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

**ORDER NO. R4-2004-0056**

**WASTE DISCHARGE REQUIREMENTS**
**FOR**
**NON-HAZARDOUS PETROLEUM HYDROCARBON**
**CONTAMINATED SOILS TREATMENT**

**THERMAL REMEDIATION SOLUTIONS, LLC**
**(FILE NO. 94-080)**

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

1. Thermal Remediation Solutions, LLC (TRS) operates a soil treatment facility (facility) on land leased from, and located on, the Azusa Land Reclamation Incorporated (ALR) Landfill at 1211 West Gladstone Street, in Azusa, California, (Figures 1 and 2) for the storage and treatment of non-hazardous petroleum hydrocarbon contaminated soils (PHCSs). The facility was heretofore operated pursuant to waste discharge requirements (WDRs) issued by the Regional Board in Order 95-132 on September 18, 1995. Those WDRs are being replaced in accordance with § 13263(d) of the California Water Code (CWC) to reflect new requirements and to be consistent with similar operations.

2. Soils containing petroleum hydrocarbons, where identified and left unmitigated, constitute an ongoing discharge of waste(s) to land that could affect the quality of waters of the state within the meaning of § 13260 of the CWC.

3. TRS operates under ALRs Owner Participation Agreement (OPA), dated January 27, 1984. TRS, often referred to as the Azusa Soil Treatment Facility, originally operated under the name of Pemco in the Azusa Redevelopment Agency Owner Participation Agreement dated January 27, 1984. Pemco was purchased by TRS in June of 1996.

4. The issuance of revised waste discharge requirements is exempt from Division 13 (commencing with Section 21000) of the Public Resources Code (California Environmental Quality Act) since this is an ongoing project in accordance with title 14, CCR, section 15261(a).

5. TRS's soil treatment operations consist of a 52,800 square feet ($ft^2$) lined area for storage of untreated soil, a thermal desorption unit, and an administrative office trailer (Figure 1).

6. TRS uses thermal desorption technology to treat incoming PHCSs to levels that are protective of surface and ground waters. The thermal desorption process involves heating the PHCSs to temperatures necessary to remove the adsorbed petroleum hydrocarbons, thus reducing their concentrations to acceptable regulatory levels. Requirements are included in

this Order to allow amending of processed soils in order to enhance the reuse properties of the treated soils.

7. The thermal desorption unit operates at a maximum capacity of 30 tons per hour, and consists of four main components:

   - Feed system and rotary kiln;
   - Thermal oxidizer, air-to-air cooler, and baghouse;
   - Control house with safety, temperature, and data collection devices; and
   - Soil discharge system.

8. Dust collected from the unit is collected, rehydrated, and retreated for recycling and disposal.

9. The thermal desorption unit is operated under two South Coast Air Quality Management District (SCAQMD) permits: permit F 6493 regulates construction and operation of the thermal desorption unit and permit F 6502 regulates soil handling.

10. All contaminated soils accepted at TRS's facility are maintained outdoors in covered stockpiles. The untreated soil storage area is located on a multi-layer liner consisting of, from top to bottom, a sealed compacted asphalt pad, a gravel layer, a geotextile and 40 mil geosynthetic liner, a sand layer with a vapor recovery and leak detection system, and an additional 40 mil geosynthetic liner (Figure 3).

11. TRS's facility overlies groundwater in the Main San Gabriel Valley Groundwater Basin in the Los Angeles - San Gabriel Hydrologic Area.

12. The Regional Board adopted a revised Water Quality Control Plan for the Los Angeles Region (Basin Plan) on June 13, 1994. The Basin Plan contains beneficial uses and water quality objectives for both surface and ground waters in the Main San Gabriel Valley Groundwater Basin. The requirements of this Order, as they are met, are in conformance with the goals of the Basin Plan.

13. The beneficial uses of groundwater in the Main San Gabriel Valley Groundwater Basin are for municipal supply, agricultural supply, industrial process supply, and industrial service supply.

14. Pursuant to section 402 (p) of the Clean Water Act (33 USC 1342 (p)) and 40 Code of Federal Regulations parts 122, 123, and 124, the State Water Resources Control Board (State Board) adopted a National Pollutant Discharge Elimination System (NPDES) General Permit to regulate storm water discharges associated with industrial activities in California (State Board Order 97-03-DWQ). Storm water runoff from the facility is currently regulated under the general NPDES permit issued to the ALR Landfill (WDID No. 419 I 004450, enrolled on April 6, 1992). TRS is implementing a Storm Water Pollution Prevention Plan

(SWPPP) at the facility as required by the general NPDES permit.

The Regional Board has notified interested agencies and all known interested parties of its intent to adopt WDRs for this discharge, and has provided them with an opportunity to submit their written views and recommendations.

The Regional Board in a public meeting heard and considered all comments pertaining to these WDRs.

**IT IS HEREBY ORDERED** that TRS shall comply with the following:

## A. PROHIBITIONS

1. No hazardous wastes (as defined in California Code of Regulations, title 22 [22 CCR] § 66261.3 et seq.) shall be processed at TRS's facility. Only non-hazardous PHCSs shall be accepted, stored, or treated at TRS's facility.

2. No PHCSs accepted for treatment shall contain waste oil, as defined in title 22 CCR, division 4, article 4, § 66261.126, appendix X (b).

3. No PHCSs accepted for treatment shall contain free liquid, as determined by the paint filter test (USEPA Method 9095, SW-846).

4. No mixing of soils to achieve acceptable disposal limits is allowed.

5. Discharges of waste to land as a result of inadequate thermal desorption practices which have not been specifically described to the Regional Board and for which valid WDRs are not in force are prohibited.

6. Odors, vectors, and other nuisances of waste origin caused by TRS's operations are prohibited.

7. The discharge of waste to surface drainage courses or to usable groundwater is prohibited.

8. Basin Plan prohibitions shall not be violated.

9. All federal, state, and county sanitary health codes, rules, regulations, and ordinances shall be complied with in the operation and maintenance of TRS's facility.

10. No radioactive waste, including low level radioactive waste, as defined by the agency with jurisdictional authority, shall be accepted for treatment at TRS's facility.

11. Any discharge of wastes at any point(s) other than specifically described in this Order is prohibited and will constitute a violation of this Order.

12. Thermally treated soils that meet the criteria for reuse off-site shall not contain any substances in concentrations toxic to human, animal, plant, or aquatic life pursuant to 22 CCR § 66261.24.
13. No condition of pollution or nuisance, as defined by § 13050 of the CWC, shall be caused by the handling, storage, treatment, and reuse of the wastes, or from any operation conducted in association with treatment operations subject to this Order.

14. The discharge of wastes or waste constituents to groundwater, surface waters, or surface water drainage courses is prohibited.

15. PHCSs shall not be accepted at the facility during rainfall which causes runoff.

## B. PROVISIONS FOR ACCEPTABLE MATERIALS

1. Average upper end levels of hydrocarbon contamination acceptable for treatment for individual projects are as follows:

| Parameter | Limits | Units | |
|---|---|---|---|
| Gasoline, jet fuel, or similar | 5,000 | mg/Kg | 0.50% by weight |
| Kerosene, diesel, or similar | 20,000 | mg/Kg | 2.00% by weight |
| Lubricants, or similar | 30,000 | mg/Kg | 3.00% by weight |
| Crude oils, or similar | 50,000 | mg/Kg | 5.00% by weight |

* mg/Kg is millograms per kilograms

2. At any time, TRS may file a written request, including appropriate supporting documents, with the Executive Officer, proposing acceptance of soils whose dominant contaminants, similar to PHCSs can be efficiently remediated through thermal desorption and are consistent with all requirements of this Order. TRS shall implement any changes to the M&RP No. CI-7598 approved by the Executive Officer upon receipt of a signed copy of the revised M&RP.

3. PHCSs accepted for treatment at the facility may include crude oil and refined products, such as leaded and unleaded gasoline, fuel oils, diesel fuel, kerosene, jet fuel, hydraulic and lubricating oils, and other petroleum based hydrocarbon products with a boiling point of less than 1,000 $^{o}$F.

4. PHCSs containing polynuclear aromatic hydrocarbons (PAHs) and volatile organic compounds (VOCs) may be accepted at TRS's facility. These materials shall be managed and treated in accordance with SCAQMD permits. Non-PHCSs that are contaminated with PAHs may be accepted at TRS's facility on a project specific basis and based on prior approval by the Regional Board Executive Officer (Executive Officer) of appropriate characterization, testing, processing, and disposal/reuse methods.

## C. PROVISIONS FOR WASTE EVALUATION PROCEDURES

1. A waste evaluation program shall be continuously implemented to assure that only soils acceptable for thermal desorption treatment are accepted.

2. TRS shall require soil profile results from all generators that provide contaminant and material characteristics specific to an individual source before accepting delivery to TRS's facility. The soil profile information shall include a certification from the generator that the contaminated soils are non-hazardous in nature.

3. TRS shall confirm a minimum number of generator-conducted soil profile tests from an individual source before accepting delivery to TRS's facility at the following frequency:

| Volume in cubic yards (cy) | Testing Frequency |
|---|---|
| Less than 600 | 3 samples |
| 600 to 2,000 | One sample per 200 cy |
| 2001 to 10,000 | One sample per 500 cy |
| Greater than 10,000 | One sample per 1,000 cy |

4. TRS shall implement a continuous and routine sampling and testing program to independently evaluate analytical information presented by generators. Sampling shall be random in nature and testing must be at a frequency of a minimum of 5% of the total generator tests evaluated pursuant to provision C.3, above. This random testing of incoming soils will not preclude a waste-load checking program as detailed below.

5. Any surface runoff water from the untreated soil storage area is to be collected and may be reused on untreated soils stockpiled on approved soil receiving areas at the facility or treated onsite at ALRs wastewater treatment plant. Any other reuse is subject to WDRs.

6. TRS shall continue to implement a waste-load checking program to ensure that only PHCSs meeting the requirements of this Order are accepted at TRS's facility. The waste-load checking program shall consist of the following:

   A. Every truck arriving at the facility must be accompanied by an appropriate manifest or bill of lading containing correct generator information.

   B. TRS shall visually screen all incoming contaminated soils for the presence of free liquids and to evaluate any discrepancies with corresponding generator characterization information.

   C. TRS shall screen all incoming contaminated soils for VOCs with an organic vapor analyzer using flame ionization or photo ionization. Screening and handling methods shall be consistent with SCAQMD permit requirements.

   D. If organic halogens are suspected, TRS shall conduct a copper wire test for gross halogen contamination. If a positive result is indicated, TRS shall conduct further

analysis or review to confirm that the organic halogens are not at hazardous levels before the contaminated soils are accepted for treatment.

## D. PROVISIONS FOR SOIL PROCESSING PROCEDURES

1. The storage area for incoming PHCSs shall be constructed, maintained, and operated in compliance with the Classification and Siting Criteria consistent with a Class II wastepile for designated waste, specified in title 27 CCR, including a leak detection system. This is necessary because incoming PHCSs could be a designated waste as defined in 27 CCR section § 20210.

2. Contaminated and treated soils shall be confined to areas specifically designed and constructed for their containment and storage and shall be consistent with SCAQMD permit requirements.

3. Discharge of materials other than stormwater and non-stormwater discharges authorized through enrollment in the general NPDES permit Order No. 97-03-DWQ, either directly or indirectly, to waters of the State are prohibited.

## E. PROVISIONS FOR TREATMENT LIMITS

1. Limits for treated soils can vary dependant on the disposal/reuse options described below. These treatment limits are for thermally treated soils only and no mixing or diluting of soils is allowed to achieve acceptable disposal/reuse results.

   a. In order for thermally treated soils to be reused for construction backfill, TRS shall certify that they meet the following limits:

| Parameter | Limit | Units |
|---|---|---|
| TRPH | 500 | mg/Kg |
| TPH as diesel | 10 | mg/Kg |
| TPH as gasoline | 10 | mg/Kg |

   Moreover, for any constituent required to be monitored by this Order for which a maximum contaminant level (MCL) has been established by the United States Environmental Protection Agency (USEPA) or the State of California Department of Health Services, the total concentration of that contaminant in soil shall be no greater than the MCL for that constituent in drinking water as determined by appropriate USEPA testing methods and using USEPA Toxic Constituent Leaching Procedure (TCLP) or California Waste Extraction Test (WET) extraction procedures with a leaching agent appropriate for the contaminants at frequencies specified in the attached Monitoring and Reporting Program (M&RP) No. CI-7597 (incorporated herein by reference).

   b. In order for thermally treated soils to be reused for road base, TRS shall certify that the treated soils meet cleanup limits established by the Regional Board (Interim

Site Assessment and Cleanup Guidebook, May 1996) for petroleum impacted sites. Summary Table 4.1 from the Guidebook is incorporated by reference as Attachment 1. Minimum cleanup limits shall assume that the distance above groundwater at the disposal facility is less than 20 feet and that the facility is underlain by gravel. Minimum cleanup limits for PHCSs are as follows:

| Parameter | Limit | Units |
|---|---|---|
| TRPH | 1,000 | mg/Kg |
| TPH as diesel | 100 | mg/Kg |
| TPH as gasoline | 100 | mg/Kg |

Similarly, for any constituent required to be monitored by this Order for which an MCL has been established, the total concentration of that contaminant in soil shall be no greater than the MCL for that constituent in drinking water as determined by appropriate USEPA methods and using TCLP or WET extraction procedures with a leaching agent appropriate for the contaminants.

A third option for thermally treated soils is disposal at an inert landfill or Class III landfill permitted by the Regional Board. For disposal at an inert landfill the treated soils shall meet the same limits as for reuse for road base as described in Provision No. E.1.b, above. For disposal at a Class III landfill the treated soils shall meet the same limits for petroleum hydrocarbons as described in Provision No. E.1.b and be at non-hazardous levels for any other contaminants.

2. PHCSs that cannot be successfully thermally treated to the above-specified limits must be removed to a legal point of disposal. For the purpose of these requirements, a legal point of disposal is defined as one for which WDRs have been established by a California Regional Water Quality Control Board and that is in full compliance therewith.

3. TRS shall certify that any processed materials that are amended pursuant to this Order meet the reuse requirements of applicable Provisions Nos. E.1.a or E.1.b, above. Moreover, TRS shall implement a routine sampling and testing program to generate analytical information for the amended soils to confirm that they do not pose a greater risk to health or water quality than soils that have not been amended. Sampling shall be random in nature and testing must be at a frequency of a minimum of 5% of the total of amended soils and tested for those monitoring parameters included in this Order or any other parameters deemed appropriate by the Regional Board Executive Officer.

4. Soil analyses shall be conducted after treatment, as specified in the attached Monitoring and Reporting Program (M&RP) No. CI-7598, to ensure the treatment process has been effective, and that the soil reuse will have no adverse effect on the beneficial uses of surface waters or groundwater.

## F. GENERAL PROVISIONS

1. Vadose zone monitoring shall continue be in maintained and functioning. In the event that organic vapors are detected during vadose zone monitoring, TRS must notify this Regional Board by telephone, within 24 hours, followed by written notification within one week, as to the location of the detected vapors, and the action to be taken to correct the vapor leak(s).

2. TRS shall maintain a copy of this Order at TRS's facility so as to be available at all times to personnel operating TRS's facility.

3. TRS shall file a report with the Regional Board of any material change, or proposed change in the character, location, or volume of the discharge or treatment process, 120 days prior to the proposed change, in accordance with § 13260 of the CWC.

4. In the event of any change of name of TRS, control, or ownership of land, or treatment facilities, TRS shall:

   A. Notify the Regional Board in writing of such a change;

   B. Notify the succeeding owner or operator by letter, a copy of which shall be filed with the Regional Board, of the existence of this Order.

5. Ninety days prior to cessation of storage and treatment at TRS's facility, TRS shall submit a technical report to the Regional Board describing the methods and controls to be used to ensure protection of water quality during final operations, and with any proposed subsequent use of TRS's facility. Such methods and controls shall comply with this Order. All work must be performed by or under the direction of a California registered civil engineer, registered geologist, or a certified engineering geologist, as provided in sections 6762, 7850, and 7842, respectively, of the California Business and Professional Code. A statement is required in all technical submittals that the registered professional in direct responsible charge actually supervised or personally conducted all the work associated with the project.

6. TRS shall furnish, within a reasonable time, any information the Regional Board may request to determine whether cause exists for modifying, revoking and reissuing, or terminating this Order. TRS shall also furnish to the Regional Board, upon request, copies of records required to be kept by this Order.

7. If TRS becomes aware that it failed to submit any relevant facts in any report to the Regional Board, it shall submit such facts or information within seven days of its discovery of the omission.

8. TRS has a continuing responsibility for correcting any problems which may arise as a result of this waste discharge, or as a result of water applied to TRS's facility during subsequent use of the land for purposes other than those specified herein.

9. This Order is not transferable to any person except after notice to the Executive Officer. The Regional Board may require modification or revocation and re-issuance of this Order to change the name of TRS and incorporate such other requirements as may be necessary under the CWC. TRS shall submit notice of any proposed transfer of this Order' s responsibility and coverage as described under Provision No. F.3 of this Order.

10. In accordance with CWC § 13263(g), these requirements shall not create a vested right to continue to discharge and are subject to rescission or modification. All discharges of waste to waters of the state are privileges, not rights.

11. This Order does not convey any property rights of any sort, or any exclusive privilege.

12. In accordance with § 13267 of the CWC, TRS shall furnish, under penalty of perjury, technical monitoring program reports. Such reports shall be submitted in accordance with specifications prepared by the Executive Officer, which are subject to periodic revision, as warranted.

13. According to § 13263 of the CWC, these WDRs are subject to periodic review and revision by the Regional Board.

14. These WDRs may be revised at a later date, as necessary for any reason as determined by the Regional Board.

15. TRS must notify the Regional Board by telephone, within 24 hours, followed by written notification within one week, in the event TRS is unable to comply with any of the conditions of this Order because of events such as:

    A. Breakdown of soil treatment equipment;

    B. Accidents caused by human error or negligence;

    C. Natural disasters.

16. The Regional Board and other authorized representatives shall be allowed:

    A. Entry upon premises where the fixed facility is operating, or where records are kept under the conditions of this Order;

    B. Permission to copy any records that are kept under the conditions of this Order;

    C. To photograph, sample, and monitor for the purpose of ensuring compliance with this Order, or as otherwise authorized by the CWC.

17. This Order includes the attached *"Standard Provisions Applicable to Waste Discharge Requirements*", adopted November 7, 1990 (Attachment 2) which are incorporated

herein by reference. If there is any conflict between provisions stated herein and the standard provisions, the provisions stated herein will prevail.

18. The requirements of the attached M&RP No. CI-7598 are hereby made part of this Order which are incorporated herein by reference. If there is any conflict between these requirements and the standard provisions, the requirements in M&RP No. CI -7598 will prevail.

19. The provisions of this Order are severable, and if any provision of this Order, or the application of any provision of this Order to any circumstance, is held invalid, the application of such provision to other circumstances, and the remainder of this Order, shall not be affected thereby.

20. This Order becomes effective on the date of adoption by the Regional Board.

21. This Order may be terminated or modified for cause including, but not limited to:

    a. Violation of any term or condition contained in this Order;

    b. Obtaining this Order by misrepresentation, or failure to disclose all relevant facts;

    c. A change in any condition that required either a temporary or permanent reduction or elimination of the authorized waste discharge.

22. Except for enforcement purposes, Regional Board Order No. 95-132 adopted September 18, 1995 is hereby rescinded.

This Order in no way limits the authority of the Regional Board, as contained in the CWC, to require additional investigations and cleanups pertinent to this project. This Order may be revised by the Executive Officer as additional information from the project becomes available.

Failure to comply with the terms and conditions of this Order may result in imposition of civil liability against TRS by the Regional Board, either by the Regional Board or judicially by the Superior Court, in accordance with CWC § 13350 et seq. and/or referral to the Attorney General of the State of California for such legal action as may be deemed appropriate.

I, Dennis A. Dickerson, Executive Officer, do 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 April 1, 2004.

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Dennis A. Dickerson
Executive Officer

## Figure 1
## Azusa Land Reclamation Landfill Location Map

## Figure 2
## Thermal Remediation Solutions Location on the Azusa Landfill

## Figure 3
## Untreated Soil Pad Design