

**STATE OF CALIFORNIA
CALIFORNIA ENVIRONMENTAL PROTECTION AGENCY
DEPARTMENT OF TOXIC SUBSTANCES CONTROL**

In the Matter of:)	Docket No. <u>IS&E 02/03-001</u>
)	
<i>Gaines Property</i>)	
)	IMMINENT AND SUBSTANTIAL
)	ENDANGERMENT
)	DETERMINATION AND ORDER
Respondents:)	AND REMEDIAL ACTION ORDER
)	
<i>Rachel Gaines</i>)	Health and Safety Code
<i>7001 Arthur Street</i>)	Sections 25355.5(a)(1)(B),
<i>Oakland, California 94605</i>)	25358.3(a), 58009 and 58010
_____)	

I. INTRODUCTION

1.1 Parties. The California Environmental Protection Agency, Department of Toxic Substances Control (DTSC) issues this Imminent and Substantial Endangerment Determination and Order and Remedial Action Order (Order) to Rachel Gaines (Respondent(s)).

1.2 Property/Site. This Order applies to the property located at 1795 11th Street, Oakland, Alameda County, California 94607. The property consists of 0.11 acre and is identified by Assessor's Parcel number(s) 060-031-015. A map showing the Property is attached as Exhibit A. This Order applies to the property and the areal extent of contamination that resulted from activities on the property (hereinafter, the "Site").

1.3 Jurisdiction. This Order is issued by DTSC to Respondents pursuant to its authority under Health and Safety Code sections 25358.3(a), 25355.5(a)(1)(B), 58009 and 58010.

Health and Safety Code section 25358.3(a) authorizes DTSC to take various actions, including issuance of an Imminent or Substantial Endangerment Determination and Order, when DTSC determines that there may be an imminent or substantial endangerment to the public health or welfare or to the environment, because of a release or a threatened release of a hazardous substance.

Health and Safety Code section 25355.5(a)(1)(B) authorizes DTSC to issue an order establishing a schedule for removing or remedying a release of a hazardous substance at a site, or for

correcting the conditions that threaten the release of a hazardous substance. The order may include, but is not limited to requiring specific dates by which the nature and extent of a release shall be determined and the site adequately characterized, a remedial action plan prepared and submitted to DTSC for approval, and a removal or remedial action completed.

Health and Safety Code section 58009 authorizes DTSC to commence and maintain all proper and necessary actions and proceedings to enforce its rules and regulations; to enjoin and abate nuisances related to matters within its jurisdiction which are dangerous to health; to compel the performance of any act specifically enjoined upon any person, officer, or board, by any law of this state relating to matters within its jurisdiction; and/or on matters within its jurisdiction, to protect and preserve the public health.

Health and Safety Code section 58010 authorizes DTSC to abate public nuisances related to matters within its jurisdiction.

II. FINDINGS OF FACT

DTSC hereby finds:

2.1 Liability of Respondent(s). Respondent(s) is a responsible party or liable person as defined in Health and Safety Code section 25323.5. Mrs. Rachel Gaines is the current property owner. Rachel and Clinton Gaines acquired the property from Mary Shaw in 1989. Mr. Clinton Gaines is now deceased.

2.2 Physical Description of Site. The property is a vacant lot, approximately 5,400 square feet, surrounded by industrial facilities on the west and north and residential homes toward the east and south. A family with small children occupies the house adjacent to the lot. The site is currently used as a junkyard for storing vehicles, a few used tires and some drums.

2.3 Site History. The Site history is unknown, but Mrs. Gaines believes that the Site once operated as a wood pallet company.

2.4 Hazardous Substances Found at the Site. Pursuant to section 102 of CERCLA, 42 U.S.C. section 9602, and H&SC section 25316, a substance is a "hazardous substance" if it is listed in Title 40, Code of Federal Regulations ("CFR"), Section 302.4. The following substances, listed in 40 CFR section 302.4, have been detected in the soil at the Site: cadmium at up to 69.5 ppm, total chromium at up to 454 ppm, copper at up to 4,490 ppm, lead at up to 28,000 ppm, and thallium at up to 78.2 ppm.

2.5 Health Effects. (U.S. Department of Health and Human Services, Public Health Service, Agency for Toxic Substances and Disease Registry, ToxFAQs, June 2002).

2.5.1 Cadmium. Inhalation of high concentrations of cadmium will severely damage the lungs and may cause death. Ingestion of food or water containing very high levels severely irritates the stomach, leading to vomiting and diarrhea. Long term exposure to lower levels of cadmium in air, food, or water leads to a build up of cadmium in the kidneys and possible kidney disease. Other potential long-term effects are lung damage and fragile bones. Animal studies have shown cadmium may cause high blood pressure, anemia, liver disease, and nerve or brain damage. Dermal contact with cadmium is not known to cause health effects in humans or animals. The Department of Health and Human Services has determined that cadmium and cadmium compounds may reasonably be anticipated to be carcinogens. This is based on weak evidence of increased lung cancer in humans from inhalation of cadmium and on strong evidence from animal studies.

2.5.2 Chromium. Hexavalent chromium has been found to cause increased respiratory cancer mortality in workers. Trivalent chromium is also considered to be toxic. The hexavalent form is more acutely toxic. Acute exposures to dust or mist may cause coughing and wheezing, headache, dyspnea, pain on deep inspiration, tracheobronchial irritation, and edema.

2.5.3 Copper. Questionable carcinogen with experimental tumorigenic data. Experimental teratogenic and reproductive effects. Human systemic effects by ingestion: nausea and vomiting

2.5.4 Lead. Short-term exposure to lead can cause reversible kidney damage, but prolonged exposure at high concentrations may result in progressive kidney damage and possibly kidney failure. Anemia, due to the inhibition of hemoglobin synthesis and a reduction in the life span of circulation red blood cells, is an early manifestation of lead poisoning. The most serious effects associated with markedly elevated blood lead levels are severe neurotoxic effects that include irreversible brain damage, as indexed by the occurrence of acute or chronic encephalopathic symptoms.

2.5.5 Thallium. Exposure to high levels of thallium can result in harmful effects of the nervous system. Short term effects include vomiting, diarrhea, temporary hair loss, and effects on the nervous system, lungs, heart, liver, and kidneys. It has caused death. It is not known what the effects are from ingesting low levels of thallium over a long time.

2.6 Routes of Exposure. Potential routes of exposure to humans include inhalation, direct dermal contact, and ingestion of soils containing contaminants.

2.7 Public Health and/or Environmental Risk. The Site is in a mixed residential/commercial area and is in the immediate vicinity of residential homes.

III. CONCLUSIONS OF LAW

3.1 Respondent(s) is a responsible party as defined by Health and Safety Code section

25323.5.

3.2 Each of the substances listed in Section 2.4 is a "hazardous substance" as defined in Health and Safety Code section 25316.

3.3 There has been a ~~A~~release~~@~~ and/or there is a ~~A~~threatened release~~@~~ of hazardous substances listed in Section 2.4 at the Site, as defined in Health and Safety Code section 25320.

3.4 The actual and threatened release of hazardous substances at the Site may present an imminent and substantial endangerment to the public health or welfare or to the environment.

3.5 Response action is necessary to abate a public nuisance and/or to protect and preserve the public health.

IV. DETERMINATION

4.1 Based on the foregoing findings of fact and conclusions of law, DTSC hereby determines that response action is necessary at the Site because there has been a release and/or there is a threatened release of a hazardous substance.

4.2 Based on the foregoing findings of fact and conclusions of law, DTSC hereby determines that there may be an imminent and/or substantial endangerment to the public health or welfare or to the environment because of the release and/or the threatened release of the hazardous substances at the Site.

V. ORDER

Based on the foregoing FINDINGS, CONCLUSIONS, AND DETERMINATION, IT IS HEREBY ORDERED THAT Respondent(s) conduct the following response actions in the manner specified herein, and in accordance with a schedule specified by DTSC as follows:

5.1 All response actions taken pursuant to this Order shall be consistent with the requirements of Chapter 6.8 (commencing with section 25300), Division 20 of the Health and Safety Code and any other applicable state or federal statutes and regulations.

5.1.1 Site Remediation Strategy. The purpose of this Order is to require for the Site: implementation of any appropriate removal actions, completion of a Remedial Investigation/Feasibility Study (RI/FS), preparation of a Remedial Action Plan (RAP), preparation of California Environmental Quality Act (CEQA) documents, and Design and Implementation of the remedial actions approved in the RAP. An overall Site investigation and remediation strategy shall be developed by Respondent(s) in

conjunction with DTSC which reflects program goals, objectives, and requirements. Current knowledge of the Site contamination sources, exposure pathways, and receptors shall be used in developing this strategy.

An objective of the Site investigations shall be to identify immediate or potential risks to public health and the environment and prioritize and implement response actions using removal actions and operable units, if appropriate, based on the relative risks at the Site. Respondent(s) and DTSC shall develop and possibly modify Site priorities throughout the course of the investigations. If necessary for the protection of public health and the environment, DTSC will require additional response actions not specified in this Order to be performed as removal actions or separate operable units. Removal actions shall be implemented in accordance with a workplan and implementation schedule submitted by Respondent(s) and approved by DTSC.

For operable unit remedial actions, DTSC will specify the separate and focused remedial phase activities to be conducted as RI/FS, RAP, Design, and Implementation. The focused activities shall be conducted in accordance with the corresponding remedial phase requirements specified in this Order, but shall only address the area or problem of the operable unit.

5.1.2 Removal Actions. Respondent(s) shall undertake removal actions if, during the course of the RI or FS, DTSC determines that they are necessary to mitigate the release of hazardous substances at or emanating from the Site. DTSC may require Respondent(s) to submit a removal action workplan that includes a schedule for implementing the workplan for DTSC's approval. Either DTSC or Respondent(s) may identify the need for removal actions. Workplans for implementing the following removal actions shall be submitted by the specified dates:

(a) Fence and Post.

- 1) Within thirty [30] days of the effective date of this Order, Respondent(s) shall install a fence in accordance with the specifications attached as Exhibit ___. The fence shall secure, at a minimum, the property so that no unauthorized person(s) can access the area of contamination.
- 2) Within thirty [30] days of the effective date of this Order, Respondent(s) shall install signs, which are visible from the area surrounding the contaminated Site, and posted at each route of entry into the Site, including those routes likely to be used by unauthorized persons. Such routes of entry include: access roads leading to the Site, and facing rivers, creeks, lakes or other waterways which may provide a route of access to the Site. The signs shall be in accordance with the specifications attached as Exhibit ___.
- 3) The fence and signs shall be constructed of materials able to withstand the elements and shall be continuously maintained for as long as DTSC determines it to be necessary in order to protect public health and safety and the environment.

5.1.3 Site Remediation Strategy Meeting. Respondent(s), including the Project Coordinator (Section 6.1) and Project Engineer/Geologist (Section 6.2), shall meet with DTSC within twenty [20] days from the effective date (and concurrent with the development of the RI/FS workplan of this Order) to discuss the Site remediation strategy. These discussions will include Site risks and priorities; project planning, phasing and scheduling, remedial action objectives, remedial technologies, data quality objectives, and the RI/FS workplan. Results of the discussions will be included in the Scoping Document, Section 5.2.2(b) of this Order.

5.2 Remedial Investigation/Feasibility Study (RI/FS). A RI/FS shall be conducted for the Site. The RI/FS may be performed as a series of focused RI/FSs, if appropriate, based on Site priorities. The RI/FS shall be prepared consistent with the U.S. Environmental Protection Agency's "Guidance for Conducting Remedial Investigations and Feasibility Studies under CERCLA," October 1988. The purpose of the RI/FS is to assess Site conditions and to evaluate alternatives to the extent necessary to select a remedy appropriate for the Site. RI and FS activities shall be conducted concurrently and iteratively so that the investigations can be completed expeditiously. Because of the unknown nature of the Site and iterative nature of the RI/FS, additional data requirements and analyses may be identified throughout the process. Respondent(s) shall fulfill additional data and analysis needs identified by DTSC; these additional data and analysis requests will be consistent with the general scope and objectives of this Order.

The following elements of the RI/FS process and those defined by DTSC in Section 5.1.4 of this Order shall be preliminarily defined in the initial Site scoping and refined and modified as additional information is gathered throughout the RI/FS process.

- (a) Conceptual Site Model identifying contamination sources, exposure pathways, and receptors;
- (b) Federal, State and local remedial action objectives including applicable legal requirements or relevant and appropriate standards;
- (c) Project phasing including the identification of removal actions and operable units;
- (d) General response actions and associated remedial technology types; and
- (e) The need for treatability studies.

5.2.1 RI/FS Objectives. The objectives of the RI/FS are to:

- (a) Determine the nature and full extent of hazardous substance contamination of air, soil, surface water and groundwater at the Site.
- (b) Identify all actual and potential exposure pathways and routes through environmental media;

- (c) Determine the magnitude and probability of actual or potential harm to public health, safety or welfare or to the environment posed by the threatened or actual release of hazardous substances at or from the Site;
- (d) Identify and evaluate appropriate response actions to prevent or minimize future releases and mitigate any releases which have already occurred; and
- (e) Collect and evaluate the information necessary to prepare a RAP.

5.2.2 RI/FS Workplan. Within thirty [30] days from the effective date of this Order, Respondent(s) shall prepare and submit to DTSC for review and approval a detailed RI/FS Workplan and implementation schedule which covers all the activities necessary to conduct a complete RI/FS of the Site .

The RI/FS Workplan shall include a detailed description of the tasks to be performed, information or data needed for each task, and the deliverables which will be submitted to DTSC. Either Respondent(s) or DTSC may identify the need for additional work.

These RI/FS Workplan deliverables are discussed in the remainder of this Section, with a schedule for implementation, and monthly reports. The RI/FS Workplan shall include all the sections and address each component listed below.

- (a) Project Management Plan. The Project Management Plan shall define relationships and responsibilities for major tasks and project management items by Respondent(s), its contractors, subcontractors, and consultants. The plan shall include an organization chart with the names and titles of key personnel and a description of their individual responsibilities.
- (b) Scoping Document. The Scoping Document shall incorporate program goals, program management principles, and expectations contained in the National Contingency Plan (NCP) (40 Code of Federal Regulations (CFR) Part 300), as amended. It shall include:
 - (1) An analysis and summary of the Site background and the physical setting. At a minimum, the following information is required:
 - (A) A map of the Site, and if they exist, aerial photographs and blueprints showing buildings and structures;
 - (B) A description of past disposal practices;
 - (C) A list of all hazardous substances which were disposed, discharged, spilled, treated, stored, transferred, transported, handled or used at the Site, and a description of their estimated volumes, concentrations, and characteristics;

- (D) A description of the characteristics of the hazardous substances at the Site; and
- (E) If applicable, a description of all current and past manufacturing processes which are or were related to each hazardous substance.
 - (1) An analysis and summary of previous response actions including a summary of all existing data including air, soil, surface water, and groundwater data and the Quality Assurance/Quality Control (QA/QC) procedures which were followed;
 - (2) Presentation of the Conceptual Site Model;
 - (3) The scope and objectives of RI/FS activities;
 - (4) Preliminary identification of possible response actions and the data needed for the evaluation of alternatives. Removal actions shall be proposed, if needed, based on the initial evaluation of threats to public health and the environment. If remedial actions involving treatment can be identified, treatability studies shall be conducted during the characterization phase, unless Respondent(s) and DTSC agree that such studies are unnecessary as set forth in Section 5.4; and
 - (5) If applicable, initial presentation of the Site Remediation Strategy.
- (c) Field Sampling Plan. The Field Sampling Plan shall include:
 - (1) Sampling objectives, including a brief description of data gaps and how the field sampling plan will address these gaps;
 - (2) Sample locations, including a map showing these locations, and proposed frequency;
 - (3) Sample designation or numbering system;
 - (4) Detailed specification of sampling equipment and procedures;
 - (5) Sample handling and analysis including preservation methods, shipping requirements and holding times; and
 - (6) Management plan for wastes generated.
- (d) Quality Assurance Project Plan. The plan shall include:
 - (1) Project organization and responsibilities with respect to sampling and analysis;

(2) Quality assurance objectives for measurement including accuracy, precision, and method detection limits. In selecting analytical methods, Respondent(s) shall consider obtaining detection limits at or below potentially applicable legal requirements or relevant and appropriate standards, such as Maximum Contaminant Levels (MCLs) or Maximum Contaminant Level Goals (MCLGs);

(3) Sampling procedures;

(4) Sample custody procedures and documentation;

(5) Field and laboratory calibration procedures;

(6) Analytical procedures;

(7) Laboratory to be used certified pursuant to Health and Safety Code section 25198;

(8) Specific routine procedures used to assess data (precision, accuracy and completeness) and response actions;

(9) Reporting procedure for measurement of system performance and data quality;

(10) Data management, data reduction, validation and reporting. Information shall be accessible to downloading into DTSC's system; and

(11) Internal quality control.

(e) Health and Safety Plan. A site-specific Health and Safety Plan shall be prepared in accordance with federal (29 CFR 1910.120) and state (Title 8 CCR Section 5192) regulations and shall describe the following:

(1) Field activities including work tasks, objectives, and personnel requirements and a description of hazardous substances on the Site;

(2) Respondent(s) key personnel and responsibilities;

(3) Potential hazards to workers including chemical hazards, physical hazards, confined spaces and climatic conditions;

(4) Potential risks arising from the work being performed including the impact to workers, the community and the environment;

- (5) Exposure monitoring plan;
- (6) Personal protective equipment and engineering controls;
- (7) Site controls including work zones and security measures;
- (8) Decontamination procedures;
- (9) General safe work practices;
- (10) Sanitation facilities;
- (11) Standard operating procedures;
- (12) Emergency response plan covering workers addressing potential hazardous material releases;
- (13) Training requirements;
- (14) Medical surveillance program; and
- (15) Record keeping.

(f) Other Activities. A description of any other significant activities which are appropriate to complete the RI/FS shall be included.

(g) Schedule. A schedule which provides specific time frames and dates for completion of each activity and report conducted or submitted under the RI/FS Workplan including the schedules for removal actions and operable unit activities.

5.2.3 RI/FS Workplan Implementation. Respondent(s) shall implement the approved RI/FS Workplan.

5.2.4 RI/FS Workplan Revisions. If Respondent(s) proposes to modify any methods or initiates new activities for which no Field Sampling Plan, Health and Safety Plan, Quality Assurance Project Plan or other necessary procedures/plans have been established, Respondent(s) shall prepare an addendum to the approved plan(s) for DTSC review and approval prior to modifying the method or initiating new activities.

5.3 Interim Screening and Evaluation of Remedial Technologies. At the request of DTSC, Respondent(s) shall submit an interim document which identifies and evaluates potentially suitable remedial technologies and recommendations for treatability studies.

5.4 Treatability Studies. Treatability testing will be performed by Respondent(s) to develop data for the detailed remedial alternatives. Treatability testing is required to demonstrate the implementability and effectiveness of technologies, unless Respondent(s) can show DTSC that similar data or documentation or information exists. The required deliverables are: a workplan, a sampling and analysis plan, and a treatability evaluation report. To the extent practicable, treatability studies will be proposed and implemented during the latter part of Site characterization.

5.5 Remedial Investigation (RI) Report. The RI Report shall be prepared and submitted by Respondent(s) to DTSC for review and approval in accordance with the approved RI/FS workplan schedule. The purpose of the RI is to collect data necessary to adequately characterize the Site for the purposes of defining risks to public health and the environment and developing and evaluating effective remedial alternatives. Site characterization may be conducted in one or more phases to focus sampling efforts and increase the efficiency of the investigation. Respondent(s) shall identify the sources of contamination and define the nature, extent, and volume of the contamination. Using this information, the contaminant fate and transport shall be evaluated. The RI Report shall contain:

- (a) Site Physical Characteristics. Data on the physical characteristics of the Site and surrounding area shall be collected to the extent necessary to define potential transport pathways and receptor populations and to provide sufficient engineering data for development and screening of remedial action alternatives.
- (b) Sources of Contamination. Contamination sources (including heavily contaminated media) shall be defined. The data shall include the source locations, type of contaminant, waste characteristics, and Site features related to contaminant migration and human exposure.
- (c) Nature and Extent of Contamination. Contaminants shall be identified and the horizontal and vertical extent of contamination shall be defined in soil, groundwater, surface water, sediment, air, and biota. Spatial and temporal trends and the fate and transport of contamination shall be evaluated.

5.6 Baseline Health and Ecological Risk Assessment. Respondent(s) shall perform health and ecological risk assessments for the Site that meet the requirements of Health and Safety Code ' 25356.1.5(b). Respondent(s) shall submit a Baseline Health and Ecological Risk Assessment Report within thirty [30] days from the approval of the RI Report. The report shall be prepared consistent with U.S. EPA and California Environmental Protection Agency guidance and regulations, including as a minimum: Risk Assessment Guidance for Superfund, Volume 1; Human Health Evaluation Manual, December 1989; Superfund Exposure Assessment Manual, April 1988; Risk Assessment Guidance for Superfund, Volume 2, Environmental Evaluation Manual, March 1989; and all other related or relevant policies, practices and guidelines of the California Environmental Protection Agency and policies, practices and guidelines developed by U.S.EPA pursuant to 40 CFR 300.400 et seq. The Baseline Health and Ecological Risk Assessment Report shall include the following components:

(a) Contaminant Identification. Characterization data shall identify contaminants of concern for the risk assessment process.

(b) Environmental Evaluation. An ecological assessment consisting of:

(1) Identification of sensitive environments and rare, threatened, or endangered species and their habitats; and

(2) As appropriate, ecological investigations to assess the actual or potential effects on the environment and/or develop remediation criteria.

(c) Exposure Assessment. The objectives of an exposure assessment are to identify actual or potential exposure pathways, to characterize the potentially exposed populations, and to determine the extent of the exposure. Exposed populations may include industrial workers, residents, and subgroups that comprise a meaningful portion of the general population, including, but not limited to, infants, children, pregnant women, the elderly, individuals with a history of serious illness, or other subpopulations, that are identifiable as being at greater risk of adverse health effects due to exposure to hazardous substances than the general population.

(d) Toxicity Assessment. Respondent(s) shall evaluate the types of adverse health or environmental effects associated with individual and multiple chemical exposures; the relationship between magnitude of exposures and adverse effects; and related uncertainties such as the weight of evidence for a chemical's potential carcinogenicity in humans.

(e) Risk Characterization. Risk characterization shall include the potential risks of adverse health or environmental effects for each of the exposure scenarios derived in the exposure assessment.

5.7 Feasibility Study (FS) Report. The FS Report shall be prepared and submitted by Respondent(s) to DTSC for review and approval, no later than thirty [30] days from submittal of the RI Report. The FS Report shall summarize the results of the FS including the following:

(a) Documentation of all treatability studies conducted.

(b) Development of medium specific or operable unit specific remedial action objectives, including legal requirements and other promulgated standards that are relevant.

(c) Identification and screening of general response actions, remedial technologies, and process options on a medium and/or operable unit specific basis.

(d) Evaluation of alternatives based on the criteria contained in the NCP including:

Threshold Criteria:

- (1) Overall protection of human health and the environment.
- (2) Compliance with legal requirements and other promulgated standards that are relevant.

Primary Balancing Criteria:

- (1) Long-term effectiveness and permanence.
- (2) Reduction of toxicity, mobility, or volume through treatment.
- (3) Short-term effectiveness.
- (4) Implementability based on technical and administrative feasibility.
- (5) Cost.

Modifying Criteria:

- (1) State and local agency acceptance.
- (2) Community acceptance.
- (3) Proposed remedial actions.

5.8 Public Participation Plan (Community Relations). Respondent(s) shall work cooperatively with DTSC in providing an opportunity for meaningful public participation in response actions. Any such public participation activities shall be conducted in accordance with H&SC ' ' 25356.1 and 25358.7 and DTSC's most current Public Participation Policy and Guidance Manual, and shall be subject to DTSC's review and approval.

5.9 California Environmental Quality Act (CEQA). DTSC will comply with CEQA for all activities required by this Order that are projects subject to CEQA. Upon DTSC request, Respondent(s) shall provide DTSC with any information that DTSC deems necessary to facilitate compliance with CEQA. The costs incurred by DTSC in complying with CEQA are response costs and Respondent(s) shall reimburse DTSC for such costs pursuant to Section 6.19.

5.10 Remedial Action Plan (RAP). No later than thirty [30] days after DTSC approval of the FS Report, Respondent(s) shall prepare and submit to DTSC a draft RAP. The draft RAP shall be consistent with the NCP and Health and Safety Code section 25356.1. The draft RAP public review

process may be combined with that of any other documents required by CEQA. The draft RAP shall be based on and summarize the approved RI/FS Reports, and shall clearly set forth:

- (a) Health and safety risks posed by the conditions at the Site.
- (b) The effect of contamination or pollution levels upon present, future, and probable beneficial uses of contaminated, polluted, or threatened resources.
- (c) The effect of alternative remedial action measures on the reasonable availability of groundwater resources for present, future, and probable beneficial uses.
- (d) Site specific characteristics, including the potential for offsite migration of hazardous substances, the surface or subsurface soil, and the hydro geologic conditions, as well as preexisting background contamination levels.
- (e) Cost-effectiveness of alternative remedial action measures. Land disposal shall not be deemed the most cost-effective measure merely on the basis of lower short-term cost.
- (f) The potential environmental impacts of alternative remedial action measures, including, but not limited to, land disposal of the untreated hazardous substances as opposed to treatment of the hazardous substances to remove or reduce their volume, toxicity, or mobility prior to disposal.
- (g) A statement of reasons setting forth the basis for the removal and remedial actions selected. The statement shall include an evaluation of each proposed alternative submitted and evaluate the consistency of the removal and remedial actions proposed by the plan with the NCP.
- (h) A schedule for implementation of all proposed removal and remedial actions.

In conjunction with DTSC, Respondent(s) shall implement the public review process specified in DTSC's Public Participation Policy and Guidance Manual. Within ten [10] days of closure of the public comment period, Respondent(s) shall submit to DTSC a written Responsiveness Summary of all written and oral comments presented and received during the public comment period.

Following DTSC's review and finalization of the Responsiveness Summary, DTSC will specify any changes to be made in the RAP. Respondent(s) shall modify the document in accordance with DTSC's specifications and submit a final RAP within fifteen [15] days of receipt of DTSC's comments.

5.11 Remedial Design (RD). Within sixty [60] days after DTSC approval of the final RAP, Respondent(s) shall submit to DTSC for review and approval a RD describing in detail the technical and operational plans for implementation of the final RAP which includes the following elements, as applicable:

- (a) Design criteria, process unit and pipe sizing calculations, process diagrams, and final plans and specifications for facilities to be constructed.
- (b) Description of equipment used to excavate, handle, and transport contaminated material.
- (c) A field sampling and laboratory analysis plan addressing sampling during implementation and to confirm achievement of the performance objectives of the RAP.
- (d) A transportation plan identifying routes of travel and final destination of wastes generated and disposed.
- (e) For groundwater extraction systems: aquifer test results, capture zone calculations, specifications for extraction and performance monitoring wells, and a plan to demonstrate that capture is achieved.
- (f) An updated health and safety plan addressing the implementation activities.
- (g) Identification of any necessary permits and agreements.
- (h) An operation and maintenance plan including any required monitoring.
- (i) A detailed schedule for implementation of the remedial action consistent with the schedule contained in the approved RAP including procurement, mobilization, construction phasing, sampling, facility startup, and testing.

5.12 Deed Restrictions. If the approved remedy in the Final RAP includes deed restrictions, the current owner(s) of the Site shall sign and record deed restrictions approved by DTSC within ninety [90] days of DTSC's approval of the final RAP.

5.13 Implementation of Final RAP. Upon DTSC approval of the RD, Respondent(s) shall implement the final RAP in accordance with the approved schedule in the RD. Within thirty [30] days of completion of field activities, Respondent(s) shall submit an Implementation Report documenting the implementation of the Final RAP and RD.

5.14 Operation and Maintenance (O&M). Respondent(s) shall comply with all O&M requirements in accordance with the final RAP and approved RD. Within thirty [30] days of the date of DTSC's request, Respondent(s) shall prepare and submit to DTSC for approval an O&M plan that includes an implementation schedule. Respondent(s) shall implement the plan in accordance with the approved schedule.

5.15 Five-Year Review. Respondent shall review and reevaluate the remedial action after a

period of 5 years from the completion of construction and startup, and every 5 year(s) thereafter. The review and reevaluation shall be conducted to determine if human health and the environment are being protected by the remedial action. Within thirty (30) calendar days before the end of the time period approved by DTSC to review and reevaluate the remedial action, Respondent(s) shall submit a remedial action review workplan to DTSC for review and approval. Within sixty (60) days of DTSC's approval of the workplan, Respondent(s) shall implement the workplan and shall submit a comprehensive report of the results of the remedial action review. The report shall describe the results of all sample analyses, tests and other data generated or received by Respondent(s) and evaluate the adequacy of the implemented remedy in protecting public health, safety and the environment. As a result of any review performed under this Section, Respondent(s) may be required to perform additional Work or to modify Work previously performed.

5.16 Changes During Implementation of the Final RAP. During the implementation of the final RAP and RD, DTSC may specify such additions, modifications, and revisions to the RD as DTSC deems necessary to protect public health and safety or the environment or to implement the RAP.

5.17 Stop Work Order. In the event that DTSC determines that any activity (whether or not pursued in compliance with this Order) may pose an imminent or substantial endangerment to the health or safety of people on the Site or in the surrounding area or to the environment, DTSC may order Respondent(s) to stop further implementation of this Order for such period of time needed to abate the endangerment. In the event that DTSC determines that any site activities (whether or not pursued in compliance with this Order) are proceeding without DTSC authorization, DTSC may order Respondent(s) to stop further implementation of this Order or activity for such period of time needed to obtain DTSC authorization, if such authorization is appropriate. Any deadline in this Order directly affected by a Stop Work Order, under this Section, shall be extended for the term of the Stop Work Order.

5.18 Emergency Response Action/Notification. In the event of any action or occurrence (such as a fire, earthquake, explosion, or human exposure to hazardous substances caused by the release or threatened release of a hazardous substance) during the course of this Order, Respondent(s) shall immediately take all appropriate action to prevent, abate, or minimize such emergency, release, or immediate threat of release and shall immediately notify the Project Manager. Respondent(s) shall take such action in consultation with the Project Manager and in accordance with all applicable provisions of this Order. Within seven days of the onset of such an event, Respondent(s) shall furnish a report to DTSC, signed by Respondent(s)' Project Coordinator, setting forth the events which occurred and the measures taken in the response thereto. In the event that Respondent(s) fail to take appropriate response and DTSC takes the action instead, Respondent(s) shall be liable to DTSC for all costs of the response action. Nothing in this Section shall be deemed to limit any other notification requirement to which Respondent(s) may be subject.

5.19 Discontinuation of Remedial Technology. Any remedial technology employed in implementation of the final RAP shall be left in place and operated by Respondent(s) until and except to

the extent that DTSC authorizes Respondent(s) in writing to discontinue, move or modify some or all of the remedial technology because Respondent(s) has met the criteria specified in the final RAP for its discontinuance, or because the modifications would better achieve the goals of the final RAP.

5.20 Financial Assurance. Respondent(s) shall demonstrate to DTSC and maintain financial assurance for operation and maintenance and monitoring. Respondent(s) shall demonstrate financial assurance prior to the time that operation and maintenance activities are initiated and shall maintain it throughout the period of time necessary to complete all required operation and maintenance activities. The financial assurance mechanisms shall meet the requirements of Health and Safety Code Section 25355.2. All financial assurance mechanisms are subject to the review and approval of DTSC.

VI. GENERAL PROVISIONS

6.1 Project Coordinator. Within ten [10] days from the date the Order is signed by DTSC, Respondent(s) shall submit to DTSC in writing the name, address, and telephone number of a Project Coordinator whose responsibilities will be to receive all notices, comments, approvals, and other communications from DTSC. Respondent(s) shall promptly notify DTSC of any change in the identity of the Project Coordinator. Respondent(s) shall obtain approval from DTSC before the new Project Coordinator performs any work under this Order.

6.2 Project Engineer/Geologist. The work performed pursuant to this Order shall be under the direction and supervision of a qualified professional engineer or a registered geologist in the State of California, with expertise in hazardous substance site cleanups. Within fifteen [15] calendar days from the date this Order is signed by DTSC, Respondent(s) must submit: a) The name and address of the project engineer or geologist chosen by Respondent(s); and b) in order to demonstrate expertise in hazardous substance cleanup, the resumé of the engineer or geologist, and the statement of qualifications of the consulting firm responsible for the work. Respondent(s) shall promptly notify DTSC of any change in the identity of the Project Engineer/Geologist. Respondent(s) shall obtain approval from DTSC before the new Project Engineer/Geologist performs any work under this Order.

6.3 Monthly Summary Reports. Within thirty [30] days from the date this Order is signed by DTSC, and on a monthly basis thereafter, Respondent(s) shall submit a Monthly Summary Report of its activities under the provisions of this Order. The report shall be received by DTSC by the fifteenth [15th] day of each month and shall describe:

- (a) Specific actions taken by or on behalf of Respondent(s) during the previous calendar month;
- (b) Actions expected to be undertaken during the current calendar month;
- (c) All planned activities for the next month;

- (d) Any requirements under this Order that were not completed;
- (e) Any problems or anticipated problems in complying with this Order; and
- (f) All results of sample analyses, tests, and other data generated under this Order during the previous calendar month, and any significant findings from these data.

6.4 Quality Assurance/Quality Control (QA/QC). All sampling and analysis conducted by Respondent(s) under this Order shall be performed in accordance with QA/QC procedures submitted by Respondent(s) and approved by DTSC pursuant to this Order.

6.5 Submittals. All submittals and notifications from Respondent(s) required by this Order shall be sent simultaneously to:

Barbara J. Cook, P.E., Chief
Regional Branch Chief
Attention: Project Manager
Site Mitigation Branch
DTSC of Toxic Substances Control
700 Heinz Ave, Suite 200
Berkeley, CA 94710

6.6 Communications. All approvals and decisions of DTSC made regarding submittals and notifications will be communicated to Respondent(s) in writing by the Site Mitigation Branch Chief, or his/her designee. No informal advice, guidance, suggestions or comments by DTSC regarding reports, plans, specifications, schedules or any other writings by Respondent(s) shall be construed to relieve Respondent(s) of the obligation to obtain such formal approvals as may be required.

6.7 DTSC Review and Approval. (a) All response actions taken pursuant to this Order shall be subject to the approval of DTSC. Respondent(s) shall submit all deliverables required by this Order to DTSC. Once the deliverables are approved by DTSC, they shall be deemed incorporated into, and where applicable, enforceable under this Order.

(a) If DTSC determines that any report, plan, schedule or other document submitted for approval pursuant to this Order fails to comply with this Order or fails to protect public health or safety or the environment, DTSC may:

- (1) Modify the document as deemed necessary and approve the document as modified; or
- (2) Return comments to Respondent(s) with recommended changes and a date by which Respondent(s) must submit to DTSC a revised document incorporating the recommended

changes.

(b) Any modifications, comments or other directives issued pursuant to (a) above, are incorporated into this Order. Any noncompliance with these modifications or directives shall be deemed a failure or refusal to comply with this Order.

6.8 Compliance with Applicable Laws. Nothing in this Order shall relieve Respondent(s) from complying with all other applicable laws and regulations, including but not limited to compliance with all applicable waste discharge requirements issued by the State Water Resources Control Board or a California Regional Water Quality Control Board. Respondent(s) shall conform all actions required by this Order with all applicable federal, state and local laws and regulations.

6.9 Respondent Liabilities. Nothing in this Order shall constitute or be construed as a satisfaction or release from liability for any conditions or claims arising as a result of past, current or future operations of Respondent(s). Nothing in this Order is intended or shall be construed to limit the rights of any of the parties with respect to claims arising out of or relating to the deposit or disposal at any other location of substances removed from the Site. Nothing in this Order is intended or shall be construed to limit or preclude DTSC from taking any action authorized by law to protect public health or safety or the environment and recovering the cost thereof. Notwithstanding compliance with the terms of this Order, Respondent(s) may be required to take further actions as are necessary to protect public health and the environment.

6.10 Site Access. Access to the Site and laboratories used for analyses of samples under this Order shall be provided at all reasonable times to employees, contractors, and consultants of DTSC. Nothing in this Section is intended or shall be construed to limit in any way the right of entry or inspection that DTSC or any other agency may otherwise have by operation of any law. DTSC and its authorized representatives shall have the authority to enter and move freely about all property at the Site at all reasonable times for purposes including, but not limited to: inspecting records, operating logs, sampling and analytic data, and contracts relating to this Site; reviewing the progress of Respondent(s) in carrying out the terms of this Order; conducting such tests as DTSC may deem necessary; and verifying the data submitted to DTSC by Respondent(s).

To the extent the Site or any other property to which access is required for the implementation of this Order is owned or controlled by persons other than Respondent(s), Respondent(s) shall use best efforts to secure from such persons access for Respondent(s), as well as DTSC, its representatives, and contractors, as necessary to effectuate this Order. To the extent that any portion of the Site is controlled by tenants of Respondent(s), Respondent(s) shall use best efforts to secure from such tenants, access for Respondent(s), as well as for DTSC, its representatives, and contractors, as necessary to effectuate this Order. For purposes of this Section, Best efforts includes the payment of reasonable sums of money in consideration of access. If any access required to complete the Work is not obtained within forty-five (45) days of the effective date of this Order, or within forty-five (45) days of the date DTSC notifies Respondent(s) in writing that additional access beyond that previously

secured is necessary, Respondent(s) shall promptly notify DTSC, and shall include in that notification a summary of the steps Respondent(s) has taken to attempt to obtain access. DTSC may, as it deems appropriate, assist Respondent(s) in obtaining access. Respondent(s) shall reimburse DTSC in obtaining access, including, but not limited to, attorneys fees and the amount of just compensation.

6.11 Sampling, Data and Document Availability. Respondent(s) shall permit DTSC and its authorized representatives to inspect and copy all sampling, testing, monitoring or other data generated by Respondent(s) or on Respondent(s) behalf in any way pertaining to work undertaken pursuant to this Order. Respondent(s) shall submit all such data upon the request of DTSC. Copies shall be provided within [7] days of receipt of DTSC's written request. Respondent(s) shall inform DTSC at least [7] days in advance of all field sampling under this Order, and shall allow DTSC and its authorized representatives to take duplicates of any samples collected by Respondent(s) pursuant to this Order. Respondent(s) shall maintain a central depository of the data, reports, and other documents prepared pursuant to this Order.

6.12 Record Retention. All such data, reports and other documents shall be preserved by Respondent(s) for a minimum of ten years after the conclusion of all activities under this Order. If DTSC requests that some or all of these documents be preserved for a longer period of time, Respondent(s) shall either comply with that request or deliver the documents to DTSC, or permit DTSC to copy the documents prior to destruction. Respondent(s) shall notify DTSC in writing at least six months prior to destroying any documents prepared pursuant to this Order.

6.13 Government Liabilities. The State of California shall not be liable for any injuries or damages to persons or property resulting from acts or omissions by Respondent(s), or related parties specified in Section 6.26, Parties Bound, in carrying out activities pursuant to this Order, nor shall the State of California be held as party to any contract entered into by Respondent(s) or its agents in carrying out activities pursuant to this Order.

6.14 Additional Actions. By issuance of this Order, DTSC does not waive the right to take any further actions authorized by law.

6.15 Extension Requests. If Respondent(s) is unable to perform any activity or submit any document within the time required under this Order, Respondent(s) may, prior to expiration of the time, request an extension of the time in writing. The extension request shall include a justification for the delay. All such requests shall be in advance of the date on which the activity or document is due.

6.16 Extension Approvals. If DTSC determines that good cause exists for an extension, it will grant the request and specify a new schedule in writing. Respondent(s) shall comply with the new schedule incorporated in this Order.

6.17 Liability for Costs. Respondent(s) is liable for all of DTSC's costs that have been incurred in taking response actions at the Site (including costs of overseeing response actions performed

by Respondent(s)) and costs to be incurred in the future.

6.18 Payment of Costs. DTSC may bill Respondent(s) for costs incurred in taking response actions at the Site prior to the effective date of this Order. DTSC will bill Respondent(s) quarterly for its response costs incurred after the effective date of this Order. Respondent(s) shall pay DTSC within sixty (60) days of receipt of any DTSC billing. Any billing not paid within sixty (60) days is subject to interest calculated from the date of the billing pursuant to Health and Safety Code section 25360.1. All payments made by Respondent(s) pursuant to this Order shall be by cashier's or certified check made payable to this "DTSC," and shall bear on the face the project code of the Site (Site 201021-00) and the Docket number of this Order. Payments shall be sent to:

Department of Toxic Substances Control
Accounting/Cashier
1001 I Street
Sacramento, CA 95814-2828

A photocopy of all payment checks shall also be sent to the person designated by DTSC to receive submittals under this Order.

6.19 Severability. The requirements of this Order are severable, and Respondent(s) shall comply with each and every provision hereof, notwithstanding the effectiveness of any other provision.

6.20 Incorporation of Plans, Schedules and Reports. All plans, schedules, reports, specifications and other documents that are submitted by Respondent(s) pursuant to this Order are incorporated in this Order upon DTSC's approval or as modified pursuant to Section 6.7, DTSC Review and Approval, and shall be implemented by Respondent(s). Any noncompliance with the documents incorporated in this Order shall be deemed a failure or refusal to comply with this Order.

6.21 Modifications. DTSC reserves the right to unilaterally modify this Order. Any modification to this Order shall be effective upon the date the modification is signed by DTSC and shall be deemed incorporated in this Order.

6.22 Time Periods. Unless otherwise specified, time periods begin from the effective date of this Order and "days" means calendar days.

6.23 Termination and Satisfaction. Except for Respondent(s) obligations under Sections 5.14 Operation and Maintenance (O&M), 5.15 Five-Year Review, 5.20 Financial Assurance, 6.13 Record Retention, 6.18 Liability for Costs, and 6.19 Payment of Costs, Respondent(s) obligations under this Order shall terminate and be deemed satisfied upon Respondent(s) receipt of written notice from DTSC that Respondent(s) has complied with all the terms of this Order.

6.24 Parties Bound. This Order applies to and is binding upon Respondent(s), and its officers,

directors, agents, employees, contractors, consultants, receivers, trustees, successors and assignees, including but not limited to, individuals, partners, and subsidiary and parent corporations. Respondent(s) shall provide a copy of this Order to all contractors, subcontractors, laboratories, and consultants which are retained to conduct any work performed under this Order, within fifteen [15] days after the effective date of this Order or the date of retaining their services, whichever is later. Respondent(s) shall condition any such contracts upon satisfactory compliance with this Order. Notwithstanding the terms of any contract, Respondent(s) is responsible for compliance with this Order and for ensuring that its subsidiaries, employees, contractors, consultants, subcontractors, agents and attorneys comply with this Order.

6.25 Change in Ownership. No change in ownership or corporate or partnership status relating to the Site shall in any way alter Respondent's responsibility under this Order. No conveyance of title, easement, or other interest in the Site, or a portion of the Site, shall affect Respondent's obligations under this Order. Unless DTSC agrees that such obligations may be transferred to a third party, Respondent(s) shall be responsible for and liable for any failure to carry out all activities required of Respondent(s) by the terms and conditions of this Order, regardless of Respondent's use of employees, agents, contractors, or consultants to perform any such tasks. Respondent(s) shall provide a copy of this Order to any subsequent owners or successors before ownership rights or stock or assets in an corporate acquisition are transferred.

VII. NOTICE OF INTENT TO COMPLY

7. Not later than fifteen (15) days after the effective date of this Order, Respondent(s) shall provide written notice, in accordance with paragraph 6.5 Submittals of this Order, stating whether or not Respondent(s) will comply with the terms of this Order. If Respondent(s), or any one of them, do not unequivocally commit to perform all of the requirements of this Order, they, or each so refusing, shall be deemed to have violated this Order and to have failed or refused to comply with this Order. Respondent's (s) written notice shall describe, using facts that exist on or prior to the effective date of this Order, any sufficient cause@defenses asserted by Respondent(s) under Health and Safety Code sections 25358.3(a) and 25355.5(a)(1)(B) or CERCLA section 107(c)(3), 42 U.S.C. section 9607(c)(3).

VIII. EFFECTIVE DATE

8. This Order is final and effective five days from the date of mailing, which is the date of the cover letter transmitting the Order to you.

IX. PENALTIES FOR NONCOMPLIANCE

9. Each Respondent may be liable for penalties of up to \$25,000 for each day out of compliance with any term or condition set forth in this Order and for punitive damages up to three times the amount of any costs incurred by DTSC as a result of Respondent-s(s=) failure to comply, pursuant to Health and Safety Code sections 25359, 25359.2, 25359.4, and 25367(c). Health and Safety Code section 25359.4.5 provides that a responsible party who complies with this Order, or with another order or agreement concerning the same response actions required by this Order, may seek treble damages from Respondent(s) who fail or refuse to comply with this Order without sufficient cause.

DATE OF ISSUANCE: [signed 7/29/02]

[Signed by Barbara J. Cook, P.E.]

Barbara J. Cook, P.E

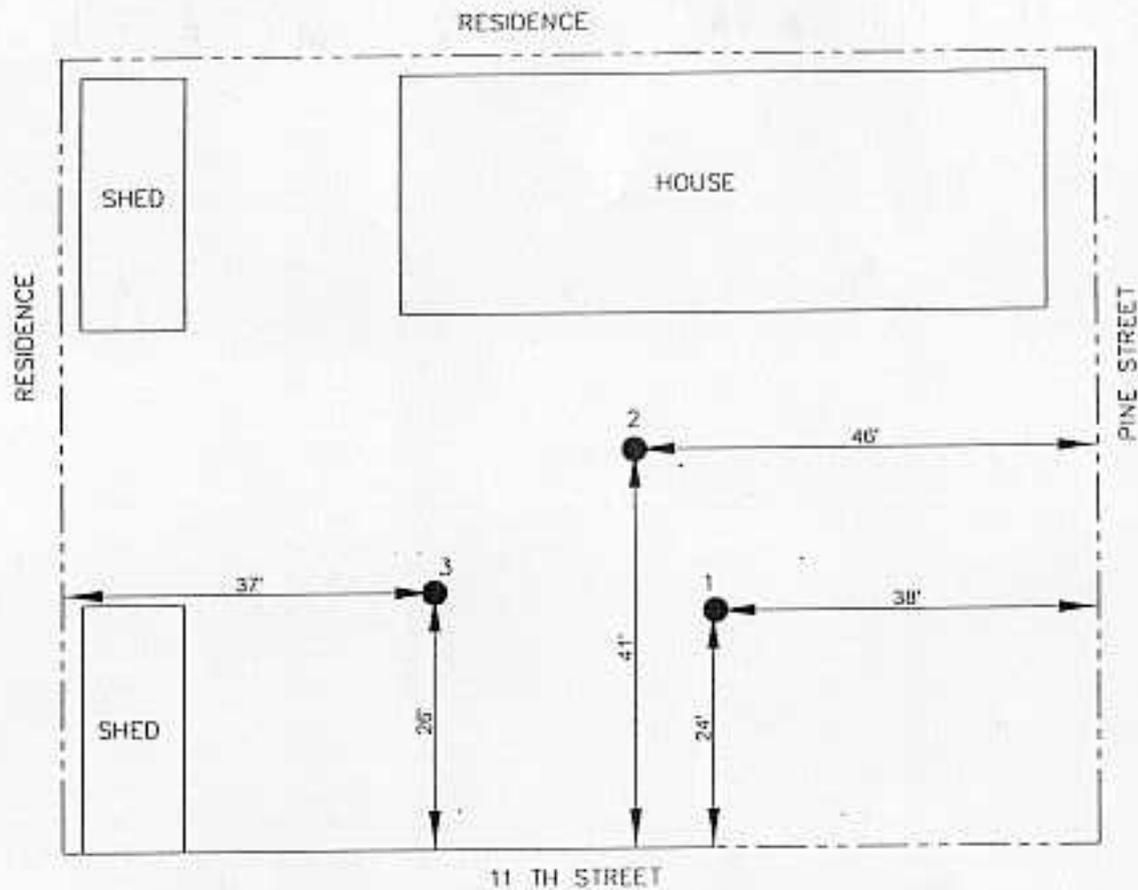
Regional Branch Chief

Department of Toxic Substances Control

cc: Site Mitigation Program
Headquarters, Planning & Policy
Office of Legal Counsel

Exhibit A

Site Map



LEGEND

-  PROPERTY LINE
-  EXISTING STRUCTURES
-  DTSC SURFACE SAMPLING LOCATIONS

NOTE: ALL DIMENSIONS AND LOCATIONS ARE APPROXIMATE.

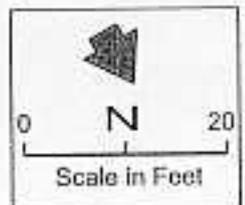


FIGURE 2
SAMPLING LOCATIONS
GAINES PROPERTY

Exhibit B

Standard Chain Link Fence Specifications

The fence shall be a six-foot high chain link fence topped with three (3) stands of barbed wire.

The barbed wire shall be placed outward from the fence at an angle of between 30 to 45 degrees.

The fence wire shall be at least eleven (11) gauge and woven into approximately two inch mesh.

The fencing should have a knuckled finish on the top and bottom edges. The posts are to be made of galvanized metal and placed no more than ten (10) feet apart and set deeply enough to support the fencing. Corner post shall be set in concrete. Any access gates are to be of the same material as the fence and shall be secured with an appropriate padlock.

Exhibit C

Sign Specification

The following are specifications for warning signs which shall be posted in accordance with a Fence and/or Post Order:

1. The signs shall be bilingual, appropriate to the local area, and may include international symbols as may be required by the Department.
2. The signs shall read: A Caution: Hazardous Substance Area, Unauthorized Persons Keep Out, and shall have the name and telephone number of the Department, the name of the Departments contact person or the name and telephone number of the county health officer that ordered the posting.
3. The lettering on the signs shall be legible from a distance of twenty-five (25) feet.
4. The signs shall be visible from the surrounding area and be posted at each route of entry into the site. Signs shall be posted on the fence, facing outwards, at intervals of not more than 100 feet or less than 75 feet.
5. The signs shall be made of a material able to withstand the elements.