

REMCO INC. SOIL REMEDIATION
WASTE DISCHARGE REQUIREMENTS ORDER No. 95-032

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SAN FRANCISCO BAY REGION

ORDER No. 95-032
WASTE DISCHARGE REQUIREMENTS

Remedial Environmental Marketing Co. Inc,
North Richmond, CONTRA COSTA COUNTY

The California Regional Water Quality Control Board, San Francisco Bay Region, (hereinafter called the Board), finds that:

PURPOSE OF ORDER

1. This order establishes Waste Discharge Requirements for the construction and operation of thermal soil treatment facility for the handling of petroleum contaminated soils and identifies treatment limits for soil reuse. Included in this permit are the requirements for monitoring and reporting of stormwater discharges.
2. On August 16, 1994, Remedial Environmental Marketing Co. Inc (REMCO) submitted a Report of Waste Discharge proposing the temporary storage and thermal treatment of petroleum contaminated soils to levels that are suitable for reuse in commercial construction applications.
3. REMCO, the site legal owner and the soil remediation operator (hereinafter referred to as the discharger), plans to construct and operate the facility on 5.5 acres located at 2717 Goodrick Avenue, Richmond, Contra Costa County, California. The site is further identified by Contra Costa County Assessor's Parcel Number (APN) 408-090-032. The project site maps, Attachments A and B, are incorporated herein and made a part of this Order.
4. The facility has a storage capacity of 5,000 tons for contaminated soils, it will receive about 1000 tons of contaminated soils per day for thermal remediation. The facility is anticipated to have a usefull life of approximately 10 years.
5. This order allows thermal treatment of contaminated soils to levels specified in the Discharge Monitoring Program, Attachment C and use of clean soils in commercial construction applications. A portable soil remediation unit is to be used to treat soil contaminated with light distillate petroleum hydrocarbons including gasoline, jet fuel, diesel or No. 2

**REMCO INC. SOIL REMEDIATION
WASTE DISCHARGE REQUIREMENTS ORDER No. 95-032**

oil, by rapidly volatilizing these products from the soil and destroying the gases in a thermal oxidizer.

WASTES AND THEIR CLASSIFICATION

6. The discharger proposes to accept the following wastes for remediation at the site:
 - a. hydrocarbon contaminated soils (light distillate petroleum hydrocarbons, including gasoline, jet fuel, diesel or No. 2 oil and various light and heavy lubricating and hydraulic oils).
 - b. recycleable asphalt.

The contaminated soil accepted for treatment and temporary storage will be classified as solid designated waste under Section 2522, Chapter 15, Title 23, CCR because it will contain pollutants (organics) in excess of water quality objectives.

SITE DESCRIPTION & HISTORY

7. The facility is located on alluvial coastal plain of the San Francisco Bay Plain. The alluvial sediments were deposited as a result of erosion from the Berkeley Hills, San Pablo Ridge and the El Sobrante Ridge. The surface drainage in this area is towards the Wildcat Creek and the San Pablo Creek.

The site history is based on a review of aerial photographs taken every three to six years from 1947 to 1992. The area has been used for cultivation since 1947. The 1953 to 1985 photographs show that the site was still being used for agricultural purposes, however about eight structures were noted on the site that appear to be storage units or agricultural/residential related structures. Photographs taken from 1990 to 1992 document the storage of approximately 100 barrels in the central-southern portion of the site. Trucks and trailers were shown parked throughout the site. Several stockpiles of soil were noted along the central portion of the north site boundary.

The review of subsurface investigation report dated April 8, 1988 related to underground diesel fuel tank removal, prepared by Applied GeoSystems, indicated a total extractable hydrocarbon as diesel concentration of 74 ppm in the soil and 49.9 ppm in water sample collected from the open excavation tank pit.

GEOLOGY

8. The surface and subsurface geology of the site has been evaluated based on field mapping, literature review and review of geologic logs from well borings.
9. STRATIGRAPHY - The facility area is underlain at depth by the Franciscan Assemblage which comprises the basement rock and is composed of a heterogeneous accumulation of graywacke, shale, altered mafic volcanic rocks or greenstone, chert, limestone and metamorphic rocks.

The Franciscan basement rock is overlain by an alluvial deposit that consists of interlayered dark grey silts and clays. Deeper soils are firm to medium stiff clay and medium dense silt, with lenses of loose to medium dense sand. The alluvial deposit is a result of erosion from the Berkeley Hills, San Pablo Ridge and El Sobrante Ridge. The ridge lines consist of Tertiary/Pliocene rocks of the Contra Costa Group that are friable, poorly indurated conglomerates and sandstones that contain significant amounts of clays, typically montmorillonite. The alluvial deposit in the site vicinity is approximately 200 feet thick based on the log of production well at 550 Brookside Drive.

10. STRUCTURE - The geological structure beneath the site includes bedding, unconformities and minor fractures. There is no known active fault across the site. The Hayward Fault is 9000 feet north of the site. The Wildcat Fault generally parallels the Hayward Fault in Wildcat Creek Valley.

SURFACE WATER AND GROUNDWATER

11. SURFACE WATER - Surface water in the area drains to two main watercourses, San Pablo Creek and Wildcat Creek. Drainage is controlled upstream by two large dams and water supply reservoirs. The lower dam, which contains San Pablo Reservoir is approximately seven miles upstream of the site. Below this dam, the creek drains urban, sub-urban and heavy industrial areas. The major portion of the Wildcat Creek catchment is protected as the Wildcat Regional Park. Upon exiting the park boundary, the creek passes through over three miles of urban and heavy industrial areas before crossing Third Street en route to San Pablo Bay.
12. GROUNDWATER - Groundwater gradients in the alluvial fan that comprise the East Bay Plain generally flow radially west-northwest towards the Bay. The depth to groundwater at the site is 5 to 12 feet.

**REMCO INC. SOIL REMEDIATION
WASTE DISCHARGE REQUIREMENTS ORDER No. 95-032**

13. GROUNDWATER DEGRADATION - Areas at risk for potential groundwater degradation are the alluvial deposits with an average depth to groundwater of 10 ft beneath the site. The alluvial deposit is approximately 200 feet thick.
14. BACKGROUND WATER QUALITY - Analysis of groundwater samples from the site shall be submitted to the RWQCB as required under Section C(1)."Provision" of this Order.
15. BENEFICIAL USES - Beneficial uses of the useable groundwater found in the surfacial and alluvial deposits surrounding the site, San Pablo Creek and the Wildcat Creek are:
 - a. Non-contact recreation.
 - b. Warm water fish habitat.
 - c. Wildlife habitat.
 - d. Fish migration
 - e. Fish spawning
16. SLOPE STABILITY - There will be no landfilling at the site, a slope stability report is not required.

DESIGN OF WASTE MANAGEMENT UNIT

17. The Thermal Facility consists units:
 - A lined contaminated soils containment area that incorporates a leachate collection and recovery system (LCRS) and is housed within a building;
 - a thermal treatment equipment area;
 - a lined and bermed treated soil storage area with a runoff collection sump.
18. The incoming hydrocarbon contaminated soils will be placed in a designated area that is approximately 89 feet by 100 feet and will hold a maximum of 5,000 tons of soil. The contaminated soil stockpile tent structure building, shall be covered with a fabric roof. Storm water runoff from the site will be controlled by grading, drainage pipes and an API-type gravity oil-water separator. The separator will ensure that any silt, grit or free floating oils that may enter the on-site stormwater drain will not leave the site. The laydown area will be underlain by a liner system.
19. The proposed thermal treatment unit consists of the following equipment listed below, and described in the following

REMCO INC. SOIL REMEDIATION
WASTE DISCHARGE REQUIREMENTS ORDER No. 95-032

paragraphs:

- i. Cold Feed unit
- ii. Rotary dryer (seven foot diameter kiln)
- iii. Oxidizer (Afterburner)
- iv. Baghouse
- v. Mixing Pugmill
- vi. Stockpile conveyor
- vii. Auxiliary Equipment

Cold Feed Unit - Soils are loaded into a holding hopper equipped with a variable speed feeder. This feeder meters the material onto a belt conveyor that transports the material into the rotary dryer.

Rotary Dryer - The rotary dryer (kiln) is a 7 foot diameter, approximately 32 foot long "oven". The dryer heats the soil to vaporize water and any organic contaminants. The present soil treatment rate is about 50 tons per hour depending on the water content of the soil. The operating temperature is 500°F to 800°F. The vaporized contaminants are treated in the air pollution control equipment, the baghouse and the oxidizer.

Mixing pugmill - The soil is rewetted in a pugmill then dropped onto a radial stacking belt conveyor. The pugmill cools the soil by mixing it with water. This process returns the soil to optimum moisture content and reduces dust and particulate emissions. The belt conveyor transfers the soil from the pugmill to the lined and bermed treated soil storage area.

Oxidizer - The oxidizer is an afterburner used to destroy the hydrocarbons vaporized by the soil in the dryer. The oxidizer will operate at temperatures from 1400°F to 1600°F.

Baghouse - The baghouse is a fabric filter that removes dust and suspended particulates from the oxidizer exit gas stream. The normal operating temperatures for the baghouse are 350°F to 425°F.

20. The Regional Board adopted a revised Water Quality Control Plan for the San Francisco Bay Basin in December, 17, 1986 and this Order implements the water quality objectives stated in

**REMCO INC. SOIL REMEDIATION
WASTE DISCHARGE REQUIREMENTS ORDER No. 95-032**

that plan.

SELF MONITORING PROGRAM

21. This Order requires the discharger to install monitoring wells at appropriate locations acceptable to the Executive Officer along the upgradient and the downgradient of the facility's boundary limits at the Point of Compliance.
22. Incoming contaminated soils shall be sampled to confirm that they are not hazardous and meet the criteria that no concentrations of heavy metals are above those listed in Section 66261.24(a)(2)(A), Title 22, CCR. and that free liquid is not present as determined by the paint filter test, EPA Method 9095, SW-846. Treated soils shall be sampled to confirm soil treatment is to levels specified in the Discharge Monitoring Program, Attachment C.
23. The discharger is required to conduct unsaturated zone monitoring as stated in Section 2550.11, Article 5, Chapter 15.
24. The discharger shall analyze for the constituents of concern (COCs) and monitoring parameters as presented in Table A of the Discharge Monitoring Program for the REMCO.
25. Federal Regulations [40 Code of Federal Regulations (CFR) Parts 122, 123, and 124] require specific categories of industrial activities, including landfills, to obtain an NPDES permit for storm water discharges. The State Water Resources Control Board has issued a General Permit for Storm Water Discharges Associated with Industrial Activities (NPDES Permit No. CAS000001). This facility is subject to these requirements. Pursuant to the Stormwater Discharge Program, this facility is required to submit a Notice of Intent for coverage under the General Permit; to prepare and implement a monitoring program; and to submit an annual report. Compliance with the monitoring and reporting requirements of this Order are intended to assure compliance with the requirements of the General Permit.

CALIFORNIA ENVIRONMENTAL QUALITY ACT.

26. The Contra Costa County Department of Environmental Management, as lead agency, adopted a negative declaration on July 11, 1994, in accordance with California Environmental Quality Act (Public Resources Code Section 21082.1).

The thermal treatment of petroleum contaminated soils at the

**REMCO INC. SOIL REMEDIATION
WASTE DISCHARGE REQUIREMENTS ORDER No. 95-032**

Remco site has the potential for affecting water quality objectives and beneficial uses if proper design, maintenance and operational methods are not applied. Groundwater can be impacted by migration of constituents of concern associated with soils contaminated by petroleum products through the vadose zones into the groundwater aquifer. Surface water can be impacted by oil and grease from runoff from the facility and also flooding impacts as the site is located within the 100 year flood plain per the Contra Costa County and FEMA Flood Rate Insurance Maps (FIRM).

27. The Board has considered the Final Environmental Impact Report certified by the County of Contra Costa on July 11, 1994 and the mitigation measures described therein relating to the protection of surface and groundwater quality. The Board finds that the impacts identified are mitigated or avoided by a series of design measures to control erosion, assure containment of untreated and treated soils, including potential leachate, through the use of liners, leachate collection and groundwater monitoring systems.
28. The Board notified the discharger and interested agencies and persons of its intent to issue waste discharge requirements for the discharger and has provided them with an opportunity for a public hearing and an opportunity to submit their written views and recommendations.
29. The Board, in public meeting heard and considered all comments pertaining to the discharge.

IT IS HEREBY ORDERED pursuant to authority in Section 13263 of the California Water Code, the discharger, its agents, successors and assigns may accept waste for treatment at the REMCO Facility providing compliance is maintained with regulations adopted under Division 7 of the California Water Code and with the following:

A. PROHIBITIONS

1. The wastes acceptable for treatment at this facility shall be limited to hydrocarbon contaminated soils (light distillate petroleum hydrocarbons, including gasoline, jet fuel, diesel or No. 2 oil and various light and heavy lubricating and hydraulic oils).
2. No hazardous waste of any kind shall be accepted for treatment as defined in Title 22, of CCR., Division 4.5, Section 6626.3.
3. Contaminated soil containing concentrations of heavy

REMCO INC. SOIL REMEDIATION
WASTE DISCHARGE REQUIREMENTS ORDER No. 95-032

metals above those listed in Section 66261.24(a)(2)(A), Title 22, of CCR., shall not be accepted for treatment.

4. Contaminated soil containing free liquid as determined by paint filter test, EPA Method 9095, SW-846, shall not be accepted for treatment.
5. The storage of contaminated soil and disposal of treated soil shall not create a pollution or nuisance as defined in Section 13050(1) and (m) of the California Water Code.
6. There shall be no storage of contaminated soil in locations other than the lined, covered, temporary storage area described in this Order.
7. The discharger, or any future owner or operator of the site, shall not cause the following conditions to exist in waters of the State at any place outside the waste management facility:
 - a. Surface Waters
 1. Floating, suspended, or deposited macroscopic particulate matter or foam.
 2. Bottom deposits or aquatic growths.
 3. Alteration of temperature, turbidity, or apparent color beyond natural background levels.
 4. Visible, floating, suspended or deposited oil or other products of petroleum origin.
 5. Toxic or other deleterious substances to be present in concentrations or quantities which may cause deleterious effects on aquatic biota, wildlife or waterfowl, or which render any of this unfit for human consumption either at levels created in the receiving waters or as a result of biological concentrations.
 - b. Groundwater
 1. The groundwater shall not be degraded as a result of the soil remediation operation.

B. SPECIFICATIONS

1. All reports pursuant to this order shall be prepared under the supervision of a registered civil engineer, California registered geologist or certified engineering geologist.
2. Water used during the thermal treatment process and disposal operations shall be limited to minimal amount necessary for construction, dust control and fire suppression.
3. The site shall be protected from any washout or erosion of wastes from inundation which could occur as a result of a 100 year 24 hour precipitation event, or as the result of flooding with a return frequency of 100 years.
4. The treatment site shall be engineered with the liner system identified below to ensure that there will be no loss from the site from the untreated waste stockpile areas. The treatment area shall have an upper working surface of 6 in. of reinforced concrete, beneath the storage building shall be installed a liner system. The liner system shall consist of (1) 6 in. filter or geotextile (2) 12" drain or geonet with 4" slotted PVC collection pipe, (3) primary geomembrane (HDPE with 40 mil minimum), (4) drain or geonet with 4" slotted PVC collection pipe, (5) primary geomembrane (HDPE with 40 mil minimum), (6) 6 in filter or geotextile . A leachate sump that will be intercepted by two pipes must be provided. One pipe for the LCRS and one for the leak detection system. These pipes will exit the sump and surface at a locked well head structure outside the building.
5. The lined contaminated soil storage facilities shall be housed and provided with a fabric roof and effectively sealed to prevent the exfiltration of any liquids. There shall be no accumulation of leachate in the LCRS between the liners.
6. Treated soil for which use is unrestricted shall be confirmed clean to the following levels by an independent certified laboratory:

Parameter	Acceptance limit
TPH	10.0mg/Kg
Benzene	0.005mg/Kg*
Toluene	0.2mg/Kg*

REMCO INC. SOIL REMEDIATION
WASTE DISCHARGE REQUIREMENTS ORDER No. 95-032

Ethylbenzene	0.15mg/Kg*
Xylenes	0.1mg/Kg*
Lead	0.3mg/Kg**
	*Analysis using method 8015 Modified
	**Analysis using CAM Waste Extraction Test

7. Treated soil with restricted uses as fill for facilities in industrially zoned areas and beneath paved surfaces of roadways shall not exceed the following levels as certified by an independent certified laboratory:

Parameter	Acceptance limit
TPH	10.0mg/Kg
Benzene	0.005mg/Kg*
Toluene	0.2mg/Kg*
Ethylbenzene	0.15mg/Kg*
Xylenes	0.1mg/Kg*
Lead	200mg/Kg**
	*Analysis using method 8015 Modified
	**Reported as Total Concentration

8. Unsaturated zone monitoring is required for the treatment site and must be provided in compliance with Article 5, Chapter 15.
9. Combustible gases shall be adequately vented, removed from the facility, or otherwise controlled to minimize the danger of explosion, adverse health effects, nuisance conditions, or the impairment of beneficial uses of water due to migration through the vadose (unsaturated) zone.
10. The operators shall remove and relocate untreated waste streams which are in violation of these requirements.
11. Any untreated waste removed from the site for disposal shall be disposed of only at a legal disposal site. Any untreated waste transported from the site shall not be permitted to leak or otherwise escape to the ground or to a water course en route to the disposal site. For the purposes of these requirements, a legal site is one for which requirements have been adopted by a Regional Water Quality Control Board and which is in full compliance therewith.
12. Dust emissions shall not cause a nuisance.
13. Non-contact water from storm runoff shall be diverted around the treatment site. Contact water from storm runoff shall be collected, analyzed and treated before

REMCO INC. SOIL REMEDIATION
WASTE DISCHARGE REQUIREMENTS ORDER No. 95-032

disposal.

14. The discharger shall operate the waste management facility so as not to cause a statistically significant difference to exist between water quality at the compliance points and the background water quality before the start of operation at the facility.
15. In the event of a release of a constituent of concern beyond the Point of Compliance, the site begins a Compliance Period (Sect. 2550.6(a)). During the Compliance Period, the discharger shall perform an Assessment Monitoring Program and a Corrective Action Program.
16. The discharger shall install any reasonable additional groundwater and leachate monitoring devices required to fulfill the terms of any Discharge Monitoring Program issued by the Executive officer.
17. The discharger shall maintain all devices or designed features, installed in accordance with this order such that they continue to operate as intended without interruption.
18. The discharger shall provide a minimum of two surveyed permanent monuments near the facility from which the location and elevation of containment structures, and monitoring facilities can be determined throughout the operation and post-closure maintenance period. These monuments shall be installed by a licensed land surveyor or registered civil engineer.
19. The Regional Board shall be notified immediately of any failure occurring in the waste management unit. Any failure which threatens the integrity of containment features or the facility shall be promptly corrected after approval of the method and schedule by the Executive officer.

C PROVISIONS

1. The discharger shall submit analysis of groundwater samples from facility monitoring wells to be used for evaluation of background water quality.
REPORT DUE DATE: MARCH 3, 1995
2. The discharger shall submit semi-annual monitoring reports in accordance with the attached Discharge

REMCO INC. SOIL REMEDIATION
WASTE DISCHARGE REQUIREMENTS ORDER No. 95-032

Monitoring Program.

3. The discharger shall submit a detailed Post Earthquake Inspection and Corrective Action Plan acceptable to the Executive officer to be implemented in the event of any earthquake generating ground shaking of Richter Magnitude 7 or greater at or within 30 miles of the facility. The report shall describe the containment features, and groundwater monitoring potentially impacted by the static and seismic deformations of the facility. The plan shall provide for reporting results of the post earthquake inspection to Board within 72 hours of the occurrence of the earthquake. Immediately after an earthquake event causing damage to the facility structures, the corrective action plan shall be implemented and this Board shall be notified of any damage. The report shall be due within three months of adoption of this Order.
REPORT DUE DATE: 3 MONTHS OF ADOPTION OF THIS ORDER
4. The discharger shall submit to this Board and to the California Integrated Waste Management Board, evidence of an irrevocable Closure Fund or provide other means to ensure closure and postclosure maintenance of the Waste management unit, pursuant to Section 2580(f) of Chapter 15. The Closure fund must provide sufficient funds to properly close the landfill and for the post-closure monitoring, leachate management, and maintenance of the site. For purposes of planning the amount of the fund, the discharge shall assume a post-closure period of at least 30 years. However, the post-closure maintenance period shall extend as long as waste poses a threat to water quality. The report shall be due within 3 months of adoption of this Order.
REPORT DUE DATE: 3 MONTHS OF ADOPTION OF THIS ORDER
5. The discharger shall submit Facility Construction Details acceptable to the Executive officer pursuant to the specifications of this Order. The Facility Construction Details must be determined to be consistent with this Order by the Executive Officer prior to acceptance of contaminated soils.
REPORT DUE DATE: 90 DAYS PRIOR TO ANTICIPATED CONSTRUCTION DATE
6. All reports pursuant to these Provisions shall be prepared under the supervision of a registered civil engineer or California certified engineering geologist.
7. The discharger shall remove and relocate any wastes which

REMCO INC. SOIL REMEDIATION
WASTE DISCHARGE REQUIREMENTS ORDER No. 95-032

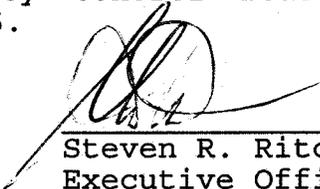
are discharged at this site in violation of this requirements.

8. The discharger shall file with the Regional Board Discharge Monitoring Reports performed according to any Discharge Monitoring Program issued by the Executive Officer.
9. The discharger shall file with this Board a report of any material change or proposed change in the character, location, or quantity of this waste discharge. For the purpose of these requirements, this includes any proposed change in the boundaries of the disposal area or the ownership of the disposal site.
10. The discharger shall immediately notify the Board of any flooding, equipment failure, slope failure, or other change in site conditions which could impair the integrity of waste containment facilities or precipitation and drainage control structures.
REPORT DUE DATE: IMMEDIATE
11. The discharger shall maintain a copy of this Order at the site so as to be available at all times to site operating personnel.
12. This Board considers the property owner and site operator to have continuing responsibility for correcting any problems which arise in the future as a result of this waste discharge or related operations.
13. The discharger shall permit the Regional Board or its authorized representative, upon presentation of credentials:
 - a. Immediate entry upon the premises on which wastes are located or in which any required records are kept.
 - b. Access to copy any records required to be kept under the terms and conditions of this order.
 - c. Inspection of any treatment equipment, monitoring equipment, or monitoring methods required by this order or by any other California State Agency.
 - d. Sampling of any untreated or treated soils and/or groundwater governed by this order.

REMCO INC. SOIL REMEDIATION
WASTE DISCHARGE REQUIREMENTS ORDER No. 95-032

14. These requirements do not authorize commission of any act causing injury to the property of another or of the public; do not convey any property rights; do not remove liability under federal, state or local laws; and do not authorize the discharge of wastes without appropriate permits from other agencies or organizations.
15. The discharger shall comply with all applicable items of the attached "**Standard Provisions and Reporting Requirements**" or any amendments thereafter.
16. In the event of any change in control or ownership of land or waste discharge facilities presently owned or controlled by the discharger, the discharger shall notify the succeeding owner or operator of the existence of this Order by letter, a copy of which shall be immediately forwarded to this office. To assume operation of this Order, the succeeding owner or operator must apply in writing to the Executive Officer requesting transfer of the Order. (Refer to Standard Provisions, referenced above). The request must contain the requesting entity's full legal name, the address and telephone number of the persons responsible for contact with the Board and statement. The statement shall comply with the signatory paragraph described in Standard Provisions and state that the new owner or operator assumes full responsibility for this Order. Failure to submit the request shall be considered a discharge without requirements, a violation of the California Water Code.
17. This Order is subject to Board review and updating, as necessary, to comply with changing State and Federal laws, regulations, policies, or guidelines; changes in the Board's Basin Plan; or changes in the discharge characteristics.

I, Steven R. Ritchie, Executive Officer, do hereby certify that the foregoing is a full, complete, and correct copy of an Order adopted by the California Regional Water Quality Control Board, San Francisco Bay Region, on February 15, 1995.



Steven R. Ritchie
Executive Officer

Attachments: A. Site Location Map
 B. Facility Map
 C. Discharge Monitoring Program



San Pablo Bay

Richmond Country Club

Hilltop Mall

Contra Costa College

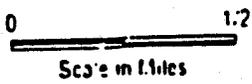
El Portal Shopping Center

SAN PABLO

SITE ↑

NORTH RICHMOND

RICHMOND



Attachment A

Remco

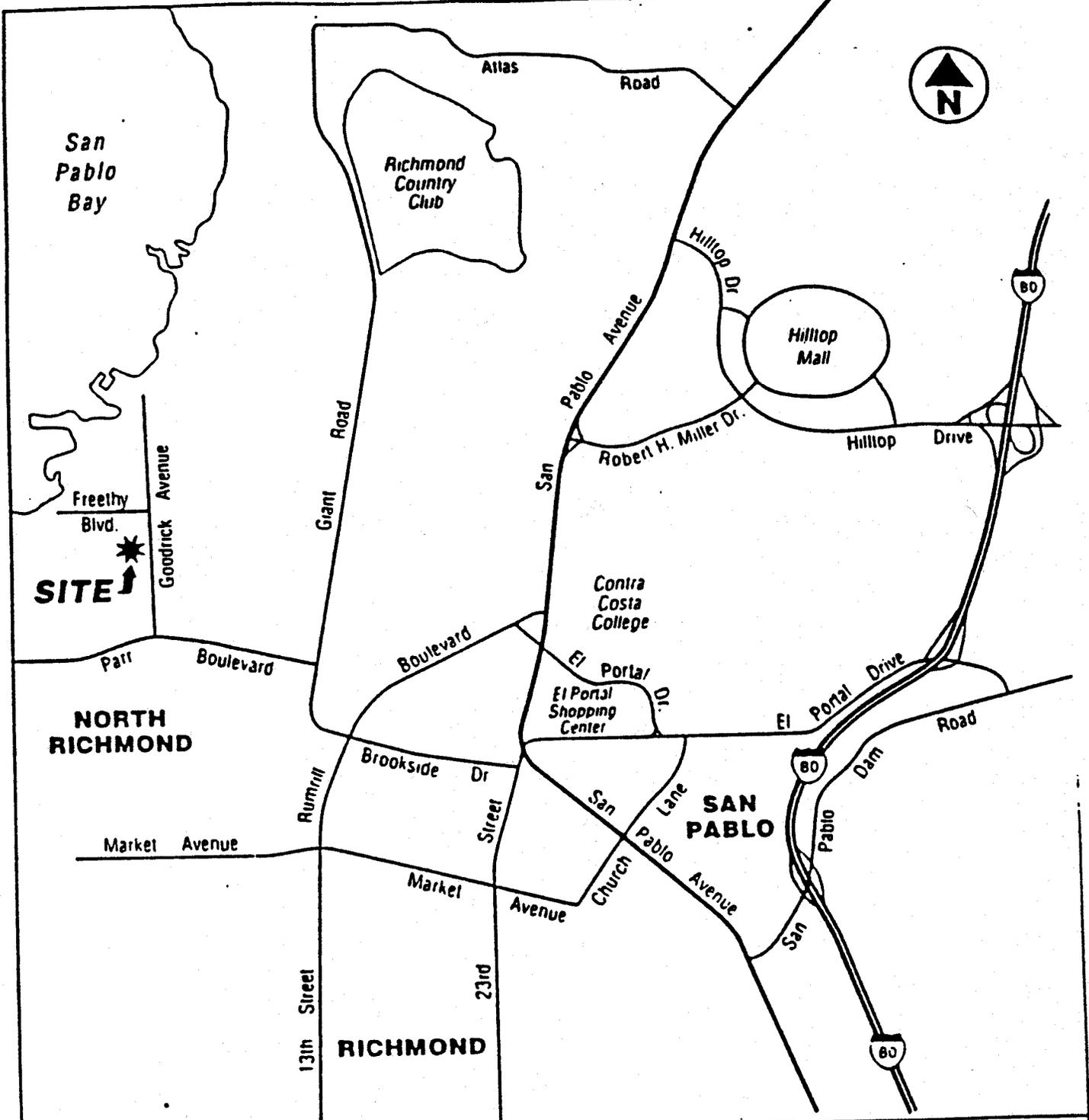
2717 Goodrick Avenue
Richmond, California

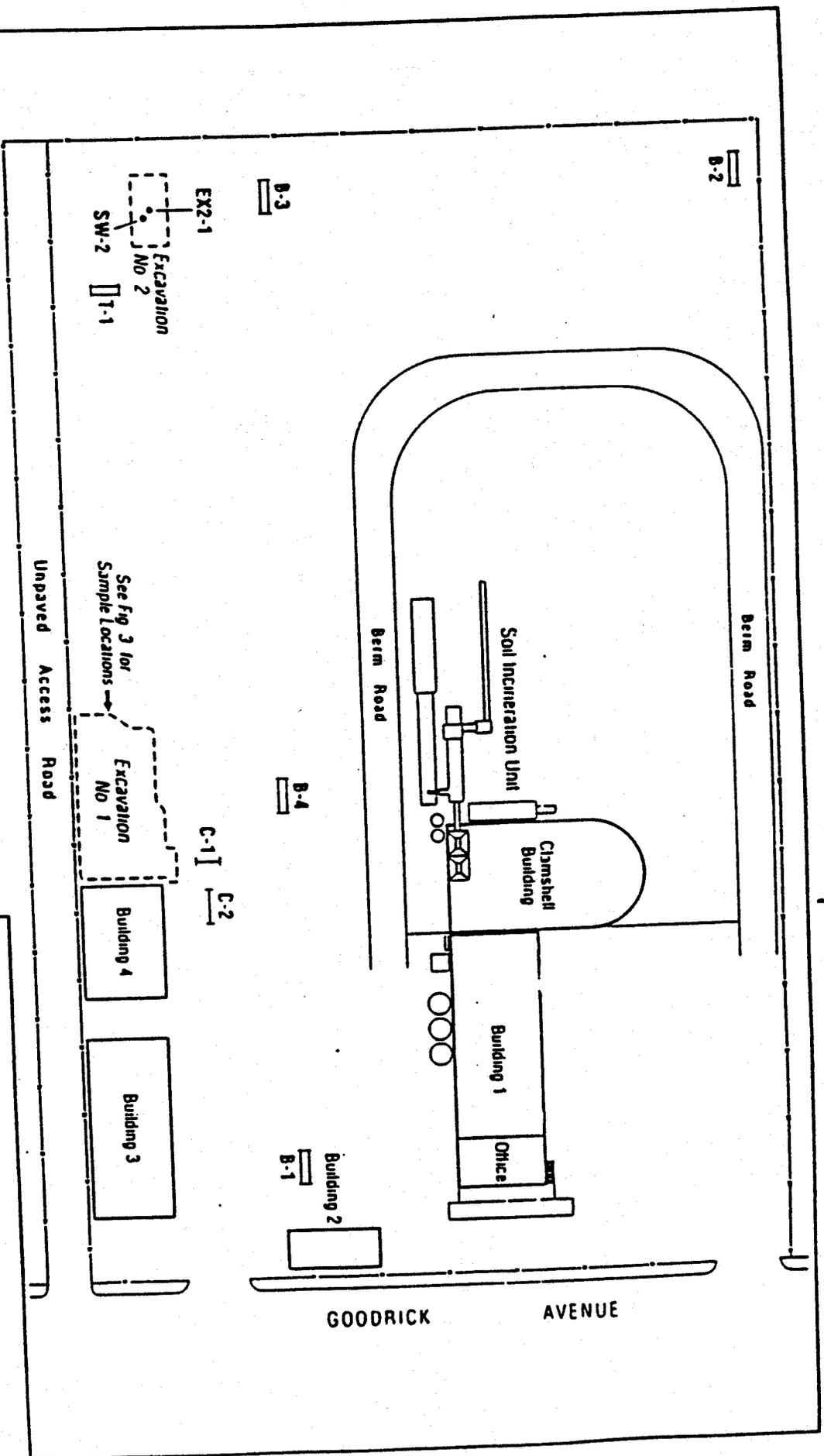
VICINITY MAP

S8073-06 01

July 1994

Figure 1





LEGEND

EX2-1. Approximate Location of Soil Sample

Approximate Limits of Excavation

Approximate Location of Random Test Trench

Approximate Location of Confirmation Trench



0 80
Scale 1" = 80'

Attachment B	
Remco	
2717 Goodnick Avenue	
Richmond, California	
SITE PLAN	
SR073-06-01	July 1994
Figure 2	

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SAN FRANCISCO BAY REGION

DISCHARGE MONITORING PROGRAM

FOR

REMEDIAL ENVIRONMENTAL MARKETING CO. INC.,
REMCO.
THERMAL TREATMENT UNIT
RICHMOND, CONTRA COSTA COUNTY

ORDER NO. 95-032

CONSISTS OF

PART A

AND

PART B

PART A

A. GENERAL

Reporting responsibilities of waste dischargers are specified in Sections 13225(a), 13267(b), 13383, and 13387(b) of the California Water Code and this Regional Board's Resolution No.73-16. This Discharge Monitoring Program is issued in accordance with Provision C.8 of Regional Board Order No. 95-.

The principal purposes of a discharge monitoring program are: (1) to document compliance with waste discharge requirements and prohibitions established by the Board, (2) to facilitate self-policing by the waste discharger in the prevention and abatement of pollution arising from waste discharge, (3) to develop or assist in the development of standards of performance, and toxicity standards, (4) to assist the discharger in complying with the requirements of this Order.

B. SAMPLING AND ANALYTICAL METHODS

Sample collection, storage, and analyses shall be performed according to the most recent version of EPA Standard Methods and in accordance with an approved sampling and analysis plan.

Water and waste analysis shall be performed by a laboratory approved for these analyses by the State of California. The director of the laboratory whose name appears on the certification shall supervise all analytical work in his/her laboratory and shall sign all reports of such work submitted to the Regional Board.

All monitoring instruments and equipment shall be properly calibrated and maintained to ensure accuracy of measurements.

C. DEFINITION OF TERMS

1. A grab sample is a discrete sample collected at any time.
2. Receiving waters refers to any surface water which actually or potentially receives surface or groundwaters which pass over, through, or under waste materials or contaminated soils. In this case the groundwater beneath and adjacent to the landfill areas, the surface runoff from the site, Spring Branch are considered receiving waters.
3. Standard observations refer to:

**REMCO SOIL REMEDIATION
DISCHARGE MONITORING PROGRAM**

Receiving Waters

- 1) Floating and suspended materials of waste origin: presence or absence, source, and size of affected area.
- 2) Discoloration and turbidity: description of color, source, and size of affected area.
- 3) Evidence of odors, presence or absence, characterization, source, and distance of travel from source.
- 4) Evidence of beneficial use: presence of water associated wildlife.
- 5) Flow rate.
- 6) Weather conditions: wind direction and estimated velocity, total precipitation during the previous five days and on the day of observation.

b. Perimeter of the waste management unit.

- 1) Evidence of liquid leaving or entering the waste management unit, estimated size of affected area and flow rate. (Show affected area on map)
- 2) Evidence of combustible gas leaving the waste management unit.
- 3) Evidence of odors, presence or absence, characterization, source, and distance of travel from source.
- 4) Evidence of erosion and/or daylighted refuse.

c. The waste management unit.

- 1) Evidence of ponded water at any point on the waste management facility.
- 2) Evidence of odors, presence or absence, characterization, source, and distance of travel from source.
- 3) Evidence of erosion and/or daylighted refuse.
- 4) Standard Analysis (SA) and measurements are listed on Table A (attached)

D. SAMPLING, ANALYSIS, AND OBSERVATIONS

The discharger is required to perform sampling, analyses, and observations in the following media:

1. Groundwater per Section 2550.7(b) and
2. Unsaturated (vadose) zone per 2550.11
3. Petroleum contaminated soils.
3. Thermal treated soils.

and per the general requirements specified in this Order.

**REMCO SOIL REMEDIATION
DISCHARGE MONITORING PROGRAM**

E. RECORDS TO BE MAINTAINED

Written reports shall be maintained by the discharger or laboratory, and shall be retained for a minimum of five years. This period of retention shall be extended during the course of any unresolved litigation regarding this discharge or when requested by the Board. Such records shall show the following for each sample:

1. Identity of sample and sample station number.
2. Date and time of sampling.
3. Date and time that analyses are started and completed, and name of the personnel performing the analyses.
4. Complete procedure used, including method of preserving the sample, and the identity and volumes of reagents used.
5. Calculation of results.
6. Results of analyses, and detection limits for each analysis.

F. REPORTS TO BE FILED WITH THE BOARD

1. Written detection monitoring reports, contaminated and treated soil sampling reports shall be filed by the 15th day of the month following the report period. In addition an annual report shall be filed as indicated in F.3 below. The reports shall be comprised of the following:

a. Letter of Transmittal

A letter transmitting the essential points in each report should accompany each report. Such a letter shall include a discussion of any requirement violations found during the last report period, and actions taken or planned for correcting the violations. If the discharger has previously submitted a detailed time schedule for correcting requirement violations, a reference to the correspondence transmitting such schedule will be satisfactory. If no violations have occurred in the last report period this shall be stated in the letter of transmittal. Monitoring reports and the letter transmitting the monitoring reports shall be signed by a principal executive officer at the level of vice president or his duly authorized representative, if such representative is responsible for the overall operation of the facility from which the discharge originates. The letter shall contain a statement by the official, under penalty of perjury, that to the best

**REMCO SOIL REMEDIATION
DISCHARGE MONITORING PROGRAM**

of the signer's knowledge the report is true, complete, and correct.

- b. Each monitoring report shall include a compliance evaluation summary. The summary shall contain:

Unsaturated (vadose) zone monitoring report.

- 1) Unsaturated zone monitoring shall be conducted as described in Article 5, Chapter 15.

Groundwater monitoring report.

- 1) A graphic description of the velocity and direction of groundwater flow under/around the waste management unit, based upon the past and present water level elevations and pertinent visual observations.
- 2) The method and time of water level measurement, the type of pump used for purging, pump placement in the well; method of purging, pumping rate, equipment and methods used to monitor field pH, temperature, and conductivity during purging, calibration of the field equipment, results of the pH, temperature conductivity and turbidity testing, well recovery time, and method of disposing of the purge water.
- 3) Type of pump used, pump placement for sampling, a detailed description of the sampling procedure; number and description of equipment, field and travel blanks; number and description of duplicate samples; type of sample containers and preservatives used, the date and time of sampling, the name and qualifications of the person actually taking the samples, and any other observations.

Soil treatment process report.

All quarterly reports submitted to the Board shall contain the following information:

1. A tabular list of the sources, types and volumes of all wastes to be treated received daily. (Each source of waste must be identified according to location and type.)
2. REMCO shall certify either by the procedures contained in section 66305, Title 22 CCR, or based on acceptable analytical data, that each load of waste to be treated is nonhazardous.
3. A tabular list of dates, volumes and locations of the

**REMCO SOIL REMEDIATION
DISCHARGE MONITORING PROGRAM**

ultimate disposal of any treated or partially treated wastes that were not processed, or of materials that were used as daily cover. If all the material produced during the monitoring period was used, a statement to that effect shall be submitted with each monitoring report.

4. A tabular list of the names and addresses of the waste generators and haulers during the quarter.
 5. All analytical results and the dates the samples were taken and analyzed during the quarter.
 6. A certification that all wastes received, processed, handled, or disposed off were in compliance with the Board's requirements.
- c. A map or aerial photograph shall accompany each report showing observation and monitoring station locations.
 - d. Laboratory statements of results of analyses specified in Part B must be included in each report. The director of the laboratory whose name appears on the laboratory certification shall supervise all analytical work in his/her laboratory and shall sign all reports of such work submitted to the Board.
- 1) The methods of analyses and detection limits must be appropriate for the expected concentrations. Specific methods of analyses must be identified. If methods other than EPA approved methods or Standard Methods are used, the exact methodology must be submitted for review and approved by the Executive Officer prior to use.
 - 2) In addition to the results of the analyses, laboratory quality assurance/quality control (QA/QC) information must be included in the monitoring report. The laboratory QA/QC information should include the method, equipment and analytical detection limits; the recovery rates; an explanation for any recovery rate that is less than 80%; the results of equipment and method blanks; the results of spiked and surrogate samples; the frequency of quality control analysis; and the name and qualifications of the person(s) performing the analyses.

2. CONTINGENCY REPORTING

- a. A report shall be made in writing to the Board within seven days of determining that a statistically significant difference occurred between a down gradient

**REMCO SOIL REMEDIATION
DISCHARGE MONITORING PROGRAM**

sample and its background values. Notification shall indicate what background value(s) has/have been exceeded. The discharger shall immediately resample at the compliance point where this difference has been found and re-analyze.

- b. If resampling and analysis confirms the earlier finding of a statistically significant difference between monitoring results and background value(s) the discharger must submit to the Board an amended Report of Waste Discharge as specified in Section 2550.8(k)(5) for establishment of an Evaluation Monitoring Program (EMP) meeting the requirements of Section 2550.9 of Chapter 15.
- c. Within 180 days of determining statistically significant evidence of a release, submit to the regional board an engineering feasibility study for a Corrective Action Program (CAP) necessary to meet the requirements of Section 2550.10. At a minimum, the feasibility study shall contain a detailed description of the corrective action measures that could be taken to achieve background concentrations for all constituents of concern.

3. REPORTING

By January 31 of each year the discharger shall submit an annual report to the Board covering the previous calendar year. This report shall contain:

- a. Tabular and graphical summaries of the monitoring data obtained during the previous year; the report should be accompanied by a 5¹/₄" computer data disk, MS-DOS ASCII format, tabulating the year's data.
- b. A comprehensive discussion of the compliance record, and the corrective actions taken or planned which may be needed to bring the discharger into full compliance with the waste discharge requirements.
- c. A map showing the area, if any, in which the treated soils were used during the previous calendar year.
- d. A written summary of the groundwater analyses indicating any change in the quality of the groundwater.
- e. A written summary of combustible gas analyses from Unsaturated zone monitoring indicating any gas accumulation, migration beyond or within waste management unit.

**REMCO SOIL REMEDIATION
DISCHARGE MONITORING PROGRAM**

- f. A written summary of contaminated soil and treated soil sampling analyzes indicating values of parameters analyzed, total volumes, and locations of the ultimate disposal of treated, any untreated or partially treated wastes that were not processed, or material that was used as daily cover.
 - g. A review of financial assurance and certification that it is still in effect and adequate.
4. **FAILURE TO FURNISH REPORTS**

Any person failing or refusing to furnish technical or monitoring reports or falsifying any information provided therein, is guilty of a misdemeanor and may be liable civilly in an amount of up to one thousand dollars (\$1,000) for each day of violation under Section 13268 of the Water Code.

5. **WELL LOGS**

A boring log and a monitoring well construction log shall be submitted for each sampling well established for this monitoring program, as well as a report of inspection or certification that each well has been constructed in accordance with the construction standards of the Department of Water Resources. These shall be submitted within 30 days after well installation.

Part B

1. DESCRIPTION OF OBSERVATION STATIONS AND SCHEDULE OF OBSERVATIONS

A. SOIL SAMPLING AND ANALYSES - Report Quarterly

Soil sampling and analyses shall be performed as outlined below and on Table A (Attached).

Incoming Wastes - Soils will be sampled before acceptance for treatment. Discrete samples shall be taken at the rates stated below:

Treated Material (in stockpiles) - A representative sample of each stockpile of treated soil material shall be obtained and analyzed at the rates stated below:

VOLUME OF SOIL (cubic yards)	No. OF SAMPLES
1 - 20	1 sample
21 - 100	1 sample every 20 cubic yards
101 - 500	1 sample every 25 cubicyards
501 - 1000	1 sample every 50 cubic yards
>1000	1 sample every 100 cubic yards

**REMCO SOIL REMEDIATION
DISCHARGE MONITORING PROGRAM**

Parameters

Incoming Wastes - Each of the incoming waste loads shall be analysed for the parameters stated below. The sample shall be representative of waste mixture to be treated. If any waste stream (s) is routinely treated uncombined with all the other waste streams, it shall be sampled and analyzed separately.

Treated Material (in stockpiles) - Monthly analyses of the stockpiled wastes shall be performed for the parameters stated below.

Parameters	Objective (ug/l)	Acceptable limit (mg/Kg)
TPH	10	10.0
Benzene	1	0.005
Toluene	40	0.2
Ethylbenene	30	0.15
Xylenes	20	0.1
Lead	15	*(0.3) **(200)

*unrestricted use **restricted use

Attenuation factor for Organics = x100

Attenuation factor for Metals = x200

TPH total petroleum hydrocarbon as gasoline and diesel

EPA SW-846 Test Method for Evaluating Solid Waste

B. ON - SITE OBSERVATION - Report Semi - annual

STATION	DESCRIPTION	OBSERVATION	FREQUENCY
V - 1 thru V - 'n'	Located on the waste disposal area as delineated by a 500 ft grid network.	Standard observations for the waste management unit.	Weekly
P - 1 thru P - 'n' (perimeter)	Located at equidistant intervals not exceeding 1000 feet around the perimeter of the waste management unit.	Standard observations for the perimeter.	Weekly

REMCO SOIL REMEDIATION
DISCHARGE MONITORING PROGRAM

C. GROUND WATER MONITORING - Report Semi-annually.

Groundwater and surface water shall be monitored as outlined below and on Table A (Attached) and shown on Figure A (Attached). Control Chart Approach shall be used for Statistical Evaluation of data. (Each well is used as its own background).

Monitoring Points:

	Downgradient Point	Upgradient Point
Groundwater	GW2, GW3, GW4,	GW1A

D. FACILITIES MONITORING

The Discharger shall inspect all facilities to ensure proper and safe operation and report semi-annual. The facilities to be monitored shall include, but not be limited to:

- a. Contaminated soil storage building.
- b. Clean soil storage area.
- c. Drainage runoff control structures.
- d. Perimeter diversion channels

I, Steven R. Ritchie, Executive Officer, hereby certify that the foregoing Self-Monitoring Program:

1. Has been developed in accordance with the procedures set forth in this Board's Resolution No. 73-16 in order to obtain data and document compliance with waste discharge requirements established in this Board's Order No. 95-032.
2. Is effective on the date shown below.
3. May be reviewed or modified at any time subsequent to the effective date, upon written notice from the Executive Officer.



Steven R. Ritchie
Executive Officer

Date Ordered: February 15, 1995

Attachment: A - Site Location Map
B - Facility Map

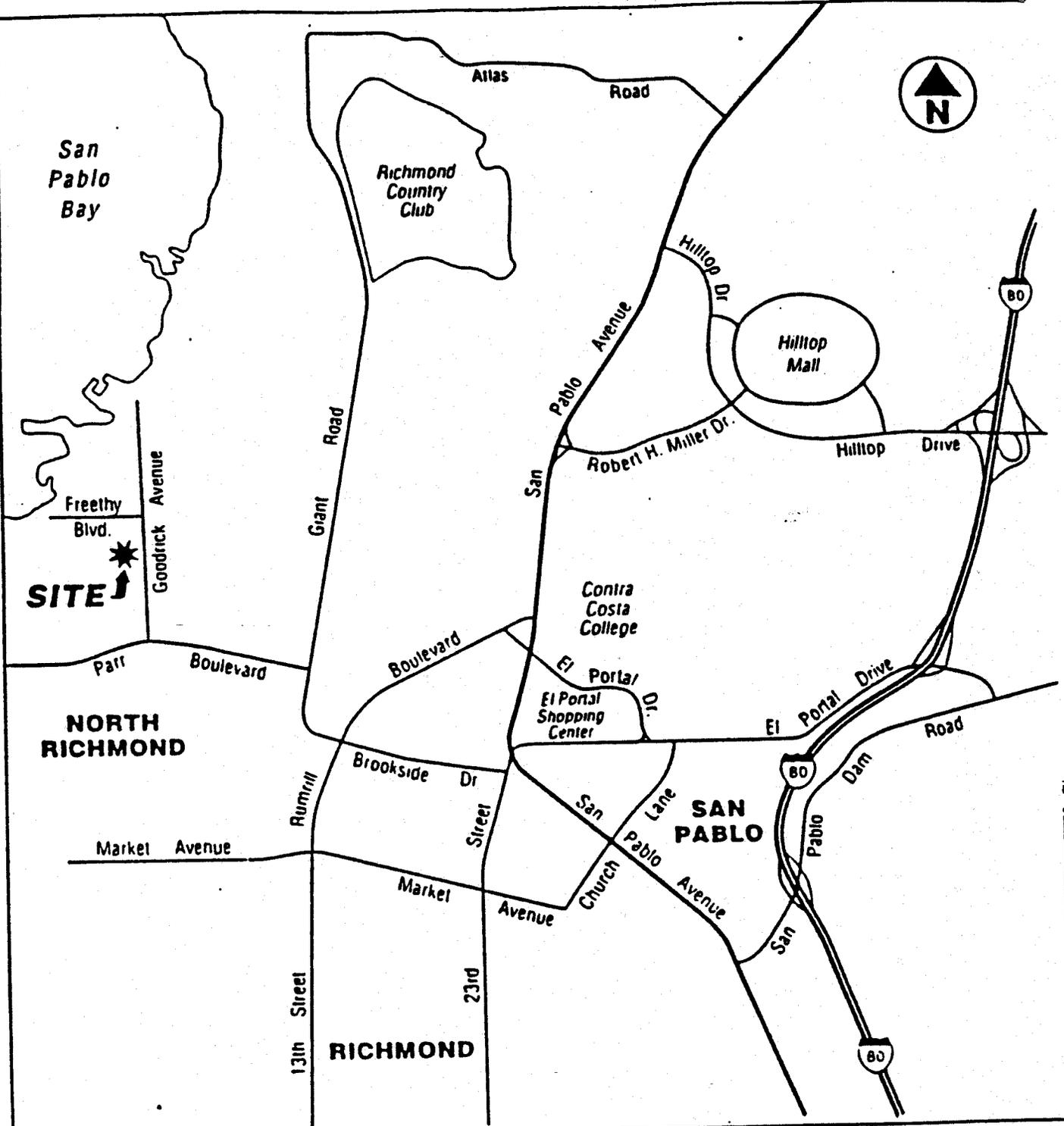
**REMCO SOIL REMEDIATION
DISCHARGE MONITORING PROGRAM**

Table A - Schedule for Sampling, Measurement, and
Analysis

Table A - Discharge Monitoring Plan, List of Analytical Parameters

Parameters	Method	Frequency	Referenc
Water level	Field	Monthly(a)	1
Temperature	Field	Quarterly	1
Alkalinity, bicarbonate	310.1	Quarterly(b)	2
Total Nitrogen	351.2	Quarterly	2
Alkalinity, hydroxide	310.1	Quarterly(b)	2
Chemical oxygen demand	410.2	Quarterly(b)	2
Ammonia Total	350.2	Quarterly(c)	2
Turbidity	Field	Quarterly	2
Electrical conductivity	9050	Quarterly(c)	3
Total suspended solids	160.2	Quarterly(c)	2
Volatile organic compounds	8240/8260	Quarterly(b)	3
Asenic	7060	Quarterly	3
Barium	6010	Quarterly	3
Cadmium	6010	Quarterly	3
Chromium	6010	Quarterly	3
Copper	6010	Quarterly	3
Mercury	7470	Quarterly	3
Lead	7421	Quarterly	3
Nickel	6010	Quarterly	3
Selenium	7740	Quarterly	3
Silver	6010	Quarterly	3
Zinc	6010	Quarterly	3
pH	9040	Quarterly	3
Leachate Elevation level	Field	Monthly(a)	1

1. Not Applicable
2. Methods for Chemical Analysis of Water and Wastes, EPA600/4/79/029, revised March 1983.
3. EPA SW-846
 (a) monthly for first year, quarterly thereafter
 (b) groundwater samples only, (c) surface water samples only

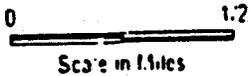


SITE

NORTH RICHMOND

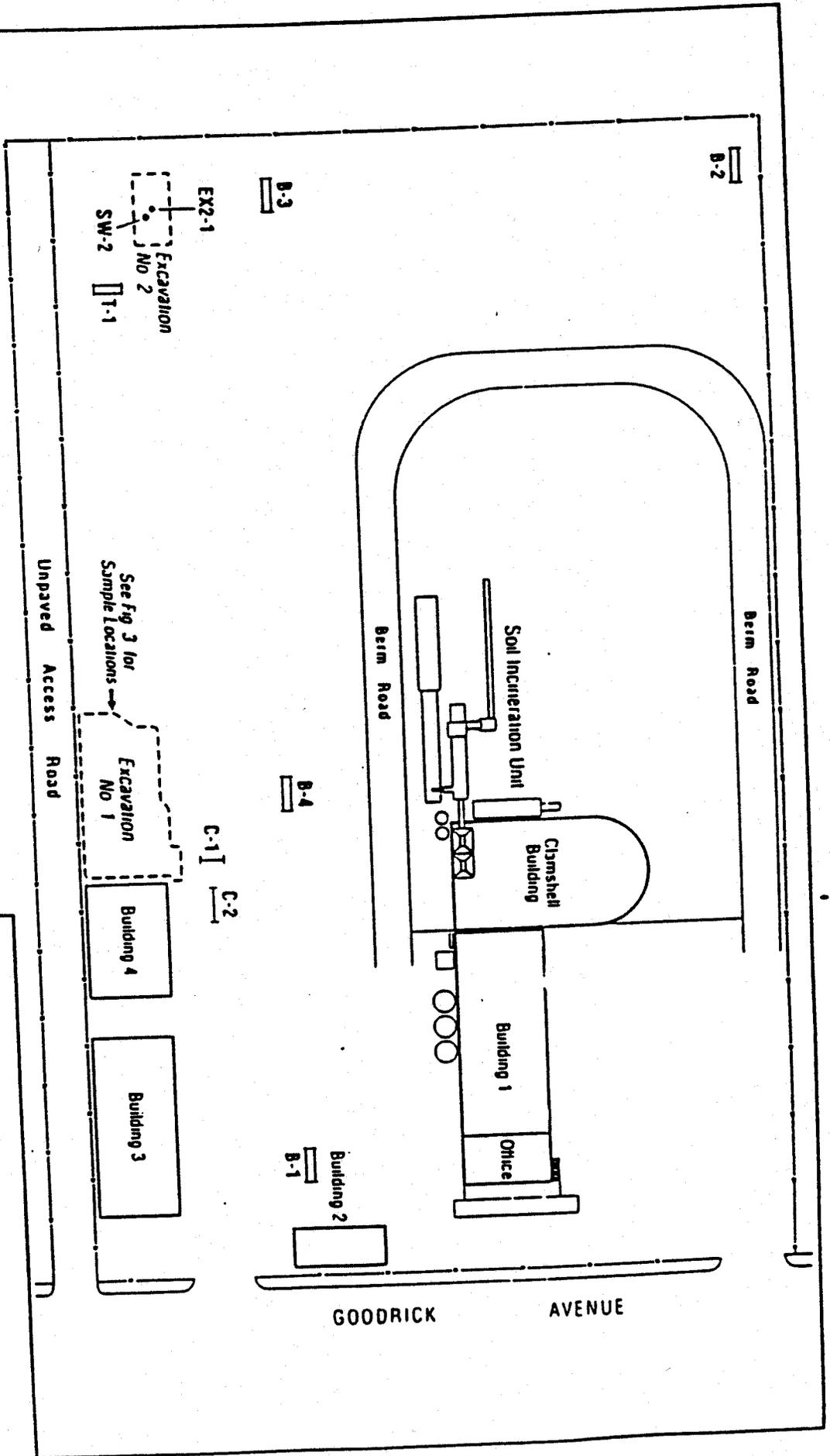
RICHMOND

SAN PABLO



Scale in Miles

Attachment A		
Remco		
2717 Goodrick Avenue Richmond, California		
VICINITY MAP		
SB073-06 01	July 1994	Figure 1



LEGEND

EX2-1. Approximate Location of Soil Sample

--- Approximate Limits of Excavation

□ Approximate Location of Random Test Trench

— Approximate Location of Confirmation Trench



0 80
Scale 1" = 80'

Attachment B	
Remco	
2717 Goodnick Avenue Richmond, California	
SITE PLAN	
SR073-06-01	July 1994
Figure 2	