STATE OF WASHINGTON
DEPARTMENT OF ECOLOGY

In the Matter of Remedial Action at:	AGREED ORDER
TOC Facility No. 01-176	No. DE 8661

TO: TOC Holdings Co.
2737 West Commodore Way
Seattle, WA 98199-1233

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I. INTRODUCTION

The mutual objective of the State of Washington, Department of Ecology (Ecology) and TOC Holdings Co. (TOC, formerly named Time Oil Co.) under this Agreed Order (Order) is to provide for remedial action at a facility where there has been a release or threatened release of hazardous substances. This Order requires TOC to submit a remedial investigation (RI) and a feasibility study (FS) to Ecology for review in anticipation of negotiation of a cleanup action plan (CAP) at the Site, and to concurrently conduct interim remedial actions at the areas identified in Appendix C. Ecology believes the actions required by this Order are in the public interest.

II. JURISDICTION

This Order is issued pursuant to the Model Toxics Control Act (MTCA), RCW 70.105D.050 (1).

III. PARTIES BOUND

This Order shall apply to and be binding upon the Parties to this Order, their successors and assigns. The undersigned representative of each party hereby certifies that he or she is fully authorized to enter into this Order and to execute and legally bind such party to comply with this Order. TOC agrees to undertake all actions required by the terms and conditions of this Order. No change in ownership or corporate status shall alter TOC's responsibility under this Order. TOC shall provide a copy of this Order to all agents, contractors, and subcontractors retained to perform work required by this Order, and shall ensure that all work undertaken by such agents, contractors, and subcontractors complies with this Order.

IV. DEFINITIONS

Unless otherwise specified herein, the definitions set forth in Chapter 70.105D RCW and Chapter 173-340 WAC shall control the meanings of the terms in this Order.

A. Site: The Site is referred to as TOC Facility No. 01-176, and is generally located at 24205 56th Avenue West, Mountlake Terrace, Washington. The Site is defined by the extent of contamination caused by the release of hazardous substances from TOC Facility No. 01-176, which potentially extends south beneath portions of properties located at 24225 56th Avenue West (TOC/Farmasonis Property) and 24309 56th Avenue West (Drake Property) and west beneath portions of the 56th Avenue West right-of-way. The southern extent of the release has

yet to be defined south of the Drake Property. The Site constitutes a Facility under RCW 70.105D.120(5).

B. Parties: Refers to Ecology and TOC.

C. Potentially Liable Person (PLP): Refers to TOC, currently the only PLP named at the Site.

D. Agreed Order or Order: Refers to this Order and each of the exhibits to this Order. All exhibits are integral and enforceable parts of this Order. The terms "Agreed Order" or "Order" shall include all exhibits to this Order.

V. FINDINGS OF FACT

Ecology makes the following findings of fact without any express or implied admissions of such facts by TOC:

A. TOC currently owns real property located at 24205 56th Avenue West and 24225 56th Avenue West in Mountlake Terrace, Washington (hereinafter Property).

B. The Property located at 24205 56th Ave is known to have been owned and operated by TOC as a retail gasoline station from 1968 until 1991, during which time gasoline products were stored at the Property.

C. Three underground storage tanks were removed from the Property in 1991. A release of gasoline, benzene, toluene, ethylbenzene, and total xylenes to soil and groundwater was confirmed at the Site at the time of tank removal.

D. The results of soil sampling and groundwater monitoring at the Site (described in paragraphs E through H, below) have identified the continued presence of gasoline-range petroleum hydrocarbons, benzene, toluene, ethylbenzene, and total xylenes in soil and groundwater.

E. In 2005 TOC retained SoundEarth Strategies Inc. (SoundEarth, previously known as Sound Environmental Strategies Corporation [SES]), Seattle, Washington to conduct environmental investigations at the Site and to document the results of the investigations. The SoundEarth investigations were conducted as independent remedial actions supplemental to other independent remedial actions performed on behalf of TOC between 1991 and 2005, as documented in the following technical reports:

1. Environmental Science & Engineering Inc. (ESE), 1992. *Results of Site Assessment, Time Oil Property #01-176, Located at 24205 56th Avenue West, Mountlake Terrace, Washington.* September 16.

2. ESE, 1995a. *Results of Supplemental Site Assessment and Remedial Action Plan, Time Oil Property #01-176, Located at 24205 56th Avenue West, Mountlake Terrace, Washington.* July 11.

3. ESE, 1995b. *Remediation System Design Report, Time Oil Property #01-176, Located at 24205 56th Avenue West, Mountlake Terrace, Washington.* October 31.

4. Pinnacle Geosciences, 1996. *Construction Activity Report, Property No. 01-176, Mountlake Terrace, WA.* November 4.

5. Pinnacle Geosciences, 1997. *Operation and Maintenance Manual, Soil and Ground Water Remediation System, Time Oil Co. Property No. 01-176, 24205 56th Avenue West, Mountlake Terrace, Washington.* May 15.

6. Pinnacle Geosciences, 2002. *Summary Report, Treatment System and Ground Water Monitoring, April to December 2001, Time Oil Co. Property No. 01-176, Mountlake Terrace, Washington.* February 18.

7. Pinnacle Geosciences, 2004. *Draft Summary Report, Supplemental Well Installation and Ground Water Sampling, Time Oil Co. Property No. 01-176, Mountlake Terrace, Washington.* October 29.

8. Landau Associates, 2005. *Groundwater Status Report, Time Oil Property No. 01-176, Mountlake Terrace, Washington.* January 25.

F. The results of soil sampling and analysis conducted by SoundEarth between September 2005 and December 2010 have been tabulated for inclusion in the forthcoming RI report.

G. A technical report prepared for TOC by SES, dated December 30, 2010, titled *Groundwater Monitoring Report, March 2010, TOC Holdings Co. Facility No. 01-176, Mountlake Terrace, Washington,* summarizes the known contaminants of concern and identifies three separate waterbearing zones beneath the Site. The release extended south of the monitoring well network that existed at the time (wells MW01 through MW78).

H. In June, July, and October 2010 SoundEarth installed eleven additional groundwater monitoring wells at the Site. The results of supplemental well installation and soil

and groundwater sampling and analysis have yet to be published but indicate that the release extends south beyond the current network of monitoring wells on the property parcels located at 24205-, 24225-, 24309-56th Avenue West, and in the 56th Avenue West right-of-way (wells MW01 through MW70 and MW75 through MW89). The results of soil and groundwater sampling and analysis conducted by SES between March and December 2010 have been tabulated for inclusion in the forthcoming RI report.

I. TOC reports that reasonable efforts have been made to obtain access to and investigate the extent of the release at the Site on properties not owned or controlled by TOC. TOC also reports that access to investigate the extent of the release, if any, beneath the property located at 24311 56th Avenue West (Herman Property) has not been granted.

VI. ECOLOGY DETERMINATIONS

A. TOC is an "owner or operator" as defined in RCW 70.105D.020(17) of a facility as defined in RCW 70.105D.020(5) located at 24205 56th Avenue West in Mountlake Terrace, Washington.

B. Based upon all factors known to Ecology, a "release" or "threatened release" of "hazardous substances" as defined in RCW 70.105D.020(25) and RCW 70.105D.020(10), respectively, has occurred at the Site.

C. Based upon credible evidence, Ecology issued a PLP status letter to TOC dated November 9, 2010, pursuant to RCW 70.105D.040, 020(21), and WAC 173-340-500. By a letter dated November 30, 2010, TOC voluntarily waived its rights to notice and comment and accepted Ecology's determination that TOC is a potentially liable person under RCW 70.105D.040. TOC reserved the right to request that Ecology name additional PLPs at the Site. TOC was issued a Potentially Liable Party Determination letter by Ecology on June 9, 2011.

D. Pursuant to RCW 70.105D.030(1) and .050(1), Ecology may require PLPs to investigate or conduct other remedial actions with respect to any release or threatened release of hazardous substances, whenever it believes such action to be in the public interest. Based on the foregoing facts, Ecology believes the remedial actions required by this Order are in the public interest.

E. Under WAC 173-340-430, an interim action is a remedial action that is technically necessary to reduce a threat to human health or the environment by eliminating or

substantially reducing one or more pathways for exposure to a hazardous substance, that corrects a problem that may become substantially worse or cost substantially more to address if the remedial action is delayed, or that is needed to provide for completion of a site hazard assessment, remedial investigation/feasibility study or design of a cleanup action.

VII. WORK TO BE PERFORMED

Based on the Findings of Fact and Ecology Determinations, it is hereby ordered that TOC take the following remedial actions at the Site and that these actions be conducted in accordance with Chapter 173-340 WAC unless otherwise specifically provided for herein:

A. The work to be performed includes the planning, implementation, and reporting for a Remedial Investigation (RI), and a Feasibility Study (FS) to define the nature and extent of the site, meeting the requirements of MTCA and WAC 173-340. The PLP shall submit an RI Work Plan to Ecology within 30 days of the effective date of this Order. Upon approval by Ecology, the RI Work Plan shall become an integral and enforceable part of this Order. After approval, the PLPs will proceed with field implementation of the Work Plan in accordance with the schedule in Exhibit B. Attached hereto as Exhibit B is the Scope of Work and Schedule for the RI and FS. Exhibit B is incorporated by reference as an integral and enforceable part of the Order. The PLP shall submit all deliverables required in Exhibit B to Ecology for review and approval in accordance with Exhibit B.

B. The work to be performed also includes interim actions that TOC shall carry out in accordance with the Interim Remedial Action Work Plan for property-specific interim actions attached hereto as Exhibit C. Exhibit C is incorporated by reference as an integral and enforceable part of the Order.

C. Ecology currently intends to hold one combined public comment period for the Order, the Interim Remedial Action Work Plan, and for the SEPA determination on the property-specific interim actions.

D. Within 45 days of completing the property-specific interim actions, the PLP shall submit an Interim Remedial Action Status Report for Ecology's review and approval which details the actions taken at the Site, the results of the property-specific interim actions, and any data collected during the property-specific interim actions.

E. Written progress reports shall be completed every second month and shall be submitted by the tenth day of the month beginning the month following the effective date of this

Order. Progress reports shall combine the following information into one integrated report addressing the RI, FS, and property-specific Interim Actions. The reports shall address and describe the previous full two months' progress toward completion of the Order including work in progress, past and future problem areas, key activities, deliverables submitted, field work and data generated, subcontracting, analytical services performed, and key staff changes.

F. If, at any time after the first exchange of comments on drafts, Ecology determines that insufficient progress is being made in the preparation of any of the deliverables required by this Section, Ecology may complete and issue the final deliverable.

VIII. TERMS AND CONDITIONS OF THE ORDER

A. Public Notices

RCW 70.105D.030(2)(a) requires that, at a minimum, this Order be subject to concurrent public notice. This Order shall be effective upon signature by both parties at the end of the public notice process. Ecology shall be responsible for providing such public notice and reserves the right to modify or withdraw any provisions of this Order should public comment disclose facts or considerations which indicate to Ecology that this Order is inadequate or improper in any respect.

B. Remedial Action Costs

TOC shall pay to Ecology costs incurred by Ecology pursuant to this Order consistent with WAC 173-340-550(2). These costs shall include work performed by Ecology or its contractors for, or on, the Site under Chapter 70.105D RCW, including remedial actions and Order preparation, negotiation, oversight, and administration. These costs shall include work performed both prior to and subsequent to the issuance of this Order. Ecology's costs shall include costs of direct activities and support costs of direct activities as defined in WAC 173-340-550(2). Ecology has accumulated **$0** in remedial action costs related to this facility as of June 9, 2011. For all Ecology oversight costs incurred as part of this project, TOC shall pay the required amount within thirty (30) days of receiving from Ecology an itemized statement of costs that includes a summary of costs incurred, an identification of involved staff, and the amount of time spent by involved staff members on the project. A general statement of work performed will be provided upon request. Itemized statements shall be prepared quarterly. Pursuant to WAC 173-340-550(4), failure to pay Ecology's costs within ninety (90) days of receipt of the

itemized statement of costs will result in interest charges at the rate of twelve percent (12%) per annum, compounded monthly.

In addition to other available relief, pursuant to RCW 19.16.500, Ecology may utilize a collection agency and/or, pursuant to RCW 70.105D.055, file a lien against real property subject to the remedial actions to recover unreimbursed remedial action costs.

C. Implementation of Remedial Action

If Ecology determines that TOC has failed without good cause to implement the remedial actions, in whole or in part, Ecology may, after notice to TOC, perform any or all portions of the remedial actions that remain incomplete. If Ecology performs all or portions of the remedial actions because of TOC's failure to comply with their obligations under this Order, TOC shall reimburse Ecology for the costs of doing such work in accordance with Section VIII.B (Remedial Action Costs), provided that TOC is not obligated under this Section to reimburse Ecology for costs incurred for work inconsistent with or beyond the scope of this Order.

Except where necessary to abate an emergency situation, TOC shall not perform any remedial actions at the Site outside those remedial actions required by this Order, unless Ecology concurs, in writing, with such additional remedial actions.

D. Designated Project Coordinators

The project coordinator for Ecology is:

Russell E. Olsen
Washington Department of Ecology
3190 - 160th Ave SE
Bellevue, WA 98007

The project coordinator for TOC is:

Deborah Gardner
Sound Earth Strategies, Inc.
2811 Fairview Avenue East, Suite 2000
Seattle, WA 98102

Each project coordinator shall be responsible for overseeing the implementation of this Order. Ecology's project coordinator will be Ecology's designated representative for the Site. To the maximum extent possible, communications between Ecology and TOC, and all documents including reports, approvals, and other correspondence concerning the activities performed pursuant to the terms and conditions of this Order shall be directed through the project

coordinators. The project coordinators may designate, in writing, working level staff contacts for all or portions of the implementation of the work to be performed required by this Order.

Any party may change its respective project coordinator. Written notification shall be given to the other party at least ten (10) calendar days prior to the change.

E. Performance

All geologic and hydrogeologic work performed pursuant to this Order shall be under the supervision and direction of a geologist licensed in the State of Washington or under the direct supervision of an engineer registered in the State of Washington, except as otherwise provided for by Chapters 18.220 and 18.43 RCW.

All engineering work performed pursuant to this Order shall be under the direct supervision of a professional engineer registered in the State of Washington, except as otherwise provided for by RCW 18.43.130.

All construction work performed pursuant to this Order shall be under the direct supervision of a professional engineer or a qualified technician under the direct supervision of a professional engineer. The professional engineer must be registered in the State of Washington, except as otherwise provided for by RCW 18.43.130.

Any documents submitted containing geologic, hydrologic or engineering work shall be under the seal of an appropriately licensed professional as required by Chapter 18.220 RCW or RCW 18.43.130.

TOC shall notify Ecology in writing of the identity of any engineer(s) and geologist(s), contractor(s) and subcontractor(s), and others to be used in carrying out the terms of this Order, in advance of their involvement at the Site.

F. Access

Ecology or any Ecology authorized representative shall have the full authority to enter and freely move about all property at the Site that TOC either owns, controls, or has access rights to at all reasonable times for the purposes of, *inter alia*: inspecting records, operation logs, and contracts related to the work being performed pursuant to this Order; reviewing TOC's progress in carrying out the terms of this Order; conducting such tests or collecting such samples as Ecology may deem necessary; using a camera, sound recording, or other documentary type equipment to record work done pursuant to this Order; and verifying the data submitted to Ecology by TOC. TOC has made reasonable efforts to obtain access to and investigate the

extent of the release at the Site on properties not owned or controlled by TOC. Ecology shall assist TOC in obtaining such access. Ecology or any Ecology authorized representative shall give reasonable notice before entering any Site property owned or controlled by TOC unless an emergency prevents such notice. All persons who access the Site pursuant to this paragraph shall comply with any applicable Health and Safety Plan(s). Ecology employees and their representatives shall not be required to sign any liability release or waiver as a condition of Site property access.

G. Sampling, Data Submittal, and Availability

With respect to the implementation of this Order, TOC shall make the results of all sampling, laboratory reports, and/or test results generated by it or on its behalf available to Ecology. Pursuant to WAC 173-340-840(5), all sampling data shall be submitted to Ecology in both printed and electronic formats in accordance with Section VII (Work to be Performed), Ecology's Toxics Cleanup Program Policy 840 (Data Submittal Requirements), and/or any subsequent procedures specified by Ecology for data submittal.

If requested by Ecology, TOC shall allow Ecology and/or its authorized representative to take split or duplicate samples of any samples collected by TOC pursuant to implementation of this Order. TOC shall notify Ecology seven (7) days in advance of any sample collection or work activity at the Site. Ecology shall, upon request, allow TOC and/or its authorized representative to take split or duplicate samples collected by Ecology pursuant to the implementation of this Order, provided it does not interfere with Ecology's sampling. Without limitation on Ecology's rights under Section VIII.F (Access), Ecology shall notify TOC prior to any sample collection activity unless an emergency prevents such notice.

In accordance with WAC 173-340-830(2)(a), all hazardous substance analyses shall be conducted by a laboratory accredited under Chapter 173-50 WAC for the specific analyses to be conducted, unless otherwise approved by Ecology.

H. Public Participation

A Public Participation Plan is required for this Site. Ecology shall review any existing public participation plan to determine its continued appropriateness and whether it requires amendment, or if no plan exists, Ecology shall develop a Public Participation Plan alone or in conjunction with TOC.

Ecology shall maintain the responsibility for public participation at the Site. However, TOC shall cooperate with Ecology, and shall:

1. If agreed to by Ecology, develop appropriate mailing list, prepare drafts of public notices and fact sheets at important stages of the remedial actions, such as the submission of work plans, remedial investigation/feasibility study reports, cleanup action plans, and engineering design reports. As appropriate, Ecology will edit, finalize, and distribute such fact sheets and prepare and distribute public notices of Ecology's presentations and meetings;

2. Notify Ecology's project coordinator prior to the preparation of all press releases and fact sheets and before major meetings with the interested public and local governments. Likewise, Ecology shall notify TOC prior to the issuance of all press releases and fact sheets, and before major meetings with the interested public and local governments. For all press releases, fact sheets, meetings, and other outreach efforts by TOC that do not receive prior Ecology approval, TOC shall clearly indicate to its audience that the press release, fact sheet, meeting, or other outreach effort was not sponsored or endorsed by Ecology;

3. When requested by Ecology, participate in public presentations on the progress of the remedial actions at the Site. Participation may be through attendance at public meetings to assist in answering questions, or as a presenter;

4. When requested by Ecology, arrange and/or continue information repositories to be located at the following locations:

(a) Mountlake Terrace Library
23300 58th Avenue West
Mountlake Terrace, WA 98043

(b) Washington Department of Ecology
Northwest Regional Office
3190-160th Avenue SE
Bellevue, Washington 98007

At a minimum, copies of all public notices, fact sheets, and documents relating to public comment periods shall be promptly placed in these repositories. A copy of all documents related to this site shall be maintained in the repository at Ecology's Northwest Regional Office in Bellevue, Washington.

I. Retention of Records

During the pendency of this Order and for ten (10) years from the date of completion of work performed pursuant to this Order, TOC shall preserve all records, reports, documents, and underlying data in its possession relevant to the implementation of this Order and shall insert a similar record retention requirement into all contracts with project contractors and subcontractors. Upon request of Ecology, TOC shall make all records available to Ecology and allow access for review within a reasonable time.

J. Resolution of Disputes

1. In the event a dispute arises as to an approval, disapproval, proposed change, or other decision or action by Ecology's project coordinator, or an itemized billing statement under Section VIII.B (Remedial Action Costs), the Parties shall utilize the dispute resolution procedure set forth below.

(a) Upon receipt of the Ecology project coordinator's written decision or the itemized billing statement, TOC shall have fourteen (14) days within which to notify Ecology's project coordinator in writing of its objection to the decision or itemized statement.

(b) The Parties' project coordinators shall then confer in an effort to resolve the dispute. If the project coordinators cannot resolve the dispute within fourteen (14) days, Ecology's project coordinator shall issue a written decision.

(c) TOC may then request Ecology management review of the decision. This request shall be submitted in writing to the Northwest Regional Office Toxics Cleanup Section Manager within seven (7) days of receipt of Ecology's project coordinator's written decision.

(d) The Section Manager shall conduct a review of the dispute and shall endeavor to issue a written decision regarding the dispute within thirty (30) days of TOC's request for review. The Section Manager's decision shall be Ecology's final decision on the disputed matter.

2. The Parties agree to only utilize the dispute resolution process in good faith and agree to expedite, to the extent possible, the dispute resolution process whenever it is used.

3. Implementation of these dispute resolution procedures shall not provide a basis for delay of any activities required in this Order, unless Ecology agrees in writing to a schedule extension.

K. Extension of Schedule

1. An extension of schedule shall be granted only when a request for an extension is submitted in a timely fashion, generally at least thirty (30) days prior to expiration of the deadline for which the extension is requested, and good cause exists for granting the extension. All extensions shall be requested in writing. The request shall specify:

(a) The deadline that is sought to be extended;

(b) The length of the extension sought;

(c) The reason(s) for the extension; and

(d) Any related deadline or schedule that would be affected if the extension were granted.

2. The burden shall be on TOC to demonstrate to the satisfaction of Ecology that the request for such extension has been submitted in a timely fashion and that good cause exists for granting the extension. Good cause may include, but may not be limited to:

a. Circumstances beyond the reasonable control and despite the due diligence of TOC including delays caused by unrelated third parties or Ecology, such as (but not limited to) delays by Ecology in reviewing, approving, or modifying documents submitted by TOC, or inability to obtain access;

b. Acts of God, including fire, flood, blizzard, extreme temperatures, storm, or other unavoidable casualty; or

c. Endangerment as described in Section VIII.M (Endangerment).

However, neither increased costs of performance of the terms of this Order nor changed economic circumstances shall be considered circumstances beyond the reasonable control of TOC Holdings Co.

3. Ecology shall act upon any written request for extension in a timely fashion. Ecology shall give TOC Holdings Co. written notification of any extensions granted pursuant to this Order. A requested extension shall not be effective until approved by Ecology. Unless the extension is a substantial change, it shall not be necessary to amend this Order pursuant to Section VIII.L (Amendment of Order) when a schedule extension is granted.

4. An extension shall only be granted for such period of time as Ecology determines is reasonable under the circumstances. Ecology may grant schedule extensions exceeding ninety (90) days only as a result of:

(a) Delays in the issuance of a necessary permit which was applied for in a timely manner.

(b) Other circumstances deemed exceptional or extraordinary by Ecology.

(c) Endangerment as described in Section VIII.M (Endangerment).

L. Amendment of Order

The project coordinators may verbally agree to minor changes to the work to be performed without formally amending this Order. Minor changes will be documented in writing by Ecology within seven (7) days of verbal agreement.

Except as provided in Section VIII.N (Reservation of Rights), substantial changes to the work to be performed shall require formal amendment of this Order. This Order may only be formally amended by the written consent of both Ecology and TOC. TOC shall submit a written request for amendment to Ecology for approval. Ecology shall indicate its approval or disapproval in writing and in a timely manner after the written request for amendment is received. If the amendment to this Order represents a substantial change, Ecology will provide public notice and opportunity to comment. Reasons for the disapproval of a proposed amendment to this Order shall be stated in writing. If Ecology does not agree to a proposed amendment, the disagreement may be addressed through the dispute resolution procedures described in Section VIII.J (Resolution of Disputes).

M. Endangerment

In the event Ecology determines that any activity being performed at the Site is creating or has the potential to create a danger to human health or the environment on or surrounding the Site, Ecology may direct TOC to cease such activities for such period of time as it deems necessary to abate the danger. TOC shall immediately comply with such direction.

In the event TOC determines that any activity being performed at the Site is creating or has the potential to create a danger to human health or the environment, TOC may cease such activities. TOC shall notify Ecology's project coordinator as soon as possible, but no later than twenty-four (24) hours after making such determination or ceasing such activities. Upon Ecology's direction TOC shall provide Ecology with documentation of the basis for the determination or cessation of such activities. If Ecology disagrees with TOC's cessation of activities, it may direct TOC to resume such activities.

If Ecology concurs with or orders a work stoppage pursuant to Section VIII.M (Endangerment), TOC's obligations with respect to the ceased activities shall be suspended until Ecology determines the danger is abated, and the time for performance of such activities, as well as the time for any other work dependent upon such activities, shall be extended in accordance with Section VIII.K (Extension of Schedule) for such period of time as Ecology determines is reasonable under the circumstances.

Nothing in this Order shall limit the authority of Ecology, its employees, agents, or contractors to take or require appropriate action in the event of an emergency.

N. Reservation of Rights

This Order is not a settlement under Chapter 70.105D RCW. Ecology's signature on this Order in no way constitutes a covenant not to sue or a compromise of any Ecology rights or authority. Ecology will not, however, bring an action against TOC to recover remedial action costs paid to and received by Ecology under this Order. In addition, Ecology will not take additional enforcement actions against TOC regarding remedial actions required by this Order, provided TOC complies with this Order.

Ecology nevertheless reserves its rights under Chapter 70.105D RCW, including the right to require additional or different remedial actions at the Site should it deem such actions necessary to protect human health and the environment, and to issue orders requiring such remedial actions. Ecology also reserves all rights regarding the injury to, destruction of, or loss of natural resources resulting from the release or threatened release of hazardous substances at the Site.

O. Transfer of Interest in Property

No voluntary conveyance or relinquishment of title, easement, leasehold, or other interest in any portion of the Site shall be consummated by TOC without provision for continued implementation of all requirements of this Order and implementation of any remedial actions found to be necessary as a result of this Order.

Prior to any of TOC's transfer of any interest in all or any portion of the Site, and during the effective period of this Order, TOC shall provide a copy of this Order upon any prospective purchaser, lessee, transferee, assignee, or other successor in said interest; and, at least thirty (30) days prior to any transfer, TOC shall notify Ecology of said transfer. Upon transfer of any

interest, TOC shall restrict uses and activities to those consistent with this Order and notify all transferees of the restrictions on the use of the property.

P. Compliance with Applicable Laws

1. All actions carried out by TOC pursuant to this Order shall be done in accordance with all applicable federal, state, and local requirements, including requirements to obtain necessary permits, except as provided in RCW 70.105D.090. The permits or specific federal, state or local permits that the agency has determined are applicable and that are known at the time of entry of this Order are identified in Exhibit D.

2. Pursuant to RCW 70.105D.090(1), TOC is exempt from the procedural requirements of Chapters 70.94, 70.95, 70.105, 77.55, 90.48, and 90.58 RCW and of any laws requiring or authorizing local government permits or approvals. However, TOC shall comply with the substantive requirements of such permits or approvals. The exempt permits or approvals and the applicable substantive requirements of those permits or approvals, as they are known at the time of entry of this Order, have been identified in Exhibit D.

TOC has a continuing obligation to determine whether additional permits or approvals addressed in RCW 70.105D.090(1) would otherwise be required for the remedial actions under this Order. In the event either Ecology or the PLP determines that additional permits or approvals addressed in RCW 70.105D.090(1) would otherwise be required for the remedial actions under this Order, it shall promptly notify the other party of its determination. Ecology shall determine whether Ecology or TOC shall be responsible to contact the appropriate state and/or local agencies. If Ecology so requires, TOC shall promptly consult with the appropriate state and/or local agencies and provide Ecology with written documentation from those agencies of the substantive requirements those agencies believe are applicable to the remedial actions. Ecology shall make the final determination on the additional substantive requirements that must be met by TOC and on how TOC must meet those requirements. Ecology shall inform TOC in writing of these requirements. Once established by Ecology, the additional requirements shall be enforceable requirements of this Order. TOC shall not begin or continue the remedial

actions potentially subject to the additional requirements until Ecology makes its final determination.

3. Pursuant to RCW 70.105D.090(2) in the event Ecology determines that the exemption from complying with the procedural requirements of the laws referenced in RCW 70.105D.090(1) would result in the loss of approval from a federal agency that is necessary for the State to administer any federal law, the exemption shall not apply and TOC shall comply with both the procedural and substantive requirements of the laws referenced in RCW 70.105D.090(1), including any requirements to obtain permits.

Q. Indemnification

TOC agrees to indemnify and save and hold the State of Washington, its employees, and agents harmless from any and all claims or causes of action for death or injuries to persons or for loss or damage to property to the extent arising from or on account of acts or omissions of TOC, its officers, employees, agents, or contractors in entering into and implementing this Order. However, TOC shall not indemnify the State of Washington nor save nor hold its employees and agents harmless from any claims or causes of action to the extent arising out of the negligent acts or omissions of the State of Washington, or the employees or agents of the State, in entering into or implementing this Order.

IX. SATISFACTION OF ORDER

The provisions of this Order shall be deemed satisfied upon TOC's receipt of written notification from Ecology that TOC has completed the remedial activity required by this Order, as amended by any modifications, and that TOC has complied with all other provisions of this Agreed Order.

X. ENFORCEMENT

Pursuant to RCW 70.105D.050, this Order may be enforced as follows:

A. The Attorney General may bring an action to enforce this Order in a state or federal court.

B. The Attorney General may seek, by filing an action, if necessary, to recover amounts spent by Ecology for investigative and remedial actions and orders related to the Site.

C. In the event TOC refuses, without sufficient cause, to comply with any term of this Order, TOC will be liable for:

1. Up to three (3) times the amount of any costs incurred by the State of Washington as a result of its refusal to comply; and

2. Civil penalties of up to twenty-five thousand dollars ($25,000) per day for each day it refuses to comply.

D. This Order is not appealable to the Washington Pollution Control Hearings Board. This Order may be reviewed only as provided under RCW 70.105D.060.

Effective date of this Order: 10/28/11

TOC Holdings Co.

Mark A. Chandler, L.G.
Vice President of Environmental Services
TOC Holdings Co.
2737 West Commodore Way, Seattle
(206) 285-2400

STATE OF WASHINGTON
DEPARTMENT OF ECOLOGY

Robert W Warren, P.Hg., MBA
Section Manager
Toxics Cleanup Program
Northwest Regional Office
(425) 649-7000

EXHIBIT A

TOC Holdings Co. Facility No. 01-176
Mountlake Terrace, Washington

PROPERTY DIAGRAM

EXHIBIT B

TOC Holdings Co. Facility No. 01-176
Mountlake Terrace, Washington

SCOPE OF WORK & SCHEDULE

REMEDIAL INVESTIGATION/FEASIBILITY STUDY

INTRODUCTION

This Scope of Work is to be implemented by TOC through the development of planning documents and reports for completion of a Remedial Investigation (RI), and a Feasibility Study (FS) at TOC Facility No. 01-176, Mountlake Terrace, Washington.

The purpose of the RI and FS is to define the nature and extent of contamination and evaluate remedial alternatives that are protective of human health and the environment as described under Washington Administrative Code (WAC) 173-340-350.

Plans prepared under this Order shall be submitted to Ecology for review and approval. The plans approved under this Scope of Work are enforceable elements of the Agreed Order.

BACKGROUND

The Site generally is located at 24205-56th Avenue West, north-adjacent to the south boundary of Snohomish County, inside the municipal boundaries of Mountlake Terrace, Washington. In 1991 TOC decommissioned the former retail gasoline station at the Site by removing one 6,000-gallon underground storage tank (UST), one 8,000-gallon UST, and one UST with a capacity of 4,000 gallons or 6,000 gallons (exact capacity unknown). A release of gasoline, benzene, toluene, ethylbenzene, and total xylenes to soil and groundwater was confirmed at the Site at the time of UST removal. Between 1992 and 2010 TOC secured access from owners of neighboring properties (TOC/Farmasonis Property and Drake Property) and with the City to investigate the extent of the release, installed 89 wells for monitoring and/or remediation purposes, and constructed and operated a dual-phase extraction system (DPE system). The DPE system operated from 1995 until 2005, when operation was suspended due to declining performance.

Soil Borings & Groundwater Monitoring Wells

As part of the RI, TOC or its Site consultant shall use a licensed drilling contractor. The Site consultant and contractor shall follow the requirements set forth in WAC 173-160, *Minimum Standards for Construction and Maintenance of Wells*. In particular they shall follow Part II, *General Requirements for Resource Protection Wells and Geotechnical Soil Borings*. TOC shall insure that all the following requirements are met:

- All necessary permits and notifications are given before starting work.
- Underground utilities are located prior to starting.
- The Site consultant and drilling contractor shall supply traffic control if impairment of traffic flow is anticipated during the RI/FS.
- All soil borings are abandoned in accordance with the WAC 173-160.
- The drilling contractor shall use conductor casing to install wells that intersect more than one smear zone.
- All monitoring wells will be completed flush with surrounding grades using traffic-rated monuments and lockable well plugs.
- Flush-finished well monuments will be sloped to direct surface runoff and snow melt away from the monitoring wells.
- Where impractical to construct the monument as noted above, the monument cover should be constructed and maintained so no water can enter.
- Soil cuttings will be drummed and profiled for disposal and disposed.
- Soil cuttings will be stored at the Site in a protected area agreed upon by TOC and approved by Ecology.
- Sampling equipment, drill rods, and auger flights will be decontaminated before and after each boring following standard decontamination procedures.
- All decontamination waters are contained, profiled for disposal, and disposed in a proper manner and documented in the final RI report.
- The submittal for Ecology approval of a Health and Safety Plan and Sampling Analysis Plan.

Reporting

At the conclusion of the investigation TOC will prepare a RI report with the information compiled from remedial investigation activities completed to date. TOC will submit the draft report to Ecology for review. After Ecology has reviewed the report and any necessary changes have been incorporated into the final report the reports will be submitted to Ecology according to WAC 173-340-840. If additional site investigation is required TOC will submit an amended Remedial Investigation work Plan for Ecology's review and approval. The amended Remedial Investigation Workplan shall have a schedule for implementation. After Ecology has reviewed the report and any necessary changes have been incorporated into the final report, the report will be submitted to Ecology according to WAC 173-340-840.

Deliverables: RI Report – Draft
RI Report – Final

Task 2: Feasibility Study (FS)

If the RI confirms that the petroleum hydrocarbon release originating from the TOC Property extends south beyond the north boundary of the Herman Property then TOC will complete remedial investigation activities to define the full extent of the MTCA site. Upon completion of the Remedial Investigation conduct a Feasibility Study (FS) to evaluate cleanup action alternatives will be completed to enable a cleanup action to be selected for the site. The FS will meet the requirements of WAC 173-360-350 and 360. At a minimum, the FS will include the most efficient and cost effective cleanup action alternatives that are protective of human health and the environment, including, if appropriate, monitored natural attenuation. Ecology will consider a written request to amend the schedule for the completion of the above activities if the contamination extends beyond the Herman Property. Ecology will also consider credible evidence of other potential PLP's who may have contributed to the release.

Deliverables: FS Report – Draft
FS Report – Final

SCHEDULE OF DELIVERABLES[1]

TASK	DELIVERABLE	DUE DATE
Task 1	Remedial Investigation Report – Draft	150 days after effective date of Agreed Order
	Remedial Investigation Report – Final	30 days after receipt of Ecology's comments on the Draft RI
Task 2	Feasibility Study – Draft	60 days after Ecology's approval of Final RI Report
	Feasibility Study – Final	30 days after receipt of Ecology's comments on Draft Feasibility Study Report

[1]In the event that further attempts to obtain access by Ecology and TOC are unsuccessful, or in the event of delays caused by unrelated third parties, Section VIII.K.2.a. (Extension of Schedule) shall apply.

EXHIBIT C

TOC Holdings Co. Facility No. 01-176
Mountlake Terrace, Washington

INTERIM REMEDIAL ACTION WORK PLAN

EXHIBIT D

TOC Holdings Co. Facility No. 01-176
Mountlake Terrace, Washington

APPLICABLE PERMITS

State Waste Discharge permit

Air permit

Clearing and grading permit

Civil site construction permit

Temporary erosion control permit

Building, electrical, plumbing, and mechanical permits

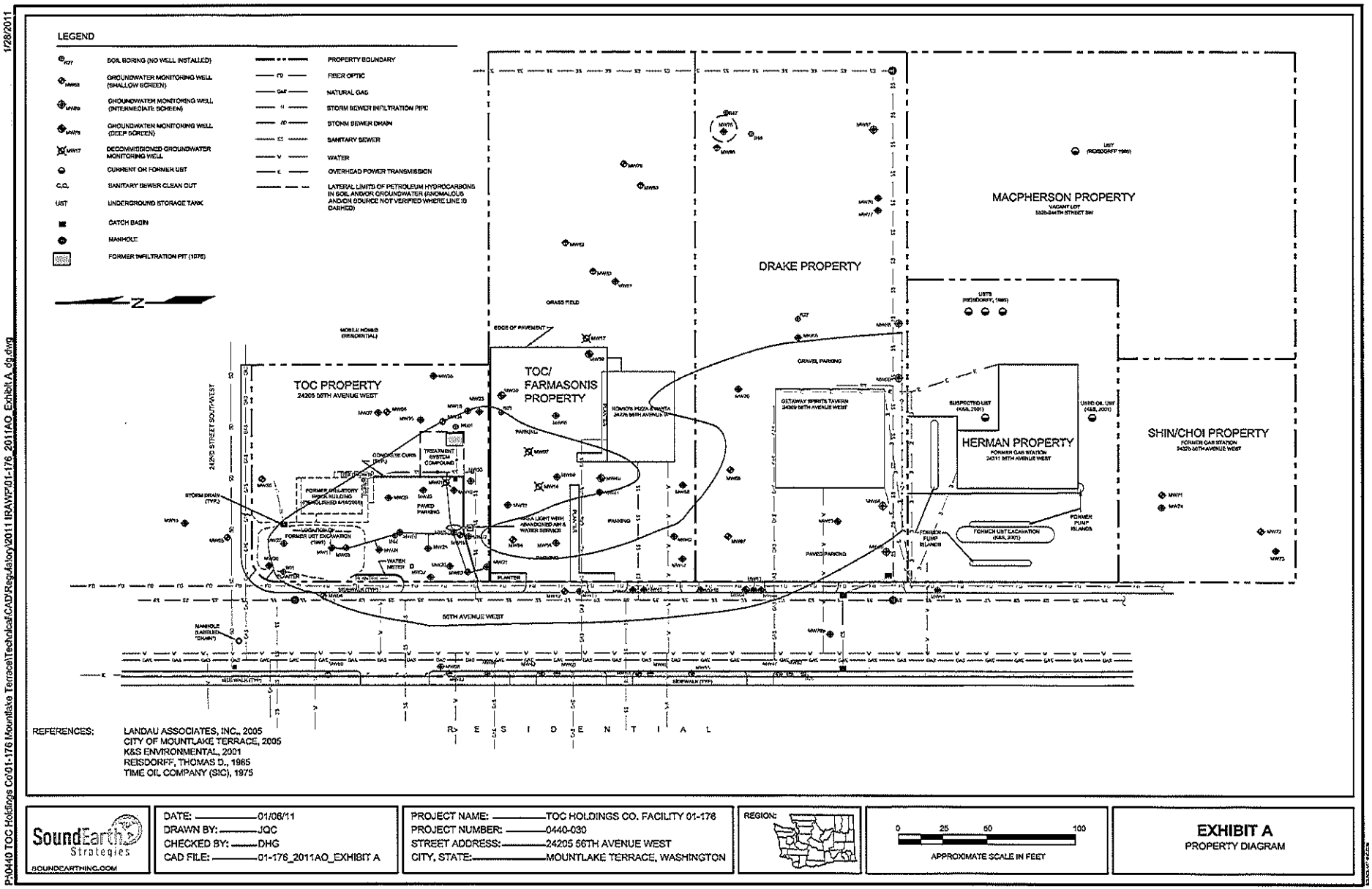
Side sewer permit

EXHIBIT E

TOC Holdings Co. Facility No. 01-176
Mountlake Terrace, Washington

PUBLIC PARTICIPATION PLAN

Exhibit A



REFERENCES:
LANDAU ASSOCIATES, INC., 2005
CITY OF MOUNTLAKE TERRACE, 2005
K&S ENVIRONMENTAL, 2001
REISDORFF, THOMAS D., 1985
TIME OIL COMPANY (SIC), 1975

SoundEarth Strategies
SOUNDEARTHINC.COM

DATE: 01/06/11
DRAWN BY: JQC
CHECKED BY: DHG
CAD FILE: 01-176_2011AO_EXHIBIT A

PROJECT NAME: TOC HOLDINGS CO. FACILITY 01-176
PROJECT NUMBER: 0440-030
STREET ADDRESS: 24205 56TH AVENUE WEST
CITY, STATE: MOUNTLAKE TERRACE, WASHINGTON

REGION:

0 25 50 100
APPROXIMATE SCALE IN FEET

EXHIBIT A
PROPERTY DIAGRAM

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Exhibit B

EXHIBIT B

TOC Holdings Co. Facility No. 01-176
Mountlake Terrace, Washington

SCOPE OF WORK & SCHEDULE

REMEDIAL INVESTIGATION/FEASIBILITY STUDY

INTRODUCTION

This Scope of Work is to be implemented by TOC through the development of planning documents and reports for completion of a Remedial Investigation (RI), and a Feasibility Study (FS) at TOC Facility No. 01-176, Mountlake Terrace, Washington.

The purpose of the RI and FS is to define the extent of contamination and evaluate remedial alternatives that are protective of human health and the environment as described under Washington Administrative Code (WAC) 173-340-350.

Plans prepared under this Order shall be submitted to Ecology for review and approval. The plans approved under this Scope of Work are enforceable elements of the Agreed Order.

BACKGROUND

The Site generally is located at 24205-56th Avenue West, north-adjacent to the south boundary of Snohomish County, inside the municipal boundaries of Mountlake Terrace, Washington. In 1991 TOC decommissioned the former retail gasoline station at the Site by removing one 6,000-gallon underground storage tank (UST), one 8,000-gallon UST, and one UST with a capacity of 4,000 gallons or 6,000 gallons (exact capacity unknown). A release of gasoline, benzene, toluene, ethylbenzene, and total xylenes to soil and groundwater was confirmed at the Site at the time of UST removal. Between 1992 and 2010 TOC secured access from owners of neighboring properties (TOC/Farmasonis Property and Drake Property) and with the City to investigate the extent of the release, installed 89 wells for monitoring and/or remediation purposes, and constructed and operated a dual-phase extraction system (DPE system). The DPE system operated from 1995 until 2005, when operation was suspended due to declining performance.

TOC reports the results of supplemental remedial investigation activities performed through 2010 indicate that:

- At least three water-bearing zones exist within 60 feet of the ground surface;
- The documented release has migrated vertically from the shallowest water-bearing zone to at least one deeper water-bearing zone;
- The DPE system was undersized compared to the lateral and vertical extent of the plume;
- The documented release extends beneath portions of the 56th Avenue West right-of-way;
- The southern extent of the release may extend beyond the Drake Property, beyond which there are four current or former retail gasoline stations.
- Separate releases of petroleum hydrocarbons have been documented at the following retail gasoline stations:
    - Former Shell/Arco/Union 76 located at 24311 – 56th Avenue West (Herman Property) and
    - Former 7-11 located at 24325 – 56th Avenue West (Shin/Choi Property).
- Prior to a short plat recorded in 1985 the Herman Property extended 130 feet farther east than it does today and included at least two gasoline USTs on land located at 5525 – 244th Street Southwest (MacPherson Property) that is currently vacant and otherwise known as Tax Parcel 00489300003100.

Continued access to the Herman Property, MacPherson Property, Drake Property, and Shin/Choi Property are critical to the completion of the remedial investigation the Site.

Task 1: Remedial Investigation (RI)

The objectives of the field program for this RI are to obtain access and investigate and define the extent of the site by at a minimum installing groundwater monitoring wells at the locations shown in Exhibit B, collecting soil and groundwater samples from each monitoring well location, and submitting selected samples for laboratory analysis. The results of the field program, including the results of well installation and sampling activities performed since 2005, will be documented in the RI Report.

Soil Borings & Groundwater Monitoring Wells

As part of the RI, TOC or its Site consultant shall use a licensed drilling contractor. The Site consultant and contractor shall follow the requirements set forth in WAC 173-160, *Minimum Standards for Construction and Maintenance of Wells*. In particular they shall follow Part II, *General Requirements for Resource Protection Wells and Geotechnical Soil Borings*. TOC shall insure that all the following requirements are met:

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Deliverables: RI Report – Draft
RI Report – Final

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Deliverables: FS Report – Draft
FS Report – Final

SCHEDULE OF DELIVERABLES[1]

TASK	DELIVERABLE	DUE DATE
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	Remedial Investigation Report – Final	30 days after receipt of Ecology's comments on the Draft RI
Task 2	Feasibility Study – Draft	60 days after Ecology's approval of Final RI Report
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1/28/2011

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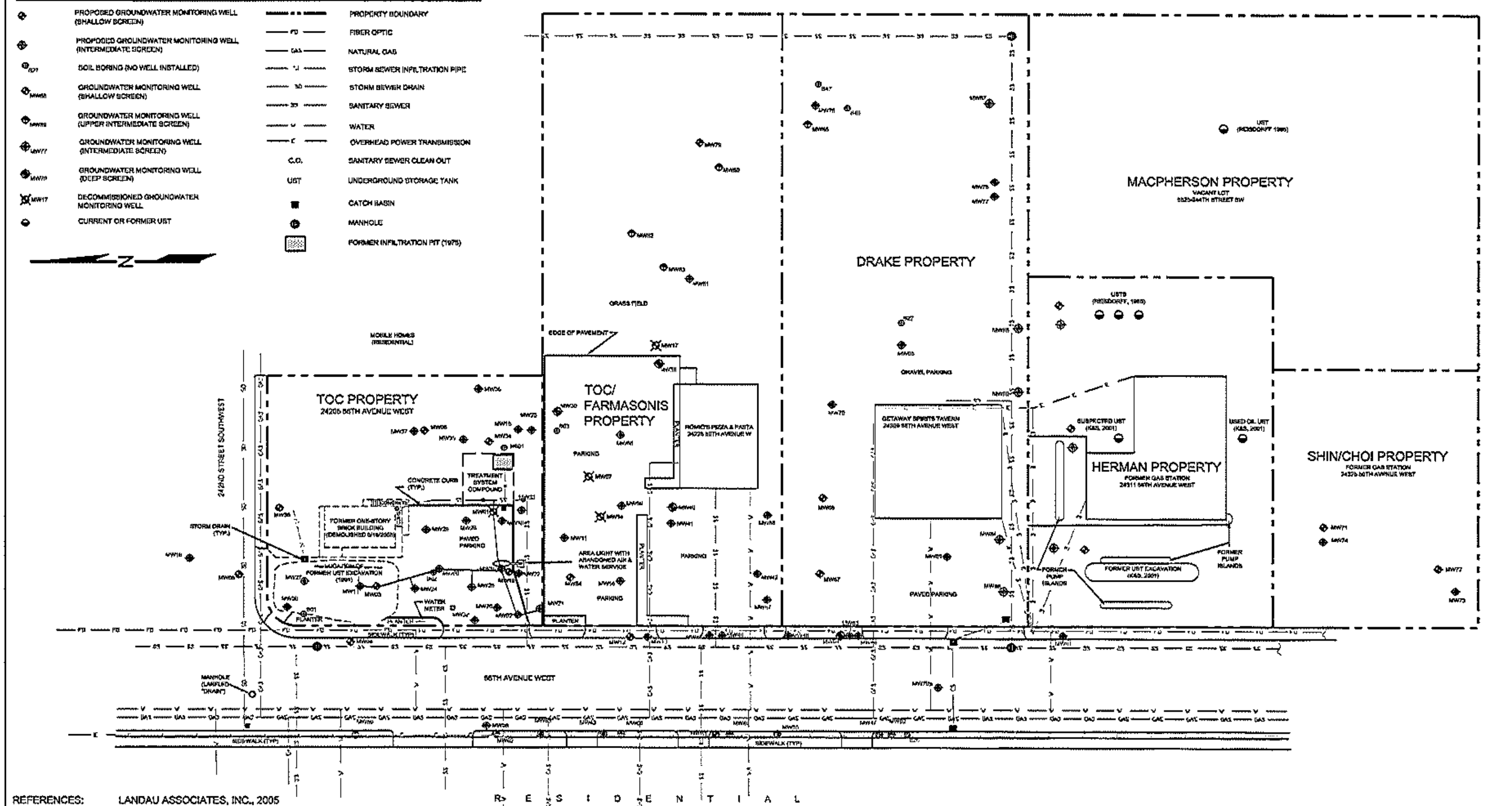
LEGEND

	PROPOSED GROUNDWATER MONITORING WELL (SHALLOW SCREEN)		PROPERTY BOUNDARY
	PROPOSED GROUNDWATER MONITORING WELL (INTERMEDIATE SCREEN)	FO	FIBER OPTIC
	SOIL BORING (NO WELL INSTALLED)	GAS	NATURAL GAS
	GROUNDWATER MONITORING WELL (SHALLOW SCREEN)		STORM SEWER INFILTRATION PIPE
	GROUNDWATER MONITORING WELL (UPPER INTERMEDIATE SCREEN)	SD	STORM SEWER DRAIN
	GROUNDWATER MONITORING WELL (INTERMEDIATE SCREEN)	SS	SANITARY SEWER
	GROUNDWATER MONITORING WELL (DEEP SCREEN)	W	WATER
MW17	DECOMMISSIONED GROUNDWATER MONITORING WELL	E	OVERHEAD POWER TRANSMISSION
	CURRENT OR FORMER UST	C.O.	SANITARY SEWER CLEAN OUT
		UST	UNDERGROUND STORAGE TANK
			CATCH BASIN
			MANHOLE
			FORMER INFILTRATION PIT (1975)



REFERENCES:

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CITY OF MOUNTLAKE TERRACE, 2005
K&S ENVIRONMENTAL, 2001
REISDORFF, THOMAS D., 1965
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SoundEarth Strategies
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PROJECT NUMBER: 0440-030
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CITY, STATE: MOUNTLAKE TERRACE, WASHINGTON

REGION:

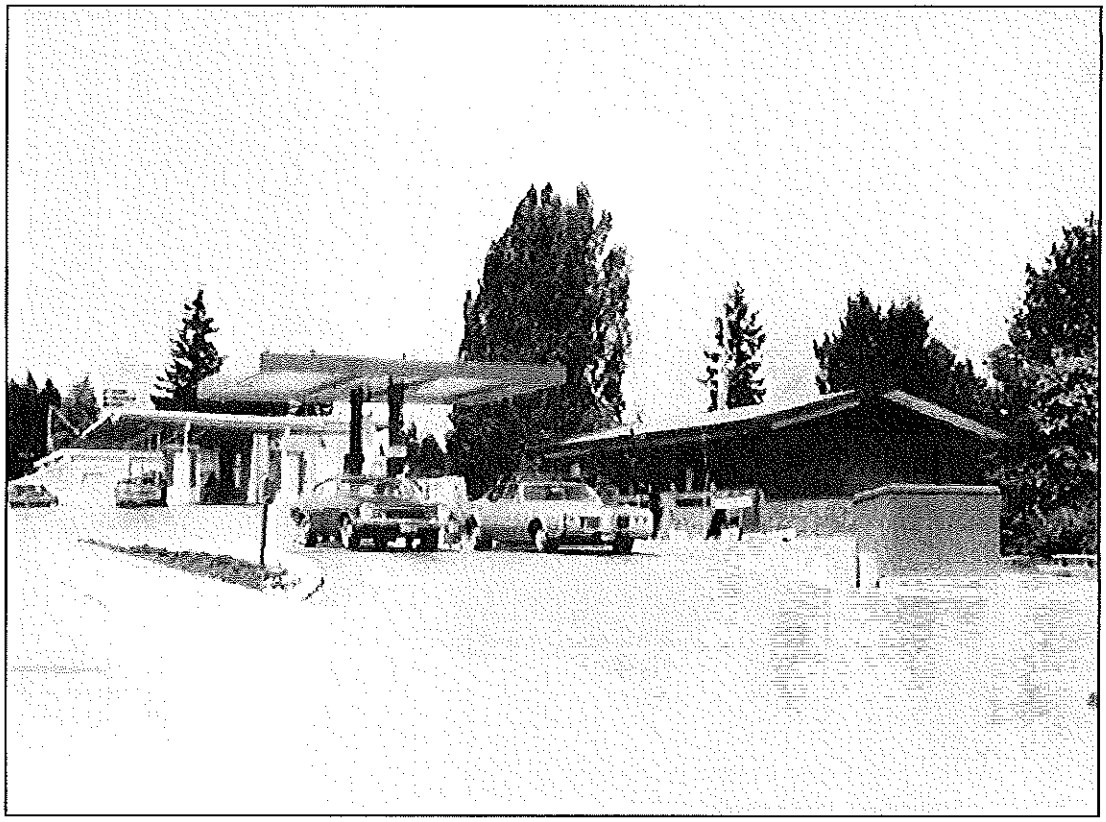
0 25 50 100
APPROXIMATE SCALE IN FEET

EXHIBIT B, FIGURE 1
PROPOSED MONITORING WELL LOCATIONS

Exhibit C

SoundEarth Strategies, Inc.
2811 Fairview Avenue East, Suite 2000
Seattle, Washington 98102

Interim Remedial Action Work Plan



Property:
TOC Holdings Co. Facility No. 01-176
24205 56th Avenue West
Mountlake Terrace, Washington 98043

Prepared for:
TOC Holdings Co.
2737 West Commodore Way
Seattle, Washington 98199

Report Date:
July 28, 2011

Interim Remedial Action Work Plan

Prepared for:

TOC Holdings Co.
2737 West Commodore Way
Seattle, Washington 98199

TOC Holdings Co. Facility No. 01-176
24205 56th Avenue West
Mountlake Terrace, Washington 98043

Project No.: 0440-030

Prepared by:

Deborah Gardner, LG
Associate Geologist

Reviewed by:

Berthin Q. Hyde, LG, LHG
Principal Hydrogeologist

July 28, 2011

SoundEarth Strategies

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TABLES

APPENDICES

ACRONYMS AND ABBREVIATIONS

1996 system	dual-phase extraction system at the TOC Property, installed under Pinnacle Geosciences oversight
%R	percent recovery
acfm	actual cubic feet per minute
Agreed Order	Agreed Order No. DE 8661
ARAR	applicable or relevant and appropriate requirement
bgs	below ground surface
BCY	bank cubic yards
BMP	Best Management Practice
BTEX	benzene, toluene, ethylbenzene, and total xylenes
cat-ox	catalytic oxidation
CFR	Code of Federal Regulations
COC	chemical of concern
DMR	Discharge Monitoring Report
DPE	dual-phase extraction
DQO	data quality objective
Drake Property	24309 56th Avenue West in Mountlake Terrace, Washington
Ecology	Washington State Department of Ecology
EPA	U.S. Environmental Protection Agency
ESE	Environmental Science and Engineering, Inc.
F&B	Friedman & Bruya, Inc.
ft/d	feet per day
GAC	granular-activated carbon
gpd	gallons per day

ACRONYMS AND ABBREVIATIONS (CONTINUED)

gpm	gallons per minute
GRPH	gasoline-range petroleum hydrocarbons
HASP	Health and Safety Plan
Herman Property	24311 56th Avenue West, Mountlake Terrace, Washington
iow	inches of water
IRAO	interim remedial action objective
IRAWP	Interim Remedial Action Work Plan
Landau	Landau Associates
LNAPL	light non-aqueous phase liquid
MacPherson Property	5525 244th Street Southwest, Mountlake Terrace, Washington
mg/kg	milligrams per kilogram
mg/m^3	milligrams per cubic meter
MPE	multi-phase extraction
MTBE	methyl tertiary-butyl ether
MTCA	Washington State Model Toxics Control Act
ng/ml	nanograms per milliliter
NWTPH	Northwest Total Petroleum Hydrocarbon
O&M	operation and maintenance
PCS	petroleum-contaminated soil
Pinnacle	Pinnacle Geosciences
PID	photoionization detector
PQL	practical quantitation limit
PSCAA	Puget Sound Clean Air Agency
PVC	polyvinyl chloride

ACRONYMS AND ABBREVIATIONS (CONTINUED)

QA/QC	quality assurance and quality control
RCW	Revised Code of Washington
ROI	radius of influence
Roe Property	5601 244th Street Southwest, Mountlake Terrace, Washington
ROW	right-of-way
RPD	relative percent difference
scfm	standard cubic feet per minute
SES	Sound Environmental Strategies Corporation
Shin/Choi Property	24325 56th Avenue West, Mountlake Terrace, Washington
Site	TOC Holdings Co. Facility No. 01-176, as defined in Agreed Order No. DE 8661
SoundEarth	SoundEarth Strategies, Inc. (formerly known as Sound Environmental Strategies Corporation)
SVE	soil vapor extraction
TESC	temporary erosion and sedimentation control
TOC Property	24305 56th Avenue West in Mountlake Terrace, Washington
TOC/Farmasonis Property	24225 56th Avenue West in Mountlake Terrace, Washington
upgraded 1996 system	dual-phase extraction system at the TOC Property, installed under Pinnacle Geosciences oversight and later upgraded by Landau Associates
UST	underground storage tank
WAC	Washington Administrative Code
56th Avenue ROW	56th Avenue West right-of-way
244th Street ROW	244th Street Southwest right-of-way

1.0 INTRODUCTION

On behalf of TOC Holdings Co., SoundEarth Strategies, Inc. (SoundEarth, formerly known as Sound Environmental Strategies Corporation [SES]) has prepared this Draft Interim Remedial Action Work Plan (IRAWP) to conduct interim remedial actions at the properties located at 24205 56th Avenue West, 24225 56th Avenue West, 24309 56th Avenue West, and portions of the 56th Avenue West right-of-way (ROW) in Mountlake Terrace, Washington (hereinafter referred to as the TOC Property, TOC/Farmasonis Property, and Drake Property, and portions of the 56th Avenue ROW, respectively), as shown on Figures 1 and 2. The TOC Property, TOC/Farmasonis Property, and Drake Property, and portions of the 56th Avenue ROW are part of the TOC Facility No. 01-176 (hereinafter referred to as the Interim Remedial Action Project Area) as defined in Agreed Order No. DE 8661 (Agreed Order) negotiated between Potential Liable Persons and the Washington State Department of Ecology (Ecology). Pursuant to Section VII of the Agreed Order, TOC Holdings Co. is will conduct the interim actions on the TOC Property as described in this IRAWP.

This IRAWP includes a discussion of the Interim Remedial Action Project Area background, regulatory compliance criteria, technical elements of the interim remedial actions, pre-remedial activities, components of the interim remedial actions, and a plan for implementation of the interim remedial actions. The IRAWP also includes a discussion of sampling and analysis protocols for performance and confirmation samples, the quality assurance protocols, and the Health and Safety Plan (HASP).

1.1 PURPOSE

The purpose of the interim remedial actions is to address the cleanup at the Interim Remedial Action Project Area concurrent with ongoing remedial investigation in order to reduce the threat to human health or the environment by eliminating or substantially reducing one or more pathways of exposure to gasoline-range petroleum hydrocarbons (GRPH) and benzene, toluene, ethylbenzene, and total xylenes (BTEX), the chemical of concern (COCs). The IRAWP has been developed in accordance with the Washington State Model Toxics Control Act (MTCA) requirements for interim remedial actions, as stated in the Washington Administrative Code (WAC 173-340-430), and in accordance with provisions of the Agreed Order.

In accordance with WAC 173-340-360(2), the interim remedial actions will comply with cleanup standards, protect human health and the environment, comply with applicable state and federal laws, provide for compliance monitoring, and provide a permanent solution, to the maximum extent practicable. The selected interim remedial action technology for the TOC Property, TOC/Farmasonis Property, Drake Property, and limited portion of the 56th Avenue ROW is multi-phase extraction (MPE).

1.2 ORGANIZATION

This IRAWP is organized into the following sections:

- **Section 2.0—Project Area Background.** This section briefly summarizes current conditions of the TOC Property, TOC/Farmasonis Property, and Drake Property. This section also summarizes the subsurface geology and hydrology of the TOC Property, TOC/Farmasonis Property, and Drake Property.

- **Section 3.0—Technical Elements.** The findings of previous subsurface investigations conducted by SoundEarth and others were used to identify the technical elements for the interim remedial actions at the TOC Property, TOC/Farmasonis Property, and Drake Property. This section summarizes the COCs, media of concern, cleanup standards, and regulatory framework for the interim remedial action.
- **Section 4.0—Interim Remedial Action and Cleanup Objectives.** This section describes the interim remedial actions and the remedial objectives of the interim remedial actions.
- **Section 5.0—Interim Remedial Action Components.** This section describes the activities that will be performed as part of the interim remedial actions. These activities include permitting, waste profiling, remedial system installation, system operation and maintenance (O&M), and compliance monitoring.
- **Section 6.0—Implementation of Interim Remedial Actions.** This section summarizes the component activities of the planned interim remedial actions, including pre-remedial activities, erosion control measures, demolition, installation of monitoring/remediation wells, and excavation of contaminated soil. This section also describes the handling and disposal of contaminated soil, compliance monitoring, and restoration.
- **Section 7.0—Documentation Requirements.** This section describes the documentation to be provided for the interim remedial actions and includes a discussion of document management and waste disposal tracking information. This section also provides details on the Interim Remedial Action Status Report that will summarize the results of the interim remedial actions as well as additional cleanup work elements performed by others.
- **Section 8.0—Compliance Monitoring.** This section provides the protocols pertaining to sample locations, measurement frequencies, sampling equipment and procedures, sample handling and analysis, and project status reporting that will be used during the interim remedial actions.
- **Section 9.0—Quality Assurance and Quality Control.** This section describes the laboratory reporting for COCs, accuracy and precision measurements, and the measures that will be implemented to protect and verify data quality.
- **Section 10.0—Limitations.** This section describes the intended usage and limits for this SoundEarth document.
- **Section 11.0—References.** This section presents the sources of information cited in the document.

2.0 PROJECT AREA BACKGROUND

This section provides descriptions of the TOC Property, TOC/Farmasonis Property, and Drake Property. This section also includes a brief summary of the geology and hydrology, previous subsurface investigations and interim cleanup actions.

2.1 PROPERTY DESCRIPTIONS

The Site as described in the Agreed Order is defined by the extent of contamination caused by the release of hazardous substances from TOC Holdings Co. Facility No. 01-176, confirmed to extend south beneath portions of the TOC Property, TOC/Farmasonis Property, and Drake Property and west beneath portions of the 56th Avenue ROW (Figure 2). Confirmed portions of the Site comprise the Interim Remedial Action Project Area, which includes the following properties:

- The TOC Property, which includes a single tax parcel (Snohomish County tax parcel #00489300003501) that covers approximately 14,375 square feet (0.33 acres) of land. The Property is listed as 24205-56th Avenue West in Mountlake Terrace, Washington (Figure 2). Currently the TOC Property is vacant. An asphalt-paved driveway and parking lot occupies the western 30 to 60 feet of the TOC Property and a former remediation system is secured inside a 15-foot by 15-foot chain-link-fenced compound in the southeast portion of the TOC Property (Figure 3).

- The TOC/Farmasonis Property (Snohomish County tax parcel #00489300003400), which supports a Romio's Pizza restaurant. An asphalt-paved parking lot occupies the western 65 to 130 feet of the TOC/Farmasonis Property and the eastern 130 to 140 feet are vacant with grass, brambles, and Scotch Broom. TOC Holdings Co. acquired the TOC/Farmasonis Property in June 2010.

- The Drake Property (Snohomish County tax parcel #00489300003300), which supports the Getaway Spirits Tavern. The western 150 feet of the Drake Property consists of asphalt-paved parking area surrounding the tavern building. The eastern 90 feet of the Drake Property consists of gravel parking with peripheral grassy areas. Mr. David Drake owns the Drake Property.

The southern extent of the release has yet to be defined south of the Drake Property. Overviews of the Interim Remedial Action Project Area and historical land-uses are presented in the *Technical Memorandum Regarding Limited Historical Investigation, Time Oil Co. Facility #01-176, 24205 56th Avenue West, Mountlake Terrace, Washington* prepared by SES and dated July 10, 2007 (SES 2007) and in *Off-Property Access for On-Going Remediation, TOC Holdings Co. Facility No. 01-176, 24205 56th Avenue West, Mountlake Terrace, Washington* prepared by SES and dated July 26, 2010 (SES 2010a). A brief description of the TOC Property, TOC/Farmasonis Property, Drake Property, and selected properties south of the Drake Property including historical land uses is presented in Appendix A.

2.2 PHYSICAL SETTING, GEOLOGY, AND HYDROLOGY

The Interim Remedial Action Project Area is situated on a glacial upland plateau halfway between Seattle and Everett, Washington (Figure 1). Surface topography slopes gently downhill to the south across grades of 2 to 3 percent. The closest body of surface water in the same drainage basin is Lyon Creek, which flows south over 4,000 feet east of the TOC Property (Hammond et al. 1999). The general

subsurface stratigraphy encountered in borings advanced at the Interim Remedial Action Project Area consisted of very dense, gravelly, silty sand, from ground surface to approximately 60 feet bgs. These soil conditions are characteristic of glacial till comprised of unsorted to poorly sorted ice-melt deposits. The following soil deposits overlie or underlie the glacial till, or are interbedded within the glacial till:

- Human-placed fill materials including UST excavation backfill.
- Water-laid sands and gravels deposited above the glacial till.
- Discontinuous layers of water-laid sands and gravels within the glacial till generally deeper than 20 to 25 feet bgs.
- Water-laid sands and gravels at depths of more than 60 feet bgs and below the glacial till (herein referred to as glacial advance deposits).

Figure 3 shows the locations of monitoring wells and borings installed at the Interim Remedial Action Project Area between 1992 and 2010. Figure 4 shows a generalized cross section of the subsurface stratigraphy oriented from north to south through the area. The cross section was compiled from data and soil sample descriptions recorded on SoundEarth's field boring logs and from interpretation of historical soil analytical results and boring logs prepared by others (Table 1). Benzene concentrations in soil are shown in the cross section and illustrate the lateral and vertical distributions of benzene in soil beneath the Interim Remedial Action Project Area relative to pertinent groundwater tables.

Groundwater at the Interim Remedial Action Project Area occurs in the form of three primary water-bearing zones within the uppermost 75 feet, summarized below:

- The Shallow Zone occurs as a perched zone in glacial till within 20 feet of the ground surface and mimics the south-sloping surface topography.
- The Intermediate Zone is situated at a depth between approximately 20 and 60 feet bgs. The Intermediate Zone is the zone of primary contaminant transport and includes both perched groundwater conditions in glacial till and semi-confined groundwater within glaciofluvial deposits.
- The Deep Zone is a semi-confined aquifer at depths of more than 60 feet bgs.

Historical groundwater elevation data are summarized in Table 2. A summary of 2010 groundwater analytical results sorted by water-bearing zone is presented in Table 3. A summary of groundwater results for eight common additives is presented on Table 4. A summary of monitoring well construction details, including screen intervals, is provided in Table 5. Descriptions of the physical setting, geology and hydrology of the Interim Remedial Action Project Area are presented in greater detail in Appendix B.

2.3 PREVIOUS INVESTIGATIONS AND INTERIM REMEDIAL ACTIONS

This section presents the results from the previous investigations and interim remedial actions conducted at the Interim Remedial Action Project Area by others since 1992 and by SoundEarth since 2005. A timeline of investigation and cleanup milestones is summarized below:

- June 1991—Removal of USTs from the TOC Property and confirmation of release.

- March 1992—Soil vapor survey at the TOC Property performed by Environmental Science and Engineering, Inc. (ESE).
- November 1995—ESE conducts remedial investigation and completes engineering design for planned cleanup activities at the TOC Property.
- January 1996—Installation of dual-phase extraction (DPE) system (1996 system) at the TOC Property proceeds under oversight of Pinnacle Geosciences (Pinnacle).
- January 1997—Issuance of State Waste Discharge Permit No. ST 7384.
- February 1997—Startup and operation of the 1996 system at the TOC Property.
- April 2004—Supplemental characterization by Pinnacle invalidates ESE's conceptual site model.
- November 2004—Supplemental characterization, pilot testing, and design of upgrades to the 1996 system performed by Landau Associates (Landau).
- May 2005—Upgrades to the 1996 system implemented at the TOC Property under oversight of Landau but system operation never resumed
- August 2005—SoundEarth resumes remedial investigation of vertical and lateral extents, and expands scope of investigation at TOC/Farmasonis Property, Drake Property, and 56th Avenue ROW.
- October 2008—SoundEarth documents the existence of at least two separate releases at the Shin/Choi Property.
- January 2010 —SoundEarth implements a monthly LNAPL recovery program at monitoring well MW48.

Tables 1 and 2 summarize the historical analytical results for soil and groundwater samples collected by SoundEarth and others at the Interim Remedial Action Project Area. Figure 3 shows the locations of subsurface explorations including monitoring wells and soil borings advanced at the Interim Remedial Action Project Area. Figures 5.1 and 5.2 show the distribution of GRPH and benzene in Intermediate Zone groundwater beneath the TOC Property, TOC/Farmasonis Property, Drake Property, portions of the 56th Avenue ROW and the Shin/Choi Property. Figure 6 shows in plan view the lateral extent and maximum concentrations of COCs in soil documented to date beneath the Interim Remedial Action Project Area and Figure 7 presents the Interim Remedial Action Project Area Boundary Definition Map. Figures 8.1, 8.2 and 8.3 present March 2010 groundwater contour maps of the Shallow Zone, Intermediate Zone and Deep Zone, respectively. A more detailed summary of investigations and interim cleanup actions conducted between 1991 and 2010 is presented in Appendix C. Lessons learned by ESE, Pinnacle, and Landau have been incorporated into SoundEarth's remedial investigation approach, advancement of the conceptual site model, and engineering design of the proposed interim remedial actions.

3.0 TECHNICAL ELEMENTS

The findings of previous investigations conducted by SoundEarth and others were used to identify the technical elements for the interim remedial actions at the TOC Property, TOC/Farmasonis Property, Drake Property, and portions of the 56th Avenue ROW. This section summarizes the COCs, media of concern, cleanup standards, and regulatory framework for the interim remedial actions for the TOC Property, TOC/Farmasonis Property, Drake Property, and portions of the 56th Avenue ROW.

Due to the 25- to 50-foot depth of COC migration beneath the majority of the Interim Remedial Action Project Area, the poor hydraulic conductivity of the glacial till formation, LNAPL-trapping characteristics of the glacial till stratigraphy, and lateral extent of COCs beneath multiple properties, the preferred technology for the proposed interim remedial actions is in situ remediation by MPE.

The results of the 2007 and 2010 pilot tests indicate that the technology of MPE is an appropriate technology for the remediation of petroleum-impacted soil and groundwater in the areas tested. Upon reviewing all of the pilot test data, it is estimated that a vapor extraction rate of 24 actual cubic feet per minute (acfm) with an applied vacuum of 70 iow will produce an ROI of approximately 30 feet. The interim design well spacing, flow rate, and vacuum pressures will be presented in an interim design basis document.

3.1 CHEMICALS OF CONCERN

Analytical results from subsurface investigations performed by SoundEarth and others have identified the COCs at the TOC Property, TOC/Farmasonis Property, Drake Property, and portions of the 56th Avenue ROW. The primary COCs are GRPH and benzene. Total lead in groundwater media is associated with turbid groundwater conditions and poor groundwater recharge rates that inhibit proper development of monitoring wells. Concentrations of GRPH and/or benzene at the TOC Property, TOC/Farmasonis Property, Drake Property, and portions of the 56th Avenue ROW exceed the interim remedial action objectives (IRAOs) in soil and groundwater as defined in Section 3.3.1 of the IRAWP. The remaining COCs associated with the TOC Property are toluene, ethylbenzene, and total xylenes.

3.2 MEDIA OF CONCERN

The media of concern for the TOC Property, TOC/Farmasonis Property, Drake Property, and portions of the 56th Avenue ROW are soil, groundwater, and vapor. The proposed interim remedial actions described in the IRAWP will address contaminated soil, groundwater, and vapor at the TOC Property, TOC/Farmasonis Property, Drake Property, and portions of the 56th Avenue ROW (Figure 7). Vapor is a medium of concern primarily due to its presumed mobility; otherwise, a preliminary vapor assessment performed by ESE in 1992 and ongoing Shallow Zone groundwater quality suggests that the vapor exposure pathway is incomplete outside the limits of the former UST cavity at the TOC Property. Nevertheless, engineering controls associated with the interim remedial actions will eliminate vapor as medium of concern.

The Remedial Investigation/Feasibility Study and the Cleanup Action Plan for the Site will address Site-wide cleanup standards, potential remedial alternatives, and compliance monitoring scope and schedule.

3.3 INTERIM CLEANUP STANDARDS

The interim cleanup standards the TOC Property, TOC/Farmasonis Property, Drake Property, and portions of the 56th Avenue ROW consist of establishing IRAOs for COCs, establishing the points of compliance where the IRAOs must be met, and identifying other applicable regulatory requirements. Interim cleanup standards for TOC Property, TOC/Farmasonis Property, Drake Property, and portions of the 56th Avenue ROW are presented below and include a discussion of IRAOs, interim points of compliance, and the regulatory framework for the interim remedial actions.

3.3.1 Interim Remedial Action Objectives

For the interim remedial actions, soil, groundwater, and vapor are the media of concern. Cleanup levels have not been established for the Site. Therefore, the IRAOs for soil, groundwater, and vapor media at the Interim Remedial Action Project Area are MTCA Method A cleanup levels for unrestricted land use from WAC 173-340-900.

MTCA Method A cleanup levels have been established for GRPH, BTEX, and total lead in soil and groundwater media, but have not been published for vapor media. In the absence of a published MTCA Method A cleanup level, the published Method B cleanup level will serve as the cleanup level.

3.3.2 Interim Points of Compliance

The points of compliance are the locations at which IRAOs must be attained. The interim points of compliance for the TOC Property, TOC/Farmasonis Property, Drake Property, and portions of the 56th Avenue ROW were established in accordance with WAC 173-340-740(6) for soil, 720(8) for groundwater, and 750(6) for ambient air. The interim points of compliance for the media of concern are as follows:

- The interim point of compliance for soil is based on the protection of groundwater and is established throughout the areas of the interim remedial actions.
- The interim point of compliance for groundwater is the point or points where groundwater remedial action objectives must be met within the areas of interim remedial actions and is established throughout the areas of interim action from the uppermost level of the groundwater extending vertically to the lowermost depth which could potentially be affected by the release from the TOC Property.
- The interim point of compliance for ambient air is throughout the areas of interim remedial actions.

3.3.3 Applicable or Relevant and Appropriate Requirements

Applicable or relevant and appropriate requirements (ARARs) were identified for the interim remedial actions being performed at the TOC Property, TOC/Farmasonis Property, Drake Property, and portions of the 56th Avenue ROW. Ecology will be the lead regulatory agency for compliance, and the interim remedial actions for the TOC Property, TOC/Farmasonis Property, Drake Property, and portions of the 56th Avenue ROW will be conducted under the Agreed Order. The interim remedial actions will be performed in accordance with applicable federal, state, and local requirements. The ARARs related to the interim remedial actions include the following:

- Water Quality Standards for Ground Waters of the State of Washington, WAC 173-200
- The Washington State Hazardous Waste Management Act, Title 70, Chapter 70.105 of the Revised Code of Washington (RCW 70.105)
- The Washington State Dangerous Waste Regulations, WAC 173-303
- Controls for New Sources of Toxic Air Pollutants, WAC 173-460
- General Regulations for Air Pollution Sources, WAC 173-400
- Occupational Safety and Health Act, Title 29 Code of Federal Regulations (CFR) Part 1910
- Washington State Safety Standards for Construction Work, WAC 296-155
- Washington State Solid Waste Management Laws and Regulations, RCW 70.95, WAC 173-351, and WAC 173-304
- Washington State Accreditation of Environmental Laboratories, WAC 173-50
- Washington State General Occupational Health Standards, WAC 296-62 Part I-1

4.0 INTERIM REMEDIAL ACTIONS AND CLEANUP OBJECTIVES

This section describes the interim remedial actions for the Interim Remedial Action Project Area. The interim remedial actions include installation of three MPE, two-pump systems. Three separate MPE systems are warranted due to the 350-foot length of the treatment zone, the variability of subsurface conditions beneath the treatment zone, and estimated airflows required to induce vacuum conditions sufficient for vapor extraction. Each MPE system will be equipped with two types of pumps: down-hole pneumatic pumps to extract liquids and a blower to extract vapor independently from liquids.

The proposed MPE technology is similar to the DPE technology that was implemented at the TOC Property in 1996, but the proposed implementation will differ from the 1996 and 2005 implementations as follows:

- Individual plumbing runs will be installed, rather than a single main combined-flow header. The individual plumbing runs will be connected to manifolds to allow optimization of airflows at individual wellheads and customization of airflows to conditions that develop over time in each remediation well.
- Each remediation well will be equipped with a pneumatic pump to draw down groundwater elevations inside individual remediation wells. The use of pneumatic pumps will prevent submergence of the well screens, separately tight-line liquid-phase wastes from vapor-phase wastes to appropriate treatment and discharge systems, slowly dewater the formation, expose smear zones perched within the formation, and maximize the area of remediation well screen exposed to the SVE blower.
- Based on the results of pilot testing and on data collected during operation of the 1996 system, SoundEarth anticipates that vapor extracted from each of the MPE systems will require treatment for the first 2 to 3 years of operation in order to comply with local air pollution regulations. In order to treat extracted vapors, each MPE system will be equipped with a catalytic oxidation (cat-ox) unit or granular-activated carbon (GAC) vessels.

The interim remedial actions at the TOC Property, TOC/Farmasonis Property, Drake Property, and portions of the 56th Avenue ROW will meet the criteria presented in WAC 173-340-430 which includes:

- Reducing the threat to human health or the environment by eliminating or substantially reducing one or more pathways for exposure to hazardous substances at the TOC Property, TOC/Farmasonis Property, Drake Property, and portions of the 56th Avenue ROW.
- Not foreclosing reasonable alternatives for the cleanup action.
- Allowing for public participation in a manner consistent with WAC 173-340-600.
- Preparing the IRAWP for submittal to Ecology for review and approval detailing the scope of work to be performed under the IRAWP.
- Constructing the interim remedial actions in accordance with WAC 173-430-400(6).

The specific objectives of the interim remedial actions at the TOC Property, TOC/Farmasonis Property, Drake Property, and portions of the 56th Avenue ROW are to eliminate LNAPL conditions; remove GRPH

and BTEX from soil, groundwater and vapor; prevent vapor intrusion; and reduce concentrations of GRPH and BTEX in groundwater. The planned components of the interim remedial actions include:

- Installation of one MPE system per property at the TOC Property, TOC/Farmasonis Property, and Drake Property. Although there will be one MPE system per property, ROIs for each MPE system will overlap onto neighboring properties and extend into portions of the 56th Avenue ROW.
- O&M of the MPE systems to treat soil and groundwater media and capture vapor, and treat captured vapor, if required.
- Compliance with the terms and conditions of the Agreed Order as it pertains to the interim remedial actions at the TOC Property, TOC/Farmasonis Property, Drake Property, and portions of the 56th Avenue ROW.

The interim remedial actions at the TOC Property, TOC/Farmasonis Property, and Drake Property and portions of the 56th Avenue ROW partially address the cleanup of the soil, groundwater, and vapor at the Site. The interim remedial actions are necessary to address ongoing sources of contamination in the form of LNAPL conditions within the former UST cavity and in the vicinities of monitoring wells MW15, MW20, and MW32 at the TOC Property, and in the vicinity of monitoring well MW48, each of which contributes to the ongoing southward migration of GRPH and BTEX beneath the Interim Remedial Action Project Area. The interim remedial actions will eliminate or substantially reduce one or more exposure pathways (i.e., direct contact, soil to groundwater, and inhalation pathways) without interfering with ongoing remedial investigation activities.

The performance of the interim remedial actions will be evaluated through the collection of O&M data, including groundwater performance monitoring, periodic sampling and analysis of liquid and vapor effluent, and estimating the mass of GRPH and benzene removed from the subsurface.

5.0 INTERIM REMEDIAL ACTION COMPONENTS

This section describes the activities that will be performed as part of the interim remedial actions. These activities include permitting, waste profiling, excavating soil containing COCs with concentrations above applicable preliminary cleanup levels, and performing compliance monitoring. The components of the interim remedial actions are described below.

5.1 PERMITTING

State, local, and municipal permit requirements apply to the proposed interim remedial action. Pursuant to RCW 70.105D.090(1) TOC is exempt from the procedural requirements of any laws requiring or authorizing local government permits or approvals. However TOC shall comply with the substantive requirements of such permits or approvals.

The existing State Waste Discharge Permit ST-7384 is in effect through February 12, 2012, and applies to operation of and discharges from the upgraded 1996 system at the TOC Property. TOC will renew the existing permit for the proposed interim remedial action. TOC will obtain waste water discharge permits for interim cleanup actions planned for the TOC/Farmasonis Property and Drake Property. A regional air permit for operation of each MPE system would require treatment of captured vapor until such time as each source of discharge produced less than 1,000 pounds of GRPH and/or 15 pounds of benzene per year.

TOC will obtain one air permit for each MPE system. TOC will address the substantive requirements of the following City of Mountlake Terrace permits based on consultation between Ecology and the City:

- Environmental site assessment supplemental for Lyon Creek Basin
- Clearing and grading permit
- Civil site construction permit
- Temporary erosion control permit
- Building, electrical, plumbing, and mechanical permits
- Side sewer permit
- Special use permit

As of the date of this IRAWP, The City of Mountlake Terrace was finalizing the special use permit and a draft example of substantive criteria was not available for inclusion herein. Further coordination between Ecology and the City of Mountlake Terrace is anticipated to ensure equivalency of local permitting requirements. A copy of the existing State Waste Discharge permit is provided in Appendix D.

5.2 HEALTH AND SAFETY PLAN

Property-specific HASPs will be prepared prior to field implementation of each interim remedial action in accordance with Section VII of the Agreed Order. The HASPs will be prepared to meet the minimum requirements specified in federal (29 CFR 1910.120 and 1926) and state (WAC 296) regulations. A

summary of protection monitoring to be conducted during the interim remedial actions is provided in Section 8.1.

5.3 WASTE PROFILING

Installation of each MPE system will require trenching for lateral plumbing. Installation of remediation wells will generate surplus soil and drill cuttings. Surplus soil that cannot be re-used as backfill will be disposed of as Class 2 inert waste soils or treated as Class 3 petroleum-contaminated soils at CEMEX USA of Everett, Washington. Assuming that the moisture content of drill cuttings will be too high to meet compaction specification, drill cuttings will be drummed for disposal as inert waste or treatment as petroleum-contaminated soil at CEMEX USA in Everett, Washington.

SoundEarth anticipates that excavations shallower than 10 feet bgs are unlikely to encounter petroleum-contaminated soils (PCS) and that surplus excavated soil can be direct-loaded and transported off the Interim Remedial Action Project Area for disposal as inert waste without supplemental profiling. However, if trenching activities encounter suspected petroleum contamination, then soils will be profiled in accordance with the minimum requirements for stockpile sampling summarized in Ecology Publication 01-09-057, November 2010 Draft Guidance for Remediation of Petroleum-Contaminated Sites. Stockpiled soils will be staged at the TOC Property and maintained in accordance with TESC requirements.

Vapor generated during the interim remedial actions will be treated using either a cat-ox or GAC treatment system prior to discharge to ambient air. Vapor samples will be collected monthly and analyzed for GRPH and benzene as part of the O&M program to document system performance and support estimates of mass removed by each system. Once the mass of GRPH drops below 1,000 pounds and/or benzene drops below threshold concentrations, it is anticipated that vapor will discharge to the ambient air. Monthly sampling and analysis, documentation of operational parameters, and record-keeping activities will continue in order to document ongoing compliance with air permit conditions.

Wastewater generated during the interim remedial actions is anticipated to be directly discharged to the sewer system after pre-treatment using gravity separation and an air stripper, and in accordance with the terms and conditions of a state waste discharge permit. Effluent from the treatment system will be field-monitored and analyzed for the parameters specified in the discharge authorization permit at a frequency specified based on the type of discharge (e.g., continuous, batch). An existing state waste discharge permit remains in effect for the TOC Property (Permit No. ST-7384) and a copy of the permit is provided in Appendix D.

5.4 INSTALLATION OF MPE SYSTEMS

Although the same remedial technology will be implemented at each property, subsurface conditions, existing infrastructure, and access conditions vary from property to property.

The following sections described Property-specific conditions that will apply to implementation of the interim remedial actions at each property. The conceptual layout is presented on Figure 9. Typical details are presented on Figures 10, 11, and 12. The conceptual layout assumes a theoretical ROI of 30 feet, assuming an SVE rate of 24 acfm at an applied vacuum pressure of 70 iow. The interim design well spacing, flow rate, and vacuum pressures will be presented in an interim design basis document.

5.4.1 TOC Property

TOC Holdings Co. owns the TOC Property, which is currently vacant and undeveloped. No access constraints or occupant coordination issues exist at the TOC Property. The upgraded 1996 system requires demolition, but the new MPE system will be situated within the same fenced compound. The existing fenced compound is already equipped with permitted sanitary sewer connection and metered three-phase electrical service. SoundEarth anticipates that trenching and excavation for the new system at the TOC Property will disturb approximately 110 BCY of soil. Excavated soil will be re-used as backfill for MPE system trenches and/or to re-grade the area east of the former gas station whenever soil moisture content is compatible with the compaction specifications.

All lateral plumbing for the upgraded 1996 system requires demolition and replacement with a manifolded vacuum, compressed air, and separately tight-lined wastewater lines. No additional well installations will be required for the MPE system at the TOC Property, but the configuration of remediation wells will change as follows:

- Existing 4-inch-diameter remediation wells MW11 and MW24 are already equipped with utility vaults and will be connected to the MPE system.
- Existing 4-inch-diameter monitoring wells MW15, MW18 and MW32 will be connected to the MPE system and will require installation of new utility vaults.
- Existing 2-inch-diameter monitoring wells MW27, and MW29 will be connected to the MPE system and will require installation of new utility vaults.
- Two new 4-inch-diameter remediation wells will be installed at the locations shown on Figure 9. New remediation wells will require utility vaults.

Intermediate Zone groundwater forms a mound beneath the TOC Property and is believed to cross-connect with Shallow Zone groundwater beneath the south end of the former UST cavity at the TOC Property. Anticipated depths to groundwater will vary from 18 to 36 feet bgs across the TOC Property between monitoring wells MW11 and MW15 and are anticipated to vary seasonally from 9 to 36 feet bgs in monitoring well MW24. Therefore, each remediation well will be equipped with a pneumatic pump to control liquid levels, prevent submergence of the well screen under induced vacuum conditions, maximize the exposure of the formation to induced vacuum for vapor extraction purposes, and separately tight-line liquids from vapors to the MPE system compound for treatment and permitted discharge to sanitary sewer.

An existing connection to side sewer was constructed in 1996 for the purpose of discharging treated waste water from the upgraded 1996 system in accordance with existing State Waste Discharge Permit ST-7384. Based on initial pumping rates of 0.5 gpm per remediation well, SoundEarth anticipates that the MPE system at the TOC Property will generate an estimated 4.5 gallons of wastewater per minute (6,480 gallons per day [gpd]). Wastewater will be tight-lined to the wastewater treatment component of the MPE system at the TOC Property for treatment and discharge to sanitary sewer.

Vapor captured by the MPE system at the TOC Property will be tight-lined to the vapor treatment component (cat-ox or GAC system) of the MPE system at the TOC Property for treatment and discharge to ambient air.

5.4.2 TOC/Farmasonis Property

TOC Holdings Co. owns the TOC/Farmasonis Property but the property is occupied by a tenant and in use as a restaurant. Installation of an MPE system at the TOC/Farmasonis Property will be subject to business coordination issues and special safety considerations for workers and restaurant clientele.

The MPE system will be housed in a compound located immediately east of the existing restaurant building. The MPE system will require metered electrical power and connection to the existing side sewer, which is located west of the existing restaurant building.

Installation of an MPE system at the TOC/Farmasonis Property will involve the conversion of several existing monitoring wells to remediation wells, and three new remediation wells will be installed at the locations shown on Figure 9. SoundEarth anticipates that trenching and excavation for the new system at the TOC/Farmasonis Property will disturb approximately 160 BCY of soil. Excavated soil will be re-used as backfill for MPE system trenches and/or re-grade the former building footprint at the TOC Property whenever soil moisture content is compatible with the compaction specifications. The MPE system will connect to the following wells:

- Existing 2-inch-diameter monitoring wells MW31 and MW41 will be connected to the MPE system and will require installation of new utility vaults.
- Existing 4-inch-diameter monitoring wells MW57 and MW59 will be connected to the MPE system and will require installation of new utility vaults.
- Three new 4-inch-diameter remediation wells will be installed at the locations shown on Figure 9. New remediation wells will require utility vaults.

Intermediate Zone groundwater forms a mound beneath the northwest corner of the TOC/Farmasonis Property, but evolves into a gentle south-southeastward gradient south of monitoring wells MW56, MW58, and MW66. Anticipated depths to groundwater will vary from 32 to 45 feet bgs across the TOC/Farmasonis Property between monitoring wells MW31 and MW57. Depths to groundwater beneath the TOC/Farmasonis Property are anticipated to vary 3 to 6 feet in individual wells, based on seasonal changes in groundwater elevation. Therefore, each remediation well will be equipped with a pneumatic pump to control liquid levels, separately tight-line liquids from vapors for treatment and permitted discharge to sanitary sewer, prevent submergence of the well screen under induced vacuum conditions, and maximize exposure of the formation to induced vacuum for vapor extraction purposes.

Based on initial pumping rates of 0.5 gpm per remediation well, SoundEarth anticipates that the MPE system at the TOC/Farmasonis Property will generate an estimated 3.5 gallons of wastewater per minute (5,040 gpd). Wastewater will be tight-lined to the wastewater treatment component of the MPE system at the TOC/Farmasonis Property for treatment and discharge to sanitary sewer.

Vapor captured by the MPE system at the TOC/Farmasonis Property will be tight-lined to the vapor treatment component (cat-ox or GAC system) of the MPE system at the TOC/Farmasonis Property for treatment and discharge to ambient air.

5.4.3 Drake Property

Mr. David Drake owns the Drake Property and operates the Getaway Spirits Tavern at the Drake Property. The tavern is open 7 days per week from approximately 6 am to 2 am. Installation of an MPE system at the Drake Property will be subject to access limitations, work-hour restrictions, business coordination issues, and special safety issues for workers, suppliers, and tavern clientele. The proposed MPE system layout shown on Figure 9 is subject to negotiation with the owner of the Drake Property. The MPE compound will be located at the TOC/Farmasonis Property and plumbing laterals will connect to remediation wells at the Drake Property. The MPE system will require metered electrical power and connection to side sewer either southeast of the existing tavern building at the Drake Property or east of the existing restaurant at the TOC/Farmasonis Property.

Installation of an MPE system at the Drake Property will involve the conversion of three existing monitoring wells to remediation wells, and six new remediation wells will be installed at the locations shown on Figure 9. SoundEarth anticipates that trenching and excavation for the new system at the Drake Property will disturb approximately 180 BCY of soil. Excavated soil will be re-used as backfill for MPE system trenches and/or re-grade the former building footprint at the TOC Property whenever soil moisture content is compatible with the compaction specifications. The MPE system will connect to the following wells:

- Existing 2-inch-diameter monitoring wells MW69, MW70, and MW84 will be connected to the MPE system and will require installation of new utility vaults.
- Six new 4-inch-diameter remediation wells will be installed at the approximate locations shown on Figure 9. New remediation wells will require utility vaults.

Intermediate Zone groundwater slopes gently towards the south-southeast beneath the western portion of the Drake Property across anticipated depths of 40 to 44 feet bgs. Depths to groundwater are anticipated to vary approximately 4 feet vertically in individual wells, based on seasonal variations in groundwater elevation. Therefore, each remediation well will be equipped with a pneumatic pump to control liquid levels, separately tight-line liquids from vapors for treatment and permitted discharge to sanitary sewer, prevent submergence of the well screen under vacuum conditions, and maximize exposure of the formation to vacuum pressures for vapor extraction purposes.

Based on initial pumping rates of 0.5 gpm per remediation well, SoundEarth anticipates that the MPE system at the Drake Property will generate an estimated 4.5 gallons of wastewater per minute (6,480 gpd). Wastewater will be tight-lined to the wastewater treatment component of the MPE system at the Drake Property for treatment and discharge to sanitary sewer.

Vapor captured by the MPE system at the Drake Property will be tight-lined to the vapor treatment component (cat-ox or GAC system) of the MPE system at the Drake Property for treatment and discharge to ambient air.

5.5 DOCUMENTATION

Upon installation of the three MPE systems, a draft Interim Remedial Action Status Report will be prepared and include the results of interim remedial actions conducted at the TOC Property, TOC/Farmasonis Property, and Drake Property. The draft Interim Remedial Action Status Report will include as-built drawings of each MPE system and copies of permits obtained for construction and operation of the interim remedial actions. The draft Interim Remedial Action Status Report will be submitted to Ecology for review and approval.

5.6 SCHEDULE

The planned schedule for activities and deliverables described in this IRAWP is summarized below.

Deliverable	Milestone Date(s)
Ecology approval of the IRAWP after completion of public notice and comment.	September 2011
TOC submits a draft Interim Remedial Action Status Report to Ecology for review.	March 2012
Ecology provides comments on the draft Interim Remedial Action Status Report to TOC.	Within 30 days of receipt
TOC incorporates Ecology comments in the draft Interim Remedial Action Status Report and submits final version of the document.	Within 30 days after receipt of Ecology's comments
Ecology approves the final Interim Remedial Action Status Report	Within 30 days of receipt
TOC submits quarterly Discharge Monitoring Reports to Ecology.	Within 15 days of the end of the previous quarter, beginning with the first quarter of startup and operation
TOC submits draft Quarterly Operation & Maintenance Report to Ecology for review.	Within 90 days of the end of the previous quarter, beginning with the first quarter of startup and operation
Ecology provides comments on the draft Quarterly Operation & Maintenance Report to TOC.	Within 30 days of receipt
TOC incorporates Ecology comments in the draft Quarterly Operation & Maintenance Report and submits final version of the document.	Within 30 days after receipt of Ecology's comments

6.0 IMPLEMENTATION OF PROPERTY-SPECIFIC INTERIM REMEDIAL ACTIONS

This section summarizes the component activities of the planned property-specific interim remedial actions, including pre-remedial activities, installation of remediation wells, trenching and excavation, disposal of soil, and restoration.

6.1 PRE-REMEDIAL ACTIVITIES

In preparation for the implementation of the interim remedial actions, personnel and equipment will be mobilized to the TOC Property in accordance with the Agreed Order. Pre-remedial activities include installation of security fencing at the TOC Property and TOC/Farmasonis Property, implementation of traffic controls at the Drake Property, and installation of temporary erosion and sediment control measures.

6.2 EROSION CONTROL

During construction Best Management Practice (BMP) erosion control measures will be implemented in accordance with an approved TESC Plan. BMPs will include socks in the two catch basins serving the Drake Property (all three catch basins at the TOC Property and TOC/Farmasonis Property are non-functional), temporary chain-link fencing around the TOC Property and TOC/Farmasonis Property, silt fencing at key intervals to prevent sediment from crossing property boundaries, and weighted plastic sheeting to cover soil stockpiles.

6.3 SELECTIVE DEMOLITION

Portions of the upgraded 1996 system will be demolished and portions will be protected for continued use. The above-ground components of the upgraded 1996 system at the TOC Property will be demolished. Buried plumbing runs connecting between the above-ground and below-ground components of the upgraded 1996 system will be excavated and removed. Existing plumbing connections serving wells MW02, MW03, MW09, MW10, MW21, MW22, and MW25 (for the upgraded 1996 system) will be cut and capped (the connection to well MW01 was cut and capped in October 2009 at the time MW01 was decommissioned).

The following elements of the upgraded 1996 system at the TOC Property will be protected during selective demolition activities:

- Existing monitoring/remediation wells
- The existing vaults and tees serving remediation wells MW11 and MW24
- The existing permitted connection to sanitary sewer
- The existing metered electrical service
- The existing fenced compound and slab

6.4 INSTALLATION OF MONITORING/REMEDIATION WELLS

Monitoring well MW85 at the Drake Property requires decommissioning and replacement because the casing was damaged during installation. Monitoring well MW85 will be decommissioned in accordance with WAC 173-160 by a state-licensed driller. The original location of monitoring well MW85 conflicts

with overhead power, tree canopies, a chain-link fence, a 50-year-old underground sewer main, unmapped/unverified sewer laterals serving the Drake Property and Herman Property, and unmapped private storm sewer(s). Therefore, the replacement monitoring well will be installed at an accessible location within 30 feet of the original well location. The replacement well will be constructed the same as the original well, using 2-inch-diameter polyvinyl chloride (PVC), flush-threaded screen and riser, and 0.010-slot screen from approximately 40 to 50 feet bgs, and silica sand filter.

Two remediation wells will be installed at the TOC Property, three remediation wells will be installed at the TOC/Farmasonis Property, and six remediation wells will be installed at the Drake Property. All eleven remediation wells will be installed under the supervision of a staff geologist by a state-licensed driller using a hollow-stem auger drill rig. Well construction will be performed in accordance with WAC 173-160. New remediation wells will be constructed of Schedule 40 PVC flush-threaded screen and risers using 0.010-slot screen and silica sand filter. Surface seals will be constructed using hydrated bentonite chips, and wellheads will be accessed through utility vaults finished with concrete floors. Each utility vault will be equipped with at least one weep hole so that runoff does not accumulate inside the vault.

Beneath the northwestern portion of the TOC Property, anticipated depths to groundwater will vary from 15 to 30 feet bgs and soil smear zones occur between depths of 10 and 35 feet bgs. Screens for the two new remediation wells at the TOC Property will be installed across depth intervals of 15 to 40 feet bgs. Once groundwater elevations in the vicinity of the former UST excavation are suppressed, remediation wells screened as shallow as 15 feet will be able to capture vapor from the uppermost 15 feet of the soil.

Beneath the western portion of the TOC/Farmasonis Property, anticipated depths to groundwater will vary from 32 to 45 feet bgs and a soil smear zone occurs at depths of 33 to 34 feet bgs. Screens for the three new remediation wells at the TOC/Farmasonis Property will be installed across depth intervals from approximately 25 or 30 feet bgs to 45 feet bgs.

Beneath the northwestern portion of the Drake Property, anticipated depths to groundwater vary from 40 to 44 feet bgs and monitoring wells MW42, MW48, and MW63 intercept a soil smear zone at depths of 34 to 50 feet bgs. Screens for the six new remediation wells at the Drake Property will be installed across depth intervals from approximately 30 or 35 feet bgs to 50 feet bgs.

Proposed remediation well screen intervals are included in Table 5, which summarizes minimum and maximum depths to soil smear zones and groundwater tables in proximity to the proposed locations of new remediation wells.

6.5 TRENCHING AND EXCAVATION

Installation of the MPE systems will require trenching and excavation generally shallower than 4 feet bgs. The side sewer connection at the Drake Property could be as deep as 12 feet bgs. Excavations deeper than 4 feet will be sloped or shored with a trench box, in accordance with WAC 296-155 Part N of Washington State Safety Standards for Construction Work: Excavation, Trenching, and Shoring.

Excavated soils will be used as backfill whenever soil moisture contents are compatible with Property-specific backfill compaction specifications.

6.6 WASTE HANDLING AND DISPOSAL

Surplus soil will be disposed as Class 2 inert waste or treated as Class 3 PCS at CEMEX USA's facility in Everett, Washington; drummed drill cuttings will be disposed as inert waste or treated as petroleum-contaminated soil. GRPH and BTEX have been detected in soil samples collected as shallow as 5 feet bgs within the former UST cavity at the TOC Property; elsewhere at the TOC Property, TOC/Farmasonis Property, and Drake Property, GRPH and BTEX are not detected in soil at depths shallower than 20 feet.

Surplus soils excavated outside the former UST cavity at the TOC Property and shallower than 20 feet bgs will be presumed inert waste and will be re-used as backfill whenever possible. Surplus soils that cannot be compacted to project specifications will be direct-loaded for disposal at CEMEX USA's inert waste landfill. Surplus soils excavated within the former UST cavity at the TOC Property will be field-screened using a photoionization detector (PID). If the surplus soil is associated with elevated PID readings above background readings, those soils will be separately stockpiled and sampled in accordance with Ecology's *Draft Guidance for Petroleum-Contaminated Sites* dated November 9, 2010 (Ecology 2010). Depending on the results of supplemental characterization, surplus soils excavated from within the former UST cavity at the TOC Property will be disposed as inert waste or treated as petroleum-contaminated soil at CEMEX USA's facility in Everett, Washington.

Water generated during the interim remedial actions will be handled in accordance with the discharge authorization permit (Appendix D) or substantive equivalent(s). Vapor will be handled in accordance with an air permit or its substantive equivalent(s).

Disposable personal protective equipment (e.g., Tyvek® suits, gloves, boot covers), sampling devices (e.g., glassware, plastic syringes), and other miscellaneous refuse (e.g., paper towels) will be placed in plastic garbage bags and disposed of off the Interim Remedial Action Project Area as non-hazardous waste/municipal trash.

6.7 LABORATORY ANALYSIS

Soil, groundwater, wastewater, and vapor samples will be analyzed using applicable analytical methods as discussed in Section 8.5. Friedman & Bruya, Inc. (F&B) of Seattle, Washington, has been selected as the laboratory to conduct the analysis of the samples collected for the interim remedial actions.

6.8 OPERATION AND MAINTENANCE

At a minimum, O&M will be performed on each MPE system weekly during the first month of operation and monthly thereafter to document the performance of the interim remediation actions as follows:

- Upon arrival, personnel will note on the data collection forms or in the field logbook whether the system is operational. If inoperable, personnel will note the existing conditions and if any system alarms are present.
- Prior to performing any required maintenance on the system equipment (e.g., oil changes, belt tightening, and bulb replacement), personnel will note on a data collection form the operational parameters of the system, including vacuum measurements, manual air dilution valve settings, and manifold gauge measurements.

- Personnel will turn off and lockout/tagout the remediation system to perform required maintenance on the system equipment.
- Personnel will perform regular maintenance activities on system equipment according to the maintenance schedule in the O&M manual and specific equipment specifications.
- Following completion of maintenance activities and groundwater performance monitoring, personnel will power up the remediation system in accordance with the system-specific procedures.
- Following startup procedures, the operator will balance the process flow rate(s) of the remedial system and allow the system to operate for at least 30 minutes prior to the collection of O&M system parameters and sampling. Prior to sample collection, it is important to note and record all system parameters including system operational hours, moisture separator vacuum pressure, pre- and post-filter pressures, setting of the manual dilution valve, temperature, air flow rates on both the vacuum and pressure systems, water totalizer readings, tank levels, and the like.

The Property-specific process flow rate(s) for air and or water will be developed for each remedial system during pilot testing, design, and or initial startup. Periodically, the process flow rate(s) will be modified to optimize performance as needed. An O&M Field Data Sheet is included in Appendix E.

6.8.1 Wastewater Sampling

O&M activities will consist of system monitoring and inspection including monitoring the water treatment system, visually inspecting water conveyance piping for leaks, and visually checking proper pump operation. Effluent samples will be collected from each MPE system monthly and analyzed for COCs in accordance with state wastewater discharge permits or their substantive equivalent(s). Discharge Monitoring Reports (DMRs) or their substantive equivalents will be submitted to Ecology quarterly within 15 days of the end of each quarter (April 15, July 15, October 15, and January 15).

6.8.2 Vapor Sampling

Sampling the discharged air from remedial systems is necessary for determining the effectiveness and efficiency of a mechanical system may be required for compliance with an operating air permit or substantive equivalent(s). Based on anticipated contaminant and associated emission criteria, personnel will determine the most appropriate air sampling method; either Summa canisters or Tedlar® bags. This IRAWP assumes that at a minimum one vapor sample will be collected per MPE system per month to document compliance with PSCAA regulations and the permit conditions.

7.0 DOCUMENTATION REQUIREMENTS

Documentation of the property-specific interim remedial actions is necessary to meet the terms and conditions of the Agreed Order and/or the specific MTCA requirements. Upon client review and approval, all applicable and relevant documentation generated for the interim remedial actions will be submitted to Ecology. Copies of the documents will be retained by SoundEarth and TOC for a minimum of 10 years after implementation of the interim remedial actions. Additional details regarding documentation are provided in Section 8.0.

7.1 DOCUMENT MANAGEMENT

A document control system will be implemented during the interim remedial actions. Accurate documentation of field activities and measurements will be maintained on daily logs and field data forms. Entries will be made in sufficient detail to provide an accurate record of field activities. Field log entries will include a chronological description of task activities, names of visitors and field personnel, and weather conditions. All entries will be legibly entered in ink, dated, and initialed. The documentation to be used during the interim remedial actions is described in Section 8.0, and examples are provided in Appendix E.

7.2 WASTE DISPOSAL TRACKING

In addition to the documentation described in Section 7.1, scale tickets/receipts for disposal of decontamination water, surplus soils, and/or drill cuttings generated during implementation of the interim remedial actions will be maintained. Copies of the receipts will be included in the final Interim Remedial Action Status Report.

Ongoing discharge of wastewater to the sewer system will be quantified using an in-line totalizer, and the volumes will recorded monthly on the O&M Field Data Sheets (Appendix E) and Discharge Monitoring Reports, or their equivalents, in accordance with the state waste discharge permit (Appendix D).

7.3 PERFORMANCE AND COMPLIANCE REPORTING

A draft Interim Remedial Action Status Report will be prepared following implementation of the interim remedial actions to document permitting, design, and installation of the MPE systems and summarize pre-remedial conditions at the TOC Property, TOC/Farmasonis Property, Drake Property, and portions of the 56th Avenue ROW. At a minimum, the draft Interim Remedial Action Status Report will include the following:

- A description of the interim remedial actions, including descriptions of the installation and components of the MPE systems TOC Property, TOC/Farmasonis Property, Drake Property.
- Copies of permits applicable to the construction and operation of the MPE systems at the TOC Property, TOC/Farmasonis Property, and Drake Property, including a summary of discharge criteria.
- Copies of as-built drawings for each MPE system including the locations of newly installed monitoring remediation wells.

- Updated soil and groundwater historical analytical tables with the results of baseline soil and groundwater sampling performed in conjunction with the replacement of monitoring well MW85 at the Drake Property.
- Copies of receipts for disposal of wastes.
- A schedule of quarterly groundwater compliance monitoring, monthly O&M, and monthly DMR deliverables required to document ongoing compliance and/or performance of the interim remedial actions.

8.0 COMPLIANCE MONITORING

This section provides the protocols pertaining to sample locations, measurement frequencies, sampling equipment and procedures, and sample handling and analysis that will be used during the interim remedial actions. Any deviations from the protocols and procedures presented below will be approved by the SoundEarth Project Manager prior to implementation and will be discussed in the Interim Remedial Action Status Report for the TOC Property, TOC/Farmasonis Property, Drake Property, and portions of the 56th Avenue ROW.

Sample collection as part of the interim remedial actions will be performed in general accordance with the specific requirements of WAC 173-340-820 and provides a mechanism for implementing quality assurance and quality control (QA/QC) requirements specified in Section 9.0.

8.1 PROTECTION MONITORING

Details on the various measures to be implemented for the protection of field personnel, the general public, and the environment will be specified in the HASP mentioned in Section 5.2. Level D protection and current 40-hour HAZWOPER certifications will be required for all personnel during the interim remedial actions and may be modified/upgraded based on field conditions. Institutional controls will be implemented when possible (e.g., setting up work station upwind from drill cuttings), and ambient air will be monitored using a PID on an hourly basis during trenching and excavation activities. In the event that an established action level is exceeded, work will be temporarily suspended and colorimetric Draeger tubes for benzene will be used to evaluate air quality.

8.2 PERFORMANCE, CONFIRMATION, AND COMPLIANCE SAMPLING

Groundwater performance monitoring will be performed quarterly throughout operation of one or more MPE systems to document efficacy of the interim remedial actions. Wastewater and vapor compliance monitoring will be performed monthly to document compliance of wastewater and vapor with applicable permits or their substantive equivalents and to document efficacy and efficiency of each MPE system's operational settings. Soil compliance sampling will be performed in the form of stockpile sampling if excavated soil is associated with petroleum odor or if field-screening indicates a potential for petroleum contamination.

One or two soil confirmation samples will be collected from each new remediation well. Otherwise, confirmational monitoring is beyond the scope of this IRAWP.

8.2.1 Groundwater Performance Monitoring

Annual groundwater performance monitoring will be performed during the first quarter of each year at the TOC Property, TOC/Farmasonis Property, Drake Property, and portions of the 56th Avenue ROW. All monitoring wells will be included in the scope of annual monitoring except decommissioned wells MW01, MW07, MW14, MW17, and MW85 and the monitoring wells installed at the Shin/Choi Property (MW71 through MW74). While one or more of the MPE systems are operational, groundwater performance monitoring will be performed during second, third, and fourth quarters at the following wells:

- At the TOC Property, groundwater samples will be collected from Intermediate Zone monitoring wells MW09, MW10, MW20, MW21, and MW33 and grab samples will

be collected from remediation wells MW15, MW27, and MW32. Depths to groundwater will be gauged in each monitoring well at the TOC Property so that dynamic Intermediate Zone groundwater elevation contours and groundwater capture zones can be mapped.

- At the TOC/Farmasonis Property, groundwater samples will be collected from Intermediate Zone monitoring wells MW56, MW58, MW59, and MW66 and from remediation well MW31. Depths to groundwater will be gauged in each monitoring well at the TOC/Farmasonis Property so that Intermediate Zone groundwater elevation contours and groundwater capture zones can be mapped.
- At the Drake Property, groundwater samples will be collected from Intermediate Zone monitoring wells MW63, MW65, MW77, MW84, MW86, and MW89, the replacement for monitoring well MW85, and remediation wells MW69 and MW70. Depths to groundwater will be gauged in each monitoring well at the Drake Property so that Intermediate Zone groundwater elevation contours and groundwater capture zones can be mapped.
- Within the 56th Avenue ROW, groundwater samples will be collected from Intermediate Zone monitoring wells MW45, MW48, MW49, MW50, MW51, MW52, MW53, MW55, and MW60. Depths to groundwater will be gauged in each monitoring well located within the 56th Avenue ROW, except for monitoring well MW75 due to worker and traffic safety concerns (*Manual on Uniform Traffic Control Devices* traffic controls partially block, and impair visibility in front of, both entrances to the tavern at the Drake Property).

A summary of the frequency and laboratory analyses associated with performance and confirmation samples is provided in Table 6.

8.2.2 Groundwater Confirmation Sampling

Groundwater confirmation sampling is not included in the scope of this IRAWP.

8.2.3 Groundwater Compliance Sampling

Groundwater compliance sampling, other than annual performance monitoring, is not included in the scope of this IRAWP.

8.2.4 Soil Performance Sampling

Any surplus soils that exhibit a petroleum hydrocarbon odor or PID readings elevated above background levels will be separately stockpiled and characterized in accordance with Ecology's 2010 *Draft Guidance for the Remediation of Petroleum-Contaminated Sites,* based on the estimated volume of the stockpile. In general, three soil samples will be collected for the first 100 cubic yards of stockpile soil and one additional soil sample will be collected for every 100 cubic yards thereafter. Soil stockpiles will be managed in accordance with BMPs.

8.2.5 Soil Confirmation Sampling

One or two soil samples will be collected during installation of each new remediation well to document baseline conditions. Otherwise, confirmation sampling is not included in the scope of this IRAWP. The soil sample collected from the apparent smear zone interval will be submitted

to F&B for GRPH and BTEX analysis to document baseline conditions and characterize the drill cuttings for treatment or disposal as inert waste.

8.2.6 Wastewater Compliance Sampling

Wastewater that is captured and collected during the interim remedial actions will be field-monitored, sampled, and analyzed in accordance with the required frequency and criteria specified in the waste discharge permit (Appendix D) or substantive equivalent. Any deviations from the information presented in the IRAWP will be reported in the Interim Remedial Action Status Report.

8.2.7 Vapor Compliance Sampling

Vapor compliance sampling will be performed monthly on each MPE system.

8.3 SAMPLING PROCEDURES

Performance, confirmation and compliance samples will be collected during the interim remedial actions. The sampling and handling procedures are described below.

8.3.1 Soil Samples

One or two soil samples will be collected from the smear zone interval(s) intersecting each new remediation well. Soil samples will be collected from split-spoon samples advanced and retrieved using a hollow-stem auger drill rig. Each soil sample will be contained in laboratory-prepared glassware in accordance with EPA Method 5035A. All non-dedicated sampling equipment will be decontaminated between uses, as appropriate.

Information logged during soil sampling will include at a minimum: sample depth, description in accordance with American Society of Testing and Materials Method D2488 (Visual-Manual Procedure), estimated soil moisture content, and physical indications of contamination (e.g., odors, staining). Field-screening results will also be presented, including results of headspace readings using a PID.

Stockpiled soil samples will be collected from locations where field instrumentation (i.e., PID) or field observation indicates that contamination is likely to be present, and will be collected from at depths of 6 to 12 inches beneath the surface of the stockpile.

Soil samples will be immediately transferred into laboratory-supplied sample containers. Samples collected from well borings for potential GRPH and BTEX analysis will be collected in accordance with EPA Method 5035A. Samples collected from stockpiles will be placed into standard 4-ounce containers, which will be filled to minimize headspace.

Sample containers will be labeled with the following information: client, project name and number, date and time sampled, and unique sample identification number.

Samples will be logged on a Sample Chain of Custody form and placed in a chilled cooler for transport to the laboratory while maintaining chain-of-custody protocols.

8.3.2 Wastewater Samples

Wastewater samples will be collected at an accessible sampling spigot installed on the downstream discharge pipe in accordance with the discharge authorization permit (Appendix D).

Information logged during wastewater sampling will include the flow meter reading and other noteworthy observations (e.g., odors).

Wastewater samples will be immediately transferred into laboratory-supplied sample containers. Analytical and in-field sample preservation methods for wastewater samples are presented in Table 4. Care will be taken not to handle the seal or inside cap of the container when placing the sample in the container. The container will be filled to minimize headspace (if applicable) and the seal/cap will be secured.

Sample containers will be labeled with the following information: client, project name and number, date and time sampled, and sample identification number. Samples will be logged on a Sample Chain of Custody form and placed in a chilled cooler for transport to the laboratory while maintaining chain-of-custody protocols.

8.4 SAMPLE IDENTIFCATION NUMBERING SYSTEMS

Each sample collected during the interim remedial actions will be assigned a unique sample identification and number to indicate sample media, sample location, and collection date. The sample identifier and number will be filled out in indelible ink and affixed to appropriate containers immediately prior to sample collection. In addition to the sample identifier and number, the sample labels will include the following information: client name, abbreviation for project number and name (01-176 MLT), and date and time of sample collection. The sample identification numbering systems for soil and groundwater samples collected during the interim remedial actions are detailed below.

8.4.1 Stockpile Soil

Stockpile soil samples will be assigned a unique sample identifier that will include the components listed below:

- A prefix indicating the sample was collected from a stockpile (SP).
- Stockpile characterization date (yyyymmdd).
- Stockpile designation letter (e.g. "A" for the first stockpile, "B" for the second stockpile if more than one stockpile is staged on the same characterization date).
- The sample number associated with the source stockpile.

For example, the third soil sample collected from the second stockpile profiled on April 22, 2011, would be labeled "SP-20110422B-03." The sample identification number will be recorded on the sample label, stockpile label, and Sample Chain of Custody form. Once a stockpile has been sampled but analytical results remain pending, each stockpile will be covered with plastic sheeting and labeled with a sign that reads:

"STOCKPILE ID. [YYYYMMDDL]

SAMPLED ON: [DATE]

SECURED BY: [CONTRACTOR]

DO NOT ADD/CHANGE/DELETE WITHOUT AUTHORIZATION FROM TOC AND SOUNDEARTH"

8.4.2 Confirmation Soil

One or two confirmation soil samples will be collected during installation of each new remediation well. Confirmation soil samples will be assigned a unique sample identifier that will include the components listed below:

- The soil boring number (e.g., B01, B99).
- The depth in feet bgs (e.g., 07.5, 33).

For example, a soil sample collected from boring B55 at a depth of 32.5 feet bgs would be labeled "B55-32.5." The sample identification number will be recorded on the sample label and Sample Chain of Custody form.

8.4.3 Groundwater

Groundwater samples collected from monitoring/remediation wells will be assigned a unique sample identifier that will include the components listed below:

- The number of the monitoring/remediation well from which the sample was collected (e.g., MW01, MW89).
- The sample date (in yyyymmdd format).
- A suffix describing the type of equipment used to collect the sample (disposable bailer [BA], bladder pump [BL], peristaltic pump [PE], or pneumatic pump [PN]).

For example, a groundwater sample collected from remediation well MW70 on October 15, 2011, using a pneumatic pump would be labeled "MW70-20111015-PN." Similarly a groundwater sample collected from monitoring well MW30 on March 1, 2011, using a disposable bailer would be labeled "MW30-20110301-BA." The sample identification number will be recorded on the sample label and Sample Chain of Custody form.

8.4.4 Wastewater

Each wastewater effluent sample collected from an MPE system will be assigned a unique sample number that will include the components listed below:

- W for wastewater.
- I for influent wastewater
- E for effluent wastewater
- The street number for the system (24205, 24225, or 24309).
- The sample date (in yyyymmdd format).

For example, an effluent wastewater sample collected from the MPE system at the TOC/Farmasonis Property on September 15, 2010, would be labeled "WE-24225-20100915." The sample identification will be recorded on the sample label and Sample Chain of Custody forms.

8.4.5 Vapor

Each vapor sample collected from an MPE system will be assigned a unique sample number that will include the components listed below:

- "VE" for vapor effluent.
- "VI" for vapor influent.
- The street number for the system (24205, 24225, or 24309).
- The sample date (in yyyymmdd format).

For example, a vapor effluent sample collected from the MPE system at the Drake Property on September 15, 2010, at would be labeled "VE-24309-20100915." The sample identification will be recorded on the sample label and Sample Chain of Custody forms.

8.5 LABORATORY ANALYSES

F&B of Seattle, Washington, has been selected as the laboratory to conduct the analysis of the samples collected for the interim remedial actions. F&B is certified by Ecology and meets the QA/QC requirements of Ecology and EPA. A copy of the laboratory quality assurance manual for F&B is on file at SoundEarth's Seattle office for review and reference and will be followed throughout the interim remedial actions. Information relating to laboratory personnel, equipment, and records pertaining to sample collection, transportation, and analysis are also available. Soil, groundwater, wastewater, and vapor samples collected during the interim remedial actions will be submitted to F&B for laboratory analysis based on the identified COCs for soil and groundwater at the TOC Property, TOC/Farmasonis Property, Drake Property and portions of the 56th Avenue ROW and/or the criteria specified in the state waste discharge permit (Appendix D). Analytical methods for each media are summarized below:

- Stockpile soil samples will be analyzed for GRPH by Northwest Total Petroleum Hydrocarbon (NWTPH) Method NWTPH-Gx and BTEX by EPA Method 8021B.

- Performance and confirmation soil samples will be collected in accordance with EPA Method 5035A protocols and analyzed for GRPH by Method NWTPH-Gx and for BTEX by EPA Method 8021B.
- Groundwater samples will be analyzed for GRPH by Method NWTPH-Gx and for BTEX by EPA Method 8021B, except that groundwater samples collected at the Drake Property will be analyzed for BTEX and MTBE by EPA Method 8260C.
- Wastewater samples will be collected monthly from each MPE system and analyzed for the following in accordance with the state waste discharge permit:
  - pH
  - GRPH by Method NWTPH-Gx
  - BTEX by EPA Method 8021B
  - Total lead by EPA Method 200.8
- Vapor samples will be analyzed for GRPH by Method NWTPH-Gx and for BTEX by EPA Method 8021B.

8.6 SAMPLE HANDLING AND CUSTODY

Upon transfer of the samples to laboratory personnel or arrival of samples at the laboratory, F&B will assume responsibility for custody of the samples. Laboratory personnel will document the status of shipping and handling containers. F&B will use its standard chain-of-custody procedures for tracking each sample through all stages of laboratory processing.

8.7 SAMPLING CONTAINERS, PRESERVATION, AND HOLD TIMES

Sample container requirements for the interim remedial actions are based on the medium to be sampled and the types of analysis to be performed. The containers, preservation procedures, and holding times for each medium to be sampled follow standard laboratory protocols and are described in Table 7.

8.8 SAMPLE PACKAGING AND SHIPMENT

All samples shipped for laboratory analysis will be packaged according to applicable regulations. Samples will be expeditiously transported to the analytical laboratory after being sealed in iced coolers. The sampling team may drive the samples from the Interim Remedial Action Project Area or SoundEarth's office in Seattle, Washington, to the laboratory, or samples will be shipped by a same-day courier service to F&B.

The following procedure will be used for sample packaging and represents the minimum shipping and handling requirements:

- Sample labels will be affixed to corresponding sample containers at the time of sample collection.
- Bubble wrap bags, or equivalent, will be used to protect glass sample jars and/or vials.

- Sample containers will be placed in a cooler and checked against the chain-of-custody record to confirm that all samples are listed and are in the correct cooler.
- The Sample Chain of Custody form will be sealed in a resealable plastic bag. The bag will be taped to the inside of the cooler lid.
- Resealable bags will be filled with ice and/or chemical equivalent and included in the cooler shipment. All ice will be double-bagged in heavy-duty bags and/or garbage bags.
- The cooler lid will be taped shut using strapping tape.

Whenever using a courier service to deliver samples to F&B:

- The cooler will be sealed with a chain-of-custody seal.
- The laboratory address will be affixed to all coolers.
- Extraneous stickers will be removed from the cooler.
- SoundEarth's return address will be on the coolers.

8.9 SAMPLE DOCUMENTATION

All sample containers will be adequately identified with a durable label, and the sample identification will be recorded on the applicable forms. Sample containers will be labeled with the following information: client identification (TOC), abbreviation for project name and number (01-176 MLT), date and time sampled, and sample identification number. Other sample documentation to be maintained by field personnel includes Sample Chain of Custody forms and seals, as well as sample labels. Examples of the Sample Chain of Custody form and sample labels are included in Appendix E.

At the time that sampling occurs, the appropriate sample containers will be selected and the sample identification for each sample will be recorded on the Sample Inventory Form. Samples will be recounted before leaving the Interim Remedial Action Project Area to verify that no samples are misplaced, and the cooler lid will be taped shut using strapping tape. If a courier service is used to deliver samples to F&B, a chain-of-custody seal will be applied to the cooler before shipping. A chain-of-custody seal is used to demonstrate that no tampering has occurred between the time the cooler was relinquished by the field personnel and when it was received by the laboratory. The chain-of-custody seal will be attached so that it must be broken to open the shipping container.

Prior to transporting samples off the Interim Remedial Action Project Area, chain-of-custody entries will be made for all samples on the Sample Chain of Custody form. Information on the custody seals (if used) will be checked against sample summary log entries. An example of the Sample Inventory Form is included in Appendix E.

Each Sample Chain of Custody form will contain the following information: medium, date and time sampled, sample identification and number, project name, project number, sampler's initials, and analyte preservative(s), if any.

8.10 FIELD DOCUMENTATION

Documentation of field activities will be included on Field Report forms, Boring Log forms, Sample Inventory Forms, soil disposal scale tickets, Sample Chain of Custody forms, and sample labels. Documentation generated during the field program will be retained in the project file and included in the reports generated, as appropriate. Status reports summarizing the current status of the interim remedial actions will be submitted monthly during construction and quarterly following MPE system startup via email to Ecology. The State Discharge Monitoring Reports or their substantive equivalents may be required components of the quarterly submittals. In addition, arrangements will be made for inclusion of relevant data gathered during the interim remedial actions, as necessary, towards completion of the Remedial Investigation/Feasibility Study.

8.10.1 Field Report Form

Field personnel will be required to keep a daily field log on a Field Report form. Field notes will be as descriptive and as inclusive as possible, allowing independent parties to reconstruct the remediation and sampling activities from the recorded information. Language will be objective, factual, and free of inappropriate terminology. A summary of each day's events will be completed on a Field Report form. At a minimum, field documentation will include the date, job number, project identification and location, weather conditions, sample collection data, personnel present and responsibilities, field equipment used, and activities performed in a manner other than specified in the IRAWP. In addition, if other forms are completed or used (e.g., Sample Chain of Custody form), they will be referred to in, and attached to, the Field Report form. Field personnel will sign the Field Report form. An example of a Field Report form is included in Appendix E.

8.10.2 Sample Inventory Form

Field personnel will be required to keep a Sample Inventory Form when collecting performance and confirmation samples during the interim remedial actions at the Interim Remedial Action Project Area. At a minimum, field notes on the form will include a physical description, sample collection data, the date, job number, project identification and street address to distinguish between different properties at the Interim Remedial Action Project Area, field equipment used, and any activities performed in a manner other than specified in the IRAWP. An example of the Sample Inventory Form is included in Appendix E.

8.10.3 Soil Disposal Scale Ticket

Soil disposal scale tickets will be used to document and track each type of soil transported and disposed off the Interim Remedial Action Project Area during installation of the MPE systems. This information will include a ticket number, date and time, soil designation (e.g., non-hazardous), and the truck configuration (i.e., truck only, or truck and pup). An example of a soil disposal scale ticket is included in Appendix E.

8.10.4 Sample Chain of Custody Form

The written procedures that are followed whenever samples are collected, transferred, stored, analyzed, or destroyed are designed to create an accurate written record that can be used to trace the possession and handling of the sample from the moment of its collection through analysis and reporting of analytical values. This written record, the Sample Chain of Custody

form, will be filled out by the field sampling team at the time the sample is obtained. An example of the Sample Chain of Custody form is included in Appendix E.

All samples submitted to the laboratory will be accompanied by a Sample Chain of Custody form. This form will be checked for accuracy and completeness and then signed and dated by the laboratory sample custodian accepting the sample. At the laboratory, each sample is assigned a unique, sequential laboratory identification number that will be stamped or written on the Sample Chain of Custody form.

All samples will be held under internal chain-of-custody protocols in the Sample Control room using the appropriate storage technique (i.e., ambient, refrigeration, frozen). The laboratory Project Manager assigned to this project will be responsible for tracking the status of the samples at the laboratory. Each sample will be signed out of the Sample Control room in a sample control logbook by the analyst who will prepare the samples for analysis.

Each Sample Chain of Custody form will include the following information: client, project name and number, date and time sampled, sample identification, sampler's initials, requested analysis, and analyte preservative(s), if any.

8.10.5 Sample Labels

Sample labels will be filled out and affixed to appropriate containers immediately prior to sample collection. The label will be filled out in indelible ink and include the following information: medium, date, time sampled, sample identification and number, project name, and project number. An example of the sample label is included in Appendix E.

8.10.6 Well Development Form

A Well Development Form will be maintained for each well to document the type of equipment used, approximate volumes of groundwater extracted during development, and approximate rates of extraction. The form will indicate whether the well runs dry during development and the time and date when development resumes after a well runs dry. An example of the Well Development Form is included in Appendix E.

8.10.7 Groundwater Purge and Sample Form

A Groundwater Purge and Sample Form will be filled out for each well that is sampled to record the type of equipment used for purging and sampling, purge volumes, whether low-flow protocol water quality parameters have been achieved, and whether the well runs dry during sampling and list sample(s) collected from the well. An example of the Groundwater Purge and Sample Form is included in Appendix E.

8.10.8 Groundwater Monitoring Well Data Form

A Groundwater Monitoring Well Data Form will be filled out to document depth to liquid-level measurements on each date that liquid levels are gauged. The Groundwater Monitoring Well Data Form will report the date, project name, well identification numbers, depth below top-of-casing to groundwater, and depth below top-of-casing to LNAPL if present. An example of the Groundwater Monitoring Well Data Form is included in Appendix E.

8.10.9 O&M Field Data Sheet

An O&M Field Data Sheet will be filled out to record MPE system operating parameters at the time of the O&M visit. The O&M Field Data Sheet will include a summary description of the MPE

system, starting and ending vacuum and pressure readings, hours of operation, final manifold settings, effluent air conditions including oxygen content and percent of the lower explosive limit, wastewater flow totalizer readings, pump regulator pressures and pump cycle strokes, and a summary of samples collected. An example of an O&M Field Data Sheet is included in Appendix E.

9.0 QUALITY ASSURANCE AND QUALITY CONTROL

The purpose of QA/QC is to provide focus on the factors affecting data quality, facilitate communication among laboratory and SoundEarth staff, document QA/QC activities, confirm that the data quality objectives (DQOs) are achieved, and provide a record of the project to facilitate final report preparation. This section supplements Section 8.0, Compliance Monitoring, and was prepared in general accordance with WAC 173-340-820 and WAC 173-340-830.

9.1 DATA QUALITY OBJECTIVES

The DQOs for the interim remedial actions will be used to develop and implement procedures to confirm that data collected are of sufficient quality to adequately address the objectives of the cleanup actions at the Interim Remedial Action Project Area. All observations and measurements will be made and recorded in such a manner as to yield results representative of the media and conditions observed and/or measured. Goals for representativeness will be met by confirming that sampling locations are selected properly, that a sufficient number of samples are collected, and that field screening and laboratory analyses are conducted properly.

The quality of the laboratory data will be assessed by precision, accuracy, representativeness, completeness, and comparability. Definitions of these parameters and the applicable quality control procedures are described in subsections 9.1.1 through 9.1.6. Quantitative DQOs for applicable parameters (e.g., precision, accuracy, completeness) are provided following each definition. Laboratory DQOs have been established by the analytical laboratory.

9.1.1 QUANTITATION LIMITS

The specific analytes and corresponding laboratory practical quantitation limits (PQLs) that will be required for the interim remedial actions are presented in Table 8. The detection or reporting limits for actual samples may be higher depending on the sample matrix, moisture content, and laboratory dilution factors.

9.1.2 PRECISION

Precision measures the reproducibility of measurements under a given set of conditions. Specifically, it is a quantitative measure of the variability of two or more measurements compared to their average values. Precision is calculated from results of duplicate sample analyses. Precision is quantitatively expressed as the relative percent difference (RPD) and is calculated as follows:

$$RPD = \frac{(C_1 - C_2)}{(C_1 + C_2)/2} x\ 100$$

Where:

RPD = relative percent difference

C_1 = larger of the two duplicate results (i.e., the highest detected concentration)

C_2 = smaller of the two duplicate results (i.e., the lowest detected concentration)

There are no specific RPD criteria for organic chemical analyses. Quantitative RPD criteria for organic analyses will be based on laboratory-derived control limits.

9.1.3 ACCURACY

Accuracy is a measure of the closeness (or bias) of the measured value to the true value. The accuracy of chemical analytical results is assessed by "spiking" samples in the laboratory with known standards (a surrogate or matrix spike of known concentration) and determining the percent recovery. The accuracy is measured as the percent recovery (%R) and is calculated as follows:

$$\%R = \frac{(M_{sa} - M_{ua})}{C_{sa}} x\ 100$$

Where:

%R = percent recovery

M_{sa} = measured concentration in spiked aliquot

M_{ua} = measured concentration in unspiked aliquot

C_{sa} = actual concentration of spike added

Laboratory matrix spikes and surrogates will be administered at the analytical laboratory in accordance with Ecology requirements and the EPA Method SW-846 for inorganic and organic chemical analyses. The frequency of matrix spikes and matrix spike duplicates will each be one per batch of 20 samples or less for soil and water samples. Quantitative percent recovery criteria for organic analyses will be based on laboratory-derived control limits for surrogate recovery and matrix spike results.

The accuracy of sample results can also be affected by the introduction of contaminants to the sample during collection, handling, or analysis. Contamination of the sample can occur because of improperly cleaned sampling equipment, exposing samples to chemicals in the field or during transport to the laboratory, or because of chemical exposure in the laboratory. To demonstrate that the samples collected are not contaminated, laboratory method blank samples will be analyzed.

The laboratory will run method blanks at a minimum frequency of 5 percent or one per batch to assess potential contamination of the sample within the laboratory.

9.1.4 REPRESENTATIVENESS

Representativeness is a qualitative assessment of how closely the measured results reflect the actual concentration or distribution of the constituent concentrations in the matrix sampled. The sampling plan design, sample collection techniques, sample handling protocols, sample analysis methods, and data review procedures have been developed to verify that the results obtained are representative of the conditions at the Interim Remedial Action Project Area.

9.1.5 COMPLETENESS

Completeness is defined as the percentage of measurements judged to be valid. Results will be considered valid if they are not rejected during data validation. Completeness is calculated as follows:

$$C = \frac{(Number\ of\ Valid\ Measurements)}{(Total\ Number\ of\ Measurements)} x\ 100$$

Objectives for completeness are based, in part, on the subsequent uses of the data (i.e., the more critical the use, the greater the completeness objective). The objectives for completeness of samples are expressed as percentages, which refer to the minimum acceptable percentages of samples received at the laboratory in good condition and acceptable for analysis. The objectives of completeness for other samples are 95 percent for soil and water samples. These objectives will be met though the use of proper sample containers, proper sample packaging procedures to prevent breakage during shipment, proper sample preservation, and proper labeling and chain-of-custody procedures.

The objectives for completeness of chemical analyses are also expressed as percentages and refer to the percentages of analytical requests for which usable analytical data are produced. The initial objective for completeness of chemical analyses in the laboratory is 95 percent.

9.1.6 COMPARABILITY

Comparability is a qualitative parameter expressing the confidence with which one dataset can be compared with another. The use of standard Ecology and EPA methods and procedures for both sample collection and laboratory analysis will make the data collected comparable to both internal and other data generated.

9.2 DATA MANAGEMENT, REDUCTION, QUALITY ASSURANCE, REVIEW, AND REPORTING

This section outlines the procedures to be followed for the inventory, control, storage, and retrieval of data collected during performance of the interim remedial actions. These procedures are designed to confirm that the integrity of the collected data is maintained for subsequent use. Moreover, project-tracking data (e.g., schedules and progress reports) will be maintained to monitor, manage, and document the progress of the interim remedial actions.

9.2.1 DATA TYPES

A variety of data will be generated by the cleanup actions, including sampling and analytical data. The laboratory analytical data will be transmitted to SoundEarth as electronic files, in addition to hard copies of laboratory data reports. This will facilitate the subsequent validation and analysis of these data while avoiding transcription errors that may occur with computer data entry. Examples of data types include manually recorded field data (e.g., Sample Inventory Form) and electronically reported laboratory data.

9.2.2 DATA TRANSFER

Procedures controlling the receipt and distribution of incoming data packages to SoundEarth and outgoing data reports from SoundEarth include:

- Incoming documents will be date-stamped and filed. Correspondence and transmittal letters for all reports, maps, and data will be filed chronologically. Data packages, such as those from field personnel, laboratories (e.g., soil analytical data), and surveyors (e.g., elevation data) will be filed by project task, subject heading, and date. If distribution is required, the appropriate number of copies will be made and distributed to the appropriate persons or agencies.

- A transmittal sheet will be attached to all project data and reports that are distributed. A copy of each transmittal sheet will be kept in the administrative file and the SoundEarth project file. The Project Manager and QA/QC Officer will review all outgoing reports and maps.

9.2.3 DATA INVENTORY

Procedures for filing, storage, and retrieval of project data and reports are discussed below.

9.2.3.1 Document Filing and Storage

As previously discussed, project files and raw data files will be maintained at SoundEarth's office and TOC's office. Files will be organized by project tasks or subject heading and will be maintained by the document control clerk. Hard-copy project files will be archived for a minimum of 10 years after completion of the project. Electronic copies of files will be maintained in a project directory and backed up on a daily basis.

9.2.3.2 Access to Project Files

Access to project files will be controlled and limited to TOC and their authorized representatives, Ecology, and SoundEarth personnel. When a hard-copy file is removed for use, a sign-out procedure will be used to track custody. If a document is to be used for a long period, a copy will be used, and the original will be returned to the project file. Electronic access to final reports, tables, and figures will be write-protected in the project directory.

9.3 QUALITY CONTROL PROCEDURES

This subsection provides a description of the quality control procedures for laboratory analyses. Analytical laboratory QA/QC procedures are provided in the *Laboratory Quality Assurance Manual* for F&B that is on file at SoundEarth's Seattle office. Laboratory quality control limits are presented in Table 9.

9.3.1 DATA QUALITY CONTROL

All data generated by F&B will undergo two levels of QA/QC evaluation: one by the laboratory and one by SoundEarth. As specified in F&B's *Laboratory Quality Assurance Manual*, the laboratory will perform initial data reduction, evaluation, and reporting. The analytical data will then be validated at SoundEarth under the supervision of the QA/QC Officer. The following types of quality control information will be reviewed, as appropriate:

- Method deviations
- Sample transport conditions (temperature and integrity)
- Sample extraction and holding times
- Method reporting limits
- Blank samples
- Duplicate samples
- Surrogate recoveries

- Percent completeness
- RPD (precision)

SoundEarth will review field records and results of field observations and measurements to confirm procedures were properly performed and documented. The review of field procedures will include:

- Completeness and legibility of field logs
- Preparation and frequency of field quality control samples
- Performance of equipment calibration and maintenance
- Completeness and legibility of Sample Chain of Custody forms

9.3.2 CORRECTIVE ACTION

Corrective actions will be the joint responsibility of the Project Manager and the QA/QC Officer. Corrective procedures can include:

- Identifying the source of the violation;
- Re-analyzing samples, if holding time criteria permit;
- Re-sampling and analyzing;
- Re-measuring parameter;
- Evaluating and amending sampling and analytical procedures; and/or
- Qualifying data to indicate the level of uncertainty.

9.3.3 DATA ASSESSMENT PROCEDURES

The Project Manager and QA/QC Officer are responsible for data review and validation. Upon receipt of each data package from the laboratory, calculations using the equations presented for precision, accuracy, and completeness will be performed. Results will be compared to quantitative DQOs (where established) or qualitative DQOs.

9.3.4 REPORTING

The Interim Remedial Action Status Report will include a QA/QC section that summarizes data quality information in the deliverables generated during the project. This summary will include at a minimum:

- Assessment of data accuracy and completeness.
- Results of performance and/or system audits.
- Significant quality assurance problems and their impacts on the DQOs.

10.0 LIMITATIONS

The services described in this IRAWP will be performed in a manner consistent with generally accepted professional consulting principles and practices. No other warranty, expressed or implied, is made. These services will be performed in a manner consistent with our agreement with our client.

11.0 REFERENCES

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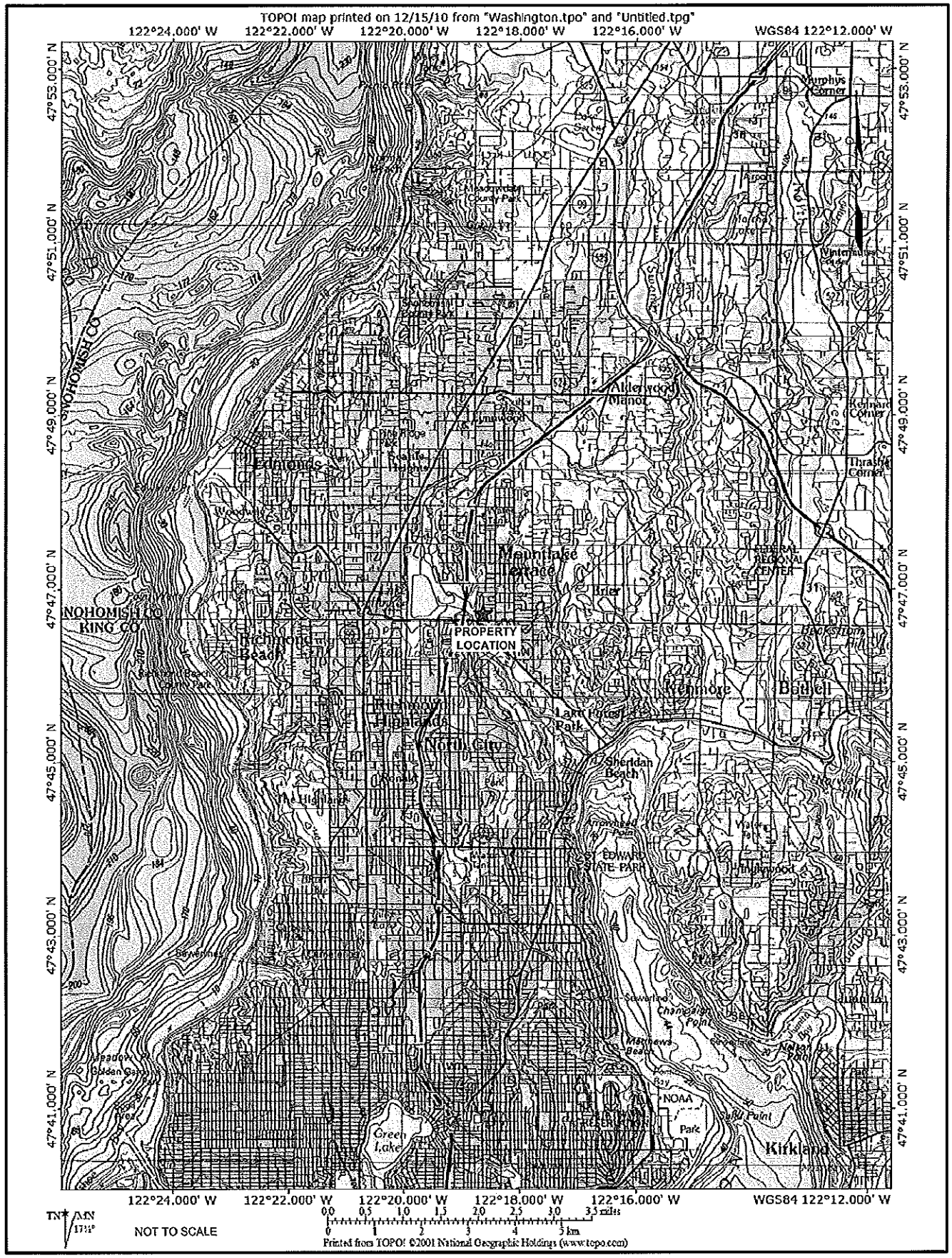
FIGURES

P:\0440 TOC HOLDINGS CO\01-176 MOUNTLAKE TERRACE\TECHNICAL\CAD\2010 IRA\WP\01-176_FIG1_TO.DWG



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CITY, STATE: MOUNTLAKE TERRACE, WASHINGTON

FIGURE 1
PROPERTY LOCATION MAP

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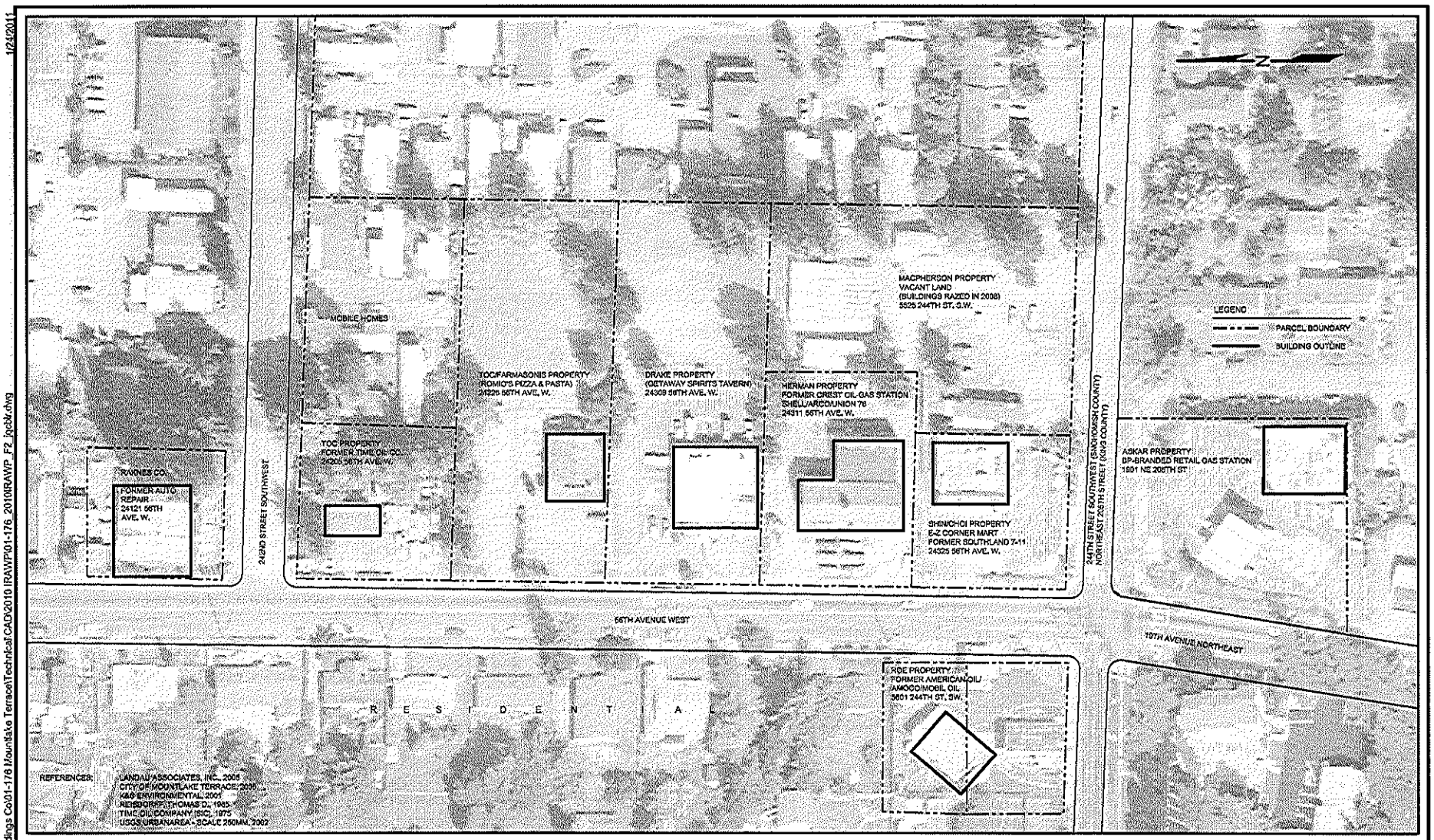

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REGION:

0 30 60 120
APPROXIMATE SCALE IN FEET

FIGURE 2
PROPERTY LOCATION MAP

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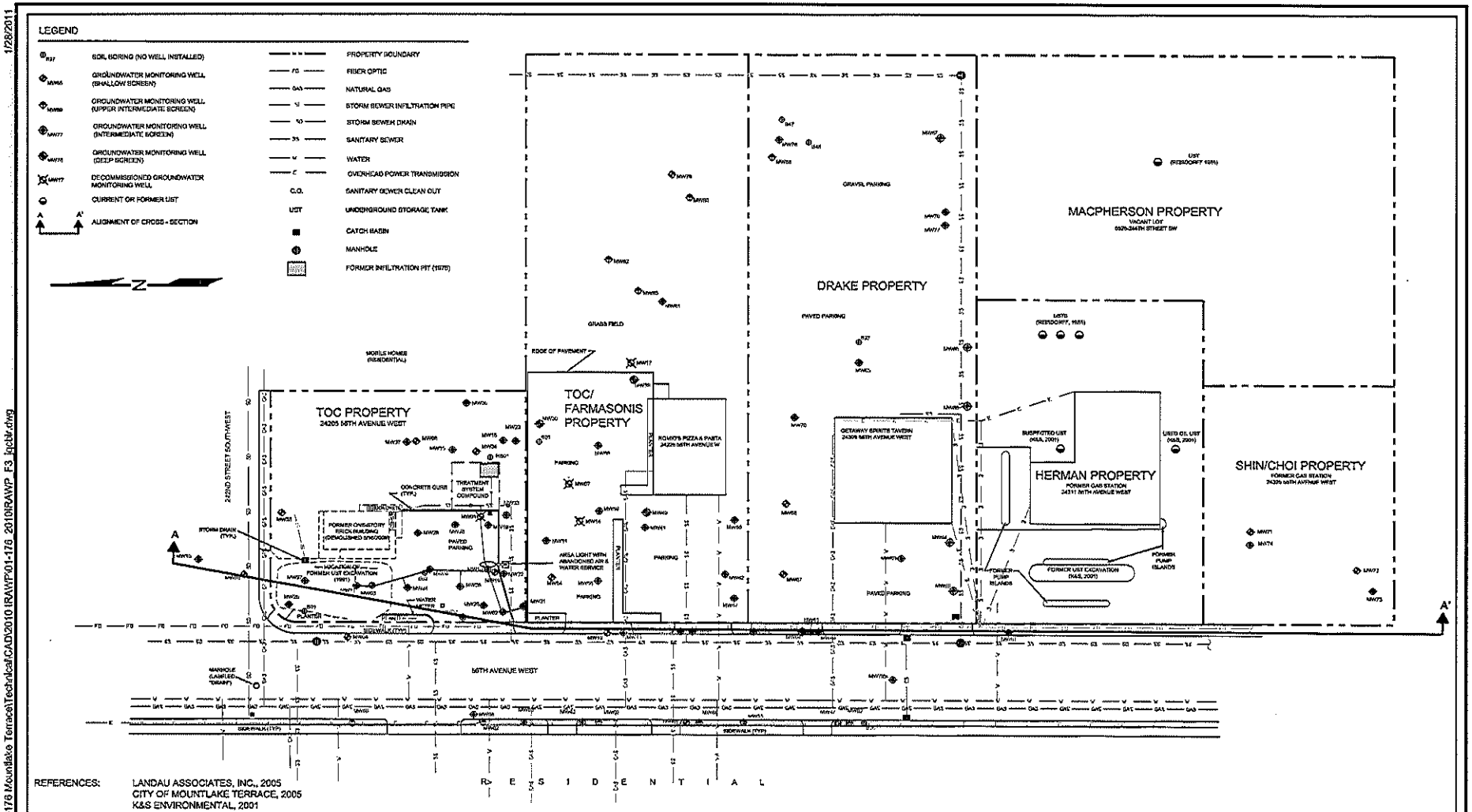

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CITY, STATE: MOUNTLAKE TERRACE, WASHINGTON

REGION:

0 25 50 100
APPROXIMATE SCALE IN FEET

FIGURE 3
EXPLORATION LOCATION PLAN WITH GEOLOGIC CROSS SECTION LOCATION

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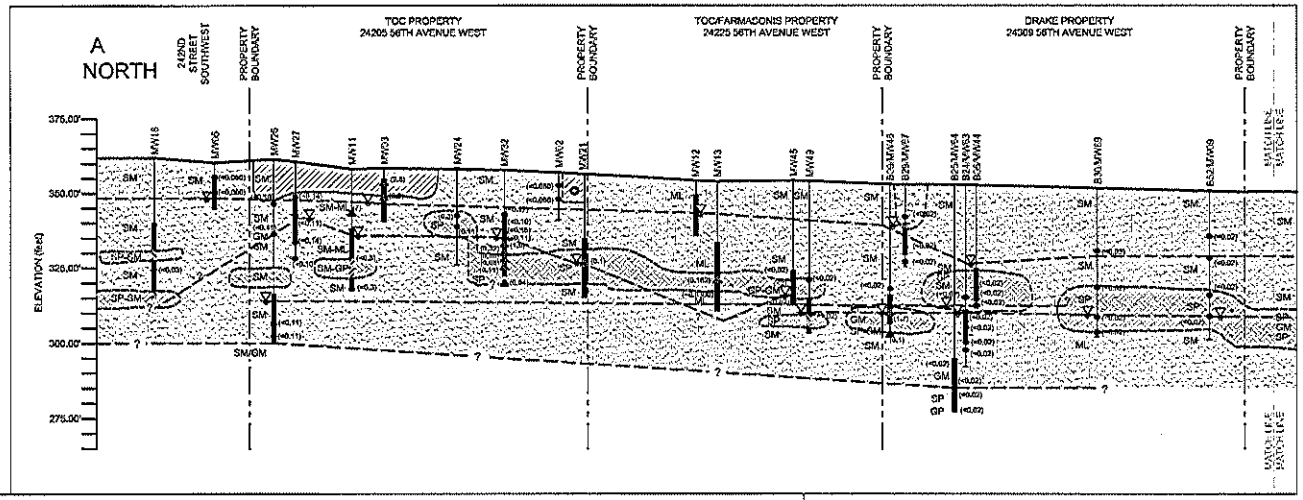

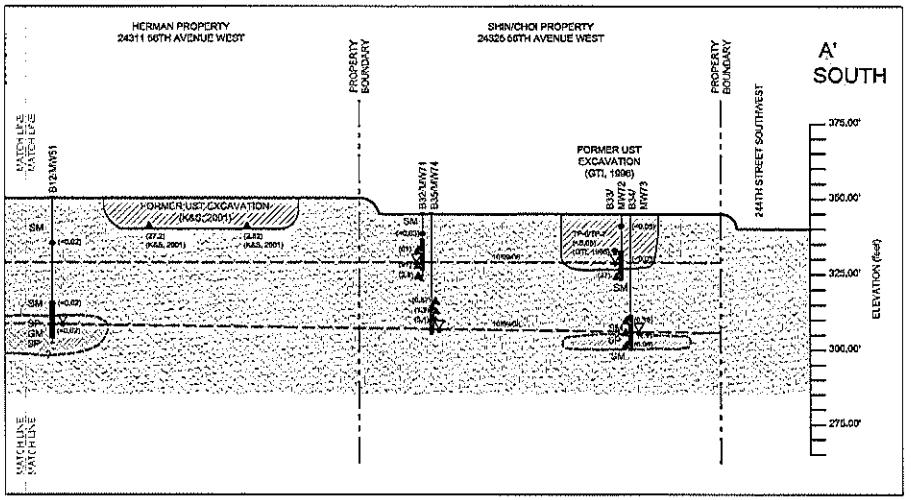

LEGEND

- SOIL SAMPLE LOCATION
- SANITARY SEWER LATERAL
- GROUNDWATER TABLE (FEBRUARY 13, 2008 UNLESS NOTED OTHERWISE)
- SCREEN INTERVAL OF MONITORING WELL
- BOTTOM OF BORING
- FORMER UST EXCAVATION

GRPH	GASOLINE-RANGE PETROLEUM HYDROCARBONS
MTCA	WASHINGTON STATE MODEL TOXICS CONTROL ACT
UST	UNDERGROUND STORAGE TANK
0.04	BENZENE CONCENTRATION IN SOIL SAMPLE

ALL CONCENTRATIONS IN MILLIGRAMS PER KILOGRAM

RED REPORTED CONCENTRATION EXCEEDS MTCA METHOD A CLEANUP LEVEL FOR SOIL

GP	SANDY GRAVEL (<5% SILT AND >50% GRAVEL) WITH COBBLES AND BOULDERS.
GM	SILTY SANDY GRAVEL (>15% SILT AND >50% GRAVEL)
SM	SILTY SAND WITH GRAVEL TO GRAVELLY, SILTY SAND (>15% SILT AND >50% SAND)
SP	CLEAN SAND TO GRAVELLY SAND (<5% SILT AND >50% SAND)
SP-SM	SAND WITH SILT AND GRAVEL TO GRAVELLY SAND WITH SILT (<15% SILT AND >50% SAND)
ML	SANDY SILT WITH GRAVEL (>50% SILT)

- FILL - HUMAN-PLACED SOIL INCLUDING UTILITY BACKFILL (SM), UST EXCAVATION BACKFILL (SM), AND INFILTRATION PIT BACKFILL (GP).
- GLACIAL TILL - ICE-LAIN DEPOSITS CONSISTING OF UNSORTED TO POORLY SORTED, SANDY SILT (ML, SM-ML), SILTY SAND (SM), AND SILTY SANDY GRAVEL (GM). WITH SOME COBBLES AND BOULDERS.
- GLACIOFLUVIAL LAYERS - WATER-LAIN DEPOSITS WITHIN GLACIAL TILL CONSISTING OF MODERATELY SORTED SANDS (SP) AND GRAVELS (GP) WITH VARIABLE SILT (SP-SM, SM, GP-GM, GM). WITH SOME COBBLES AND BOULDERS.
- GLACIAL OUTWASH - VASHON RECESSIONAL DEPOSITS CONSISTING OF WELL-SORTED SANDS (SP) AND GRAVELS (GP), WITH VARIABLE SILT (SP-SM, GP-GM). WITH COBBLES.
- ADVANCE OUTWASH - WATER-LAIN DEPOSITS CONSISTING OF MODERATELY TO WELL-SORTED SANDS (SP) AND GRAVELS (GP) WITH VARIABLE SILT (SP-SM, SM, GP-GM, GM).

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0 20 40 80
APPROXIMATE SCALE IN FEET

FIGURE 4
CROSS SECTION A - A'
WITH SOIL ANALYTICAL DATA AND
WATER - BEARING ZONES

1/28/2011
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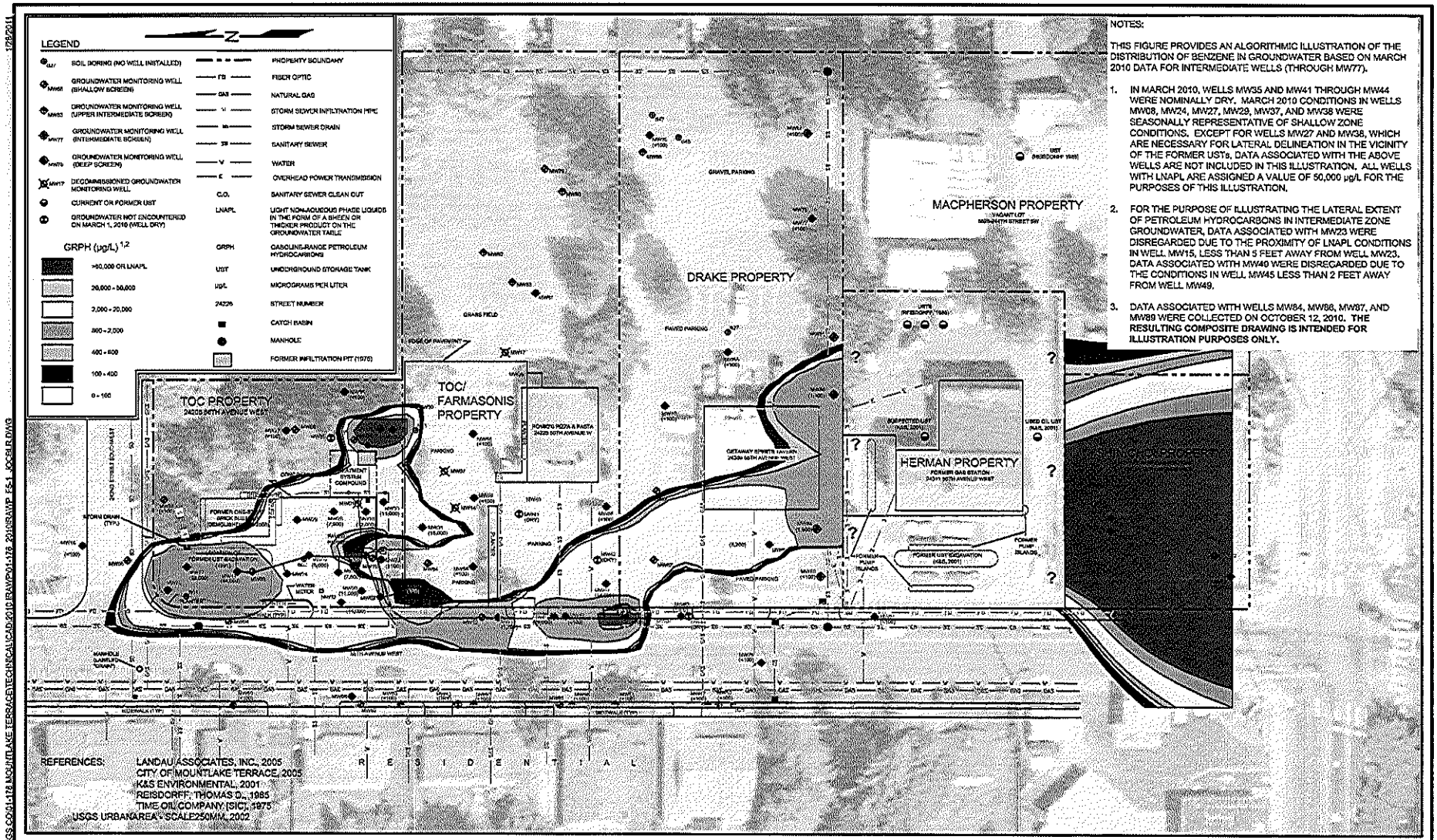

NOTES:

THIS FIGURE PROVIDES AN ALGORITHMIC ILLUSTRATION OF THE DISTRIBUTION OF BENZENE IN GROUNDWATER BASED ON MARCH 2010 DATA FOR INTERMEDIATE WELLS (THROUGH MW77).

1. IN MARCH 2010, WELLS MW35 AND MW41 THROUGH MW44 WERE NOMINALLY DRY. MARCH 2010 CONDITIONS IN WELLS MW08, MW24, MW27, MW29, MW37, AND MW38 WERE SEASONALLY REPRESENTATIVE OF SHALLOW ZONE CONDITIONS. EXCEPT FOR WELLS MW27 AND MW38, WHICH ARE NECESSARY FOR LATERAL DELINEATION IN THE VICINITY OF THE FORMER USTs, DATA ASSOCIATED WITH THE ABOVE WELLS ARE NOT INCLUDED IN THIS ILLUSTRATION. ALL WELLS WITH LNAPL ARE ASSIGNED A VALUE OF 50,000 µg/L FOR THE PURPOSES OF THIS ILLUSTRATION.
2. FOR THE PURPOSE OF ILLUSTRATING THE LATERAL EXTENT OF PETROLEUM HYDROCARBONS IN INTERMEDIATE ZONE GROUNDWATER, DATA ASSOCIATED WITH MW23 WERE DISREGARDED DUE TO THE PROXIMITY OF LNAPL CONDITIONS IN WELL MW15, LESS THAN 5 FEET AWAY FROM WELL MW23. DATA ASSOCIATED WITH MW49 WERE DISREGARDED DUE TO THE CONDITIONS IN WELL MW45 LESS THAN 2 FEET AWAY FROM WELL MW49.
3. DATA ASSOCIATED WITH WELLS MW84, MW86, MW87, AND MW89 WERE COLLECTED ON OCTOBER 12, 2010. **THE RESULTING COMPOSITE DRAWING IS INTENDED FOR ILLUSTRATION PURPOSES ONLY.**

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USGS URBAN AREA, SCALE 250M, 2002

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CITY, STATE: MOUNTLAKE TERRACE, WASHINGTON

REGION:

0 25 50 100
APPROXIMATE SCALE IN FEET

FIGURE 5.1
CONCENTRATIONS OF GRPH IN INTERMEDIATE ZONE GROUNDWATER MARCH AND OCTOBER 2010[3]

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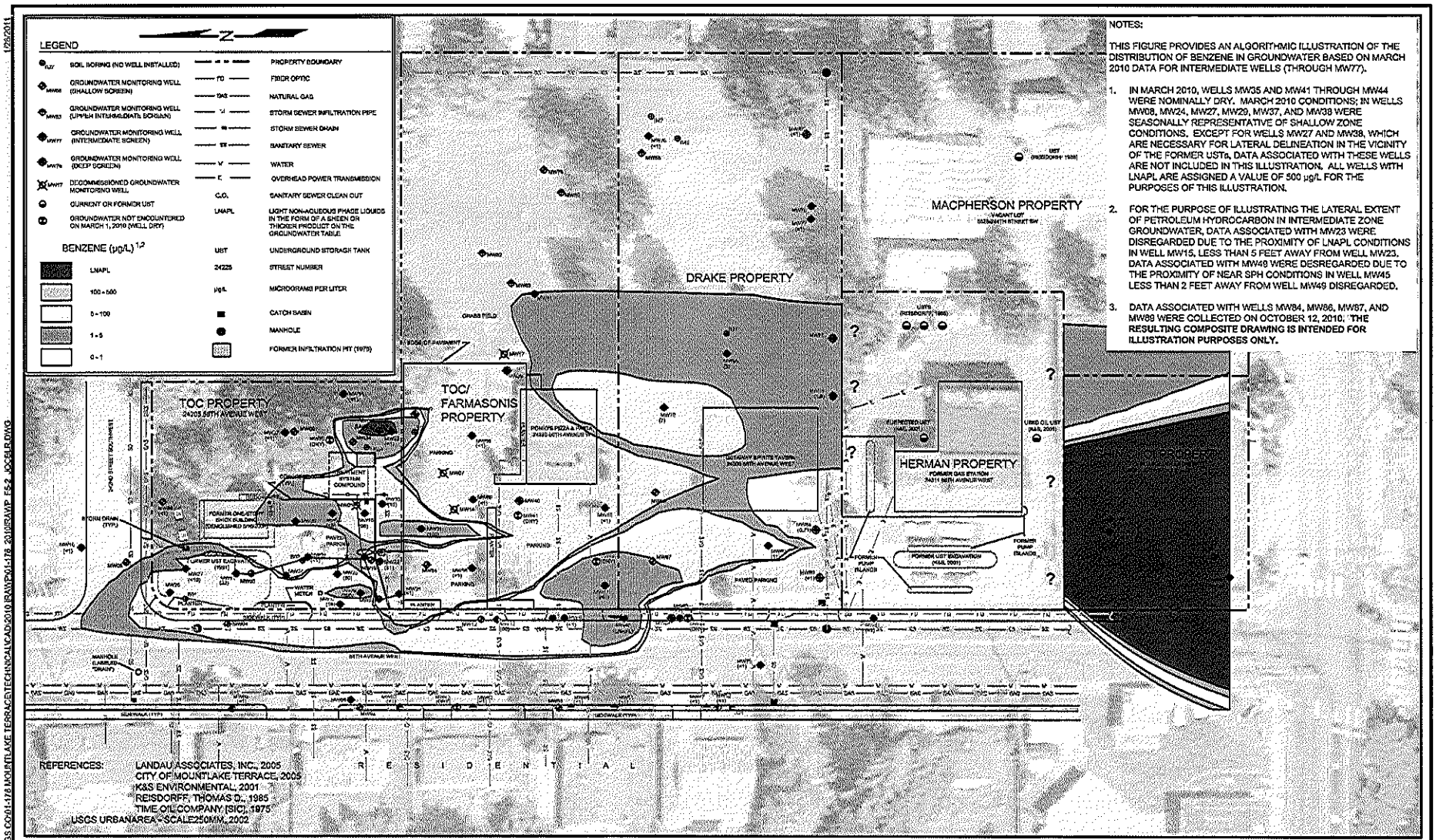

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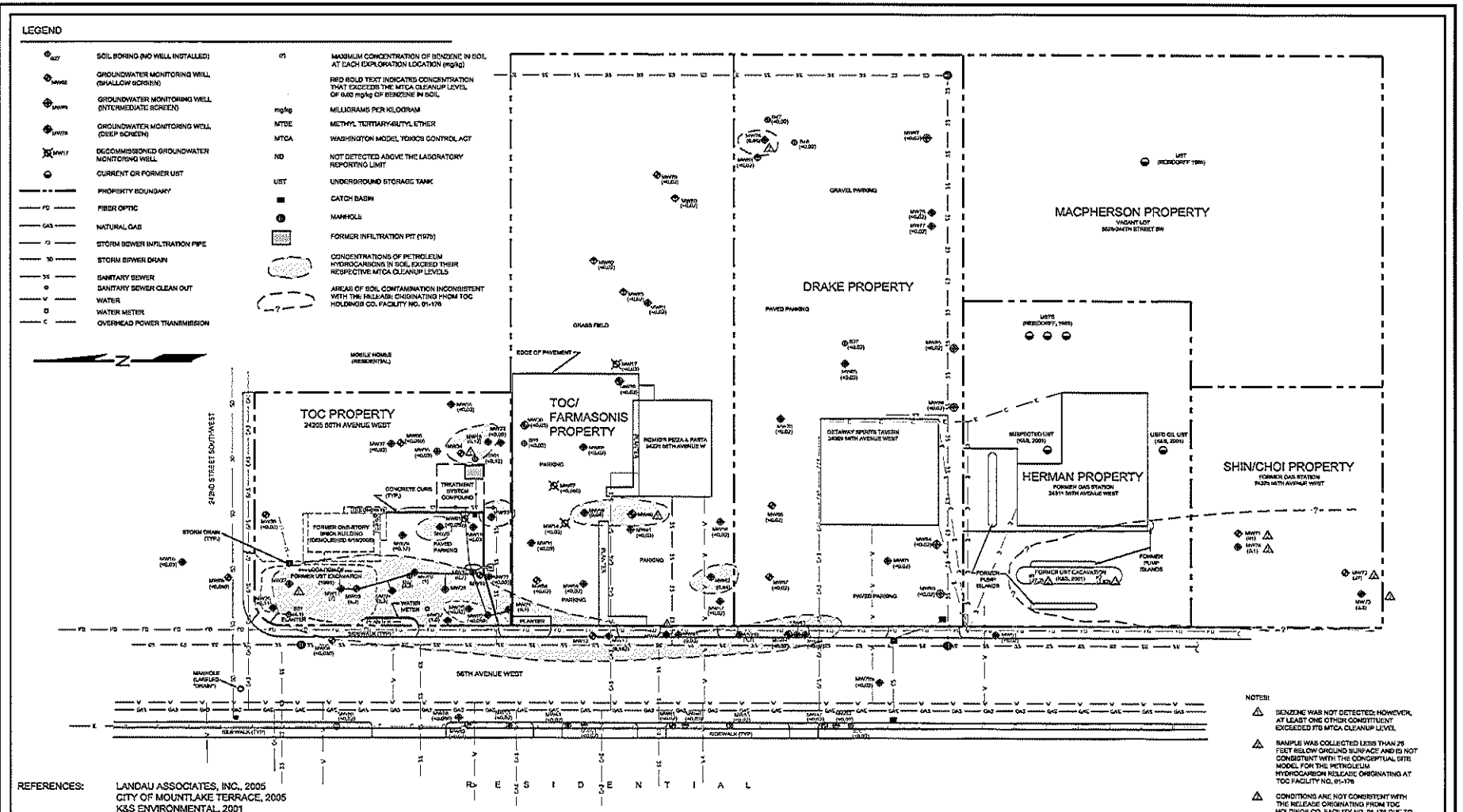
PROJECT NAME: TOC HOLDINGS CO. FACILITY 01-176
PROJECT NUMBER: 0440-030
STREET ADDRESS: 24205 56TH AVENUE WEST
CITY, STATE: MOUNTLAKE TERRACE, WASHINGTON

REGION:

FIGURE 5.2

CONCENTRATIONS OF BENZENE IN INTERMEDIATE ZONE GROUNDWATER MARCH AND OCTOBER 2010[3]

P:\0440\TOC HOLDINGS CO\01-176 MOUNTLAKE TERRACE\TECHNICAL\CAD\2010 RAWP\01-176_2010RAWP_F5-2_10CBLR.DWG 1/6/2011



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CAD FILE: 01-176_2010IRAWP_F6

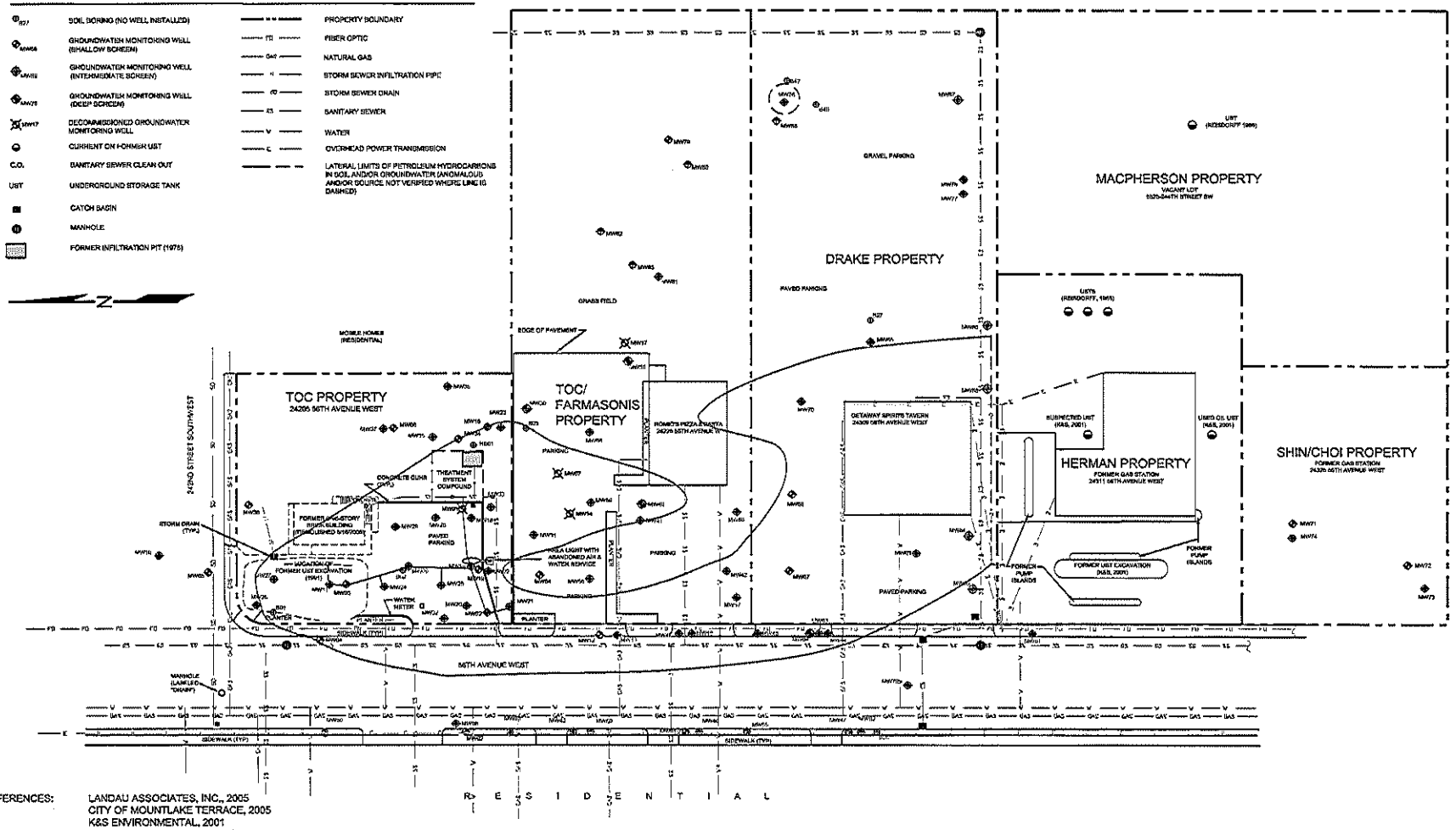
PROJECT NAME: TOC HOLDINGS CO. FACILITY 01-176
PROJECT NUMBER: 0440-030
STREET ADDRESS: 24205 56TH AVENUE WEST
CITY, STATE: MOUNTLAKE TERRACE, WASHINGTON

REGION:

0 25 50 100
APPROXIMATE SCALE IN FEET

FIGURE 6
LATERAL EXTENT AND MAXIMUM CONCENTRATIONS OF BENZENE IN SOIL

P:\0440 TOC Holdings Co\01-176 Mountlake Terrace\Technical\CAD\2010 IRAWP\01-176_2010IRAWP_F6_jqc.dwg 1/26/2011



REFERENCES:
LANDAU ASSOCIATES, INC., 2005
CITY OF MOUNTLAKE TERRACE, 2005
K&S ENVIRONMENTAL, 2001
REISDORFF, THOMAS D., 1965
TIME OIL COMPANY (SIC), 1975

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DATE: 01/06/11
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CAD FILE: 01-176_2010IRAWP_F7

PROJECT NAME: TOC HOLDINGS CO. FACILITY 01-176
PROJECT NUMBER: 0440-030
STREET ADDRESS: 24205 56TH AVENUE WEST
CITY, STATE: MOUNTLAKE TERRACE, WASHINGTON

REGION:

0 25 50 100
APPROXIMATE SCALE IN FEET

FIGURE 7
INTERIM REMEDIAL ACTION PROJECT AREA BOUNDARY DEFINITION MAP

1/28/2011
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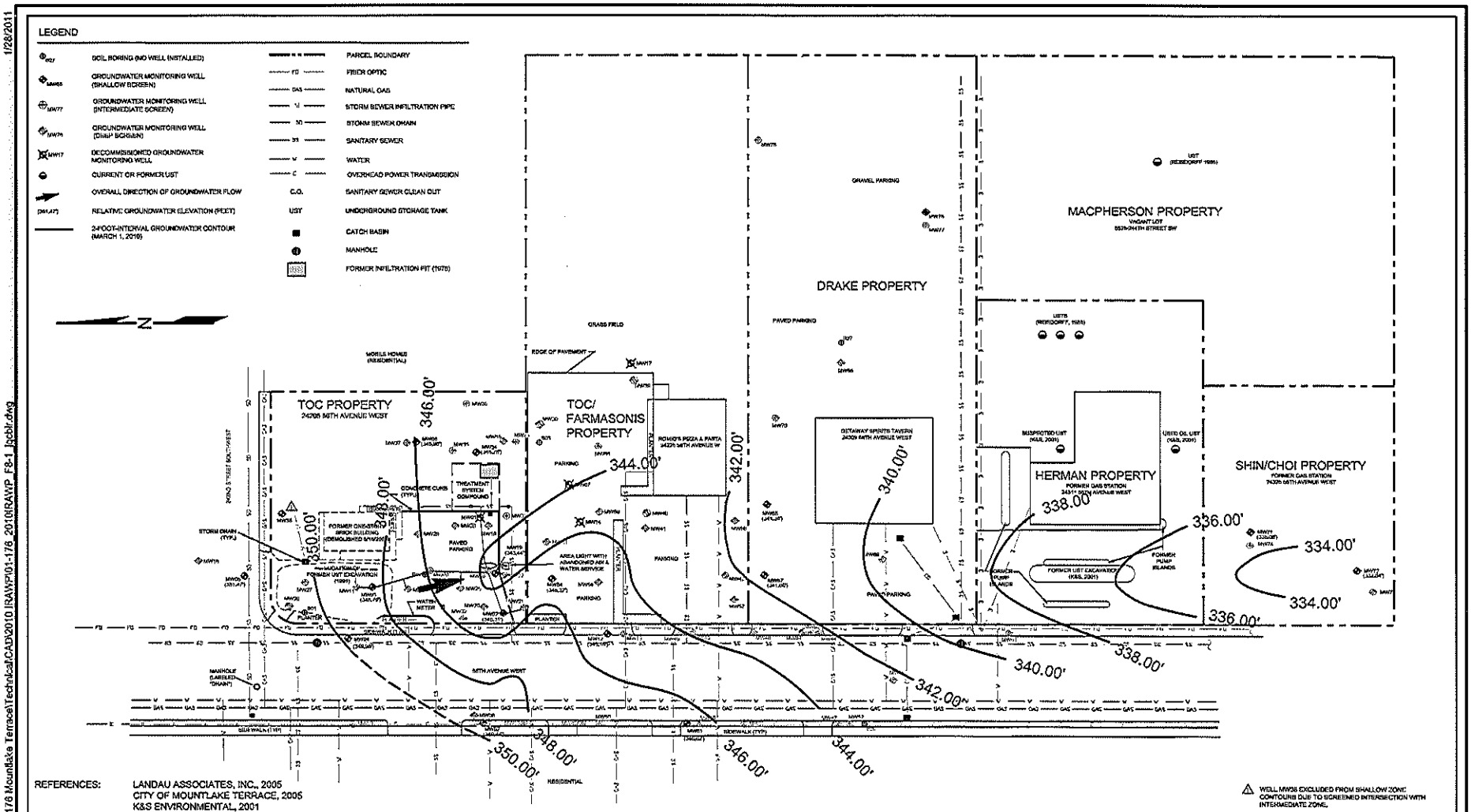

REFERENCES:
LANDAU ASSOCIATES, INC., 2005
CITY OF MOUNTLAKE TERRACE, 2006
K&S ENVIRONMENTAL, 2001
REISDORFF, THOMAS D., 1985
TIME OIL COMPANY [SIC], 1975

⚠ WELL MW36 EXCLUDED FROM SHALLOW ZONE CONTOURS DUE TO SCREENED INTERSECTION WITH INTERMEDIATE ZONE.

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CAD FILE: 01-176_2010IRAWP_F8-1

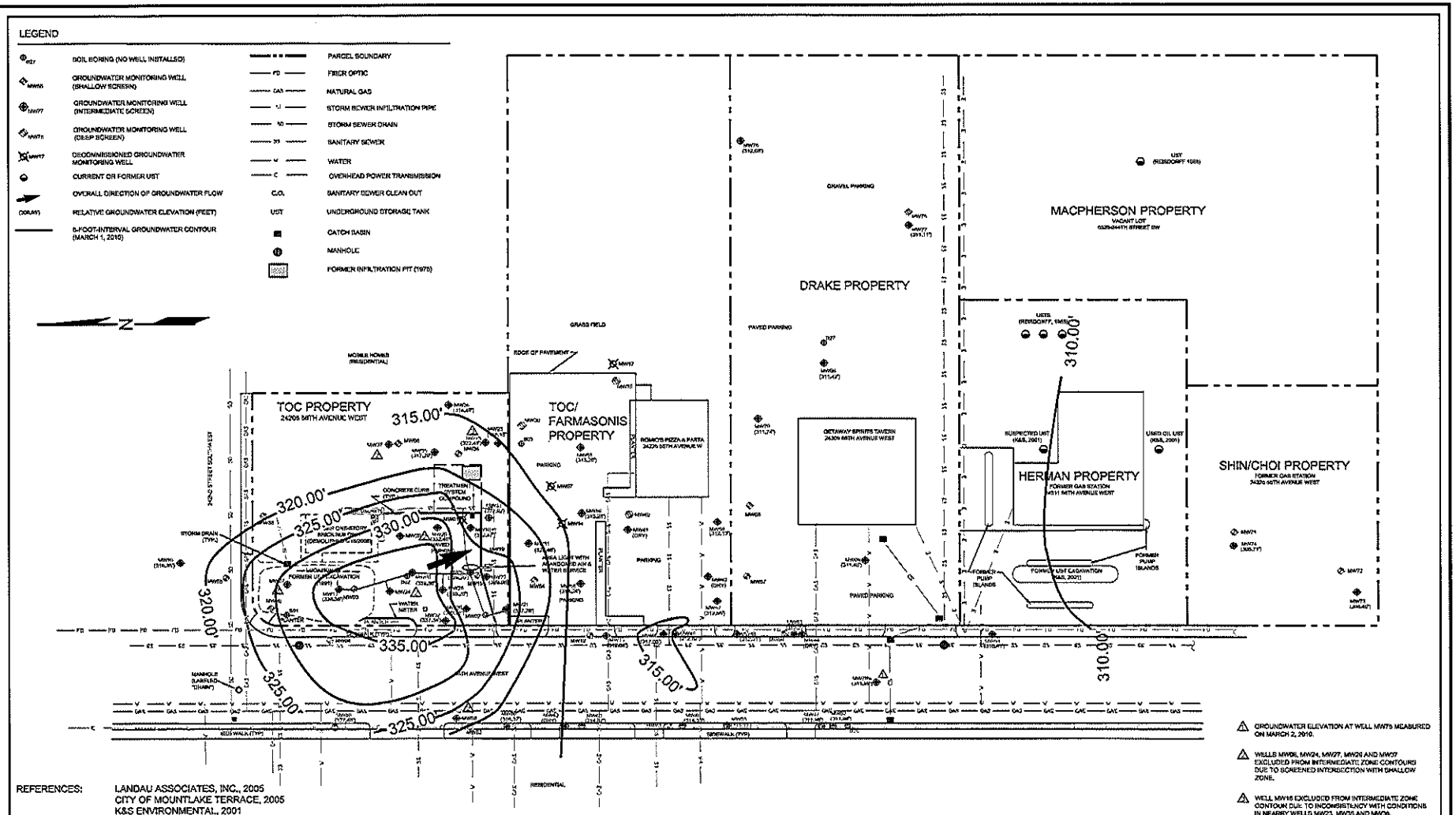
PROJECT NAME: TOC HOLDINGS CO. FACILITY 01-176
PROJECT NUMBER: 0440-030
STREET ADDRESS: 24205 56TH AVENUE WEST
CITY, STATE: MOUNTLAKE TERRACE, WASHINGTON

REGION:

0 25 50 100
APPROXIMATE SCALE IN FEET

FIGURE 8.1
GROUNDWATER CONTOUR MAP
SHALLOW ZONE
MARCH 1, 2010

1/28/2011
P:\0440 TOC Holdings Co\01-176 Mountlake Terrace\Technical\CAD\2010 IRAWP\01-176_2010IRAWP_F8-1_jqcblr.dwg



REFERENCES:
LANDAU ASSOCIATES, INC., 2005
CITY OF MOUNTLAKE TERRACE, 2005
K&S ENVIRONMENTAL, 2001
REISDORFF, THOMAS D., 1985
TIME OIL COMPANY [SIC], 1975

⚠ GROUNDWATER ELEVATION AT WELL MW76 MEASURED ON MARCH 2, 2010.

⚠ WELLS MW06, MW24, MW27, MW28 AND MW37 EXCLUDED FROM INTERMEDIATE ZONE CONTOURS DUE TO SCREENED INTERSECTION WITH SHALLOW ZONE.

⚠ WELL MW16 EXCLUDED FROM INTERMEDIATE ZONE CONTOUR DUE TO INCONSISTENCY WITH CONDITIONS IN NEARBY WELLS MW23, MW35 AND MW36. POTENTIALLY INTERSECTS SEMI-CONFINED CONDITIONS BETWEEN 40 AND 33 FEET BELOW GROUND SURFACE.

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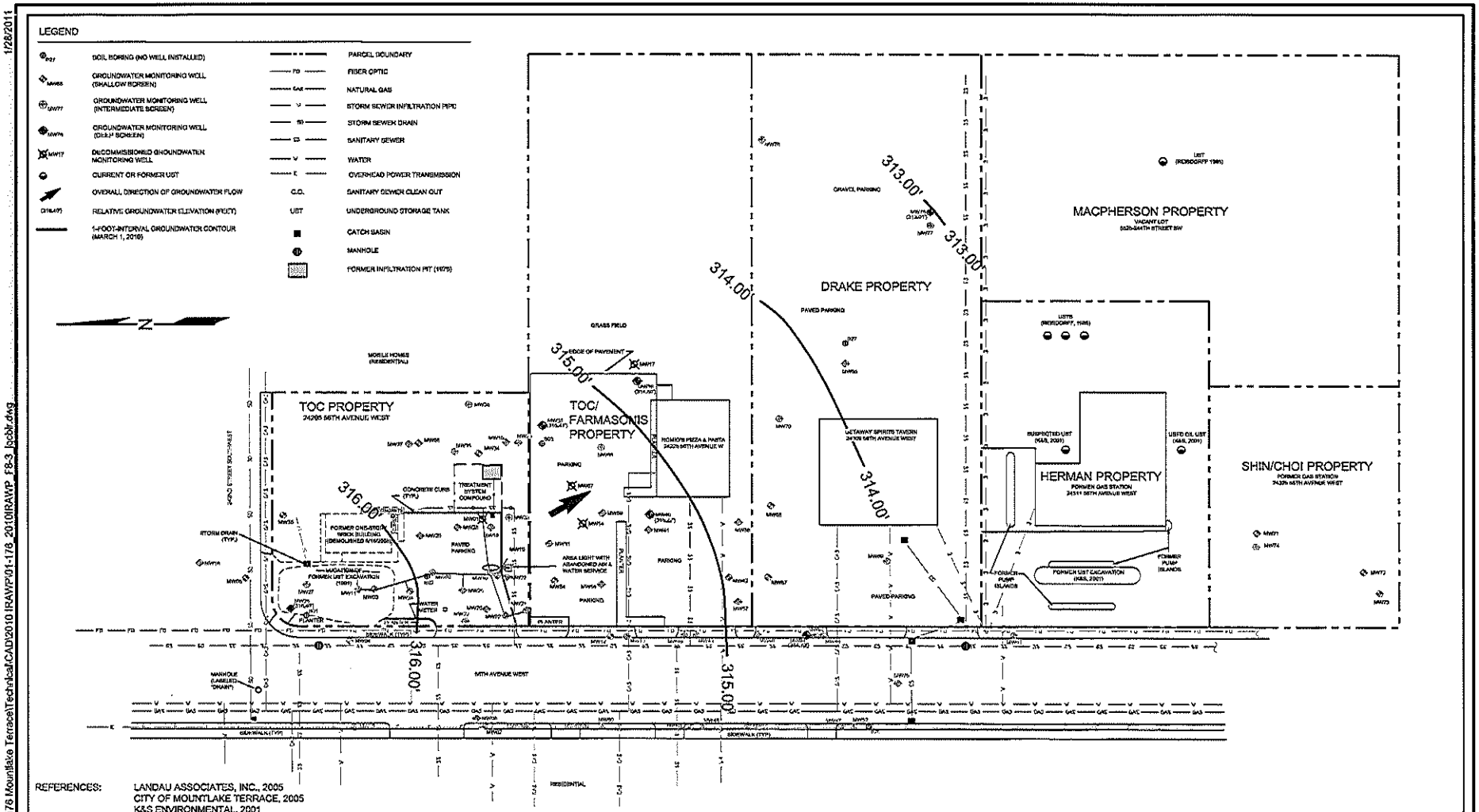
PROJECT NAME: TOC HOLDINGS CO. FACILITY 01-176
PROJECT NUMBER: 0440-030
STREET ADDRESS: 24205 56TH AVENUE WEST
CITY, STATE: MOUNTLAKE TERRACE, WASHINGTON

REGION:

0 25 50 100
APPROXIMATE SCALE IN FEET

FIGURE 8.2
GROUNDWATER CONTOUR MAP
INTERMEDIATE ZONE
MARCH 1, 2010

1/28/2011
P:\0440 TOC Holdings Co\01-176 Mountlake Terrace\Technical\CAD\2010 IRAWP\01-176_2010IRAWP_F8-2_lhpbl.dwg



REFERENCES:
LANDAU ASSOCIATES, INC., 2005
CITY OF MOUNTLAKE TERRACE, 2005
K&S ENVIRONMENTAL, 2001
REISDORFF, THOMAS D., 1985
TIME OIL COMPANY (SIC), 1975

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DATE: 01/06/11
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CAD FILE: 01-176_2010IRAWP_F8-3

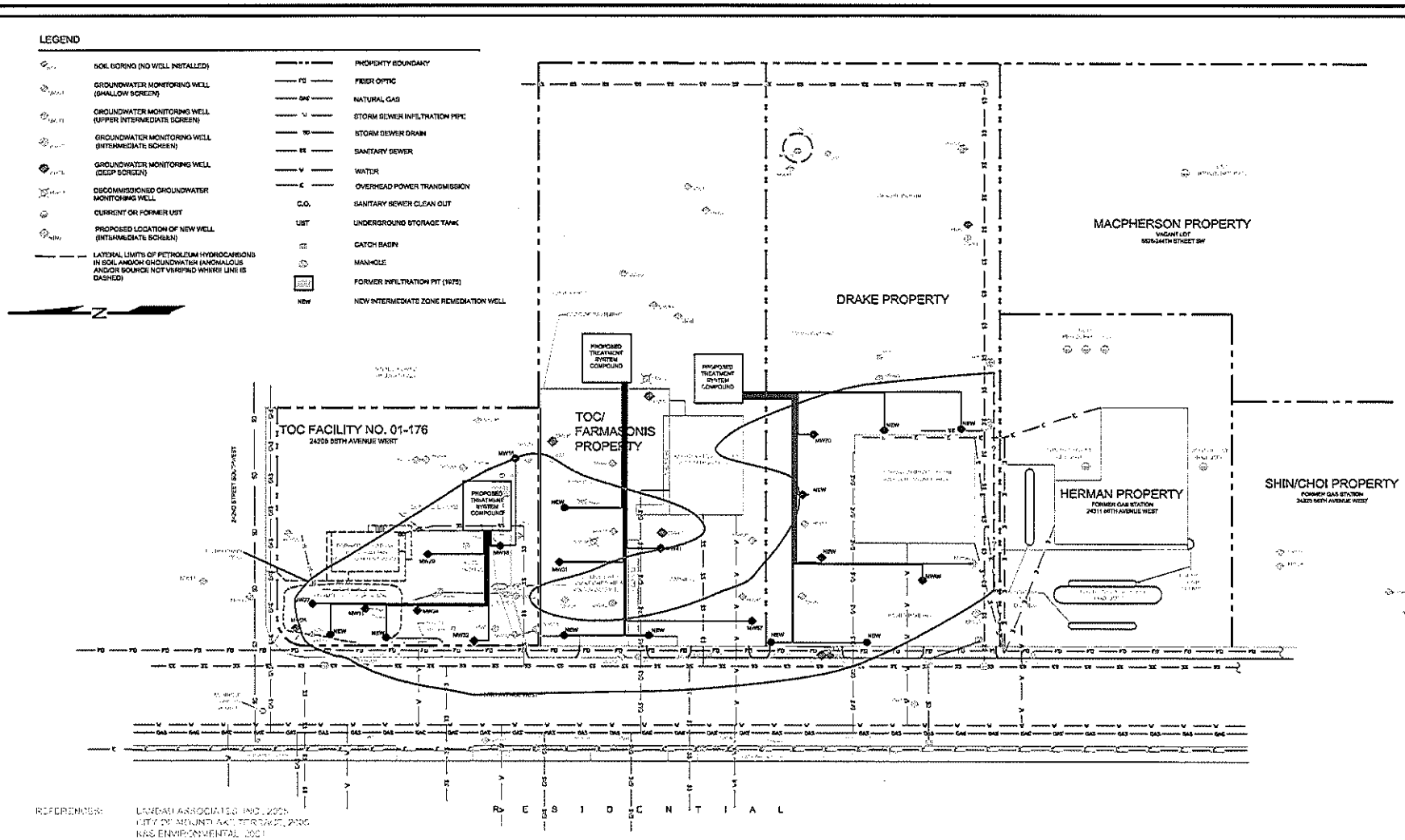
PROJECT NAME: TOC HOLDINGS CO. FACILITY 01-176
PROJECT NUMBER: 0440-030
STREET ADDRESS: 24205 56TH AVENUE WEST
CITY, STATE: MOUNTLAKE TERRACE, WASHINGTON

REGION:

0 25 50 100
APPROXIMATE SCALE IN FEET

FIGURE 8.3
GROUNDWATER CONTOUR MAP
DEEP ZONE
MARCH 1, 2010

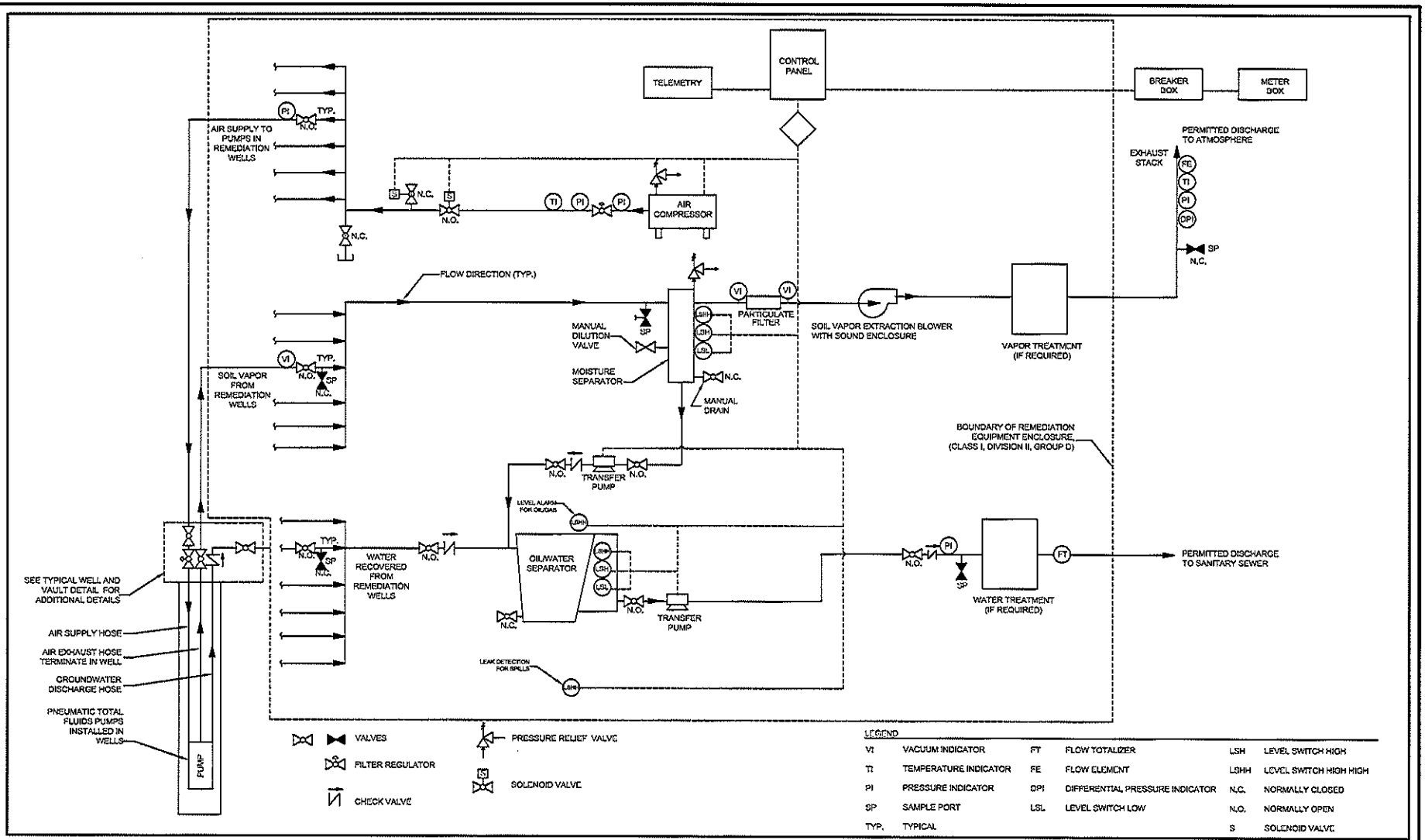
P:\0440 TOC Holdings Co\01-176 Mountlake Terrace\Technical\CAD\2010 IRAWP\01-176_2010IRAWP_F8-3 jqcblt.dwg 1/26/2011



SoundEarth Strategies SOUNDEARTHINC.COM	DATE: 12/01/2010 DRAWN BY: JQC/NAC/MES CHECKED BY: DHG/TSM CAD FILE: 01-176_2010IRAWP_F9	PROJECT NAME: TOC HOLDINGS CO. FACILITY 01-176 PROJECT NUMBER: 0440-030 STREET ADDRESS: 24205 56TH AVENUE WEST CITY, STATE: MOUNTLAKE TERRACE, WASHINGTON	REGION:	0 25 50 100 APPROXIMATE SCALE IN FEET

FIGURE 9
INTERIM REMEDIAL ACTION
CONCEPTUAL DESIGN LAYOUT

2/3/2011
P:\0440 TOC Holdings Co\01-176 Mountlake Terrace\Technical\CAD\2010 IRAWP\01-176_2010IRAWP_F9_birtsm.dwg



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DATE: 11/30/10
DRAWN BY: MES
CHECKED BY: TSM
CAD FILE: 01-176_2010IRAWP_F10

PROJECT NAME: TOC HOLDINGS CO. FACILITY 01-176
PROJECT NUMBER: 0440-030
STREET ADDRESS: 24205 56TH AVENUE WEST
CITY, STATE: MOUNTLAKE TERRACE, WASHINGTON

NOT TO SCALE

FIGURE 10
INTERIM REMEDIAL ACTION
CONCEPTUAL DESIGN
TYPICAL PIPING AND INSTRUMENTATION DIAGRAM

1/24/2011
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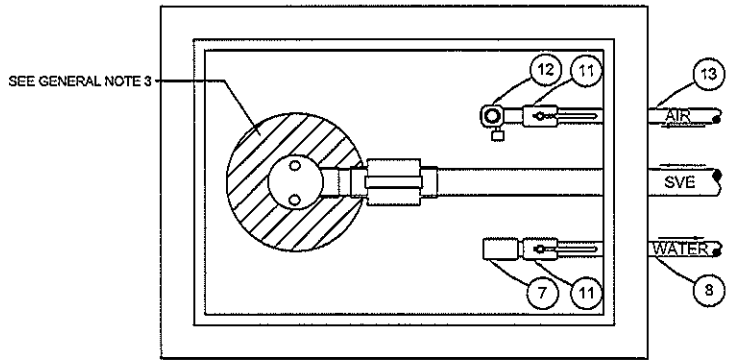
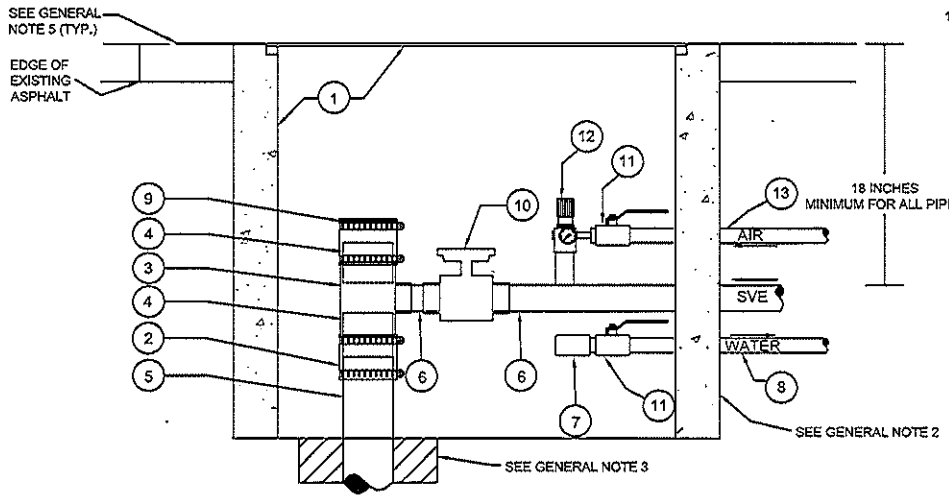


TYPICAL PLAN VIEW



TYPICAL SECTION

TYPICAL VAULT AND WELLHEAD DETAIL

DESCRIPTION OF WELLHEAD ITEMS:

1. VAULT IS 24" WIDE BY 36" LONG BY 36" DEEP-EQUIPPED WITH A H-20 TRAFFIC-RATED COVER.
2. 4" FLEXIBLE PVC COUPLING WITH TWO CLAMPS (FERNCO MODEL NO. 1056-44).
3. SCHEDULE 40 PVC REDUCING TEE 4"x4"x2" (SPEARS PART NO. 401-420).
4. 4"-DIAMETER SCHEDULE 40 PVC STUB SECTION.
5. EXISTING WELL (4"-DIAMETER SCHEDULE 40 PVC).
6. 2"-DIAMETER SCHEDULE 80 PVC PIPE.
7. 1"-DIAMETER CHECK VALVE.
8. 1"-DIAMETER SCHEDULE 80 PVC GROUNDWATER RECOVERY PIPE.
9. 4"-DIAMETER WELLHEAD FITTING (QED SVE WELL HEAD).
10. 2"-DIAMETER PVC TRUE UNION 2000 STANDARD BALL VALVE (SPEARS PART NO. 3639-020).
11. 1" REGULAR PORT THREADED BRONZE BALL VALVE (APOLLO VALVE SERIES 32-100).
12. QED FILTER REGULATOR
13. 1"-DIAMETER SCHEDULE 40 GALVANIZED STEEL AIR SUPPLY PIPE.

GENERAL NOTES:

1. CONTRACTOR SHALL REMOVE EXISTING WELL MONUMENTS PRIOR TO INSTALLING NEW WELL VAULTS.
2. CONTRACTOR SHALL INSTALL THE VAULTS IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS AND GUIDELINES. AN UNYIELDING SURFACE ON THE FINAL LIFT OF THE BACKFILL SHALL BE PROVIDED PRIOR TO PAVING. CONTRACTOR WILL REMEDY ANY SUBSIDENCE THAT OCCURS WITHIN 1 YEAR WITHOUT COST TO SES, TOC HOLDINGS CO. OR PROPERTY OWNER.
3. THE CONTRACTOR SHALL AVOID DAMAGING THE EXISTING GROUTED WELL SEAL [I.E., THE SEAL BETWEEN THE WELL CASING AND THE BOREHOLE WALL (ANNULAR SEAL)] WHEN INSTALLING THE PRECAST VAULT AND WHEN DRILLING DRAIN HOLES IN THE BOTTOM OF THE VAULT. THE WELL SEAL TYPICALLY EXTENDS A MINIMUM OF FOUR INCHES HORIZONTALLY BEYOND THE SIDE OF THE WELL CASING. THE CONTRACTOR SHALL REPAIR OR REPLACE THE ANNULAR SEAL AT THE CONTRACTOR'S EXPENSE IF THE SEAL IS DAMAGED BY THE CONTRACTOR DURING THE INSTALLATION OF THE VAULT. THE CONTRACTOR SHALL COMPLY WITH THE REQUIREMENTS OF WASHINGTON ADMINISTRATIVE CODE (WAC) §173-160-450.
4. CONTRACTOR SHALL GROUT THE FLOOR OF THE VAULT TO MINIMIZE VACUUM SHORT CIRCUITING. PROVIDE A MINIMUM OF TWO ½"-DIAMETER WEEP HOLES FOR DRAINAGE.
5. CONTRACTOR SHALL SET THE TOP OF VAULT FLUSH WITH THE EXISTING GRADE.
6. CONTRACTOR SHALL INSTALL PIPES FOR EACH VAULT AT THE ELEVATION REQUIRED TO MAINTAIN A MINIMUM PIPE SLOPE OF 0.005 (0.5 FEET PER HUNDRED FEET) FROM WELL TO REMEDIATION COMPOUND.
7. AIR SUPPLY HOSE (FROM ITEM NO. 12) AND WATER RETURN HOSE (FROM ITEM NO. 7) TO AND FROM WELL HEAD (ITEM NO. 9) IN VAULT NOT SHOWN FOR CLARITY.

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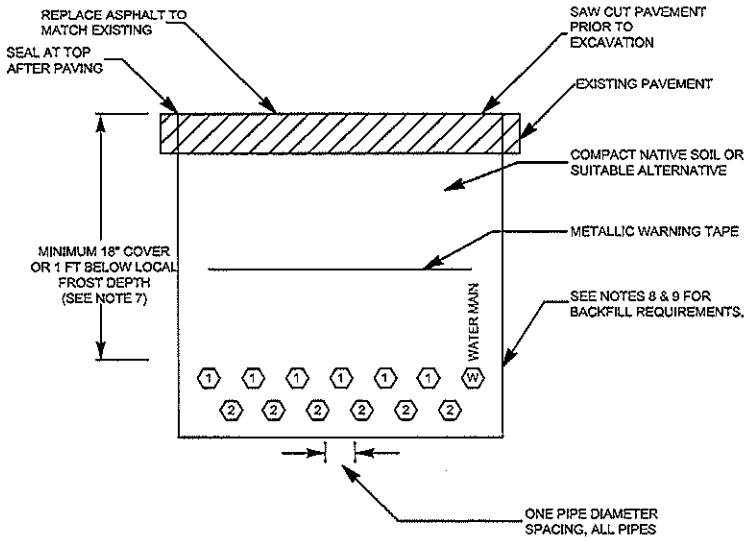
PROJECT NUMBER: 0440-030
STREET ADDRESS: 24205 56TH AVENUE WEST
CITY, STATE: MOUNTLAKE TERRACE, WASHINGTON

NOT TO SCALE

FIGURE 11
INTERIM REMEDIAL ACTION
CONCEPTUAL DESIGN
TYPICAL REMEDIATION WELLHEAD DETAILS



TYPICAL TRENCH SECTION
NOT TO SCALE

GENERAL NOTES:

1. INSPECT ALL PIPES FOR CUTS, SCRATCHES, GOUGES, OR SPLIT END UPON DELIVERY TO SITE AND PRIOR TO INSTALLATION. DO NOT USE DAMAGED SECTIONS OF PIPE.
2. STORE AND HANDLE PIPING IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS.
3. TRENCH BOTTOM SHALL BE CONTINUOUS, FREE OF ROCKS, AND RELATIVELY SMOOTH.
4. FOLLOW MANUFACTURER'S RECOMMENDATIONS FOR PIPE SOLVENT CONNECTIONS AND CURE TIMES.
5. TEST PIPES FOR LEAKS PRIOR TO BACKFILLING.
6. FOLLOW PVC PIPING MANUFACTURER'S RECOMMENDATIONS FOR SNAKING BURIED PIPE TO COMPENSATE FOR THERMAL EXPANSION/CONTRACTION.
7. ALL PIPING SLOPES SHALL BE A MINIMUM OF ½% (0.5'/100') DOWN TOWARDS EACH WELLHEAD FROM THE MINIMUM COVER DEPTH OF 18 INCHES AT REMEDIATION COMPOUND.
8. SURROUND PIPE(S) WITH 6 TO 8 INCHES OF BACKFILL FREE OF ROCKS WITH A PARTICLE SIZE OF ½ INCH OR LESS.
9. PLACE BACKFILL IN 6- TO 8-INCH LOOSE LIFTS AND COMPACT BY HAND OR WITH A MECHANICAL TAMPER. PLACE A 12-INCH LOOSE LIFT ABOVE PIPE PRIOR TO BEGINNING COMPACTION. REMOVE LARGE OR SHARP ROCKS, FROZEN CLODS, AND OTHER DEBRIS GREATER THAN 3" IN DIAMETER.
10. PROVIDE AN UNYIELDING SURFACE ON THE FINAL LIFT OF THE BACKFILL PRIOR TO PAVING.

PIPING LEGEND

1	1"-DIA. GALV. STEEL AIR/WATER LINE
2	2"-DIA. SCH. 80 PVC SVE LINE
W	1"-DIA. SCH. 80 PVC WATER LINE

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DATE: 11/30/10
DRAWN BY: MES
CHECKED BY: TSM
CAD FILE: 01-176_2010IRAWP_F12

PROJECT NAME: TOC HOLDINGS CO. FACILITY 01-176
PROJECT NUMBER: 0440-030
STREET ADDRESS: 24205 56TH AVENUE WEST
CITY, STATE: MOUNTLAKE TERRACE, WASHINGTON

NOT TO SCALE

FIGURE 12
INTERIM REMEDIAL ACTION
CONCEPTUAL DESIGN
TYPICAL TRENCH DETAIL

TABLES

SoundEarth Strategies

Table 1
Summary of Soil Analytical Results
TOC Holdings Co. Facility No. 01-176
24205 56th Avenue West
Mountlake Terrace, Washington

Sample Location	Sample Number	Date Sampled	Depth (feet)	GRPH[1]	Benzene[2]	Toluene[2]	Ethyl-benzene[2]	Total Xylenes[2]	Selected Fuel Additives[3]			Total Lead[4]
									MTBE	EDC	EDB	
B01	B-1-10	06/05/92	10	2,000	1.1	40	26	200	--	--	--	--
	B-1-29		29	<1.0	<0.050	<0.10	<0.10	<0.10	--	--	--	--
B02	B-2-10	06/05/92	10	900	2.2	17	8.2	60	--	--	--	--
	B-2-15		15	160	0.86	7.3	1.5	11	--	--	--	--
MW01	MW-1-5	06/08/92	5	<1.0	<0.050	<0.10	<0.10	<0.10	--	--	--	--
	MW-1-10		10	<1.0	<0.050	<0.10	<0.10	<0.10	--	--	--	--
MW02	MW-2-5	06/08/92	5	<1.0	<0.050	<0.10	<0.10	<0.10	--	--	--	--
	MW-2-10		10	<1.0	<0.050	<0.10	<0.10	<0.10	--	--	--	--
MW03	MW-3-5	06/09/92	5	3,300	2.8	60	35	300	--	--	--	--
	MW-3-10		10	2,800	6.2	96	32	240	--	--	--	--
MW04	MW-4-5	07/06/92	5	<1.0	<0.050	<0.10	<0.10	<0.10	--	--	--	--
	MW-4-10		10	<1.0	<0.050	<0.10	<0.10	<0.10	--	--	--	--
MW05	MW-5-5	07/06/92	5	<1.0	<0.050	<0.10	<0.10	<0.10	--	--	--	--
	MW-5-10		10	<1.0	<0.050	<0.10	<0.10	<0.10	--	--	--	--
MW06	MW-6-6.5	07/20/92	6.5	<1.0	<0.050	<0.10	<0.10	<0.10	--	--	--	--
	MW-6-10		10	<1.0	<0.050	<0.10	<0.10	<0.10	--	--	--	--
MW07	MW-7-5	07/20/92	5	<1.0	<0.050	<0.10	<0.10	<0.10	--	--	--	--
	MW-7-10		10	<1.0	<0.050	<0.10	<0.10	<0.10	--	--	--	--
MW08	MW-8-13	01/06/94	13	<1.0	<0.050	<0.050	<0.050	<0.10	--	--	--	--
MW09	MW-9-10	01/07/94	10	14	<0.050	0.11	0.11	0.73	--	--	--	--
	MW-9-20		20	200	1	6.4	2.1	15	--	--	--	--
	MW-9-25		25	4.6	0.15	0.38	0.057	0.42	--	--	--	--
	MW-9-40		40	1.4	<0.050	0.068	<0.050	<0.10	--	--	--	--
MW10	MW-10-30	11/17/95	30	110	0.7	2.4	1	6.2	--	--	--	--
	MW-10-40		40	<3	<0.3	<0.3	<0.3	<0.3	--	--	--	--
MW11	MW-11-15	11/17/95	15	<3	7	2.6	17	230	--	--	--	--
	MW-11-30		30	<3	<0.3	<0.3	<0.3	<0.3	--	--	--	--
	MW-11-40		40	<3	<0.3	<0.3	<0.3	<0.3	--	--	--	--
MW13	MW-13-33.0	08/20/01	33	496	0.162	<0.250	3.55	21.3	--	--	--	--
	MW-13-38.0		38	<5.00	<0.0300	<0.0500	<0.0500	<0.100	--	--	--	--
MW14	MW-14-13.5	4/19/2004	13.5	--	--	--	--	--	--	--	--	--
	MW-14-33.0		33	<3.0	<0.03	<0.05	<0.05	<0.2	<0.1	--	--	--
MW15	MW-15-18.0	4/19/2004	18	<3.0	<0.03	<0.05	<0.05	<0.2	<0.1	--	--	--
	MW-15-33.0		33	38	0.12	<0.05	0.26	0.77	<0.1	--	--	--
MW16	MW-16-37.5	4/20/2004	37.5	4	<0.03	<0.05	<0.05	<0.2	<0.1	--	--	--
	MW-16-48.5		48.5	--	--	--	--	--	--	--	--	--
MW17	MW-17-18.5	4/20/2004	18.5	--	--	--	--	--	--	--	--	--
	MW-17-33.5		33.5	<3.0	<0.03	<0.05	<0.05	<0.2	<0.1	--	--	--
MW18	MW-18-32.5	4/21/2004	32.5	<3.0	<0.03	<0.05	<0.05	<0.2	<0.1	--	--	--
MW20	MW-20-27.5	4/21/2004	27.5	27	<0.03	0.08	0.13	0.91	<0.1	--	--	--
MW21	MW-21-30	10/18/04	30	20	0.1	0.5	0.2	1.3	--	--	--	--
MW22	MW-22-25	10/18/04	25	<3.0	<0.03	<0.05	<0.05	<0.2	--	--	--	--
MW23	MW-23-30	10/18/04	30	<3.0	<0.03	<0.05	<0.05	<0.2	--	--	--	--
MTCA Method A Cleanup Levels[5]				100/30[6]	0.03	7	6	9	0.1	NE	0.005	250

SoundEarth Strategies

Table 1
Summary of Soil Analytical Results
TOC Holdings Co. Facility No. 01-176
24205 56th Avenue West
Mountlake Terrace, Washington

Sample Location	Sample Number	Date Sampled	Depth (feet)	GRPH[1]	Benzene[2]	Toluene[2]	Ethyl-benzene[2]	Total Xylenes[2]	Selected Fuel Additives[3]			Total Lead[4]
MW24	MW-24-20	10/19/04	20	87	0.3	1.3	1.0	6.7	--	--	--	--
	MW-24 Dup		25	240	0.1	3.1	2.7	15	--	--	--	--
HB01	HB-1-5	12/12/05	5	<5.12	<0.10	<0.10	<0.10	<0.31	<0.51	<0.05	<0.05	8.81
MW26	MW-26-15	12/12/05	15	<5.44	<0.10	<0.10	<0.10	<0.31	<0.51	<0.05	<0.05	1.33
	MW-26-25		25	<5.85	<0.11	<0.11	<0.11	<0.34	<0.57	<0.06	<0.06	1.87
	MW-26-55		55	<5.72	<0.11	<0.11	<0.11	<0.34	<0.57	<0.06	<0.06	0.967
	MW-26-59		59	<5.52	<0.11	<0.11	<0.11	<0.32	<0.54	<0.05	<0.05	1.19
MW27	MW-27-12	12/12/05	12	1,020	<0.14	0.50	24	180	<0.70	<0.07	<0.07	6.2
	MW-27-18		18	12.9	<0.11	<0.11	0.62	3.9	<0.55	<0.06	<0.06	1.59
	MW-27-27		27	7.2	<0.14	<0.14	0.17	0.82	<0.71	<0.07	<0.07	1.85
	MW-27-32.5		32.5	<4.82	<0.10	<0.10	0.05	0.29	<0.48	<0.05	0.05	1.09
MW28	MW-28-13	12/13/05	13	<4.91	<0.10	<0.10	<0.10	<0.29	<0.49	<0.05	<0.05	1.65
	MW-28-16		16	2,180	<0.11	<0.11	2.6	6.9	<0.54	<0.05	<0.05	1.89
	MW-28-20		20	<5.43	<0.10	<0.10	0.03	0.26	<0.52	<0.05	<0.05	1.89
	MW-28-31		31	<5.93	<0.11	<0.11	<0.11	0.17	<0.57	<0.06	<0.06	1.36
MW29	MW-29-7.5	12/13/05	7.5	<5.52	<0.11	<0.11	<0.11	<0.32	<0.53	<0.05	<0.05	1.68
	MW-29-23		23	<5.24	<0.10	<0.10	0.13	0.2	<0.52	<0.05	<0.05	1.28
	MW-29-30		30	<6.14	<0.12	<0.12	<0.12	<0.37	<0.61	<0.06	<0.06	1.28
B03	MW-30-8	12/14/05	8	<2	<0.03	<0.03	<0.03	<0.13	<0.03	<0.03	--	1.32
	MW-30-20		20	<2	<0.03	<0.03	<0.03	<0.13	<0.03	<0.03	--	<1
	MW-30-36		36	<2	<0.03	<0.03	<0.03	<0.13	<0.03	<0.03	--	<1
MW30	MW-30A-50	12/14/05	50	<2	<0.03	<0.03	<0.03	<0.13	<0.03	<0.03	--	<1
	MW-30A-56		56	<2	<0.03	<0.03	<0.03	<0.13	<0.03	<0.03	--	<1
MW31	MW-31-13	12/15/05	13	<2	<0.03	<0.03	<0.03	<0.13	<0.03	<0.03	--	1.32
	MW-31-30		30	<2	<0.03	<0.03	<0.03	<0.13	<0.03	<0.03	--	<1
	MW-31-33		33	12	<0.03	<0.03	0.14	0.95	<0.03	<0.03	--	1.07
	MW-31-38		38	<2	<0.03	<0.03	<0.03	<0.13	<0.03	<0.03	--	<1
MW32	MW-32-15	12/15/05	15	<5.89	<0.12	<0.12	<0.12	0.10	<0.59	<0.06	<0.06	1.76
	MW-32-17.5		17.5	142	<0.10	<0.10	0.08	0.82	<0.51	<0.05	<0.05	2.64
	MW-32-21		21	<7.35	<0.15	0.06	0.13	1.0	<0.73	<0.07	<0.07	2.09
	MW-32-23		23	<5.41	<0.11	0.08	0.13	0.98	<0.54	<0.05	<0.05	1.78
	MW-32-25		25	448	1.0	16	6.7	51	<0.46	<0.05	<0.05	1.87
	MW-32-27.5		27	51.7	0.32	3.2	0.92	7.0	<0.56	<0.06	<0.06	1.47
	MW-32-28		28	9.74	0.06	0.12	0.23	1.6	<0.50	<0.05	<0.05	1.69
	MW-32-30		30	8.21	0.06	0.20	0.26	1.7	<0.51	<0.05	<0.05	1.8
	MW-32-32.5		32	19.8	0.11	0.71	0.36	2.3	<0.52	<0.05	<0.05	1.5
	MW-32-38		38	13.9	0.04	0.51	0.35	2.6	<0.53	<0.05	<0.05	2.27
MW33	MW-33-17	12/16/05	17	<5.61	<0.10	<0.10	<0.10	<0.31	<0.52	<0.05	<0.05	1.83
	MW-33-25		25	<5.34	<0.10	<0.10	<0.10	<0.30	<0.51	<0.05	<0.05	1.72
	MW-33-27		27	<6.09	<0.12	<0.12	<0.12	0.09	<0.61	<0.06	<0.06	2.05
	MW-33-30		30	51	<0.10	<0.10	<0.10	0.19	<0.52	<0.05	<0.05	1.44
	MW-33-32		32	86.4	<0.10	<0.10	0.51	2.1	<0.52	<0.05	<0.05	4.97
	MW-33-34		34	<5.64	<0.11	<0.11	0.05	0.20	<0.55	<0.06	<0.06	4.31
	MW-33-34.5		34.5	<5.25	<0.10	<0.10	<0.10	<0.31	<0.51	<0.05	<0.05	1.15
MTCA Method A Cleanup Levels[5]				100/30[6]	0.03	7	6	9	0.1	NE	0.005	250

SoundEarth Strategies

Table 1
Summary of Soil Analytical Results
TOC Holdings Co. Facility No. 01-176
24205 56th Avenue West
Mountlake Terrace, Washington

Sample Location	Sample Number	Date Sampled	Depth (feet)	GRPH[1]	Benzene[2]	Toluene[2]	Ethyl-benzene[2]	Total Xylenes[2]	Selected Fuel Additives[3]			Total Lead[4]
MW34	MW-34-6.5	01/12/06	6.5	<2	<0.03	<0.05	<0.05	<0.15	<0.05	<0.05	<0.05	3.12
	MW-34-8.0		8	<2	<0.03	<0.05	<0.05	<0.15	<0.05	<0.05	<0.05	1.39
	MW-34-11.0		11	<2	<0.03	<0.05	<0.05	<0.15	<0.05	<0.05	<0.05	1.23
	MW-34-12.5		12.5	<2	<0.03	<0.05	<0.05	<0.15	<0.05	<0.05	<0.05	1.45
	MW-34-13.5		13.5	46	<0.03	<0.05	<0.05	<0.15	<0.05	<0.05	<0.05	1.27
	MW-34.16.0		16	190	<0.03	<0.05	1.7	4.43	<0.05	<0.05	<0.05	1.7
	MW-34-19.0		19	10	<0.03	<0.05	<0.05	<0.15	<0.05	<0.05	<0.05	1.29
	MW-34-20.5		20.5	5	<0.03	<0.05	<0.05	<0.15	<0.05	<0.05	<0.05	1.4
MW35	MW-35-22.0	01/16/06	22	<2	<0.03	<0.05	<0.05	<0.15	<0.05	<0.05	>0.05	1.44
	MW-35-25.0		25	<2	<0.03	<0.05	<0.05	<0.15	<0.05	<0.05	>0.05	1.48
	MW-35-28.5		28.5	<2	<0.03	<0.05	<0.05	<0.15	<0.05	<0.05	>0.05	1.11
	MW-35.36.5		36.5	<2	<0.03	<0.05	<0.05	<0.15	<0.05	<0.05	>0.05	<1
MW36	MW-36-5.0	01/17/06	5	<2	<0.03	<0.05	<0.05	<0.15	<0.05	<0.05	>0.05	1.29
	MW-36-9.0		9	<2	<0.03	<0.05	<0.05	<0.15	<0.05	<0.05	>0.05	1.25
	MW-36-12.0		12	<2	<0.03	<0.05	<0.05	<0.15	<0.05	<0.05	>0.05	1.19
	MW-36-20.0		20	<2	<0.03	<0.05	<0.05	<0.15	<0.05	<0.05	>0.05	<1
	MW-36-31.0		31	<2	<0.03	<0.05	<0.05	<0.15	<0.05	<0.05	>0.05	1.22
	MW-36-33.0		33	<2	<0.03	<0.05	<0.05	<0.15	<0.05	<0.05	>0.05	<1
	MW-36-41.0		41	<2	<0.03	<0.05	<0.05	<0.15	<0.05	<0.05	>0.05	<1
MW37	MW-37-9	01/18/06	9	<2	<0.03	<0.05	<0.05	<0.15	<0.05	<0.05	<0.05	1.19
	MW-37-14		14	<2	<0.03	<0.05	<0.05	<0.15	<0.05	<0.05	<0.05	1.37
	MW-37-18		18	<2	<0.03	<0.05	<0.05	<0.15	<0.05	<0.05	<0.05	<1
	MW-37-24		24	<2	<0.03	<0.05	<0.05	<0.15	<0.05	<0.05	<0.05	<1
	MW-37-30		30	<2	<0.03	<0.05	<0.05	<0.15	<0.05	<0.05	<0.05	1.11
MW38	MW-38-12.0	01/19/06	12	<2	<0.03	<0.05	<0.05	<0.15	<0.05	<0.05	<0.05	1.42
	MW-38-18.0		18	<2	<0.03	<0.05	<0.05	<0.15	<0.05	<0.05	<0.05	1.11
	MW-38-26.0		26	<2	<0.03	<0.05	<0.05	<0.15	<0.05	<0.05	<0.05	<1
	MW-38-30.0		30	<2	<0.03	<0.05	<0.05	<0.15	<0.05	<0.05	<0.05	<1
	MW-38-33.0		33	<2	<0.03	<0.05	<0.05	<0.15	<0.05	<0.05	<0.05	<1
MW39	MW-39-24	01/30/06	24	<2	<0.03	<0.05	<0.05	<0.15	<0.05	<0.05	<0.05	<1
	MW-39-36		36	<2	<0.03	<0.05	<0.05	<0.15	<0.05	<0.05	<0.05	<1
	MW-39-40		40	<2	<0.03	<0.05	<0.05	<0.15	<0.05	<0.05	<0.05	<1
	MW-39-65		65	<2	<0.03	<0.05	<0.05	<0.15	<0.05	<0.05	<0.05	<1
MW40	MW-40-12	02/06/06	12	<2	<0.03	<0.05	<0.05	<0.15	<0.05	<0.05	<0.05	<1
	MW-40-33		33	39	<0.03	<0.05	0.23	1.09	<0.05	<0.05	<0.05	<1
	MW-40-34		34	<2	<0.03	<0.05	<0.05	<0.15	<0.05	<0.05	<0.05	<1
	MW-40-40		40	<2	<0.03	<0.05	<0.05	<0.15	<0.05	<0.05	<0.05	<1
	MW-40-62		62	<2	<0.03	<0.05	<0.05	<0.15	<0.05	<0.05	<0.05	<1
MW41	MW-41-32	02/02/06	32	14	<0.03	<0.05	0.75	4.51	<0.05	<0.05	<0.05	<1
MW42	MW-42-27	02/06/06	27	<2	<0.03	<0.05	<0.05	<0.15	<0.05	<0.05	<0.05	<1
	MW-42-34		34	<2	0.04	0.05	<0.05	<0.15	<0.05	<0.05	<0.05	<1
	MW-42-36		36	<2	<0.03	<0.05	<0.05	<0.15	<0.05	<0.05	<0.05	1.01
	MW-42-48		48	<2	<0.03	<0.05	<0.05	0.12	<0.05	<0.05	<0.05	<1
MTCA Method A Cleanup Levels[5]				**100/30[6]**	**0.03**	**7**	**6**	**9**	**0.1**	**NE**	**0.005**	**250**

SoundEarth Strategies

Table 1
Summary of Soil Analytical Results
TOC Holdings Co. Facility No. 01-176
24205 56th Avenue West
Mountlake Terrace, Washington

Sample Location	Sample Number	Date Sampled	Depth (feet)	GRPH[1]	Benzene[2]	Toluene[2]	Ethyl-benzene[2]	Total Xylenes[2]	Selected Fuel Additives[3]			Total Lead[4]
MW43	B04-10	05/18/06	10	<2	<0.02	<0.02	<0.02	<0.06	--	--	--	--
	B04-35		35	<2	<0.02	<0.02	<0.02	<0.06	--	--	--	--
	B04-37		37	<2	<0.02	<0.02	<0.02	<0.06	--	--	--	--
MW44	B05-34	05/19/06	34	<2	<0.02	<0.02	<0.02	<0.06	--	--	--	--
	B05-38		38	<2	<0.02	<0.02	<0.02	<0.06	--	--	--	--
	B05-40		40	<2	<0.02	<0.02	<0.02	<0.06	--	--	--	--
MW45	B06-32	05/19/06	32	<2	<0.02	<0.02	<0.02	<0.06	--	--	--	--
	B06-36		36	1,400	<2	4.7	18	130	--	--	--	--
	B06-40		40	<2	<0.02	<0.02	<0.02	<0.02	--	--	--	--
MW46	B07-40	12/07/06	40	<2	<0.02	<0.02	<0.02	<0.06	--	--	--	1.89
	B07-42.5		42.5	<2	<0.02	<0.02	<0.02	<0.06	--	--	--	1.29
	B07-45		45	<2	<0.02	<0.02	<0.02	<0.06	--	--	--	1.67
MW47	B08-35	12/08/06	35	2	<0.02	<0.02	<0.02	<0.06	--	--	--	1.43
	B08-37.5		37.5	<2	<0.02	<0.02	<0.02	<0.06	--	--	--	1.42
	B-08-42.5		42.5	2	<0.02	<0.02	<0.02	<0.06	--	--	--	1.28
MW48	B09-35	12/12/06	35	<2	<0.02	<0.02	<0.02	<0.06	--	--	--	--
	B09-43		43	2,000	1.7	5.6	26	160	--	--	--	--
	B09-50		50	140	0.1	0.5	2.1	14	--	--	--	--
MW49	B10-33	12/13/06	33	3	<0.02	<0.02	0.03	0.10	--	--	--	--
	B10-45		45	3	<0.02	<0.02	0.03	0.13	--	--	--	--
	B10-48		48	27	0.03	0.03	0.28	1.2	--	--	--	--
MW50	B11-15.0	07/02/07	15	<2	<0.02	<0.02	<0.02	<0.06	--	--	--	--
	B11-27.5		27.5	<2	<0.02	<0.02	<0.02	<0.06	--	--	--	1.61
MW51	B12-15	07/06/07	15	<2	<0.02	<0.02	<0.02	<0.06	--	--	--	--
	B12-35		35	<2	<0.02	<0.02	<0.02	<0.06	--	--	--	--
	B12-42.5		42.5	<2	<0.02	<0.02	<0.02	<0.06	--	--	--	1.20
MW52	B13-15	07/09/07	15	<2	<0.02	<0.02	<0.02	<0.06	--	--	--	--
	B13-30		30	<2	<0.02	<0.02	<0.02	<0.06	--	--	--	--
	B13-42.5		42.5	<2	<0.02	<0.02	<0.02	<0.06	--	--	--	1.16
MW53	B14-15	07/10/07	15	<2	<0.02	<0.02	<0.02	<0.06	--	--	--	--
	B14-30		30	<2	<0.02	<0.02	<0.02	<0.06	--	--	--	--
	B14-55		55	<2	<0.02	<0.02	<0.02	<0.06	--	--	--	1.06
MW54	B15-15	07/11/07	15	<2	<0.02	<0.02	<0.02	<0.06	--	--	--	--
MW55	B16-25	07/11/07	25	<2	<0.02	<0.02	<0.02	<0.06	--	--	--	--
	B16-35		35	<2	<0.02	<0.02	<0.02	<0.06	--	--	--	1.11
	B16-42.5		42.5	4	<0.02	<0.02	0.05	<0.06	--	--	--	--
MW56	B17-30	07/11/07	30	<2	<0.02	<0.02	<0.02	<0.06	--	--	--	--
	B17-32.5		32.5	<2	<0.02	<0.02	0.05	0.27	--	--	--	1.34
	B17-47.5		47.5	<2	<0.02	<0.02	<0.02	<0.06	--	--	--	--
MW57	B18-15	07/12/07	15	<2	<0.02	<0.02	<0.02	<0.06	--	--	--	--
	B18-32.5		32.5	<2	<0.02	<0.02	<0.02	<0.06	--	--	--	--
	B18-40		40	<2	<0.02	<0.02	<0.02	<0.06	--	--	--	--
	B18-42.5		42.5	<2	<0.02	<0.02	<0.02	<0.06	--	--	--	<1
	B18-47.5		47.5	9	<0.02	<0.02	0.09	0.49	--	--	--	--
MTCA Method A Cleanup Levels[5]				100/30[6]	0.03	7	6	9	0.1	NE	0.005	250

SoundEarth Strategies

Table 1
Summary of Soil Analytical Results
TOC Holdings Co. Facility No. 01-176
24205 56th Avenue West
Mountlake Terrace, Washington

Sample Location	Sample Number	Date Sampled	Depth (feet)	GRPH[1]	Benzene[2]	Toluene[2]	Ethyl-benzene[2]	Total Xylenes[2]	Selected Fuel Additives[3]			Total Lead[4]
MW58	B19-15	07/13/07	15	<2	<0.02	<0.02	<0.02	<0.06	--	--	--	--
	B19-20		20	3	<0.02	<0.02	<0.02	<0.06	--	--	--	--
	B19-32.5		32.5	<2	<0.02	<0.02	<0.02	<0.06	--	--	--	--
	B19-35		35	<2	<0.02	<0.02	<0.02	<0.06	--	--	--	<1
MW59	B20-15	07/16/07	15	<2	<0.02	<0.02	<0.02	<0.06	--	--	--	--
	B20-30		30	<2	<0.02	<0.02	<0.02	<0.06	--	--	--	--
	B20-32.5		32.5	3	0.04	<0.02	0.06	0.26	--	--	--	1.11
	B20-38		38	<2	<0.02	<0.02	<0.02	<0.06	--	--	--	--
	B20-42.5		42.5	<2	<0.02	<0.02	<0.02	<0.06	--	--	--	--
MW60	B21-20	07/17/07	20	<2	<0.02	<0.02	<0.02	<0.06	--	--	--	--
	B21-32.5		32.5	<2	<0.02	<0.02	<0.02	<0.06	--	--	--	--
	B21-35		35	<2	<0.02	<0.02	<0.02	<0.06	--	--	--	1.09
	B21-42.5		42.5	<2	<0.02	<0.02	<0.02	<0.06	--	--	--	--
	B21-50		50	<2	<0.02	<0.02	<0.02	<0.06	--	--	--	--
MW61	B22-15	07/18/07	15	<2	<0.02	0.02	<0.02	<0.06	--	--	--	1.74
MW62	B23-15	07/18/07	15	<2	<0.02	<0.02	<0.02	<0.06	--	--	--	1.43
MW63	B24-37.5	07/19/07	37.5	<2	<0.02	<0.02	<0.02	<0.06	--	--	--	--
	B24-42.5		42.5	160	<0.02	0.23	0.33	1.6	--	--	--	1.45
	B24-47.5		47.5	7	<0.02	0.09	0.03	<0.06	--	--	--	--
	B24-52.5		52.5	<2	<0.02	<0.02	<0.02	<0.06	--	--	--	--
	B24-55		55	<2	<0.02	<0.02	<0.02	<0.06	--	--	--	--
MW64	B25-60	07/20/07	60	3	<0.02	<0.02	0.03	0.07	--	--	--	--
	B25-65		65	<2	<0.02	<0.02	<0.02	<0.06	--	--	--	--
	B25-70		70	<2	<0.02	<0.02	<0.02	<0.06	--	--	--	--
	B25-75		75	<2	<0.02	<0.02	<0.02	<0.06	--	--	--	--
B26	B26-15	07/21/07	15	<2	<0.02	<0.02	<0.02	<0.06	--	--	--	--
B27	B27-11	05/05/08	11	<2	<0.02	<0.02	<0.02	<0.06	--	--	--	--
	B27-33		33	<2	<0.02	<0.02	<0.02	<0.06	--	--	--	--
MW65	B27A-41	05/05/08	41	<2	<0.02	<0.02	<0.02	<0.06	--	--	--	<1
	B27A-50		50	<2	<0.02	<0.02	<0.02	<0.06	--	--	--	--
MW66	B28-21	05/06/08	21	<2	<0.02	<0.02	<0.02	<0.06	--	--	--	--
	B28-31		31	<2	<0.02	<0.02	<0.02	<0.06	--	--	--	--
	B28-46		46	<2	<0.02	<0.02	<0.02	<0.06	--	--	--	<1
	B28-50		50	<2	<0.02	<0.02	<0.02	<0.06	--	--	--	--
MW67	B29-11	05/07/08	11	<2	<0.02	<0.02	<0.02	<0.06	--	--	--	--
	B29-21		21	<2	<0.02	<0.02	<0.02	<0.06	--	--	--	2.31
	B29-26		26	<2	<0.02	<0.02	<0.02	<0.06	--	--	--	--
MW68	B30-11	05/07/08	11	<2	<0.02	<0.02	<0.02	<0.06	--	--	--	--
	B30-21		21	<2	<0.02	<0.02	<0.02	<0.06	--	--	--	1.47
	B30-30		30	<2	<0.02	<0.02	<0.02	<0.06	--	--	--	--
MW69	B31-21	05/08/08	21	<2	<0.02	<0.02	<0.02	<0.06	--	--	--	--
	B31-33		33	<2	<0.02	<0.02	<0.02	<0.06	--	--	--	--
	B31-43		43	<2	<0.02	<0.02	<0.02	<0.06	--	--	--	1.23
	B31-48		48	<2	<0.02	<0.02	<0.02	<0.06	--	--	--	--
MTCA Method A Cleanup Levels[5]				100/30[6]	0.03	7	6	9	0.1	NE	0.005	250

SoundEarth Strategies

Table 1
Summary of Soil Analytical Results
TOC Holdings Co. Facility No. 01-176
24205 56th Avenue West
Mountlake Terrace, Washington

Sample Location	Sample Number	Date Sampled	Depth (feet)	GRPH[1]	Benzene[2]	Toluene[2]	Ethyl-benzene[2]	Total Xylenes[2]	Selected Fuel Additives[3]			Total Lead[4]
MW70	B32-16	05/09/08	16	<2	<0.02	<0.02	<0.02	<0.06	--	--	--	--
	B32-26		26	<2	<0.02	<0.02	<0.02	<0.06	--	--	--	--
	B32-43		43	<2	<0.02	<0.02	<0.02	<0.06	--	--	--	1.37
	B32-50		50	<2	<0.02	<0.02	<0.02	<0.06	--	--	--	--
MW71	B32-05.5	10/01/08	5.5	920	<0.03	<0.05	<0.05	0.32	<0.05	<0.05	<0.05	--
	B32-12		12	7,500	61	520	180	690	<0.5	<0.5	<0.5	--
	B32-15		15	9,200	91	550	140	780	<0.5	<0.5	<0.5	--
	B32-22		22	82	2.8	7.3	1.5	8.4	<0.05	<0.05	<0.05	1.88
MW72	B33-05	10/01/08	5	<2	<0.03	<0.05	<0.05	<0.1	<0.05	<0.05	<0.05	--
	B33-15		15	<2	<0.03	<0.05	<0.05	<0.1	<0.05	<0.05	<0.05	--
	B33-20		20	2,900	27	230	72	420	<0.05	<0.05	<0.05	1.66
MW73	B34-37	10/02/08	37	<2	0.10	0.16	0.03	0.13	--	--	--	--
	B34-42		42	7	2.2	0.61	0.29	1.25	<0.05	<0.05	<0.05	--
	B34-44		44	<2	0.09	0.05	<0.02	<0.06	--	--	--	--
MW74	B35-35	10/03/08	35	5	0.57	0.77	0.06	0.39	--	--	--	--
	B35-38		38	28	1.2	0.60	0.16	0.91	0.11	<0.05	<0.05	--
	B35-40		40	10	3.1	0.14	0.20	0.63	--	--	--	--
MW75	B36-15	11/06/08	15	<2	<0.02	<0.02	<0.02	<0.06	--	--	--	--
	B36-35		35	<2	<0.02	<0.02	<0.02	<0.06	--	--	--	--
	B36-45		45	<2	<0.02	<0.02	<0.02	<0.06	<0.05	<0.05	<0.05	1.00
MW76	B37-25	01/27/09	25	14	0.05	0.29	0.25	0.95	--	--	--	--
	B37-235		35	<2	<0.02	<0.02	<0.02	<0.06	--	--	--	--
	B37-42.5		42.5	<2	<0.02	<0.02	<0.02	<0.06	--	--	--	1.13
	B37-47.5		47.5	<2	<0.02	<0.02	<0.02	<0.06	--	--	--	--
MW77	B38-15	01/27/09	15	<2	<0.02	<0.02	<0.02	<0.06	--	--	--	--
	B38-35		35	<2	<0.02	<0.02	<0.02	<0.06	--	--	--	--
	B38-42.5		42.5	<2	<0.02	<0.02	<0.02	<0.06	--	--	--	1.25
	B38-47.5		47.5	<2	<0.02	<0.02	<0.02	<0.06	--	--	--	--
MW78	B39-50	01/28/09	50	<2	<0.02	<0.02	<0.02	<0.06	--	--	--	--
	B39-57.5		57.5	<2	<0.02	<0.02	<0.02	<0.06	--	--	--	--
	B39-65		65	<2	<0.02	<0.02	<0.02	<0.06	--	--	--	--
	B39-75		75	<2	<0.02	<0.02	<0.02	<0.06	--	--	--	<1
MW79	B40-18	06/30/10	18	<2	<0.02	<0.02	<0.02	<0.06	--	--	--	1.46
MW80	B41-26	06/30/10	26	<2	<0.02	<0.02	<0.02	<0.06	--	--	--	1.36
	B41-30		30	<2	<0.02	<0.02	<0.02	<0.06	--	--	--	--
MW81	B42-25	06/30/10	25	<2	<0.02	<0.02	<0.02	<0.06	--	--	--	--
	B42-28		28	<2	<0.02	<0.02	<0.02	<0.06	--	--	--	--
	B42-30		30	<2	<0.02	<0.02	<0.02	<0.06	--	--	--	--
	B42-32.5		32.5	<2	<0.02	<0.02	<0.02	<0.06	--	--	--	1.17
MW82	B43-25	07/01/10	25	<2	<0.02	<0.02	<0.02	<0.06	--	--	--	1.09
MW83	B44-25	07/01/10	25	<2	<0.02	<0.02	<0.02	<0.06	--	--	--	--
	B44-28		28	<2	<0.02	<0.02	<0.02	<0.06	--	--	--	1.05
	B44-30		30	<2	<0.02	<0.02	<0.02	<0.06	--	--	--	--
MTCA Method A Cleanup Levels[5]				100/30[6]	0.03	7	6	9	0.1	NE	0.005	250

SoundEarth Strategies

Table 1
Summary of Soil Analytical Results
TOC Holdings Co. Facility No. 01-176
24205 56th Avenue West
Mountlake Terrace, Washington

Sample Location	Sample Number	Date Sampled	Depth (feet)	GRPH[1]	Benzene[2]	Toluene[2]	Ethyl-benzene[2]	Total Xylenes[2]	Selected Fuel Additives[3]			Total Lead[4]
MW84	B45-15	10/04/10	15	<2	<0.02	<0.02	<0.02	<0.06	--	--	--	--
	B45-35		35	<2	<0.02	<0.02	<0.02	<0.06	--	--	--	--
	B45-42.5		42.5	<2	<0.02	<0.02	<0.02	<0.06	--	--	--	1.31
MW85	B46-15	10/04/10	15	<2	<0.02	<0.02	<0.02	<0.06	--	--	--	--
	B46-35		35	<2	<0.02	<0.02	<0.02	<0.06	--	--	--	--
	B46-42.5		42.5	<2	<0.02	<0.02	<0.02	<0.06	--	--	--	<1
B47	B47-22	10/04/10	22	--	<0.02	<0.02	<0.02	<0.06	--	--	--	--
	B47-24.5		24.5	--	<0.02	<0.02	<0.02	<0.06	--	--	--	--
	B47-27		27	--	<0.02	<0.02	<0.02	<0.06	--	--	--	--
B48	B48-22	10/04/10	22	--	<0.02	<0.02	<0.02	<0.06	--	--	--	--
	B48-24.5		24.5	--	<0.02	<0.02	<0.02	<0.06	--	--	--	--
	B48-27		27	--	<0.02	<0.02	<0.02	<0.06	--	--	--	--
MW86	B49-15	10/05/10	15	<2	<0.02	<0.02	<0.02	<0.06	--	--	--	--
	B49-27.5		27.5	3.4	<0.02	<0.02	<0.02	<0.06	<0.05	<0.05	<0.05	--
	B49-42.5		42.5	<2	<0.02	<0.02	<0.02	<0.06	<0.05	<0.05	<0.05	1.61
MW87	B50-15	10/05/10	15	<2	<0.02	<0.02	<0.02	<0.06	--	--	--	--
	B50-25		25	<2	<0.02	<0.02	<0.02	<0.06	--	--	--	--
	B50-42.5		42.5	<2	<0.02	<0.02	<0.02	<0.06	--	--	--	1.03
MW88	B51-22.5	10/05/10	22.5	--	<0.02	<0.02	<0.02	<0.06	--	--	--	--
	B51-25		25	--	<0.02	<0.02	<0.02	<0.06	--	--	--	--
	B51-27.5		27.5	--	<0.02	<0.02	<0.02	<0.06	--	--	--	--
MW89	B52-15	10/11/10	15	<2	<0.02	<0.02	<0.02	<0.06	--	--	--	--
	B52-20		20	<2	<0.02	<0.02	<0.02	<0.06	--	--	--	--
	B52-35		35	<2	<0.02	<0.02	<0.02	<0.06	--	--	--	--
	B52-42.5		42.5	<2	<0.02	<0.02	<0.02	<0.06	--	--	--	2.35
MTCA Method A Cleanup Levels[5]				**100/30[6]**	**0.03**	**7**	**6**	**9**	**0.1**	**NE**	**0.005**	**250**

NOTES:

Red-bold text indicates concentration exceeding MTCA Method A cleanup level.

Results measured in milligrams per kilogram (mg/kg).

Samples MW-26-15 through MW-29-30 and HB-1-5 analyzed by North Creek Analytical, Inc. of Bothell, Washington.

Samples MW-30-6 through B52-42.5 analyzed by Friedman & Bruya, Inc. of Seattle, Washington

[1]GRPH by Washington Method WTPH-G (from 1992 through 2002), or Method NWTPH-Gx (since 2004).

[2]BTEX by Washington Method WTPH-G with BTEX Distinction (from 1992 through 2002), or EPA Method 8021B (from 2004 through 2009), except since 2005 whenever fuel additives analysis also was performed.

[3]MTBE by EPA Method 8021B through 2004. MTBE, EDB, and EDC by EPA Method 8260B from 2005 through 2008, or EPA Method 8260C in 2009 and 2010.

[4]Total lead by EPA Method 200.8.

[5]MTCA Cleanup Regulation, Method A Cleanup Levels, Table 740-1 of Section 900 of chapter 173-340 of the Washington Administrative Code, revidsed November 2007.

[6]100 mg/kg when benzene is not present and 30 mg/kg when benzene is present.

EDB = 1,2-dibromoethane
EDC = 1,2-dichloroethane
EPA = U.S. Environmental Protection Agency
GRPH = gasoline-range petroleum hydrocarbons
MTBE = methyl tertiary-butyl ether
MTCA = Washington State, Model Toxics Control Act
NE = Cleanup level not established for the specified analysis
NWTPH = Northwest Total Petroleum Hydrocarbon

SoundEarth Strategies

Table 2
Historical Groundwater Analytical Results
June 1992 through December 2010
TOC Holdings Co. Facility No. 01-176
24205 56th Avenue West
Mountlake Terrace, Washington

Well ID	Sample Date	Depth to LNAPL (feet)	Depth to Groundwater (feet)	LNAPL Thickness (feet)	Groundwater Elevation (feet)	GRPH	Benzene	Toluene	Ethylbenzene	Total Xylenes	MTBE	Total Lead	Dissolved Lead
MW01	06/15/92	—	6.01	—	348.86	35,000	7,300	1,700	1,400	8,200	—	—	—
TOC: 354.87	07/30/92	—	8.07	—	346.80	—	—	—	—	—	—	—	—
	01/11/94	—	12.65	—	342.22	1,600	29	4.6	28	140	—	—	—
TOC: 354.76	09/11/96	—	11.71	—	343.05	320	2.6	<0.5	15	46	—	—	—
	03/11/97	—	4.93	—	349.83	<100	<0.5	<0.5	0.6	<1.5	—	—	—
	09/17/97	—	12.32	—	342.44	76.7	0.595	2.9	1.99	13.4	—	—	—
	03/16/98	—	6.93	—	347.83	490	1.15	<0.5	7.38	18.2	—	—	—
	09/08/98	—	17.88	—	336.88	9,320	42.5	998	346	1,980	—	—	—
	03/19/99	—	7.00	—	357.76	<50.0	<0.5	<0.5	<0.5	<1.0	—	—	—
	09/17/99	—	11.02	—	343.74	910	<0.5	1.07	4.39	5.57	—	—	—
	03/23/00	—	5.72	—	349.04	<50.0	<0.5	<0.5	<0.5	<1.0	—	—	—
	09/28/00	—	16.52	—	338.24	163	0.610	1.31	1.95	18.1	—	—	—
	04/03/01	—	11.03	—	343.73	<50.0	<0.5	<0.5	<0.5	<1.0	—	—	—
	10/11/01	—	16.62	—	338.14	191	<0.5	1.41	13.4	54.7	—	—	—
	03/27/02	—	6.18	—	348.58	142	<0.5	0.741	4.84	33.3	—	—	—
	09/26/02	—	14.22	—	340.54	544	1.15	<0.5	8.38	11.2	—	—	—
	03/27/03	—	9.12	—	345.64	78.9	<0.5	<0.5	0.034	<1.00	—	—	—
	10/09/03	—	15.94	—	338.82	160	0.548	<0.5	2.84	11.3	—	—	—
	03/09/05	—	9.79	—	344.97	<50.0	<1.00	<1.00	<1.00	<3.00	<3.00	—	—
	09/26/05	—	11.33	—	343.43	<50.0	<1.00	<1.00	<1.00	<3.00	<5.00	—	—
	12/20/05	—	11.63	—	343.13	<100	<1	<1	<1	<3	<1	1.38	—
	02/24/06	—	6.52	—	348.24	<100	<1	<1	<1	<3	<1	—	—
	06/01/06	—	8.90	—	345.86	<100	<1	<1	<1	<3	—	—	—
	08/24/06	—	13.23	—	341.53	<100	<1	<1	<1	<3	<1	—	—
	11/16/06	—	11.53	—	343.23	<50	<1	<1	<1	<3	—	—	—
	02/21/07	—	9.86	—	344.90	<100	<1	<1	<1	<3	—	—	—
	05/24/07	—	11.51	—	343.25	<100	<1	<1	<1	<3	—	—	—
	07/31/07	—	15.02	—	339.74	<100	<1	<1	<1	<3	—	—	—
	02/12/08		10.48		344.28	<100	<1	<1	<1	<3	—	—	—
	10/02/09	D E C O M M I S S I O N E D											
MW02	06/15/92	—	4.00	—	352.44	13,000	590	1,900	350	2,500	—	—	—
TOC: 356.44	07/30/92	—	7.61	—	348.83	—	—	—	—	—	—	—	—
	01/11/94	—	15.50	—	340.94	60,000	4,600	7,300	1,200	8,300	—	—	—
TOC: 355.25	09/11/96	—	11.99	—	343.26	38,000	1,800	4,000	780	5,400	—	—	—
	03/11/97	—	6.02	—	349.23	100	4.8	3.7	2.5	16	—	—	—
	09/17/97	—	12.75	—	342.50	25,700	700	2,200	817	4,050	—	—	—
	03/16/98	—	8.27	—	346.08	1,700	28.3	53	55	776	—	—	—
	09/08/98	—	15.90	—	339.35	16,300	259	2,040	<50	2,700	—	—	—
	03/19/99	—	2.79	—	352.46	3,400	4.94	41.7	30.6	310	—	—	—
	09/17/99	—	—	—	—	9,250	<25	1,300	173	1,910	—	—	—
	03/23/00	—	7.39	—	347.86	4,920	<5.0	741	133	1,000	—	—	—
	09/28/00	—	15.37	—	339.88	20,700	138	1,800	846	5,390	—	—	—
	04/03/01	—	13.86	—	341.39	19,800	<100	351	807	6,060	—	—	—
	10/11/01	—	16.33	—	338.92	16,900	69.7	469	643	4,850	—	—	—
	03/27/02	—	6.79	Trace	348.40	11,900	18.3	23.0	331	1,830	—	—	—
	09/26/02	—	14.18	Trace	341.07	8,760	<5.0	40.6	276	2,420	—	—	—
	03/27/03	—	12.80	—	342.45	14,700	<10.0	11.3	374	3,020	—	—	—
	10/09/03	—	14.28	—	340.97	8,000	<5.0	11.1	67.5	639	—	—	—
	03/09/05	—	9.42	—	345.83	1,400	<1.00	7.00	4.00	71.0	<3.00	—	—
	09/26/05	—	9.20	—	346.05	Not sampled; truck parked over wellhead							
	12/21/05	—	11.50	—	343.75	<100	<1	<1	<1	<3	<1	<1	—
	02/23/06	—	5.88	—	349.37	<100	<1	<1	<1	<3	<1	—	—
	06/01/06	—	7.86	—	347.39	<100	<1	<1	<1	<3	—	—	—
	08/23/06	—	12.96	—	342.29	<100	<1	<1	<1	4.2	<1	—	—
	11/15/06	—	15.89	—	339.36	260	<1	1.1	2	<8.9	—	—	—
	02/21/07	—	10.38	—	344.87	<100	<1	<1	<1	<3	—	—	—
	05/23/07	—	11.74	—	343.51	<100	<1	<1	<1	<3	—	—	—
	08/01/07	—	13.85	—	341.40	<100	<1	<1	<1	<3	—	—	—
	02/13/08	—	12.04		343.21	<100	<1	<1	<1	<3	—	—	—
	03/04/10	—	9.94	—	345.31	<100	<1	<1	<1	<3	<1	—	—
MTCA Method A Cleanup Levels for Groundwater						1,000/800	5	1,000	700	1,000	20	15	NE

Table 2
Historical Groundwater Analytical Results
June 1992 through December 2010
TOC Holdings Co. Facility No. 01-176
24205 56th Avenue West
Mountlake Terrace, Washington

Well ID	Sample Date	Depth to LNAPL[1] (feet)	Depth to Groundwater[1] (feet)	LNAPL Thickness (feet)	Groundwater Elevation[2] (feet)	GRPH[3]	Benzene[4]	Toluene[4]	Ethylbenzene[4]	Total Xylenes[4]	MTBE[4]	Total Lead[5]	Dissolved Lead[5]
MW03[4]	06/15/92	—	4.83	—	354.33	92,000	9,800	22,000	1,900	16,000	—	—	—
TOC: 359.16	07/30/92	—	8.05	—	351.11	—	—	—	—	—	—	—	—
	01/11/94	—	14.34	—	344.82	110,000	6,200	21,000	1,600	15,000	—	—	—
TOC: 358.40	09/11/96	13.12	13.17	0.05	345.23	—	—	—	—	—	—	—	—
	03/11/97	—	7.02	Trace	351.38	—	—	—	—	—	—	—	—
	09/17/97	—	15.82	—	342.58	80,900	896	9,740	839	10,800	—	—	—
	03/16/98	—	8.75	Trace	349.65	—	—	—	—	—	—	—	—
	09/08/98	—	17.44	—	340.96	63,900	303	3,700	1,030	11,800	—	—	—
	03/19/99	—	4.66	—	353.74	8,130	13.5	502	60.6	1,390	—	—	—
	09/17/99	—	13.30	—	345.10	15,700	27.1	2,010	240	4,270	—	—	—
	03/23/00	—	8.14	—	350.26	75,000	88.2	7,050	434	4,280	—	—	—
	09/28/00	—	Dry	—	—	—	—	—	—	—	—	—	—
	04/03/01	—	15.16	—	343.24	9,120	15.4	829	174	2,730	—	—	—
	10/11/01	—	Dry	—	—	—	—	—	—	—	—	—	—
	03/27/02	—	8.63	—	349.77	1,960	7.99	88.9	31.6	404	—	—	—
	09/26/02	—	Dry	—	—	—	—	—	—	—	—	—	—
	03/27/03	—	12.00	—	346.40	<50.0	0.663	<0.50	<0.50	<1.0	—	—	—
	10/09/03	—	14.86	—	343.54	5,040	6.79	166	170	1,760	—	—	—
	03/09/05	—	9.77	—	348.63	730	2.00	2.00	19.0	98.0	<3.00	—	—
	09/27/05	—	9.35	—	349.05	<50.0	<1.00	<1.00	<1.00	<3.00	<3.00	—	—
	12/22/05	—	11.01	—	347.39	<100	<1	<1	<1	<3	<1	2.28	—
	02/22/06	—	5.73	—	352.67	<100	<1	<1	<1	<3	<1	—	—
	05/31/06	—	7.33	—	351.07	<100	<1	<1	<1	<3	—	—	—
	08/23/06	—	13.49	—	344.91	1,000	<1	1.1	35	188.4	<1	—	—
	11/14/06	—	17.61	—	340.79	Not sampled; insufficient water to fill sample containers							
	02/20/07	—	10.30	—	348.10	<100	<1	<1	<1	<3	—	—	—
	05/22/07	—	11.78	—	346.62	<100	<1	<1	<1	<3	—	—	—
	08/01/07	—	14.08	—	344.32	330	<1	<1	6	31	—	—	—
	02/13/08	—	12.49	—	345.91	<100	<1	<1	1	5	—	—	—
	03/04/10	—	9.61	—	348.79	<100	<1	<1	<1	<3	<1	—	—
MW04	07/30/92	—	7.19	—	351.32	100,000	470	15,000	2,900	18,000	—	—	—
TOC: 358.51	01/11/94	—	Dry	—	—	—	—	—	—	—	—	—	—
	09/11/96	—	12.65	—	345.86	27,000	77	480	600	4,800	—	—	—
	03/11/97	—	6.08	—	352.43	7,200	17	270	170	1,400	—	—	—
	09/17/97	—	14.76	—	343.75	17,400	30.1	92.9	78.4	846	—	—	—
	03/16/98	—	7.95	—	350.56	37,200	44.3	3,760	804	5,970	—	—	—
	09/08/98	—	18.03	—	340.48	22,200	77.9	1,390	199	3,520	—	—	—
	03/19/99	—	3.97	—	354.54	72,900	32.7	1,360	134	3,440	—	—	—
	09/17/99	—	12.86	—	345.65	—	—	—	—	—	—	—	—
	03/23/00	—	—	—	—	—	—	—	—	—	—	—	—
	09/28/00	—	16.95	—	341.56	1,010	<10.5	34.8	243	879	—	—	—
	04/03/01	—	16.03	—	342.48	12,800	<25	107	538	2,820	—	—	—
	10/11/01	—	Dry	—	—	—	—	—	—	—	—	—	—
	03/27/02	—	6.26	—	352.25	3,800	2.95	181	89.1	714	—	—	—
	09/26/02	—	15.30	—	343.21	1,000	1.85	5.97	117	135	—	—	—
	03/27/03	—	11.92	—	346.59	38,100	<50.0	3,800	1,270	7,840	—	—	—
	10/09/03	—	15.47	—	343.04	24,900	<100.0	1,780	1,070	7,220	—	—	—
	03/09/05	—	9.35	—	349.16	<50.0	<1.00	<1.00	<1.00	<3.00	<3.00	—	—
	09/26/05	9.20	9.20	0.00	349.31	LNAPL; not sampled due to heavy sheen							
	12/22/05	—	11.11	—	347.40	<100	<1	<1	<1	<3	<1	<1	—
	02/22/06	—	4.25	—	354.26	<100	<1	<1	<1	<3	<1	—	—
	05/31/06	—	5.00	—	353.51	<100	<1	<1	<1	<3	—	—	—
	08/23/06	—	12.76	—	345.75	<100	<1	<1	<1	<3	<1	—	—
	11/14/06	Not gauged or sampled; inaccessible due to road construction activity											
	02/21/07	—	8.97	—	349.54	<100	<1	<1	<1	<3	—	—	—
	05/22/07	—	10.84	—	347.67	<100	<1	<1	<1	<3	—	—	—
	08/01/07	—	13.62	—	344.89	<100	<1	<1	<1	<3	—	—	—
	02/13/08	—	11.51	—	347.00	<100	<1	<1	<1	4	—	—	—
	03/02/10	—	8.53	—	349.98	<100	<1	<1	<1	<3	<1	—	—
MTCA Method A Cleanup Levels for Groundwater[6]						1,000/800[b]	5	1,000	700	1,000	20	15	NE

SoundEarth Strategies

Table 2
Historical Groundwater Analytical Results
June 1992 through December 2010
TOC Holdings Co. Facility No. 01-176
24205 56th Avenue West
Mountlake Terrace, Washington

Well ID	Sample Date	Depth to LNAPL[1] (feet)	Depth to Groundwater[1] (feet)	LNAPL Thickness (feet)	Groundwater Elevation[2] (feet)	GRPH[3]	Benzene[4]	Toluene[4]	Ethylbenzene[4]	Total Xylenes[4]	MTBE[4]	Total Lead[5]	Dissolved Lead[5]
MW05	07/30/92	—	9.10	—	351.15	<50.0	<0.5	<0.5	<0.5	<0.5	—	—	—
TOC: 360.25	01/11/94	—	Dry	—	—	—	—	—	—	—	—	—	—
	09/11/96	—	13.33	—	346.92	88.0	<0.5	0.53	1.1	6.4	—	—	—
	03/11/97	—	6.15	—	354.10	<100	<0.5	<0.5	<0.5	<1.5	—	—	—
	09/17/97	—	13.79	—	346.46	<50.0	<0.5	<0.5	<0.5	<1.0	—	—	—
	03/16/98	—	7.86	—	352.39	<50.0	<0.5	<0.5	<0.5	<2.0	—	—	—
	09/08/98	—	Dry	—	—	—	—	—	—	—	—	—	—
	03/19/99	—	4.75	—	355.50	<50.0	<0.5	<0.5	<0.5	1.07	—	—	—
	09/17/99	—	Dry	—	—	—	—	—	—	—	—	—	—
	03/23/00	—	7.35	—	352.90	<50.0	<0.5	1.64	0.501	3.43	—	—	—
	09/28/00	—	Dry	—	—	—	—	—	—	—	—	—	—
	04/03/01	—	13.39	—	346.86	<50.0	<0.5	<0.5	<0.5	<1.0	—	—	—
	10/11/01	—	Dry	—	—	—	—	—	—	—	—	—	—
	03/27/02	—	6.41	—	353.84	<50.0	<0.5	<0.5	<0.5	<1.0	—	—	—
	09/26/02	—	Dry	—	—	—	—	—	—	—	—	—	—
	03/27/03	—	10.80	—	349.45	<50.0	<0.5	<0.5	<0.5	<1.0	—	—	—
	10/09/03	—	Dry	—	—	—	—	—	—	—	—	—	—
	03/09/05	—	11.57	—	348.68	<50.0	<1.00	<1.00	<1.00	<3.00	<3.00	—	—
	09/27/05	—	12.57	—	347.68	<50.0	<1.00	<1.00	<1.00	<3.00	<5.00	—	—
	12/22/05	—	Dry	—	—	—	—	—	—	—	—	—	—
	02/27/06	—	6.76	—	353.49	<100	<1	<1	<1	<3	<1	—	—
	05/31/06	—	8.42	—	351.83	<100	<1	<1	<1	<3	—	—	—
	08/23/06	—	14.10	—	346.15	Not sampled; insufficient water to fill sample containers							
	11/14/06	—	14.75	—	345.50	Not sampled; insufficient water to fill sample containers							
	02/20/07	—	9.50	—	350.75	<100	<1	<1	<1	<3	—	—	—
	05/22/07	—	11.35	—	348.90	<100	<1	<1	<1	<3	—	—	—
	08/03/07	—	14.36	—	345.89	<100	<1	<1	<1	<3	—	—	—
	02/13/08	—	11.68	—	348.57	<100	<1	<1	<1	<3	—	—	—
	03/02/10	—	8.78	—	351.47	<100	<1	<1	<1	<3	<1	—	—
MW06	07/30/92	—	8.66	—	346.71	<50.0	<0.5	<0.5	<0.5	<0.5	—	—	—
TOC: 355.37	01/11/94	—	12.92	—	342.45	<50.0	<0.5	2	<0.5	2.6	—	—	—
	09/11/96	—	12.26	—	343.11	<50.0	<0.5	<0.5	<0.5	<0.5	—	—	—
	03/11/97	—	4.96	—	350.41	<100	<0.5	<0.5	<0.5	<1.5	—	—	—
	09/17/97	—	12.83	—	342.54	<50.0	<0.5	<0.5	<0.5	<1.0	—	—	—
	03/16/98	—	6.77	—	348.60	<50.0	<0.5	<0.5	<0.5	<1.0	—	—	—
	09/08/98	—	15.00	—	340.37	868	1.92	73.0	21.3	172	—	—	—
	03/19/99	—	3.95	—	351.42	<50.0	<0.5	<0.5	<0.5	<1.0	—	—	—
	09/17/99	—	12.53	—	342.84	<50.0	<0.5	<0.5	<0.5	<1.0	—	—	—
	03/23/00	—	7.97	—	347.40	<50.0	<0.5	<0.5	<0.5	<1.0	—	—	—
	09/28/00	—	Dry	—	—	—	—	—	—	—	—	—	—
	04/03/01	—	11.64	—	343.73	<50.0	<0.5	<0.5	<0.5	<1.0	—	—	—
	10/11/01	—	Dry	—	—	—	—	—	—	—	—	—	—
	03/27/02	—	6.06	—	349.31	<50.0	<0.5	<0.5	<0.5	<1.0	—	—	—
	09/26/02	—	Dry	—	—	—	—	—	—	—	—	—	—
	03/27/03	—	8.10	—	347.27	<50.0	<0.5	<0.5	<0.5	<1.0	—	—	—
	10/09/03	—	Dry	—	—	—	—	—	—	—	—	—	—
	03/09/05	—	9.30	—	346.07	<50.0	<1.00	<1.00	<1.00	<3.00	<3.00	—	—
	09/26/05	—	12.26	—	343.11	<50.0	<1.00	<1.00	<1.00	<3.00	<5.00	—	—
	12/22/05	—	Dry	—	—	—	—	—	—	—	—	—	—
	02/22/06	—	5.93	—	349.44	<100	<1	<1	<1	<3	<1	—	—
	05/31/06	—	9.88	—	345.49	<100	<1	<1	<1	<3	—	—	—
	08/22/06	—	14.68	—	340.69	Not sampled; insufficient water to fill sample containers							
	11/14/06	—	Dry	—	—	—	—	—	—	—	—	—	—
	02/21/07	—	10.05	—	345.32	<100	<1	<1	<1	<3	—	—	—
	05/22/07	—	12.79	—	342.58	<100	<1	<1	<1	<3	—	—	—
	07/31/07	—	14.71	—	340.66	Not sampled; insufficient water to fill sample containers							
	02/13/08	—	10.96	—	344.41	<100	<1	<1	<1	<3	—	—	—
	03/04/10	—	9.42	—	345.95	<100	<1	<1	<1	<3	<1	—	—
	07/08/10	—	12.49	—	342.88	Not sampled, just gauged.							
MTCA Method A Cleanup Levels for Groundwater[6]						1,000/800[a]	5	1,000	700	1,000	20	15	NE

Table 2
Historical Groundwater Analytical Results
June 1992 through December 2010
TOC Holdings Co. Facility No. 01-176
24205 56th Avenue West
Mountlake Terrace, Washington

Well ID	Sample Date	Depth to LNAPL[1] (feet)	Depth to Groundwater[1] (feet)	LNAPL Thickness (feet)	Groundwater Elevation[2] (feet)	GRPH[3]	Benzene[4]	Toluene[4]	Ethylbenzene[4]	Total Xylenes[4]	MTBE[4]	Total Lead[5]	Dissolved Lead[5]
MW07	07/30/92	—	8.40	—	344.58	<50.0	<0.5	<0.5	<0.5	<0.5	—	—	—
TOC: 352.98	01/11/94	—	12.93	—	340.05	<50.0	<0.5	<0.59	<0.5	<1.0	—	—	—
	09/11/96	—	11.95	—	341.03	<50.0	<0.5	<0.5	<0.5	<0.5	—	—	—
	03/11/97	—	5.63	—	347.35	<100	<0.5	<0.5	<0.5	<1.5	—	—	—
	09/17/97	—	12.00	—	340.98	<50.0	<0.5	<0.5	<0.5	<1.0	—	—	—
	03/18/98	—	7.70	—	345.28	<50.0	<0.5	<0.5	<0.5	<1.0	—	—	—
	09/08/98	—	Dry	—	—	—	—	—	—	—	—	—	—
	03/19/99	—	2.91	—	350.07	<50.0	<0.5	1.07	<0.5	2.66	—	—	—
	09/17/99	—	11.77	—	341.21	<50.0	<0.5	<0.5	<0.5	<1.0	—	—	—
	03/21/00	—	6.80	—	346.18	<50.0	<0.5	<0.5	<0.5	<1.0	—	—	—
	09/28/00	—	13.92	—	339.06	<50.0	<0.5	<0.5	<0.5	<1.0	—	—	—
	04/03/01	—	12.51	—	340.47	604	<0.5	<0.5	<0.5	3.17	—	—	—
	10/11/01	—	Dry	—	—	—	—	—	—	—	—	—	—
	03/27/02	—	7.05	—	345.93	<50.0	<0.5	<0.5	<0.5	<1.0	—	—	—
	09/26/02	—	13.52	—	339.46	<50.0	<0.5	<0.5	<0.5	<1.0	—	—	—
	03/27/03	—	11.22	—	341.76	<50.0	<0.5	1.41	0.745	4.08	—	—	—
	10/09/03	—	14.31	—	338.67	<50.0	<0.5	<0.5	<0.5	<1.0	—	—	—
	11/08/04	—	12.27	—	340.71	<50.0	<1.00	<1.00	<1.00	<1.00	<3.00	—	—
	03/09/05	—	12.27	—	340.71	—	—	—	—	—	—	—	—
	11/29/04	D E C O M M I S S I O N E D											
MW08	01/11/94	—	24.86	—	332.06	290	0.53	0.54	<0.5	<1.0	—	—	—
TOC: 356.92	09/11/96	—	22.30	—	334.62	<50.0	<0.5	<0.5	<0.5	<0.5	—	—	—
	03/11/97	—	9.68	—	347.24	<100	<0.5	<0.5	<1.5	<1.5	—	—	—
	09/17/97	—	24.18	—	332.74	<50.0	<0.5	<0.5	<0.5	<1.0	—	—	—
	03/16/98	—	12.53	—	344.39	<50.0	<0.5	<0.5	<0.5	<1.0	—	—	—
	09/08/98	—	25.59	—	331.33	60.0	<0.5	2.33	1.21	10.5	—	—	—
	03/19/99	—	3.23	—	353.69	<50.0	<0.5	<0.5	<0.5	<1.0	—	—	—
	09/17/99	—	9.30	—	347.62	<50.0	<0.5	0.508	<0.5	1.30	—	—	—
	03/23/00	—	7.57	—	349.35	<50.0	<0.5	<0.5	<0.5	<1.0	—	—	—
	09/28/00	—	25.70	—	331.22	<50.0	<0.5	<0.5	<0.5	<1.0	—	—	—
	04/03/01	—	24.35	—	332.57	<50.0	<0.5	<0.5	1.53	7.92	—	—	—
	10/11/01	—	26.61	—	330.31	<50.0	<0.5	<0.5	<0.5	<1.0	—	—	—
	03/27/02	—	8.08	—	348.84	<50.0	<0.5	<0.5	<0.5	<1.0	—	—	—
	09/26/02	—	24.66	—	332.26	<50.0	<0.5	<0.5	<0.5	<1.0	—	—	—
	03/27/03	—	15.13	—	341.79	<50.0	<0.5	<0.5	<0.5	<1.0	—	—	—
	10/09/03	—	25.82	—	331.10	<50.0	<0.5	<0.5	<0.5	<1.0	—	—	—
	03/09/05	—	12.46	—	344.46	<50.0	<1.00	<1.00	<1.00	<3.00	<3.00	—	—
	09/26/05	—	12.87	Sheen	344.05	Not sampled due to apparent sheen							
	12/22/05	—	11.30	—	345.62	<100	<1	<1	<1	<3.6	<1	<1	—
	02/22/06	—	4.36	—	352.56	<100	<1	<1	<1	<3	<1	—	—
	05/31/06	—	6.41	—	350.51	<100	<1	<1	<1	<3	—	—	—
	08/23/06	—	17.30	—	339.62	<100	<1	<1	<1	<3	<1	—	—
	11/14/06	—	23.77	—	333.15	<50	<1	<1	<1	<3	—	—	—
	02/21/07	—	10.91	—	346.01	<100	<1	<1	<1	<3	—	—	—
	05/22/07	—	14.09	—	342.83	<100	<1	<1	<1	<3	—	—	—
	08/02/07	—	21.83	—	335.09	<100	<1	<1	<1	<3	—	—	—
	02/12/08	—	12.56	—	344.36	<100	<1	<1	<1	<3	—	—	—
	03/02/10	—	9.61	—	347.31	<100	<1	<1	<1	<3	<1	—	—
MTCA Method A Cleanup Levels for Groundwater[6]						1,000/800[a]	5	1,000	700	1,000	20	15	NE

SoundEarth Strategies

Table 2
Historical Groundwater Analytical Results
June 1992 through December 2010
TOC Holdings Co. Facility No. 01-176
24205 56th Avenue West
Mountlake Terrace, Washington

Well ID	Sample Date	Depth to LNAPL[1] (feet)	Depth to Groundwater[2] (feet)	LNAPL Thickness (feet)	Groundwater Elevation[3] (feet)	GRPH[4]	Benzene[4]	Toluene[4]	Ethylbenzene[4]	Total Xylenes[4]	MTBE[4]	Total Lead[5]	Dissolved Lead[5]
MW06[6]	01/11/94	--	30.27	--	327.57	64,000	16,000	26,000	1,300	13,000	--	--	--
TOC: 357.84	09/11/96	26.70	28.41	1.71	328.45	LNAPL							
TOC: 356.86	03/11/97	--	21.42	--	335.44	LNAPL not sampled due to sheen							
	09/17/97	--	29.90	--	326.96	37,200	197	82.8	<10	2,690	--	--	--
	03/16/98	21.96	21.97	0.01	334.89	LNAPL							
	09/08/98	31.83	31.84	0.01	325.02	LNAPL							
	03/15/99	16.97	16.98	0.01	339.88	LNAPL							
	09/17/99	25.05	25.06	0.01	331.80	LNAPL							
	03/27/00	--	20.75	--	336.61	LNAPL not sampled due to sheen							
	09/28/00	--	Dry	--	--	--	--	--	--	--	--	--	--
	04/03/01	--	28.64	--	328.22	LNAPL not sampled due to sheen							
	10/11/01	--	29.71	--	327.35	18,400	495	904	270	5,110	--	--	--
	03/27/02	--	19.27	--	337.99	34,000	151	1,170	196	4,000	--	--	--
	09/26/02	--	27.47	--	329.39	26,500	240	1,940	869	5,790	--	--	--
	03/27/03	--	24.92	--	332.04	42,700	264	3,066	777	9,500	--	--	--
	10/09/03	--	27.54	--	329.32	1,400	33.2	114	41.8	386	--	--	--
	09/09/05	--	16.75	--	340.11	15,000	94.0	160	120	3,200	<100	--	--
	06/27/06	Unable to gauge; probe diameter too large				2,326	<1.00	6.71	41.8	525	<5.00	--	--
	12/07/06	--	22.33	--	334.53	2,200	<1	10	76	690	<1	1.07	--
	02/22/06	--	51.51	--	305.35	650	<1	<1	13	147	<1	--	--
	06/01/06	--	14.34	--	342.52	1,500	1,500	4	48	450	--	--	--
	08/24/06	--	25.79	--	331.07	26,000	330	420	550	4,800	<1	--	--
	11/25/06	--	14.12	--	322.74	3,800	160	150	64	1,820	--	--	--
	02/26/07	--	19.78	--	317.07	4,100	8	32	83	1,100	--	--	--
	05/23/07	--	23.19	--	333.67	15,000	91	270	335	3,200	--	--	--
	08/01/07	--	24.98	--	329.88	4,800	98	120	100	1,200	--	--	--
	02/12/08	--	23.30	--	333.56	5,900	72	100	96	1,900	--	--	--
	05/06/10	--	17.50	--	339.16	6,000	<1	4	45	985	<1	--	--
MW10[6]	11/20/95	--	Dry	--	--	--	--	--	--	--	--	--	--
TOC: 354.43	09/11/96	31.36	33.63	0.27	320.80	LNAPL							
	03/11/97	28.41	28.50	0.09	325.93	LNAPL							
	09/17/97	--	35.29	Trace	319.23	34,500	3,430	7,750	188	8,720	--	--	--
	03/16/98	--	26.67	--	327.76	--	--	--	--	--	--	--	--
	09/08/98	--	35.12	--	319.31	18,400	3,470	1,040	263	3,960	--	--	--
	03/19/99	24.39	24.43	0.04	330.00	LNAPL							
	09/17/99	--	30.43	--	323.00	26,000	1,090	3,130	621	6,180	--	--	--
	03/27/00	--	--	--	--	33,200	1,290	3,640	903	7,130	--	--	--
	09/29/00	--	33.07	Trace	321.41	11,900	608	645	54.0	3,270	--	--	--
	04/03/01	--	--	--	--	19,000	979	1,360	532	414	--	--	--
	10/11/01	--	32.75	--	321.20	9,130	342	478	94.5	2,052	--	--	--
	03/27/02	--	25.09	--	324.34	30,000	548	1,950	419	7,480	--	--	--
	09/26/02	--	27.90	--	326.53	77,000	5,730	8,260	1,640	15,600	--	--	--
	03/27/03	--	--	--	--	--	--	--	--	--	--	--	--
	10/09/03	--	--	--	--	26,500	2,290	2,570	948	6,670	--	--	--
	03/09/04	--	24.04	--	328.39	15,000	560	820	320	3,100	<150	--	--
	09/26/05	--	25.56	--	326.87	3,440	34.4	79.2	24.9	150.4	<5.00	--	--
	12/20/05	--	28.40	--	326.05	15,000	980	670	560	3,700	<1	9.39	--
	02/24/06	--	27.68	--	331.75	830	20	89	22	141	<1	--	--
	06/01/06	--	24.09	--	330.54	2,600	19	67	28	360	--	--	--
	08/24/06	--	27.64	--	328.79	8,200	150	98	110	1,010	<1	--	--
	11/14/06	--	34.07	--	320.41	Not sampled; too deep for peristaltic pump and bailer obstructed by parker							
	02/20/07	25.16	25.21	0.05	329.26	LNAPL							
	05/22/07	27.50	27.58	0.08	327.31	LNAPL							
	08/02/07	--	37.89	--	316.54	7,700	200	100	92	780	--	--	--
	02/13/08	--	26.64	--	327.79	1,700	66	29	17	160	--	--	--
	05/04/10	--	25.23	--	329.20	720	3	<1	<1	7	<1	--	--
MTCA Method A Cleanup Levels for Groundwater[7]						1,000/800[8]	5	1,000	700	1,000	20	15	NE

SoundEarth Strategies

Table 2
Historical Groundwater Analytical Results
June 1992 through December 2010
TOC Holdings Co. Facility No. 01-176
24205 56th Avenue West
Mountlake Terrace, Washington

Well ID	Sample Date	Depth to LNAPL[1] (feet)	Depth to Groundwater[2] (feet)	LNAPL Thickness (feet)	Groundwater Elevation[3] (feet)	GRPH[4]	Benzene[4]	Toluene[4]	Ethylbenzene[4]	Total Xylenes[4]	MTBE[4]	Total Lead[5]	Dissolved Lead[6]
MW11[7]	11/20/95	27.33	27.33	--	330.79	15,000	1,600	2,800	570	3,500	--	--	--
TOC 358.12	09/11/96	34.29	34.56	0.27	323.56	--	--	--	--	--	--	--	--
	03/11/97	--	19.83	Trace	338.29	--	--	--	--	--	--	--	--
	09/17/97	--	34.24	--	332.88	17,800	993	2,030	67.4	2,480	--	--	--
	03/16/98	--	20.61	Trace	337.51	--	--	--	--	--	--	--	--
	09/08/98	--	25.41	--	332.71	6,220	166	461	17.4	1,390	--	--	--
	03/15/99	19.99	19.65	0.01	338.22	--	--	--	--	--	--	--	--
	09/13/99	--	24.89	--	333.23	11,200	126	1,240	152	2,290	--	--	--
	03/23/00	--	20.64	Trace	337.48	--	--	--	--	--	--	--	--
	09/28/00	26.22	26.23	0.01	331.89	--	--	--	--	--	--	--	--
	04/03/01	--	25.14	--	332.98	36,700	403	4,950	1,150	9,860	--	--	--
	10/18/01	--	28.49	Trace	329.63	--	--	--	--	--	--	--	--
	04/02/02	20.18	20.20	0.02	337.92	--	--	--	--	--	--	--	--
	09/26/02	--	25.15	--	332.93	15,600	120	956	420	1,500	--	--	--
	03/27/03	--	22.84	--	335.28	72,900	88.7	5,130	2,100	16,800	--	--	--
	10/09/03	--	26.25	--	331.87	21,100	109	1,430	625	7,020	--	--	--
	03/09/05	22.00	22.01	0.01	336.11	--	--	--	--	--	--	--	--
	09/27/05	--	21.96	--	336.26	90,100	22.2	2,710	2,050	14,470	<5.00	--	--
	12/21/05	--	22.99	--	335.63	44,000	32	2,200	2,200	17,600	<1	<1	--
	02/22/06	--	18.42	--	339.78	45,000	12	1,200	2,200	13,600	<1	--	--
	05/31/06	--	16.85	--	341.27	48,000	55	1,700	2,500	14,000	--	--	--
	08/23/06	--	23.53	--	334.59	93,000	24	2,000	2,200	15,200	<1	--	--
	11/14/06	26.90	27.02	0.12	331.20	LNAPL							
	02/20/07	--	20.58	--	337.54	48,000	58	800	2,000	17,000	--	--	--
	05/22/07	22.40	22.41	0.01	335.77	LNAPL							
	08/01/07	--	24.27	--	333.90	46,000	64	1,100	1,800	12,000	--	--	--
	02/12/08	--	21.71	--	336.41	48,000	41	640	1,700	14,200	--	--	--
	05/04/10	--	19.74	--	338.38	44,000	77	150	1,400	8,600	<1	--	--
MW12	10/11/01	--	16.34	--	337.85	<50.0	<0.5	<0.5	<0.5	<1.0	--	--	--
TOC 354.19	03/27/03	--	7.09	--	347.10	<50.0	<0.5	<0.5	<0.5	<1.0	--	--	--
	09/26/02	--	13.60	--	340.59	<50.0	<0.5	<0.5	<0.5	<1.0	--	--	--
	03/27/03	--	11.20	--	342.99	<50.0	<0.5	1.00	0.956	7.29	--	--	--
	10/09/03	--	15.19	--	339.09	<50.0	<0.5	<0.5	<0.50	<1.0	--	--	--
	03/09/05	--	11.06	--	343.13	<50.0	<1.00	<1.00	<1.00	<3.00	<3.00	--	--
	09/26/05	--	12.97	--	341.22	<50.0	<1.00	<1.00	<1.00	<3.00	<5.00	--	--
	12/22/05	--	13.37	--	340.80	<100	<1	<1	<1	<3	<1	<1	--
	02/22/06	--	6.34	--	347.85	<100	<1	<1	<1	<3	<1	--	--
	05/31/06	--	8.85	--	345.34	<100	<1	<1	<1	<3	--	--	--
	08/23/06	--	12.12	--	342.07	<100	<1	<1	<1	<3	<1	--	--
	11/16/06	--	15.61	--	338.58	<50	<1	<1	<1	<3	--	--	--
	02/21/07	--	9.66	--	344.53	<100	<1	<1	<1	<3	--	--	--
	05/23/07	--	10.80	--	343.39	<100	<1	<1	<1	<3	--	--	--
	08/02/07	--	13.02	--	341.17	<100	<1	<1	<1	<3	--	--	--
	02/13/07	--	10.46	--	343.60	<100	<1	<1	<1	<3	--	--	--
	05/14/08	--	10.30	--	343.89	Not sampled, just gauged							
	05/02/10	--	9.03	--	345.16	<100	<1	<1	<1	<3	<1	--	--
MTCA Method A Cleanup Levels for Groundwater[8]						1,000/800[9]	5	1,000	700	1,000	20	15	NE

SoundEarth Strategies

Table 2
Historical Groundwater Analytical Results
June 1992 through December 2010
TOC Holdings Co. Facility No. 01-176
24205 56th Avenue West
Mountlake Terrace, Washington

Well ID	Sample Date	Depth to LNAPL[1] (feet)	Depth to Groundwater[1] (feet)	LNAPL Thickness (feet)	Groundwater Elevation[2] (feet)	GRPH[3]	Benzene[4]	Toluene[4]	Ethylbenzene[4]	Total Xylenes[4]	MTBE[4]	Total Lead[5]	Dissolved Lead[5]
MW13	10/11/01	—	Dry	—	Dry	—	—	—	—	—	—	—	—
TOC: 353.87	03/27/02	—	40.57	—	313.30	11,300	1,460	<25.0	1,210	1,470	—	—	—
	09/26/02	—	Dry	—	—	—	—	—	—	—	—	—	—
	03/27/03	—	Dry	—	—	—	—	—	—	—	—	—	—
	10/09/03	—	Dry	—	—	—	—	—	—	—	—	—	—
	03/09/05	—	Dry	—	—	—	—	—	—	—	—	—	—
	09/26/05	—	41.69	—	312.18	NA[7]	NA[7]	NA[7]	NA[7]	NA[7]	NA[7]	—	—
	12/22/05	—	Dry	—	—	—	—	—	—	—	—	—	—
	02/02/06	—	41.59	—	312.28	8,400	520	9.4	680	1,239	<1	—	—
	02/22/06	—	41.36	—	312.51	—	—	—	—	—	—	—	—
	05/31/06	—	41.29	—	312.58	6,700	340	22	520	810	—	—	—
	08/23/06	—	Dry	—	—	—	—	—	—	—	—	—	—
	11/14/06	—	Dry	—	—	—	—	—	—	—	—	—	—
	02/20/07	—	41.21	—	312.66	Not sampled; insufficient water to fill sample containers							
	05/22/07	—	Dry	—	—	—	—	—	—	—	—	—	—
	07/31/07	—	Dry	—	—	Not sampled; insufficient water to fill sample containers							
	02/13/08	—	Dry	—	—	Not sampled; insufficient water to fill sample containers							
	05/14/08	—	Dry			Not sampled; just gauged							
	03/04/10	—	41.23	—	312.64	1,700	60	17	54	150	<1	—	—
MW14	11/29/04	D E C O M M I S S I O N E D											
MW15	10/29/04	—	36.37	—	318.07	5,400	<10.0	46.0	270	880	—	—	—
TOC: 354.38	03/09/05	33.12	33.16	0.04	321.23	—	—	—	—	—	—	—	—
	09/26/05	32.32	32.67	0.35	322.00	LNAPL							
	12/22/05	32.64	32.89	0.25	321.70	LNAPL							
	02/22/06	—	29.47	—	324.92	Not sampled; absorbent socks in well							
	06/01/06	—	30.55	—	323.84	12,000	78	73	470	1,700	—	—	—
	08/23/06	—	37.29	—	317.10	LNAPL							
	11/14/06	36.65	36.68	0.03	317.73	LNAPL							
	02/20/07	—	—	—	—	Not measured; LNAPL, absorbent socks in well.							
	05/22/07	33.00	33.00	0.00	321.39	LNAPL							
	08/01/07	—	34.31	—	320.08	Not sampled; absorbent socks in well							
	02/11/08	34.60	34.62	0.02	319.79	LNAPL							
	03/01/10	31.95	32.12	0.17	322.41	LNAPL							
	12/06/10	36.29	36.46	0.17	318.07	Not sampled, just gauged for LNAPL recovery							
MW16	03/09/05	—	Dry	—	—	—	—	—	—	—	—	—	—
TOC: 361.88	09/26/05	—	Dry	—	—	—	—	—	—	—	—	—	—
	12/22/05	—	Dry	—	—	—	—	—	—	—	—	—	—
	02/22/06	—	Dry	—	—	—	—	—	—	—	—	—	—
	06/01/06	—	45.04	—	316.84	<100	<1	<1	<1	<3	—	—	—
	08/23/06	—	Dry	—	—	—	—	—	—	—	—	—	—
	11/14/06	—	Dry	—	—	—	—	—	—	—	—	—	—
	02/20/07	—	46.30	—	315.59	<100	<1	<1	<1	<3	—	—	—
	05/23/07	—	46.06	—	315.83	<100	<1	<1	<1	<3	—	—	—
	07/31/07	—	Dry	—	—	Not sampled; insufficient water to fill sample containers							
	02/11/08	—	Dry	—	—	Not sampled; insufficient water to fill sample containers							
	03/02/10	—	45.54	—	316.35	<100	<1	<1	<1	<3	<1	—	—
MW17	07/27/04	—	43.18	—	309.47	<80	<0.5	<0.5	<0.5	<1.5	—	—	—
TOC: 352.65	11/29/04	D E C O M M I S S I O N E D											
MW18	03/09/05	35.18	35.33	0.15	319.49	—	—	—	—	—	—	—	—
TOC: 354.82	09/20/05	12.94	13.15	0.21	341.84	LNAPL							
	12/22/05	35.72	35.72	0.00	319.10	LNAPL							
	02/22/06	Not gauged or sampled; vehicle parked over vault lid.											
	06/01/06	—	29.65	—	325.17	32,000	200	340	1,100	7,000	—	—	—
	08/22/06	LNAPL; absorbent socks in well											
	11/14/06	LNAPL; absorbent socks in well											
	02/20/07	Not sampled; truck parked over well-head											
	05/22/07	—	36.00	—	318.82	27,000	98	63	440	4,200	—	—	—
	07/31/07	—	37.01	—	317.81	LNAPL; absorbent socks in well							
	02/14/08	—	35.58	—	319.24	13,000	98	28	<10	2,200	—	—	—
	03/04/10	—	32.35	—	322.47	17,000	94	28	270	1,000	<1	—	—
MTCA Method A Cleanup Levels for Groundwater[6]						1,000/800[8]	5	1,000	700	1,000	20	15	NE

SoundEarth Strategies

Table 2
Historical Groundwater Analytical Results
June 1992 through December 2010
TOC Holdings Co. Facility No. 01-176
24205 56th Avenue West
Mountlake Terrace, Washington

Well ID	Sample Date	Depth to LNAPL[1] (feet)	Depth to Groundwater[2] (feet)	LNAPL Thickness (feet)	Groundwater Elevation[3] (feet)	GRPH[4]	Benzene[4]	Toluene[4]	Ethylbenzene[4]	Total Xylenes[4]	MTBE[4]	Total Lead[4]	Dissolved Lead[4]
MW19	03/09/05	--	11.24	--	344.17	<50.0	<1.00	<1.00	<1.00	<3.00	<3.00	--	--
TOC 355.42	09/28/05	11.24	11.30	0.01	344.13	LNAPL							
	12/27/05	--	13.13	--	342.29	<100	<1	<1	<1	<3	<1	<1	--
	02/22/06	--	7.56	--	347.86	<100	<1	<1	<1	<3	<1	--	--
	06/01/06	--	6.91	--	348.51	<100	<1	<1	<1	<3	--	--	--
	08/24/06	--	14.12	--	341.30	<100	<1	<1	<1	<3	<1	--	--
	11/15/06	--	18.19	--	337.23	450	<1	<1	<1	<3	--	--	--
	02/20/07	--	12.47	--	342.95	<100	<1	<1	<1	<3	--	--	--
	05/24/07	--	13.63	--	341.79	<100	<1	<1	<1	<3	--	--	--
	08/03/07	--	14.89	--	340.53	<100	<1	<1	<1	<3	--	--	--
	02/13/08	--	13.64	--	341.78	<100	<1	<1	<1	<3	--	--	--
	03/04/10	--	11.98	--	343.44	<100	<1	<1	<1	<3	<1	--	--
MW20	03/09/05	27.86	27.88	0.02	328.59	LNAPL							
TOC 356.47	09/26/05	29.16	29.25	0.09	329.89	LNAPL							
	12/20/05	--	29.08	--	327.39	13,000	740	640	330	2,790	<1	4.69	--
	02/22/06	--	24.60	--	331.87	35,000	710	1,800	710	5,100	<1	--	--
	06/01/06	26.30	26.41	0.11	330.15	LNAPL							
	08/22/06	29.73	29.73	0.02	326.76	LNAPL; absorbent socks in well							
	11/14/06	34.00	34.00	0.00	322.47	LNAPL; absorbent socks in well							
	02/20/07	27.19	27.22	0.03	329.27	LNAPL							
	05/22/07	28.87	28.94	0.07	327.63	LNAPL; absorbent socks in well							
	07/31/07	--	31.01	--	325.46	Not sampled; absorbent socks in well							
	02/13/08	--	28.65	--	327.82	20,000	496	900	450	3,600	--	--	--
	03/04/10	--	27.16	--	329.31	11,000	390	1,100	385	1,700	<1	--	--
MW21[5]	10/29/04	--	29.90	--	326.51	4,860	260	140	5.80	420	--	--	--
TOC 356.41	03/09/05	--	28.75	--	328.06	1,680	92.0	64.0	34.0	170	<3.00	--	--
	09/26/05	Unable to gauge; probe diameter too large				<50.0	<1.00	1.76	<1.00	<3.00	<3.00	--	--
	12/20/05	--	29.61	--	326.78	1,700	81	320	47	749	<1	4.52	--
	02/22/06	--	25.00	--	331.41	130	1.9	6.8	3.4	14.8	<1	--	--
	06/01/06	--	26.56	--	329.85	130	2	11	3	26	--	--	--
	08/23/06	--	30.31	--	326.10	360	34	25	8.2	100	<1	--	--
	11/14/06	--	39.35	--	317.05	Not sampled; insufficient water to fill sample containers							
	02/21/07	--	27.75	--	328.66	310	3	30	6.5	47	--	--	--
	05/23/07	--	29.69	--	326.72	<100	2	1	<1	3	--	--	--
	08/02/07	--	31.69	--	324.72	2,580	140	17	85	150	--	--	--
	02/13/08	--	29.50	--	326.91	940	7	6	6	78	--	--	--
	05/14/08	--	29.38	--	327.03	Not sampled; just gauged							
	03/04/10	--	28.85	--	327.76	770	<1	5	3	32	<1	--	--
MW22[5]	10/29/04	--	30.27	--	325.34	130	4.00	<1.00	<1.00	19.0	--	--	--
TOC 355.61	03/09/05	--	26.46	--	329.63	<50.0	1.00	<1.00	<3.00	<3.00	<3.00	--	--
	09/26/05	Unable to gauge; probe diameter too large				<50.0	<1.00	<1.00	<1.00	<3.00	<5.00	--	--
	12/20/05	--	28.27	--	327.34	<100	<1	<1	<1	<3	<1	<1	--
	02/22/06	--	23.02	--	332.59	<100	<1	<1	<1	<3	<1	--	--
	06/01/06	--	25.14	--	330.47	<100	<1	<1	<1	<3	--	--	--
	08/24/06	--	28.25	--	327.36	<100	<1	<1	<1	<3	<1	--	--
	11/15/06	--	37.62	--	317.99	550	5.1	<1	<1	<3	--	--	--
	02/20/07	--	26.45	--	329.16	<100	<1	<1	<1	<3	--	--	--
	05/24/07	--	28.20	--	327.41	<100	<1	<1	<1	<3	--	--	--
	08/03/07	--	30.72	--	324.89	<100	<1	<1	<1	<3	--	--	--
	02/13/08	--	27.87	--	327.74	<100	<1	<1	<1	<3	--	--	--
	03/04/10	--	26.55	--	329.06	<100	<1	<1	<1	<3	<1	--	--
MTCA Method A Cleanup Levels for Groundwater[6]						1,000/800[7]	5	1,000	700	1,000	20	15	NF

Table 2
Historical Groundwater Analytical Results
June 1992 through December 2010
TOC Holdings Co. Facility No. 01-176
24205 56th Avenue West
Mountlake Terrace, Washington

Well ID	Sample Date	Depth to LNAPL[1] (feet)	Depth to Groundwater[1] (feet)	LNAPL Thickness (feet)	Groundwater Elevation[2] (feet)	GRPH[3]	Benzene[4]	Toluene[4]	Ethylbenzene[4]	Total Xylenes[4]	MTBE[4]	Total Lead[5]	Dissolved Lead[5]
MW23	10/29/04	--	Dry	--	--	--	--	--	--	--	--	--	--
TOC: 356.61	03/09/05	--	Dry	--	--	--	--	--	--	--	--	--	--
	09/26/05	--	39.12	--	317.49	Not sampled; insufficient water to fill sample containers							
	12/22/05	--	Dry	--	--	--	--	--	--	--	--	--	--
	02/22/06	--	38.05	--	318.56	1,100	4.9	<1	65	7.8	<1	--	--
	06/01/06	--	38.79	--	317.82	760	3	2.1	18	22	--	--	--
	08/22/06	--	39.12	--	317.49	Not sampled; insufficient water to fill sample containers							
	11/14/06	--	39.38	--	317.23	Not sampled; insufficient water to fill sample containers							
	02/21/07	--	38.12	--	318.49	<100	<1	<1	<1	<3	--	--	--
	05/24/07	--	38.88	--	317.73	330	1	<1	<1	<3	--	--	--
	07/31/07	--	39.10	--	317.51	Not sampled; insufficient water to fill sample containers							
	02/11/08	--	38.55	--	318.06	<100	<1	<1	<1	<3	--	--	--
	03/04/10	--	38.46	--	318.15	<100	<1	<1	<1	<3	<1	--	--
MW24[a]	10/29/04	--	25.61	--	332.64	45,000	440	2,500	570	7,800	--	--	--
TOC: 359.25	03/09/05	--	15.85	--	343.40	19,000	74.0	210	98.0	2,700	<30.0	--	--
	09/27/05	Unable to gauge; probe diameter too large				478	<1.00	1.08	4.19	82.9	<5.00	--	--
	12/22/05	--	11.01	--	348.24	<100	<1	<1	1.0	11.8	<1	<1	--
	02/22/06	--	8.91	--	350.34	<100	<1	<1	<1	4.8	<1	--	--
	06/01/06	--	9.98	--	349.27	<100	<1	<1	<1	6	--	--	--
	08/23/06	--	20.21	--	339.04	8,400	<1	32	96	1,930	<1	--	--
	11/15/06	--	36.05	--	323.20	16,000	77	250	240	2,870	--	--	--
	02/21/07	--	14.24	--	345.01	460	<1	2	6	78	--	--	--
	05/22/07	--	16.73	--	342.52	5,700	2	29	41	1,000	--	--	--
	08/01/07	--	25.59	--	333.66	9,000	19	140	97	2,400	--	--	--
	02/12/08	--	19.68	--	339.57	1,800	<1	4	4	140	--	--	--
	02/04/09	--	21.94	--	337.31	11,000	77	190	180	2,200	<1	--	--
	07/29/09	26.82	26.82	0.00	332.43	15,000	130	230 ve	<1	3,400	<1	--	--
	03/04/10	--	13.43	--	345.82	<100	<1	<1	<1	<3	<1	<1	<1
MW25[a]	10/29/04	--	29.40	--	326.91	57,000	860	6,700	810	8,700	--	--	--
TOC: 356.31	03/09/05	--	27.61	--	328.70	38,000	670	3,700	750	6,500	<150	--	--
	09/27/05	Unable to gauge; probe diameter too large				20,800	378	1,070	106	4,090	<5.00	--	--
	12/21/05	--	28.20	--	328.11	25,000	670	7,500	830	8,700	<1	8.47	--
	02/22/06	--	23.68	--	332.63	24,000	470	2,800	510	5,400	<1	--	--
	06/01/06	--	25.56	--	330.75	29,000	380	2,100	750	6,000	--	--	--
	08/24/06	--	28.97	--	327.34	21,000	320	840	890	7,300	<1	--	--
	11/15/06	--	36.08	--	320.23	32,000	66	<50	<50	6,800	--	--	--
	02/22/07	--	26.41	--	329.90	27,000	370	2,100	700	6,500	--	--	--
	05/23/07	--	27.94	--	328.37	26,000	220	1,400	630	5,800	--	--	--
	08/02/07	--	29.75	--	326.56	24,000	280	770	730	9,200	--	--	--
	02/12/08	--	27.80	--	328.51	22,000	280	1,400	380	4,500	--	--	--
	03/04/10	--	26.11	--	330.20	7,000	30	310	90	1,700	<1	--	--
MW26	12/21/05	--	50.15	--	311.25	120	1.5	38	1.0	5.5	<1	6.27	--
TOC: 361.40	02/22/06	--	47.67	--	313.73	<100	<1	<1	<1	<3	<1	--	--
	06/01/06	--	45.62	--	315.78	<100	<1	<1	<1	<3	--	--	--
	08/24/06	--	47.37	--	314.03	<100	<1	<1	<1	<3	<1	--	--
	11/16/06	--	49.43	--	311.97	<50	<1	<1	<1	<3	--	--	--
	02/21/07	--	46.69	--	314.71	<100	<1	<1	<1	<3	--	--	--
	05/24/07	--	45.76	--	315.64	<100	<1	<1	<1	<3	--	--	--
	08/03/07	--	47.19	--	314.21	<100	<1	<1	<1	<3	--	--	--
	02/11/08	--	47.87	--	313.53	<100	<1	<1	<1	<3	--	--	--
	03/04/10	--	45.00	--	316.40	<100	<1	<1	<1	<1	<1	--	--
MW27	12/21/05	--	20.23	--	336.08	34,000	15	190	2,300	13,600	<1	4.08	--
TOC: 360.59	02/22/06	--	15.18	--	345.41	48,000	18	430	2,400	17,000	<1	--	--
	06/01/06	--	17.00	--	343.50	41,000	30	580	1,900	11,000	--	--	--
	08/22/06	21.81	21.82	0.00	338.77	LNAPL							
	11/14/06	25.55	25.55	0.00	335.04	LNAPL; absorbent socks in well							
	02/20/07	--	17.49	--	343.10	LNAPL; absorbent socks in well							
	05/22/07	19.86	19.86	0.00	340.73	LNAPL; absorbent socks in well							
	08/01/07	--	22.38	--	338.21	Not sampled; absorbent socks in well							
	02/11/08	18.93	19.00	0.07	341.59	LNAPL; absorbent socks in well							
	03/04/10	--	16.06	--	344.53	26,000	<10	390	870	4,800	<1	--	--
MTCA Method A Cleanup Levels for Groundwater[6]						1,000/800[b]	5	1,000	700	1,000	20	15	NE

Table 2
Historical Groundwater Analytical Results
June 1992 through December 2010
TOC Holdings Co. Facility No. 01-176
24205 56th Avenue West
Mountlake Terrace, Washington

Well ID	Sample Date	Depth to LNAPL (feet)	Depth to Groundwater (feet)	LNAPL Thickness (feet)	Groundwater Elevation (feet)	GRPH	Benzene	Toluene	Ethylbenzene	Total Xylenes	MTBE	Total Lead	Dissolved Lead
MW28	12/20/05	--	27.11	--	330.91	20,000	5.7	94	670	6,500	<1	10.7	--
TOC: 358.02	02/22/06	--	23.40	--	334.62	14,000	3.1	13	300	2,380	<1	--	--
	06/01/06	24.57	24.60	0.03	333.44	9,100	4	17	160	1,300	--	--	--
	08/22/06	--	--	--	--	LNAPL							
	11/14/06	28.54	28.54	0.00	329.48	LNAPL; absorbent socks in well							
	02/20/07	--	--	--	--	LNAPL; absorbent socks in well							
	05/22/07	26.91	26.91	0.00	331.11	LNAPL; absorbent socks in well							
	08/01/07	--	27.79	--	330.23	LNAPL; absorbent socks in well							
	02/11/08	26.85	26.86	0.01	331.16	LNAPL; absorbent socks in well							
	03/04/10	--	25.56	--	332.46	7,800	<5	<5	300	970	<1	--	--
MW29	12/20/05	18.40	18.61	0.21	335.65	LNAPL							
TOC: 354.09	02/22/06	--	9.35	--	344.74	1,400	<1	<1	19	82	<1	--	--
	06/02/06	--	10.11	--	343.98	320	<1	7	3	7	--	--	--
	08/22/06	17.81	18.18	0.37	336.21	LNAPL							
	11/14/06	22.27	22.27	0.00	331.82	LNAPL; absorbent socks in well							
	02/20/07	12.14	12.15	0.01	341.95	LNAPL							
	05/22/07	--	14.67	--	339.42	8,100	<1	3	250	760	--	--	--
	08/01/07	--	18.79	--	335.80	20,000	260	16	820	3,100	--	--	--
	02/12/08	--	15.85	--	338.24	11,000	81	<10	310	1,200	--	--	--
	03/04/10	--	12.00	--	342.09	550	<1	<1	7	9	<1	--	--
MW30	12/15/05	--	43.66	--	310.46	350	6.9	13	15	96	<1	4.74	--
TOC: 354.12	02/22/06	--	40.25	--	313.87	<100	<1	<1	<1	<3	<1	--	--
	05/31/06	--	38.43	--	315.69	<100	<1	<1	<1	<3	--	--	--
	08/24/06	--	41.59	--	312.53	<100	<1	<1	<1	<3	<1	--	--
	11/14/06	--	43.41	--	310.71	<50	<1	<1	<1	<3	--	--	--
	02/22/07	--	39.19	--	314.93	<100	<1	<1	<1	<3	--	--	--
	05/23/07	--	39.69	--	314.43	<100	<1	<1	<1	<3	--	<1	<1
	08/02/07	--	41.16	--	312.96	<100	<1	<1	<1	<3	--	<1	<1
	02/14/08	--	41.29	--	312.83	<100	<1	<1	<1	<3	--	<1	<1
	05/14/08	--	39.86	--	314.26	Not sampled; just gauged							
	03/03/10	--	38.71	--	315.41	<100	<1	<1	<1	<3	<1	--	--
MW31	12/15/05	--	31.04	--	324.18	81,000	420	260	1,200	7,200	<20	12.2	--
TOC: 355.22	02/22/06	--	29.92	--	325.30	18,000	160	88	440	2,030	<1	--	--
	05/31/06	--	29.76	--	325.46	16,000	180	160	580	3,700	--	3.51	--
	08/24/06	--	30.63	--	324.59	22,000	240	170	500	3,470	<1	6.39	--
	11/14/06	--	38.48	--	316.74	Not sampled; insufficient water to fill sample containers							
	02/21/07	--	30.18	--	325.04	16,000	270	130	490	2,800	--	9.65	--
	05/22/07	--	30.68	--	324.54	20,000	710	100	500	3,400	--	9.48	--
	08/03/07	--	34.76	--	320.46	80,000	300	160	810	6,000	--	14.4	13.9
	02/13/08	--	34.73	--	320.49	50,000	100	92	730	6,500	--	44.4	39.9
	05/14/08	--	33.88	--	321.34	Not sampled; just gauged							
	07/29/09	--	35.01	--	320.21	1,000	45	1.6	7.9	440 ve	<1	--	--
	03/03/10	--	32.76	--	322.46	15,000	160	68	160	2,800	<1	15.1	15.5
MW32	12/20/05	--	23.05	--	334.98	40,000	270	8,000	1,000	9,500	<1	17.5	--
TOC: 358.05	02/22/06	--	19.93	--	338.17	24,000	67	1,700	580	5,000	<1	--	--
	05/31/06	20.98	21.07	0.09	337.05	LNAPL							
	08/22/06	24.40	24.47	0.07	333.65	LNAPL							
	11/14/06	27.15	27.15	0.00	330.90	LNAPL; absorbent socks in well							
	02/20/07	--	21.56	--	336.49	LNAPL; absorbent socks in well							
	05/22/07	--	23.29	--	334.76	LNAPL; absorbent socks in well							
	07/31/07	--	24.86	--	333.19	Not sampled; absorbent socks in well							
	02/12/08	--	22.42	--	335.63	20,000	59	870	410	4,800	--	--	--
	03/04/10	--	20.71	--	337.34	14,000	10	270	320	2,400	<1	--	--
MW33	12/20/05	--	Dry	--	--	--	--	--	--	--	--	--	--
TOC: 355.42	02/10/06	--	32.73	--	322.69	14,000	100	140	670	3,220	<20	7.44	--
	05/31/06	--	33.78	--	321.64	Not sampled; insufficient water to fill sample containers							
	08/22/06	--	34.24	--	321.18	Not sampled; insufficient water to fill sample containers							
	11/14/06	--	Dry	--	--	Not sampled; insufficient water to fill sample containers							
	02/20/07	--	--	--	--	LNAPL; absorbent socks in well							
	05/22/07	--	34.24	--	321.18	LNAPL; absorbent socks in well							
	07/31/07	--	34.33	--	321.09	Not sampled; absorbent socks in well							
	02/14/08	--	32.45	--	322.97	17,000	81	23	210	2,800	--	--	--
	03/04/10	--	32.50	--	322.92	11,000	18	14	300	1,900	<1	--	--
MTCA Method A Cleanup Levels for Groundwater						1,000/800	5	1,000	700	1,000	20	15	NE

SoundEarth Strategies

Table 2
Historical Groundwater Analytical Results
June 1992 through December 2010
TOC Holdings Co. Facility No. 01-176
24205 56th Avenue West
Mountlake Terrace, Washington

Well ID	Sample Date	Depth to LNAPL[1] (feet)	Depth to Groundwater[2] (feet)	LNAPL Thickness (feet)	Groundwater Elevation[3] (feet)	GRPH[4]	Benzene[4]	Toluene[4]	Ethylbenzene[4]	Total Xylenes[4]	MTBE[4]	Total Lead[4]	Dissolved Lead[4]
MW34	01/27/06	--	7.05	--	348.54	2,560	<1	<1	22	96	<1	23.7	--
TOC: 355.59	02/10/06	--	4.22	--	351.37	First Quarter sample collected January 27, 2006							
	05/02/06	--	10.06	--	345.53	1,600	<1	3	71	29	--	4.17	--
	08/24/06	--	13.96	--	341.63	260	<1	3	<1	<3	<1	NA[5]	NA[5]
	11/14/06	--	Dry	--	--	Not sampled; insufficient water to fill sample containers							
	02/20/07	--	10.22	--	345.37	<100	<1	<1	<1	<3	--	<1	<1
	05/22/07	--	12.40	--	343.19	<100	<1	<1	<1	<3	--	<1	<1
	08/31/07	--	14.95	--	340.64	Not sampled; insufficient water to fill sample containers							
	02/13/08	--	10.79	--	344.80	<100	<1	<1	<1	<3	--	--	--
	03/04/10	--	9.83	--	345.76	<100	<1	<1	<1	<3	<3	--	--
	07/08/10	--	12.00	--	343.59	Not sampled, just gauged							
MW35	01/27/06	--	38.18	--	317.97	<100	<1	<1	<1	<3	<3	99.6	--
TOC: 356.15	02/22/06	--	38.54	--	317.61	First Quarter sample collected January 27, 2006							
	05/31/06	--	39.42	--	316.53	Not sampled; insufficient water to fill sample containers							
	08/02/06	--	39.64	--	316.51	Not sampled; insufficient water to fill sample containers							
	11/14/06	--	Dry	--	--	Not sampled; insufficient water to fill sample containers							
	02/20/07	--	Dry	--	--	Not sampled; insufficient water to fill sample containers							
	05/22/07	--	Dry	--	--	Not sampled; insufficient water to fill sample containers							
	08/31/07	--	Dry	--	--	Not sampled; insufficient water to fill sample containers							
	02/13/08	--	Dry	--	--	Not sampled; insufficient water to fill sample containers							
	03/04/10	--	38.86	--	317.29	Not sampled; well did not recharge after purging							
MW36	01/27/06	--	40.10	--	315.55	<100	<1	<1	<1	<3	<3	43.4	--
TOC: 355.65	02/22/06	--	40.92	--	314.73	First Quarter sample collected January 27, 2006							
	05/02/06	--	41.13	--	314.52	<100	<1	<1	<1	<3	--	394	--
	08/24/06	--	41.58	--	314.07	<100	<1	<1	<1	<3	<3	NA[5]	NA[5]
	11/14/06	--	41.05	--	314.60	Not sampled; insufficient water to fill sample containers							
	02/20/07	--	41.15	--	314.50	<100	<1	<1	<1	<3	--	--	--
	05/23/07	--	41.35	--	314.30	<100	<1	<1	<1	<3	--	--	--
	08/02/07	--	42.58	--	313.07	<100	<1	<1	<1	<3	--	--	--
	02/14/08	--	41.35	--	314.30	<100	<1	<1	<1	<3	--	--	--
	03/04/10	--	41.16	--	314.49	<100	<1	<1	<1	<3	<3	2.78	<1
	03/04/10	--	41.76	--	313.89	Not sampled, just gauged							
MW37	01/27/06	--	14.79	--	341.88	<100	<1	<1	<1	<3	<1	<1	--
TOC: 356.58	02/22/06	--	17.34	--	339.24	First Quarter sample collected January 27, 2006							
	05/02/06	--	15.62	--	340.96	<100	<1	<1	<1	<3	--	--	--
	08/24/06	--	22.29	--	334.29	<100	<1	<1	<1	<3	<1	--	--
	11/15/06	--	34.72	--	322.26	<50	<1	<1	<1	<3	--	--	--
	02/21/07	--	16.56	--	340.02	<100	<1	<1	<1	<3	--	--	--
	05/23/07	--	18.69	--	337.89	<100	<1	<1	<1	<3	--	--	--
	08/02/07	--	24.79	--	331.79	<100	<1	<1	<1	<3	--	--	--
	02/13/08	--	16.45	--	340.13	<100	<1	<1	<1	<3	--	--	--
	03/04/10	--	13.93	--	342.65	<100	<1	<1	<1	<3	<1	--	--
MW38	01/27/06	--	14.69	--	347.34	<100	<1	<1	<1	<3	<1	<1	--
TOC: 362.03	02/22/06	--	13.52	--	348.51	First Quarter sample collected January 27, 2006							
	05/31/06	--	16.86	--	345.18	<100	<1	<1	<1	<3	--	--	--
	08/2/2006	--	23.08	--	338.95	<100	<1	<1	<1	<3	<1	--	--
	11/14/06	--	26.36	--	335.67	<50	<1	<1	<1	<3	--	--	--
	02/22/07	--	16.43	--	345.68	<100	<1	<1	<1	<3	--	--	--
	05/23/07	--	19.74	--	342.29	<100	<1	<1	<1	<3	--	--	--
	08/01/07	--	22.84	--	339.19	<100	<1	<1	<1	<3	--	--	--
	02/13/08	--	18.14	--	343.89	<100	<1	<1	<1	<3	--	--	--
	03/04/10	--	14.80	--	347.23	<100	<1	<1	<1	<3	<1	--	--
MW39	02/02/06	--	41.43	--	312.35	<100	<1	<1	<1	<3	<1	43.55	--
TOC: 353.56	02/22/06	--	40.58	--	313.36	First Quarter sample collected February 2, 2006							
	05/31/06	--	38.52	--	314.04	<100	<1	<1	<1	<3	--	--	--
	08/24/06	--	40.56	--	313.00	<100	<1	<1	<1	<3	<1	--	--
	11/15/06	--	43.40	--	310.16	<100	<1	<1	<1	<3	--	--	--
	02/22/07	--	39.76	--	314.30	<100	<1	<1	<1	<3	--	--	--
	05/23/07	--	39.80	--	313.76	<100	<1	<1	<1	<3	--	--	--
	08/01/07	--	41.22	--	312.34	<100	<1	<1	<1	<3	--	--	--
	02/14/08	--	41.22	--	312.34	<100	<1	<1	<1	<3	--	--	--
	07/07/09	--	42.13	--	311.43	Not sampled; just gauged							
	03/03/10	--	38.76	--	314.80	<100	<1	<1	<1	<3	<1	--	--
MW40	02/01/06	--	41.71	--	312.28	<100	<1	<1	<1	<3	<1	123	--
TOC: 353.99	02/22/06	--	40.29	--	313.70	First Quarter sample collected February 3, 2006							
	05/01/06	--	39.66	--	314.53	<100	<1	<1	<1	<3	--	<1	--
	08/24/06	--	41.55	--	312.44	<100	<1	<1	<1	<3	<1	--	--
	11/14/06	--	43.45	--	310.54	<100	<1	<1	<1	<3	--	<1	--
	02/21/07	--	39.22	--	314.77	<100	<1	<1	<1	<3	--	--	--
	05/24/07	--	38.75	--	315.24	<100	<1	<1	<1	<3	--	--	--
	08/03/07	--	41.21	--	312.78	<100	<1	<1	<1	<3	--	<1	<1
	02/14/08	--	41.30	--	312.69	<100	<1	<1	<1	<3	--	<1	<1
	03/03/10	--	38.77	--	315.27	<100	<1	<1	<1	<3	<1	--	--
MTCA Method A Cleanup Levels for Groundwater[6]						1,000/800[7]	5	1,000	700	1,000	20	15	NE

SoundEarth Strategies

Table 2
Historical Groundwater Analytical Results
June 1992 through December 2010
TOC Holdings Co. Facility No. 01-176
24205 56th Avenue West
Mountlake Terrace, Washington

Well ID	Sample Date	Depth to LNAPL[1] (feet)	Depth to Groundwater[2] (feet)	LNAPL Thickness (feet)	Groundwater Elevation[3] (feet)	GRPH[4]	Benzene[4]	Toluene[4]	Ethylbenzene[4]	Total Xylenes[4]	MTBE[4]	Total Lead[4]	Dissolved Lead[4]
MW41	07/04/06	--	Dry	--	--				Not sampled; insufficient water to fill sample containers				
TOC 354.02	07/22/06	--	40.35	--	313.67				Not sampled; insufficient water to fill sample containers				
	08/31/06	--	40.22	--	313.80				Not sampled; insufficient water to fill sample containers				
	09/27/06	--	40.22	--	313.80				Not sampled; insufficient water to fill sample containers				
	11/14/06	--	40.22	--	313.80				Not sampled; insufficient water to fill sample containers				
	02/20/07	--	40.23	--	313.79				Not sampled; insufficient water to fill sample containers				
	05/22/07	--	Dry	--	--				Not sampled; insufficient water to fill sample containers				
	07/31/07	--	Dry	--	--				Not sampled; insufficient water to fill sample containers				
	02/11/08	--	Dry	--	--				Not sampled; insufficient water to fill sample containers				
	03/04/10	--	Dry	--	--				Not sampled; insufficient water to fill sample containers				
MW42	07/04/06	--	Dry	--	--				Not sampled; insufficient water to fill sample containers				
TOC 354.04	07/22/06	--	39.71	--	354.33				Not sampled; insufficient water to fill sample containers				
	08/31/06	--	39.63	--	354.45				Not sampled; insufficient water to fill sample containers				
	09/22/06	--	Dry	--	--				Not sampled; insufficient water to fill sample containers				
	11/14/06	--	39.71	--	354.37				Not sampled; insufficient water to fill sample containers				
	02/20/07	--	39.67	--	354.41				Not sampled; insufficient water to fill sample containers				
	05/22/07	--	Dry	--	--				Not sampled; insufficient water to fill sample containers				
	07/31/07	--	Dry	--	--				Not sampled; insufficient water to fill sample containers				
	03/04/10	--	Dry	--	--				Not sampled; insufficient water to fill sample containers				
MW43	05/31/06	--	37.43	--	319.15				Not sampled; insufficient water to fill sample containers				
TOC 356.58	08/22/06	--	Dry	--	--				Not sampled; insufficient water to fill sample containers				
	11/14/06	--	Dry	--	--				Not sampled; insufficient water to fill sample containers				
	02/20/07	--	Dry	--	--				Not sampled; insufficient water to fill sample containers				
	05/22/07	--	Dry	--	--				Not sampled; insufficient water to fill sample containers				
	07/31/07	--	Dry	--	--				Not sampled; insufficient water to fill sample containers				
	03/04/10	--	37.21	--	317.01				Not sampled; insufficient water to fill sample containers				
MW44	05/31/06	--	38.56	--	314.08				Not sampled; insufficient water to fill sample containers				
TOC 352.64	08/22/06	--	Dry	--	--				Not sampled; insufficient water to fill sample containers				
	11/14/06	--	Dry	--	--				Not sampled; insufficient water to fill sample containers				
	02/20/07	--	Dry	--	--				Not sampled; insufficient water to fill sample containers				
	05/22/07	--	Dry	--	--				Not sampled; insufficient water to fill sample containers				
	07/31/07	--	Dry	--	--				Not sampled; insufficient water to fill sample containers				
	03/04/10	--	Dry	--	--				Not sampled; insufficient water to fill sample containers				
MW45	05/31/06	--	Dry	--	--	--	--	--	--	--	--	--	--
TOC 354.24	08/24/06	--	37.86	--	316.38	57,000	929	180	2,900	13,700	<1	--	--
	11/14/06	--	Dry	--	--				Not sampled; insufficient water to fill sample containers				
	02/21/07	--	37.22	--	317.02	39,000	700	140	870	10,000	--	--	--
	05/24/07	--	37.49	--	316.75	39,000	420	120	760	9,400	--	--	--
	08/02/07	--	38.25	--	315.99	40,000	410	67	770	11,000	--	--	--
	02/11/08	--	37.40	--	316.84	45,000	76	36	430	8,900	--	--	--
	05/14/08	--	37.82	--	316.42	Not sampled; just gauged							
	07/29/08	--	38.06	--	316.18	Not sampled; just gauged							
	03/03/10	--	37.16	--	317.08	23,000	54	23	310	7,760	<1	--	--
MW46	12/13/06	--	Dry	--	--	Not sampled; insufficient water to fill sample containers							
TOC 354.64	02/21/07	--	39.98	--	314.66	1,100	14	2	13	73	--	--	--
	05/24/07	--	40.80	--	313.84	120	<1	<1	<1	4	--	--	--
	07/31/07	--	Dry	--	--	Not sampled; insufficient water to fill sample containers							
	02/11/08	--	Dry	--	--	Not sampled; insufficient water to fill sample containers							
	03/03/10	--	40.31	--	314.33	<100	<1	<1	<1	<3	<1	--	--
MW47	12/13/06	--	Dry	--	--	Not sampled; insufficient water to fill sample containers							
TOC 352.96	02/20/07	--	41.50	--	311.46	Not sampled; insufficient water to fill sample containers							
	05/22/07	--	Dry	--	--	Not sampled; insufficient water to fill sample containers							
	07/31/07	--	Dry	--	--	Not sampled; insufficient water to fill sample containers							
	02/11/08	--	Dry	--	--	Not sampled; insufficient water to fill sample containers							
	03/04/10	--	41.60	--	311.36	<100	<1	<1	<1	<3	<1	--	--
MTCA Method A Cleanup Levels for Groundwater[5]						1,000/800*	5	1,000	700	1,000	20	15	NE

SoundEarth Strategies

Table 2
Historical Groundwater Analytical Results
June 1992 through December 2010
TOC Holdings Co. Facility No. 01-176
24205 56th Avenue West
Mountlake Terrace, Washington

Well ID	Sample Date	Depth to LNAPL[1] (feet)	Depth to Groundwater[1] (feet)	LNAPL Thickness (feet)	Groundwater Elevation[2] (feet)	GRPH[3]	Benzene[4]	Toluene[4]	Ethylbenzene[4]	Total Xylenes[4]	MTBE[4]	Total Lead[5]	Dissolved Lead[5]
MW48	12/13/06	45.28	46.61	1.33	307.42	LNAPL							
TOC: 352.97	02/20/07	40.61	41.98	1.37	312.09	LNAPL							
	05/22/07	40.75	42.39	1.64	311.89	LNAPL							
	07/31/07	42.42	43.88	1.46	310.26	LNAPL							
	02/11/08	42.98	43.97	0.99	309.79	LNAPL							
	05/06/08	41.21	41.97	0.76	311.61	Not sampled; just gauged for LNAPL recovery							
	05/08/08	40.98	41.00	0.02	311.99	Not sampled; just gauged for LNAPL recovery							
	08/19/08	42.60	43.41	0.81	310.21	Not sampled; just gauged for LNAPL recovery							
	09/12/08	42.98	43.41	0.43	309.90	Not sampled; just gauged for LNAPL recovery							
	09/18/08	43.34	43.85	0.51	309.53	Not sampled; just gauged for LNAPL recovery							
	10/03/08	43.63	43.81	0.18	309.30	Not sampled; just gauged for LNAPL recovery							
	10/09/08	--	43.91	--	309.06	Not sampled; just gauged for LNAPL recovery							
	11/07/08	44.25	45.46	1.21	308.48	Not sampled; just gauged for LNAPL recovery							
	11/21/08	44.39	45.48	1.09	308.38	Not sampled; just gauged for LNAPL recovery							
	12/10/08	44.66	45.73	1.07	308.10	Not sampled; just gauged for LNAPL recovery							
	12/16/08	44.74	45.65	0.91	308.05	Not sampled; just gauged for LNAPL recovery							
	12/24/08	44.82	45.54	0.72	308.01	Not sampled; just gauged for LNAPL recovery							
	12/31/08	44.88	45.23	0.35	308.02	Not sampled; just gauged for LNAPL recovery							
	01/23/09	44.33	45.29	0.96	308.45	Not sampled; just gauged for LNAPL recovery							
	01/30/09	44.12	44.69	0.57	308.74	Not sampled; just gauged for LNAPL recovery							
	02/10/09	44.01	44.30	0.29	308.90	Not sampled; just gauged for LNAPL recovery							
	02/24/09	43.85	44.04	0.19	309.08	Not sampled; just gauged for LNAPL recovery							
	03/10/09	43.69	44.00	0.31	309.22	Not sampled; just gauged for LNAPL recovery							
	03/11/09	43.78	43.83	0.05	309.18	Not sampled; just gauged for LNAPL recovery							
	03/12/09	43.70	43.71	0.01	309.27	Not sampled; just gauged for LNAPL recovery							
	03/13/09	43.50	43.51	0.01	309.47	Not sampled; just gauged for LNAPL recovery							
	04/10/09	43.20	43.21	0.01	309.77	Not sampled; just gauged for LNAPL recovery							
	04/30/09	--	43.44	--	309.53	Not sampled; just gauged for LNAPL recovery							
	06/12/09	42.57	42.58	0.01	310.40	Not sampled; just gauged for LNAPL recovery							
	08/25/09	43.77	44.09	0.32	309.14	Not sampled; just gauged for LNAPL recovery							
	09/29/09	44.48	45.11	0.63	308.36	Not sampled; just gauged for LNAPL recovery							
	10/15/09	44.90	45.59	0.69	307.93	Not sampled; just gauged for LNAPL recovery							
	11/24/09	44.48	44.68	0.20	308.45	Not sampled; just gauged for LNAPL recovery							
	01/18/10	42.35	42.45	0.10	310.60	Not sampled; just gauged for LNAPL recovery							
	02/26/10	40.50	40.63	0.13	312.44	Not sampled; just gauged for LNAPL recovery							
	03/01/10	40.43	40.56	0.13	312.51	Not sampled; just gauged for LNAPL recovery							
	04/12/10	39.69	39.80	0.11	313.26	Not sampled; just gauged for LNAPL recovery							
	05/07/10	39.72	39.83	0.11	313.23	Not sampled; just gauged for LNAPL recovery							
	06/21/10	40.33	40.64	0.31	312.58	Not sampled; just gauged for LNAPL recovery							
	07/02/10	--	--	0.04	--	Not sampled; just gauged for LNAPL recovery							
	08/30/10	42.01	42.30	0.29	310.90	Not sampled; just gauged for LNAPL recovery							
	09/10/10	42.28	42.42	0.14	310.66	Not sampled; just gauged for LNAPL recovery							
	10/11/10	43.00	43.30	0.30	309.91	Not sampled; just gauged for LNAPL recovery							
	11/11/10	43.52	43.87	0.35	309.38	Not sampled; just gauged for LNAPL recovery							
	12/06/10	43.73	44.00	0.27	309.19	Not sampled; just gauged for LNAPL recovery							
MW49	12/20/06	--	45.72	--	308.33	2,200	74	7	46	750	--	--	--
TOC: 354.05	02/21/07	--	41.61	--	312.44	14,000	580	60	790	2,700	--	--	--
	05/24/07	--	41.85	--	312.20	21,000	440	62	770	3,400	--	--	--
	08/03/07	--	43.32	--	310.73	12,000	360	29	580	1,300	--	8.38	--
	02/14/08	--	43.90	--	310.15	160	<1	<1	<1	7	--	--	--
	02/05/09	--	43.90	--	310.15	Not sampled; just gauged							
	03/04/10	--	41.23	--	312.82	<100	<1	<1	<1	<3	<1	--	--
MW50	08/03/07	--	36.22	--	323.49	<100	<1	<1	<1	<3	--	11.6	NA[7]
TOC: 359.71	02/14/08	--	34.56	--	325.15	<100	<1	<1	<1	<3	--	--	--
	03/02/10	--	32.23	--	327.48	<100	<1	<1	<1	<3	<1	--	--
MW51	08/03/07	--	41.58	--	308.76	<100	<1	<1	<1	<3	--	<1	--
TOC: 350.34	02/13/08	--	41.78	--	308.56	<100	<1	<1	<1	<3	--	--	--
	05/14/08	--	40.67	--	309.67	Not sampled; just gauged							
	02/05/09	--	42.47	--	307.87	Not sampled; just gauged							
	03/02/10	--	39.73	--	310.61	<100	<1	<1	<1	6	<1	--	--
	10/12/10	--	41.60	--	308.74	<100	<0.35	<1	<1	<2	<1	<1	<1
MW52	08/03/07	--	Dry	--	--	Not sampled; insufficient water to fill sample containers							
TOC: 353.28	02/14/08	--	Dry	--	--	Not sampled; insufficient water to fill sample containers							
	03/02/10	--	41.34	--	311.94	<100	<1	<1	<1	<3	<1	--	--
MW53	08/03/07	--	43.32	--	314.15	<100	<1	<1	<1	<3	--	5.07	<1
TOC: 357.47	02/12/08	--	43.60	--	313.87	<100	<1	<1	<1	<3	--	--	--
	03/03/10	--	41.10	--	316.37	<100	<1	<1	<1	<3	<1	--	--
MTCA Method A Cleanup Levels for Groundwater[6]						1,000/800[6]	5	1,000	700	1,000	20	15	NE

SoundEarth Strategies

Table 2
Historical Groundwater Analytical Results
June 1992 through December 2010
TOC Holdings Co. Facility No. 01-176
24205 56th Avenue West
Mountlake Terrace, Washington

Well ID	Sample Date	Depth to LNAPL[1] (feet)	Depth to Groundwater[2] (feet)	LNAPL Thickness (feet)	Groundwater Elevation[3] (feet)	GRPH[4]	Benzene[4]	Toluene[4]	Ethylbenzene[4]	Total Xylenes[4]	MTBE[4]	Total Lead[4]	Dissolved Lead[4]
MW54	08/03/07	--	13.91	--	341.66	<100	<1	<1	<1	<3	--	<1	<1
TOC: 355.57	02/12/08	--	11.80	--	343.77	<100	<1	<1	<1	<3	--	<1	<1
	05/14/08	--	12.41	--	343.16	Not sampled; just gauged							
	03/01/10	--	10.25	--	345.32	<100	<1	<1	<1	<3	<1	--	--
	03/03/10	--	11.36	--	344.21	Not sampled; just gauged							
MW55	08/03/07	--	43.95	--	310.62	<100	<1	<1	<1	<3	--	2.99	<1
TOC: 354.17	02/13/08	--	44.02	--	310.15	<100	<1	<1	<1	<3	--	--	--
	03/04/10	--	40.62	--	313.55	<100	<1	<1	<1	<3	<1	--	--
MW56	08/03/07	--	44.19	--	310.93	<100	4	<1	<1	<3	--	41	<1
TOC: 355.12	02/14/08	--	44.52	--	310.60	<100	<1	<1	<1	<3	--	--	--
	05/14/08	--	41.00	--	312.12	Not sampled; just gauged							
	07/01/09	--	45.40	--	309.72	<100	<1	<1	<1	<3	<1	--	--
	03/01/10	--	41.88	--	313.24	<100	<1	<1	<1	<3	<1	--	--
MW57	08/03/07	--	44.16	--	310.19	18,000	960	37	320	3,900	--	3.17	3.33
TOC: 354.35	02/13/08	--	44.59	--	309.76	10,000	590	21	370	1,700	--	--	--
	05/14/08	--	42.87	--	311.48	Not sampled; just gauged							
	03/03/10	--	41.80	--	312.55	14,000	240	51	610	3,600	<1	--	--
	10/12/10	--	44.50	--	309.85	Not sampled; just gauged							
MW58	08/02/07	--	43.24	--	309.76	<100	2	<1	4	3	--	1.37	<1
TOC: 353.01	02/13/08	--	43.55	--	309.46	360	9	1	13	17	--	--	--
	05/14/08	--	41.93	--	311.08	Not sampled; just gauged							
	03/03/10	--	40.88	--	312.13	<100	<1	<1	<1	<3	<1	--	--
	10/12/10	--	43.52	--	309.49	Not sampled; just gauged							
MW59	08/03/07	--	43.26	--	310.87	140	<1	<1	<1	<3	--	3.04	<1
TOC: 354.13	02/14/08	--	43.66	--	310.47	<100	<1	<1	<1	<3	--	--	--
	05/14/08	--	42.01	--	312.12	Not sampled; just gauged							
	02/03/09	--	45.51	--	308.62	<100	<1	<1	<1	<3	<1	--	--
	03/01/10	--	40.85	--	313.28	<100	<1	<1	<1	<3	<1	--	--
MW60	08/03/07	--	43.52	--	312.69	<100	<1	<1	<1	<3	--	20.5	1.54
TOC: 356.21	02/14/08	--	43.88	--	312.33	<100	<1	<1	<1	<3	--	<1	<1
	05/09/10	--	41.64	--	314.57	<100	<1	<1	<1	<3	<1	--	--
MW61	08/03/07	--	13.18	--	341.65	<100	<1	<1	<1	<3	--	1.74	<1
TOC: 354.83	02/12/08	--	9.65	--	345.18	<100	<1	<1	<1	<3	--	--	--
	03/04/10	--	8.21	--	346.62	<100	<1	<1	<1	<3	<1	--	--
MW62	08/03/07	--	14.47	--	343.65	<100	<1	<1	<1	<3	--	<1	<1
TOC: 358.12	02/12/08	--	10.19	--	347.93	<100	<1	<1	<1	<3	--	--	--
	03/03/10	--	8.64	--	349.48	<100	<1	<1	<1	<3	<1	--	--
MW63	08/03/07	--	42.85	--	309.88	190	9	<1	8	14	--	8.21	2.08
TOC: 352.73	02/13/08	--	43.11	--	309.62	240	5	<1	9	11	--	--	--
	05/14/08	--	41.56	--	311.17	Not sampled; just gauged							
	02/03/09	--	44.13	--	308.60	Not sampled; just gauged							
	03/02/10	--	40.53	--	312.22	<100	<1	<1	<1	<3	<1	--	--
	03/02/10	--	43.14	--	309.61	Not sampled; just gauged							
MW64	08/02/07	--	40.51	--	312.31	<100	<1	<1	<1	<3	--	<1	<1
TOC: 352.82	02/13/08	--	40.79	--	312.03	<100	<1	<1	<1	<3	--	--	--
	05/14/08	--	38.34	--	314.48	Not sampled; just gauged							
	02/03/09	--	41.59	--	311.73	Not sampled; just gauged							
	03/02/10	--	38.09	--	314.73	<100	<1	<1	<1	<3	<1	--	--
	10/12/10	--	40.76	--	312.06	Not sampled; just gauged							
MW65	05/14/08	--	40.37	--	310.37	<100	2.6	<1	<1	<3	--	2.59	<1
TOC: 350.74	02/03/09	--	42.89	--	307.85	<100	0.7	<1	<1	<2	<1	--	--
	03/02/10	--	39.37	--	311.42	<100	4	4	1	6	<1	--	--
	07/09/10	--	39.65	--	311.09	Not sampled; just gauged							
	10/12/10	--	41.92	--	308.82	Not sampled; just gauged							
MW66	05/14/08	--	41.27	--	312.15	<100	<1	<1	<1	<3	--	2.00	<1
TOC: 353.42	03/03/10	--	40.16	--	313.26	<100	<1	<1	<1	<3	<1	--	--
	07/09/10	--	40.50	--	312.92	Not sampled; just gauged							
MW67	05/14/08	--	12.79	--	340.58	<100	<1	<1	<1	<3	--	<1	<1
	03/01/10	--	11.73	--	341.65	<100	<1	<1	<1	<3	<1	--	--
TOC: 353.37	07/08/10	--	12.88	--	340.48	Not sampled; just gauged							
MW68	05/14/08	--	13.54	--	340.23	<100	<1	<1	<1	<3	--	<1	<1
	03/01/10	--	11.79	--	341.48	<100	<1	<1	<1	<3	<1	--	--
TOC: 352.77	07/08/10	--	12.60	--	340.17	Not sampled; just gauged							
MW69	05/14/08	--	41.19	--	310.17	15,000	14	1.3	380	1,078	--	9.01	<1
	02/03/09	--	44.20	--	307.76	19,000	6.4	1.5	490	2,000	<1	--	--
TOC: 351.96	02/05/09	--	44.01	--	307.95	Not sampled; just gauged							
	07/29/09	--	43.25	--	308.71	6,800	6.7	1.7	11	579	<1	--	--
	03/02/10	--	40.56	--	311.40	8,200	11	12	250	1,100	<1	--	--
MTCA Method A Cleanup Levels for Groundwater[5]						1,000/800[6]	5	1,000	700	1,000	20	15	NE

SoundEarth Strategies

Table 2
Historical Groundwater Analytical Results
June 1992 through December 2010
TOC Holdings Co. Facility No. 01-176
24205 56th Avenue West
Mountlake Terrace, Washington

Well ID	Sample Date	Depth to LNAPL[1] (feet)	Depth to Groundwater[1] (feet)	LNAPL Thickness (feet)	Groundwater Elevation[2] (feet)	GRPH[3]	Benzene[4]	Toluene[4]	Ethylbenzene[4]	Total Xylenes[4]	MTBE[4]	Total Lead[5]	Dissolved Lead[5]
MW70 TOC: 352.36	05/14/08	—	41.70	—	310.66	160	9.9	<1	<1	<3	—	3.73	<1
	02/03/09	—	44.22	—	308.14	390	20	<1	<1	15	<1	—	—
	03/02/10	—	40.62	—	311.74	<100	7	<1	<1	<3	<1	—	—
	07/08/10	—	40.90	—	311.46	Not sampled; just gauged							
	10/12/10	—	43.23	—	309.13	Not sampled; just gauged							
MW71 TOC: 345.60	10/09/08	—	15.32	—	330.28	240,000	38,000	52,000	3,000	16,800	<60	13.3	14.1
	—	—	—	—	—	—	—	—	—	—	—	—	—
	07/29/09	13.98	15.34	1.36	331.35	LNAPL							
	03/01/10	10.42	10.91	0.49	335.08	LNAPL							
MW72 TOC: 345.07	10/09/08	—	17.90	—	327.17	160,000	33,000	34,000	3,200	18,600	<10	2.76	2.99
	—	—	—	—	—	—	—	—	—	—	—	—	—
	07/29/09	—	16.67	—	328.40	58,000	8,600	24,000 ve	1,900	15,700	<1	—	—
	03/01/10	—	13.03	—	332.04	520	72	45	14	37	<1	—	—
MW73 TOC: 345.03	10/09/08	—	39.88	—	305.15	64,000	12,000	5,900	3,100	6,400	190	2.36	<1
	—	—	—	—	—	—	—	—	—	—	—	—	—
	07/29/09	—	39.28	—	305.75	83,000	18,000 ve	8,100	770	3,800	71	—	—
	03/01/10	—	36.57	—	308.46	79,000	20,000	7,400	1,700	6,900	120	—	—
MW74 TOC: 345.62	10/09/08	—	39.35	—	306.27	Not sampled; insufficient water to fill sample containers							
	—	—	—	—	—	—	—	—	—	—	—	—	—
	03/01/10	—	36.91	—	308.71	75,000	26,000	3,500	880	3,800	720	—	—
MW75 TOC: 352.43	11/07/08	—	44.64	—	307.79	<100	<1	<1	<1	<2	—	19.8	<1
	—	—	—	—	—	—	—	—	—	—	—	—	—
	03/02/10	—	40.44	—	311.90	<100	<1	<1	<1	<3	<1	<1	<1
MW76 TOC: 349.36	02/03/09	—	40.18	—	309.18	<100	<1	<1	<1	<2	<1	3.46	<1
	03/01/10	—	37.28	—	312.08	<100	<1	<1	<1	<3	<1	—	—
	07/08/10	—	37.75	—	311.61	Not sampled; just gauged							
	10/12/10	—	40.43	—	308.93	Not sampled; just gauged							
MW77 TOC: 347.62	02/03/09	—	40.09	—	307.53	<100	<1	<1	<1	<2	<1	5.21	<1
	03/01/10	—	36.51	—	311.11	<100	<1	<1	<1	<3	<1	—	—
	07/08/10	—	36.91	—	310.71	Not sampled; just gauged							
	10/12/10	—	39.22	—	308.40	<100	<1	<1	<1	<3	<1	<1	<1
MW78 TOC: 347.58	02/03/09	—	37.32	—	310.26	<100	<1	<1	<1	<2	<1	7.61	<1
	03/01/10	—	34.57	—	313.01	<100	<1	<1	<1	<3	—	—	—
	10/12/10	—	37.30	—	310.28	Not sampled; just gauged							
MW79 TOC: 351.43	07/08/10	—	13.41	—	338.02	<100	<0.35	<1	<1	<2	<1	<1	<1
MW80 TOC: 351.49	07/08/10	—	14.22	—	337.27	<100	<0.35	<1	<1	<2	<1	<1	<1
	10/12/10	—	18.69	—	332.80	—	—	—	—	—	—	—	—
MW81 TOC: 353.26	07/08/10	—	40.78	—	312.48	<100	<0.35	<1	<1	<2	<1	<1	<1
	10/12/10	—	43.02	—	310.24	—	—	—	—	—	—	—	—
MW82 TOC: 353.21	07/08/10	—	26.74	—	326.47	<100	<0.35	<1	<1	<2	<1	<1	<1
	10/12/10	—	29.64	—	329.61	—	—	—	—	—	—	—	—
MW83 TOC: 353.58	07/08/10	—	19.56	—	334.02	<100	<0.35	<1	<1	<2	<1	10.1	<1
	10/12/10	—	28.74	—	330.51	—	—	—	—	—	—	—	—
MW84 TOC: 352.57	10/12/10	—	44.29	—	308.28	1,000	0.73	<1	17	48	<1	<1	<1
MW85	10/11/10	WELL DAMAGED DURING INSTALLATION, REQUIRES DECOMMISSIONING											
MW86 TOC: 350.39	10/12/10	—	41.89	—	308.50	1,100	1.9	<1	<1	<2	<1	<1	<1
MW87 TOC: 347.40	10/12/10	—	39.03	—	308.37	<100	<0.35	<1	<1	<2	<1	<1	<1
MW88 TOC: 349.31	10/12/10	—	22.11	—	327.20	<100	<0.35	<1	<1	<2	<1	<1	<1
MW89 TOC: 351.50	10/12/10	—	42.66	—	308.84	<100	<0.35	<1	<1	<2	<1	<1	<1
MTCA Method A Cleanup Levels for Groundwater[6]						1,000/800[h]	5	1,000	700	1,000	20	15	NE

NOTES:

Results measured in µg/L.

Red denotes concentration exceeds MTCA Method A cleanup level.

Samples analyzed by North Creek Analytical, Inc., of Bothell, Washington. Data collected prior to 7/8/05 provided by previous consultants. Data collected since December 2005 analyzed by Friedman & Bruya of Seattle, Washington.

[1]Depth to water and LNAPL as measured from a fixed spot on the well casing rim.

[2]Groundwater elevation measured relative to a temporary benchmark (data from previous consultants). Since July 2005, groundwater elevations corrected for LNAPL thickness, assuming specific gravities of 0.80 for a mixture of gasoline and diesel, and 1.0 for groundwater.

[3]Analyzed by Northwest Total Petroleum Hydrocarbon Method NWTPH-Gx.

[4]Analyzed by EPA Method 8260B, 8021B, or 8260C.

[5]Analyzed by EPA Method 200.8.

[6]MTCA Cleanup Regulation, Method A Cleanup Levels, Table 720-1 of Section 900 of Chapter 173-340 of the Washington Administrative Code, revised November 2007.

[7]Insufficient recharge to fill specified sample container.

[8]Monitoring well converted to a remediation well; TOC elevation change presented where appropriate.

[h]1,000 µg/L when benzene is not present and 800 µg/L when benzene is present.

Laboratory Notes:

[ve]The value reported exceeded the calibration range for the analyte. The reported concentration should be considered an estimate.

— = not measured / not applicable

< = not detected at concentration exceeding the laboratory reporting limit

µg/L = micrograms per liter

Dry = groundwater not encountered in well

EPA = U.S. Environmental Protection Agency

GRPH = gasoline-range petroleum hydrocarbons

LNAPL = light non-aqueous phase liquid

MTBE = methyl tertiary-butyl ether

MTCA = Washington State Model Toxics Control Act

NA = Not applicable per referenced footnote number

NE = Cleanup level not established for indicated compound

Sheen = iridescence on water surface indicative of LNAPL

TOC = top of casing (elevations for monitoring wells MW01 through MW29 from previous consultants)

Trace = less than 0.01 of measurable LNAPL

SoundEarth Strategies

Table 3
Summary of 2010 Groundwater Analytical Results Sorted by Water-Bearing Zone
TOC Holdings Co. Facility No. 01-176
24205 56th Avenue West
Mountlake Terrace, Washington

Well ID	Property Owner	Groundwater Elevation	Date	Sample Method	GRPH[1]	Benzene[2]	Toluene[2]	Ethyl-benzene[2]	Total Xylenes[2]	MTBE[2]	EDC[3]	Total Lead[4]	Dissolved Lead[4]
SHALLOW WATER-BEARING ZONE (0 TO 20 FEET BGS)													
MW02	TOC	345.31	03/04/10	Peristaltic Pump	<100	<1	<1	<1	<3	<1	<1	--	--
MW03	TOC	348.79	03/04/10	Peristaltic Pump	<100	<1	<1	<1	<3	<1	<1	--	--
MW04	ROW (56th)	349.98	03/02/10	Peristaltic Pump	<100	<1	<1	<1	<3	<1	<1	--	--
MW05	ROW (242nd)	351.47	03/02/10	Peristaltic Pump	<100	<1	<1	<1	<3	<1	<1	--	--
MW06	TOC	345.95	03/04/10	Peristaltic Pump	<100	<1	<1	<1	<3	<1	<1	--	--
		342.88	07/08/10	Not Sampled	--	--	--	--	--	--	--	--	--
MW12	ROW (56th)	345.16	03/02/10	Peristaltic Pump	<100	<1	<1	<1	<3	<1	<1	--	--
MW19	TOC	343.44	03/04/10	Peristaltic Pump	<100	<1	<1	<1	<3	<1	<1	--	--
MW34	TOC	345.76	03/04/10	Peristaltic Pump	<100	<1	<1	<1	<3	<1	<1	--	--
		343.59	07/08/10	Not Sampled	--	--	--	--	--	--	--	--	--
MW54	Farmasonis	345.32	03/03/10	Peristaltic Pump	<100	<1	<1	<1	<3	<1	<1	--	--
		344.21	07/08/10	Not Sampled	--	--	--	--	--	--	--	--	--
MW61	ROW (56th)	346.62	03/04/10	Peristaltic Pump	<100	<1	<1	<1	<3	<1	<1	--	--
MW62	ROW (56th)	349.48	03/03/10	Peristaltic Pump	<100	<1	<1	<1	<3	<1	<1	--	--
MW67	Drake	341.66	03/01/10	Peristaltic Pump	<100	<1	<1	<1	<3	<1	<1	--	--
		340.49	07/08/10	Not Sampled	--	--	--	--	--	--	--	--	--
MW68	Drake	341.38	03/01/10	Peristaltic Pump	<100	<1	<1	<1	<3	<1	<1	--	--
		340.17	07/08/10	Not Sampled	--	--	--	--	--	--	--	--	--
MW71	Shin/Choi	335.08	03/01/10	Not Sampled	LNAPL (0.49 FEET)								
MW72	Shin/Choi	332.04	03/01/10	Peristaltic Pump	520	22	45	14	37	<1	<1	--	--
MW79	Drake	338.02	07/08/10	Peristaltic Pump	<100	<0.35	<1	<1	<2	<1	--	<1	<1
INTERMEDIATE ZONE WELLS THAT INTERSECT SHALLOW ZONE CONDITIONS													
MW08	ROW (56th)	347.31	03/02/10	Peristaltic Pump	<100	<1	<1	<1	<3	<1	<1	--	--
MW24	TOC	345.82	03/04/10	Peristaltic Pump	<100	<1	<1	<1	<3	<1	<1	<1	<1
MW27	TOC	344.53	03/04/10	Peristaltic Pump	26,000	<10	290	870	4,800	<1	<1	--	--
MW29	TOC	342.09	03/04/10	Peristaltic Pump	550	<1	<1	7	9	<1	<1	--	--
MW37	TOC	342.65	03/04/10	Peristaltic Pump	<100	<1	<1	<1	<3	<1	<1	--	--
MW38	TOC	347.23	03/04/10	Peristaltic Pump	<100	<1	<1	<1	<3	<1	<1	--	--
UPPER INTERMEDIATE WATER-BEARING ZONE (20 TO 30 FEET BGS)													
MW80	Farmasonis	337.27	07/08/10	Peristaltic Pump	<100	<0.35	<1	<1	<2	<1	--	<1	<1
MW80		328.89	10/12/10	Not Sampled	--	--	--	--	--	--	--	--	--
MW82	Farmasonis	326.47	07/08/10	Peristaltic Pump	<100	<0.35	<1	<1	<2	<1	--	<1	<1
MW82		329.61	10/12/10	Not Sampled	--	--	--	--	--	--	--	--	--
MW83	Farmasonis	334.02	07/08/10	Peristaltic Pump	<100	<0.35	<1	<1	<2	<1	--	16.1	<1
MW83		330.51	10/12/10	Not Sampled	--	--	--	--	--	--	--	--	--
MW88	Drake	327.20	10/12/10	Peristaltic Pump	<100	<0.35	<1	<1	<2	<1	--	<1	<1
MTCA Method A Cleanup Level[5]					**1,000/800[a]**	**5**	**1,000**	**700**	**1,000**	**20**	**5**	**15**	**NE**

SoundEarth Strategies

Table 3
Summary of 2010 Groundwater Analytical Results Sorted by Water-Bearing Zone
TOC Holdings Co. Facility No. 01-176
24205 56th Avenue West
Mountlake Terrace, Washington

Well ID	Property Owner	Groundwater Elevation	Date	Sample Method	GRPH[1]	Benzene[2]	Toluene[2]	Ethyl-benzene[2]	Total Xylenes[2]	MTBE[3]	EDC[3]	Total Lead[4]	Dissolved Lead[4]
INTERMEDIATE WATER-BEARING ZONE (20 TO 60 FEET BGS)													
MW09	TOC	339.36	03/04/10	Peristaltic Pump	5,000	<1	4	45	980	<1	<1	--	--
MW10	TOC	329.20	03/04/10	Peristaltic Pump	320	3	<1	<1	7	<1	<1	--	--
MW11	TOC	338.38	03/04/10	Peristaltic Pump	44,000	22	350	1,400	8,400	<1	<1	--	--
MW13	ROW (56th)	312.64	03/04/10	Bailer	1,700	60	17	94	150	<1	1.7	--	--
MW15	TOC	322.41	03/01/10	Not Sampled	LNAPL (0.17 FEET)								
MW16	ROW (242nd)	316.35	03/02/10	Bailer	<100	<1	<1	<1	<3	<1	<1	--	--
MW18	TOC	322.47	03/04/10	Bailer	12,000	96	28	270	1,600	<1	<1	--	--
MW20	TOC	329.31	03/04/10	Peristaltic Pump	11,000	390	1,100	390	1,700	<1	<1	--	--
MW21	TOC	327.76	03/04/10	Peristaltic Pump	370	<1	5	3	32	<1	<1	--	--
MW22	TOC	329.06	03/04/10	Peristaltic Pump	<100	<1	<1	<1	<3	<1	<1	--	--
MW23	TOC	318.15	03/04/10	Bailer	<100	<1	<1	<1	<3	<1	<1	--	--
MW25	TOC	330.20	03/04/10	Peristaltic Pump	7,600	30	310	90	1,700	<1	<1	--	--
MW28	TOC	332.46	03/04/10	Peristaltic Pump	7,900	<5	<5	300	970	<1	<1	--	--
MW31	Farmasonis	322.46	03/03/10	Bladder Pump	15,000	160	68	160	2,800	<1	<1	15.1	15.1
MW32	TOC	337.34	03/04/10	Peristaltic Pump	14,000	16	270	320	2,400	<1	<1	--	--
MW33	TOC	322.92	03/04/10	Bailer	11,000	18	14	300	1,300	<1	<1	--	--
MW35	TOC	317.29	03/04/10	Not Sampled	Insufficient water for sampling (0.84 feet; did not recharge after purging)								
MW36	TOC	314.49	03/04/10	Bailer	<100	<1	<1	<1	<3	<1	<1	2.78	<1
		313.86	07/08/10	Not Sampled	--	--	--	--	--	--	--	--	--
MW41	Farmasonis	Dry	03/04/10	Not Sampled	D r y								
MW42	Farmasonis	Dry	03/04/10	Not Sampled	D r y								
MW43	ROW (56th)	317.03	03/04/10	Not Sampled	Insufficient water for sampling								
MW44	ROW (56th)	Dry	03/04/10	Not Sampled	D r y								
MW45	ROW (56th)	317.08	03/02/10	Bailer	23,000	54	23	310	3,700	<1	<1	--	--
MW46	ROW (56th)	314.33	03/03/10	Bailer	<100	<1	<1	<1	<3	<1	<1	--	--
MW47	ROW (56th)	311.96	03/04/10	Bailer	<100	<1	<1	<1	<3	<1	<1	--	--
MW48	ROW (56th)	312.51	03/01/10	Not Sampled	LNAPL (0.13 FEET)								
MW49	ROW (56th)	312.82	03/04/10	Bladder Pump	<100	<1	<1	<1	<3	<1	<1	--	--
MW50	ROW (56th)	327.48	03/02/10	Bailer	<100	<1	<1	<1	<3	<1	<1	--	--
MW51	ROW (56th)	310.61	03/02/10	Bailer	<100	<1	3	<1	6	<1	<1	--	--
		308.74	10/12/10	Bladder Pump	<100	<0.35	<1	<1	<2	<1	--	<1	<1
MW52	ROW (56th)	311.94	03/02/10	Bailer	<100	<1	<1	<1	<3	<1	<1	--	--
MW53	ROW (56th)	316.37	03/03/10	Bailer	<100	<1	<1	<1	<3	<1	<1	--	--
MW55	ROW (56th)	313.55	03/04/10	Bladder Pump	<100	<1	<1	<1	<3	<1	<1	--	--
MW56	Farmasonis	313.24	03/03/10	Bladder Pump	<100	<1	<1	<1	<3	<1	<1	--	--
MW57	Farmasonis	312.55	03/03/10	Bladder Pump	14,000	240	51	610	3,600	<1	2.9	--	--
		309.85	10/12/10	Not Sampled	--	--	--	--	--	--	--	--	--
MW58	Farmasonis	312.13	03/03/10	Bladder Pump	<100	<1	<1	<1	<3	<1	2.4	--	--
		309.49	10/12/10	Not Sampled	--	--	--	--	--	--	--	--	--
MW59	Farmasonis	313.28	03/03/10	Bladder Pump	<100	<1	<1	<1	<3	<1	<1	--	--
MW60	ROW (56th)	314.57	03/04/10	Bladder Pump	<100	<1	<1	<1	<3	<1	1.1	--	--
MTCA Method A Cleanup Level[5]					**1,000/800[a]**	**5**	**1,000**	**700**	**1,000**	**20**	**5**	**15**	**NE**

SoundEarth Strategies

Table 3
Summary of 2010 Groundwater Analytical Results Sorted by Water-Bearing Zone
TOC Holdings Co. Facility No. 01-176
24205 56th Avenue West
Mountlake Terrace, Washington

Well ID	Property Owner	Groundwater Elevation	Date	Sample Method	GRPH[1]	Benzene[2]	Toluene[2]	Ethyl-benzene[2]	Total Xylenes[2]	MTBE[3]	EDC[3]	Total Lead[4]	Dissolved Lead[4]
INTERMEDIATE WATER-BEARING ZONE (20 TO 60 FEET BGS), CONTINUED													
MW63	ROW (56th)	312.22	03/02/10	Bladder Pump	<100	<1	<1	<1	<3	<1	<1	--	--
		309.59	10/12/10	Not Sampled	--	--	--	--	--	--	--	--	--
MW65	Drake	311.42	03/02/10	Bladder Pump	<100	3	3	1	6	<1	<1	--	--
		311.09	07/08/10	Not Sampled	--	--	--	--	--	--	--	--	--
		308.82	10/12/10	Not Sampled	--	--	--	--	--	--	--	--	--
MW66	Farmasonis	313.26	03/03/10	Bailer	<100	<1	<1	<1	<3	<1	<1	--	--
		312.92	07/08/10	Not Sampled	--	--	--	--	--	--	--	--	--
MW69	Drake	311.40	03/02/10	Bladder Pump	8,200	11	12	250	1,100	<1	<1	--	--
		308.83	07/08/10	Not Sampled	--	--	--	--	--	--	--	--	--
MW70	Drake	311.74	03/02/10	Bladder Pump	<100	7	<1	<1	<3	<1	<1	--	--
		311.46	07/08/10	Not Sampled	--	--	--	--	--	--	--	--	--
		309.13	10/12/10	Not Sampled	--	--	--	--	--	--	--	--	--
MW73	Shin/Choi	308.46	03/01/10	Bladder Pump	79,000	20,000	7,400	1,700	6,900	120	<1	--	--
MW74	Shin/Choi	308.71	03/01/10	Bladder Pump	75,000	26,000	3,500	860	3,800	720	<1	--	--
MW75	ROW (56th)	311.99	03/02/10	Bladder Pump	<100	<1	<1	<1	<3	<1	<1	<1	<1
MW76	Drake	312.08	03/01/10	Bailer	<100	<1	<1	<1	<3	<1	<1	--	--
		311.61	07/08/10	Not Sampled	--	--	--	--	--	--	--	--	--
		308.93	10/12/10	Not Sampled	--	--	--	--	--	--	--	--	--
MW77	Drake	311.11	03/01/10	Bailer	<100	<1	<1	<1	<3	<1	<1	--	--
		310.71	07/08/10	Not Sampled	--	--	--	--	--	--	--	--	--
		308.40	10/12/10	Bladder Pump	<100	<0.35	<1	<1	<2	<1	--	<1	<1
MW81	Farmasonis	312.48	07/08/10	Bladder Pump	<100	<0.35	<1	<1	<2	<1	<1	<1	
		316.23	10/12/10	Not Sampled	--	--	--	--	--	--	--	--	--
MW84	Drake	308.28	10/12/10	Bladder Pump	1,900	0.71	<1	17	48	<1	--	<1	<1
MW86	Drake	308.50	10/12/10	Bladder Pump	1,100	1.9	<1	<1	<2	<1	--	<1	<1
MW87	Drake	308.37	10/12/10	Bladder Pump	<100	<0.35	<1	<1	<2	<1	--	<1	<1
MW89	Drake	308.84	10/12/10	Bladder Pump	<100	<0.35	<1	<1	<2	<1	--	<1	<1
MTCA Method A Cleanup Level[5]					1,000/800[6]	5	1,000	700	1,000	20	5	15	NE

SoundEarth Strategies

Table 3
Summary of 2010 Groundwater Analytical Results Sorted by Water-Bearing Zone
TOC Holdings Co. Facility No. 01-176
24205 56th Avenue West
Mountlake Terrace, Washington

Well ID	Property Owner	Groundwater Elevation	Date	Sample Method	GRPH[1]	Benzene[2]	Toluene[2]	Ethyl-benzene[2]	Total Xylenes[2]	MTBE[3]	EDC[5]	Total Lead[4]	Dissolved Lead[4]
DEEP WATER-BEARING ZONE (OVER 60 FEET BGS)													
MW26	TOC	316.40	03/04/10	Bailer	<100	<1	<1	<1	<3	<1	<1	--	--
MW30	Farmasonis	315.41	03/03/10	Bailer	<100	<1	<1	<1	<3	<1	<1	--	--
MW39	Farmasonis	314.80	03/03/10	Bailer	<100	<1	<1	<1	<3	<1	<1	--	--
MW40	Farmasonis	315.22	03/03/10	Bailer	<100	<1	<1	<1	<3	<1	<1	--	--
MW64	ROW (56th)	314.73	03/02/10	Bladder Pump	<100	<1	<1	<1	<3	<1	<1	--	--
		312.06	10/12/10	Not Sampled	--	--	--	--	--	--	--	--	--
MW78	Drake	313.01	03/01/10	Bailer	<100	<1	<1	<1	<3	<1	<1	--	--
		310.28	10/12/10	Not Sampled	--	--	--	--	--	--	--	--	--
MTCA Method A Cleanup Level[5]					**1,000/800[a]**	**5**	**1,000**	**700**	**1,000**	**20**	**5**	**15**	**NE**

NOTES:

Results measured in µg/L.

Red denotes concentration exceeds MTCA Method A Cleanup Levels for groundwater.

Samples analyzed by Friedman & Bruya, Inc. of Seattle, Washington.

[1]Analyzed by Northwest Total Petroleum Hydrocarbon Method NWTPH-Gx.

[2]Analyzed by EPA Method 8021B.

[3]Analyzed by EPA Method 8260C.

[4]Analyzed by EPA Method 200.8.

[5]MTCA Cleanup Regulation, Method A Cleanup Levels, Table 720-1 of Section 900 of Chapter 173-340 of the Washington Administrative Code, revised November 2007.

[a]1,000 µg/L when benzene is not present and 800 µg/L when benzene is present.

-- = not sampled/not analyzed

< = not detected at concentration exceeding the value of the laboratory reporting limit

µg/L = micrograms per liter

bgs = below ground surface

Drake = Drake Property at 24309 56th Avenue West

Dry = groundwater not encountered in well

EDC = 1,2-Dichloroethane

EPA = U.S. Environmental Protection Agency

Farmasonis = Farmasonis Property at 24225 56th Avenue West

GRPH = gasoline-range petroleum hydrocarbons

LNAPL = light non-aqueous phase liquid

MTBE = methyl tertiary-butyl ether

MTCA = Washington State Model Toxics Control Act

NE = cleanup level not established

ROW (56th) = 56th Avenue West right-of-way

ROW (242nd) = 242nd Street Southwest right-of-way

TOC = TOC Holdings Co. Facility No. 01-176 at 24205 56th Avenue West

SoundEarth Strategies

Table 4
Summary of 2010 Groundwater Analytical Results
Eight Common Fuel Additives
TOC Holdings Co. Facility No. 01-176
24205 56th Avenue West
Mountlake Terrace, Washington

		OXYGENATES						LEAD SCAVENGERS	
Well ID	Sample Date	Ethanol[1]	TBA[1]	MTBE[1]	ETBE[1]	TAME[1]	DIPE[1]	EDC[1]	EDB[1]
MW01	DECOMMISSIONED								
MW02	03/04/10	<1,000	<50	<1	<1	<1	<1	<1	<1
MW03	03/04/10	<1,000	<50	<1	<1	<1	<1	<1	<1
MW04	03/02/10	<1,000	<50	<1	<1	<1	<1	<1	<1
MW05	03/02/10	<1,000	<50	<1	<1	<1	<1	<1	<1
MW06	03/04/10	<1,000	<50	<1	<1	<1	<1	<1	<1
MW07	DECOMMISSIONED								
MW08	03/02/10	<1,000	<50	<1	<1	<1	<1	<1	<1
MW09	03/04/10	<1,000	<50	<1	<1	<1	<1	<1	<1
MW10	03/04/10	<1,000	<50	<1	<1	<1	<1	<1	<1
MW11	03/04/10	<1,000	<50	<1	<1	<1	<1	<1	<1
MW12	03/02/10	<1,000	<50	<1	<1	<1	<1	<1	<1
MW13	03/04/10	<1,000	<50	<1	<1	<1	<1	1.7	<1
MW14	DECOMMISSIONED								
MW15	03/01/10	LNAPL							
MW16	03/02/10	<1,000	<50	<1	<1	<1	<1	<1	<1
MW17	DECOMMISSIONED								
MW18	03/04/10	<1,000	<50	<1	<1	<1	<1	<1	<1
MW19	03/04/10	<1,000	<50	<1	<1	<1	<1	<1	<1
MW20	03/04/10	<1,000	<50	<1	<1	<1	<1	<1	<1
MW21	03/04/10	<1,000	<50	<1	<1	<1	<1	<1	<1
MW22	03/04/10	<1,000	<50	<1	<1	<1	<1	<1	<1
MW23	03/04/10	<1,000	<50	<1	<1	<1	<1	<1	<1
MW24	03/04/10	<1,000	<50	<1	<1	<1	<1	<1	<1
MW25	03/04/10	<1,000	<50	<1	<1	<1	<1	<1	<1
MW26	03/04/10	<1,000	<50	<1	<1	<1	<1	<1	<1
MW27	03/04/10	<1,000	<50	<1	<1	<1	<1	<1	<1
MW28	03/04/10	<1,000	<50	<1	<1	<1	<1	<1	<1
MW29	03/04/10	<1,000	<50	<1	<1	<1	<1	<1	<1
MW30	03/03/10	<1,000	<50	<1	<1	<1	<1	<1	<1
MW31	03/03/10	<1,000	<50	<1	<1	<1	<1	<1	<1
MW32	03/04/10	<1,000	<50	<1	<1	<1	<1	<1	<1
MW33	03/04/10	<1,000	<50	<1	<1	<1	<1	<1	<1
MW34	03/04/10	<1,000	<50	<1	<1	<1	<1	<1	<1
MW35	03/04/10	--	--	--	--	--	--	--	--
MW36	03/04/10	<1,000	<50	<1	<1	<1	<1	<1	<1
MW37	03/04/10	<1,000	<50	<1	<1	<1	<1	<1	<1
MW38	03/04/10	<1,000	<50	<1	<1	<1	<1	<1	<1
MW39	03/03/10	<1,000	<50	<1	<1	<1	<1	<1	<1
MW40	03/03/10	<1,000	<50	<1	<1	<1	<1	<1	<1
MW41	03/04/10	DRY							
MW42	03/04/10	DRY							
MW43	03/04/10	DRY							
MW44	03/04/10	DRY							
MW45	03/02/10	<1,000	<50	<1	<1	<1	<1	<1	<1
MW46	03/03/10	<1,000	<50	<1	<1	<1	<1	<1	<1
MW47	03/04/10	<1,000	<50	<1	<1	<1	<1	<1	<1
MW48	03/01/10	LNAPL							
MW49	03/04/10	<1,000	<50	<1	<1	<1	<1	<1	<1
MW50	03/02/10	<1,000	<50	<1	<1	<1	<1	<1	<1
MTCA Method A[2]		NE	NE	20	NE	NE	NE	5	0.01

SoundEarth Strategies

Table 4
Summary of 2010 Groundwater Analytical Results
Eight Common Fuel Additives
TOC Holdings Co. Facility No. 01-176
24205 56th Avenue West
Mountlake Terrace, Washington

		OXYGENATES						LEAD SCAVENGERS	
Well ID	Sample Date	Ethanol[1]	TBA[1]	MTBE[1]	ETBE[1]	TAME[1]	DIPE[1]	EDC[1]	EDB[1]
MW51	03/02/10	<1,000	<50	<1	<1	<1	<1	<1	<1
	10/12/10	<1,000	<50	<1	<1	<1	<1	<1	<1
MW52	03/02/10	<1,000	<50	<1	<1	<1	<1	<1	<1
MW53	03/03/10	<1,000	<50	<1	<1	<1	<1	<1	<1
MW54	03/03/10	<1,000	<50	<1	<1	<1	<1	<1	<1
MW55	03/04/10	<1,000	<50	<1	<1	<1	<1	<1	<1
MW56	03/03/10	<1,000	<50	<1	<1	<1	<1	<1	<1
MW57	03/03/10	<1,000	<50	<1	<1	<1	<1	2.9	<1
MW58	03/03/10	<1,000	<50	<1	<1	<1	<1	2.4	<1
MW59	03/03/10	<1,000	<50	<1	<1	<1	<1	<1	<1
MW60	03/04/10	<1,000	<50	<1	<1	<1	<1	1.1	<1
MW61	03/04/10	<1,000	<50	<1	<1	<1	<1	<1	<1
MW62	03/03/10	<1,000	<50	<1	<1	<1	<1	<1	<1
MW63	03/02/10	<1,000	<50	<1	<1	<1	<1	<1	<1
MW64	03/02/10	<1,000	<50	<1	<1	<1	<1	<1	<1
MW65	03/02/10	<1,000	<50	<1	<1	<1	<1	<1	<1
MW66	03/03/10	<1,000	<50	<1	<1	<1	<1	<1	<1
MW67	03/01/10	<1,000	<50	<1	<1	<1	<1	<1	<1
MW68	03/01/10	<1,000	<50	<1	<1	<1	<1	<1	<1
MW69	03/02/10	<1,000	<50	<1	<1	<1	<1	<1	<1
MW70	03/02/10	<1,000	<50	<1	<1	<1	<1	<1	<1
MW71	03/01/10	LNAPL							
MW72	03/01/10	<1,000	<50	<1	<1	<1	<1	<1	<1
MW73	03/01/10	<1,000	<50	120	<1	<1	<1	<1	<1
MW74	03/01/10	<1,000	130	720	<1	<1	<1	<1	<1
MW75	03/02/10	<1,000	<50	<1	<1	<1	<1	<1	<1
MW76	03/01/10	<1,000	<50	<1	<1	<1	<1	<1	<1
MW77	03/01/10	<1,000	<50	<1	<1	<1	<1	<1	<1
	10/12/10	<1,000	<50	<1	<1	<1	<1	<1	<1
MW78	03/01/10	<1,000	<50	<1	<1	<1	<1	<1	<1
MW79	07/08/10	<1,000	<50	<1	<1	<1	<1	<1	<1
MW80	07/08/10	<1,000	<50	<1	<1	<1	<1	<1	<1
MW81	07/08/10	<1,000	<50	<1	<1	<1	<1	<1	<1
MW82	07/08/10	<1,000	<50	<1	<1	<1	<1	<1	<1
MW83	07/08/10	<1,000	<50	<1	<1	<1	<1	<1	<1
MW84	10/12/10	<1,000	<50	<1	<1	<1	<1	<1	<1
MW85	NOT SAMPLED, REQUIRES DECOMMISSIONING								
MW86	10/12/10	<1,000	<50	<1	<1	<1	<1	<1	<1
MW87	10/12/10	<1,000	<50	<1	<1	<1	<1	<1	<1
MW88	10/12/10	<1,000	<50	<1	<1	<1	<1	<1	<1
MW89	10/12/10	<1,000	<50	<1	<1	<1	<1	<1	<1
MTCA Method A[2]		NE	NE	20	NE	NE	NE	5	0.01

NOTES:

Results measured in µg/L.

Red denotes concentration exceeds MTCA Method A cleanup level.

Samples analyzed by North Creek Analytical, Inc., of Bothell, Washington. Data collected prior to 7/8/05 provided by previous consultants. Data collected since December 2005 analyzed by Friedman & Bruya of Seattle, Washington.

[1] Analyzed by U.S. Environmental Protection Agency Method 8260C.

[2] MTCA Cleanup Regulation, Method A Cleanup Levels, Table 720-1 of Section 900 of Chapter 173-340 of the Washington Administrative Code, revised November 2007.

< = not detected at concentration exceeding the laboratory reporting limit

Dry = groundwater not encountered in well

EDB = 1,2-dibromoethane

EDC = 1,2-dichloroethane

DIPE = diisopropyl ether

ETBE = ethyl tertiary-butyl ether

LNAPL = light non-aqueous phase liquid

MTBE = methyl tertiary-butyl ether

MTCA = Washington State Model Toxics Control Act

NE = cleanup level not established

TAME = tertiary amyl methyl ether

TBA = tertiary butyl alcohol

SoundEarth Strategies

Table 5
Monitoring Well Construction Summary
TOC Holdings Co. Facility No. 01-176
24205-56th Avenue West
Mountlake Terrace, Washington

Well ID	Ecology Unique Well ID Tag No.[1]	Installation Completion Date	Drilling Contractor	Consultant	Top of Casing Elevation (feet)	Casing Diameter (inches)	Screen Slot Size	Nominal Top of Sand Filter[2] (feet bgs)	Nominal Top of Screen[2] (feet bgs)	Nominal Bottom of Screen[2] (feet bgs)	Total Depth[2] (feet below TOC)	Intended Use	Current Use
MW01	NA	6/8/1992	McGarrett	ESE	354.76	4	0.020	3	5	20	18.9	Connected to 1996 system	Decommissioned 10/02/2009
MW02	NA	6/8/1992	McGarrett	ESE	355.25	4	0.020	4	5	20	18.7	Connected to 1996 system	Monitoring
MW03	NA	6/9/1992	McGarrett	ESE	358.40	4	0.020	3	4	19	17.6	Connected to 1996 system	Monitoring
MW04	NA	7/6/1992	McGarrett	ESE	358.51	4	0.020	3	5	20	18.7	Monitoring well	Monitoring
MW05	NA	7/6/1992	McGarrett	ESE	360.25	4	0.020	4	5	15	14.9	Monitoring well	Monitoring
MW06	NA	7/20/1992	McGarrett	ESE	355.37	4	0.020	4	5	15	15.2	Monitoring well	Monitoring
MW07	NA	7/20/1992	McGarrett	ESE	352.98	4	0.020	3	5	15	Not Verified	Monitoring well	Decommmissioned 11/29/2004
MW08	NA	1/6/1994	Holt	ESE	356.92	2	0.010	3	5	38	38.3	Monitoring well	Monitoring
MW09	NA	1/7/1994	Holt	ESE	356.86	4	0.010	3	5	40	38.8	Connected to 1996 system	Monitoring
MW10	ACD 225 (TAG MISSING)	11/17/1995	Cascade	ESE	354.43	4	0.020	17	20	40	38.1	Connected to 1996 system	Monitoring
MW11	ACD 226 (TAG MISSING)	11/17/1995	Cascade	ESE	358.12	4	0.020	17	20	40	39.5	Connected to 1996 system	Monitoring
MW12	AGP 026 (TAG MISSING)	8/20/2001	Holt	Pinnacle	354.19	2	0.020	4	5	18	17.9	Monitoring well	Monitoring
MW13	AGP 025 (TAG MISSING)	8/20/2001	Holt	Pinnacle	353.87	2	0.020	21	21.5	41.5	42.6	Monitoring well	Monitoring
MW14	AKA 504 (DECOMMISSIONED)	4/19/2004	Holt	Pinnacle	Unknown	2	0.020	18	22	36	Not Verified	Monitoring well	Decommissioned 11/29/2004
MW15	AKA 505 (TAG MISSING)	4/19/2004	Holt	Pinnacle	354.39	4	0.020	23	24	44	41.9	Monitoring well	Monitoring
MW16	AKA 506 (TAG MISSING)	4/20/2004	Holt	Pinnacle	361.89	2	0.020	20	22	47	46.6	Monitoring well	Monitoring
MW17	AKA 507 (DECOMMISSIONED)	4/20/2004	Holt	Pinnacle	352.65	2	0.020	22	24	44	Not Verified	Monitoring well	Decommissioned 11/29/2004
MW18	AKA 508 (TAG MISSING)	4/21/2004	Holt	Pinnacle	354.82	4	0.020	22	24	39	39.3	Monitoring well	Monitoring
MW19	AKA 509 (TAG MISSING)	4/21/2004	Holt	Pinnacle	355.42	4	0.020	7	10.5	20.5	20.2	Monitoring well	Monitoring
MW20	AKA 510 (TAG MISSING)	4/21/2004	Holt	Pinnacle	356.47	4	0.020	22	25.5	40.5	41.6	Monitoring well	Monitoring
MW21	AKH 022 (TAG MISSING)	10/18/2004	Cascade	Landau	356.41	4	0.020	18	20	40	39.8	Connected to upgraded 1996 system	Monitoring
MW22	AKH 023 (TAG MISSING)	10/18/2004	Cascade	Landau	355.61	4	0.020	13	15	40	39.9	Connected to upgraded 1996 system	Monitoring
MW23	AKH 021	10/18/2004	Cascade	Landau	352.98	2	0.020	22.5	25	40	39.5	Monitoring well	Monitoring
MW24	AKH 024 (TAG MISSING)	10/19/2004	Cascade	Landau	359.25	4	0.020	13.5	15	40	39.6	Connected to upgraded 1996 system	Monitoring
MW25	AKH 031 (TAG MISSING)	10/19/2004	Cascade	Landau	356.31	4	0.020	13	15	40	39.7	Connected to upgraded 1996 system	Monitoring

SoundEarth Strategies

Table 5
Monitoring Well Construction Summary
TOC Holdings Co. Facility No. 01-176
24205-56th Avenue West
Mountlake Terrace, Washington

Well ID	Ecology Unique Well ID Tag No.[1]	Installation Completion Date	Drilling Contractor	Consultant	Top of Casing Elevation (feet)	Casing Diameter (inches)	Screen Slot Size	Nominal Top of Sand Filter[2] (feet bgs)	Nominal Top of Screen[2] (feet bgs)	Nominal Bottom of Screen[2] (feet bgs)	Total Depth[2] (feet below TOC)	Intended Use	Current Use
MW26	AKN 279	12/12/2005	Cascade	SES	361.40	2	0.010	43	46.6	61.6	61.8	Monitoring well	Monitoring
MW27	AKN 280	12/12/2005	Cascade	SES	360.59	2	0.010	12.5	12	27	27.2	Monitoring well	Monitoring
MW28	AKN 281	12/13/2005	Cascade	SES	358.02	4	0.010	8	9.8	29.8	30.0	Monitoring well	Monitoring
MW29	AKN 286 (TAG MISSING)	12/13/2005	Cascade	SES	358.94	2	0.010	9	8.9	28.9	29.1	Monitoring well	Monitoring
MW30	AKN 282	12/14/2005	Cascade	SES	354.12	2	0.010	51	51.3	61.3	61.5	Monitoring well	Monitoring
MW31	AKN 283 (TAG MISSING)	12/15/2005	Cascade	SES	355.22	2	0.010	27	28.6	38.6	38.8	Monitoring well	Monitoring
MW32	AKN 284	12/15/2005	Cascade	SES	358.05	4	0.010	13	13.9	33.9	34.1	Monitoring well	Monitoring
MW33	AKN 285	12/16/2005	Cascade	SES	355.82	2	0.010	22	24.5	34.5	34.7	Monitoring well	Monitoring
MW34	APB 007	1/13/2006	Cascade	SES	355.59	2	0.010	4	5.6	15.6	15.8	Monitoring well	Monitoring
MW35	APB 008	1/16/2006	Cascade	SES	356.15	4	0.010	27	29.5	39.5	39.7	Monitoring well	Monitoring
MW36	APB 009	1/17/2006	Cascade	SES	355.65	2	0.010	26.0	28.0	43.0	43.2	Monitoring well	Monitoring
MW37	APB 010	1/18/2006	Cascade	SES	356.58	2	0.010	13.5	15.0	35.0	35.2	Monitoring well	Monitoring
MW38	APB 035	1/19/2006	Cascade	SES	362.03	2	0.010	12	13.5	33.5	33.7	Monitoring well	Monitoring
MW39	APN 542	2/1/2006	EWE	SES	353.56	2	0.010	61	63.7	73.7	73.9	Monitoring well	Monitoring
MW40	APN 543	2/1/2006	EWE	SES	353.99	2	0.010	62.5	63.7	73.7	73.9	Monitoring well	Monitoring
MW41	APN 544	2/2/2006	EWE	SES	354.02	2	0.010	29	30.1	40.1	40.3	Monitoring well	Monitoring
MW42	APN 545	2/3/2006	EWE	SES	354.08	2	0.010	28	29.7	39.7	39.9	Monitoring well	Monitoring
MW43	APP 414	5/18/2006	Cascade	SES	356.58	2	0.010	16.5	17.3	37.3	37.5	Monitoring well	Monitoring
MW44	NO TAG	5/19/2006	Cascade	SES	352.64	2	0.010	29	28.3	38.3	38.5	Monitoring well	Monitoring
MW45	NO TAG	5/19/2006	Cascade	SES	354.24	2	0.010	29	29.4	39.4	39.6	Monitoring well	Monitoring
MW46	ALN 904	12/7/2006	Cascade	SES	354.64	2	0.010	31	32.7	42.7	42.9	Monitoring well	Monitoring
MW47	ALN 902	12/8/2006	Cascade	SES	352.96	2	0.010	29.5	31.4	41.4	41.6	Monitoring well	Monitoring
MW48	ALN 903 (TAG MISSING)	12/12/2006	Cascade	SES	352.97	2	0.010	39	36.1	46.1	46.3	Monitoring well	LNAPL Recovery
MW49	ALN 602	12/13/2006	Cascade	SES	354.05	4	0.010	39	39.1	49.1	49.3	Monitoring well	Monitoring
MW50	APF 631	7/2/2007	Cascade	SES	359.71	4	0.010	26	27.3	37.3	37.5	Monitoring well	Monitoring

SoundEarth Strategies

Table 5
Monitoring Well Construction Summary
TOC Holdings Co. Facility No. 01-176
24205-56th Avenue West
Mountlake Terrace, Washington

Well ID	Ecology Unique Well ID Tag No.[1]	Installation Completion Date	Drilling Contractor	Consultant	Top of Casing Elevation (feet)	Casing Diameter (inches)	Screen Slot Size	Nominal Top of Sand Filter[2] (feet bgs)	Nominal Top of Screen[2] (feet bgs)	Nominal Bottom of Screen[2] (feet bgs)	Total Depth[3] (feet below TOC)	Intended Use	Current Use
MW51	APF 632	7/6/2007	Cascade	SES	350.34	4	0.010	34	36.3	46.3	46.5	Monitoring well	Monitoring
MW52	APF 633	7/9/2007	Cascade	SES	353.28	4	0.010	38	33.1	43.1	43.3	Monitoring well	Monitoring
MW53	APF 634	7/10/2007	Cascade	SES	357.47	4	0.010	43	43.9	53.9	54.1	Monitoring well	Monitoring
MW54	BAT 626	7/11/2007	Cascade	SES	355.57	2	0.010	6.5	6.7	16.7	16.9	Monitoring well	Monitoring
MW55	APF 635	7/11/2007	Cascade	SES	354.17	4	0.010	38	38.5	48.5	48.7	Monitoring well	Monitoring
MW56	BAT 627	7/11/2007	Cascade	SES	355.12	4	0.010	43	43.0	53.0	53.2	Monitoring well	Monitoring
MW57	APF 636	7/12/2007	Cascade	SES	354.35	4	0.010	36	38.8	48.8	50.0	Monitoring well	Monitoring
MW58	APF 639 (TAG MISSING)	7/13/2007	Cascade	SES	353.01	4	0.010	36	39.3	49.3	49.5	Monitoring well	Monitoring
MW59	NO TAG	7/16/2007	Cascade	SES	354.13	4	0.010	36	41.7	51.7	51.9	Monitoring well	Monitoring
MW60	APF 637	7/17/2007	Cascade	SES	356.21	4	0.010	42	42.5	52.5	52.7	Monitoring well	Monitoring
MW61	APF 641 (TAG MISSING)	7/18/2007	Cascade	SES	354.83	2	0.010	1.5	8.2	18.2	18.4	Monitoring well	Monitoring
MW62	APF 642 (TAG MISSING)	7/18/2007	Cascade	SES	358.12	2	0.010	5	6.8	16.8	17.0	Monitoring well	Monitoring
MW63	BAT 633	7/19/2007	Cascade	SES	352.73	4	0.010	40	41.9	51.9	52.1	Monitoring well	Monitoring
MW64	NO TAG	7/20/2007	Cascade	SES	352.82	2	0.010	62	64.1	74.1	74.3	Monitoring well	Monitoring
MW65	BAR 401 (TAG MISSING)	5/5/2008	Cascade	SES	350.74	4	0.010	38	41.9	51.9	52.1	Monitoring well	Monitoring
MW66	BAR 480 (TAG MISSING)	5/6/2008	Cascade	SES	353.42	2	0.010	38	39.5	49.5	49.7	Monitoring well	Monitoring
MW67	BAR 482	5/7/2008	Cascade	SES	353.37	2	0.010	13	14.4	24.4	24.6	Monitoring well	Monitoring
MW68	BAR 483	5/7/2008	Cascade	SES	352.77	2	0.010	13	13.8	23.8	24.0	Monitoring well	Monitoring
MW69	BAR 484	5/8/2008	Cascade	SES	351.96	2	0.010	35	37.3	47.3	47.5	Monitoring well	Monitoring
MW70	BAR 487 (TAG MISSING)	5/9/2008	Cascade	SES	352.36	2	0.010	36	38.0	48.0	48.2	Monitoring well	Monitoring
MW71	APE 944 (TAG MISSING)	10/1/2008	Cascade	SES	345.60	2	0.010	6	7.7	17.7	17.9	Monitoring well	Monitoring
MW72	APE 946	10/1/2008	Cascade	SES	345.07	2	0.010	10	12.5	22.5	22.7	Monitoring well	Monitoring
MW73	APE 945	10/2/2008	Cascade	SES	345.03	2	0.010	32.5	32.6	42.6	42.8	Monitoring well	Monitoring
MW74	APE 947 (TAG MISSING)	10/3/2008	Cascade	SES	345.62	2	0.010	28	29.2	39.2	39.4	Monitoring well	Monitoring
MW75	BBA 580	11/6/2008	Cascade	SES	352.43	2	0.010	38	39.5	49.5	49.7	Monitoring well	Monitoring

SoundEarth Strategies

Table 5
Monitoring Well Construction Summary
TOC Holdings Co. Facility No. 01-176
24205-56th Avenue West
Mountlake Terrace, Washington

Well ID	Ecology Unique Well ID Tag No.[1]	Installation Completion Date	Drilling Contractor	Consultant	Top of Casing Elevation (feet)	Casing Diameter (inches)	Screen Slot Size	Nominal Top of Sand Filter[2] (feet bgs)	Nominal Top of Screen[2] (feet bgs)	Nominal Bottom of Screen[2] (feet bgs)	Total Depth[2] (feet below TOC)	Intended Use	Current Use
MW76	BBK 645	1/27/2009	Cascade	SES	349.36	2	0.010	36	38.1	48.1	48.3	Monitoring well	Monitoring
MW77	BBK 646	1/27/2009	Cascade	SES	347.62	2	0.010	36	37.6	47.6	47.8	Monitoring well	Monitoring
MW78	BBK 647 (TAG MISSING)	1/29/2009	Cascade	SES	347.58	2	0.010	63	64.8	74.8	75.0	Monitoring well	Monitoring
MW79	BCH 362	6/30/2010	Cascade	SES	351.43	2	0.010	6	6.9	16.6	17.0	Monitoring well	Monitoring
MW80	BCH 363	6/30/2010	Cascade	SES	351.49	2	0.010	19	19.5	29.2	29.6	Monitoring well	Monitoring
MW81	BCH 364	6/30/2010	Cascade	SES	353.26	2	0.010	37	40.4	50.1	50.5	Monitoring well	Monitoring
MW82	BCH 365	7/1/2010	Cascade	SES	353.21	2	0.010	19	19.6	29.3	29.7	Monitoring well	Monitoring
MW83	BCH 366	7/1/2010	Cascade	SES	353.58	2	0.010	19	19.7	29.4	29.8	Monitoring well	Monitoring
MW84	BCT 355	10/4/2010	Cascade	SoundEarth	308.28	2	0.010	38	39.2	48.9	49.3	Monitoring well	Monitoring
MW85	BCT 372	10/4/2010	Cascade	SoundEarth	NM	2	0.010	38	40.4	50.1	50.5	Monitoring well	Requires Decommissioning (Damaged During Installation)
MW86	BCT 356	10/5/2010	Cascade	SoundEarth	308.50	2	0.010	33	35.4	45.1	45.5	Monitoring well	Monitoring
MW87	BCT 373	10/5/2010	Cascade	SoundEarth	308.37	2	0.010	38	38.3	48.0	48.4	Monitoring well	Monitoring
MW88	BCT 374	10/5/2010	Cascade	SoundEarth	327.20	2	0.010	17	19.5	29.2	29.6	Monitoring well	Monitoring
MW89	BCT 402	10/11/2010	Cascade	SoundEarth	308.84	2	0.010	38	39.6	49.3	49.7	Monitoring well	Monitoring

NOTES:

[1] SoundEarth referred to Washington Department of Ecology's website at <http://apps.ecy.wa.gov/welllog/> to verify numbers of missing well ID tags.

[2] Relative to ground surface for wells installed through 2004, and relative to top-of-casing elevation for wells installed since 2004.

[3] Relative to top-of-casing elevation.

All wells were installed using hollow-stem auger technology except MW39 through MW42, which were installed using a Sonic® drill rig.

All casing (screen and riser) constructed from Schedule 40 polyvinyl chloride pipe, unless noted otherwise.

Well seals were constructed using hydrated bentonite chips and topped with at least 1 to 2 feet of concrete.

Each surface completion includes a traffic-rated, flush-mounted monument or utility vault.

bgs = below ground surface
Cascade = Cascade Drilling, L.P., Woodinville, Washington
DPE = dual-phase extraction
EWE = Environmental West Explorations, Spokane, Washington
ESE = Environmental Science & Engineering Inc., Redmond, Washington
Holt = Holt Drilling, Inc., Puyallup, Washington
ID = identification
Landau = Landau Associates, Edmonds, Washington
McGarrett = McGarrett Drilling, Bellevue, Washington
NA = not applicable
No. = number
NM = not measured
Pinnacle = Pinnacle Geosciences, Bellevue, Washington
SES= Sound Environmental Strategies Corporation, Seattle, Washington
SoundEarth = SoundEarth Strategies Inc. (formerly SES), Seattle, Washington
TOC = top-of-casing elevation

SoundEarth Strategies

Table 6
Laboratory Analysis Summary
Interim Remedial Action Work Plan
TOC Holdings Co. Facility No. 01-176
24205 56th Avenue West
Mountlake Terrace, Washington

Matrix	Analysis	O&M Samples (Monthly)	Performance Field Samples	Confirmation Field Samples	Estimated Total Samples (per year)
Soil (Stockpiles)	GRPH by NWTPH-Gx	NA	TBD[1]	NA	TBD[1]
	BTEX by EPA Method 8021B	NA	TBD[1]	NA	TBD[1]
	Total Metals by EPA Method 200.8/1631E[2]	NA	TBD[1]	NA	TBD[1]
	Moisture Content by ASTM Method D2216-98	NA	TBD[1]	NA	TBD[1]
Soil (In Place)	GRPH by NWTPH-Gx and EPA Method 5035A	NA	TBD[1]	4	TBD[1]
	BTEX by EPA Methods 8021B and 5035A	NA	TBD[1]	4	TBD[1]
	Moisture Content by ASTM Method D2216-98	NA	TBD[1]	4	TBD[1]
Groundwater	GRPH by NWTPH-Gx	NA	93	340	200
	BTEX by EPA Method 8021B	NA	66	280	164
	BTEX and MTBE by EPA Method 8260C	NA	27	60	36
Wastewater	GRPH by NWTPH-Gx	36	NA	NA	36
	BTEX by EPA Method 8021B	36	NA	NA	36
	Total lead by EPA Method 200.8	36	NA	NA	36
	pH by EPA Method 9063	36	NA	NA	36
Vapor	GRPH by NWTPH-Gx	36	NA	NA	36
	BTEX by EPA Method 8021B	36	NA	NA	36

NOTES:

[1]Performance wastewater samples will be collected on a volume basis in accordance with the discharge authorization permit and/or in consultation with King County Metro.
[2]Arsenic, barium, cadmium, chromium, lead, mercury, silver and selenium.

ASTM = American Society for Testing and Materials
CFR = Code of Federal Regulations
EPA = U.S. Environmental Protection Agency
GRPH = gasoline-range petroleum hydrocarbons
NA = not applicable
NWTPH = Northwest Total Petroleum Hydrocarbon
O&M = operation & maintenance
TBD = to be determined

SoundEarth Strategies

Table 7
Analytical Methods, Container, Preservation, and Holding Time Requirements
Interim Remedial Action Work Plan
TOC Holdings Co. Facility No. 01-176
24205 56th Avenue West
Mountlake Terrace, Washington

Matrix	Analytical Method	Container	Number of Containers	Preservation Requirements	Holding Time
In Situ Soil	GRPH by Northwest Method NWTPH-Gx and BTEX by EPA Method 8021B, both by EPA 5035A	40-mL VOA vial	3	methanol/4°C or freezing	2/14 days
	Moisture Content by ASTM Method D2216-98	4-oz glass jar or 40-mL VOA vial	1	4°C	14 days
Stockpiled Soil	GRPH by Northwest Method NWTPH-Gx and BTEX by EPA Method 8021B	40-mL VOA vial	3	methanol/4°C or freezing	2/14 days
	Total Metals[1] by EPA Method 200.8/1631E and 40 CFR Part 261	4-oz glass jar	1	4°C	180 days
	Moisture Content by ASTM Method D2216-98	4-oz glass jar or 40-mL VOA vial	1	4°C	14 days
Groundwater	GRPH by Northwest Method NWTPH-Gx and BTEX and Eight Additives[2] by EPA Method 8260B	40-ml VOA vial	4	HCl/4°C	14 days
	Total lead by EPA Method 200.8	500-mL poly	1	HNO_3/4°C	180 days
	Dissolved lead by EPA Method 200.8	500-mL poly	1	HNO_3	180 days
Wastewater	BTEX by EPA Method 8021B	40-mL VOA vial	3	HCl/4°C	14 days
	pH by EPA Method 9040C	500-mL poly	1	4°C	4 hours
	Total lead by EPA Method 200.8	500-mL poly	1	HNO_3	180 days
	Non-Polar Fats, Oils, Greases by EPA Method 1664	1-L amber	1	H_2SO_4/4°C	28 days
Vapor	GRPH by Northwest Method NWTPH-Gx	1-L Tedlar bag	1	none	72 hours
	BTEX by EPA Method 8021B	1-L Tedlar bag	1	none	72 hours

NOTES:
[1]Arsenic, cadmium, chromium, copper, lead, mercury, nickel, silver, zinc.
[2]Ethanol, TBA, MTBE, ETBE, TAME, DIPE, EDB and EDC.

ABBREVIATIONS AND SYMBOLS:
°C = degrees Celsius
2/14 = 2 days if no methanol preservation or freezing/14 days if methanol-preserved, frozen, or extracted
2/14 = 2 days if no methanol preservation or freezing/14 days if methanol-preserved, frozen, or extracted
ASTM = American Society for Testing and Materials
BTEX = benzene, toluene, ethylbenzene and total xylenes
DIPE = diisopropyl ether
EDB = 1,2-dibromoethane
EDC = 1,2-dichloroethane
EPA = U.S. Environmental Protection Agency
ETBE = ethyl tertiary-butyl ether
GRPH = gasoline-range petroleum hydrocarbons
H_2SO_4 = sulfuric acid
HCl = hydrochloric acid
HNO_3 = nitric acid
L = liter
mL = milliliters
MTBE = methyl tertiary-butyl ether
NWTPH = Northwest Total Petroleum Hydrocarbon
oz = ounce
TAME = t-amyl methyl ether
TBA = t-butyl alcohol
VOA = volatile organic analysis

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Table 8
COCs, Laboratory PQLs, and Cleanup Levels
Interim Remedial Action Work Plan
TOC Holdings Co. Facility No. 01-176
24205 56th Avenue West
Mountlake Terrace, Washington

Matrix	Analyte	Laboratory PQLs[1] (mg/kg for soil)	Preliminary Cleanup Levels[2] (mg/kg for soil, µg/L for water, µg/m³ for vapor)	Preliminary Cleanup Levels[3] (mg/kg for soil, µg/L for water, µg/m³ for vapor)	State Discharge Criteria[4] (µg/L, except pH which is unitless)
Soil	GRPH	2	30	NA	NA
	Benzene	0.02	0.03	18	NA
	Toluene	0.02	7	6,400	NA
	Ethylbenzene	0.02	6	8,000	NA
	Total Xylenes	0.06	9	16,000	NA
	Total Arsenic	1	20	0.67	NA
	Total Barium	1	NA	16,000	NA
	Total Cadmium	1	2.0	80	NA
	Total Chromium	1	2,000	NA	NA
	Total Lead	1	250	NA	NA
	Total Mercury	0.2	2.0	24	NA
	Total Silver	1	NA	400	NA
	Total Selenium	1	NA	400	NA
Groundwater	GRPH	100	800	NA	NA
	Benzene	0.35	5	0.8	NA
	Toluene	1	1,000	640	NA
	Ethylbenzene	1	700	800	NA
	Total Xylenes	2	1,000	1,600	NA
	Ethanol	1,000	NA	NA	NA
	TBA	50	NA	NA	NA
	MTBE	1	20	24	NA
	ETBE	1	NA	NA	NA
	TAME	1	NA	NA	NA
	DIPE	1	NA	NA	NA
	EDB	1	5	0.022	NA
	EDC	1	0.01	0.048	NA
	Total lead	1	15	NA	NA
	Dissolved lead	1	NA	NA	NA
Wastewater	GRPH	100	NA	NA	1,000
	Benzene	0.35	NA	NA	5/100[5]
	Toluene	1	NA	NA	100[5]
	Ethylbenzene	1	NA	NA	100[5]
	Total Xylenes	2	NA	NA	100[5]
	Total lead	1	NA	NA	Report value
	pH	1.0≤pH≤14.0	NA	NA	6.0≤pH≤10.0
Vapor Effluent	GRPH	10	NA	NA	NA
	Benzene	0.1	NA	NA	NA
	Toluene	0.1	NA	NA	NA
	Ethylbenzene	0.1	NA	NA	NA
	Total Xylenes	0.3	NA	NA	NA

NOTES:

[1] Friedman and Bruya, Inc. standard PQLs.

[2] MTCA Method A Cleanup Levels, Table 740-1 of Section 900 of Chapter 173-340 of the Washington Administrative Code, revised November 2007.

[3] MTCA Method B Cleanup Levels CLARC database, January 2009.

[4] Based on maximum concentration or daily averages in accordance with discharge authorization permit.

[5] Discharge criteria applies to combined BTEX concentrations.

mg/kg = milligrams per kilogram
µg/L = micrograms per liter
µg/L³ = micrograms per cubic liter
BTEX = benzene, toluene, ethylbenzene, and total xylenes
CLARC = Cleanup Levels and Risk Calculations
COCs = constituents of concern
DIPE = diisopropyl ether
EDB = 1,2-dibromoethane
EDC = 1,2-dichloroethane
ETBE = ethyl tertiary-butyl ether
GRPH = gasoline-range petroleum hydrocarbons
MTBE = methyl tertiary-butyl ether
MTCA = Washington State Model Toxics Control Act
NA = not applicable or no published criteria
PQLs = practical quantitation limits
TAME = t-amyl methyl ether
TBA = t-butyl alcohol

SoundEarth Strategies

Table 9
Laboratory Quality Control Limits
Interim Remedial Action Work Plan
TOC Holdings Co. Facility No. 01-176
24205 56th Avenue West
Mountlake Terrace, Washington

Medium	Analytical Method	QC Parameter	Analyte	Lower QC Limit (%Rec)	Upper QC Limit (%Rec)	RPD (%)
Soil	NWTPH-Gx	Lab Duplicate	GRPH	NA	NA	20
	NWTPH-Gx	MS	GRPH	NA	NA	20
	NWTPH-Gx	LCS	GRPH	71	131	20
	EPA 8021B	Lab Duplicate	Benzene	NA	NA	20
	EPA 8021B	MS	Benzene	NA	NA	20
	EPA 8021B	LCS	Benzene	69	120	20
	EPA 8021B	Lab Duplicate	Toluene	NA	NA	20
	EPA 8021B	MS	Toluene	NA	NA	20
	EPA 8021B	LCS	Toluene	70	117	20
	EPA 8021B	Lab Duplicate	Ethylbenzene	NA	NA	20
	EPA 8021B	MS	Ethylbenzene	NA	NA	20
	EPA 8021B	LCS	Ethylbenzene	65	123	20
	EPA 8021B	Lab Duplicate	Total Xylenes	NA	NA	20
	EPA 8021B	MS	Total Xylenes	NA	NA	20
	EPA 8021B	LCS	Total Xylenes	66	120	20
	EPA 200.8	Lab Duplicate	Total Arsenic	NA	NA	20
	EPA 200.8	MS	Total Arsenic	50	150	20
	EPA 200.8	LCS	Total Arsenic	70	130	20
	EPA 200.8	Lab Duplicate	Total Barium	NA	NA	20
	EPA 200.8	MS	Total Barium	50	150	20
	EPA 200.8	LCS	Total Barium	70	130	20
	EPA 200.8	Lab Duplicate	Total Cadmium	NA	NA	20
	EPA 200.8	MS	Total Cadmium	50	150	20
	EPA 200.8	LCS	Total Cadmium	70	130	20
	EPA 200.8	Lab Duplicate	Total Chromium	NA	NA	20
	EPA 200.8	MS	Total Chromium	50	150	20
	EPA 200.8	LCS	Total Chromium	70	130	20
	EPA 200.8	Lab Duplicate	Total Lead	NA	NA	20
	EPA 200.8	MS	Total Lead	50	150	20
	EPA 200.8	LCS	Total Lead	70	130	20
	EPA 1631E	Lab Duplicate	Total Mercury	NA	NA	20
	EPA 1631E	MS	Total Mercury	50	150	20
	EPA 1631E	LCS	Total Mercury	70	130	20
	EPA 200.8	Lab Duplicate	Total Silver	NA	NA	20
	EPA 200.8	MS	Total Silver	50	150	20
	EPA 200.8	LCS	Total Silver	70	130	20
	EPA 200.8	Lab Duplicate	Total Selenium	NA	NA	20
	EPA 200.8	MS	Total Selenium	50	150	20
	EPA 200.8	LCS	Total Selenium	70	130	20

SoundEarth Strategies

Table 9
Laboratory Quality Control Limits
Interim Remedial Action Work Plan
TOC Holdings Co. Facility No. 01-176
24205 56th Avenue West
Mountlake Terrace, Washington

Medium	Analytical Method	QC Parameter	Analyte	Lower QC Limit (%Rec)	Upper QC Limit (%Rec)	RPD (%)
Groundwater	NWTPH-Gx	Lab Duplicate	GRPH	NA	NA	20
	NWTPH-Gx	MS	GRPH	NA	NA	20
	NWTPH-Gx	LCS	GRPH	69	134	20
	EPA 8260C	Lab Duplicate	Benzene	NA	NA	20
	EPA 8260C	MS	Benzene	62	144	20
	EPA 8260C	LCS	Benzene	77	121	20
	EPA 8260C	Lab Duplicate	Toluene	NA	NA	20
	EPA 8260C	MS	Toluene	68	131	20
	EPA 8260C	LCS	Toluene	81	113	20
	EPA 8260C	Lab Duplicate	Ethylbenzene	NA	NA	20
	EPA 8260C	MS	Ethylbenzene	51	150	20
	EPA 8260C	LCS	Ethylbenzene	83	116	20
	EPA 8260C	Lab Duplicate	Total Xylenes	NA	NA	20
	EPA 8260C	MS	Total Xylenes	72/67	137/133	20
	EPA 8260C	LCS	Total Xylenes	83/84	120/120	20
	EPA 8260C	Lab Duplicate	Ethanol	NA	NA	20
	EPA 8260C	MS	Ethanol	10	185	20
	EPA 8260C	LCS	Ethanol	14	189	20
	EPA 8260C	Lab Duplicate	TBA	NA	NA	20
	EPA 8260C	MS	TBA	21	151	20
	EPA 8260C	LCS	TBA	13	150	20
	EPA 8260C	Lab Duplicate	MTBE	NA	NA	20
	EPA 8260C	MS	MTBE	49	139	20
	EPA 8260C	LCS	MTBE	54	156	20
	EPA 8260C	Lab Duplicate	ETBE	NA	NA	20
	EPA 8260C	MS	ETBE	52	142	20
	EPA 8260C	LCS	ETBE	47	181	20
	EPA 8260C	Lab Duplicate	TAME	NA	NA	20
	EPA 8260C	MS	TAME	51	140	20
	EPA 8260C	LCS	TAME	66	152	20
	EPA 8260C	Lab Duplicate	DIPE	NA	NA	20
	EPA 8260C	MS	DIPE	72	133	20
	EPA 8260C	LCS	DIPE	70	135	20
	EPA 8260C	Lab Duplicate	EDB	NA	NA	20
	EPA 8260C	MS	EDB	77	127	20
	EPA 8260C	LCS	EDB	88	122	20
	EPA 8260C	Lab Duplicate	EDC	NA	NA	20
	EPA 8260C	MS	EDC	68	132	20
	EPA 8260C	LCS	EDC	77	118	20
	EPA 200.8	Lab Duplicate	Dissolved Lead	NA	NA	20
	EPA 200.8	MS	Dissolved Lead	76	125	20
	EPA 200.8	LCS	Dissolved Lead	67	135	20
	EPA 200.8	Lab Duplicate	Total Lead	NA	NA	20
	EPA 200.8	MS	Total Lead	76	125	20
	EPA 200.8	LCS	Total Lead	67	135	20

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Table 9
Laboratory Quality Control Limits
Interim Remedial Action Work Plan
TOC Holdings Co. Facility No. 01-176
24205 56th Avenue West
Mountlake Terrace, Washington

Medium	Analytical Method	QC Parameter	Analyte	Lower QC Limit (%Rec)	Upper QC Limit (%Rec)	RPD (%)
Wastewater	NWTPH-Gx	Lab Duplicate	GRPH	NA	NA	20
	NWTPH-Gx	MS	GRPH	NA	NA	20
	NWTPH-Gx	LCS	GRPH	69	134	20
	EPA 8021B	Lab Duplicate	Benzene	NA	NA	20
	EPA 8021B	MS	Benzene	NA	NA	20
	EPA 8021B	LCS	Benzene	65	118	20
	EPA 8021B	Lab Duplicate	Toluene	NA	NA	20
	EPA 8021B	MS	Toluene	NA	NA	20
	EPA 8021B	LCS	Toluene	72	122	20
	EPA 8021B	Lab Duplicate	Ethylbenzene	NA	NA	20
	EPA 8021B	MS	Ethylbenzene	NA	NA	20
	EPA 8021B	LCS	Ethylbenzene	73	126	20
	EPA 8021B	Lab Duplicate	Total Xylenes	NA	NA	20
	EPA 8021B	MS	Total Xylenes	NA	NA	20
	EPA 8021B	LCS	Total Xylenes	74	118	20
	EPA 9040C	Lab Duplicate	pH	NA	NA	20
	EPA 9040C	MS	pH	NA	NA	20
	EPA 9040C	LCS	pH	NA	NA	20
	EPA 200.8	Lab Duplicate	Total Lead	NA	NA	20
	EPA 200.8	MS	Total Lead	76	125	20
	EPA 200.8	LCS	Total Lead	67	135	20
Vapor Effluent	NWTPH-Gx	Lab Duplicate	GRPH	NA	NA	20
	NWTPH-Gx	MS	GRPH	NA	NA	20
	NWTPH-Gx	LCS	GRPH	70	130	20
	EPA 8021B	Lab Duplicate	Benzene	NA	NA	20
	EPA 8021B	MS	Benzene	NA	NA	20
	EPA 8021B	LCS	Benzene	70	130	20
	EPA 8021B	Lab Duplicate	Toluene	NA	NA	20
	EPA 8021B	MS	Toluene	NA	NA	20
	EPA 8021B	LCS	Toluene	70	130	20
	EPA 8021B	Lab Duplicate	Ethylbenzene	NA	NA	20
	EPA 8021B	MS	Ethylbenzene	NA	NA	20
	EPA 8021B	LCS	Ethylbenzene	70	130	20
	EPA 8021B	Lab Duplicate	Total Xylenes	NA	NA	20
	EPA 8021B	MS	Total Xylenes	NA	NA	20
	EPA 8021B	LCS	Total Xylenes	70	130	20

NOTES:

DIPE = Diisopropyl ether
EDB = 1,2-Dibromoethane
EDC = 1,2-Dichloroethane
EPA = United States Environmental Protection Agency
ETBE = Ethyl tertiary-butyl ether
GRPH = gasoline-range petroleum hydrocarbons
LCS = laboratory control sample
MS = matrix spike
MTBE = methyl tertiary-butyl ether
NA = not applicable
NWTPH = Northwest Total Petroleum Hydrocarbon
QC = quality control
RPD = relative percent difference
TAME = t-amyl methyl ether
TBA = t-butyl alcohol
%Rec = percent recovery

APPENDIX A

Project Area Background

APPENDIX A – PROJECT AREA BACKGROUND

This section summarizes the historical background of the TOC Property, TOC/Farmasonis Property, and Drake Property. This section also includes a summary of historical background of the Herman Property, Shin/Choi Property, MacPherson Property, Roe Property, and Askar Property, each of which is associated with a current or former retail gasoline station (Figures 2 and 3). Overviews of historical land-uses at these properties are presented in the *Technical Memorandum Regarding Limited Historical Investigation, Time Oil Co. Facility #01-176, 24205 56th Avenue West, Mountlake Terrace, Washington* prepared by SoundEarth and dated July 10, 2007 (SES 2007) and in *Off-Property Access for On-Going Remediation, TOC Holdings Co. Facility No. 01-176, 24205 56th Avenue West, Mountlake Terrace, Washington (SES 2010a).*

TOC PROPERTY

A fruit stand operated on the TOC Property between 1962 and 1975 (Snohomish County 2007). In 1968, a retail gasoline station was developed on the TOC Property with one 6,000-gallon underground storage tank (UST), one 8,000-gallon UST, and one UST with a capacity of either 6,000 gallons (ESE 1992b) or 4,000 gallons (Snohomish County 2007, City of Mountlake Terrace 1991). As-built drawings show the locations and dimensions of three USTs corresponding to one 4,000-gallon UST, one 6,000-gallon UST and one 8,000 gallon UST (Time Oil Company 1975). The June 13, 1991, Construction Permit lists one 8,000-gallon UST and two 4,000-gallon USTs. All four sources agree on the number of USTs, if not the capacity of one of the USTs.

The 1,152-square-foot fruit stand located on the east half of the TOC Property was removed by 1975 and replaced with a 640-square-foot building closer to the center of the Property. The building was constructed of brick masonry and framed over a crawlspace. The building was equipped with three restrooms, and portions of the interior were carpeted (Snohomish County 2007).

The three USTs were removed from the TOC Property in 1991 by Lee Morse General Contractors, Inc. (City of Mountlake Terrace 1991, ESE 1992b) and the fuel dispensers had been removed by December 1990 (Snohomish County 2007). A release of GRPH and BTEX to soil and groundwater was confirmed during UST removal; petroleum-contaminated soils removed from the UST excavation were used to backfill the excavation (ESE 1992b).

Between approximately 1995 and 2008, TOC Holdings Co. leased the TOC Property to B&B Cable, a telecommunications cabling contractor. B&B Cable vacated the TOC Property in January 2008. In May 2008, TOC Holdings Co. demolished the brick building.

TOC/FARMASONIS PROPERTY

The TOC/Farmasonis Property was first developed in 1961 with the construction of a restaurant. In 1978 the original building was remodeled as the Sandpiper Restaurant. The restaurant Theo's Pizza & Pasta operated at the TOC/Farmasonis Property between approximately 1981 and 2006 (SES 2007). Romio's Pizza has operated at the TOC/Farmasonis Property since 2008. TOC Holdings Co. acquired the TOC Property in June 2010. SoundEarth did not encounter any historical evidence that the TOC/Farmasonis Property ever supported a fueling facility or automobile repair shop.

DRAKE PROPERTY

The Drake Property was first developed in 1961 as a convenience store(Snohomish County 2007). In 1977, the original building was remodeled into the existing tavern. Past ownership of the Drake Property includes the Southland Employees Trust of Dallas, Texas, which is associated with 7-11-branded convenience stores and gasoline stations. However SoundEarth did not encounter any historical evidence that the Drake Property ever supported a fueling facility or automobile repair shop.

An undated photograph from the Snohomish County Assessor's archives features a "Speed-E Mart" convenience store occupying a masonry block building which is nearly identical to the existing tavern structure. A tanker truck labeled "Park Oil" is visible in the background of the photograph, heading east through the north driveway of the Herman Property. The "Park Oil" tanker truck is consistent with historical land use at the Herman Property; no evidence of fueling facilities at the Drake Property itself is visible within the frame of the assessor's photograph or in historical aerial photographs. Assessor field notes make no reference to USTs or fuel sales at the Drake Property, in contrast with assessor field notes for the TOC Property, the Herman Property, the Shin/Choi Property, and the property at 5601 244th Street Southwest (Roe Property) (Snohomish County 2007, SES 2010a).

HERMAN PROPERTY

The Herman Property was first developed in 1953 as a Union Oil Co.-branded retail gasoline service station and Crest Oil Co. heating oil distributor. The Herman Property is associated variously with Shell, ARCO, and Union 76 signage and is the location of at least five current or former gasoline and diesel USTs (not including two current or former gasoline USTs located at the current-day MacPherson Property), three dispenser islands, and one loading rack (SES 2010a).

The Herman Property is the subject of ongoing remedial investigation and is not included in the scope of this IRAWP.

SHIN/CHOI PROPERTY

The Shin/Choi Property was first developed by the Southland Corporation in 1976 as a 7-11-branded retail gasoline station equipped with three 12,000 gallon USTs. The USTs were removed in 1996. Other than a de minimis release that was described by the UST Assessor, there was no evidence of a release at the time the USTs were removed (GTI 1996).

The Shin/Choi Property is the subject of ongoing remedial investigation and is not included in the scope of this IRAWP.

MACPHERSON PROPERTY

The south half of the MacPherson Property was first developed in 1940 as a grocery store, which was demolished in 1983 (ADaPT 1999). Following a 1985 boundary revision, the east half of the Herman Property became the northern half of the MacPherson Property (Reisdorff 1985). At least two current or former gasoline USTs associated with the east portion of the pre-1985 configuration of the Herman Property were located on land that later became the northern portion of the MacPherson Property (Snohomish County 2007, Reisdorff 1985). The status of the two current or former gasoline USTs is unknown.

The MacPherson Property is the subject of ongoing remedial investigation and is not included in the scope of this IRAWP.

ROE PROPERTY

The Roe Property was first developed in 1965 as an American Oil Co.-branded gasoline service station equipped with two 4,000-gallon USTs, two 5,000-gallon USTs, one 6,000-gallon UST, one 8,000-gallon UST, and one single-post hydraulic hoist (Snohomish County 2007). Historical photographs and municipal permit records indicate the station branding changed to Mobil Oil Co. in 1972. The status of the six USTs is unknown.

The Roe Property is the subject of ongoing remedial investigation and is not included in the scope of this IRAWP.

ASKAR PROPERTY

SoundEarth has not researched the date of first development of the Askar Property. Three USTs with capacities of 10,000 to 19,999 gallons are registered with Ecology at 1901 Northeast 205th Street, Mountlake Terrace [*sic*], Washington. According to Ecology's database of registered USTs, all three USTs were installed in 1988 and the status is operational.

The Askar Property is the subject of ongoing remedial investigation and is not included in the scope of this IRAWP.

APPENDIX B

Physical Setting and Subsurface Conditions

APPENDIX B – PHYSICAL SETTING AND SUBSURFACE CONDITIONS

The information presented in Appendix B summarizes the subsurface geology and hydrology of the Interim Remedial Action Project Area based on subsurface investigations conducted by SoundEarth and others between 1992 and 2010.

PHYSICAL SETTING

The TOC Property, TOC/Farmasonis Property, and Drake Property are situated on a glacial upland plateau halfway between Seattle and Everett, Washington (Figure 1). Surface topography slopes gently downhill to the south across grades of 2 to 3 percent. The body of surface water closest to the Interim Remedial Action Project Area and situated in the same drainage basin is Lyon Creek, which flows south over 4,000 feet east of the TOC Property (Hammond et al. 1999). An unnamed swale tributary to Lyon Creek originates approximately four blocks south of the Property at the apartment complex east of the intersection of 19th Avenue Northeast and Northeast Ballinger Way in Lake Forest Park, King County, Washington. These creeks and swale shed surface runoff toward Lake Washington, which is situated approximately 2.5 miles southeast of the Property in King County, Washington (Figure 1).

SUBSURFACE CONDITIONS

Soil

The general subsurface stratigraphy encountered in borings advanced at the Interim Remedial Action Project Area consisted of very dense, gravelly, silty sand, from ground surface to approximately 60 feet below ground surface (bgs). These soil conditions are characteristic of glacial till comprised of unsorted to poorly sorted ice-melt deposits. The following soil deposits overlie or underlie the glacial till, or are interbedded within the glacial till:

- Human-placed fill materials consisting of variable silty sand, gravelly silty sand, and pea gravel overlie glacial till in the northwest quarter of the TOC Property. The thickness of fill materials at the TOC Property range from approximately 5 feet next to the 242nd Street Southwest ROW to 15 feet inside the former UST excavation. Fill material consisting of silty sand with brick fragments was encountered in the upper 4 feet in monitoring well MW59 at the TOC/Farmasonis Property.
- Water-laid sands and gravels deposited above the glacial till were encountered in boring/monitoring wells B29/MW67 and B30/MW68 in the northwest portion of the Drake Property. These sorted sand and gravel deposits typically become coarser-grained with increasing depth and are herein referred to as glacial recessional outwash.
- Discontinuous layers of water-laid deposits are encountered within the glacial till with increasing frequency below 20 to 25 feet bgs. These soil conditions are comprised of sorted sands and gravels, infrequently include silt layers (e.g., wells MW40, MW63), and are herein referred to as glaciofluvial layers.
- Water-laid sands and gravels at depths of more than 60 feet bgs and below the glacial till are herein referred to as glacial advance deposits. In contrast with glacial recessional outwash, glacial advance deposits typically become finer-grained with increasing depth. Wells MW26, MW30, MW39, MW64, and MW78 are screened in glacial advance deposits.

The transition from glacial till to glacial advance deposits is gradational and indistinct, based on the evaluation of core samples retrieved during drilling. The characteristics confining layers between each water-bearing zone have yet to be defined.

Figure 3 shows the locations of monitoring wells and borings installed at the Interim Remedial Action Project Area and the Shin/Choi Property between 1992 and 2010. Figure 4 shows a generalized cross section of the subsurface stratigraphy oriented from north to south through the Interim Remedial Action Project Area. The cross section was compiled from data and soil sample descriptions recorded on SoundEarth's field boring logs and from interpretation of historical soil analytical results and boring logs prepared by others (Table 1). Benzene concentrations in soil are shown in the cross section and illustrate the lateral and vertical distributions of benzene in soil beneath the Interim Remedial Action Project Area relative to pertinent groundwater tables.

Groundwater

Groundwater at the Interim Remedial Action Project Area occurs in the form of three primary water-bearing zones within the uppermost 75 feet, described below:

- The Shallow Zone occurs as a perched zone in glacial till within 20 feet of the ground surface at the Interim Remedial Action Project Area and mimics the south-sloping surface topography. The Shallow Zone also intersects the backfill for the former UST excavation at the TOC Property and the recessional glacial outwash at the north end of the Drake Property. The primary source of recharge to the Shallow Zone is natural precipitation that infiltrates pervious land surfaces. Artificial sources of recharge that potentially intersect the Shallow Zone are identified below in the description of the Intermediate Zone. Wells MW02 through MW06, MW12, MW19, MW34, MW54, MW61, MW62, MW67, MW68, and MW79 are screened in the Shallow Zone, as are monitoring wells MW71 and MW72 at the Shin/Choi Property. Decommissioned monitoring wells MW01 and MW07 intersected the Shallow Zone.

- The Intermediate Zone is situated at a depth between approximately 20 and 60 feet bgs. The Intermediate Zone is the zone of primary contaminant transport beneath the Interim Remedial Action Project Area and includes both perched groundwater conditions in glacial till and semi-confined groundwater within the glaciofluvial deposits. The Intermediate Zone descends across a gradient of up to 0.4 feet per foot beneath the south boundary of the TOC Property (between wells MW21 and MW56) and stabilizes near depths of 45 to 50 feet bgs beneath the TOC/Farmasonis Property and Drake Property (south from wells MW56, MW59, MW60, and MW66). The following wells are screened in the Intermediate Zone: wells MW08 through MW11, MW13, MW15, MW16, MW18, MW20 through MW29, MW31, MW32, MW33, MW35 through MW38, MW41 through 53, MW55 through MW60, MW63, MW65, MW66, MW69, MW70, MW75 through MW77, and MW80 through MW89. Monitoring wells MW73 and MW74 at the Shin/Choi Property are screened in the Intermediate Zone. Based on an evaluation of historical groundwater elevation data the following wells intersect both Shallow and Intermediate Zones: wells MW08, MW09, MW11, MW18, MW24, MW27, MW29, MW37, and MW38. Decommissioned monitoring well MW17 intersected the Intermediate Zone, and MW14 failed to intersect either the Shallow Zone or Intermediate Zone.

- The Deep Zone is a semi-confined aquifer at depths of more than 60 feet bgs. Wells MW26, MW30, MW39, MW40, MW64, and MW78 are screened in the Deep Zone. The Deep Zone is geographically extensive beneath the upland areas of the Intercity Plateau, which extends from Everett to the Sammamish River (USGS 1952). Based on an evaluation of historical groundwater elevation data the Deep Zone does not exhibit the same susceptibility to the seasonal cycles of precipitation and evapotranspiration that is evident in the Shallow Zone. Potentiometric surfaces of the Deep Zone and Intermediate Zone equilibrate at similar elevations south of the TOC Property boundary, but the Deep Zone consistently equilibrates at a higher elevation than the Intermediate Zone, maintaining an upward gradient of 2 to 3 feet between the two zones. These conditions suggest that the Deep Zone is semi-confined despite the gradational stratigraphy observed between the glacial till and underlying advance outwash.

Based on depth-to-groundwater measurements collected between June 1992 and July 2010, the overall direction of groundwater flow is as follows:

- Shallow Zone is towards the southeast across gradients ranging between 0.04 and 0.09 feet per foot.
- Intermediate Zone radiates away from the former UST cavity at the TOC Property across an estimated gradient of up to 0.07 feet per foot, and flows south-southeast across an estimated gradient of approximately 0.01 feet per foot beyond the influence of mounded conditions.
- Deep Zone is towards the south-southeast across estimated gradients ranging from 0.004 to 0.008 feet per foot.

Historical groundwater elevation data are summarized in Table 2. A summary of 2010 groundwater analytical results sorted by water-bearing zone is presented in Table 3. A summary of groundwater results for eight common additives is presented on Table 4. A summary of monitoring well construction details, including screen intervals, is provided in Table 5.

APPENDIX C

Previous Investigations and Interim Cleanup Actions

APPENDIX C – PREVIOUS INVESTIGATIONS AND INTERIM CLEANUP ACTIONS

The information presented in Appendix C summarizes the previous investigations and interim cleanup actions conducted at the TOC Property, TOC/Farmasonis Property, Drake Property, and portions of the 56th Avenue ROW by SoundEarth and others between 1992 and 2010.

ENVIRONMENTAL SCIENCE & ENGINEERING, INC. (MAY 1992 THROUGH OCTOBER 2004)

Between 1992 and 1995 ESE conducted the first phases of remedial investigation and documented the release of gasoline to Shallow Zone soil, soil vapor, and groundwater media.

ESE completed a soil vapor survey in March 1992 that included seven sample locations at the TOC Property and two sample locations in the 56th Avenue ROW, west of the former UST excavation (ESE 1992a). The survey included advancing 9 soil probes up to 15 feet bgs, collecting a soil vapor sample, and analyzing the samples for GRPH by U.S. Environmental Protection Agency (EPA) Method 8015 modified using a field gas chromatograph equipped with a flame ionization detector. Vapor samples collected from the three push-probe borings advanced within the former UST excavation contained GRPH concentrations of 340 to 550 nanograms per milliliter (ng/ml) or parts per billion at depths of 5 or 12 feet bgs. Vapor samples collected from six push-probe borings advanced outside of the former UST excavation did not contain concentrations of GRPH above the detection limit of 250 ng/ml. At the time of the survey, the groundwater table was approximately 10 feet bgs within the UST excavation backfill.

The data obtained from the soil vapor survey and from the 1992 installation of borings B01 and B02 and wells MW01 through MW07 led ESE to conclude at the time that the lateral extent of contamination was confined to the TOC Property and that the vertical extent of contamination was confined to the Shallow Zone (ESE 1992b). Between January 1994 and November 1995, ESE installed monitoring well MW08, pilot well MW09, and two remediation wells, MW10 and MW11. No evidence of petroleum hydrocarbon contamination was encountered in well MW08, located across the street to the west from the TOC Property, and the southernmost well, MW10, was dry in 1994. These observations further reinforced ESE's 1992 conclusions regarding lateral and vertical limits of contamination that were confined to the TOC Property and ESE's conclusion that "no indication of a multiple aquifer system was observed." ESE performed remedial pilot tests and completed a feasibility study that recommended soil vapor extraction (SVE) technology for implementation at the TOC Property. ESE published the design for the remediation system in October 1995 (ESE 1992b, ESE 1995a, ESE 1995b).

At the time when engineering design of the in situ remediation system had been completed, only the shallowest water-bearing zone had been identified. The number and spacing of remediation wells slated for connection to an in situ remediation system were based on four primary assumptions:

- Soil contamination was shallower than 15 feet.
- Soil and groundwater contamination were confined to the TOC Property.
- There was no evidence to suggest the presence of multiple water-bearing zones.

- The radii of influence of the proposed remediation system that ESE calculated (from 20 to 37 feet) extended beyond the lateral extent of petroleum hydrocarbons in soil and groundwater that was known at the time.

Each of these assumptions was later invalidated by Pinnacle during the course of supplemental subsurface investigations that were performed in 2004.

PINNACLE GEOSCIENCES (NOVEMBER 1995 THROUGH OCTOBER 2004)

Between November 1995 and October 2004 Pinnacle installed and operated the 1996 system at the TOC Property. The 1996 system connected to wells MW01, MW02, MW03, MW09, MW10, and MW11 to horizontal extraction lines installed in the UST backfill east of MW03 (Pinnacle 1996). Between February 7, 1997, and December 21, 2001, Pinnacle calculated that the system had removed a cumulative 4,627.7 pounds of GRPH, which corresponds to an approximate volume of 740 gallons of gasoline removed primarily from the Shallow Zone (Pinnacle 2002).

Supplemental subsurface investigation activities that resumed between 2002 and 2004 included the installation of monitoring wells MW12 through MW20. These supplemental characterization activities invalidated ESE's design assumptions that contamination was limited to the upper 15 feet and was confined to the TOC Property, and that only one water-bearing zone intersected the zone of contamination. Specifically, Pinnacle identified the existence of at least two water-bearing zones beneath the Property (the Shallow Zone and Intermediate Zone), confirmed that the lateral extent of the petroleum hydrocarbon release extended off the Property toward the southwest, and concluded that the petroleum hydrocarbon plume extended beyond the limits of the TOC Property and extended beyond and below the radius of influence of the 1996 system (Pinnacle 2004).

In November 2004, Time Oil Co. transferred the investigation and cleanup project from Pinnacle to Landau.

LANDAU ASSOCIATES (NOVEMBER 2004 THROUGH JUNE 2005)

Landau inherited an investigation and cleanup project with an in situ remediation system designed by a predecessor firm (ESE) and undersized for treatment of the known extent petroleum hydrocarbon plume. Landau performed supplemental pilot testing to confirm the predecessor's engineering design basis for the remediation system, installed additional remediation wells, and upgraded the system with a more powerful blower (upgraded 1996 system). Landau prepared a report titled *Groundwater Status Report,* dated January 24, 2005, detailing field activities at the Property from October to December 2004, including: installation of five remediation wells at the TOC Property (MW21 through MW25), decommissioning of monitoring wells MW07, MW14, and MW17, evaluation of soil and groundwater analytical results, evaluation of DPE pilot test results, and preparation of design recommendations for upgrades to the former DPE system (Landau 2005).

No further investigation of the lateral extent of petroleum hydrocarbons was performed between November 2004 and June 2005. During that time interval, Intermediate Zone wells MW13, MW14, MW16, and MW23 were dry, consistent with ESE's original conceptual site model and conclusions that the petroleum hydrocarbon release was largely confined to the Property and rapidly diminished with depth and distance from the source. In the *Groundwater Status Report* Landau simply recommended that conditions in the southwestern-most well MW13 be confirmed.

Landau did not document activities performed through June 2005 before TOC Holdings Co. transferred the project to SoundEarth. SoundEarth's July 2005 inspection of the TOC Property confirmed that Landau's remediation system improvements and upgrades had been completed and that the upgraded 1996 system was ready for startup. SoundEarth observed that 2005 upgrades to the 1996 system did not include a plumbing manifold to control airflow at each wellhead in parallel; instead, monitoring wells MW21, MW22, MW24, and MW25 were connected to the 1996 system in series using the original plumbing layout.

SOUNDEARTH STRATEGIES (AUGUST 2005 THROUGH PRESENT)

SoundEarth resumed RI activities at the Interim Remedial Action Project Area between August 2005 and October 2010 to validate and supplement the data obtained by others, document the lateral and vertical extents of COCs in soil and groundwater media, and provide sufficient information to support the evaluation of technically feasible cleanup alternatives for the TOC Property, TOC/Farmasonis Property, Drake Property, and portions of the 56th Avenue ROW.

By October 2010, 89 monitoring wells had been installed at the Interim Remedial Action Project Area (Figure 3). SoundEarth classifies soil and groundwater beneath the Interim Remedial Action Project Area according to one of the following three categories:

- The Shallow Zone consists of perched groundwater in glacial till (or human-placed fill) generally between 0 and 20 feet bgs.
- The Intermediate Zone consists of perched or semi-confined groundwater in glacial till soils from depths of approximately 20 to 60 bgs. Water-laid granular soils within the glacial till, referred to herein as glaciofluvial deposits, are not necessarily interconnected. In some cases the glaciofluvial deposits are seasonally dry (e.g. monitoring wells MW13, MW16, MW33, MW35, and MW44) and in other cases they convey unconfined to seasonally confined groundwater (e.g., monitoring well MW24, MW48, MW49).
- The Deep Zone consists of semi-confined groundwater in glacial advance deposits over 60 feet bgs.

The results of supplemental subsurface investigation indicate that COCs in soil media do not extend as far north as monitoring wells MW05, MW16, or MW38; as far south as monitoring wells MW44, MW69, or MW75; as far west as monitoring wells MW46, MW47, MW50, MW52, MW53, MW57, MW60, or MW75; or as far east as monitoring wells MW30, MW35, MW36, MW37, MW66, MW69, or MW70. The lateral limits of COCs in soil are shown in map view on Figure 6; the distribution of benzene in soil tapers from north to south, with scattered COCs southeast of the former UST excavation. The vertical distribution of benzene in soil is illustrated in cross-sectional view in Figure 4, which shows how the zone of soil contamination gradually descends from depths of 15 feet bgs in the vicinity of the former UST cavity at the TOC Property to depths of over 30 to 40 feet bgs beneath the western portions of the TOC/Farmasonis Property and Drake Property, respectively.

The most recent comprehensive groundwater monitoring event occurred during First Quarter 2010 (SES 2010b). Limited groundwater monitoring was performed on July 8 following installation of monitoring wells MW79 through MW83 at the TOC/Farmasonis Property and on October 12, 2010 following installation of monitoring wells MW84 through MW89 at the Drake Property.

March 2010 groundwater contours for the Shallow Zone, Intermediate Zone, and Deep Zone are shown on Figures 8.1, 8.2, and 8.3, respectively. SoundEarth observed the following trends in each zone:

- Shallow Zone. With the exception of the Shin/Choi Property, which is situated downgradient from at least one separate release at the Herman Property, COCs have not been detected in Shallow Zone groundwater beyond the limits of the former UST cavity at the TOC Property since November 2006 (Tables 2 and 3). Improvements in Shallow Zone groundwater quality between 1992 and 2010 (monitoring wells MW01 through MW04) are attributed to historical operation of the 1996 system.
- Intermediate Zone. The Intermediate Zone is the primary zone of contaminant transport and the overall direction of contaminant migration is south to southeast. LNAPL conditions have migrated off the Property at least as far south as monitoring well MW48, which is located over 180 feet south of the former UST excavation at the TOC Property.
- Deep Zone. COCs have not been detected in Deep Zone groundwater except during initial sampling events at monitoring wells MW26, MW30, and MW40. Initial sampling events are not considered representative of in-place conditions due to elevated turbidity, and disruption of the formation from drilling activities.

Summary of Limited Aquifer Testing

SoundEarth performed aquifer tests on selected wells at the TOC Property in 2009 and studied the effects of precipitation on Shallow Zone and Intermediate Zone groundwater elevations in Second Quarter 2009 and from Fourth Quarter 2009 to Second Quarter 2010. Detailed discussion of the transducer data evaluation and interpretation will be included under separate cover and are not included in the scope of this IRAWP. The results are summarized below:

- In March 2009, SoundEarth performed rising and falling head slug tests in Intermediate Zone monitoring wells MW18, MW27, MW28, MW31, and MW32 and calculated hydraulic conductivities of 0.07 to 1.30 feet per day (ft/d).
- SoundEarth installed transducers in Shallow Zone monitoring wells MW01, MW02, MW06, and MW34 and Intermediate Zone monitoring wells MW15, MW18, MW24, and MW37 to evaluate whether the former infiltration pit had any influence on groundwater elevation or recharge. Transducers collected data from May 21 through June 25, 2009. An evaluation of precipitation and groundwater elevation indicated that Shallow and Intermediate Zone groundwater tables did appear to be influenced by proximity to the former UST excavation, but did not appear to be influenced by proximity to the former infiltration pit. The dramatic response of monitoring well MW01 to a June 2009 precipitation event led to the discovery that the surface seal had been removed during 1996 installation of the remediation system, leaving the sand filter exposed in the unsealed floor of the remediation utility vault for monitoring well MW01. The absence of a surface seal was compounded by the well's location inside a topographic depression where runoff collects during wet weather. Monitoring well MW01 was decommissioned on October 2, 2009.

- SoundEarth installed transducers in Shallow Zone monitoring wells MW02 and MW06 and Intermediate Zone monitoring wells MW15, MW24, MW59, and MW66 to evaluate patterns of groundwater recharge through the winter months. Transducers began collecting data between October 15 and through November 24, 2009, and collected data until April 22, 2010. Shallow and Intermediate Zone monitoring wells generally exhibited barely perceptible responses to precipitation events, except at monitoring well MW24. Data collected from monitoring well MW24 suggest that late autumn recharge of the former UST excavation in the Shallow Zone results in semi-confined discharge through glaciofluvial layers into the Intermediate Zone. The semi-confined discharge conditions apparent in monitoring well MW24 continued through spring. The pattern of Shallow Zone recharge and discharge into the Intermediate Zone is consistent with the mounded pattern of groundwater that has developed beneath the former UST excavation at the TOC Property.

Summary of Pilot Testing

SoundEarth performed enhanced fluid recovery pilot tests on wells MW15, MW18, MW20, MW27, MW28, MW29, MW32, and MW48 in August 2007. In December 2010, SoundEarth performed additional pilot testing at wells MW11, MW15, MW32, MW31, and MW57.

A two-pump method was used during both pilot testing events. A top-loading pneumatic pump was utilized to recover total fluids (free-phase hydrocarbon and/or groundwater) from the test well while simultaneously applying a vacuum to the wellhead to recover soil vapors from the vadose zone, capillary fringe, and newly exposed unsaturated zone. The total fluids recovered with the pneumatic pump were discharged into a 55-gallon drum during the tests. A vacuum truck was utilized to collect soil vapors generated during the tests. An instrument train equipped with a bleed-air assembly and miscellaneous instrumentation was utilized to measure the extracted air flow rates and applied vacuum pressures during each of the tests. Observation wells were utilized during each of the tests to monitor the amount of vacuum pressure observed at varying distances from the test well(s).

A step test approach was used to develop an air flow vacuum relationship for each of the test wells. The amount of vacuum applied to the test well was gradually increased throughout each of the tests. Various monitoring wells were utilized as observation wells during each of the tests to document the amount of vacuum observed at varying distances from the test well(s).

The results of both pilot tests indicate that MPE technology is feasible and appropriate for implementation at the TOC Property, TOC/Farmasonis Property, Drake Property, and portions of the 56th Avenue ROW. A comparison of data collected in August 2007 and December 2010 confirmed that the success of vapor extraction efforts will depend on fluid recovery to control groundwater elevations while vacuum is applied to the formation. SoundEarth observed the following conditions during the 2007 and 2010 pilot testing events:

- *August 2007—Vacuum and Vapor Flow Rate Summary.* The amount of vacuum applied to the test wells ranged from 6.5 to 340 inches of water column (iow). The calculated air flow rates extracted from each of the test wells ranged from 4.9 to 69.7 standard cubic feet per minute (scfm).

- *August 2007—Observed Vacuum and Radius of Influence Summary.* The levels of vacuum observed at the observation wells ranged from 0.0 to 79 iow. The distance

between the observation wells and the test wells ranged from 11 to 58 feet. The vacuum data from the test wells and observation wells was utilized to estimate a theoretical radius of influence (ROI) for each of the test wells. The ROI value represents the theoretical distance at which the pressure drawdown is less than 1 percent of the vacuum applied to the test well (Kuo 1999). The minimum calculated ROI was 23.8 feet at MW15 with a flow rate of 8.09 scfm and an applied vacuum of 18.5 iow. The maximum calculated RIO was 103.4 feet at test well MW48 with an applied vacuum of 156.5 iow.

- *August 2007—Fluid Recovery Summary.* Both groundwater and free-phase hydrocarbons were recovered during the pilot test. All test wells produced water, and only one well (MW48) produced both groundwater and free-phase hydrocarbons. An estimated combined volume of 173.4 gallons of water was recovered from all of the test wells during the pilot testing. An estimated volume of 0.99 gallons of free-phase hydrocarbons were recovered from test well MW48. Groundwater recovery rates ranged from 0.32 to 0.71 gallons per minute (gpm).

- *August 2007—Vapor Sample Results.* Vapor samples were collected from each of the test wells. GRPH was detected in vapor samples collected from each of the test wells except for MW32. Concentrations of BTEX were detected in the vapor samples collected from MW15, MW18, and MW48. Concentrations of benzene were reported to be less than the method detection limit (<0.1 milligrams per cubic meter [mg/m^3]) for vapor samples collected from test wells MW20, MW27, MW28, and MW29. Additionally, the concentration of toluene was less than the method detection limit (<0.1 mg/m^3) in the vapor sample collected from test well MW20. The maximum concentrations of GRPH (28,000 mg/m^3) and benzene (11 mg/m^3) were observed in vapor samples collected from test wells MW18 and MW48, respectively.

- *December 2010—Vacuum and Vapor Flow Rate Summary.* The amount of vacuum applied to the test wells ranged from 49 to 200 iow. The calculated air flow rates extracted from each of the test wells ranged from 0.7 to 54.1 scfm.

- *December 2010—Observed Vacuum and Radius of Influence Summary.* The levels of vacuum observed at the observation wells ranged from 0.0 to 48 iow. The distance between the observation wells and the test wells ranged from 12 to 79 feet. The largest observed vacuum (48 iow) was observed at observation well MW33 during the pilot test performed at test well MW31 and at observation wells MW48 and MW55 during the pilot test performed at test well MW57. The minimum calculated ROI was 12 feet at MW32 with a flow rate of 1.7 scfm and an applied vacuum of 84 iow. The maximum calculated ROI was 3,650 feet at test well MW57 with an applied vacuum of 130 iow. The flow rate for the largest calculated ROI was 54.1 scfm.

- *December 2010—Fluid Recovery Summary.* An estimated volume of 220 gallons of groundwater was recovered during the pilot testing at all five test wells. Groundwater recovery rates ranged from 0.15 to 0.61 gpm. No free-phase hydrocarbons were reported to have been recovered.

- *December 2010—Vapor Sample Results.* Vapor samples were collected from each of the test wells during pilot testing activities. GRPH was detected in vapor samples

collected from each of the five test wells. GRPH concentrations ranged from 990 mg/m^3 at test well MW32 to 14,000 mg/m^3 at test well MW31. Concentrations of benzene were observed in the vapor sample collected from test wells MW15 (7.7 mg/m^3), MW31 (7.1 mg/m^3), MW32 (0.40 mg/m^3), and MW57 (2.4 mg/m^3). The concentration of benzene in the vapor sample collected from test well MW11 was reported to be less than the method detection limit (<1 mg/m^3). A toluene concentration of 22 mg/m^3 was reported for the vapor sample collected from test well MW11.Concentrations of toluene in vapor samples collected from test wells MW15, MW31, MW32, and MW57 were reported to be less than the method detection limit. Ethylbenzene was detected in all five vapor samples with concentrations ranging from 4.1 mg/m^3 at test well MW32 to 29 mg/m^3 at test well MW31. Total xylenes were detected in the vapor samples collected from test wells MW11 (60 mg/m^3), MW15 (52 mg/m^3), MW31 (65 mg/m^3), and MW32 (5.9 mg/m^3). The concentration of total xylene was reported to be less than the method detection limit (<3 mg/m^3) in the vapor sample collected from test well MW57. The maximum concentrations of GRPH (14,000 mg/m^3) and benzene (7.7 mg/m^3) were detected in vapor samples collected from test wells MW31 and MW15, respectively.

To evaluate the influence of pneumatic pumps on the Intermediate Zone groundwater table, SoundEarth performed a capture zone analysis of groundwater at the TOC Property using Haitjema Software GFLOW Version 2.1.2. The analysis assumed pumping rates of 0.2 gpm from each of six wells at the TOC Property (MW11, MW15, MW24, MW27, MW28, and MW32), a groundwater flow gradient of 0.2 feet per foot, formation porosity of 0.2, and hydraulic conductivities ranging from 0.07 to 1.3 ft/d (SES 2009). The capture zone analysis indicates that the influence of pumping will extend throughout the area of the groundwater contamination plume northeast of the network of remediation wells within 1 to 2 years of operation and increase thereafter. At initial pumping rates of 0.3 to 0.5 gpm the influence of pumping is anticipated to capture portions of the plume upgradient to crossgradient from each remediation well within approximately 1 year.

APPENDIX D

Existing Permit

Permit No. ST-7384
Issuance Date: February 12, 2007
Effective Date: March 1, 2007
Expiration Date: February 12, 2012

STATE WASTE DISCHARGE PERMIT

STATE OF WASHINGTON
DEPARTMENT OF ECOLOGY

Northwest Regional Office
3190 - 160th Avenue SE
Bellevue, WA 98008-5452

In compliance with the provisions of the
State of Washington Water Pollution Control Law
chapter 90.48 Revised Code of Washington, as amended,
and
the Federal Water Pollution Control Act
(The Clean Water Act)
Title 33 United States Code, Section 1251 et seq.,
authorizes
to discharge wastewater in accordance with the special and general conditions which follow.

Time Oil Company (J-178047526)
2737 West Commodore
Seattle, WA 98199-1233

Facility Address:
24205 - 56th Avenue West
Mountlake Terrace, WA
Snohomish County
Cedar Green WQ MA

Industry Type:
Groundwater Remediation
Former Gasoline Service Station

SIC Code:
5989

Publicly Owned Treatment Works
(POTW) Receiving Discharge:
City of Edmonds Sewage Treatment Plant

Facility Location:
Latitude: 47° 46' 46" N
Longitude: 122° 18' 24" W

Discharge Location:
City of Edmonds POTW
Latitude: 47° 54' 47" N
Longitude: 122° 19' 24" W

---

to discharge wastewater in accordance with the special and general conditions which follows:

Kevin C. Fitzpatrick
Water Quality Section Manager
Northwest Regional Office
Washington State Department of Ecology

TABLE OF CONTENTS

SUMMARY OF SCHEDULED PERMIT REPORT SUBMITTALS

Refer to the Special and General Conditions sections of this permit for unscheduled submittal requirements.

Permit Section	Submittal	Frequency	First Submittal Date
S3.A.	Discharge Monitoring Report	Monthly	April 15, 2007
S4.A.	Operation and Maintenance Manual Updates	As necessary	Within 30 days of their incorporation into the manual.
S8.	Spill Control Plan Update	As necessary	Within 30 days of adoption of the modified spill plan.
G7.	Application for Permit Renewal	1/permit cycle	August 12, 2011

SPECIAL CONDITIONS

S1. DISCHARGE LIMITATIONS

All discharges and activities authorized by this permit shall be consistent with the terms and conditions of this permit. The discharge of any pollutant more frequently than, or at a concentration in excess of, that authorized by this permit shall constitute a violation of the terms and conditions of this permit.

Beginning on the effective date and lasting through the expiration date of this permit, the Permittee is authorized to discharge wastewater to the City of Edmonds POTW sewer system subject to the following limitations:

EFFLUENT LIMITATIONS	
Parameter	**Maximum Daily[a]**
Flow	7000 gpd
pH	between 6 and 10 standard units
Benzene	5 µg/L
BTEX	100 µg/L
TPH-G	1.0 mg/L

[a] The maximum daily effluent limitation is defined as the highest allowable daily discharge. The daily discharge means the discharge of a pollutant measured during a calendar day. For other units of measurement, the daily discharge is the average measurement of the pollutant over the day.

S2. MONITORING REQUIREMENTS

A. Wastewater Monitoring

The Permittee shall monitor the wastewater according to the following schedule:

Parameter	Units	Sample Points[1]	Sampling Frequency[2, 3]	Sample Type
Flow	gpd	final effluent	continuously	totalizing recorder
Benzene	µg/L	final effluent	2/month	grab
BTEX[4]	µg/L	final effluent	2/month	grab
TPH-G[5]	mg/L	final effluent	2/month	grab
pH	Standard units	final effluent	2/month	grab
Lead[6]	µg/L	final effluent	semi-annually	grab

[1] The final effluent sample point is defined as the nearest accessible point after final treatment and prior to actual discharge or mixing with other flows.

[2] The sampling frequency for final effluent tests may be reduced to monthly (lead may be reduced to annually), upon written approval by the Department, if the test results show six (6) consecutive months of compliance with effluent limitations. In the event of any noncompliance with effluent limitations, the frequency shall return to 2/month until another six (6) months of compliance is demonstrated and written approval is granted by the Department.

[3] The sampling frequency for any of these tests may also be reduced upon written approval by the Department and if consistent with a treatment system operating plan required under Condition S8. of this permit.

[4] BTEX shall be measured as the sum of benzene, toluene, ethylbenzene, and xylenes using EPA Method 624 or approved equivalent method(s).

[5] TPH-G (Total Petroleum Hydrocarbons, gasoline-range) shall be measured using Ecology Method WTPH-G.

[6] Total Recoverable Lead shall be measured using EPA Method 239.2 or an equivalent EPA-approved method which achieves a detection level below 5 ppb. If the monitoring data indicates concentrations exceeding 5 µg/L, the Department will require the Permittee to investigate the vicinity's background concentration for lead in ground water within six (6) months of becoming aware of such concentrations. If the monitoring data indicates exceedance of the background concentration for lead, then the Department will use the available background information to set a lead limit for the facility.

B. Sampling and Analytical Procedures

Samples and measurements taken to meet the requirements of this permit shall be representative of the volume and nature of the monitored parameters, including representative sampling of any unusual discharge or discharge condition, including bypasses, upsets, and maintenance-related conditions affecting effluent quality.

Sampling and analytical methods used to meet the water and wastewater monitoring requirements specified in this permit shall conform to the latest revision of the *Guidelines Establishing Test Procedures for the Analysis of Pollutants* contained in 40 CFR Part 136 or to the latest revision of *Standard Methods for the Examination of Water and Wastewater* (APHA), unless otherwise specified in this permit or approved in writing by the Department of Ecology (Department).

C. Flow Measurement

Appropriate flow measurement devices and methods consistent with accepted scientific practices shall be selected and used to ensure the accuracy and reliability of measurements of the quantity of monitored flows. The devices shall be installed, calibrated, and maintained to ensure that the accuracy of the

measurements are consistent with the accepted industry standard for that type of device. Frequency of calibration shall be in conformance with manufacturer's recommendations and at a minimum frequency of at least one (1) calibration per year. Calibration records shall be maintained for at least three (3) years.

D. Laboratory Accreditation

All monitoring data shall be prepared by a laboratory registered or accredited under the provisions of, *Accreditation of Environmental Laboratories*, chapter 173-50 WAC. Flow, temperature, settleable solids, conductivity, pH, and internal process control parameters are exempt from this requirement. Conductivity and pH shall be accredited if the laboratory must otherwise be registered or accredited. Crops, soils, and hazardous waste data are exempted from this requirement pending accreditation of laboratories for analysis of these media by the Department.

S3. REPORTING AND RECORDKEEPING REQUIREMENTS

The Permittee shall monitor and report in accordance with the following conditions. The falsification of information submitted to the Department shall constitute a violation of the terms and conditions of this permit.

A. Reporting

The first monitoring period begins on the effective date of the permit. Monitoring results shall be submitted quarterly. Monitoring results obtained during the previous three (3) months shall be reported on the monthly forms as provided, or otherwise approved, by the Department, and be submitted no later than the 15th day of the month following the completed reporting period, unless otherwise specified in this permit. One report shall be completed for each month. Reports are due January 15, April 15, July 15, and October 15 of each year. The first report is due April 15, 2007. Priority pollutant analysis data shall be submitted no later than forty-five (45) days following the reporting period. The report shall be sent to the Department of Ecology, Northwest Regional Office, 3190 - 160th Avenue SE, Bellevue, Washington, 98008-5452.

B. Records Retention

The Permittee shall retain records of all monitoring information for a minimum of three (3) years. Such information shall include all calibration and maintenance records and all original recordings for continuous monitoring instrumentation, copies of all reports required by this permit, and records of all data used to complete the application for this permit. This period of retention shall be extended during the course of any unresolved litigation regarding the discharge of pollutants by the Permittee or when requested by the Director.

C. Recording of Results

For each measurement or sample taken, the Permittee shall record the following information: (1) the date, exact place, method, and time of sampling; (2) the individual who performed the sampling or measurement; (3) the dates the analyses were performed; (4) who performed the analyses; (5) the analytical techniques or methods used; and (6) the results of all analyses.

D. Additional Monitoring by the Permittee

If the Permittee monitors any pollutant more frequently than required by this permit using test procedures specified by Condition S2. of this permit, then the results of this monitoring shall be included in calculation and reporting of the data submitted in the Permittee's self-monitoring reports.

E. Noncompliance Notification

In the event the Permittee is unable to comply with any of the permit terms and conditions due to any cause, the Permittee shall:

1. Immediately take action to stop, contain, and cleanup unauthorized discharges or otherwise stop the violation, and correct the problem;

2. Repeat sampling and analysis of any violation and submit the results to the Department within thirty (30) days after becoming aware of the violation;

3. Immediately notify the Department and the local sewage treatment plant manager of the failure to comply; and

4. Submit a detailed, written report to the Department within thirty (30) days (five [5] days for upsets and bypasses), unless requested earlier by the Department. The report should describe the nature of the violation, corrective action taken and/or planned, steps to be taken to prevent a recurrence, results of the resampling, and any other pertinent information.

Compliance with these requirements does not relieve the Permittee from responsibility to maintain continuous compliance with the terms and conditions of this permit or the resulting liability for failure to comply.

F. Dangerous Waste Discharge Notification

The Permittee shall notify the POTW and the Department in writing of the intent to discharge into the POTW any substance designated as a dangerous waste in accordance with the provisions of WAC 173-303-070. This notification shall be made at least ninety (90) days prior to the date that discharge is proposed to be initiated.

G. Spill Notification

The Permittee shall notify the POTW immediately (as soon as discovered) of all discharges that could cause problems to the POTW, such as process spills and unauthorized discharges (including slug discharges).

S4. OPERATION AND MAINTENANCE

The Permittee shall at all times be responsible for the proper operation and maintenance of any facilities or systems of control installed to achieve compliance with the terms and conditions of the permit.

A. Operations and Maintenance Manual

The existing O&M Manual shall be reviewed by the Permittee at least annually. The Permittee shall confirm the review by letter and/or a manual update to the Department. All manual changes or updates shall be submitted to the Department within 30 days of incorporation into the manual. The approved operation and maintenance manual shall be kept available at the permitted facility.

The operation and maintenance manual shall contain the treatment plant process control-monitoring schedule. All operators shall follow the instructions and procedures of this manual.

The manual shall include:

1. Emergency procedures for the facility shutdown and cleanup in event of wastewater system upset or failure;

2. Facility maintenance procedures;

B. Bypass Procedures

The Permittee shall immediately notify the Department and the receiving POTW of any spill, overflow, or bypass from any portion of the collection or treatment system.

The bypass of wastes from any portion of the treatment system is prohibited unless one of the following conditions (1, 2, or 3) applies:

1. Unavoidable Bypass—Bypass is unavoidable to prevent loss of life, personal injury, or severe property damage. "Severe property damage" means substantial physical damage to property, damage to the treatment facilities which would cause them to become inoperable, or substantial and permanent loss of natural resources which can reasonably be expected to occur in the absence of a bypass.

If the resulting bypass from any portion of the treatment system results in noncompliance with this permit, the Permittee shall notify the Department and the receiving POTW in accordance with condition S3.E "Noncompliance Notification."

2. Anticipated Bypass That Has the Potential to Violate Permit Limits or Conditions—Bypass is authorized by an administrative order issued by the Department. The Permittee shall apply to the Department for the administrative order and submit written notice to the POTW at least thirty (30) days before the planned date of bypass. The written submission shall contain a description of the bypass and its cause; the duration of the bypass, including exact dates and times; and steps taken or planned to reduce, eliminate, and prevent reoccurrence of the bypass. The Department will consider the following prior to issuing an administrative order:

   a. If the bypass is necessary to perform construction or maintenance-related activities essential to meet the requirements of the permit.

   b. If there are feasible alternatives to bypass, such as the use of auxiliary treatment facilities, retention of untreated wastes, maintenance during normal periods of equipment down time, or transport of untreated wastes to another treatment facility.

   c. If the bypass is planned and scheduled to minimize adverse effects on the public and the environment.

   After consideration of the above and the adverse effects of the proposed bypass and any other relevant factors, the Department will approve or deny the request. The public shall be notified and given an opportunity to comment on bypass incidents of significant duration, to the extent feasible. Approval of a request to bypass will be by administrative order issued by the Department under RCW 90.48.120.

3. Bypass For Essential Maintenance Without the Potential to Cause Violation of Permit Limits or Conditions -- Bypass is authorized if it is for essential maintenance and does not have the potential to cause violations of limitations or other conditions of the permit, a violation of a pretreatment standard or requirement, or adversely impact public health as determined by the Department prior to the bypass.

S5. PROHIBITED DISCHARGES

A. General Prohibitions

The Permittee shall not introduce into the POTW pollutant(s) which cause pass through or interference.

B. Specific Prohibitions

In addition, the following shall not be introduced into the POTW:

1. Pollutants which create a fire or explosion hazard in the POTW, including, but not limited to, waste streams with a closed cup flashpoint of less than 60° C (140° F) using the test methods specified in 40 CFR 261.21;

2. Solid or viscous pollutants in amounts which will cause obstruction to the flow in the POTW resulting in interference;

3. Any pollutant, including oxygen-demanding pollutants (BOD, etc.), released in a discharge at a flow rate and/or pollutant concentration which will cause interference with the POTW;

4. Heat in amounts which will inhibit biological activity in the POTW resulting in interference, but in no case heat in such quantities that the temperature at the POTW treatment plant exceeds 40° C (104° F) unless the approval authority, upon request of the POTW, approves alternative temperature limits;

5. Petroleum oil, non-biodegradable cutting oil, or products of mineral oil origin in amounts that will cause interference or pass through;

6. Pollutants which result in the presence of toxic gases, vapors, or fumes within the POTW in a quantity that may cause acute worker health and safety problems;

7. Any trucked or hauled pollutants, except at discharge points designated by the POTW;

8. Pollutants which will cause corrosive structural damage to the POTW, but in no case discharges with pH lower than 6.0 or greater than 10.0, unless the works is specifically designed to accommodate such discharges.

C. Prohibited Unless Approved

1. Any of the following discharges are prohibited unless approved by the Department under extraordinary circumstances (such as a lack of direct discharge alternatives due to combined sewer service or a need to augment sewage flows due to septic conditions):

a. Non-contact cooling water in significant volumes.

b. Storm water and other direct inflow sources.

c. Wastewaters significantly affecting system hydraulic loading, which do not require treatment or would not be afforded a significant degree of treatment by the system.

2. Unless specifically authorized in this permit, the discharge of dangerous wastes as defined in chapter 173-303 WAC, is prohibited.

S6. DILUTION PROHIBITED

The Permittee shall not dilute the wastewater discharge with stormwater or increase the use of potable water, process water, non-contact cooling water, or, in any way, attempt to dilute an effluent as a partial or complete substitute for adequate treatment to achieve compliance with the limitations contained in this permit.

S7. SOLID WASTE DISPOSAL

A. Solid Waste Handling

The Permittee shall handle and dispose of all solid waste material in such a manner as to prevent its entry into state ground water, surface water, or a POTW.

B. Leachate

The Permittee shall not allow leachate from its solid waste material to enter state waters without providing all known, available, and reasonable methods of treatment, nor allow such leachate to cause violations of the State Surface Water Quality Standards, chapter 173-201A WAC, or the State Ground Water Quality Standards, chapter 173-200 WAC. The Permittee shall apply for a permit or permit modification as may be required for such discharges to state ground or surface waters.

S8. SPILL PLAN

The Permittee shall maintain a spill control plan for the prevention, containment, and control of spills or unplanned release of wastewater to the sanitary sewer or waters of the state. The Permittee shall evaluate its existing spill plan for adequacy at least once each year and modified it as necessary. The permittee shall submit the modified spill plan to the Department within 30 days of adoption of the modified spill plan.

The spill control plan shall include the following:

- A description of operator training to implement the plan.

- A description of the reporting system which will be used to alert responsible managers and legal authorities in the event of a spill.

- A description of preventive measures and facilities (including an overall facility plot showing drainage patterns) which prevent, contain, or treat spills of these materials.

- A list of all oil and petroleum products, materials, which when spilled, or otherwise released into the environment, are designated Dangerous Waste (DW) or Extremely Hazardous Waste (EHW) by the procedures set forth in WAC 173-303-070, or other materials which may become pollutants or cause pollution upon reaching state's waters.

Plans and manuals required by 40 CFR Part 112, contingency plans required by Chapter 173-303 WAC, or other plans required by other agencies which meet the intent of this section may be submitted.

GENERAL CONDITIONS

G1. SIGNATORY REQUIREMENTS

All applications, reports, or information submitted to the Department shall be signed as follows:

A. All permit applications shall be signed by either a principal executive officer or ranking elected official.

B. All reports required by this permit and other information requested by the Department shall be signed by a person described above or by a duly authorized representative of that person. A person is a duly authorized representative only if:

1. The authorization is made in writing by the person described above and is submitted to the Department at the time of authorization, and

2. The authorization specifies either a named individual or any individual occupying a named position.

C. Changes to authorization. If an authorization under paragraph B.2. above is no longer accurate because a different individual or position has responsibility for the overall operation of the facility, a new authorization must be submitted to the Department prior to or together with any reports, information, or applications to be signed by an authorized representative.

D. Certification. Any person signing a document under this section shall make the following certification:

"I certify under penalty of law, that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system or those persons directly responsible for gathering information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."

G2. RIGHT OF ENTRY

Representatives of the Department shall have the right to enter at all reasonable times in or upon any property, public or private, for the purpose of inspecting and investigating conditions relating to the pollution or the possible pollution of any waters of the state. Reasonable times shall include normal business hours; hours during which production, treatment, or discharge occurs; or times when the Department suspects a violation requiring immediate inspection. Representatives of the Department shall be allowed to have access to, and copy at reasonable cost, any records required to be kept under terms and conditions of the permit; to inspect any monitoring equipment or method required in

the permit; and to sample the discharge, waste treatment processes, or internal waste streams.

G3. PERMIT ACTIONS

This permit shall be subject to modification, suspension, or termination, in whole or in part by the Department for any of the following causes:

A. Violation of any permit term or condition;

B. Obtaining a permit by misrepresentation or failure to disclose all relevant facts;

C. A material change in quantity or type of waste disposal;

D. A material change in the condition of the waters of the state; or

E. Nonpayment of fees assessed pursuant to RCW 90.48.465.

The Department may also modify this permit, including the schedule of compliance or other conditions, if it determines good and valid cause exists, including promulgation or revisions of regulations or new information.

G4. REPORTING A CAUSE FOR MODIFICATION

The Permittee shall submit a new application, or a supplement to the previous application, along with required engineering plans and reports, whenever a new or increased discharge or change in the nature of the discharge is anticipated which is not specifically authorized by this permit. This application shall be submitted at least 60 days prior to any proposed changes. Submission of this application does not relieve the Permittee of the duty to comply with the existing permit until it is modified or reissued.

G5. PLAN REVIEW REQUIRED

Prior to constructing or modifying any wastewater control facilities, an engineering report and detailed plans and specifications shall be submitted to the Department for approval in accordance with Chapter 173-240 WAC. Engineering reports, plans, and specifications should be submitted at least 180 days prior to the planned start of construction. Facilities shall be constructed and operated in accordance with the approved plans.

G6. COMPLIANCE WITH OTHER LAWS AND STATUTES

Nothing in the permit shall be construed as excusing the Permittee from compliance with any applicable federal, state, or local statutes, ordinances, or regulations.

G7. PERMIT TRANSFER

This permit is automatically transferred to a new owner or operator if:

A. A written agreement between the old and new owner or operator containing a specific date for transfer of permit responsibility, coverage, and liability is submitted to the Department;

B. A copy of the permit is provided to the new owner and the receiving POTW is notified and;

C. The Department does not notify the Permittee of the need to modify the permit.

Unless this permit is automatically transferred according to section A. above, this permit may be transferred only if it is modified to identify the new Permittee and to incorporate such other requirements as determined necessary by the Department.

G8. REDUCED PRODUCTION FOR COMPLIANCE

The Permittee shall control production or discharge to the extent necessary to maintain compliance with the terms and conditions of this permit upon reduction of efficiency, loss, or failure of its treatment facility until the treatment capacity is restored or an alternative method of treatment is provided. This requirement applies in the situation where, among other things, the primary source of power for the treatment facility is reduced, lost, or fails.

G9. REMOVED SUBSTANCES

Collected screenings, grit, solids, sludges, filter backwash, or other pollutants removed in the course of treatment or control of wastewaters shall not be resuspended or reintroduced to the effluent stream for discharge.

G10. PAYMENT OF FEES

The Permittee shall submit payment of fees associated with this permit as assessed by the Department. The Department may revoke this permit if the permit fees established under Chapter 173-224 WAC are not paid.

G11. PENALTIES FOR VIOLATING PERMIT CONDITIONS

Any person who is found guilty of willfully violating the terms and conditions of this permit shall be deemed guilty of a crime, and upon conviction thereof shall be punished by a fine of up to ten thousand dollars and costs of prosecution, or by imprisonment in the discretion of the court. Each day upon which a willful violation occurs may be deemed a separate and additional violation.

Any person who violates the terms and conditions of a waste discharge permit shall incur, in addition to any other penalty as provided by law, a civil penalty in the amount of up to ten thousand dollars for every such violation. Each and every such violation shall be a separate and distinct offense, and in case of a continuing violation, every day's continuance shall be and be deemed to be a separate and distinct violation.

APPENDIX E

Field Sampling Forms

SoundEarth Strategies, Inc.	**FIELD REPORT**	**Project Number:**	Page _____ of _____
	Client / Project Title:		**Date:**
2811 Fairview Avenue East, Suite 2000 Seattle, Washington 98102 P: (206) 306-1900 F: (206) 306-1907	**Location:**	**Time of Arrival/Departure:** _____ to _____ (military time)	**Purpose of Visit:**
Prepared by:	**Weather:**	**Travel Time:** Mileage:	**Permit:**

Upon arrival to the site I assessed personal safety hazards: ☐ Yes or ☐ Referred to Site Health and Safety Plan
Safety hazards were addressed by: ☐ Staying afert to construction and equipment hazards ☐ Other (describe

Notes:

Attachments:

Distribution:

SoundEarth Strategies, Inc.

Project: _____

Location: _____

SES PN: _____

Logged by: _____

Surface Conditions: _____

Boring: _____

Monitoring Well: _____

Page _____ of _____

Drilling Company: _____

Driller: _____

Drilling Equipment Type: _____

Sampler Type: _____

Hammer Weight (lbs): _____

First GW Depth: _____

Start Date and Time: _____

Completion Date and Time: _____

Location N-S: _____

Location E-W: _____

Depth (feet)	Blow Count	Sample Interval	Sample Recovery (%)	PID (ppm)	Water Test (% sheen)	Odor	Sample ID	USCS Class	Moisture, Density, USCS Texture, Extra Descriptors, Color, Odor (%M, %S, %G) Description	Moisture Content	Well Detail
0											
1											
2											
3											
4											
5											
6											
7											
8											
9											
10											
11											
12											
13											
14											
15											

MATERIAL	DEPTH		
Surface Seal: _____	_____ to _____ feet bgs	Screened Interval: _____	to _____ feet bgs
Annulous Seal: _____	_____ to _____ feet bgs	Casing Diameter: _____	
Filter Pack: _____	_____ to _____ feet bgs	Total Boring Depth: _____	
Monument Type: _____	_____ to _____ feet bgs	Total Well Depth: _____	

NOTES:

SoundEarth Strategies

SAMPLE INVENTORY FORM
TOC FACILITY NO. XX-XXX
CITY, STATE
PROJ. NO: XXXX-XXX-XX

INITIALS	DATE	QA/QC, SYSTEM, OR WELL ID	SAMPLE ID	COMMENT	SAMPLE METHOD AND/OR MEDIA							ANALYTES AND NO. OF CONTAINERS					
					BAILER (WATER)	BLADDER (WATER)	PERISTALTIC (WATER)	PNEUMATIC (WATER)	SOIL	WASTE WATER	VAPOR	BTEX ONLY	GRPH+BTEX	GRPH+BTEX +MTBE	TOTAL Pb	DISSOLVED Pb	pH
TOC FACILITY NO. XX-XXX																	
2010Q4 O&M																	
		SYSTEM	WE-24205-YYYYMMDD	Effluent (Water)						1			3		1		1
		SYSTEM	VE-24205-YYYYMMDD	Effluent (Vapor)							1		1				
		MW09	MW09-YYYYMMDD-PE				1						1				
		MW10	MW10-YYYYMMDD-PE				1						1				
		MW15	MW15-YYYYMMDD-PN	Remediation Well				1					1				
		MW20	MW20-YYYYMMDD-PE				1						1				
		MW21	MW21-YYYYMMDD-PE				1						1				
		MW27	MW27-YYYYMMDD-PN	Remediation Well				1					1				
		MW32	MW32-YYYYMMDD-PN	Remediation Well				1					1				
		MW33	MW33-YYYYMMDD-PE				1						1				
		QA/QC	MW900-YYYYMMDD	Duplicate (MW33)			1						1				

TOTAL NO. OF SAMPLES 11

NO. OF QA/QC SAMPLES 2

SAMPLE CHAIN OF CUSTODY

Send Report To Project Manager

Company Sound Environmental Strategies

Address 2811 Fairview Ave. E. Suite 2000

City, State, ZIP Seattle, WA 98102

Phone # 206.306.1900 Fax # 206.306.1907

SAMPLERS *(signature)*	
PROJECT NAME/NO.	PO #
REMARKS	GEMS Y / N

Page # _____ of _____

TURNAROUND TIME
Standard (2 Weeks)
RUSH_____
Rush charges authorized by:
_____

SAMPLE DISPOSAL
Dispose after 30 days
Return samples
Will call with instructions

								ANALYSES REQUESTED								
Sample ID	**Sample Location**	**Sample Depth**	**Lab ID**	**Date Sampled**	**Time Sampled**	**Matrix**	**# of jars**	**NWTPH-Dx**	**NWTPH-Gx**	**BTEX by 8021B**	**VOC's by 8260**	**PCBs by 8082**	**RCRA-8 Metals**	**Total Pb**		**Notes**

Friedman & Bruya, Inc.
3012 16th Avenue West
Seattle, WA 98119-2029
Ph. (206) 285-8282
Fax (206) 283-5044

SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
Relinquished by:				
Received by:				
Relinquished by:				
Received by:				

FRIEDMAN & BRUYA, INC.	
Client:	
Sample ID:	
Date Sampled:	Time:
Project:	
Analysis Request:	
Preservative:	

CEMEX Soil Remediation
EVERETT, WA 98213

1876044371

Location: 1876
Customer: 3089172 SOUND ENVIRONMENTAL STRA
Order: [redacted] EVERETT WA 98213
TO EVERETT SOILS
Job# :
P.O. : [redacted]
Product: 1192508
CLASS 3 SOIL DUMPED BY TON
NRC 2145

Qty: 14.06 04/01/2009

	LB	MTon	TON
G	55,260	25.07	27.63
T	27,140	12.31	13.57
N	28,120	12.76	14.06

~ Manual Weight, *P.T.

Today Loads: 1.00
Today Qty: 14.06

FUEL SURCHARGE APPLIES

Carrier:
Vehicle: 2092891 1876-6,EVERETT SOIL GENERIC

Received: IN
OUT 1:57 pm

Credit terms: all approved credit sales accounts are due and payable on or before the 15th of the month following the date of purchase. Buyer assumes responsibility after truck reaches delivery site or, if independent trucker, after its [illegible] pick-up point. This Delivery Ticket incorporates herein by reference Buyer's previously executed Credit Application, if any, Seller's Standard Terms and Conditions, Seller's Quotation, if any, and Seller's Order Confirmation (including limitations of warranties), as if fully set forth on this Delivery Ticket ("Agreement"). Seller will provide the Standard Terms and Conditions upon request. Buyer agrees that, unless otherwise noted on the front hereof, all quantities and times were delivered as indicated and further expressly agrees to pay in accordance with this Agreement.

Original [illegible] REVERSE SIDE FOR PRODUCT LABEL INFORMATION

CEMEX Soil Remediation
EVERETT, WA 98213

1876044370

Location: 1876
Customer: 3089172 SOUND ENVIRONMENTAL STRA
Order: [redacted] EVERETT WA 98213
TO EVERETT SOILS
Job# :
P.O. : [redacted]
Product: 1192517
CLASS 3 SOIL DUMPED BY DRUM
NRC 2145

Qty: 4.00 04/01/2009

	LB	MTon	TON
G	55,260	25.07	27.63
T	27,140	12.31	13.57
N	28,120	12.76	14.06

* Manual Weight

Today Loads: 1.00
Today Qty: 4.00

FUEL SURCHARGE APPLIES

Carrier:
Vehicle: 2092891 1876-6,EVERETT SOIL GENERIC

Received: IN
OUT 1:56 pm

Credit terms: all approved credit sales accounts are due and payable on or before the 15th of the month following the date of purchase. Buyer assumes responsibility after truck reaches delivery site or, if independent trucker, after its [illegible] pick-up point. This Delivery Ticket incorporates herein by reference Buyer's previously executed Credit Application, if any, Seller's Standard Terms and Conditions, Seller's Quotation, if any, and Seller's Order Confirmation (including limitations of warranties), as if fully set forth on this Delivery Ticket ("Agreement"). Seller will provide the Standard Terms and Conditions upon request. Buyer agrees that, unless otherwise noted on the front hereof, all quantities and times were delivered as indicated and further expressly agrees to pay in accordance with this Agreement.

PERMITTEE NAME/ADDRESS (Include Facility Name/Location if Different)
NAME TOC HOLDINGS CO.
ADDRESS 2737 WEST COMMODORE
SEATTLE, WA 98191

FACILITY LOCATION 24205 56TH AVENUE
MOUNTLAKE TERRACE, WA

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES)
DISCHARGE MONITORING REPORT (DMR)
(2-16)

ST-0007384	001
PERMIT NUMBER	DISCHARGE NUMBER (17-19)

DISCHARGE LOCATION
Lat 47 deg 46' 46" N
Long 122 deg 18' 24" W

MONITORING PERIOD

	YEAR	MO	DAY		YEAR	MO	DAY
FROM	YY	MM	DD	TO	YY	MM	DD
	(20-21)	(22-23)	(24-25)		(26-27)	(28-29)	(30-31)

Form Approved.
OMB No. 2040-0004
Approval expires 05-31-98

☒ Check here if No Discharge

NOTE: Read Instructions before completing this form

PARAMETER (32-37)		(3 Card Only) QUANTITY OR LOADING (46-53) AVERAGE	(54-61) MAXIMUM	UNITS	(4 Card Only) QUALITY OR CONCENTRATION (38-45) MINIMUM	(46-53) AVERAGE	(54-61) MAXIMUM	UNITS	NO. EX (62-63)	FREQUENCY OF ANALYSIS (64-68)	SAMPLE TYPE (69-70)
FLOW	SAMPLE MEASUREMENT	*******		GPD	*******	*******	*******	***			
	PERMIT REQUIREMENT	*******	7000		*******	*******	*******			CONT.	REC.
pH	SAMPLE MEASUREMENT		*******	***		*******		STD. UNIT			
	PERMIT REQUIREMENT	*******	*******		6.0	*******	10.0			4/YR*	GRAB
BENZENE	SAMPLE MEASUREMENT	*******	*******	***	*******	*******		ug/L			
	PERMIT REQUIREMENT	*******	*******		*******	*******	5			4/YR*	GRAB
BTEX	SAMPLE MEASUREMENT	*******	*******	***	*******	*******		ug/L			
	PERMIT REQUIREMENT	*******	*******		*******	*******	100			4/YR*	GRAB
TPH-G	SAMPLE MEASUREMENT	*******	*******	***	*******	*******		mg/L			
	PERMIT REQUIREMENT	*******	*******		*******	*******	1.0			4/YR*	GRAB
LEAD	SAMPLE MEASUREMENT	*******	*******	***	*******	*******		ug/L			
	PERMIT REQUIREMENT	*******	*******		*******	*******	REPORT			4/YR*	GRAB
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER

MARK CHANDLER
VICE PRESIDENT

TYPED OR PRINTED

I CERTIFY UNDER PENALTY OF LAW THAT THIS DOCUMENT AND ALL ATTACHMENTS WERE PREPARED UNDER MY DIRECTION OR SUPERVISION IN ACCORDANCE WITH A SYSTEM DESIGNED TO ASSURE THAT QUALIFIED PERSONNEL PROPERLY GATHER AND EVALUATE THE INFORMATION SUBMITTED. BASED ON MY INQUIRY OF THE PERSON OR PERSONS WHO MANAGE THE SYSTEM, OR THOSE PERSONS DIRECTLY RESPONSIBLE FOR GATHERING THE INFORMATION, THE INFORMATION SUBMITTED IS, TO THE BEST OF MY KNOWLEDGE AND BELIEF, TRUE, ACCURATE, AND COMPLETE. I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION, INCLUDING THE POSSIBILITY OF FINE AND IMPRISONMENT FOR KNOWING VIOLATIONS.

SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT

TELEPHONE: AREA CODE 206 NUMBER 285-2400

DATE: YEAR MO DAY

COMMENTS AND EXPLANATION OF ANY VIOLATIONS (Reference all attachments here)

*REFER TO FOOTNOE 2&3 ON PAGE 5 OF THE PERMIT.

SoundEarth Strategies

WELL DEVELOPMENT FORM

Client:_____ Project #: _____

Site:_____ Site #: _____ Well ID Number:_____

Total Depth	Depth to Water (Prior To Purging)	Water Column (TD – DTW)	Casing Diameter (inches) 1	2	4	6	Casing Volume (WC X CD)	Recommended Development Volume (5 casing volumes)
			0.041	0.16	0.64	1.44		

Date	SES Personnel	Equipment (Bailer, Surge Block, Type of Pump)	Gallons Removed	Turbidity (Turbid, Cloudy, Clear)	Color	Odor	Comments
EXAMPLE							
01/01/2010	MNO	Surge Block	0	--	--	--	--
↓	MNO	Bail	4	Turbid	Lt. Brown	Faint HC	Bailed Dry
	MNO	--	--	--	--	--	Allowed to Recharge 1 hr
	MNO	Bail	2	Turbid	Lt. Brown	Faint HC	Bailed Dry

DEVELOPMENT WATER DISPOSAL NOTES:

Total Discharge (1Gal=3.8785Ltr):	Disposal Method: Drummed Remed. System Other:

Well/Site Condition Information:

Well/Security Devices in good condition? (i.e.: Monument, Bolts, Seals, J-cap, Lock) Yes No

Surface Water Infiltration (if yes, describe)? **NO** **YES** ⟹ Monument Well Casing

Action Items (e.g.: repair of any monitoring well components)? Yes No

Additional Well Condition Comments or Explanation of any Access Issues:

SoundEarth Strategies

GROUNDWATER PURGE AND SAMPLE FORM

Client - Site:_____ Project #: _____ Well ID Number:_____

Field/Sampling Personnel: _____

Date(s) of Water Level Measurement: Equipment Used: Product/Water Interface Meter

Total Depth	Depth to Water	Water Column	Casing Diameter (inches) 2	4	6	Casing Volume	Total Purge Volume
			0.16	0.64	1.44		

Date of Sampling: **Time of Sampling:**

Water Quality Meter: Type _____ SES #_____

Purge/Sampling Method: Low Flow other Sampling Equipment: Bladder p, S.Pump , other _____

Screened Interval: Approx. Depth at Sampling Point *(typically slightly above middle of screen)*:

Time Start Purge: Time End Purge:

Time (in 3-5 min intervals)	Depth to Water (drawdown <0.33')	Rate of Purging (Liter/min) 0.1 – 0.5	* pH ± 0.1	* Specific Conductivity (_____) ± 3%	Turbidity (NTU) ± 10%	* Dissolved Oxygen (DO) ± 10% or < 0.2	Temperature (°C) ± 3%	ORP ± 10mv

Sampling Comments:

Sample Number/ID	Container Type	Preservative	Field Filtration	Analysis Request

PURGE WATER DISPOSAL NOTES:

Total Discharge (Gal/Drum):	Disposal Method:

Well Head Conditions

Well/Security Devices in good condition? (i.e.: Monument, Bolts, Seals, J-cap, Lock)	Yes	No
Evidence of Surface Water Infiltration (if yes, describe)?	Yes	No
Action Items (e.g.: repair of any monitoring well components)?	Yes	No

Additional Comments/Descriptions/Explanation of any Access Issues:

- ** Indicates the minimum subset of parameters that must be met in lieu of measuring all five; pH, Conductivity, **AND**, Turbidity **OR** DO.*
- *Three successive readings should be within the indicated parameter limits prior to sampling*
- *All units of measurement are in feet and/or gallons unless otherwise indicated*
- *If prepurge static water level is above the screen, avoid drawdown of water level into the screen*
- *Final purge volume must be greater than stabilized drawdown volume plus extraction tubing volume*

SoundEarth Strategies

GROUNDWATER MONITORING WELL DATA FORM

Client: _____ Project Number: _____ Client Site Name & Number: _____

Date Opened _____ Date Measured _____ Site Location: _____ SoundEarth Staff: _____

	Well Identification	Well Dia. (In.)	Time Opened	Time Measured	Depth to Water (BTOC)	Total Depth Measured (BTOC)	SPH Thickness (Feet)	Historical Depth to Water	Historical Total Depth Measured	Sheen Y /N	Well Sampled Y / N	Monument Conditions/ Sheen Description/ Other Remarks
1												
2												
3												
4												
5												
6												
7												
8												
9												
10												
11												
12												
13												
14												
15												
16												
17												
18												
19												
20												
21												

Comments: _____

SoundEarth Strategies

O&M Field Data Sheet
TOC Holdings Co. Facility No. XX-XXX
Street Address, City, State, Zip

Date: _____
Personnel: _____
Reason for Visit: O&M Site Visit

SYSTEM DESCRIPTION

Soil vapor extraction system with a [BRAND][MODEL] blower (X.X HP, 230 V, 1-phase, XP-rated), 55-gallon high vacuum moisture separator with high level switch, external inline filter;
Centrifugal transfer pump (X.X HP, XP-rated), 300-gallon poly condensate tank, totalizing flow meter;
Air supply system with a [BRAND][MODEL] reciprocating compressor with XX-gallon tank (X.X HP, 230 V, 1-phase, XP-rated);
]NUMBER] (#) down-well pneumatic pumps ([BRAND][MODEL]) equipped with 1-inch OD discharge hose, 1-inch OD pump air supply hose, 5/8-inch OD air exhaust hose and 2- or 4-inch vacuum seal well caps with regulators.

Effluent stack: 3-inch diameter SCH 80 PVC (ID = 2.900 inches)

Site Phone #: XXX-XXX-XXXX
Site Power: 200 amp, 230V, 1-phase

EQUIPMENT CONDITIONS

	SUCTION SIDE						PRESSURE SIDE				
Operating System	Status Upon Arrival (on/off)	Status Upon Departure (on/off)	System Hours (hours)	Motor Amperage (amps)	Pre Filter Vacuum (in. H_2O)	Post Filter Vacuum (in. H_2O)	SVE Dilution Valve (% Open)	Static (Total) Pressure (in. H_2O)	ΔP (in. H_2O)	Temp. (°f)	Flow Rate (SCFM)
SVE											0.0

Operating System	Status Upon Arrival (on/off)	Status Upon Departure (on/off)	Pre Filter Pressure (psi)	Mid Filter Pressure (psi)	Post Filter Pressure (psi)	Regulator Pressure (psi)	Temp (°F) (°f)	Maintenance Activities (oil change, adjustment of internal thermostat, etc.)
AIR COMP.								

SVE & AIR SUPPLY MANIFOLDS

Well Line ID	SVE SYSTEM						AIR SUPPLY SYSTEM			
	Open (yes/no)	Vacuum (in. H_2O)	VOC (RRU)	LEL (%)	O_2 (%)	CO_2 (ppm)	Open (yes/no)	Pressure (psi)	Pump Cycle Counter	Air Flow (SCFM)

OIL WATER SEPARATOR			
LS High-High Activated (yes/no)	Product High-High Activated (yes/no)	Flow Totalizer (gallons)	Any Leaks? (yes/no)

DOWN WELL PUMP REGULATOR PRESSURES			DOWN WELL PUMP CYCLE COUNTER		
MW## (psi)	MW## (psi)	MW## (psi)	MW## (psi)	MW## (psi)	MW## (psi)

SAMPLE COLLECTION

Location	Date	Time	Sample Name	VOC (RRU)	LEL (%)	O_2 (%)	CO_2 (ppm)

NOTES:
System/Site Observation/Comments:

Materials/Equipment Needed for Next Visit:

Exhibit D

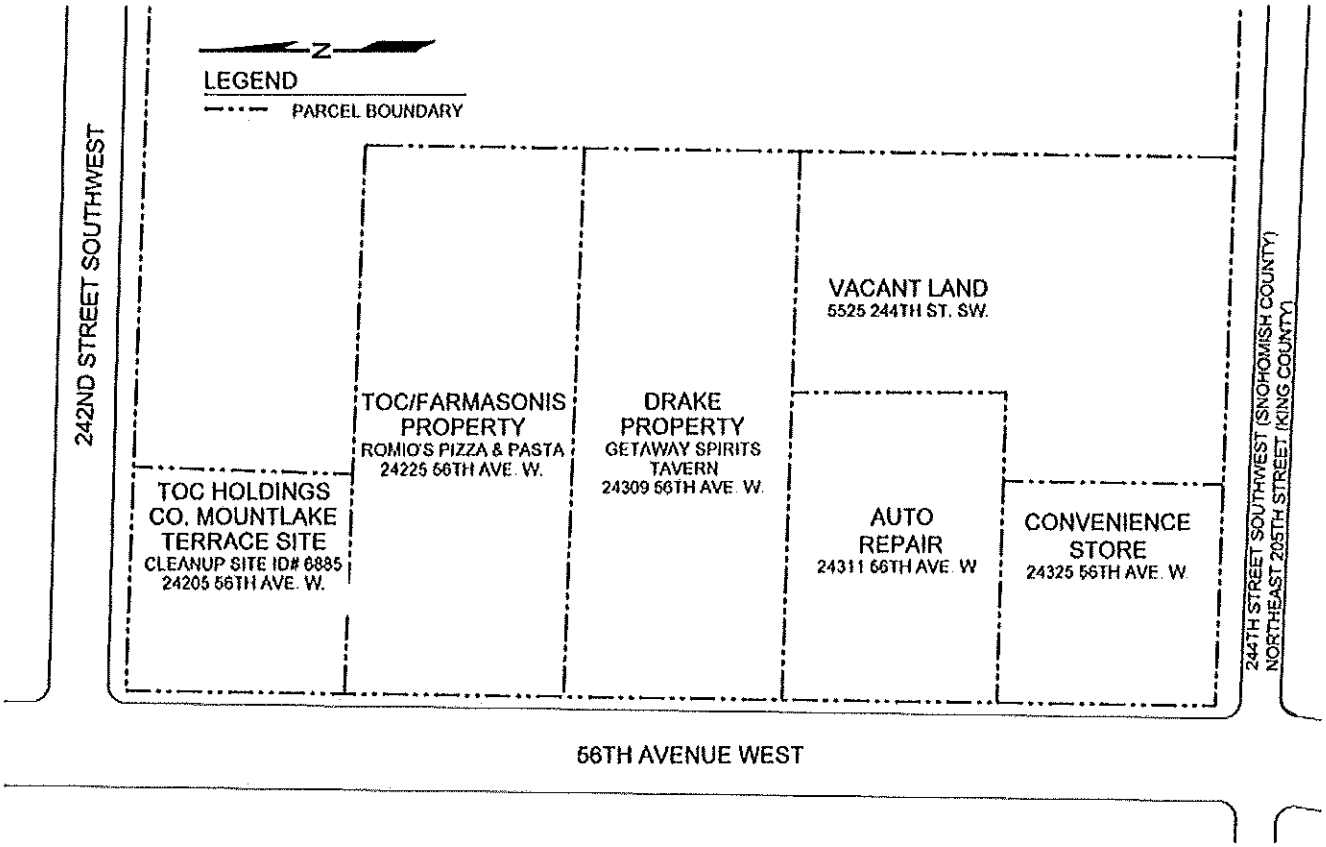
Exhibit E

DEPARTMENT OF
ECOLOGY
State of Washington

TOC Holdings Co. Mountlake Terrace Site

Cleanup ID Number: 6885

Public Participation Plan
August 2011



Prepared by
Washington State Department of Ecology

Table of Contents

1.0 INTRODUCTION

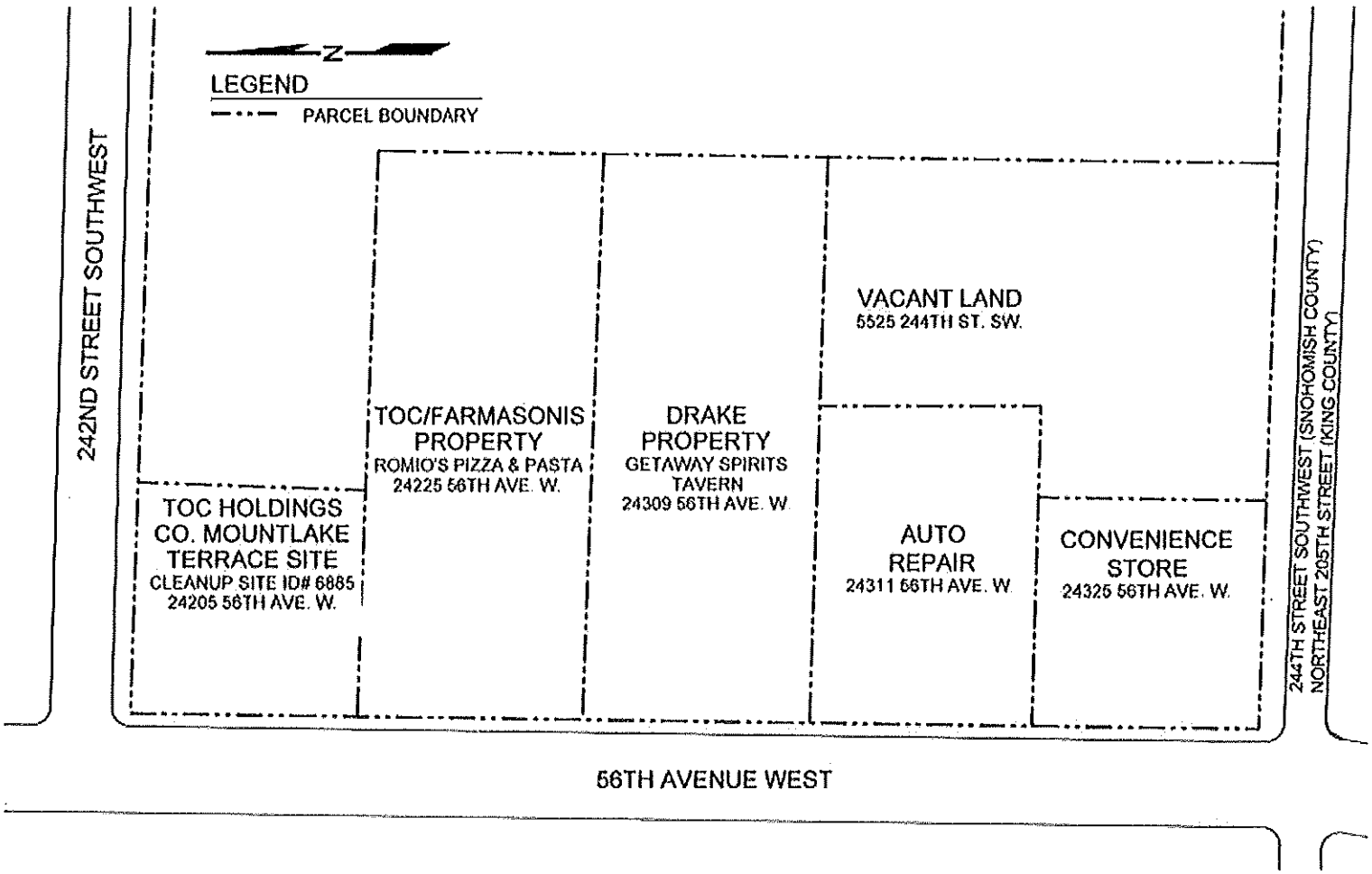
The Washington State Department of Ecology (Ecology) has developed this Public Participation Plan pursuant to the Model Toxics Control Act (MTCA) and Agreed Order (Order) for the cleanup at the TOC Holdings Co. (formerly named Time Oil Co.) Mountlake Terrace Site (Site). The mutual objective of Ecology and TOC Holdings Co. (TOC) under this Order are to provide for remedial action at a facility where there has been a release or threatened release of hazardous substances. This Order requires TOC to conduct a Remedial Investigation (RI) and a Feasibility Study (FS) for implementing a Cleanup Action Plan (CAP). The RI/FS reports will present the results of the investigation and evaluate the cleanup alternatives which are applicable to the Site. In addition, TOC will concurrently conduct property-specific interim remedial actions to address soil and groundwater beneath the Site which have become impacted by petroleum Ecology believes the actions required by this Order are in the public interest.

The Agreed Order is between Ecology and TOC Holdings Co. Ecology is committed to an open dialogue with the community to ensure that interested parties receive information as well as provide input during the decision-making process. The intent is to promote meaningful community involvement during the cleanup process at the TOC Holdings Co. Mountlake Terrace Site (Site).

SITE LOCATION and BACKGROUND

The Site is referred to as TOC Facility No. 01-176. It is adjacent to the south boundary of Snohomish County, inside the municipal boundaries of Mountlake Terrace, WA. The property was used as a retail gasoline station from 1968 until 1991. In 1991, TOC decommissioned the former retail gasoline station and removed several large underground storage tanks (USTs). At the time of removal, a release of petroleum products associated with the USTs was identified. Between 1992 and 2010, TOC secured access from owners of neighboring properties (TOC/Farmasonis Property and Drake Property) to investigate the extent of the release. To date, 89 groundwater monitoring wells have been installed for monitoring and remediation purposes. A dual-phase remediation system (DPE system) was also operated from 1995 until 2005. In 2005, TOC retained SoundEarth Strategies Inc. to conduct additional environmental investigations until 2010.

TOC Holdings Co. Mountlake Terrace
SITE MAP



2.0 CONTAMINANTS OF CONCERN

Petroleum hydrocarbon constituents consisting of gasoline, benzene, toluene, ethylbenzene, and total xylenes were present in soil and groundwater at the Site during the time of the UST removal. The southern extent of the release has not been quantified.

3.0 PUBLIC PARTICIPATION ACTIVITIES AND RESPONSIBILITIES

The purpose of this Public Participation Plan is to promote public understanding and participation in the cleanup process for this Site. This section addresses how Ecology will keep the public informed about site activity and provide opportunity for being involved in the cleanup.

Ecology will use a variety of tools to facilitate public participation in the planning and cleanup of this Site. These tools include: formal comment periods and responsiveness summaries, fact sheets, public meetings (if required), information repositories, Ecology's Site Register, web tools including a web-based events calendar, display advertisement in a local newspaper, and TOC Holdings Co. Mountlake Terrace website. These tools will be used as appropriate. Ecology will consider and implement constructive input provided by the community whenever possible.

Ecology and TOC Holdings Co. wants the public to become involved in the cleanup process. Information will be provided regularly in order to provide many opportunities to review materials and provide comments. This plan is intended to be a flexible working document where activities change as community concerns emerge as well as when more information becomes available during the cleanup process. To arrange for a briefing with project staff, ask questions, or provide comments on the plan or other aspects of the cleanup, please contact one of the persons listed below. Ecology is committed to an open dialogue with the community to ensure that interested parties receive information as well as provide input during the decision-making process.

For technical questions, please contact:
Russ Olsen – Site Manager
Washington State Department of Ecology
Northwest Regional Office - Toxics Cleanup Program
3190 160th Avenue SE
Bellevue, WA 98008
Phone: (425) 649-7038
E-mail: russ.olsen@ecy.wa.gov

For community involvement questions, please contact:
Nancy Lui – Community Outreach Coordinator
Washington State Department of Ecology
Northwest Regional Office - Toxics Cleanup Program
3190 160th Avenue SE

Bellevue, WA 98008
Phone: (425) 649-7117
E-mail: nancy.lui@ecy.wa.gov

Roles and Responsibilities

Ecology maintains overall responsibility and approval authority for the activities outlined in this plan in accordance with Model Toxics Control Act (MTCA) requirements. Ecology, with the participation of the TOC Holdings Co., will conduct public comment periods as required by MTCA, including soliciting, receiving and considering comments, making decisions, and preparing responsiveness summaries. (A summary of all the comments received during a public comment period and Ecology's responses.)

Public Comment Periods

Comment periods are the primary method Ecology uses to get feedback from the public on proposed cleanup decisions. Comment periods usually last for 30 days and are required at key points during the investigation and cleanup process before final decisions are made. During a comment period, the public can comment in writing. After formal comment periods, Ecology reviews all comments received and may respond in a document called a Responsiveness Summary. Ecology will consider the need for changes or revisions based on input from the public. If significant changes are made, then a second comment period will be held. If no significant changes are made, then the draft document(s) will be finalized.

Public Meetings and Hearings

Public meetings may be held at key points during the cleanup process. Ecology may also offer public meetings for actions expected to be of particular interest to the community. Also, if ten or more people request a public meeting during the 30-day comment period, Ecology will hold a public meeting for the purpose of taking written comments on draft documents.

Information Repositories

Information repositories are convenient places where the public can go to read and review Site information. The information repositories are often at libraries or community sites where the public has access. During the comment period, the site documents will be available for review at each repository which is listed below. Documents remain at the repositories for the entire duration of the project.

Repositories for this project include:

Mountlake Terrace Library
23300 58th Avenue West
Mountlake Terrace, WA 98043
(425) 776-8722

Washington State Department of Ecology – Northwest Regional Office (NWRO)
3190 160th Avenue SE
Bellevue, WA 98008

To visit Ecology's NWRO, please call Sally Perkins to schedule an appointment.
Telephone #: (425) 649 –7190
Fax #: (425) 649 – 4450
E-mail: sally.perkins@ecy.wa.gov
Hours: Tuesday – Thursday
8:00 am – 12:00 pm and 1:00 pm – 4:30 pm

Site Register and Public Events Calendar

Ecology's Toxics Cleanup Program uses the Site Register and web-based Public Involvement Calendar to announce all of its public meetings and comment periods as well as additional site activities.

To receive the Site Register in electronic or hard copy format, please call (360) 407-6000. The Site Register is available on Ecology's website at:
http://www.ecy.wa.gov/programs/tcp/pub_inv/pub_inv2.html

The Public Involvement Calendar is available on Ecology's website at:
http://apps.ecy.wa.gov/pubcalendar/calendar.asp

Mailing List

Ecology has compiled and maintains a list of interested parties, organizations and residents living in proximity to the Site. This list will be used to disseminate information via mail (fact sheets, site updates, public notices, etc.). If you are not on the mailing list for this Site and wish to be added, please contact Nancy Lui at (425) 649-7117 or through email at nancy.lui@ecy.wa.gov. In the subject line, please indicate TOC Holdings Co. Mountlake Terrace Mailing List.

TOC Holdings Co. Mountlake Terrace Website

Information on the cleanup work at the site is also available online. This website includes background information, status updates, and contact information for the site.

Ecology's TOC Holdings Co. Mountlake Terrace Website:
https://fortress.wa.gov/ecy/gsp/Sitepage.aspx?csid=6885

4.0 PUBLIC PARTICIPATION PLAN AMENDMENTS

This plan was developed in compliance with the MTCA regulations (Chapter 173-340 WAC). It will be reviewed as cleanup progresses and may be amended as necessary. Amendments may be submitted to Ecology's Site Manager, Russ Olsen, for review and consideration. Ecology will determine final approval of the plan as well as any amendments.

5.0 PUBLIC PARTICIPATION GRANTS AND TECHNICAL ASSISTANCE

Additionally, citizen groups living near contaminated sites may apply for public participation grants during open application periods. These grants help citizens receive technical assistance in understanding the cleanup process and create additional avenues for public participation.

Information on the guidelines and application for Public Participation Grants may be found at Ecology's website: http://www.ecy.wa.gov/programs/swfa/grants/ppg.html

Ecology currently does not have a citizen technical advisor for providing technical assistance to citizens on issues related to the investigation and cleanup of the Site. Please call Ecology's TOC Holdings Co. Mountlake Terrace Site Manager Russ Olsen, if you have questions. Mr. Olsen's contact information is located on page 4.