



# BAY AREA AIR QUALITY MANAGEMENT DISTRICT

March 29, 1988

ALAMEDA COUNTY  
Edward R. Campbell  
Shirley J. Campbell  
Frank H. Ogawa  
(Chairperson)  
Don Perata

CONTRA COSTA COUNTY  
Paul L. Cooper  
Sunne Wright McPeak

MARIN COUNTY  
Al Aramburu  
(Vice-Chairperson)

NAPA COUNTY  
Harold I. Moskowitz

SAN FRANCISCO COUNTY  
Harry G. Britt  
Carol Ruth Silver

SAN MATEO COUNTY  
Gus J. Nicolopoulos  
K. Jacqueline Speier

SANTA CLARA COUNTY  
Rod Diridon  
Ralph P. Doetsch, Sr.  
(Secretary)  
Roberta H. Hughan  
Susanne Wilson

SOLANO COUNTY  
Osby Davis

SOMA COUNTY  
elen B. Rudee

P.W. Drennon, Captain, CEC, USN  
Commander  
Department of the Navy, Western Division  
Naval Facilities Engineering Command  
P.O. Box 727  
San Bruno, CA 94066-0720

Subject: Active and Inactive Landfill Sites at Hunters Point and Naval Air Station Alameda

Dear Captain Drennon:

Section 41805.5(a) of the California Health and Safety Code required all active solid waste disposal sites located within the boundaries of the Bay Area Air Quality Management District to submit to this District, on or before July 1, 1987, a Solid Waste Air Assessment Test (SWAT) Report. This report should contain all of the following.

- (1) Test results to determine if there is any underground landfill gas migration beyond the solid waste disposal site's perimeter.
- (2) Analyses for specified air contaminants in the ambient air adjacent to the solid waste disposal site to determine the effect of site on air quality.
- (3) Chemical characterization test results to determine the composition of gas steams immediately above the solid waste disposal site, or immediately above the solid waste disposal site and within the solid waste disposal site, as appropriate, as determined by the District.

For the purposes of this section active landfill is any landfill that has accepted waste after January 1, 1984.

Section 41805.5(b) of the Health and Safety Code requires all inactive landfills (no waste received after January 1, 1984) to complete and send an inactive site questionnaire (I.S.Q.) to this District for evaluation and determination as to whether air testing is necessary. This questionnaire is available from our office.

WESTNAVEACENGGCOM  
SAN BRUNO  
APR 4 2 06 PM '88

We would appreciate your advising us as soon as possible if you own or operate any active or inactive landfills that are subject to Section 41805.5(a) or (b).

Please call Tom Brennan at (415) 771-6000, ext. 322 should you have any questions regarding this matter.

Very truly yours,

  
H. Brinkley  
Director of Enforcement

HB:fl

cc: Scott Lutz

PAGE 1  
QUESTIONNAIRE

REQUEST FOR COMPLETION OF SWAT  
QUESTIONNAIRE

THE ABOVE IDENTIFIED PAGE IS NOT  
AVAILABLE.

EXTENSIVE RESEARCH WAS PERFORMED BY  
SOUTHWEST DIVISION TO LOCATE THIS PAGE.  
THIS PAGE HAS BEEN INSERTED AS A  
PLACEHOLDER AND WILL BE REPLACED  
SHOULD THE MISSING ITEM BE LOCATED.

QUESTIONS MAY BE DIRECTED TO:

**DIANE C. SILVA**  
**RECORDS MANAGEMENT SPECIALIST**  
**SOUTHWEST DIVISION**  
**NAVAL FACILITIES ENGINEERING COMMAND**  
**1220 PACIFIC HIGHWAY**  
**SAN DIEGO, CA 92132**

**TELEPHONE: (619) 532-3676**

RETURN COMPLETED QUESTIONNAIRE TO:

T. Brennan  
BAY AREA AIR QUALITY MANAGEMENT DISTRICT  
939 Ellis St.  
San Francisco, CA 94109

**EVALUATION GUIDELINES FOR SCREENING QUESTIONNAIRE**  
**INACTIVE SOLID WASTE DISPOSAL SITES**  
September 30, 1986

**INTRODUCTION**

The Legislature recently enacted AB 3374 (Attachment I) which modifies Health and Safety Code Section 41805.5 requiring certain testing at solid waste disposal sites throughout California. The Air Resources Board, in coordination with the air pollution control districts (APCD or district), is preparing guidelines for testing at active solid waste disposal sites. The legislation requires the *Landfill Gas Testing Guidelines* to be published by February 1, 1987.

AB 3374 also requires that guidelines and a screening questionnaire be developed by the Air Resources Board (Health and Safety Code Section 41805.5(b)) for each inactive landfill in the state. Health and Safety Code Section 41805.5(b) requires that the questionnaire be filed with the local APCD before November 1, 1986. The district will review the questionnaire and determine, by January 1, 1987, whether any testing is necessary at the site. The general type of testing (ambient air, gas migration, or gas characterization) will be determined. The exact test procedures will be available to solid waste disposal site operators when the landfill gas testing guidelines are published in February 1987.

Inactive solid waste disposal sites with residences, schools, hospitals or businesses on the site should perform full active site testing. A screening questionnaire is not necessary if the solid waste disposal site owner conducts the full testing. Site operators, however, must notify the air pollution control district by November 1, 1986.

Inactive solid waste disposal sites must file a questionnaire by November 1, 1986. The air pollution control district will evaluate the information contained in the questionnaire. Based on a review of the information submitted on public exposure, site history, and surrounding land use, the air pollution control district will determine if further testing is needed and notify the site operator by January 1, 1987. The inactive sites required to conduct further testing must have the testing completed and the report submitted to the APCO by January 1, 1988.

The APCD must evaluate each questionnaire and weigh heavily the proximity of the site to residences, schools, and other sensitive areas. The APCD must pay particular attention to potential adverse impacts on facilities such as hospitals and schools, and on residential areas, within one mile of the site's perimeter.

## **DATA COLLECTION**

The following is an explanation of the questions on the screening questionnaire. The explanations will describe the type of information needed in the response and what the information may suggest.

### **Site Ownership**

The response to these questions will allow the district personnel to file the data and contact owners for additional information. Previous site owners are needed to determine who had access to the site, and the type of material accepted by the site.

### **Site History**

The questions in the site history will help the reviewer to determine how old the waste in the site is and how the site was used. Because AB 3374 is concerned with gas migration, ambient air testing, and gas stream characterization, if testing has been performed, it may help the reviewer evaluate the potential impact of the site. Enforcement actions taken by government agencies will help the reviewer get a clear picture of the site history.

### **Site Description**

The questions in the site description section are designed to help the reviewer get a clear picture of the landfill as it is today. The type of landfill shows whether it is more likely to have offsite migration. The amount of waste and the depths of the fill will help the reviewer determine its potential for ambient air impacts. Information about the cover material and liners relates to the fill's potential for gas migration. Land uses on the site relate directly to health impacts.

### **Waste Description**

Waste description will help the reviewer get a clear idea of what the landfill contains. If a site contained predominantly demolition material, it would have less of a chance of ambient air impacts than a site with commercial and industrial waste. If the site has a mix of residential and commercial wastes, the chance of chlorinated solvents being in the waste material is much higher than with demolition material. This residential and commercial waste mix would also produce more methane which can carry the chlorinated solvents to the surface of the landfill. These solvents can also biodegrade into air contaminants such as vinyl chloride in the site.

Many hazardous wastes are disposed of as liquids. If the site received liquids mixed in with the municipal waste, it is possible that hazardous materials may be carried to the surface by the methane generated in the site.

### **Surrounding Land Use**

Data on the surrounding area is designed to give the reviewer a picture of public exposure to any possible emissions from the landfill. AB 3374 requires the APCD to consider the proximity of sensitive buildings to the landfill. Schools, hospitals, and residences are mentioned in the statute as requiring special consideration. Much of the information requested can be easily provided on an aerial photograph or a topographic map. The photo or map submitted will outline the areas of concern and show the locations of any sensitive buildings. Population information will allow the APCO to evaluate the potential public exposure.

### **Additional Information**

Supporting documents and additional comments will allow the solid waste disposal site to provide supporting data to the air pollution control district to help with the questionnaire evaluation. This information can be used to explain existing conditions and give further details to specific questions on the questionnaire.

### **DATA EVALUATION**

All inactive landfills are divided into two groups: Developed solid waste disposal sites and undeveloped solid waste disposal sites. A developed solid waste disposal site is an inactive landfill which has residences, businesses, schools, hospitals, or other regularly used areas on the filled area. The potential for public exposure at these sites is very high. Accordingly, full active site testing is recommended.

An undeveloped solid waste disposal site is one which is not developed. The following factors are used to determine if further testing is needed at the site. Figure 1 is a flow chart to help the reviewer reach a decision point regarding further testing and explain the priorities among the factors to be considered.

**Has gas stream characterization, ambient air, or gas migration testing been conducted at the site?** If gas stream characterization, ambient air, or gas migration testing has been conducted at the site, the APCO should review this information and determine whether it is adequate enough to establish whether or not gases from the site could pose a public health risk. In reviewing this testing, consideration should be given to limits of detection, the length of time testing was conducted, the compounds investigated, and meteorological conditions during the testing period.

**Was hazardous waste ever disposed at the site?** If hazardous waste was ever disposed at the site, testing should be required.

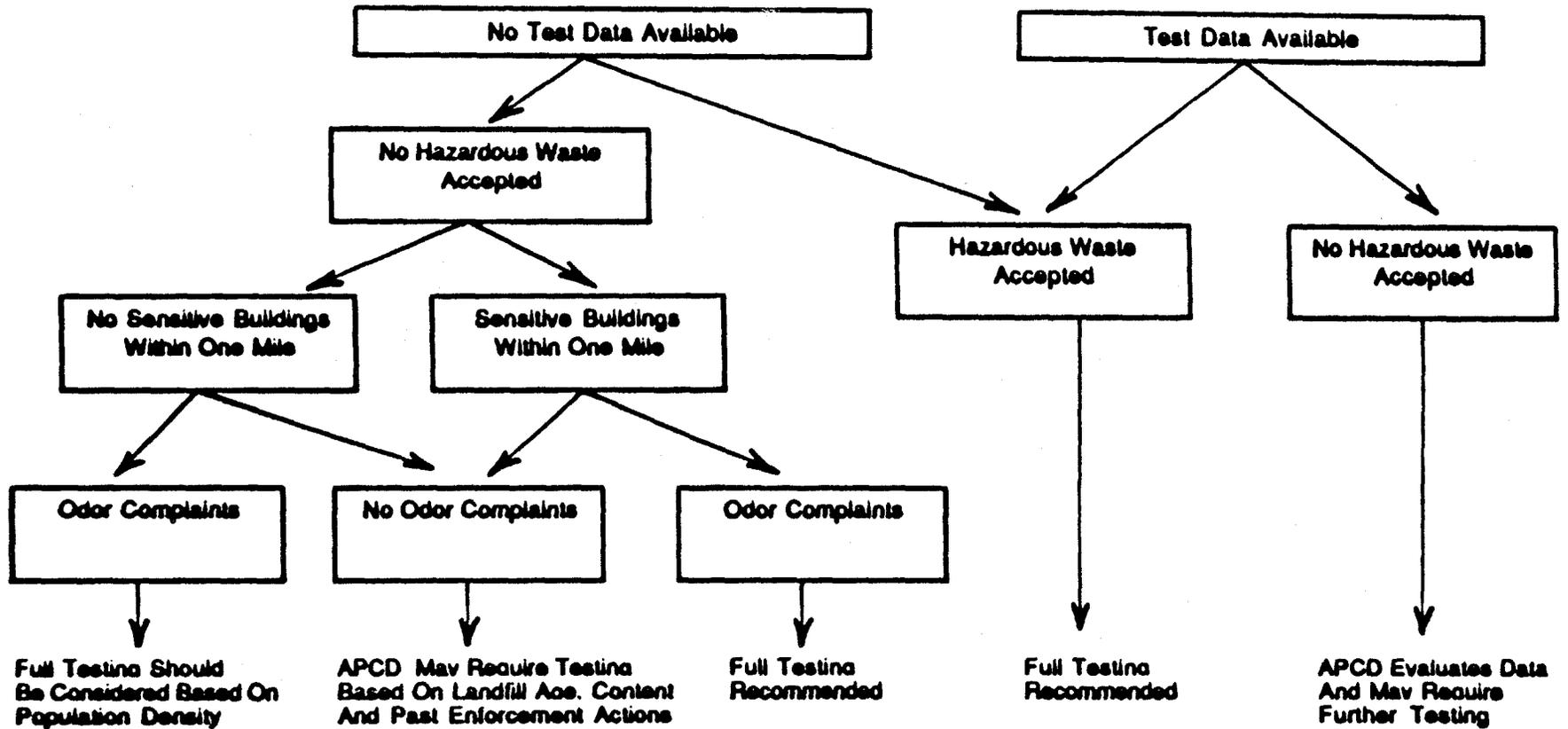
**Are sensitive buildings such as hospitals, schools, or residences located within one mile of the landfill perimeter?** HSC 41805.5 requires the APCDs to look carefully at hospitals, schools, and residences located within one mile of the site. If these uses are located within one mile of the site, further testing should be considered.

**Are landfill odors detected off the site?** The reviewer should consider any history of odor complaints from the residents or businesses around the landfill. If the public is exposed to malodorous landfill gas, this suggests that gases such as benzene and vinyl chloride may be present at the site perimeter. The questionnaire asks if landfill gas odors have ever been detected off the site.

Figure 1 is a summary of the testing requirement for inactive landfills which have not received hazardous waste.

Figure 1

Data Evaluation Flow Diagram For Undeveloped Sites



**SCREENING QUESTIONNAIRE FOR INACTIVE SOLID WASTE DISPOSAL SITES  
Health and Safety Code Section 41805.5**

**SITE OWNERSHIP**

Site name

Site location

Site address

Nearest Cross Streets

Current site owner

Street address

Mailing address

Contact Person

Telephone Number

Previous site owners

Provide the name and mailing address of all the previous site owners with the most recent owner first. (Attach additional pages if necessary.)

Owner

Owner

Mailing  
Address

Mailing  
Address

Dates

Dates

Owner

Owner

Mailing  
Address

Mailing  
Address

Dates

Dates

**Company performing site maintenance**

**Mailing address**

**Contact person**

**Telephone number**

**SITE HISTORY**

**Date site started receiving waste:**

**Date Site stopped receiving waste:**

**Percent of site filled by:**

**January 1, 1960**

**January 1, 1970**

**January 1, 1980**

**January 1, 1984**

**Was the waste received by this site ever burned on a routine basis? YES NO**

**If yes, provide the following:**

**Date site started burning on a routine basis:**

**Date site stopped burning on a routine basis:**

**Has landfill gas migration ever been detected off site? YES NO**

**If yes, describe the event(s) in detail including date(s). (Attach additional pages if necessary.)**

**Have landfill gas odors ever been detected off site?      YES    NO**

**If yes, describe the event(s) in detail including date(s). (Attach additional sheets if necessary.)**

**Has any landfill gas, ambient air, or gas migration testing ever been conducted at the site?      YES    NO**

**If yes, summarize the testing and the results including date(s). (Attach additional sheets if necessary.)**

**Has this site ever been subject to any enforcement action by any Federal, state, or local agency as a result of underground gas migration or gaseous emissions to the atmosphere?**

**YES    NO**

**If yes, summarize the enforcement action(s) and reason(s) including date(s). (Attach additional sheets if necessary.)**

**SITE DESCRIPTION**

Type of fill (Circle appropriate line)

Canyon

Pit

Area (Trench)

Other-Describe

Provide estimate for:

Total Site Acreage

Waste Disposal Area Acreage

Volume of Waste (cubic yards)

Quantity of Waste (tons)

Minimum Depth of Waste (feet)

Maximum Depth of Waste (feet)

Average Depth of Waste (feet)

Average Thickness Of Existing Top Cover (feet)

Does This Site Have A Liner? YES NO

If Yes, Describe:

Type of Cover Material

Provide a map to scale showing the boundaries of the total site and the waste disposal area.

Identify all existing land uses on this site. (Circle appropriate item(s)).

Single family residential

Hotel

Multi family residential

Park

Commercial

Undeveloped

Industrial

Other (specify)

Hospital

School

For any undeveloped areas of this site, what land uses are currently proposed? (Circle appropriate item(s).)

- Single family residential
- Multi family residential
- Commercial
- Industrial
- Hospital
- School
- Hotel
- Park
- Other (specify)

**WASTE DESCRIPTION**

Estimate of Solid Waste Received (Total of entries for residential, commercial, industrial, demolition, and other should add up to 100%.)

- % Residential
- % Commercial
- % Industrial
- % Demolition
- % Other

Describe material under "other" and give its percentage.

Material	Percentage
----------	------------

Were liquids ever accepted at this site?      YES    NO

If yes, describe all liquids received, their corresponding volumes and the disposal methods employed such as injection, evaporation ponds, containers, codisposal, etc. (Attach additional sheets if necessary.)

Liquid	Gallons	Disposal method
--------	---------	-----------------

**Were hazardous wastes in greater than household amounts ever accepted at this site?**

**YES NO**

**If yes, describe all hazardous wastes received and the corresponding volumes. (Attach additional sheets if necessary.)**

**Hazardous Waste**

**Volume**

### **SURROUNDING LAND USE**

**Give the distance in miles (to the nearest 0.01 mile) to the nearest:**

**Occupied building**

**Describe the Building and Use**

**Residential Area**

**School**

**Hospital**

**Park**

**Shopping Center**

**Business**

**Public Thoroughfare**

**Provide an aerial photograph or topographic map showing the surrounding area within two miles of the solid waste disposal site's perimeter. The photograph or map must identify all land uses in the area and highlight areas of high population such as housing, schools, restaurants, and shopping centers. For areas that are currently undeveloped, the proposed land uses must be shown.**

What is the population within two (2) miles of the perimeter of the site? Indicate the source of the information and the date of the data. (Possible sources include the county planning agency and the 1980 Federal Decennial Census)

Population	Source	Date
------------	--------	------

**ADDITIONAL INFORMATION**

Attach a copy of any waste discharge permits under which the site operated.

Please provide any comments or additional information which you feel will assist in evaluating your site.

**PERSON COMPLETING THIS FORM**

Signature

Printed Name

Title

Company Name

Date

Address

Phone

City, State, ZIP

**OPTIONAL QUESTIONS**

**LANDFILL GAS COLLECTION SYSTEM**

Is a landfill gas collection system installed?    YES    NO

If yes, provide the following information:

Date system installation completed

Date system started operating

Is the system currently operating?    YES    NO

If no, explain why.

Percent of time system is on line

Name of company operating the system

Mailing address

Contact Person

Title

Telephone number

APCD or AQMD application and permit numbers:

Application number

Permit number

System Design (Circle applicable items)

Vertical wells

Horizontal Collection Trenches

Perimeter migration control system

Interior migration control system

Gas recovery system, interior collection only

Gas collection system capacity in CFM

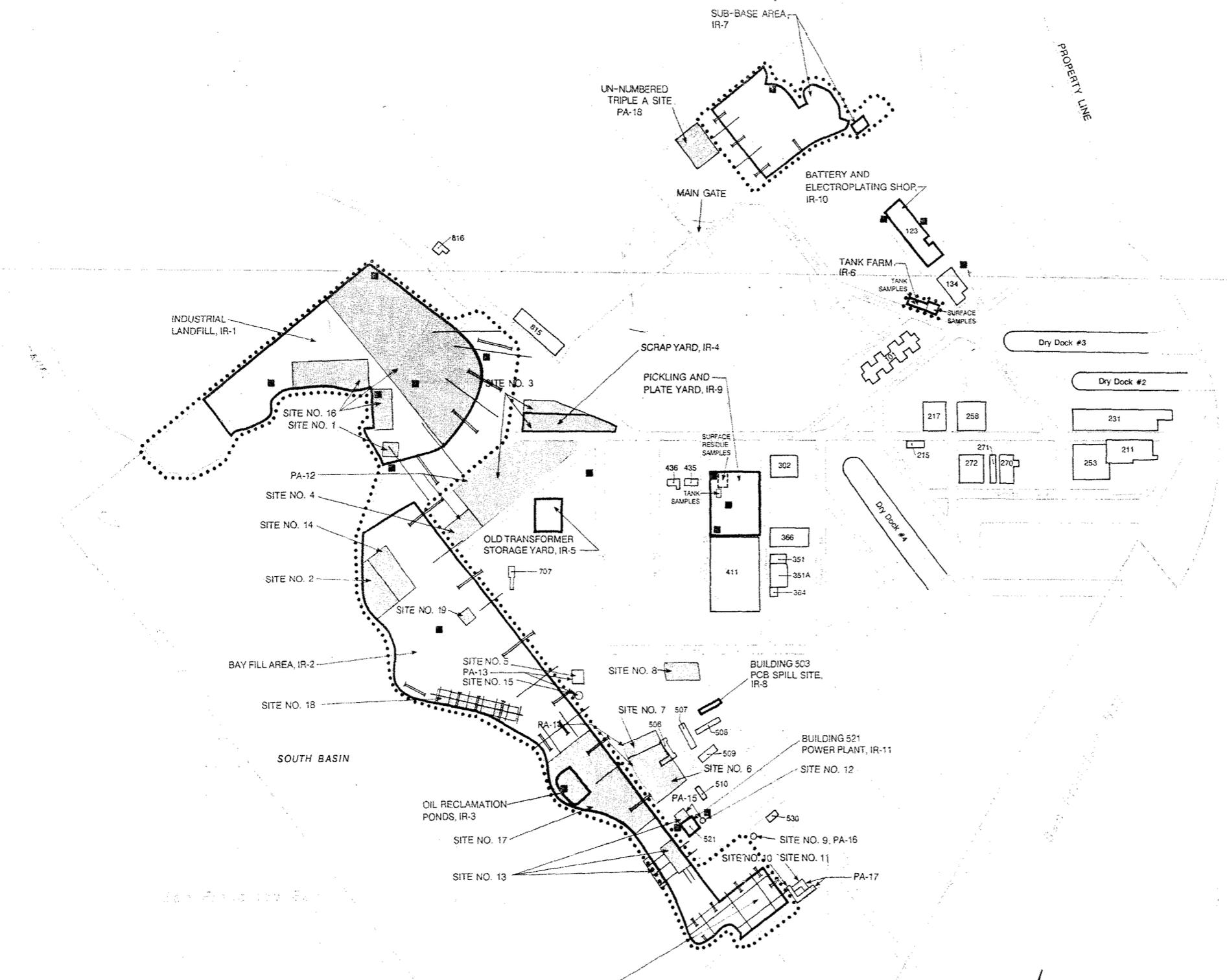
Disposition of collected landfill gas (Circle applicable items.)

Vented to Atmosphere

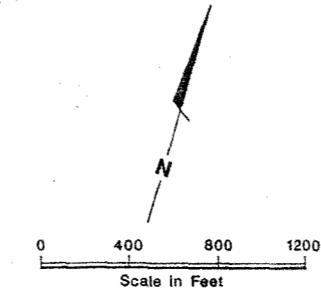
Flared

Sold as Fuel

Used as Fuel on Site



- EXPLANATION**
- Radioactivity Survey Areas
  - Pilot Boring
  - Geophysical Survey Profile
  - Trench
  - Approximate Limits of Triple A Sites
  - SCRAP YARD, IR-4
  - Approximate Limits of Remedial Investigation Sites
  - Selected Existing Buildings
  - Boundary of Hunters Point Annex



<b>Harding Lawson Associates</b> Engineers, Geologists & Geophysicists	<b>Reconnaissance Activities Plan</b> Remedial Investigation/ Feasibility Study Hunters Point Annex San Francisco, California		PLATE <b>1</b>
	DRAWN: ML CHECKED: ML DATE: 2/17/02	APPROVED: [Signature] DATE: 2/28/02	DATE: 2/17/02 REVISION: 2/28/02