

**COUNTY OF MONTEREY  
HEALTH DEPARTMENT**

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**MEMORANDUM**

**ENVIRONMENTAL HEALTH DIVISION**

**DATE:** June 11, 2009

**TO:** All Concerned Parties

**FROM:** Monterey County Environmental Health Division

**SUBJECT:** Guidelines for Site Mitigation

Mitigation and clean up of sites contaminated with motor vehicles fuels, hazardous materials, hazardous substances or hazardous waste shall adhere to the following guidelines. The purpose of the guidelines is to provide a uniform procedure so that mitigation of contaminated sites can occur in a proper fashion as quickly as possible.

The guidelines cover four phases of work that shall be accomplished: 1) preliminary site assessment, 2) soil and water investigation, 3) corrective action implementation and 3) verification of monitoring. At a minimum, any investigative work will require a workplan, site safety plan, an application for site mitigation/report review and a fee. For updated fee schedule please go to the following website: <http://www.co.monterey.ca.us/health/EnvironmentalHealth/HazMat/fees.htm> Allow seven business working days for processing. **Incomplete or unapproved submittals will be returned.** A letter of closure may be written by the Health Department based on the findings of the investigation.

The requirements for the workplan that will be submitted shall include all information pertaining to the property. Approval of the workplan must be obtained before any work is started. Other requirements are discussed in the guidelines for technical reports.

All submittals shall be signed by a Professional Geologist or certified Civil Engineer for sub-surface investigations.

## **GUIDELINES FOR SITE MITIGATION**

### **PRELIMINARY SITE ASSESSMENT PHASE**

COMPLETION: DAY OF DISCOVERY

This phase usually occurs when underground storage tanks are removed, but can include other types of releases. An initial characterization of the release will include sampling and limited excavation of contaminated soil, which will be stockpiled on site. All releases are to reported to the Monterey County Environmental Health Department, Hazardous Materials Services Branch within 30 days and before any work commences.

### **SOIL AND WATER INVESTIGATION PHASE**

COMPLETION : 60 DAYS

A workplan is to be submitted to and approved by the Health Department before any work is started. The workplan shall be submitted within 30 days after initial discovery. The workplan is a proposal for geologic investigation, soil sampling, water sampling and other work that is necessary to determine the extent of contamination. It is to include a site safety plan that will cover all operations at the site. Work may begin sixty (60) days after submission or when directed to by the Health Department. If in the interest of minimizing environmental harm, work may begin immediately but with verbal approval by the inspector.

A Corrective Action Plan is required and shall be submitted to the health department within 30 days after the workplan is approved.

The Corrective Action Plan shall include the following:

1. Assessment of the impacts including but not limited to:
  - a. Data from the workplan. Vertical and horizontal extent of the contamination.
  - b. Physical and chemical characteristics of the hazardous substance or its constituents, including toxicity, persistence and potential for migration in soil, water and air.
  - c. Hydrogeologic characteristics of the site and surrounding area.
  - d. Proximity and quality of nearby surface water or ground water, and current and potential uses of these waters.
  - e. Potential effects of residual contamination of nearby surface water and ground water.
2. Feasibility study

- a. Evaluates alternatives for remedying or mitigating the actual or potential adverse effects of the release. These alternatives shall be evaluated for cost-effectiveness and shall propose the most cost effective corrective action.
  - b. If the release threatens current or potential beneficial waters, the study shall identify and evaluate at least two (2) alternatives for restoring or protecting these beneficial uses.
  - c. If the release threatens waters with no beneficial or potential uses then at least one (1) alternative shall be identified and evaluated.
  - d. All alternatives shall be designed to mitigate nuisance conditions and risk of fire and explosion. Health and Safety is to be considered in all alternatives, as well.
3. Clean up levels

Clean up levels shall comply with all applicable requirements contained in the Health and Safety Code, California Code of Regulations and other levels established by the Health Department. When it has been determined that water of any designation has been impacted, then the Water Quality Control Board has jurisdiction.

### **CORRECTIVE ACTION IMPLEMENTATION PHASE**

START DATE: THIRTY (30) DAYS AFTER APPROVAL OF THE CORRECTIVE ACTION PLAN

1. Consists of carrying out the alternative selected in the Soil and Water Investigation Phase. This shall be accomplished with the concurrence of the Health Department.
2. The responsible party is to monitor, evaluate and report any results of this phase to the Health Department on an agreed upon schedule.
3. Implementation may begin sixty (60) days after submittal of the Corrective Action Plan, unless otherwise directed by the Health Department. Before beginning, the Health Department must be notified in writing that clean up is starting. Compliance with any conditions set by the Health Department shall be mandatory and includes mitigation of adverse consequences from clean up activities.
4. Modification or suspension of clean up activities may occur when directed by the Health Department.

## **VERIFICATION OF MONITORING PHASE**

Submittal Date: Thirty days (30) after completion of the Corrective Action Implementation Phase.

1. This includes all activities required to verify the implementation of the Corrective Action Plan and Evaluate its effectiveness.
2. Verification is accomplished by using the sampling and monitoring data for a period of time and at intervals agreed to by the Health Department. Using this data an evaluation of any corrective action is to be accomplished.
3. All monitoring and sampling data and the evaluation of all data is to be submitted in writing on a schedule and duration agreed to by the Health Department.

## **TRANSMITTAL LETTER**

All proposals and reports submitted must be accompanied by a cover letter from the responsible party which states, at minimum, the following:

“I declare under penalty of perjury, that the information and/or recommendations contained in the attached proposal or report is true and correct. All data that is contained in the attached proposal or report, was obtained in compliance with the California Health and Safety Code, California Code of Regulations, Business and Professions Code, California Water Code, and the Monterey County Code.”

This letter must be signed by the property owner, legally authorized representative of the owner; or an officer, authorized representative of a business, company, partnership or corporation.

## **GENERAL GUIDELINES FOR TECHNICAL REPORTS**

### **I. INTRODUCTION**

A. Location of Site (address)

B. Background/Site History

1. Current and previous property owner and contact person; include address and phone number.
2. Current and previous type(s) of business activities on the property.
3. Spill, leak, and accident history of the site.
4. Estimate of quantity lost, if known. Substance(s) being investigated.
5. Location, capacity, and contents of other hazardous substances storage sites, past and present.
6. Previous subsurface work performed at the site.
7. Material Safety Data Sheets (MSDS) for current and previous hazardous substances stored, used and/or released on the property. MSDS's may not be in existence for some substances.

- C. Objective and Scope of Proposed Work  
i.e., preliminary investigation, plume characterization, redemption

## **II. SITE DESCRIPTION**

- A. Vicinity Map

- B. Site map, to include:

1. Adjacent streets, buildings, other landmarks
2. Current and previous underground storage tank locations, including location of associated piping, tank fill point and any sumps. Current and previous locations of aboveground storage of hazardous substances
3. Location of existing or previous monitoring wells and soil borings
4. Location of underground utilities
5. Location of all buildings and their purpose, past and present
6. Location of underground utilities
7. Location of past and current releases
8. Scale
9. North arrow

- C. Survey of active, inactive, and destroyed water supply wells and monitoring wells within a one-half mile radius of the site.

- D. Description and location of local topography, nearby creeks, rivers, lakes, groundwater recharge facilities in relation to site.

- E. Current and historic Depth to Groundwater based on Mean Sea Level Datum (MSLD).

- F. Topographic Map.

## **III. METHODS AND PROCEDURES**

- A. Contractors

1. Type of contractor(s) that will do the work
2. Name, address, phone number and contractor's license number
3. Hazardous material certification

- B. Well Installation

1. Rationale for borings and/or well locations
2. Signed well log(s), to include:
  - a. soil sample collection intervals
  - b. first encountered groundwater and water level after well installation and development
  - c. screen size and interval
  - d. filter pack size and interval
  - e. composition and location of annular seal
  - f. drilling method description
  - g. depth and diameter of borehole and casing

- h. date drilling occurred
  - i. construction material. Rationale for type of well casing and well screen, including how casing sections are to be joined.
  - j. Casing elevation, surveyed to Mean Sea Level Datum (MSLD) by a qualified land surveyor.
3. Criteria for selection of filter material, screen slot size, and screen placement
  4. Security measures description
  5. Well development procedures description
  6. Description of disposal or treatment of contaminated or potentially contaminated material
  7. Equipment decontamination procedures
  8. Sieve analysis results

C. Soil sampling

1. Soil sampling locations and depths
2. Soil sampling methods and equipment
3. Sample shipment/handling procedures, including signed chain of custody documents
4. Equipment decontamination procedures
5. Disposal or treatment of contaminated or potentially contaminated material
6. QA/QC procedures

D. Groundwater sampling

1. Observation of free product, sheen, or presence of hydrocarbon vapors, including method used to measure
2. Water and product level measurement procedure and accuracy
3. Purging equipment and procedures
4. Sample shipment/handling procedures
5. Sample shipment/handling procedures, including signed chain of custody documents
6. Equipment decontamination procedures
7. Disposal or treatment of contaminated or potentially contaminated material
8. QA/QC procedures
  - a. Field blanks
  - b. Duplicate samples

**IV. RESULTS**

A. Lab analysis

1. Copies of lab reports to be included, signed by the lab supervisor (labs to be DOHS certified for analysis of hazardous materials).
2. Analysis performed, including EPA method number of other appropriate analysis
3. Summary of sample results presented in tabular form
  - a. Location of sample, including boring number and depth
  - b. Results of analysis
  - c. Detection limits
  - d. Date of collection
4. Quality Assurance/Quality Control Results and Performance Evaluation

B. Interpretation of data

1. Extent of free produce, dissolved product and soil contamination, with maps showing:
  - a. Estimated horizontal and vertical extent of contamination
  - b. Isoconcentration contours of constituents
  - c. Thickness contour of free product, if applicable
  - d. Sampling locations and concentrations at each location
  - e. Groundwater hydraulic gradient direction and water level contours for each aquifer, if possible, with date of water level measurement and water level measurement used to draw contours.
  - f. Scale
  - g. Date of sampling
  - h. North arrow
2. Description of hydrogeology
  - a. Cross-sections with vertical scale exaggeration, to include:
    1. well logs
    2. screened intervals
    3. soil sample intervals
    4. groundwater levels
    5. free produce dissolved
    6. source, excavation, tank and piping, backfill, and water supply well locations
    7. determination of aquifer hydraulic parameters
    8. pump test data
    9. extraction well capture zone determination

**V. CONCLUSIONS:**

**VI. RECOMMENDATIONS FOR NEXT ACTION-Based on Work Completed**

- A. Immediate Source Removal-Tank and soil excavation which may or may not remove pollutants to nondetectable concentrations.
- B. Interim Remediation
  1. Free Product Removal
  2. Migration Control
  3. Soil Excavation leaving some residual contamination
- C. Remedial Investigation-plume definition
- D. Feasibility Study and proposed final remedial action
- E. Final Remedial Action Implementation
- F. Self-Monitoring Program
  1. Objective and rationale for self-monitoring program
  2. Frequency of sample collection
  3. Location

4. Analyses to be performed

G. Certification of Pollution Abatement

**VI. DETAILED TIME SCHEDULE OF ACTIONS NECESSARY FOR COMPLETING THE PROPOSED WORK AND SUBMITTING REPORTS**

Dates and time frames for, at least, the following phases:

- Design
- Permitting
- Access Agreements
- Construction
- Sample Collection and Analysis
- Report Preparation
- Report Submittal