no fault of the Permittee, the Agency has not made a final Permit determination, through its authorities, as set forth in 40 C.F.R. § 270.51, or provided the Agency requires the Permittee to continue post closure care or corrective action to protect human health and/or the environment. This Permit may be modified or revoked and reissued as necessary, in accordance with 40 C.F.R. § 270.41 and/or 40 C.F.R. § 270.42.

I.I NEED TO HALT OR REDUCE ACTIVITY NOT A DEFENSE

It shall not be a defense for the Permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this Permit.

I.J DUTY TO MITIGATE

In the event of noncompliance with this Permit, the Permittee shall take all reasonable steps to minimize releases to the environment and shall carry out such measures, as are reasonable, to prevent significant adverse impacts on human health or the environment. Such mitigation activities shall not be a defense to enforcement action but may be considered by the Agency in determining the appropriate amount of any penalty assessed as part of any such action.

I.K DUTY TO PROVIDE INFORMATION

The Permittee shall furnish to the Agency, within a reasonable time, any relevant information which the Agency may request to determine whether cause exists for modifying, revoking and reissuing, or terminating this Permit, or to determine compliance with this Permit. The Permittee shall also furnish to the Agency, upon request, copies of records required to be kept by this Permit. This Permit may be modified during its term for cause based on information the Agency receives from the Permittee only if the information was not available at the time of Permit issuance (other than revised regulations, guidance, or test methods) and would have justified the application of different permit conditions at the time of issuance, in accordance with 40 C.F.R. § 270.41(a)(2).

I.L INSPECTION AND ENTRY

Pursuant to 40 C.F.R. § 270.30(i), the Permittee shall allow the Agency, or authorized representatives, upon the presentation of credentials and other documents as may be required by law, to:

- I.L.1 Enter at reasonable times upon the Permittee's premises where a regulated facility or activity is located or conducted, or where records must be kept under the conditions of this Permit.
- I.L.2 Have access to and copy, at reasonable times, any records that must be kept under the conditions of this Permit.
- I.L.3 Inspect at reasonable times any facilities, equipment (including monitoring and control equipment), practices, or operations regulated or required under this Permit.
- I.L.4 Sample or monitor, at reasonable times, for the purposes of assuring Permit compliance or as otherwise authorized by RCRA, any substance(s) or parameter(s) at any location. The Agency shall follow requirements of Section 3007 of RCRA, 42 U.S.C. § 6927 when conducting an inspection at the facility.

I.M MONITORING AND RECORDS

- I.M.1 Samples and measurements taken for the purpose of monitoring shall be representative of the monitored activity.
- I.M.2 The Permittee shall retain all records of all monitoring information (including all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation), records and results of inspections, copies of all reports required by this Permit, certifications, and records of all data used to complete the application for this Permit, for a period of at least three (3) years from the date of the sample, measurement, report, certification, or recording unless a longer retention period for certain information is required by other conditions of this Permit. This three (3) year period may be extended by the Agency at any time by notification, in writing, to the Permittee, and is automatically extended to three (3) years after the successful conclusion of any enforcement action related to such information. The Permittee shall maintain records associated with groundwater monitoring wells and associated surface elevations for the length of the post-closure period.
- I.M.3 Pursuant to 40 C.F.R. § 270.30(j)(3), records of monitoring information shall specify:
- I. M.3.a The date, exact place (e.g. monitoring well location), and time of sampling or measurements.
 - I. M.3.b The name, title and affiliation of the individual(s) who performed the sampling or measurements.
 - I. M.3.c The date(s) analyses were performed.
 - I. M.3.d The name, title and affiliation of the individual(s) who performed the analyses.
 - I. M.3.e The analytical techniques or methods used.
 - I. M.3.f The results of such analyses, including the QA/QC summary.

I.N REPORTING PLANNED CHANGES

The Permittee shall give at least thirty (30) days advance notice to the Agency, in writing, of any planned changes in the permitted hazardous waste management facility or any activity which will physically alter or add to the permitted hazardous waste management facility, or could result in noncompliance with Permit requirements.

I.O ANTICIPATED NONCOMPLIANCE

The Permittee shall give at least thirty (30) calendar days advance notice, in writing, to the Agency of any planned changes in the permitted facility or activity that might result in noncompliance with Permit requirements. If advance notice is not possible, then the Permittee shall give notice within twenty-four (24) hours of the time it becomes aware of the anticipated noncompliance. Such notice does not authorize any noncompliance with or modification of this Permit.

I.P TRANSFER OF PERMITS

This Permit is not transferable to a new owner/operator, except after notice to the Agency, pursuant to 40 C.F.R. § 270.40. The Agency may require modification or revocation and reissuance of the Permit pursuant to 40 C.F.R. § 270.40. Before transferring ownership or operation of the facility during the post-closure period, the Permittee shall notify the new owner or operator in writing of the requirements of 40 C.F.R. Parts 264 and 270 and this Permit.

- I.P.1 Before property sale or operational transfer to a third party, the Permittee shall establish approved encumbrances to the land, which may include zoning restrictions, building and land-use limitations and controls, and/or similar restrictions for areas where contamination exceeds applicable standards.

I.Q Release/Non-Compliance Reporting

- I.Q.1 If the Permittee becomes aware of any release of hazardous constituents at or from the facility or any other noncompliance with this Permit that might endanger human health or the environment the Permittee shall:
- I.Q.1.a Verbally report to the Agency within twenty-four (24) hours from the time the Permittee becomes aware of the release or noncompliance.
- I.Q.1.b Provide to the Agency a written submission within fifteen (15) calendar days from the time the Permittee becomes aware of the release or noncompliance. The written submission shall contain a description of the noncompliance and its cause, the period of noncompliance including dates and times, the anticipated time noncompliance is expected to continue if the noncompliance has not been corrected, corrective measures taken or to be taken to mitigate the situation, and steps taken or planned to reduce, eliminate and prevent recurrence of the noncompliance.
- I.Q.2 If a non-compliance incident subject to the reporting requirements of Permit Condition I.Q.1 involves a release of hazardous waste or hazardous constituent(s) at or from the facility which is not at the time of discovery being addressed by this

Section or other permit conditions, and may present an imminent threat to human health or the environment, the Permittee shall:

- I.Q.2.a Comply with the reporting requirements in Permit Condition I.Q.1 and
- I.Q.2.b Within sixty (60) days of such a discovery submit a written report to the Agency that discusses the Permittee's efforts to investigate and/or remediate the discovered release and contains the following information:
- i. The concentrations and estimated quantities of any hazardous waste(s) or hazardous constituent(s) released.
 - ii. The known, or expected, pathway(s) through which the contamination is migrating (or may migrate), and the extent, rate, and direction of that migration.
 - iii. The projected fate and transport of the release.
 - iv. The likely exposure pathway(s) for potential receptors, and the consequences of exposure to these receptors.
 - v. An outline of proposed Interim Measures to arrest the release as well as a schedule for implementing the Interim Measures. The schedule should be justified by a discussion of possible consequences arising from any delay in implementing Interim Measures.
- I.Q.3 Upon review and approval by the Agency, the Permittee will implement the Interim Measures workplan in accordance with the approved schedule.
- I.Q.4 If, based either on information submitted in Permit Condition I.Q.2.b above or on information obtained during the investigation or monitoring of the facility, the Agency determines at any time that an imminent threat to human health or the environment may result from a release at the facility, the Permittee will be directed by a notification from the Agency to submit an Interim Measures workplan designed to minimize that threat. The workplan must propose Interim Measures which would, to the fullest extent practicable, be consistent with the objectives (and contribute to the performance) of any longer-term remedies undertaken to fulfill requirements of Part III of this Permit. Implementation of interim corrective measures in response to a spill or release will not require a permit modification, consistent with 40 C.F.R. § 270.1(c)(3).

I.R OTHER NONCOMPLIANCE

At the time progress reports are submitted, the Permittee shall promptly report to the Agency instances of noncompliance with this Permit that have not previously been reported pursuant to other permit conditions, such as Permit Condition I.Q.

I.S OTHER INFORMATION

Whenever the Permittee becomes aware that it has failed to submit any relevant facts in the Permit Application, or has submitted incorrect information in a permit application or in any report to the Agency, the Permittee shall promptly submit such facts or information.

I.T BIENNIAL REPORT

The Permittee shall comply with Biennial Report requirements of 40 C.F.R. § 264.75.

I.U CONFIDENTIAL INFORMATION

Any information submitted by the Permittee to the Agency may be claimed as confidential by the Permittee in accordance with applicable provisions of 40 C.F.R. §§ 260.2 and 270.12.

I.V REPORTS, NOTIFICATIONS AND SUBMISSIONS

I.V.1 All reports, notifications or other submissions which are required by this Permit to be sent or given to the Agency shall be signed and certified in accordance with 40 C.F.R. §§ 270.11, 270.30(k), and sent via certified mail or via a commercial overnight delivery service that requires the recipient's signature upon delivery, or given directly to:

Jan Palumbo, Project Manager, Office of Air and Waste (AWT-150)
U.S. Environmental Protection Agency
Region 10
1200 Sixth Avenue, Suite 900
Seattle, Washington 98101
Telephone: (206) 553-6702

Note: these are current titles, phone numbers and addresses and are subject to change.

I.W DOCUMENTS TO BE MAINTAINED AT FACILITY SITE

The Permittee shall maintain at the facility, until post-closure is completed and certified by a qualified professional engineer, a written operating record which shall

include, at a minimum, the following documents and amendments, revisions, and modifications to these documents:

- I.W.1 The Permit, Permit Application, and all Attachments.
- I.W.2 A map indicating the location of the closed hazardous waste disposal surface impoundments.
- I.W.3 "Sampling and Laboratory Analysis Plan" as provided in Attachment C of this Permit, and monitoring, testing, or analytical data from all monitoring activities.
- I.W.4 Records and results of each laboratory analysis and/or waste analysis performed in accordance with this Permit.
- I.W.5 Summaries of all records of the corrective action. These records shall include recovery well pumping rates and injection well injection rates; industrial pumping well rates; and other data collected to monitor each corrective action system. Records of cessation of pumping and treating and measures taken to mitigate and prevent further cessations, and dates and methods of groundwater and soil treatment at the facility and adjacent properties shall also be maintained.
- I.W.6 Inspection schedule as required by 40 C.F.R. § 264.15 and this Permit, and provided in Attachment B of this Permit.
- I.W.7 All closure, post-closure, interim measures and final corrective action cost estimates, and financial assurance documentation, prepared pursuant to this Permit.
- I.W.8 In accordance with 40 C.F.R. § 264.73(b)(9), a certification by the Permittee, no less often than annually, that the Permittee has a program in place to reduce the volume and toxicity of the hazardous waste that the Permittee generates to the degree determined by the Permittee to be economically practicable; and the proposed method of treatment, storage, or disposal is that practicable method currently available to the Permittee which minimizes the present and future threat to human health and the environment.
- I.W.9 Assessment reports pursuant to Permit Condition II.I.2 of all incidents that require implementation of the contingency plan.
- I.W.10 Record of spills and releases.
- I.W.11 Copies of all other environmental permits.

I.W.12 Training records of facility personnel conducting activities relevant to this Permit and as required by 40 C.F.R. § 264.16.

I.W.13 Well construction, maintenance and replacement records.

I.W.14 Copies of the facility training plan, contingency plan, and site security plan.

I.X DISPUTE RESOLUTION

I.X.1 In the event the Agency rejects, in whole or in part, any submission required by this Permit, the following procedures shall apply:

I.X.1.a The Permittee will be notified in writing (the Notice) of the complete or partial rejection of the submission. To the extent necessary, such Notice will:

- i. Identify problems and, if appropriate, propose revisions to be made to the submission.
- ii. Provide an explanation and documentation or data to support the complete or partial rejection of, and any proposed revisions to, the submission.
- iii. Identify a date by which comments on the Notice must be received from the Permittee. Such date shall not be less than thirty (30) calendar days from the date the Permittee receives the Notice under Permit Condition I.X.1.a.

I.X.1.b If no comment on any proposed revision(s) is received from the Permittee within the date specified in the Notice provided under Permit Condition I.X.1.a.iii, such revision(s) will become effective five (5) calendar days after such date. The Permittee will be promptly notified of the revision(s).

I.X.1.c If the Permittee submits comments on the Notice, the Permittee and the Agency staff person(s) responsible for reviewing the submission (the "Permitting staff") will attempt to resolve any disputes over the submission informally. If requested by the Permittee, a meeting will take place between the Permitting staff and the Permittee to discuss the submission. Unless otherwise agreed to by the Permitting staff, the meeting will be held at the EPA Region 10 office in Seattle, Washington.

- I.X.1.d If agreement is not reached between the Permittee and the Permitting staff within fourteen (14) calendar days of the date the Permitting staff receives the Permittee's comments on the Notice (the "informal dispute resolution period"), the Permittee may submit written arguments and evidence to the Agency official authorized to make final Permit decisions (the "Decision Maker"). The written arguments and evidence shall be submitted to the Decision Maker within thirty (30) calendar days of the end of the informal dispute resolution period. If the Permittee does not submit written arguments and evidence to the Decision Maker within this time period, the proposed revisions to the submission shall become effective.
- I.X.1.e If written arguments and evidence are submitted by the Permittee to the Decision Maker, the Decision Maker will promptly resolve the dispute. The Decision Maker's resolution of the dispute is the Agency's final decision, and will include a written response to the evidence and arguments submitted by the Permittee. The Permittee shall comply with the Decision Maker's decision regardless of whether the Permittee agrees with the decision. The Decision Maker's resolution of the dispute is not subject to administrative or judicial appeal.
- I.X.2 Unless otherwise agreed to by the Administrator, the invocation of dispute resolution by the Permittee shall not extend, postpone or affect in any way any obligation of the Permittee under this Permit not directly in dispute.

PART II - GENERAL FACILITY STANDARDS

II.A FACILITY OPERATION

The Permittee shall at all times properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) which are installed or used by the Permittee to achieve compliance with the conditions of this Permit. Proper operation and maintenance includes effective performance, adequate funding, adequate operator staffing and training, and adequate laboratory and process controls, including appropriate quality assurance/quality control procedures. This provision requires the operation of back-up or auxiliary facilities or similar systems only when necessary to achieve compliance with the conditions of this Permit. The use of such systems, provided they comply with provisions of Permit Condition II.P, will not require a permit modification.

II.B RECEIPT OF HAZARDOUS WASTE

The Permittee shall not receive hazardous waste generated off-site, except for contaminated groundwater from the off-site monitoring and extraction wells required by this Permit, and other wastes derived from investigations and operations of corrective actions required by this Permit.

II.C GENERAL WASTE ANALYSIS

II.C.1 The Permittee must characterize any waste materials (including groundwater, surface water and drill cuttings) in accordance with state and federal requirements applicable to generators of hazardous waste. Any environmental media containing a listed hazardous waste shall be managed in accordance with applicable state and federal laws. Therefore, treated groundwater shall be handled in accordance with Permit Condition III.C.6 of this Permit.

II.C.2 Samples and measurements taken by the Permittee shall be representative of the activity. Laboratory methods for hazardous waste characterization must be those specified in the most recent edition of *Test Methods for Evaluating Solid Waste, Physical/Chemical Methods* (EPA SW-846).

II.D SECURITY

The Permittee shall comply with the security provisions of 40 C.F.R. § 264.14, and as described in Attachment B, Section B-3.0 of this Permit.

II.E GENERAL INSPECTION REQUIREMENTS

- II.E.1 The Permittee shall comply with the inspection requirements of 40 C.F.R. § 264.15 by inspecting the facility as specified in Attachment B. Temporary or minor changes to the inspections set forth in Attachment B that do not affect compliance with the regulations cited above shall not require permit modification or prior approval from the Agency. Copies of any changes to such inspection provisions shall be submitted to the Agency in the next progress report following the date the changes are made and must be maintained at the facility as part of the operating record.
- II.E.2 Facility inspections shall include, in addition to all items and procedures specified in Attachment B, annual inspection of groundwater monitoring wells for pertinent items such as the loss of integrity of surface seals, frost heave, security casing condition, and lock function and condition.
- II.E.3 The Permittee must remedy any deterioration or malfunction of equipment or structures which the inspection reveals, on a schedule which ensures that the problem does not lead to an environmental or human health hazard, not to exceed thirty (30) days. Where a hazard is imminent or has already occurred, remedial action must be taken immediately.

II.F TRAINING

The Permittee shall ensure that all personnel who perform activities pursuant to this Permit are properly trained as required by 40 C.F.R. § 264.16, and as described in Attachment B, Section B-7.2.6 of this Permit.

II.G LOCATION STANDARDS

Notwithstanding the demonstration made in accordance with 40 C.F.R. § 270.14(b)(11), the Permittee shall operate the facility in a manner that will minimize the potential for release of hazardous wastes or constituents as a result of seismic activity and/or flooding, in accordance with 40 C.F.R. §§ 264.31 and 264.32.

Within twenty-four (24) hours following a significant seismic event the Permittee shall inspect the facility in accordance with Permit Conditions II.E.1, II.E.2, and II.E.3.

II.H PREPAREDNESS AND PREVENTION

- II.H.1 In accordance with 40 C.F.R. § 264.31 the Permittee shall maintain and operate the hazardous waste management facility to minimize the possibility of a fire, explosion, or any other unplanned sudden or non-sudden release of hazardous waste or constituents to air, soil, or water which could threaten human health or the environment.

- II.H.2 The Permittee shall ensure all water-related safety equipment such as eyewash units and emergency showers shall remain operable at all times, including during periods of subfreezing temperatures.

II.I CONTINGENCY PLAN

- II.I.1 The Permittee shall comply with requirements in 40 C.F.R. §§ 264.51 through 264.56, applicable requirements in 40 C.F.R. §§ 264.32 through 264.35 and 264.37, and the facility contingency plan, which shall be maintained at the facility as part of the operating record.
- II.I.2 The Permittee shall note in the facility operating record the time, date, and details of any incident that requires implementing the contingency plan. Within fifteen (15) days after the incident the Permittee shall submit a written report on the incident to the Agency. Such a report shall at a minimum include all items specified in Permit Condition I.Q.1.b.

II.J POST-CLOSURE

- II.J.1 The Permittee shall comply with requirements in 40 C.F.R. §§ 264.228(b), and 264.117 through 264.120 by performing activities included in the Post-Closure Care Plan included in Attachment B.
- II.J.2 The period of post-closure care for the closed disposal surface impoundment units shall be a minimum of thirty (30) years from the effective date of this Permit. The post-closure period began on October 24, 1989, the date the facility certified that the surface impoundments had been closed as landfills. The Agency is extending the post-closure period to thirty (30) years from the effective date of this Permit, which is , 2047. The Agency will extend the post-closure care period again, if necessary, to protect human health or the environment. Any extension of the period for post-closure care shall be made in accordance with the permit modification procedures set forth in 40 C.F.R. Parts 124 and 270.
- II.J.3 The use of the closed disposal surface impoundments, located as designated on Figure 1 of this Permit, must never allow disturbance to the long term integrity of the cover or any other components of the containment system, or the function of the facility's monitoring systems, unless the Agency finds that the disturbance:
- II.J.3.a Is necessary to the proposed use of the property, and will not increase the potential hazard to human health or the environment.
- II.J.3.b Is necessary to reduce a threat to human health or the environment.

- II.J.4 No later than sixty (60) calendar days after completion of the established post-closure care period, the Permittee shall submit to the Agency, by registered mail, a certification that the post-closure care was performed in accordance with the specifications in the approved post-closure care plan. The certification must be signed by the Permittee and a qualified professional engineer.

II.K COST ESTIMATE FOR POST-CLOSURE AND CORRECTIVE ACTION FOR REGULATED UNITS

- II.K.1 The Permittee shall maintain at the facility a current cost estimate for all post-closure and corrective action activities at regulated units, in accordance with 40 C.F.R. § 264.144 and Attachment B of this Permit.
- II.K.2 The Permittee shall annually adjust for inflation the cost estimate for post-closure and corrective action at regulated units within sixty (60) calendar days after the close of the Permittee's fiscal year, in accordance with 40 C.F.R. § 264.144 and Attachment B of this Permit.
- II.K.3 The Permittee shall revise the cost estimate for post-closure and corrective action at regulated units within thirty (30) calendar days after a change in the facility's post-closure operations, in accordance with 40 C.F.R. § 264.144 and Attachment B of this Permit.

II.L FINANCIAL ASSURANCE FOR POST-CLOSURE AND CORRECTIVE ACTION FOR REGULATED UNITS

The Permittee shall comply with 40 C.F.R. § 264.145, by maintaining and providing documentation of financial assurance, as required by 40 C.F.R. § 264.151, in at least the amount of the cost estimate required by Permit Section II.K. The Permittee may use any of the options identified in 40 C.F.R. § 264.145 to provide financial assurance. Any and all financial assurance instruments provided pursuant to this Permit must be approved by EPA pursuant to 40 C.F.R. § 264.145.

II.M COST ESTIMATE FOR CORRECTIVE ACTION FOR SOLID WASTE MANAGEMENT UNITS (SWMUS)

- II.M.1. Within thirty (30) days after the effective date of this Permit, the Permittee shall submit to EPA a detailed written cost estimate, in current dollars, of the total cost of hiring a third party to perform the corrective action Work at all solid waste management units described in Attachment D of this Permit (the "Work"). The cost estimate must account for the total costs of the Work for the entire period of this Permit, including any necessary long term costs, such as operation and maintenance costs and monitoring costs. A third party is a party who is not a parent, subsidiary, or an affiliate of the Permittee. The cost estimate must not incorporate any salvage value

that may be realized from the sale of wastes, facility structures or equipment, land or other assets associated with the facility.

- II.M.2. Concurrent with the submission of additional Work required under Sections III.D, III.G or III.H of this Permit, the Permittee shall submit revised detailed written estimate(s), in current dollars, of the cost of hiring a third party to perform the Work.
- II.M.3. The Permittee must annually adjust the cost estimate(s) for inflation within one hundred twenty (120) days after the close of the Permittee's fiscal year until the Work required by this Permit is completed. In addition, the Permittee must adjust the cost estimate if EPA determines that any additional Work is required under Sections III.D, III.G or III.H of this Permit, or if any other conditions increase the cost of the Work to be performed under this Permit.
- II.M.4. The Permittee shall submit each cost estimate to EPA for review and approval. Each submitted cost estimate shall include a certification by the lead technical project manager responsible for implementing the Work that the cost estimate reasonably approximates potential costs for EPA to hire a third party to complete the Work.

II.N FINANCIAL ASSURANCE FOR CORRECTIVE ACTION FOR SWMUS

- II.N.1. In order to secure the completion of the Work in accordance with this Permit, the Permittee shall establish financial assurance for the benefit of the EPA. Within thirty (30) days after the effective date of this Permit, concurrently with the Permittee's submission of the cost estimate required by Permit Condition II.M.1 above, the Permittee shall submit a draft financial assurance instrument(s) and language for a standby trust fund as required, for EPA's review and approval. Any trust fund shall limit investments to secure government securities that can liquidate within one day and shall exclude charges for administrative and accounting costs. In the event that EPA objects to the cost estimate, the Permittee shall within 30 days of receipt of EPA's written objection, establish financial assurance in an amount at least equal to the amount of the Permittee's cost estimate. Within thirty (30) days after EPA's approval of both the cost estimate and the draft financial assurance instrument(s), whichever date is later, the Permittee shall establish financial assurance in an amount at least equal to the cost estimate approved by EPA.
- II.N.2. The Permittee may use any of the options identified in 40 C.F.R. § 264.145 to provide financial assurance. Any and all financial assurance instruments provided pursuant to this Permit must be approved by EPA pursuant to 40 C.F.R. § 264.145.
- II.N.3. If the Permittee seeks to post financial assurance for completion of the Work to be performed in accordance with this Permit by means of a financial test or guarantee pursuant to 40 C.F.R. § 264.145(f), the Permittee shall also comply with the other

relevant requirements of 40 C.F.R. §§ 264.145(f), 264.151(f), and 264.151(h)(1) relating to the financial test and corporate guarantee: (i) the initial submission of required reports and statements from the guarantors' chief financial officer and independent certified public accountant; (ii) the annual re-submission of such reports and statements within ninety (90) days after the close of each of the guarantors' fiscal years; and (iii) the notification to EPA within ninety (90) days after the close of any of the guarantors' fiscal years in which any such guarantor no longer satisfies the financial test requirements set forth at 40 C.F.R. § 264.145(f)(1). EPA reserves the right to request additional information (including financial statements and accountant's reports) from the Permittee or corporate guarantor at any time.

- II.N.3.i. The Permittee shall notify EPA within fifteen (15) days of a determination by the guarantor's chief financial officer or independent certified public accountant that it no longer satisfies the financial test requirements set forth at 40 C.F.R. Part 264.145(f)(1). Within thirty (30) days of such determination, the Permittee shall provide to EPA an alternative mechanism to meet financial assurance responsibility requirements.
- II.N.4. The Permittee may combine more than one mechanism to demonstrate financial assurance for the Work to be performed in accordance with this Permit, except that mechanisms guaranteeing performance rather than payment may not be combined with other instruments.
- II.N.5. The original financial assurance instrument(s) provided pursuant to this Permit (including, without limitation, the original versions of letters of credit and other negotiable instruments issued for EPA's benefit) shall be submitted by the Permittee to EPA in accordance with Section I.V (Reports, Notifications and Submissions) of this Permit.
- II.N.6. Whenever the annually adjusted estimate for the cost of completing the remaining Work exceeds the amount of financial assurances already provided pursuant to this Section, the Permittee shall, within thirty (30) days thereafter, obtain and present to EPA for approval a revised form of financial assurance (and otherwise acceptable under this Section) that covers such cost increase. In addition, in the event that EPA determines at any time that the financial assurances provided pursuant to this Permit are inadequate (including, without limitation, the instrument(s) evidencing such assurances), the Permittee shall, within thirty (30) days after receipt of notice of EPA's determination, obtain and present to EPA for approval one of the other forms of financial assurance listed in 40 C.F.R. § 264.145 that corrects the inadequacy. Furthermore, if at any time EPA notifies the Permittee that the anticipated cost of completing the Work has increased, then, within thirty (30) days after receipt of such notification, the Permittee shall obtain and present to EPA for approval a revised

form of financial assurance (and otherwise acceptable under this Section) that covers such cost increase. The Permittee's inability to post financial assurance for completion of the Work shall in no way excuse performance of any other requirements of this Permit, including, without limitation, the Permittee's obligation to complete the Work in accordance with the terms of this Permit.

- II.N.7 Any and all financial assurance instruments provided pursuant to Permit Conditions II.N.2 above shall be automatically renewable at the time of their expiration unless the financial assurance provider has notified both the Permittee and the EPA at least one hundred and twenty (120) days prior to cancellation of the instrument. Furthermore, if the Permittee has failed to provide alternate financial assurance and obtain EPA's written approval for such financial assurance within ninety (90) days following receipt of such notice by both the Permittee and the EPA, then the EPA will so notify the financial assurance provider in writing [prior to the expiration of the instrument] and the financial assurance provider shall within one business day deposit into the standby trust fund, or a newly created trust fund approved by EPA, the remaining funds obligated under the financial assurance instrument for the performance of the Work in accordance with this Permit.
- II.N.8. Any and all financial assurance instruments provided pursuant to this Permit shall provide for timely payment to EPA or performance of the Work in accordance with this Permit in the event that EPA determines that the Permittee (i) has ceased implementation of any portion of the Work, (ii) is significantly or repeatedly deficient or late in its performance of the Work, or (iii) is implementing the Work in a manner that may cause an endangerment to human health or the environment. The EPA shall notify in writing both the Permittee and the financial assurance provider of such a determination, and the financial assurance provider shall within one business day deposit into the standby trust fund, or a newly created trust fund approved by EPA, the remaining funds obligated under the financial assurance instrument for the performance of the Work in accordance with this Permit.
- II.N.9. The Permittee may invoke the procedures set forth in Section I.X (Dispute Resolution) of this Permit, to dispute EPA's determination that any of the circumstances described in clauses (i), (ii), or (iii) of Permit Condition II.N.8 have occurred. Invoking the dispute resolution provisions shall not excuse, toll or suspend the obligation of the financial assurance provider, under Permit Condition II.N.8 to fund the trust fund, but if the Permittee disputes EPA's determination, EPA will not direct the trustee to make any payments from the trust fund, pending resolution of the dispute.
- II.N.10. If EPA has determined that any of the circumstances described in clauses (i), (ii), or (iii) of Permit Condition II.N.8 have occurred, and if EPA is nevertheless unable after

reasonable efforts to secure the payment of funds or performance of the Work in accordance with this Permit from the financial assurance provider pursuant to this Permit, then, upon receiving written notice from EPA, the Permittee shall within ten (10) days thereafter deposit into the standby trust fund, or a newly created trust fund approved by EPA, in immediately available funds and without setoff, counterclaim, or condition of any kind, a cash amount equal to the estimated cost of the remaining Work to be performed in accordance with this Permit as of such date, as determined by EPA.

- II.N.11 **Reduction of Amount of Financial Assurance.** If the Permittee believes that the estimated cost to complete the remaining Work has diminished below the amount covered by the existing financial assurance provided under this Permit, the Permittee may, on any anniversary date of effective date of this Permit, or at any other time agreed to by the Parties, submit a written proposal to EPA to reduce the amount of the financial assurance provided under this Section to the estimated cost of the remaining Work to be performed. The written proposal shall specify, at a minimum, the cost of the remaining Work to be performed and the basis upon which such cost was calculated. The decision whether to approve a proposal to reduce the amount of financial assurance shall be within EPA's sole discretion and EPA shall notify the Permittee of its decision regarding such a proposal in writing. The Permittee may reduce the amount of the financial assurance only after receiving EPA's written decision and only in accordance with and to the extent permitted by such written decision. In the event of a dispute, the Permittee may reduce the amount of the financial assurance required by this Section only in accordance with a final administrative decision resolving such dispute under Section I.X (Dispute Resolution) of this Permit.
- II.N.12. **Change of Form of Financial Assurance.** If the Permittee desires to change the form of financial assurance provided pursuant to this Permit, the Permittee may, on any anniversary of the effective date of this Permit, or at any other time agreed to by the Parties, submit a written proposal to EPA to change the form of financial assurance provided hereunder. Such a proposal shall specify, at a minimum, the cost of the remaining Work to be performed, the basis upon which such cost was calculated, and a detailed description of the proposed revised form of financial assurance. The decision whether to approve a proposal to change the form of financial assurance shall be within EPA's sole discretion and EPA shall notify the Permittee of its decision regarding such a proposal in writing. After receiving EPA's written acceptance, the Permittee may change the form of financial assurance in accordance with and to the extent permitted by such written acceptance. In the event of a dispute, the Permittee may change the form of financial assurance required hereunder only in

accordance with a final administrative decision resolving such dispute under Section I.X (Dispute Resolution) of this Permit.

- II.N.13 Release of Financial Assurance. The Permittee may submit a written request to the EPA that EPA release the Permittee from the requirement to maintain financial assurance under this Section at such time as EPA determines that all corrective action requirements required under this Permit are complete. The EPA shall notify both the Permittee and the provider(s) of the financial assurance that the Permittee is released from all financial assurance obligations under this Permit. The provider of the financial assurance may be released from its obligations under the instrument only upon a written release from the EPA.

II.O INCAPACITY OF OWNERS OR OPERATORS, GUARANTORS, OR FINANCIAL INSTITUTIONS

The Permittee shall comply with 40 C.F.R. § 264.148 whenever necessary.

II.P EQUIVALENT MATERIALS

If certain equipment, materials, and administrative information (such as names, telephone numbers, or addresses) are specified in this Permit, the Permittee is allowed to use an equivalent or superior item. Use of such equivalent or superior items shall not be considered a modification of the Permit, but the Permittee shall place a notation of such a revision in the operating record, accompanied by a narrative explanation and the date the revision became effective. The Agency may judge the soundness of the revision during inspections of the facility and take appropriate action. The format of tables, forms and figures are not subject to the requirements of this Permit, and may be revised according to the Permittee's discretion.

PART III - CORRECTIVE ACTION PROGRAM

III.A IMPLEMENTATION OF CORRECTIVE ACTION PROGRAM

- III.A.1 The Permittee shall establish, operate, and maintain this Corrective Action Program to remediate groundwater contaminated as a result of releases from the regulated disposal surface impoundments and soil and groundwater contaminated as a result of releases from the SWMUs listed on Table 1 of this Permit in accordance with Permit Conditions III.A through III.E.
- III.A.2 The Corrective Action Program shall consist of the individual Corrective Measures (CMs) listed on Table 1 and shown on Figure 1 and described in Attachment D. Each CM addresses a specific groundwater dissolved-phase and/or light, non-aqueous phase liquid (LNAPL) plume or portion of a plume and has specific performance and monitoring requirements as specified by this Permit. Table 2 lists the contaminants of concern (COCs) that have been identified in the groundwater and their Target Groundwater Protection Standards (TGPS), and Table 3 lists the indicator parameter(s) used to monitor the dissolved-phase plumes.

III.B SUPPLEMENTAL REMEDIATION

The Permittee may implement supplemental remediation in addition to those specified in Attachment D of this Permit to facilitate corrective action provided that the remediation does not adversely affect compliance with the performance standards specified in Section III.D of this Permit and that the Agency has reviewed and approved the supplemental remediation prior to implementation. Implementation of supplemental remediation shall not be considered a modification of this Permit. The Permittee shall place a notation of such supplemental remediation, accompanied by a narrative explanation and a copy of the Agency approval of the measures, in the operating record.

III.C CONSTRUCTION, OPERATION, AND MAINTENANCE OF CORRECTIVE MEASURES

- III.C.1 The Permittee shall construct, operate, maintain, and monitor the CMs in accordance with the specifications contained in Attachment D of this Permit.
- III.C.2 Before groundwater remediation has been completed, the Permittee shall submit for Agency approval a workplan to evaluate the health risks associated with residual soil contamination. Upon approval, the Permittee shall implement the workplan and submit a report with the results of the work and a soil corrective measure implementation plan (CMIP), if necessary based upon the results of the risk evaluation. The CMIP must include health-based soil cleanup target standards consistent with then current Agency guidelines and regulations.

Within sixty (60) days of approval by the Agency of the CMIP, the Permittee shall request a permit modification to include soil remediation and soil cleanup performance standards in the Permit.

- III.C.3 The Permittee shall maintain the CMs, making timely repairs. The Permittee shall maintain an adequate supply of replacement parts and repair equipment as necessary to ensure compliance with Section III.D of this Permit.
- III.C.4 The Permittee shall follow the procedures in Attachment B of this Permit for routine inspection of the CMs.
 - III.C.4.a If a groundwater extraction well must be decommissioned and replaced for any reason during the term of this Permit, it shall be replaced within sixty (60) days of the date of being taken out of service. The Permittee may request an extension for replacing the well if a justification is approved by the Agency. Prior to the decommissioning, the Permittee shall notify the Agency in writing of the rationale for the decision.
 - III.C.4.b The Permittee shall construct, maintain, and decommission corrective measure system wells in accordance with current State of Alaska guidance and regulations. Replacement wells shall be installed as close as practicable to the well being replaced unless a justification for another location is approved by the Agency. The Permittee shall provide information regarding the new well in the operating record and to the Agency as specified by Permit Condition IV.A.3.b.
 - III.C.4.c If a well must be closed for protection of groundwater quality, the Permittee shall close each well being replaced no later than ninety (90) calendar days after installation of the replacement well. Such closure shall be accomplished in accordance with Permit Condition IV.A.3.
- III.C.5 Except as provided by Permit Condition III.C.5.a, each CM shall be operated in a accordance with the operation plan for each remedial system, as specified in Attachment D, in a manner that meets the performance demonstrations required in Permit Condition III.D until the Permittee can demonstrate that groundwater addressed by the CM complies with the requirements of Permit Condition III.F.2 or monitored natural attenuation is approved for implementation in accordance with Permit Condition III.G.2.b.
 - III.C.5.a A CM may be shut down for prearranged maintenance and repair and for emergencies. The Permittee shall notify the Agency if the CM is to not operate for more than ten (10) calendar days. The Permittee shall provide, in the operating record and the next progress report, information including the repairs made, the reasons for

those repairs, and, for groundwater recovery CMs, the aquifer response as determined by the water level elevation data for periods when the system does not operate for greater than ten (10) calendar days.

III.C.6 Disposal of treatment system effluent and contaminated groundwater shall conform to all applicable local, state, and federal regulatory requirements.

III.C.7 Should emergency or upset conditions, as defined in Permit Condition III.C.7.a, occur with the groundwater treatment system which result in the effluent exceeding the Permittee's wastewater discharge Permit(s), the Permittee shall implement the necessary actions to remedy the cause of the exceedance. During this period, the Permittee may continue to treat and reinject groundwater, in accordance with requirements of Section 3020(b) of RCRA, 42 U.S.C. § 6939b(b).

III.C.7.a *Conditions necessary for a demonstration of upset.* To establish the affirmative defense of upset, the Permittee shall demonstrate, through properly signed, contemporaneous operating logs, or other relevant evidence that:

- i. An upset occurred and the Permittee can identify the cause(s) of the upset.
- ii. The corrective action system was at the time being properly operated.
- iii. The Permittee submitted notice to the Agency of the upset within twenty-four (24) hours of discovery.
- iv. The Permittee implemented necessary actions to remedy the cause(s) of the exceedance.

III.D PERFORMANCE STANDARDS FOR CORRECTIVE ACTION PROGRAM

III.D.1 The Permittee shall implement the Corrective Action Program to meet the performance standards contained in Permit Conditions III.D.2 through III.D.4. If the Permittee cannot meet these requirements, the Permittee shall submit to the Agency a Corrective Action Modification Plan (CAMP) to more effectively meet these standards and a schedule for implementing this plan. The CAMP and its implementation schedule shall be submitted within one hundred twenty (120) calendar days of the Permittee's determination that it cannot demonstrate effective performance or within one hundred twenty (120) calendar days of the Permittee's receipt of a written request from the Agency.

III.D.2 *Effectiveness demonstrations.* The Permittee shall operate each CM in a manner that is effective as defined below in Permit Conditions III.D.2.a through III.D.2.d. The Permittee shall provide an effectiveness demonstration in the next spring or fall

progress report after a CM is placed into operation and every six months thereafter based on the results of the monitoring data obtained as specified in Part IV of this Permit. The CM shall be considered effective if:

- III.D.2.a Capture of contaminated groundwater that exceeds groundwater protection standards specified in Table 2 is demonstrated for areas where groundwater extraction is being implemented as a component of the CM; and
- III.D.2.b Each CM monitoring well listed on Table 4 either: a) contains the indicator parameter(s) listed on Table 3 in concentrations that are below the TGPS, or b) the groundwater flowpath through the well intersects the capture zone or, if applicable, the in-situ treatment zone of the CM, or, c) in the Upper Confined Aquifer (UCA), or in units where the Agency has approved a monitored natural attenuation plan as the CM in accordance with condition III.G.2.a and III.G.2.b, the capacity of the aquifer to assimilate the contamination in the aquifer, calculated using the procedure described in Attachment D, exceeds the total hydrocarbon concentration in the well by a factor of two or more; and
- III.D.2.c Each spring quarter each CM monitoring well that is specified on Table 4 for analysis of the COCs listed on Table 2 either: a) contains those parameters in concentrations below their TGPS, or b) the groundwater flow path through the well intersects the capture zone or, if applicable, the in-situ treatment zone of the CM, or, c) in the UCA, or in units where the Agency has approved a monitored natural attenuation plan as the CM in accordance with Permit Condition III.G.2.a and III.G.2.b, the capacity of the aquifer to assimilate the contamination in the aquifer, calculated using the procedure described in Attachment D, exceeds the total hydrocarbon concentration in the well by a factor of two or more, and
- III.D.2.d In each CM where air sparging is a component of the CM, adequate capture of the sparge air by soil vapor extraction (SVE) is demonstrated using the procedure described in Attachment D unless operation of a SVE system is not required under Permit Condition III.D.5.a or otherwise approved by EPA.
- III.D.3 *Adequate progress demonstrations.* The Permittee shall implement the Corrective Action program in a manner that makes adequate progress toward achieving the Program goals, as defined below in Permit Conditions III.D.3.a.i through III.D.3.a.iv. The progress of the Program shall be considered adequate if:
 - III.D.3.a The Permittee demonstrates that a statistically significant positive trend is not present in the dissolved-phase contamination by performing a concentration trend evaluation as follows:

- i. A trend evaluation must be performed for each well listed on Table 4 that contains the indicator parameter(s) listed on Table 3 in concentrations above its TGPS; and
 - ii. The trend analysis must include all spring and fall analytical data starting with baseline data collected just before a given CM or CAMP is implemented if these baseline chemical results exist and must include at least thirteen (13) consecutive sampling results; and
 - iii. The evaluation must not show a statistically significant positive trend using statistical methodology as described in Attachment D; and
 - iv. The evaluation must be performed twice a year during the spring and fall quarters. For the A-Aquifer Unit only, the non-positive trend determination will be evaluated after LNAPL recovery from groundwater is complete.
- III.D.3.b Each quarter the Permittee shall tabulate the records for each treatment CM as specified on Table 6 in this Permit.
- III.D.4 *Protection of downgradient water quality demonstration.* During the spring and fall quarters the Permittee shall demonstrate that the Corrective Action Program is protective of downgradient water quality. The Corrective Action Program shall be considered protective of downgradient water quality if the wells identified on Table 4 for downgradient compliance monitoring do not contain the COCs (spring quarter) or indicator parameter(s) (fall quarter) in concentrations above their TGPS listed on Table 2.
- III.D.5 *Media transfer demonstration.* During the spring and fall quarters, the Permittee shall demonstrate that each CM that incorporates air sparging is protective of the atmosphere. An air sparging CM shall be considered protective of the atmosphere if the SVE effectiveness criteria is met, identified in Attachment D.
- III.D.5.a The Permittee may shut off a SVE system and discontinue the media transfer demonstration if for four consecutive reporting periods the influent air quality meets the criteria identified in the Proposal for SVE System Shut-Down for each air sparge system and adequate sparge air capture by soil vapor extraction is demonstrated in each of these reporting periods as specified by Permit Condition III.D.2.d.
- III.E PROGRESS REPORTS**
- III.E.1 During operation of the Corrective Action Program the Permittee shall submit progress reports to the Agency to provide the information specified by Permit

Conditions III.E.2 through III.E.3. These progress reports shall be submitted according to the schedule specified on Table 7.

- III.E.2 Each progress report shall include the following:
 - III.E.2.a The treatment summary specified on Permit Table 6 in accordance with Permit Condition IV.G.
 - III.E.2.b Data tables summarizing the results of samples analyzed in accordance with an active CAMP and/or wells which require quarterly monitoring as specified by Permit Condition IV.C.2, including the detection levels for non-detected results.
- III.E.3 Each spring and fall progress report shall include the following, in addition to the items listed in condition III.E.2:
 - III.E.3.a The analytical laboratory reports obtained pursuant to Part IV of this Permit, including the detection limits achieved and a QA/QC summary. In no case shall the period between the date of sampling and the date of submission of these analytical results exceed one hundred twenty (120) calendar days unless an extension is granted by the Agency.
 - III.E.3.b A discussion and summary of corrective-measures-related activities undertaken during the reporting period.
 - III.E.3.c The following monitoring data and assessment:
 - i. Data tables summarizing the results of the groundwater gauging event performed in accordance with Permit Condition IV.B, including the reference elevation for each well, the depth to water and LNAPL (if present) measurements, and the calculated values for groundwater elevation or potentiometric surface and LNAPL thickness (if present).
 - ii. Data tables summarizing the results of sampling for the indicator parameter(s) listed on Table 3 performed in accordance with Permit Condition IV.C, including the detection levels for non-detected results.
 - iii. Data tables summarizing the results of samples analyzed for the COCs listed in Table 2 in accordance with Permit Condition IV.C, including the detection levels for non-detected results.
 - iv. (Spring report only) Data tables summarizing the results of contaminants of potential concern (COPCs) listed on Table 8 including the detection levels for non-detected results and an evaluation as specified in Permit Condition IV.F.

- v. Data tables summarizing the results of samples analyzed for natural attenuation parameters in accordance with Permit Condition IV.D.
 - vi. Plume maps of the indicator parameter(s) and LNAPL in accordance with Permit Conditions IV.B.3.a, IV.B.3.b, and IV.C.3.c.
 - vii. Groundwater contour maps showing the direction of groundwater flow as specified by Permit Condition IV.B.3.a.
 - viii. Data tables summarizing the results of samples analyzed for operating soil vapor extraction system influent and effluent air in accordance with Permit Condition IV.E.
 - ix. The performance demonstrations specified by Permit Conditions III.D.2, III.D.3, III.D.4, and III.D.5.
- III.E.3.d A discussion, based on activities and sampling results obtained in accordance with Part IV of this Permit, of changes in: the locations and levels of contamination at the facility and each CM; identified migration pathways (or potential pathways); and impacts (or potential impacts) on human health and the environment since the last reporting period, and any recommendations for changes to the CM or monitoring systems.
- III.E.3.e The following types of administrative information:
- i. A description of any significant problem encountered with operation of a CM or its monitoring program and actions taken.
 - ii. A summary of administrative changes relevant to this Permit.
 - iii. A summary of activities to be performed or are in progress during the reporting period.
- III.E.3.f The following information as appropriate:
- i. A description of maintenance activities or emergencies that required a CM to be shut down for more than ten (10) days in accordance with Permit Condition III.C.5.a.
 - ii. A description of changes in the facility site security plan.
 - iii. A description of changes in the inspection requirements contained in Attachment B in accordance with Permit Condition II.E.1.

- iv. A description of changes to the facility training plan.
- v. A description of changes to the facility contingency plan.
- vi. A description of noncompliance with this Permit in accordance with Permit Condition I.R.
- vii. A description of closure and standby readiness demonstrations performed in accordance with Permit Conditions III.F.2 and III.F.3.
- viii. Monitoring well installation or decommission reports in accordance with Permit Condition IV.A.3.b.
- ix. Revised Permit figures or tables as needed to show changes to the CMs, monitoring well networks, or monitoring requirements.

III.F CLOSURE OF CORRECTIVE MEASURES

- III.F.1 The Permittee may close a CM after complying with and obtaining Agency approval under Permit Conditions III.F.2, III.F.3, III.F.4 and III.F.5.
- III.F.2 *Closure demonstration period.* The Permittee shall collect groundwater samples from all wells listed on Table 4 for a CM during a consecutive five-quarter period in accordance with the requirements of condition III.F.2.a and III.F.2.b.
 - III.F.2.a. During the first and fifth quarters, all wells must be sampled and analyzed for the COCs listed on Table 2 and the analytical results must not exceed the TGPS listed on Table 2.
 - III.F.2.b During the second, third, and fourth quarters, all wells must be sampled and analyzed for the indicator parameter(s) listed on Table 3 and all analytical values must not exceed the TGPS listed on Table 2.
- III.F.3 *Standby period.* After successfully completing the closure requirements in Permit Condition III.F.2, the Permittee shall maintain the CM in operational readiness for three years. The Permittee shall submit a standby plan to the Agency that includes a description for how the CM will be maintained and a standby groundwater hydraulic and chemical monitoring plan. The Permittee will begin the standby demonstration after the Agency has approved the plan. The Permittee shall conduct standby readiness demonstrations on a semi-annual basis, which will consist of successfully operating the CM for three days. The standby readiness demonstration shall not be conducted within seven (7) calendar days of any groundwater sampling event.

- III.F.4 If a CM groundwater sample collected during the standby period specified by Permit Condition III.F.3 exceeds a TGPS, the Permittee shall:
- III.F.4.a Notify the Agency of this finding in the next progress report following the detection; and,
- III.F.4.b Resume the corrective action monitoring for all of the CM monitoring wells specified on Table 4 of this Permit and, within ninety (90) calendar days, submit an application for modification of the CM to effectively remediate the source of the contamination; or within ninety (90) days submit a report to the Agency which identifies the source of the contamination, including all supporting documentation, the extent of the contamination, and an application for a modification of the CM to effectively remediate the source of the contamination and a revised corrective action monitoring program; or
- III.F.4.c Submit to the Agency, in the next progress report following the detection, notice that the Permittee intends to demonstrate that an off-site source caused the increase, or that the increase resulted from an error in sampling, analysis, or evaluation. This demonstration shall be made within ninety (90) calendar days.
- III.F.4.d If, as determined by the Agency, the demonstration submitted in accordance with Permit Condition III.F.4.c fails to identify any off-site source of contamination or an error in sampling, analysis, or evaluation, then the Permittee shall comply with Permit Condition III.F.4.b within sixty (60) days. If the Agency approves the demonstration, then the Permittee shall resume the monitoring and assessment requirements for the standby period in Permit Condition III.F.3.
- III.F.5 The Permittee must submit to the Agency and obtain approval of an evaluation of remaining health and environmental risks due to the effects of the mixture of all parameters remaining in the groundwater in accordance with the State of Alaska regulations (18 Alaska Administrative Code (A.A.C.)) before the end of the standby period. Federal ambient water quality criteria or other applicable ecotoxicologically-based threshold values will be used to identify potential ecologic risks at the groundwater-surface water interface.
- III.F.6 Upon successful completion of Permit Conditions III.F.2, III.F.3, III.F.4 and III.F.5 the Permittee may close the CM and commence with compliance monitoring pursuant to Part V of this Permit.
- III.F.7 The Permittee shall submit to the Agency a closure plan for the CM during or after the standby period described in conditions III.F.3, III.F.4 and III.F.5 has been

successfully completed. This plan shall include detailed procedures and a schedule for the disposal or decontamination of all CM elements.

- III.F.8 The Permittee shall add a detailed estimate of the costs for implementing the CM closure plan to the corrective action cost estimate required by Permit Conditions II.K.1 and II.M.1 when the CM closure plan is submitted in accordance with Permit Condition III.F.7.

III.G Modification of Corrective Measures, Standards, and Monitoring

- III.G.1 Minor deviations from the designs or specifications in Attachment D of this Permit deemed necessary by the Permittee to facilitate proper construction and operation of a CM shall not be considered a modification of this Permit. Such modifications shall be subject to the equivalent materials procedure specified in Permit Condition II.P. The Permittee shall place a notation of such a deviation, accompanied by a narrative explanation, in the operating record. The Agency may judge the soundness of this determination at any time and take appropriate action.

- III.G.2 After a CM has completed LNAPL recovery to the extent practicable, the Permittee may assess the use of monitored natural attenuation to remediate the remaining groundwater contamination.

- III.G.2.a If the Permittee finds that monitored natural attenuation can attain the TGPS as required by Permit Condition III.F.2 while complying with the performance standards required by Permit Conditions III.D.2, III.D.3 and III.D.4, the Permittee shall submit to the Agency a monitored natural attenuation implementation plan that includes the following:

- i. A demonstration for the efficacy of monitored natural attenuation using methods and procedures in accordance with EPA guidance,
- ii. A revised monitoring plan including validation and long-term monitoring programs, and
- iii. A plan to ensure that the engineered CM system will be maintained in operational readiness until the closure requirements in Permit Conditions III.F.2 through III.F.5 have been achieved.

- III.G.2.b If the Agency determines that monitored natural attenuation can effectively achieve the TGPS and approves the Permittee's monitoring plan prepared under Permit Condition III.G.2.a, the Permittee may begin monitored natural attenuation. The Permittee must continue with the CM's revised corrective action monitoring and reporting requirements and maintain the CM in operational readiness as specified by

Permit Condition III.G.2.a.iii. The frequency and duration of the standby readiness demonstration shall be performed in accordance with Permit Condition III.F.3. Operational readiness shall be maintained until complying with Permit Conditions III.F.2 through III.F.5.

- III.G.2.c Upon successful completion of Permit Conditions III.G.2.a and III.G.2.b the Permittee may commence with compliance monitoring pursuant to Part V of this Permit.
- III.G.3 The Permittee may submit a request for a permit modification pursuant to 40 C.F.R. § 270.42 at any time during the life of this Permit for revisions of the TGPS specified in Table 2 of this Permit. Any such modification must be based on a demonstration that the revised target standards are protective of human health and the environment.
- III.G.4 If the Permittee, based on the semi-annual performance demonstrations and/or the groundwater monitoring data submitted pursuant to this Permit, thinks that a performance standard specified in this Permit is not an appropriate criterion for determining the effectiveness of a CM, the Permittee may propose a modification of the standard using the procedures specified in 40 C.F.R. § 270.42.
- III.G.5 The Permittee may request a revision to the monitoring frequencies and monitoring point locations based on submission to the Agency of a demonstration that the revised monitoring frequencies or monitoring point locations are at least as effective in assessing effective performance of the Corrective Action Program or Compliance Monitoring Program, based on the data obtained pursuant to this Permit. Evaluation by the Agency of request(s) for these revisions shall be subject to the dispute resolution procedures specified in Permit Condition I.X.
- III.G.6 If the Permittee finds that enhanced bioremediation is an appropriate mechanism for remediating groundwater, the Permittee shall submit to the Agency an enhanced bioremediation implementation plan that includes the following:
- i. A demonstration for the efficacy of the proposed system, and
 - ii. A revised monitoring plan including validation and long-term monitoring programs.
- III.G.7 The Permittee may substitute analytical methods which are determined by the Agency to be equivalent or superior to those specifically approved for use in this Permit in accordance with Attachment C.

- III.G.8 The Permittee may request a permit modification to revise Table 2 so that Table 2 designates target cleanup standards for the UCA only; the modification may request that a new table be added to the Permit, based on the information provided in Permit Condition III.G.8.a, to designate modified target cleanup standards for the unconfined aquifer.
- III.G.8.a A permit modification request made pursuant to Permit Condition III.G.8 must include a report, including all supporting documentation, which includes the following:
- i. an analysis of whether the hydraulic separation between the UCA and the unconfined aquifer is sufficient to be protective of the UCA as a drinking water source.
 - ii. an analysis of whether sufficient administrative controls are in place, or provisions for implementing such controls prior to approval of the modification request, to ensure that the unconfined aquifer will not be a source of drinking water in the future.
 - iii. a proposal for cleanup levels for all hazardous constituents in the unconfined aquifer that are in accordance with standards based on applicable Agency guidelines and regulations, and that are protective of the UCA as a drinking water source, i.e., that will not cause contamination of the UCA above a health-based drinking water standard.
 - iv. any other information that the Permittee or the Agency finds is relevant to revision of the target cleanup standards for the unconfined aquifer.
- III.H DISCOVERY OR CREATION OF NEW SOLID WASTE MANAGEMENT UNITS (SWMUs)**
- III.H.1 The Permittee shall notify the Agency in writing of any newly identified or newly created SWMU at the facility, no later than sixty (60) calendar days after the date of discovery or creation. The notification shall include, but not be limited to, the following known information:
- III.H.1.a A description of the SWMU's type, function, dates of operation, location (including a map), design criteria, dimensions, materials of construction, capacity, ancillary systems (e.g. piping), release controls, alterations made to the unit, engineering drawings, and all closure and post-closure information available;
- III.H.1.b A description of the composition and quantities of solid wastes processed by the units with emphasis on hazardous constituents.

- III.H.1.c A description of any release (or suspected release) of hazardous wastes or hazardous constituents originating from the unit, including planned or unplanned releases to the air. Include information on the date of release, type of hazardous waste or hazardous constituents, quantity released, nature of the release, extent of release migration, and cause of release (e.g. overflow, broken pipe, tank leak, etc.). Also provide any available data which would quantify the nature and extent of environmental contamination, including the results of soil and/or groundwater sampling and analysis efforts. Likewise, submit any existing monitoring information that indicates release of hazardous waste or hazardous constituents have not occurred or are not occurring.
- III.H.2 Upon receipt of the notification of any newly identified or newly created SWMU, the Agency may request the Permittee to submit a draft RCRA Facility Investigation (RFI) workplan in accordance with EPA guidance if there is evidence of a release or potential release of hazardous constituents. Upon receipt of a request from the Agency, the Permittee shall submit the workplan. After review and approval by the Agency the Permittee shall implement the workplan. If the Agency determines that corrective measures are required, the Permittee shall submit a request for a permit modification to implement corrective measures.

III.I ACCESS

To the extent that work required by this Permit must be done on property not owned or controlled by the Permittee, the Permittee shall use its best efforts to obtain site access agreements from the owner(s) of such property within thirty (30) days of the date that the need for access became known to the Permittee, or of approval of any workplan for which site access is required, whichever is earlier. For the purposes of this Permit Condition, the term "best efforts" shall mean, at a minimum, a certified letter from the Permittee to the property owner(s) requesting access to such property and, if a reply is received from the property owner, follow-up letters from the Permittee, as appropriate, to clarify the work contemplated and address the owner's reasonable concerns. In the event that the Permittee cannot obtain the necessary access agreements, the Permittee shall notify the Agency in writing within ten (10) calendar days thereafter regarding both the efforts undertaken to obtain access and the failure to obtain such agreements. The Agency may, consistent with their legal authority, assist the Permittee in obtaining such agreements.

III.J OTHER PERMITS AND APPROVALS

To the extent that the work required by this Permit must be done under permits or approvals pursuant to other federal, state, or local regulatory authorities, the Permittee shall use its best efforts to obtain such Permits. For the purposes of this Permit Condition, the term "best efforts" shall mean submittal of a complete

application for the Permits or approvals no later than sixty (60) calendar days after the information necessary to prepare the application is available to the Permittee.

III.K SCHEDULE EXTENSIONS

To the extent that the activities required by Parts III, IV, and V of this Permit are not completed in accordance with the schedules contained therein, and the Permittee can demonstrate to the Agency's satisfaction that the Permittee used its best efforts to accomplish the activity within the required schedule, the Agency may grant the Permittee an extension to the applicable schedule.

For the purposes of this Permit Condition, the term "best efforts" shall include performance of all activities necessary to award contracts to outside contractors no later than sixty (60) calendar days after the information necessary to award the contract(s) to outside contractors is available to the Permittee; adequate planning, funding, operator staffing, laboratory and process controls, and operation of backup or auxiliary facility or similar systems by the Permittee when necessary to meet the required schedules.

The Permittee shall notify the Agency in writing no later than fifteen (15) calendar days after the Permittee determines that such schedules will not be met. The Permittee shall include with such notification all information supporting its claim that it has used best efforts to meet the required schedules. If the Agency determines that the Permittee has made best efforts to meet such schedules, the Agency shall notify the Permittee in writing, by certified mail, that the Permittee has been granted an extension and provide the Permittee with a revised schedule reflecting this extension. Such revisions to schedules shall not require a permit modification. Copies of all correspondence pursuant to this Permit Condition shall be kept in the facility operating record.

III.L AGENCY-DIRECTED CHANGES IN CORRECTIVE ACTIONS

- III.L.1 Within one hundred twenty (120) calendar days of a written request by the Agency, the Permittee shall submit a written request for a permit modification to alter any interim measures or CM, based on analytical results and data evaluation obtained pursuant to the Permit.
- III.L.2 If it is judged by the Agency, based on the semi-annual demonstrations submitted pursuant to Permit Condition III.E.3.c.ix and/or the groundwater monitoring data submitted pursuant to Part IV of this Permit, that the performance standards specified in Permit Section III.D are not appropriate criteria for determining the effectiveness of the groundwater corrective action program, the Agency may propose modification of these standards.

III.L.3 Based upon information contained in the Progress Reports, the Agency may direct the Permittee to take appropriate actions. These actions may include modifications to a CM system if the Agency determines that the system is not meeting the performance standards.

III.M INCORPORATION OF DOCUMENTS INTO PERMIT

All plans, reports, and schedules required by the terms of this Permit are, upon approval by the Agency, incorporated into this Permit as fully enforceable Permit conditions. Any noncompliance with such approved plans, reports, and schedules shall be termed noncompliance with this Permit. In the event of conflict between any permit condition and any provisions in the approved plans, reports and schedules submitted in compliance with the terms of this Permit, the Permit Condition shall prevail. The Permittee shall notify the Agency any instance of a conflict between a permit condition and a provision in an approved plan upon discovery.

PART IV - CORRECTIVE ACTION MONITORING PROGRAM

IV.A IMPLEMENTATION OF CORRECTIVE ACTION MONITORING PROGRAM

- IV.A.1 The Permittee shall implement a groundwater Corrective Action Monitoring Program to provide the monitoring data and assessment required by the Corrective Action Program in Part III of this Permit. The monitoring data shall be used to:
- IV.A.1.a Assess changes in contaminant levels, pathways, and impacts as required by Permit Condition III.E.3.d.
 - IV.A.1.b Prepare performance demonstrations for each CM as required by Permit Section III.D.
 - IV.A.1.c Update the list of COCs on Table 2 as required by Permit Section IV.F.
 - IV.A.1.d Perform closure demonstrations as required by Permit Section III.F.
- IV.A.2 The Permittee shall use the techniques and procedures specified in Attachment C of this Permit when collecting, preserving, shipping, analyzing, tracking and controlling samples required by Part IV of this Permit.
- IV.A.3 The Permittee shall construct, maintain and decommission corrective action monitoring and extraction wells in accordance with current State of Alaska guidance and regulations and Attachment D of this Permit.
- IV.A.3.a If a monitoring well listed on Table 4 or 5 must be decommissioned and replaced for any reason during the term of this Permit, it shall be replaced within ninety (90) days unless the Permittee receives prior approval for an extension from the Agency. Prior to decommissioning, the Permittee shall apprise the Agency of the rationale for the decision. The replacement well shall be installed as close as practicable to the well being replaced unless a justification for another location is approved by the Agency.
 - IV.A.3.b The appropriate boring logs, well completion diagrams, and decommissioning reports shall be submitted in a progress report within one hundred twenty (120) days of a well installation or decommissioning.
- IV.A.4 The Permittee shall enter all monitoring, testing, and analytical data obtained pursuant to Permit Conditions IV.B through IV.G in the operating record as required by Permit Condition I.W. These results shall be submitted within fifteen (15) days of the Permittee's receipt of a written request from the Agency, provided that the data have been received from the laboratory.

IV.B CORRECTIVE ACTION GAUGING

- IV.B.1 The Permittee shall measure groundwater and LNAPL (if present) levels in each monitoring well specified for each CM in Table 5 of this Permit and located as designated on Figures 2 through 6 of this Permit at the frequencies designated on Table 5 of this Permit in accordance with the procedures in Attachment C of this Permit until a CM has fulfilled the closure criteria in Permit Section III.F.
- IV.B.2 The Permittee shall obtain water level measurements to be used for groundwater elevation contouring within as short a time as practicable. Such measurements shall be obtained prior to purging a well or at least forty-eight (48) hours after the well has been sampled. The recovery and injection rates will be recorded at the time of gauging in accordance with Table 6. Water level measurements for the UCA will be corrected to account for the effects of the pumping wells in accordance with the procedures described in Attachment C of this Permit.
- IV.B.3 The Permittee shall use the gauging data to:
- IV.B.3.a Construct groundwater contour maps and show the direction of groundwater flow for the unconfined aquifer, the B aquifer, and the UCA based on the gauging data.
- IV.B.3.b Prepare LNAPL plume maps based on the gauging data.
- IV.B.3.c Assess potential changes in pathways and impacts as required by Permit Condition III.E.3.d.
- IV.B.3.d Assess the performance of each CM as required by Permit Section III.D. The capture zone demonstration will be based, at a minimum, on water level measurements at the wells specified in Table 5. The capture zone shall be defined by the area of inward hydraulic gradient toward the recovery wells that make up each CM system.
- IV.B.3.e Assess the adequacy of the CM or monitoring systems relative to observed groundwater flow directions based on the groundwater contour maps prepared in accordance with Permit Condition IV.B.3.a.

IV.C CORRECTIVE ACTION SAMPLING

- IV.C.1 The Permittee shall collect water quality samples from each monitoring well specified for each CM on Table 4 and shown on Figures 2 through 6, for the analyses shown on Table 4, and in accordance with Attachment C of this Permit until a CM has fulfilled the closure criteria in Permit Section III.F.
- IV.C.2. Corrective action sampling frequency will increase to quarterly for eight (8) consecutive quarters for monitoring wells that meet the following criteria:

- IV.C.2.a A new monitoring well is installed. The new well will be monitored for eight (8) consecutive quarters; or,
- IV.C.2.b A modification to the CM. Down gradient well(s), selected by the Permittee and approved by the Agency, will be monitored for eight (8) consecutive quarters; or,
- IV.C.2.c An increase in the dissolved-phase COC contamination as indicated by a statistically significant increasing trend (given a previous non-trend) in an existing well. If the increase is considered anomalous, the Permittee may request a variance by:
- i. Submitting a justification for alternative sampling frequency or duration. If the justification is accepted by the Agency, the alternative will be implemented. If the justification is not accepted by the Agency, the well will be added to the quarterly monitoring list for eight (8) consecutive quarters; or
 - ii. Submitting a notice that the Permittee will resample and repeat the analysis to verify suspected anomalous results. Results of the resampling effort will be included in the proceeding progress report. If results verify an increasing trend, the well will be added to the quarterly monitoring list for eight (8) consecutive quarters. If the re-sample result indicates that the original result was anomalous, the well will not be included in the quarterly monitoring program.
- IV.C.3 The Permittee shall use the results of the groundwater sampling to:
- IV.C.3.a Compare the results to the TGPS shown on Table 2. Any constituent above the applicable target standard will be considered an indication of contamination. Any constituent equal to or less than the applicable target standard will be considered to be in compliance with that target standard.
- IV.C.3.b Assess the performance of each CM as specified in Permit Conditions III.D.2, III.D.3, and III.D.4.
- IV.C.3.c Prepare groundwater plume maps of the indicator parameter(s) listed on Table 3 for areas without LNAPL based on sampling data.
- IV.C.3.d Assess changes in concentrations, pathways, and impacts in accordance with Permit Condition III.E.3.d.
- IV.C.3.e Prepare CM closure demonstrations as required by Permit Section III.F.
- IV.C.4 For any monitoring well sampled as part of a CM monitoring program that has been in compliance with the TGPS specified on Table 2 of this Permit for three (3)

consecutive years, the Permittee may reduce the required water quality sampling frequency for that well to once a year. Written notice shall be provided to the Agency before monitoring frequency is reduced.

- IV.C.5 Upon detection of constituents exceeding the TGPS specified in Table 2 of this Permit in any monitoring well subject to Permit Condition IV.C.3, the Permittee shall:
- IV.C.5.a Notify the Agency of this finding, in writing, in the next progress report following the detection; and,
- IV.C.5.b Resume corrective action monitoring for all CM monitoring wells as specified in Table 4 of this Permit and, within ninety (90) calendar days of the date of detection, submit an application for modification of the CM to effectively remediate the source of the contamination; or within ninety (90) days submit a report to the Agency which identifies the source of the contamination, including all supporting documentation, the extent of the contamination, and an application for a modification of the CM to effectively remediate the source of the contamination and a revised corrective action monitoring program; or
- IV.C.5.c Submit to the Agency, in the next progress report following the detection, notice that the Permittee intends to demonstrate that an off-site source caused the increase, or that the increase resulted from an error in sampling, analysis, or evaluation. This demonstration shall be made within ninety (90) calendar days of the date of notification.
- IV.C.5.d If, as determined by the Agency, the demonstration submitted in accordance with Permit Condition IV.C.5.c fails to identify any off-site source of contamination or an error in sampling, analysis, or evaluation, then the Permittee shall comply with Permit Condition IV.C.5.b within sixty (60) days. If the Agency approves the demonstration, then the Permittee shall resume monitoring in accordance with the monitoring program specified in Permit Condition IV.C.1.

IV.D MONITORED NATURAL ATTENUATION SAMPLING

For the UCA, or for any units that have an approved monitored natural attenuation plan per Permit Condition III.G.2.a, the Permittee will monitor and report natural attenuation parameters in accordance with the monitoring frequencies in Attachment D or the agency-approved monitored natural attenuation implementation plan.

IV.E SOIL VAPOR EXTRACTION SYSTEM MONITORING

The Permittee shall collect influent and effluent samples during the spring and fall quarters from each operating soil vapor extraction system for the analyses specified in Attachment D.

IV.F CONTAMINANTS OF POTENTIAL CONCERN SAMPLING

IV.F.1 The Permittee shall collect groundwater samples from the wells indicated for COPC sampling listed on Table 4 and analyze the samples for the constituents listed on Table 8. This sampling shall be performed annually.

IV.F.2 If any COPC not identified on Table 2 of this Permit is detected, the Permittee shall report the concentration of the detected constituent to the Agency in the next progress report following the Permittee's receipt of results from the laboratory. In no case shall the period between the date of sampling and the date of submission of analytical results exceed one hundred twenty (120) calendar days unless an extension is granted by the Agency.

IV.F.3 For any constituent detected under Permit Condition IV.F.2 that is not included on Table 2, the Permittee shall:

- i. Add the newly detected constituent to the list of monitoring constituents, and provide the Agency with a copy of the revised list for inclusion into the Permit with the next progress report. Such modification to the constituent monitoring list will not require a permit modification; or
- ii. Submit a justification for why the detected constituent should not be included in the monitoring program in the next progress report. If the Agency does not accept the Permittee's justification, the Permittee shall add the constituent to the monitoring list in accordance with condition IV.F.3(i). If the Agency accepts the justification, the constituent does not have to be added to the list of monitoring constituents; or
- iii. Submit a notice in the next progress report that the Permittee has resampled and is repeating the analysis for the newly detected constituent. The Permittee shall submit the results of the second analysis with the following progress report and either add the newly detected constituent to the list of monitoring constituents pursuant to condition IV.F.3(i) or submit a report justifying why the detected constituent should not be included in the monitoring program pursuant to Permit Condition IV.F.3(ii).

IV.F.4 If a constituent is detected that must be added to the monitoring list in accordance with Permit Condition IV.F.3, the Agency shall initiate a Class 2 Permit modification to add a TGPS for that constituent to Table 2, using the procedures in 40 C.F.R. § 270.41.

IV.G TREATMENT RECORDS

The Permittee shall maintain complete monitoring records for the treatment CM systems as specified in Permit Condition I.W.5. Table 6 of this Permit lists treatment records that will also be reported in the progress reports as specified in Permit Condition III.E.2.

PART V - COMPLIANCE MONITORING PROGRAM

V.A IMPLEMENTATION OF COMPLIANCE MONITORING PROGRAM

- V.A.1 The Permittee shall implement compliance monitoring for each CM in accordance with Permit Conditions V.A through V.D after Agency approval of closure under Section III.F of this Permit have been met until the end of the compliance monitoring period specified in Permit Conditions V.A.1.a and V.A.1.b. The compliance monitoring wells for each CM are listed on Tables 4 and 5 and their locations are shown on Figures 2 through 6.
- V.A.1.a Except as may be required by Permit Conditions V.C.5 and V.C.6, the Permittee shall continue compliance monitoring until the end of the post-closure care period, as required by Permit Condition II.J.2.
- V.A.1.b The Permittee may request that compliance monitoring for the SWMUs listed on Table 1 be terminated after each CM has fulfilled the requirements of Permit Section III.F and is in compliance with the criteria determined under Permit Condition III.F.5 for three consecutive years.
- V.A.2 The Permittee shall use the techniques and procedures specified in Attachment C of this Permit when collecting, preserving, shipping, analyzing, tracking, and controlling samples required by Part V of this Permit.
- V.A.3 The Permittee shall maintain, and decommission compliance wells in accordance with current State of Alaska guidance and regulations.
- V.A.3.a If a monitoring well listed as a compliance well on Table 4 or 5 must be decommissioned and replaced for any reason during the term of this Permit, it shall be replaced within ninety (90) days unless the Permittee receives prior approval for an extension from the Agency. Prior to decommissioning, the Permittee shall apprise the Agency of the rationale for the decision. The replacement well shall be installed as close as practicable to the well being replaced unless a justification for another location is approved by the Agency.
- V.A.3.b The appropriate boring logs, well completion diagrams, and decommissioning reports shall be submitted in a progress report within one hundred twenty (120) days of a well installation or decommissioning.
- V.A.4 The Permittee shall enter all monitoring, testing, and analytical data obtained pursuant to Part V of this Permit in the operating record as required by Permit Condition I.W. Upon written request by the Agency, these results shall be submitted

within fifteen (15) days of the Permittee's receipt of the request, provided the data has been received from the laboratory.

V.B COMPLIANCE GAUGING

- V.B.1 The Permittee shall measure water levels in each compliance monitoring well specified for a CM in Table 5 of this Permit, located as designated on Figures 2 through 6 of this Permit, at the frequencies designated on Table 5 of this Permit, in accordance with the procedures in Attachment C of this Permit.
- V.B.2 In order to minimize the potential for error caused by temporal variations, the Permittee shall obtain water level elevation measurements to be used for groundwater elevation contouring within as short a time as practicable. Such measurements shall be obtained prior to purging a well or at least forty-eight (48) hours after the well has been sampled. Water level measurements for the UCA will be corrected to account for the effects of the pumping wells in accordance with the procedures described in Attachment C of this Permit.
- V.B.3 The Permittee shall use these data to determine the direction of groundwater flow at least annually for the periods of high and low water table elevation. The Permittee shall construct water table elevation contour maps annually for the periods of high and low water table elevation. The Permittee shall submit, with the contour maps, a written review of the adequacy of the groundwater monitoring system relative to observed groundwater flow directions.

V.C COMPLIANCE SAMPLING

- V.C.1 The Permittee shall collect groundwater samples from each monitoring well designated as a compliance well for each CM on Table 4 and analyzed as specified on Table 4 of this Permit in accordance with the procedures in Attachment C of this Permit.
- V.C.2 The Permittee shall compare the analytical results obtained pursuant to Permit Condition V.C.1 to Table 2 of this Permit, or to the modifications made to Table 2 pursuant to Permit Conditions III.G.3 or III.G.8. Any constituent above the target standard contained in Table 2 of this Permit will be considered an indication of contamination. Any constituent equal to or less than the target standard contained in Table 2 of this Permit will be considered to be in compliance with that target standard.
- V.C.3 Upon detection of constituents in any monitoring well exceeding the TGPS specified in Table 2 of this Permit, the Permittee shall:

- V.C.3.a Notify the Agency of this finding in the next progress report following the detection, in accordance with 40 C.F.R. § 264.99(I)(1).
- V.C.3.b Immediately collect two (2) samples from any affected well(s), purging the well(s) between samples, and reanalyze both samples for all constituents specified in Table 2 of this Permit.
- V.C.4 If analytical results from:
- V.C.4.a Neither verification sample described in Permit Condition V.C.3.b confirm the detection of constituents above the TGPS, the Permittee shall resume compliance monitoring according to the standard schedule and notify the Agency that the compliance monitoring program is being resumed.
- V.C.4.b Only one of the verification samples described in Permit Condition V.C.3.b confirms the detection of constituents above the TGPS, the Permittee shall repeat the verification procedure which begins in Permit Condition V.C.3.b.
- V.C.4.c Both verification samples described in Permit Condition V.C.3.b confirm the detection of constituents above the TGPS, the Permittee shall comply with Permit Condition V.C.5.
- V.C.5 The Permittee shall:
- V.C.5.a Continue to monitor in accordance with the compliance monitoring program, and shall:
- V.C.5.b Within ninety (90) calendar days of confirmation of constituents above the TGPS per Permit Condition V.C.4.c, implement the CM specified in Part III of this Permit and the CM monitoring program specified in Part IV of this Permit; or
- V.C.5.c Submit, within ninety (90) calendar days of confirmation of constituents above the TGPS in accordance with Permit Condition V.C.4.c, for review and approval by the Agency, a proposal for a modified CM and corrective measure monitoring; or
- V.C.5.d Submit to the Agency, within fifteen (15) calendar days of confirmation of constituents above the TGPS in accordance with Permit Condition V.C.4.c, notice that the Permittee intends to demonstrate that an off-site source caused the increase, or that the increase resulted from an error in sampling, analysis, or evaluation. A demonstration report shall be made within one-hundred twenty (120) calendar days. If necessary to enhance the effectiveness of the monitoring in addressing the new constituent or new source, an application for a permit modification to make any

appropriate changes to the compliance monitoring program shall be submitted with the demonstration report; or

- V.C.5.e Perform, and submit to the Agency for approval, an evaluation of the health and environmental risk due to the cumulative effects of the mixture of parameters, performed in accordance with the State of Alaska regulations (18 A.A.C. 75.325(g)). Federal ambient water quality criteria or other applicable eco-toxicologically-based threshold values will be used to identify potential ecologic risks at the groundwater-surface water interface.
- V.C.6 If, as determined by the Agency, the demonstration report submitted in accordance with Permit Condition V.C.5.d fails to identify any off-site source of contamination or an error in sampling and analysis, or if the cumulative risk of the mixture of parameters evaluated by Permit Condition V.C.5.e exceeds applicable Agency guidelines and regulations, then the Permittee shall comply with Permit Condition V.C.5.a, or V.C.5.b if the corrective action monitoring program has been approved by the Agency.

V.D COMPLIANCE REPORTS

- V.D.1 For all CMs in the compliance monitoring phase, the Permittee shall submit semi-annual compliance reports to the Agency to provide the information specified by Permit Conditions V.E.2 through V.E.4.
- V.D.2 Each compliance report shall include quality assured results of all laboratory reports obtained in accordance with Part V, including laboratory detection limits achieved for each constituent. In no case shall the period between the date of sampling and the date of submission of these analytical results exceed one hundred twenty (120) calendar days unless an extension is granted by the Agency.
- V.D.3 Compliance reports shall provide the following monitoring data and assessment as appropriate:
- V.D.3.a Data tables summarizing the results of the semi-annual groundwater gauging event performed in accordance with Permit Condition V.B, including reference elevation for each well, the depth to groundwater, and the groundwater elevation or potentiometric surface elevation.
- V.D.3.b Groundwater contour maps showing the direction of groundwater flow for the periods of high and low water table elevations as required by Permit Condition V.B.
- V.D.4 The compliance reports shall include the following information as appropriate:

- V.D.4.a A description of changes in the security provisions in accordance with Permit Condition II.D.
- V.D.4.b A description of changes in the inspection requirements contained in Attachment B in accordance with Permit Condition II.E.1.
- V.D.4.c A description of changes in training requirements in accordance with Permit Condition II.F.
- V.D.4.d A description of changes in the contingency plan in accordance with Permit Condition II.I.1.
- V.D.4.e A description of noncompliance with this Permit in accordance with Permit Condition I.R.
- V.D.4.f Monitoring well installation or decommissioning reports in accordance with Permit Condition V.A.3.b

TABLES

FIGURES