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TECHNOLOGY
CORPORATION

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November 19, 1987

Ted Gerow
Department of Environmental Health
470 27th Street, Third Floor
Oakland, California 94612

Dear Mr. Gerow:

SUBJECT: LEAK DETECTION PLAN FOR THE SF-OAKLAND BAY BRIDGE
PAINT YARD
IT PROJECT NUMBER 190297-14

IT Corporation (IT) has been retained by the Office of the State Architect (OSA) in Sacramento, to prepare leak detection plans for underground storage tanks at state-owned facilities throughout Regions I and II as specified by OSA under Agreement Number CS 6387 and Work Order Number GST 754.

Each facility has been visited and a leak detection plan has been developed. Enclosed is the leak detection plan for the facility mentioned above.

We ask that your agency review and approve the plan. Please sign and return the enclosed form. Upon notice of the approval, the state will proceed with plan implementation. We look forward to hearing from you soon.

If you have any questions, please call me at (415) 372-9100.

Sincerely,

A handwritten signature in black ink that reads "John McGuire".

John McGuire
Project Manager

Regional Office

4585 Pacheco Boulevard • Martinez, California 94553 • 415-372-9100



INTERNATIONAL
TECHNOLOGY
CORPORATION

*SF-OAKLAND BAY BRIDGE
Paint yard
South of East Bound 80
at Lake Plaza*

November 19, 1987

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470 27th Street, Third Floor
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John McGuire
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Regional Office

4595 Pacheco Boulevard • Martinez, California 94553 • 415 372-9100

LEAK DETECTION AND MONITORING PLAN
OFFICE OF THE STATE ARCHITECT
SACRAMENTO, CALIFORNIA
IT PROJECT NUMBER 190263

PREPARED FOR:

STATE OF CALIFORNIA
DEPARTMENT OF GENERAL SERVICES
OFFICE OF THE STATE ARCHITECT
1500 5TH STREET
SACRAMENTO, CALIFORNIA 95814

PREPARED BY:

IT CORPORATION
4585 PACHECO BOULEVARD
MARTINEZ, CALIFORNIA 94553

NOVEMBER 19, 1987

TABLE OF CONTENTS

	<u>PAGE</u>
1.0 INTRODUCTION	1-1
1.1 PURPOSE AND SCOPE OF WORK	1-1
1.2 BACKGROUND	1-1
2.0 LEAK DETECTION PLAN	2-1
2.1 TANK INTEGRITY TESTING	2-1
3.0 TANK MONITORING PROGRAM	3-1
3.1 ALTERNATIVE 5	3-1
3.2 ALTERNATIVE 9	3-2
3.3 OVERFILL PROTECTION	3-2
3.4 REPORTING	3-2
4.0 ATTACHMENTS	
SAMPLE INVENTORY RECONCILIATION SHEET	
UNDERGROUND TANK INFORMATION SURVEY	
AGENCY APPROVAL FORM	
SITE FIGURE	

1.0 INTRODUCTION

1.1 PURPOSE AND SCOPE OF WORK

The following plan outlines a method recommended to OSA by IT Corporation (IT) for a leak detection plan (LDP) and tank monitoring program (TMP) for management of the underground storage tanks at the SF-Oakland Bay Bridge Paint Yard. The OSA has selected IT to develop plans to bring a number of underground tanks into compliance with current state and local agency requirements.

1.2 BACKGROUND

This plan has been prepared in compliance with current and proposed "California Underground Tank Regulations" dated August 1985, and applicable local agency guidelines. The regulations referenced in this plan are derived from the California Administrative Code, Title 23 (Waters), Subchapter 16 (Underground Tank Regulations) by the California State Water Resource Control Board.

Enclosed is a copy of a completed survey form and site sketch for the facility. Information contained in the survey form was completed in cooperation with the facility manager.

2.0 LEAK DETECTION PROGRAM

2.1 TANK INTEGRITY TESTING

All tanks included in this program have recently undergone integrity testing. Based on the allowable product variation of less than or equal to 0.05 gallons per hour for testing of tanks with a capacity up to 12,499 gallons, as stated in the regulations, the tanks at this facility are certified "tight". A copy of the certification has been submitted by OSA to your agency.

As required by the guideline alternative selected for this facility, tank integrity testing shall be repeated annually.

3.0 TANK MONITORING PROGRAM

Based upon results of the leak detection program, the proposed tank monitoring program at this facility shall consist of all applicable monitoring methods under State Alternative 5.

3.1 ALTERNATIVE 5

Monitoring under this alternative shall include daily inventory reconciliation, annual tank testing, and continuous pipeline leak detectors, where applicable. This monitoring option has been selected for the tanks at this facility based upon the amount of monthly throughput and the assumption that inventory reconciliation can be measured by the tank owner, operator, or other qualified personnel on a daily basis in accordance with all provisions of Section 2644 of the regulations. Attached is an example of an Inventory Reconciliation Sheet that will be used at this facility. Inventory reconciliation indicating a product loss exceeding the allowable measurement error given in Section 2641-(c)-(5)-(iv), Table 4.2 of the regulations, plus 0.15 percent of the throughput at any time during a 30-day period shall require further investigation in accordance with Section 2644 (f) and (g).

The method of delivering product is by suction from the tanks to the dispensing units. Therefore, pipeline leak detectors are not planned for this facility.

If daily inventory reconciliation requirements by qualified personnel are not met, monitoring under proposed Alternative 9, described in Section 3.2 below, shall be considered.

3.2 PROPOSED ALTERNATIVE 9

Although this alternative is currently not approved by the State of California, it has been included here for reference. Monitoring under this alternative shall include daily inventory reconciliation, rate of volume change (RVC) testing, tank testing once every three years, and pipeline leak detectors, where applicable. This monitoring option can be selected for the tanks at this facility based on the condition that the inventory reconciliation requirement for manual measurements of the tank volumes cannot be met.

To comply with this requirement, a tank level measuring (TLM) device shall be installed to automatically perform inventory reconciliation and RVC testing functions.

Inventory reconciliation exceeding the levels specified in Table 4.3 Section 2541-(c)-(9) of the regulations shall require further investigation. The TLM must meet with requirements of Section 2641-(c)-(9)-(e) - which specifies detection of a temperature compensated volume change of 0.2 gallons per hour for each hour during rate of volume change testing when liquid is at center of tank.

Frequency of RVC testing is dependent on the inventory reconciliation allowable variation selected from Table 4.3 Section 2541-(c)-(9).

The method of delivering product is by suction from the tanks to the dispensing units. Therefore, pipeline leak detectors are not planned for this facility.

3.3 OVERFILL PROTECTION OPTION

Although this option is not required by law, it is highly recommended. Retrofit the existing tanks with an overfill protection basin having a minimum 5-gallon capacity and a drain valve in the base to provide a means for product return to the primary container.

3.4 REPORTING

As required under Alternative 5 and 9, a report shall be submitted quarterly to the regulating agency indicating the inventory reconciliation findings, dates, and excessive variations.

TO BE COMPLETED BY REGULATORY AGENCY

Facility Name: SF-Oakland Bay Bridge Paint Yard
IT Project Number: 190297-14

The proposed leak detection plan _____ is _____ is not (please check one) approved by this agency.

Comments: _____

Please return completed form to:

IT Corporation
Attention: John McGuire
4585 Pacheco Boulevard
Martinez, California 94553

Agency Name and Address _____

Signature of Agency Representative _____

Please print name here _____

PRELIMINARY UNDERGROUND TANK INFORMATION SURVEY
Office of the State Architect, State of California

INSTRUCTIONS FOR COMPLETING FORM

- 1) Complete one form for each facility.
- 2) Where data is estimated or uncertain, note "est" or "approx"
- 3) Not all of the information requested here will be available.
However, it is very important and should be completed or
estimated if at all possible.
- 4) Attach additional sheets if more space is needed to answer the
questions.
- 5) Provide at least two (2) pictures as per specifications.

photo identification A7-A9

I. ADMINISTRATIVE

A. Department

Name: Caltrans District 04 Paint Region
Address: 434 Main Street
City: San Francisco County: San Francisco CA Zip: 94105
Phone: (415) 464-1291 Contact: Frank Pacholl

B. Facility

Name: S.F. Oakland Bay Bridge Paint Yard
Address: South of East Bound 80 at Toll Plaza
Nearest Cross Street: _____
City: Oakland County: Alameda CA Zip: _____
Phone: (415) 464-3765 Contact: Ken Kille

B. Facility (continued)

Number of underground tanks at facility: Two

Tanks - owned X leased _____

Facility - owned X leased _____

C. Operator (if different from facility)

Name: Same as I-B

Address: _____

City: _____ County: _____ CA Zip: _____

Phone: _____ Contact: _____

Emergency Contact

Day: Name Ken Kille Phone (415) 464-3765

Night: Name Toll Dispatcher Phone (415) 464-0589

E. Product Supplier

Name: Bay Cities Oil Marketers

Address: 60 Castro Street

City: Richmond County: Contra Costa CA Zip: 94802

Phone: (415) 232-5956 Contact: _____

F. Registration and Certification

Which regulations govern the tanks at this facility (e.g. State, County, Local) State

F. Registration and Certification (continued)

Have tanks been registered? unc Date of registration unc

Which agency enforces the State tank regulations? _____

Agency Address Department of Environmental Health

470 27th Street, Third Floor

Oakland, CA 94612

Phone: (415) 874-6434 Contact: Ted. Gerow

Tank Registration or Permit #: _____

Fees Paid: _____ Cost: _____

(Provide copies of registration/permit/fees to consult)

II. SITE INFORMATION

A. Geology

Predominant natural soil type: sand and silt/bay mud

Depth to first aquiclude est 15'

Is site area on floodplain? yes X no _____

B. Groundwater

Name of the groundwater basin and sub-basin? _____

Alameda Bay Plian Basin

Estimated depth to high water table est 3'

Estimated depth to low water table est 10'

Average depth to water table est 8'

Are there any water wells within 0.5 miles? yes _____ no X

If yes, distance and direction to well _____

B. Groundwater (continued)

Uses of groundwater (eg. agricultural, domestic, industrial)

None

Current conditions of groundwater Uncertain-S.F. Bay Water

Hydraulic gradient and direction, if known West

Approximate ground surface slope and direction Flat

C. Nearby Utilities

Distance to nearest underground telephone line ~10 feet

Distance to nearest underground gas line ~10 feet

Distance to nearest underground power line ~10 feet

Distance to nearest water line ~5 feet

Distance to nearest storm sewer line ~50 feet

Distance to nearest off-site basement ~200+ 100 feet

Are there any high voltage power lines that pose a risk to drilling? yes no X

Is there any nearby power for the monitoring system

yes X no

D. Site History and Surrounding Area SOURCE:Ken Kille

Please note source of information entered in this section.

Nearest location where cuttings generated during the drilling operations can be disposed of none

D. Site History and Surrounding Area (continued)

Suspected contamination _____ Confirmed contamination _____

No contamination X

Dates and extent of known spills at this site and materials spilled none

Type of surrounding environment (eg. forest, agricultural, industrial etc.) industrial

Activities on adjoining sites Port of Oakland MOTBA Harbor to South, I80/580 & Bay Bridge Toll Plaza to North

Hazardous liquids that may be stored on adjoining sites (eg. hydrocarbons, fuels, pesticides solvents etc.) Paints and Solvents nearby

Known spills on adjoining sites none

E. Facility Plan

Draw a sketch of the site with the recommended location of soil borings in accordance with the schedule of number of groundwater and/or vadose monitoring wells required pursuant to the provisions of monitoring alternatives of the California Underground Storage Tank Regulations.

Please see Attached Sketch

III. TANK INFORMATION

A. General Tank Description

OSA Tank Identification Number (1)-2244, (2)-2243

Attach sketch of tank location.

Tank used for: Product storage: X waste storage _____
 sump _____ other (describe) _____

Capacity in gallons (1)-4,000, (2)-2,000

A. General Tank Description (continued)

Annual throughput in gallons (1)-~42,000, (2)-~5,700

Status of tank (active or inactive) Active

If inactive:

Date tank taken out of service _____

Quantity of material remaining in tank _____

Is tank filled with inert material? yes _____ no _____

Manufacturer of tank Owens/Corning

Installation year (1)-1980, (2)-1980

Date of last tank test March 20, 1987

B. Tank Construction and Operation

Wall Material Fiberglass

Elevation of ground above each tank ~ 6 feet

Tank dimensions (1)-5.3'x 24', (2)-5.3'x 12'

Depth to bottom of tank (1)-~ 7.5', (2)-~ 6'

Is tank in a vault? yes _____ no X

Is there secondary containment? yes _____ no X

Type of backfill (natural soil, sand, pea gravel, clay etc)

Gravel

Type of internal protection (eg. liner, epoxy) unknown

Type of external protection (eg. asphalt, fiberglass)

unknown

Type of cathodic protection none

Existing monitoring equipment or procedures none

B. Tank Construction and Operation (continued)

Are fuel additives (inhibitors) used in this tank?

yes _____ no X

Does tank have fuel transfer capability? yes X no _____

Size and number of tank openings (1)-1x4"/1x2", (2)-1x4"/
1x2"

C. Material Stored

Material currently stored (1)-gasoline, (2)-diesel

If petroleum stored, grade of motor vehicle fuel or waste
oil. (1) unleaded, (2) diesel #2

Material stored used for Operating Emergency Equipment

Past materials stored same

D. Tank History

PLEASE NOTE SOURCE OF THE INFORMATION ENTERED IN THIS SECTION

SOURCE-Steve Kaufman

Describe past repairs and include dates none

Dates and extent of known leaks none

E. Miscellaneous Tank Information

What are the compliance alternatives for this tank _____

State Alternative # 5

COMPLETE THE FOLLOWING QUESTIONS IF THE INFORMATION IS KNOWN. DO NOT TRY AND INSPECT THE TANK FOR CODE COMPLIANCE.

Which construction codes do tanks meet? (eg. fire codes, county building codes, etc) - give dates. unknown

Surface elevation - approximately 6 feet

Surface material directly above tank (eg. pavement) _____
concrete and asphalt

Does the surface material show signs of settlement or distress? no

Is surface directly above the tank used (eg. structures, storage yard) yes

If yes, describe surface used for vehicle refueling

E. Miscellaneous Tank Information (continued)

Are there signs of tank movement (eg. floating, excessive settlement) none

If yes, explain _____

Are filler caps, access covers, locks, etc functional yes

Is overfill protection available no

(NOTE: THE FACILITY MANAGER SHOULD ANSWER THE FOLLOWING FOUR QUESTIONS).

Is underground storage needed at this facility yes

Feasibility of placing tank above ground feasible

Are commercial sources available and feasible to use by the agency NO-Traffic prohibits refueling off site in emergency situations

Feasibility of eliminating or consolidating this tank with others? Not feasible

Are other State facilities within one mile of this site? Yes

What equipment is used on-site that cannot be taken off-site for refueling? generator, steam cleaners

General comments Traffic congestion prohibits refueling off site

IV. INVENTORY RECONCILIATION

Is inventory reconciliation done yes

If yes, with what frequency once a week

Daily _____ Weekly X Monthly _____

Are there meters with totalizers on dispensing mechanisms? _____

yes

Is there an automated tank level gauging system? no

If inventory reconciliation is done on a daily basis, what

is your typical daily variation? +/- 10 gal. _____

+/- 25 gal. _____ +/- 50 gal. _____ +/- 100 gal. _____

greater than 100 gallons _____

What is tank throughput? Daily (1)-~300, (2)-~40

Weekly (1)-~2,100, (2)-~280 Monthly (1)-3,525, (2)-470

If the tank is 1,000 gallons or less, can the tank be

operated so that there are periods of up to 7 days where no

inputs or withdrawals are allowed? _____

V. PIPING INFORMATION

A. General Piping information

Attach a sketch of piping layout

Type of piping used galvanized/steel

Size of piping used unknown except for 2 inch vent lines

Length of piping from tank to dispenser or point of use _____

~ 10 feet

A. General Piping Information (continued)

Age of piping installed in 1980

Is piping above or below ground (indicate on sketch) below

Type of backfill used in piping trenches gravel

Method of delivering material through pipeline (gravity, suction, pressure, etc) suction

Leak detection equipment used none

Venting type standard - 10 feet above ground surface

Is product metered between tank and end device no

Are fill connections or sounding tube covers located above grade? no

Is there an overflow protection device on the fill pipe no

Describe known leaks (dates, extent, location) none

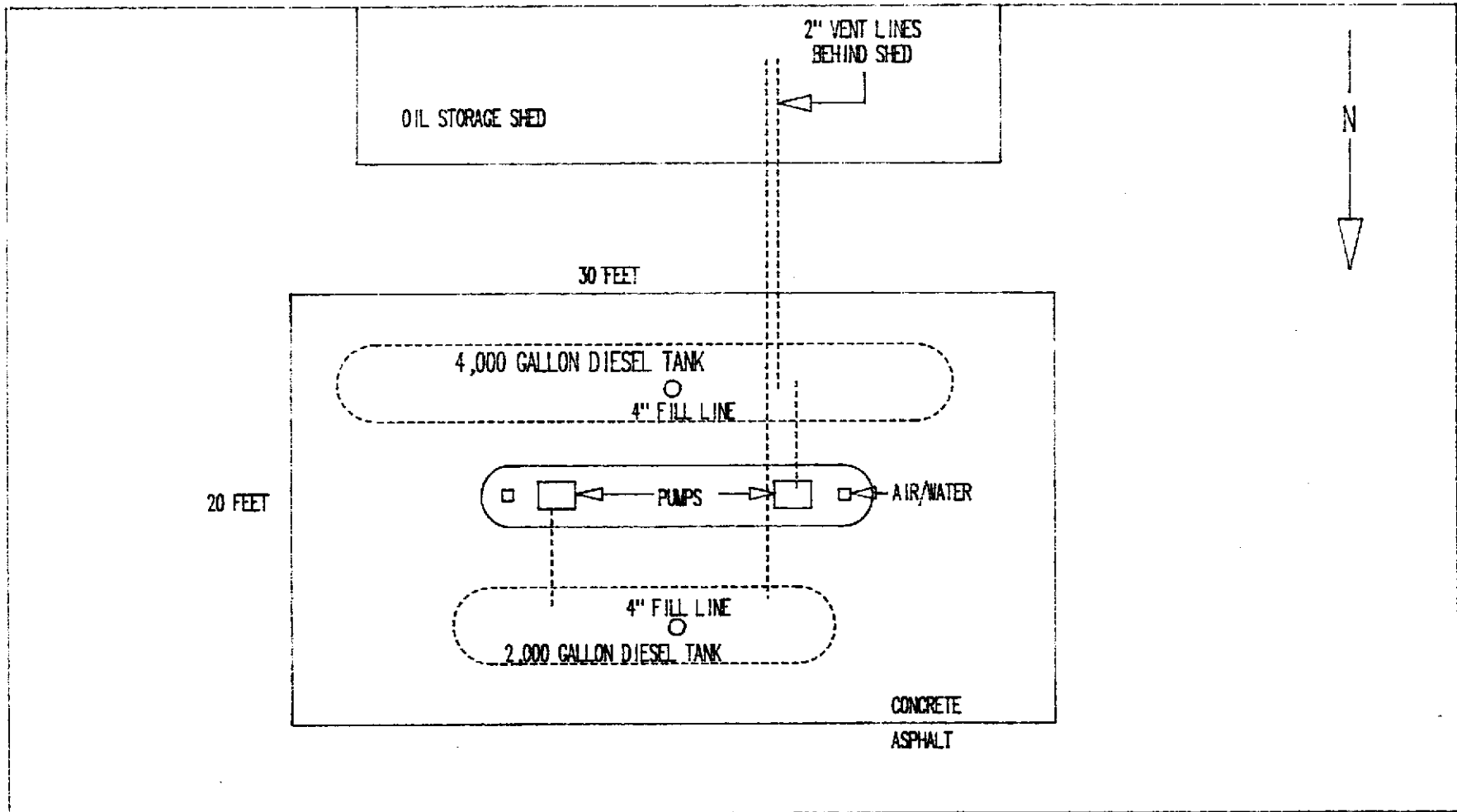
B. Miscellaneous Piping Information

Accessibility of piping for workmen yes

Describe effort to access piping break out concrete

Feasibility of placing piping above ground not feasible

Feasibility of placing piping in utility tunnel not feasible for such a short distance.



...Creating A Safer Tomorrow

FACILITY NAME:	BAY BRIDGE PAINT YARD	DRAWN BY:	DAVID CAMILLE
DRAWING NUMBER:	190297-14	DATE:	10-1-87
		CHECKED BY:	DSC 11-19-87
		APPROVED BY:	JPM 11-19-87