

**STATE OF CALIFORNIA
CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
LOS ANGELES REGION**

**ORDER NO. 95-114
WASTE DISCHARGE REQUIREMENTS
FOR
TOPDANMARK BANK
ARTESIA PLACE INDUSTRIAL PARK
10118 ARTESIA PLACE, BELLFLOWER
(FILE NO. 95-064)**

The California Regional Water Quality Control Board, Los Angeles Region, (Regional Board) finds that:

1. Topdanmark Bank (a corporation, hereinafter called the Discharger) has filed a complete report of waste discharge with this Regional Board for the cleanup of soil contaminated with petroleum hydrocarbons.
2. The Discharger operates a light industrial park located at 10118 Artesia Place, Bellflower, California (Figure 1). The approximate latitude of the site is N 33° 52' 30", and the approximate longitude is W 118° 07' 00".
3. In 1991, the Discharger discovered that the soil and groundwater beneath the site were contaminated with petroleum hydrocarbons from underground storage tanks formerly located at the site. Subsurface investigation has defined the onsite vertical and lateral extent of the soil contamination.
4. The Discharger proposes to use proprietary bacteria (inoculum) to bioremediate the petroleum hydrocarbon-contaminated soil. Up to 650 gallons of the inoculum will be discharged to the subsurface. The inoculum will contain approximately 150 species/strains of non-pathogenic bacteria. A list of the bacteria to be discharged to the subsurface will be provided to the Regional Board prior to the discharge of the inoculum to the soil. Due to the innovative method of application of this bioremediation technology, this Regional Board considers this to be a pilot project, and it will be monitored as such.
5. The inoculum will be added to the subsurface using ten 4-inch diameter Schedule 40 PVC wells with slots extending from 5 to 15 feet below the ground surface. The inoculum wells will be located on 20-foot centers as shown on the site plan submitted by the Discharger (Figure 2).
6. The estimated volume of soil to be treated is reportedly 800 cubic yards. The contaminated soil is located in an area approximately 70 feet wide and 86 feet long. The soil contamination extends from approximately 11 feet below the ground surface into the groundwater, which is approximately 24 feet below the ground surface at the site.

5

7. The first encountered groundwater beneath the site is approximately 24 feet below ground surface. Up to 6.1 feet of free product have been measured in groundwater monitoring well MW-4. The Discharger has submitted a plan to define the lateral and downgradient extent of the free product and the dissolved hydrocarbon plumes.
8. If it is determined that free product has migrated to the adjacent property to the north, the Discharger proposes to install a groundwater pump-and-treat system to reverse the groundwater flow gradient to aid the recovery of the free product
9. The site is located in the Central Basin of the Los Angeles Coastal Plain Groundwater Basin. The Central Basin is characterized by several aquifers that are confined by several aquitards. The upper aquifers underlying the site are: Gasper, Artesia, and the Exposition Aquifers. The Gasper Aquifer (shallowest aquifer) is approximately 100 feet below the surface.
10. The groundwater in the Central Basin is beneficially used for municipal and domestic supply, agricultural supply, industrial process supply, and industrial service supply.
11. The Board adopted a revised Water Quality Control Plan for the Los Angeles Region on June 13, 1994. The Water Quality Control Plan contains beneficial uses and water quality objectives for groundwater in the Central Basin. The requirements contained in this Order, as they are met, will be in conformance with the goals and objectives of the Water Quality Control Plan.
12. This action is being taken for the protection of the environment, and, as such, is exempt from the provisions of the California Environmental Quality Act, (Public Resource Code commencing with Section 21100) in accordance with Section 15308, Chapter 3, Title 14, of the California Code of Regulations.

The Board has notified the Discharger and interested agencies and persons of its intent to adopt waste discharge requirements for this discharge and has provided them with an opportunity to submit their written views and recommendations.

The Board, in a public meeting, heard and considered all comments pertaining to the discharge and the tentative requirements.

IT IS HEREBY ORDERED that Topdanmark Bank (Discharger), in order to meet the provisions contained in the California Water Code, and the California Code of Regulations adopted thereunder, shall comply with the following:

A. General Requirements

1. The Discharger shall establish pre-inoculation baseline levels for the critical indicators of insitu bioremediation at the time that the inoculum wells are installed. The pre-inoculation baseline sampling shall include collection and analysis of soil and vapor samples as specified in the Monitoring and Reporting Program.
2. The inoculum shall be discharged to the soil only, as proposed.
3. The Discharger shall provide a list of the bacteria species/strains in the inoculum, prior to any discharge of inoculum to the soil. This list will be considered proprietary and will be kept confidential by the Executive Officer.
4. After inoculum is discharged into the soil, the progress of the soil remediation project shall be monitored by collecting and analyzing soil samples from soil borings at three-month intervals for the first six months, and at six-month intervals thereafter, as prescribed in the Monitoring and Reporting Program.
5. If, after the first six months of bioremediation, the Discharger proposes to discharge additional inoculum into the subsurface, the Executive Officer shall be notified in writing, and his written approval shall be obtained prior to discharge. If additional inoculum is discharged to the soil, the soil sampling and analysis program as prescribed in the Monitoring and Reporting Program shall be repeated.
6. The extent of free product and dissolved plumes shall be defined in the down gradient and lateral directions, using permanent groundwater monitoring wells, prior to the initial discharge of the inoculum to the subsurface.
7. On an annual basis, the Executive Officer will evaluate the data submitted to monitor the progress of the soil bioremediation. If it is determined that the insitu bioremediation is not significantly reducing the concentrations of the contaminants in the soil, the Discharger shall submit a soil cleanup plan utilizing an alternate technology for review and approval by the Executive Officer.

8. Any waste removed from the site for disposal shall be disposed only at a legal disposal site. For the purpose of these requirements, a legal disposal site is one for which requirements have been adopted by a Regional Water Quality Control Board, and which is in full compliance therewith.
9. The Discharger shall notify Regional Board staff at least 72 hours prior to undertaking any activity at the site including but not limited to: drilling soil borings, soil sample collection, soil vapor survey, groundwater monitoring well/inoculation well installation, groundwater monitoring, groundwater sample collection, and soil inoculation.

B. Prohibitions

1. No nutrients, soil conditioners, water flushes, penetrants, clay stabilizers, surfactants, or other additives shall be discharged to the subsurface during the life of this remediation project, without obtaining written approval from the Executive Officer.
2. The discharge of the inoculum shall not contain any substance in concentrations toxic to human, animal, or plant life.
3. The inoculum shall not impart taste, odors, color, foaming, or other objectionable characteristics to the groundwater.
4. This discharge shall not cause a violation of any applicable water quality standard for the groundwaters adopted by the Regional Board or the State Water Resources Control Board.

C. Provisions

1. This Order includes "Standard Provisions Applicable to Waste Discharge Requirements." If there is any conflict between provisions stated herein and the "Standard Provisions Applicable to Waste Discharge Requirements," these provisions stated herein shall prevail.
2. In accordance with Section 13267 of the California Water Code, the Discharger shall furnish under penalty of perjury, technical monitoring reports; such reports shall be submitted in accordance with specifications prepared by the Executive Officer, which are subject to periodic revision as may be warranted.
3. The requirements of the attached Monitoring and Reporting Program are hereby made a part of this Order.

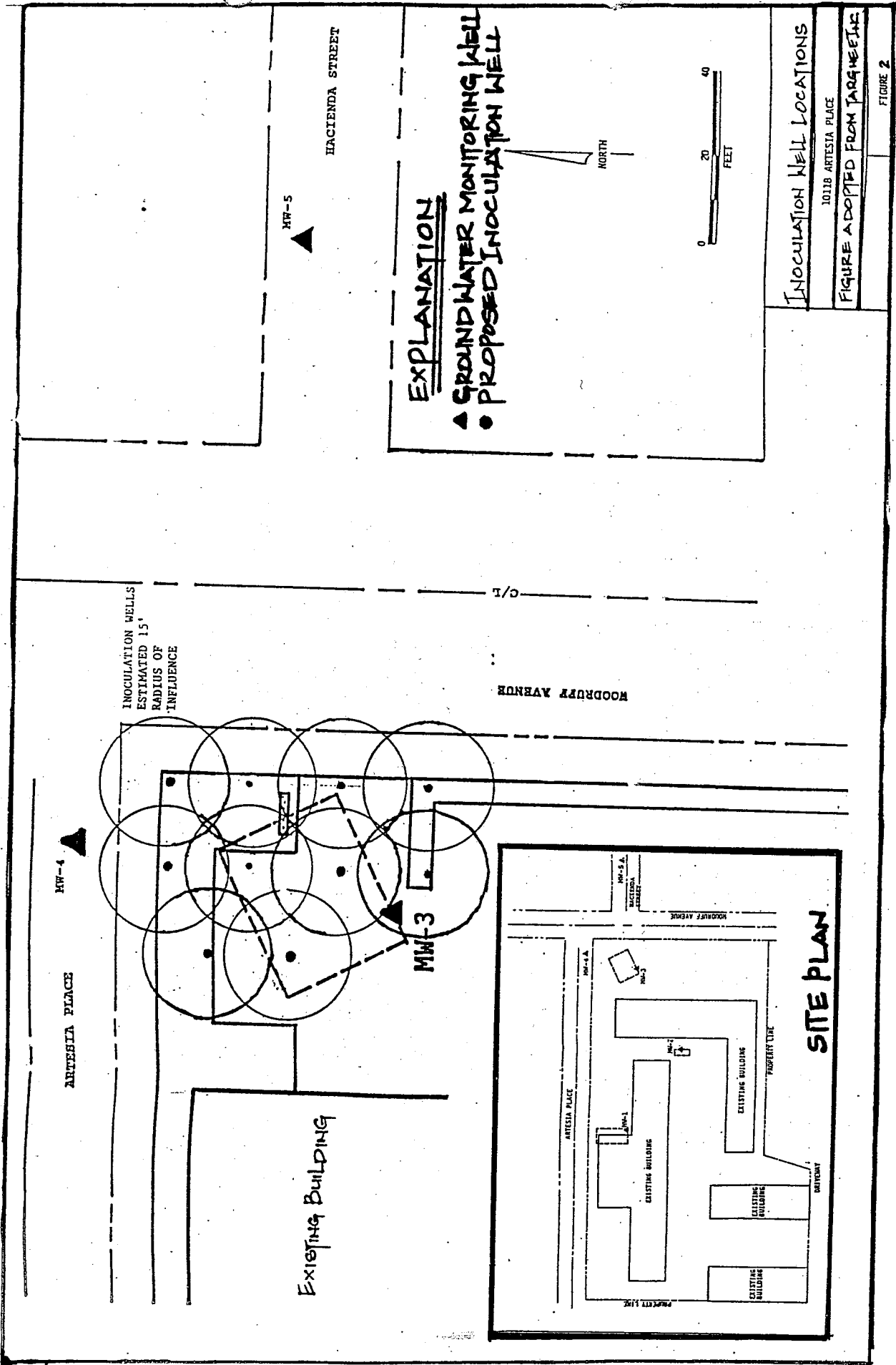
4. In accordance with Section 13260 of the California Water Code, the Discharger shall file a report of any material change or proposed change in character, location, or volume of discharge.
5. The Discharger shall notify this Board immediately by telephone of any adverse condition resulting from this discharge or from operations producing this waste discharge; such notifications to be affirmed in writing within one week from the date of such occurrence.
6. According to Section 13263 of the California Water Code, these requirements are subject to periodic review and revision by this Regional Board.
7. These requirements do not exempt the Discharger/Operator of this site from compliance with any other laws, regulations, or ordinances which may be applicable; they do not legalize this site and they leave unaffected any further restraint on the disposal of wastes at this site which may be contained in other statues or required by other agencies.
8. This Order expires on August 10, 2000. The Regional Board may choose to extend this Order without requiring an additional report of waste discharge or filing fee.

I, Robert P. Ghirelli, Executive Officer, do hereby certify that the foregoing is a full, true, and correct copy of an order adopted by the California Regional Water Quality Control Board, Los Angeles Region, on August 21, 1995.



ROBERT P. GHIRELLI, D. Env.
Executive Officer

/HP



INOCULATION WELL LOCATIONS

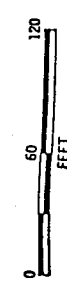
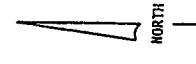
10118 ARTESIA PLACE

FIGURE ADOPTED FROM JARGHEIT

FIGURE 2

EXPLANATION

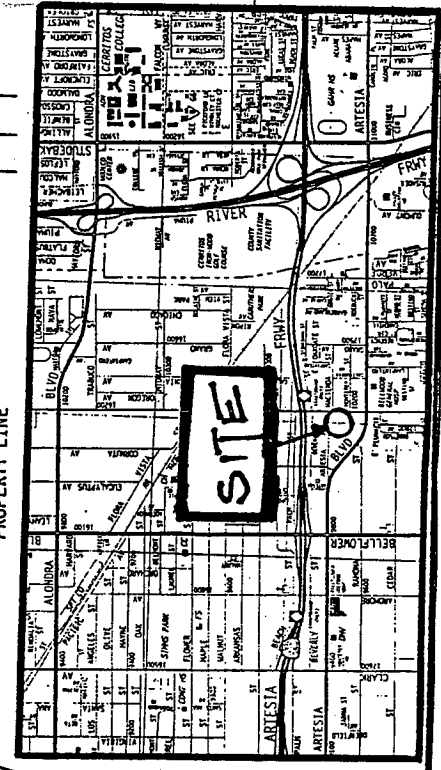
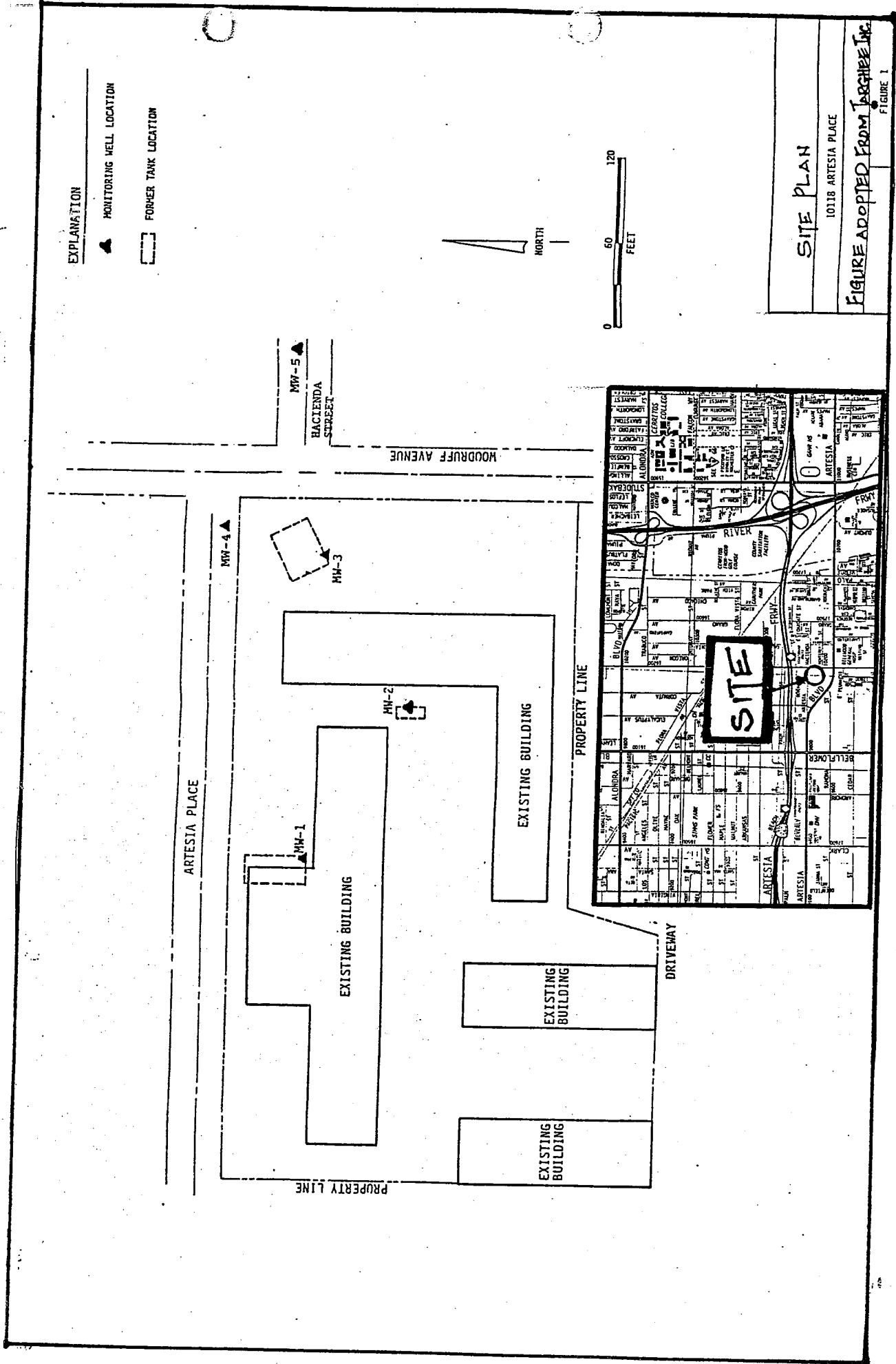
- ▲ MONITORING WELL LOCATION
- FORMER TANK LOCATION



SITE PLAN

10118 ARTESIA PLACE

FIGURE ADOPTED FROM TARGHIRE INC. FIGURE 1



STATE OF CALIFORNIA
 CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
 LOS ANGELES REGION
 - MONITORING AND REPORTING PROGRAM NO: 7577
 FOR
 TOPDANMARK BANK
 ARTESIA PLACE INDUSTRIAL PARK
 10118 ARTESIA PLACE, BELLFLOWER
 (FILE NO. 95-064)

Topdanmark Bank (Discharger) shall implement this monitoring program on the effective date of this Order.

I. REPORTING

A. BASELINE MONITORING

1. The Discharger shall, at the time of the installation of the inoculation wells:
 - a. Collect and analyze at least two soil vapor samples from the site. One soil vapor sample shall be collected from the proposed contaminated soil treatment area. The other sample shall be collected from a background area where there is no soil contamination. The soil vapor samples shall be analyzed for the following:

<u>Constituent</u>	<u>Units</u>	<u>EPA Method Number</u>
Total petroleum hydrocarbons (as gasoline)	ppmv [1]	8015
Benzene	ppmv [1]	8020
Toluene	ppmv [1]	8020
Ethylbenzene	ppmv [1]	8020
Xylenes (total)	ppmv [1]	8020
Methane	ppmv [1]	----
Oxygen	%	----
Carbon dioxide	%	----

[1] Parts per million-volume.

- b. Collect a two-pound composite soil sample from one of the soil borings in the area of soil contamination and analyze the sample for the following:

<u>Constituent</u>	<u>Units</u>
pH	pH units
Moisture content	%
Saturation percentage	%
Existing bacteria	CFU/mg [1]
Nitrate-nitrogen	mg/kg
Nitrogen (total)	mg/kg
Organic carbon	mg/kg
Phosphate	mg/kg

[1] Colony forming units per milligram of soil.

2. These reports are due by October 20, 1995.

B. CLEANUP PROGRESS MONITORING

1. After inoculum is discharged into the soil, the progress of the soil remediation project shall be monitored by collecting and analyzing soil samples from soil borings at three-month intervals for the first six months, and at six-month intervals thereafter.
2. At the intervals prescribed in I.B.1., at least two soil borings shall be drilled in the area of the soil contamination to monitor the progress of the cleanup. Soil vapor samples shall be collected and analyzed from these soil borings as prescribed in I.A.1.a. of the Monitoring and Reporting Program.
3. One discrete soil sample shall be collected from each soil boring described in I.B.2. between 16 feet and 22 feet below the ground surface or above the approximate capillary fringe. The soil sample shall be analyzed for the following:

<u>Constituent</u>	<u>Units</u>	<u>EPA Method Number</u>
Total petroleum hydrocarbons (as gasoline)	mg/kg	8015
Benzene	µg/kg	8020
Toluene	µg/kg	8020
Ethylbenzene	µg/kg	8020
Xylenes (total)	µg/kg	8020
Nitrate-nitrogen	mg/kg	----
Nitrogen (total)	mg/kg	----
pH	pH units	----
Moisture content	%	----
Existing bacteria	CFU/mg [1]	----

[1] Colony forming units per milligram of soil.

4. Each time that additional inoculum is discharged to the subsurface, the Discharger shall implement the sampling and analysis program as prescribed in I.B.1.

C. QUARTERLY REPORTS

1. Monitoring reports shall be submitted to the Regional Board on a quarterly basis, by the fifteenth day following the end of the quarter as shown in the following schedule:

<u>Reporting Period</u>	<u>Report Due Date</u>
January-March	April 15 th
April-June	July 15 th
July-September	October 15 th
October-December	January 15 th

2. The first report under this program (for July-September, 1995) is due by October 15, 1995.

3. Each quarterly report shall include the analytical results, together with the current groundwater elevation data, and a groundwater contour map based on those data. The reports shall also contain the measurements recorded during the purging of the wells, and the disposal point of the purged water.
4. All chemical, bacteriological, and toxicity analyses required by this Order shall be conducted at a laboratory certified for such analyses by the State Department of Health Services Environmental Laboratory Accreditation Program, or approved by the Executive Officer. Laboratory analyses must follow methods approved by the United States Environmental Protection Agency (EPA), and the laboratory must meet EPA Quality Assurance/Quality Control criteria. All analytical data must be presented by the laboratory on the enclosed Laboratory Report Forms.
5. In reporting the monitoring data, the Discharger shall arrange the data in tabular form so that the data, the constituents, and the concentrations are readily discernible. The data shall be summarized to determine compliance with waste discharge requirements and, where applicable, shall include receiving groundwater observations.
6. For any analysis performed for which no procedure is specified in the EPA guidelines or this Monitoring Program, the constituent or parameter analyzed and the method or procedure used must be specified in the report.
7. Where the units of a parameter are listed as $\mu\text{g/L}$ (ppb) suitable techniques shall be used, to achieve this detection limit.
8. The report shall state whether there was any change in the type of cleanup operation, as described in the application, during the reporting period.
9. The report shall contain an estimated time schedule for the completion of the cleanup activities.
10. The Discharger shall maintain all sampling and analytical results, including strip charts, data, exact location and time of sampling, date analyses were performed, analyst's name, analytical procedure used, and the results of the analyses. Such records shall be maintained for a minimum of three years after the completion of the project. This period of retention shall be extended during the course of any unresolved litigation regarding this discharge or when requested by the Regional Board.
11. The depth to groundwater in each of the monitoring wells shall be determined to an accuracy of 0.01 foot on a monthly basis. The groundwater elevation (in feet above mean sea level) shall be computed by subtracting the measured depth to groundwater from the elevation of the top of the well casing reference point. These data shall be included in the report.

12. All data shall be submitted in hard copy form and on 3 1/2" or 5 1/4" computer diskette. Submitted data must be IBM compatible, preferably using Lotus123 or dBASE software, or in ASCII format.
13. Groundwater samples collected from the monitoring wells shall be analyzed for the following:

<u>Constituent</u>	<u>Units</u>	<u>EPA Method Number</u>	<u>Minimum Frequency of Analysis [2]</u>
pH	pH units	----	Quarterly
Total petroleum hydrocarbons (as gasoline)	mg/L	8015	Quarterly
Benzene	µg/L	624	Quarterly
Toluene	µg/L	624	Quarterly
Xylenes (total)	µg/L	624	Quarterly
Ethylbenzene	µg/L	624	Quarterly
1,2-Dichloroethane	µg/L	624	Quarterly
Bacteria count	CFU/ml	----	Quarterly [3]
Nitrate-nitrogen	mg/L	----	Quarterly [3]
Nitrite-nitrogen	mg/L	----	Quarterly [3]
Dissolved oxygen	mg/L	----	Quarterly [3]
Chemical oxygen demand	mg/L	----	Quarterly [3]
Total phosphorus	mg/L	----	Quarterly [3]
Lead (total)	µg/L	7421 [1]	Annually

[1] Graphite furnace method

[2] Groundwater samples shall be collected and analyzed from all groundwater monitoring wells one week prior to the discharge of the inoculum to the subsurface to establish the background conditions.

[3] After initial inoculum discharge, groundwater samples shall be collected and analyzed from all groundwater monitoring wells on a quarterly basis for the first six months and at six-month intervals thereafter. In the event that additional inoculum is discharged to the subsurface after the initial inoculation, the monitoring frequency shall revert to quarterly for six months and at six-month intervals thereafter.

D. ANNUAL REPORTS

1. Annual summary reports shall be submitted by March first of each year. The report shall contain both tabular and graphical summaries of the data obtained during the previous year. The first annual summary report (due March 1, 1996), shall include the results of all analyses and a complete system evaluation. This evaluation shall include analysis of the groundwater monitoring, and the effectiveness of the Insitu soil bioremediation project. The evaluation shall include, but not be limited to, the current soil and groundwater conditions (including the analytical data from the soil and groundwater monitoring program), rate of cleanup, project completion schedule (if possible) and any modifications made during the life of the soil bioremediation project.

2. A technical report evaluating the effectiveness of the insitu soil bioremediation project must be submitted for the Executive Officer's review no later than December 31, 1996. The report must include a summary of the groundwater monitoring data, the bioremediation monitoring data, a complete evaluation of the soil bioremediation project including conclusions and recommendations concerning the effectiveness of the insitu soil bioremediation project, and recommendations for additional cleanup options as warranted.

II. HAULING REPORT

In the event that wastes are transported to a disposal site during the reporting period, the following information shall be included in the monitoring report for that period.

- A. Types of wastes and quantity of each type,
- B. Name and address of each hauler of wastes (or method of transport if other than hauling),
- C. Location of the final disposal point(s) for each type of waste,
- D. If no wastes were hauled, the report shall so state.

III. OPERATION AND MAINTENANCE REPORT

The Discharger shall file a technical report with this Board, no later than 30 days after adoption of this Order, relative to the operation and maintenance program for the soil treatment operation. The report shall contain, at a minimum, the following information:

- A. The name and address of the person or company responsible for the operation and maintenance of the soil treatment operation at the site,
- B. Type of maintenance (preventive or corrective),
- C. Frequency of maintenance if preventive.

IV. GENERAL PROVISIONS FOR REPORTING

All technical reports submitted to the Board, which include engineering or geological evaluations or judgments, shall be signed by a California registered civil engineer, a registered geologist, or a certified engineering geologist, in addition to the certification required in Standard Provisions.

The monitoring reports required by this program shall be submitted to:

California Regional Water Quality Control Board
Los Angeles Region
101 Centre Plaza Drive
Monterey Park, CA 91754-2156
ATTN: Technical Support Unit

These records and reports are public documents and shall be made available for inspection during business hours at the office of the California Regional Water Quality Control Board, Los Angeles Region.

Ordered by:



ROBERT P. GHIRELLI, D. Env.
Executive Officer

Date: August 21, 1995

/HP

**CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
LOS ANGELES REGION**

101 CENTRE PLAZA DRIVE
MONTEREY PARK, CA 91754-2156
266-7500
FAX: (213) 266-7600



August 31, 1995

original

Mr. David Torgerson
Topdanmark Bank
301 East Ocean Boulevard, Suite 1800
Long Beach, CA 90801-5650

**WASTE DISCHARGE REQUIREMENTS
ARTESIA PLACE INDUSTRIAL PARK
10118 ARTESIA PLACE, BELLFLOWER (FILE NO. 95-064) (CI No. 7577)**

On July 21, 1995, we sent you tentative requirements for the treatment of contaminated soil and groundwater at the subject site.

Pursuant to Division 7 of the California Water Code, this Board, at a public meeting held on August 21, 1995, reviewed the tentative requirements, considered all factors in this case, and adopted Order No. 95-114, (copy enclosed) relative to this discharge.

The first quarterly monitoring report under this program (for September-December 1995) is due by April 15, 1996. All monitoring reports must be referenced to compliance file number 7577 and should be sent to the Regional Board, Attention: Technical Support Unit.

Please do not combine the monitoring reports with other reports such as progress or technical reports. Each type of report should be submitted as a separate document.

As the Board adopted the tentative requirements without changes, we are sending the adopted order to the applicant only. For those on the mailing list, please add Order No. 95-114 to the tentative order previously sent to you. A copy of the adopted Order will be sent on request.

Mr. David Torgerson
Page 2

If you have any questions concerning this matter, please call Mr. Harry Patel at (213) 266-7575.

Robert P. Ghirelli

ROBERT P. GHIRELLI, D.Env.
Executive Officer

cc: Mr. Archie Matthews, Division of Water Quality, State Water Resources Control Board
Mr. Jorge Leon, State Water Resources Control Board, Office of Chief Counsel
Department of Fish and Game, Marine Resources Region
Department of Health Services, Public Water Supply Branch
Department of Water Resources, Southern District
Mr. Alfredo Cardenas, Water Replenishment District of Southern California
South Coast Air Quality Management District
Mr. Carl Sjoberg, Los Angeles County Department of Public Works,
Waste Management Division, Underground Tanks
Ms. Darlene E. Ruiz, Hunter/Ruiz Research, Consulting, and Advocacy
Mr. Dave Wald, Wald Nickell Realty Advisors
Mr. Mark S. Leymaster, Targhee, Inc.
Mr. Jim Hoeltgen, Biostar Technologies