

March 31, 1995

Ms. Alydda Mangelsdorf
Remedial Project Manager
EPA Region IX
75 Hawthorne Street
San Francisco, CA 94105

PRC

Dear Ms. Mangelsdorf:

This letter transmits following documents to you for your information, on behalf of Department of Navy, Engineering Field Activity West:

1. Letter of outstanding issues along with the response to EPA comments on the seven action items contained in the meeting minutes from the January 11, 1995, meeting on Parcel A, Hunters Point Annex.
2. Agenda for meeting concerning Parcel A, Hunters Point Annex, outstanding issues and remedial investigation report preparation.
3. Proposed Parcel A schedule.
4. Draft outline for Parcel A remedial investigation report.

Should you have any questions or comments regarding these materials, please contact Richard Powell at (415) 244-2571, or Michael McClelland at (415) 244-3085, or William Radzevich at (415) 244-2532.

Sincerely,

Scott Weber

Scott Weber
Assistant Project Manager

Enclosure (4)

cc: Richard Powell, Navy
William Radzevich, Navy
Michael McClelland, Navy
Cyrus Shabahari, DTSC
Richard Hiatt, RWQCB
Jim Sickles, PRC
David Leland, HLA
File

March 31, 1995

Mr. Cyrus Shabahari
Project Manager - Office of Military Facilities
State of California - Environmental Protection Agency
Department of Toxic Substances Control
Region 2
700 Heinz Avenue, Suite 200
Berkeley, CA 94710-2737

PRC

Dear Mr. Shabahari:

This letter transmits following documents to you for your information, on behalf of Department of Navy, Engineering Field Activity West:

1. Letter of outstanding issues along with the response to EPA comments on the seven action items contained in the meeting minutes from the January 11, 1995, meeting on Parcel A, Hunters Point Annex.
2. Agenda for meeting concerning Parcel A, Hunters Point Annex, outstanding issues and remedial investigation report preparation.
3. Proposed Parcel A schedule.
4. Draft outline for Parcel A remedial investigation report.

Should you have any questions or comments regarding these materials, please contact Richard Powell at (415) 244-2571, or Michael McClelland at (415) 244-3085, or William Radzevich at (415) 244-2532.

Sincerely,



Scott Weber
Assistant Project Manager

Enclosure (4)

cc: Richard Powell, Navy
William Radzevich, Navy
Michael McClelland, Navy
Alydda Mangelsdorf, EPA
Richard Hiatt, RWQCB
Jim Sickles, PRC
David Leland, HLA
File

March 28, 1995

Mr. William Radzevich (Code 09ERIWR)
Department of the Navy
Engineering Field Activity West
Naval Facilities Engineering Command
900 Commodore Drive, Building 208, 2nd floor
San Bruno, CA 94066-2402



Subject: Outstanding Issues Needing Resolution for the Preparation of the Parcel A Remedial Investigation Report, Hunters Point Annex, San Francisco, California; Responses to EPA Comments on January 11, 1995, Parcel A Meeting; and Proposed Agenda for Meeting with Agencies
Contract No. N62474-88-D-5086, Contract Task Order No. 0142

Dear Mr. Radzevich,

This letter presents the five issues that were proposed to the agencies on January 11, 1995 and that need to be resolved to prepare the Hunters Point Annex (HPA) Parcel A remedial investigation (RI) report. Also, attached are the related responses to the U.S. Environmental Protection Agency (EPA) comments on the January 11, 1995 meeting on Parcel A and a proposed agenda for the meeting with the agencies to discuss these issues. The EPA comments generally or partially addressed some of the outstanding issues that the Navy needs to have resolved before the preparation of the Parcel A RI report can continue. The five issues and related EPA comments are as follows:

Issue 1. Only applicable or relevant and appropriate requirements (ARAR) for chemicals with residual concentrations that have residential risk greater than 10^{-6} or a hazard index greater than 1 will be addressed in the Parcel A RI report.

This point is partially addressed in Action Item 7c of the EPA Comments as shown in the attached response to comments document. The EPA has stated that ARARs need to be developed for groundwater and for identified chemicals of concern. The definition of chemicals of concern still needs to be agreed on. The EPA also mentions that the State may identify ARARs that require a back calculation to soil to ensure that soil excavation is protective of groundwater. The State needs to forward these to the Navy as soon as possible. In addition, after consultations between the Navy counsel and agency counsels, at a meeting on January 18 at EPA, it was determined that an ARARs analysis for soils was not necessary due to the soil excavations, since no remedial action was required. It was tentatively agreed that only an ARARs analysis on residual chemicals of concern left in place with risk greater than 10^{-6} or a hazard index greater than 1 will be part of the Parcel A RI report.

Issue 2. Human health risk assessment (HHRA) currently in the Parcel A site inspection (SI) report is adequate for the Parcel A RI report. The HHRA for the Parcel A SI report was based on health based levels developed specifically for HPA.

This point is partially addressed in Action Item 7 EPA Comments on page 4 of the attached response to comments document. The Parcel A RI will address the residual chemicals and gardening as a route of contaminant transport. To better clarify the issues of preliminary remediation goals (PRGs) and their use, the EPA and Navy need to agree on which list of PRGs (identified by date published) should be used for

*This info
is in a report
M 3/30/95*

Mr. Radzevich
March 28, 1995
Page 2

screening. Also, the Navy and the agencies need to determine a list of agreed upon cleanup levels and what approach will be used if a subsequent reanalysis of the data with the revised PRGs or cleanup levels show unexpected areas above these thresholds.

Issue 3. The eco-risk assessment prepared by EPA is complete and satisfactory, and ecological ARARs would not be reviewed.

This point is addressed in Action Item 7 EPA Comments on the bottom of page 4 of the attached response to comments document.

Issue 4. The fate and transport for only those chemicals with residual concentrations that have residential risk greater than 10^{-6} or a hazard index greater than 1 will be addressed in the Parcel A RI report. The fate and transport sections will be prepared through a paper study and use of previously gathered data.

This point is partially addressed in Action Item 7d EPA Comments as shown in the attached response to comments document. The definition of chemicals of concern still needs to be agreed on.

Issue 5. A feasibility study for soils is not necessary since the soil was excavated.

This point is addressed in Action Item 7e EPA Comments as shown in the attached response to comments document. The preliminary groundwater results show no soil sources that need remediation.

Most of the outstanding issues have been addressed at least partially. Preparation of the Parcel A RI report can continue at full speed if the Navy can (1) receive concurrence from the agencies on the definition of chemicals of concern, (2) obtain a list of ARARs from the state that may need a back calculation to determine the impact of soil on groundwater, and (3) the agencies agree on the content of the example write-up for SI-43. The Navy will then be in a position to set up a schedule for the Parcel A activities.

The attached proposed agenda addresses the issues raised above. If you have any questions or comments, please call me at (415) 222-8274.

Sincerely,



Scott Weber
Assistant Project Manager

Enclosure (2)

cc: Richard Powell, Navy
Michael McClelland, Navy
Jim Sickles, PRC
David Leland, HLA
File

**RESPONSE TO EPA COMMENTS
ON THE JANUARY 11, 1995, MEETING ON PARCEL A,
HUNTERS POINT ANNEX (HPA), SAN FRANCISCO, CALIFORNIA**

The following presents the Navy's responses to the U.S. Environmental Protection Agency (EPA) comments on the seven action items contained in the meeting minutes from the January 11, 1995 meeting on Parcel A. The EPA's comments were included in the letter from Alydda Mangelsdorf of the EPA to Richard Powell of the Navy, dated February 28, 1995.

Action Item 1: EPA will provide the Navy with a reference identifying raptor egg shell thinning at DDT concentration of 0.1 parts per million.

EPA Comments: This information was included in a letter submitted to the Navy on January 30, 1995.

Navy Response: The literature citation provided by the EPA in its letter dated January 30, 1995, identified 9.7 percent eggshell thinning in American kestrels after exposure for 1 year to a dietary concentration of DDE of 10 parts per million (ppm) dry weight (2.8 ppm wet weight).

The Navy recognizes that a factor of 10 is customarily used to extrapolate from the lowest concentration at which effects were observed to a concentration at which no observable effects would be predicted. Therefore, it appears that either an uncertainty factor of 100 was applied to the 10 ppm DDE effect level or another extrapolation method was used to arrive at the 0.1 ppm effect level.

The Navy would like a clarification of the extrapolation method used to arrive at the 0.1 ppm level. The citation of the reference given in the January 30, 1995, letter does not provide an explanation of how the cited values were extrapolated to the value being used for this investigation.

Action Item 2: The Navy will send the EPA copies of the validation reports for the sandblast/pesticide investigation.

EPA Comments: The Navy submitted this information.

Navy Response: The Navy acknowledges the comment.

Action Item 3: The EPA will conduct a quality control review for the laboratory data. Agency concurrence with the data validation results, the EPA and DTSC will contact the Navy regarding backfilling of the areas of the lot that have been excavated for the sandblast investigation by January 13, 1995. The EPA and DTSC will provide their recommendation for the area with DDT detected at 0.45 ppm.

- EPA Comments:** The EPA provided its review of the laboratory data, recommendations regarding backfilling, and recommendations regarding the 0.45 ppm detection in a letter dated January 30, 1995. Enclosed is a second memorandum from our Quality Assurance Management Section which provides some more specific comments on the DDT field screening method, for your consideration.
- Navy Response:** The Navy acknowledges the comment. For response to the comments from the Quality Assurance Management Section, please refer to attached "NAVY RESPONSES TO U.S. EPA COMMENTS ON THE REVIEW SOIL SCREENING DATA FROM HUNTERS POINT ANNEX (HPA), PARCEL A, SAN FRANCISCO, CALIFORNIA, USING EPA METHOD 4042 (MILLIPORE IMMUNOASSAY TEST KIT FOR DDT ANALYSIS)."
- Action Item 4:** The regulatory agencies will prepare an outline for the Parcel A RI report.
- EPA Comments:** In our understanding, this request was made for the preparation of the January 11, 1995 meeting itself. EPA brought to that meeting examples of RI report outlines, including that which is contained in EPA guidance. In our estimation, EPA has not committed to producing any additional outlines.
- Navy Response:** The Navy agrees with the comment.
- Action Item 5:** For discussion purposes the Navy and its contractors, and the regulatory agencies will each prepare a draft summary of the PA-43 write up and outline of the sections necessary for inclusion in the RI report.
- EPA Comments:** Since the January 11, 1995 meeting, PRC has indicated to EPA that PRC is undertaking a revision of this chapter as a strawman and thus EPA's revision is not necessary. We will be glad to review the work conducted by PRC to date and provide any necessary guidance.
- Navy Response:** A draft summary of the SI-43 write up and RI report outline will be submitted to EPA on April 4, 1995.
- Action Item 6:** EPA will discuss an internal EPA memo (from Matt Hagemann to Alydda Mangelsdorf) of items that need to be addressed in the Parcel A RI report.
- EPA Comments:** It is U.S. EPA's position that the Remedial Investigation report should provide a clear and concise description or conceptual model of the hydrogeological setting in Parcel A which draws from the data collected at the site, as well as from professional judgement. This section of the RI should make use of the information contained in the Site Inspection report, as well as the various presentations given by the Navy and its

contractors. Some of the following issues should be addressed: hydraulic conductivity, ground water flow direction, potential conduits for groundwater flow, and estimations of groundwater flow velocity. The overall goal of the hydrogeological section of the RI report should be to describe very clearly what information was collected to understand the hydrogeology, what understanding was derived and provide justification for the limited extent of hydrogeological work at Parcel A.

Navy Response:

The Navy intends to provide the Parcel A hydrogeological study results in the Parcel A RI report. The information will include the data collected by the investigation, conceptual model of the hydrogeological setting, hydraulic conductivity, groundwater flow direction, potential conduits for groundwater flow, estimations of groundwater flow velocity, and reasons for the extent of the Parcel A groundwater investigation.

Action Item 7:

The regulatory agencies will look at the proposed Parcel A schedule and send comments to the Navy.

EPA Comments:

For clarification, this action item also includes a review of the Navy's final proposal for the SI and RI report formats.

- a. It is EPA's position that the Navy need not finalize the Draft Final SI report. A letter should be written to the Administrative Record which indicates that the Draft Final SI report will serve as the Final SI report and that comments on the Draft Final SI report will be addressed in the RI report.

Navy Response:

The Navy concurs with EPA's comments. A letter will be written to the Administrative Record to indicate that the Draft Final SI report will serve as the Final SI report and that comments on the draft final SI report will be addressed in the RI report. The Parcel A RI report will focus on the residual contamination at the sites addressed in the Parcel A SI report.

EPA Comments:

- b. It is EPA's position that the Navy should produce a mini-RI report for Parcel A which covers both soil and groundwater. Soil contamination should be discussed in full for those sites which required excavation. This would include the previously unreported sandblast grit found buried in a utility line and the associated DDT contamination.

Navy Response:

The Parcel A RI report will focus on the residual contamination after soil excavation at the sites addressed in the Parcel A SI report. The previously unreported Parcel A groundwater and sandblast grit investigations will be described in the RI report.

EPA Comments:

To be reported "in full" means that for each site of excavation, the Navy should identify the methods of investigation, a summary of

the findings, and detailed discussion of the Contaminants of Concern. In this case, the Contaminants of Concern should be defined as: petroleum (motor oil) and its constituents, contaminants which exceed a Preliminary Remediation Goal at 10^{-6} or a cumulative hazard index of 1, and contaminants which exceed an ecological criteria. The mini-RI should discuss the initial findings as well as the reduction through excavation.

Navy Response:

The Parcel A RI report will identify the methods of investigation, summarize major findings, and discuss the residual chemicals for each site of excavation. Since the soil excavation for Parcel A was performed in 1993 and all the residual chemical concentrations are below the health-based levels (HBL) specifically developed for HPA, the Navy would like a clarification on which preliminary remediation goals (PRG) should be used for comparison. Please specify the publish date for the EPA PRGs list that would be used for the Parcel A RI report.

EPA Comments:

For those sites which did not require any excavation, the mini-RI report should summarize the investigation techniques and results as a means of justifying why no action was taken. Reference should be made to the appropriate SI report addendum and section for each of these sites.

Navy Response:

The Navy agrees with the comment. The Parcel A RI will briefly summarize the investigation techniques and results for those sites which no further action was recommended or did not require an excavation.

EPA Comments:

The mini-RI should also summarize the findings of the Human Health Risk Assessment. To satisfy a concern of the RAB, the mini-RI report should include in this summary, a discussion of gardening as a route of contaminant transport and justification for why the excavation and backfill was sufficient to protect home gardeners. In particular, the residual concentrations and depth of excavation and backfill must be justified as regards the protection of home gardeners. Beyond the summary and discussion of gardening, however, the mini-RI should simply reference the appropriate volume and appendix of the SI report.

Navy Response:

The results of the human health risk assessment (HHRA) for residual chemicals, including gardening as a route of contaminant transport, will be summarized in the Parcel A RI report. The Navy concurs that the HHRA prepared for the Parcel A SI report will not go through major revision and will be referenced where appropriate.

EPA Comments:

The mini-RI report should also summarize the findings of the Screening Level Ecological Risk Assessment. Beyond the summary, however, the mini-RI should simply reference the

appropriate sections of the SI Report and U.S. EPA's Screening Level Ecological Risk Assessment.

Navy Response: The Parcel A RI report will summarize the findings of the Screening Level Ecological Risk Assessment and will refer to this document in the appropriate sections.

EPA Comments: c. **It is EPA's position that action-specific, location-specific, and contaminant-specific ARARs must be identified for groundwater. For contaminant-specific ARARs, only ARARs applying to the identified Chemicals of Concern, as defined above, need be determined. Please be aware that the State may identify ARARs which require a back calculation to soil as a means of ensuring that the soil excavation was protective of groundwater.**

Navy Response: The Navy is currently compiling an ARARs list for the contaminants identified in groundwater and chemicals of concern in soil. The Navy received a letter from Cyrus Shabahari dated February 7, 1995 transmitting potential ARARs from state agencies that responded to the ARARs submission request. The Navy requests that the state identify the ARARs that may need a back calculation to soil as a means of ensuring that the soil excavation is protective of groundwater.

EPA Comments: d. **It is EPA's position that the fate and transport section only need address the Chemicals of Concern, as defined above.**

Nave Response: The Navy agrees with the comment.

EPA Comments: e. **It is EPA's position that a feasibility study for soils is not necessary UNLESS groundwater results indicate that soil sources still exist which must be remediated. In that case, the RI/FS report will have to be expanded.**

Navy Response: The Navy agrees with the comment. The preliminary groundwater sampling results show no soil sources that need remediation.

RESPONSE TO EPA'S CONCERNS ON PARCEL A SCHEDULE:

- A. The comment and response to comment period should be 60 days in all cases, lengthening the 45 days identified for the FS report and shortening the 90 days identified for the proposed plan. This will result in a comment period of 30 days for every draft report.**

Navy Response:

The comment periods of 45 days for the FS report and 90 days for the proposed plan were included in the Federal Facilities Agreement (FFA). The Navy proposes to follow the prescribed review periods listed in the FFA schedule, in view of expected public concern since Parcel A should be the first property at HPA to be transferred to the City of San Francisco.

- B. All draft final documents should become final documents within 30 days--not 60 days as indicated for the final proposed plan. This will encourage early resolution of issues prior to the draft final proposed plan.**

Navy Response:

The Navy proposes that the draft documents become final documents within 60 days as indicated in the FFA schedule. Please refer to the Navy's response to Comment A above.

- C. The final ROD should be submitted 60 days after submittal of the draft ROD, not 75 days. This will result in a comment period of 30 days followed by a revision period of 30 days.**

Navy Response:

According to the EPA Community Relations in Superfund: A Handbook, in order to meet the community interest and needs, the public comment period should be left at 60 days. There will be no revision period if the final ROD should be submitted 60 days after submittal of the draft ROD. Therefore, to submit the final ROD 75 days after submittal of the draft ROD is more appropriate.

- D. These changes should result in a final ROD approval date of 11/22/95--not 1/31/96.**

Navy Response:

The initial schedule that set up the final ROD approval date of November 22, 1995 was based on the assumption that all field work would be completed by February 16, 1995. Due to field conditions, the field work is ongoing for the sandblast grit and groundwater investigations in Parcel A. For the sandblast grit investigation, removal of the investigation-derived waste (IDW) and sampling at the weep holes and several surface locations are being planned. For the groundwater investigation, additional sampling for storm events (the rising and falling limbs of the hydrography) is being planned. Currently, the Parcel A investigation is an entire month behind the assumed completion date of February 16, 1995. Therefore, the initially proposed Parcel A schedule should be modified accordingly. The Navy would like to have a meeting with

regulatory agencies to discuss any outstanding issues for the preparation of the Parcel A RI report.

- E. Please be aware that concurrent development of the EBS and FOST for Parcel A is recommended so that immediate transfer of the property can occur upon final approval of the ROD. It is our recommendation that the Navy immediately begin the development of these documents so that no further delays occur.**

Navy Response: The Navy acknowledges the comment.

**NAVY RESPONSES TO EPA COMMENTS ON THE
REVIEW SOIL SCREENING DATA FROM
HUNTERS POINT ANNEX (HPA), PARCEL A, SAN FRANCISCO, CALIFORNIA
USING EPA METHOD 4042 (MILLIPORE IMMUNOASSAY TEST KIT FOR DDT
ANALYSES)**

The following presents the Navy's responses to the U.S. Environmental Protection Agency (EPA) comments on the review soil screening data from Parcel A of Hunters Point Annex (HPA) using EPA Method 4042 (Millipore immunoassay test kit for DDT analyses).

Major Concerns:

Comment No. 1: Reporting of field results does not always follow the procedure recommended in the method (i.e., low, medium, high). Field results should be reported as one of three possibilities (> 0.2, > 1.0, and > 10 mg/Kg).

Response: Comment acknowledges. The applications specialist Kenneth McCourt from Millipore (the manufacturer of the DDT field kits) suggested using notations such as > 0.2 but < 1.0 mg/kg if the result is between 0.2 and 1.0 mg/kg, instead of following the method notation exclusively.

Comment No. 2: Field analysts should document sample dilution factors on field data sheets.

Response: Dilution factors were noted on the field data sheets. When a required methanol extraction volume of 5 milliliters (ml) was increased to 10 or 15 ml, a dilution factor was indicated next to the sample numbers. During the conversation which took place between Mark Petersen of EPA QAMS and Sharon Lin of PRC on March 6, Mark suggested modifying the field data sheets by adding a column of dilution factor to indicate this explicitly. The field analyses sheets will be modified for future projects using field screening tools.

Other Concerns:

Comment No. 3: It is unclear how samples were selected for confirmation analysis when undetectable amounts of DDT were reported by the field test. Was a statistical approach to sample selection conducted in order to demonstrate the absence of DDT at a site?

Response: The selection of samples for laboratory confirmations were based on spatial and field test results. After each sampling event, samples with different

ranges of detections were sent to the laboratory for confirmation analyses. There was also a spatial aspects coverage of the selection for confirmation analyses (refer to attached map).

Comment No. 4:

The use of the field screening procedure at other sites (i.e., other soil matrices) may result in other concerns such as false negative results due to poor extraction efficiency or false positives results due to the presence of interfering compounds. For this reason, QAMS recommends a statistical approach for selection of laboratory confirmation analyses.

Response:

The Navy acknowledges the comment.

No. 111

AGENDA

**Hunters Point Annex Parcel A
Remedial Investigation Report Preparation
and Outstanding Issues Meeting**

Location - TBD

April 4, 1995, Time - TBD

1. Outstanding issues for concurrence
 - a. Issue: Chemicals of concern
Discussion: Definition of chemicals of concern
 - b. Issue: Applicable or relevant and appropriate requirements (ARAR)
Discussion: ARARs for chemicals of concern with ~~residual~~ concentrations that have residential risk greater than 10^{-6} or a hazard index greater than 1.
 - c. Issue: ARARs for back-calculation
Discussion: List of ARARs from the State that may need to be back-calculated to determine an impact on groundwater.
 - d. Issue: Human health risk assessment (HHRA) currently in the Parcel A SI report
Discussion: HHRA currently in the Parcel A SI report is adequate for the Parcel A RI report. The HHRA for the Parcel A SI report was based on health-based levels developed specifically for HPA.
 - e. Issue: Eco-risk assessment prepared by EPA
Discussion: The eco-risk assessment prepared by EPA is complete and satisfactory, and ecological ARARs would ~~not~~ be reviewed.
 - f. Issue: Fate and transport for residual chemicals
Discussion: The fate and transport for only those chemicals with ~~residual~~ concentrations that have residential risk greater than 10^{-6} or a hazard index greater than 1 will be addressed in the Parcel A RI report. The fate and transport sections will be prepared through a paper study and use of previously gathered data.
 - g. Issue: Feasibility study for soils
Discussion: A feasibility study for soils is not necessary since the soil was excavated.
2. Outline for Parcel A RI report
3. Discussion on content of example write-up (SI-43) for Parcel A RI report
4. Discussion on Parcel A schedule
5. Other topics
6. Summary/action items

**PRELIMINARY DRAFT OUTLINE
PARCEL A RI/FS REPORT
HUNTERS POINT ANNEX**

1.0 INTRODUCTION

- 1.1 Purpose and Scope of Work
- 1.2 Facility-Wide Investigation Program
- 1.3 Report Organization

2.0 BACKGROUND AND SITE HISTORY

- 2.1 Site Description and History
- 2.2 Previous Investigations
 - 2.2.1 SI-45 Steam Line
 - 2.2.1.1 Field Investigation
 - 2.2.1.2 Summary of Results
 - 2.2.1.3 Conclusion and Recommendation
 - 2.2.2 SI-51 Transformer Locations
 - 2.2.2.1 Field Investigation
 - 2.2.2.2 Summary of Results
 - 2.2.2.3 Conclusion and Recommendation
 - 2.2.3 SI-77 UST 812
 - 2.2.4 Air Sampling Results

3.0 PHYSICAL CHARACTERISTICS

- 3.1 Land Use and Topography
- 3.2 Surface Water Drainage
- 3.3 Geology and Hydrogeology
- 3.4 Ecology

4.0 PARCEL A SOIL INVESTIGATIONS

- 4.1 SI-19 Building 901
 - 4.1.1 Method of Investigation
 - 4.1.1.1 Source Area Evaluation
 - 4.1.1.2 Soil Sampling
 - 4.1.1.3 Excavation Activities
 - 4.1.1.4 Analytical Program
 - 4.1.2 Nature and Extent of Contamination
 - 4.1.2.1 Pesticides, PCBs, and Herbicides
 - 4.1.2.2 SVOCs
 - 4.1.2.3 Metals
 - 4.1.3 Contaminant Fate and Transport
 - 4.1.4 Conclusion and Recommendation
- 4.2 SI-41 Buildings 818 and 816
 - 4.2.1 Method of Investigation
 - 4.2.1.1 Source Area Evaluation
 - 4.2.1.2 Soil Boring and Soil Sampling
 - 4.2.1.3 Excavation Activities
 - 4.2.1.4 Analytical Program
 - 4.2.2 Nature and Extent of Contamination

**PRELIMINARY DRAFT OUTLINE
PARCEL RI/FS REPORT
HUNTERS POINT ANNEX
(continued)**

- 4.2.2.1 VOCs
- 4.2.2.2 SVOCs
- 4.2.2.3 Metals
- 4.2.2.4 Radiation
- 4.2.3 Contaminant Fate and Transport
- 4.2.4 Conclusion and Recommendation
- 4.3 SI-43 Building 906
 - 4.3.1 Method of Investigation
 - 4.3.1.1 Source Area Evaluation
 - 4.3.1.2 Soil Drilling and Sampling
 - 4.3.1.3 Excavation Activities
 - 4.3.1.4 Analytical Program
 - 4.3.2 Nature and Extent of Contamination
 - 4.3.2.1 Pesticides, PCBs, and Herbicides
 - 4.3.2.2 SVOCs
 - 4.3.2.3 Metals
 - 4.3.3 Contaminant Fate and Transport
 - 4.3.4 Conclusion and Recommendation
- 4.4 SI-50 Storm Drain and Sanitary Sewer Lines
 - 4.4.1 Method of Investigation
 - 4.4.1.1 Source Area Evaluation
 - 4.4.1.2 Soil Drilling and Sampling
 - 4.4.1.3 Maintenance Activities
 - 4.4.1.4 Analytical Program
 - 4.4.2 Nature and Extent of Contamination
 - 4.4.2.1 Pesticides, PCBs, and Herbicides
 - 4.4.2.2 VOCs and SVOCs
 - 4.4.2.3 Metals
 - 4.4.3 Contaminant Fate and Transport
 - 4.4.4 Conclusion and Recommendation
- 4.5 SI-78 Sandblast and Pesticide Investigation at Jerrold Avenue Lot
 - 4.5.1 Method of Investigation
 - 4.5.1.1 Source Area Evaluation
 - 4.5.1.2 Soil Drilling and Sampling
 - 4.5.1.3 Excavation Activities
 - 4.5.1.4 Analytical Program
 - 4.5.2 Nature and Extent of Contamination
 - 4.5.2.1 Pesticides
 - 4.5.2.2 Metals
 - 4.5.3 Contaminant Fate and Transport
 - 4.5.4 Conclusion and Recommendation

**PRELIMINARY DRAFT OUTLINE
PARCEL RI/FS REPORT
HUNTERS POINT ANNEX
(continued)**

5.0 PARCEL A GROUNDWATER INVESTIGATION

- 5.1 Method of Investigation
 - 5.1.1 Source Area Evaluation
 - 5.1.2 Soil Drilling and Sampling
 - 5.1.3 Analytical Program
- 5.2 Nature and Extent of Contamination
 - 5.2.1 Source of Motor Oil
 - 5.2.2 Geology Findings
 - 5.2.3 Hydrogeology Findings
 - 5.2.3.1 Groundwater Hydraulics and Flow
 - 5.2.3.2 Groundwater Quality
 - 5.2.3.3 Surface Water Flow and Quality
 - 5.2.3 Groundwater Contamination
- 5.3 Contaminant Fate and Transport
- 5.4 Conclusion and Recommendation

6.0 RISK ASSESSMENT SUMMARY

- 6.1 Soil Risk Assessment
 - 6.1.1 Risk Assessment Procedures and Assumptions
 - 6.1.2 Health Risk Associated with SI-19
 - 6.1.3 Health Risk Associated with SI-41
 - 6.1.4 Health Risk Associated with SI-43
 - 6.1.5 Health Risk Associated with SI-50
 - 6.1.6 Health Risk Associated with Sandblast and Pesticides at Jerrold Avenue
 - 6.1.7 Potential Hazardous to Ecological Receptors
- 6.2 Groundwater Risk Assessment
 - 6.2.1 Health Risk Associated with Groundwater Contamination
 - 6.2.2 Potential Hazardous to Ecological Receptors
 - 6.2.3 Derivation of Target Remedial Goals (?)

7.0 APPLICABLE OR RELEVANT AND APPROPRIATE REQUIREMENTS

- 7.1 Definition of ARARs
- 7.2 ARAR Categories
- 7.3 ARARs Related to Soil Excavation Activities
- 7.4 ARARs Related to Groundwater Alternatives

8.0 GROUNDWATER FEASIBILITY STUDY

- 8.1 Definition of Remedial Units
- 8.2 Remedial Action Objectives
- 8.3 Initial Screening and Evaluation of Remedial Technologies
- 8.4 Detailed Analysis of Remedial Alternatives
 - 8.4.1 Alternative 1 - No Action
 - 8.4.1.1 Overall Protection of Human Health and the Environmental

**PRELIMINARY DRAFT OUTLINE
PARCEL RI/FS REPORT
HUNTERS POINT ANNEX
(continued)**

- 8.4.1.2 Compliance with ARARs
- 8.4.1.3 Long-Term Effectiveness and Permanence
- 8.4.1.4 Reduction of Toxicity, Mobility, and Volume of Contaminants
- 8.4.1.5 Short-Term Effectiveness
- 8.4.1.6 Implementability
- 8.4.1.7 Cost
- 8.4.1.8 State (Support Agency) Acceptance
- 8.4.1.9 Community Acceptance

- 8.4.2 Alternative 2 - Groundwater Extraction, Treatment, and Disposal
 - 8.4.2.1 Overall Protection of Human Health and the Environmental
 - 8.4.2.2 Compliance with ARARs
 - 8.4.2.3 Long-Term Effectiveness and Permanence
 - 8.4.2.4 Reduction of Toxicity, Mobility, and Volume of Contaminants
 - 8.4.2.5 Short-Term Effectiveness
 - 8.4.2.6 Implementability
 - 8.4.2.7 Cost
 - 8.4.2.8 State (Support Agency) Acceptance
 - 8.4.2.9 Community Acceptance

- 8.5 Comparison of Remedial Alternatives and Selection of Preferred Alternative
 - 8.5.1 Comparison Based on CERCLA Criteria: Alternatives 1 and 2
 - 8.5.2 Selection of Preferred Alternative

- 9.0 SUMMARY AND CONCLUSIONS
 - 9.1 Physical Characteristics
 - 9.2 Nature and Extent of Contamination
 - 9.3 Fate and Transport of Contaminants
 - 9.4 Risk Assessment
 - 9.6 ARARs
 - 9.7 Remedial Alternative Selection

REFERENCES