

STATE OF CALIFORNIA
CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
LOS ANGELES REGION
ORDER NO. ~~00-180~~
WASTE DISCHARGE REQUIREMENTS
FOR
NORTH SHORE AT MANDALAY BAY
(NORTH EAST CORNER OF WEST FIFTH STREET AND HARBOR BOULEVARD)
OXNARD, CALIFORNIA

(FILE NO. 98-197)

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

1. This project includes a plant that was thought to be extinct until found on the property, a designated oilfield waste site, and a proposed master planned residential development, all co-located.
2. The North Shore at Mandalay Bay, LLC, hereinafter called the Discharger, is planning to conduct soil and groundwater remediation at the North Shore Mandalay Property (property) located within the Coastal Zone at the northeast corner of the intersection of West Fifth Street and Harbor Boulevard in Oxnard, California (Latitude 34° 12' 10", Longitude -119° 14' 30") (Figure 1). The Edison Canal borders the site on the east and north. The Discharger has indicated an interest in developing the entire ninety-one (91) acre site as a master planned residential community.
3. Prior to 1954, the site was used for oil and gas production. The site is the former JNJ Disposal Landfill/Carney and Son Landfill, a permitted oil field waste disposal facility that operated from 1954 through 1981. The facilities at this site operated under the Ventura County Special Use Permit No. 306, November 16, 1954, and Regional Water Pollution Control Board Order 54-162, adopted October 21, 1954, as revised by Regional Water Quality Control Board Order 79-49, adopted March 26, 1979. In February 1982 operations ceased and closure activities were initiated. Closure was accomplished by removing berms and re-grading the site. There is no engineered final cover, gas extraction system, or drainage control at this site. The site is ranked 2 on the State Solid Waste Assessment Test (SWAT) list. The site has been vacant since October 1982.
4. In December 1996, the Discharger filed with this Regional Board, a Remedial Action Plan (RAP) for cleanup and closure of the site and requested this Board to be the lead State agency. Environmental Science and Engineering, Inc. (ESE), on behalf of the Discharger, prepared the RAP. Cleanup of site soils may require multiple technologies, such as soil vapor extraction and land treatment (including soil bio-remediation and soil stabilization/chemical fixation). Cleanup of groundwater contamination may require natural biodegradation, air sparging, or pump and treat technologies. Cleanup of site soil and ground water to levels acceptable to the Regional Board, was proposed in the RAP for the subject residential development.

November 15, 2000

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Revised December 7, 2000

5. This Regional Board solicited comments on the RAP for cleanup and closure of this site and has included any comments received in the findings and requirements within this Order. In January 1997, Regional Board staff approved the RAP with modifications and in October 1997, issued General Waste Discharge Requirements Order No. 90-148, and a Monitoring and Reporting Program No. 90-148-105 for land treatment of hydrocarbon impacted soil at the site in order to begin cleanup. The authorization to use the General Waste Discharge Requirements expired on October 31, 1998, without use. On February 16, 1999, the Discharger submitted a Report of Waste Discharge for land treatment of 300,000 cubic yards of contaminated soils.
6. Over the past 20 years of investigations, more than one hundred (100) trenches, borings, and monitoring wells have been constructed. Four monitoring wells were constructed during 1981 and may still exist at the site along with earlier monitoring wells. In 1991, monitoring wells MW-1 and MW-2 were installed on-site. Between 1991 and 1996, it is reported that sixty test pits, 115 geoprobe holes, seven CPT holes and seven hand auger borings were used to sample soil and groundwater contamination levels.
7. Approximately 350,000 to 400,000 cubic yards of soil at the site are heavily contaminated by petroleum hydrocarbons, up to 138,000 mg/kg TRPH, and metals, up to 32,200 mg/kg barium (as barite, a constituent of drilling mud). This Regional Board's May 1996 Interim Site Assessment & Cleanup Guidebook suggests 10,000 mg/kg TRPH (TPH-C₂₃₊) as significant above a drinking water aquifer. Other chemicals were also identified at lower concentrations including PCBs (Aroclor 1248), pesticides, and semi-volatile organic compounds. In addition, A CERCLA Screening Site Inspection by Ecology and Environment dated June 24, 1987, identified significant concentrations of volatile organic compounds, including up to 19,000 µg/kg trichloroethene (TCE), up to 24,000 µg/kg tetrachloroethylene (PCE), and up to 46,000 µg/kg dichloroethene (DCE). The screening levels for these contaminants are 72.5 µg/kg TCE, 364.5 µg/kg PCE and 40.2 µg/kg c-1,2-DCE.
8. A discontinuous perched aquifer extends from about 18 feet below ground surface (bgs) to about 29 feet bgs and is impacted with up to 8.5 µg/L benzene, 1,000 µg/L 1,1-dichloroethane (1,1-DCA), 10,000 µg/L 1,2-dichloroethane (1,2-DCA), 2,700 µg/L c-1,2-DCE, 140 µg/L methylene chloride, and 2,100 µg/L vinyl chloride. The maximum contaminant levels for the VOCs are 1 µg/L benzene, 5 µg/L 1,1-DCA, 0.5 µg/L 1,2-DCA, 6 µg/L c-1,2-DCE, 50 µg/L methylene chloride, and 0.5 µg/L for vinyl chloride in drinking water. Site soil and ground water contamination is currently confined within the site property boundaries. Site soil contamination, is an on-going source of underlying ground water contamination requiring cleanup.
9. The discharge of wastes at this site shall meet the general criteria specified in Subsection 20320(a & d), with the precipitation and drainage controls specified in Subsection 20365, and with the seismic design criteria in Subsection 20370, Title 27, California Code of Regulations. Final closure of the land treatment unit shall be in accordance with Subsection 21420, Title 27, California Code of Regulations.
10. The Ventura County, Public Works Agency, Waste Resources and Engineering Department, Water Resources Division (WRD) is the local permitting agency for all monitoring wells and test hole borings at the subject site.

11. The Regional Board adopted a revised Water Quality Control Plan for the Los Angeles Region on June 13, 1994. This Water Quality Control Plan designates beneficial uses and establishes water quality objectives for all ground water within the Region. Existing or potential beneficial uses for ground water in the Ventura Central Groundwater Basin - Oxnard Plain Hydrologic Subarea, where the site is located, are municipal and domestic supply, agricultural supply, and industrial service and process supply. The requirements contained in this Order, as they are met, will be in conformance with the objectives of the Water Quality Control Plan.
12. Title 27, California Code of Regulations, Division 2, Chapter 3, Section 20250(b)(5), requires Regional Boards to specify, in Waste Discharge Requirements, the elements of land treatment programs by dischargers who treat or dispose of wastes in land treatment waste management units. The requirements contained in this Order, as they are met, will be in conformance with the goals of Title 27 regulations for land treatment units.
13. A discontinuous aquitard approximately five feet thick separates the perched groundwater unit from the semi-perched aquifer at about 30 feet to about 35 feet below ground surface (bgs). This aquitard was found in the northern, central, and eastern areas of the property, but is not continuous across the site. A thick clay zone from about 75 feet bgs to 100 feet bgs separates the base of the semiperched aquifer from the top of the upper aquifer system. This layer of clay is considered an aquitard that allows some water to migrate vertically. The upper aquifer system consists of the Oxnard and Mugu aquifer zones at a depth of 150 to 450 feet bgs. The Oxnard aquifer and Mugu Aquifer are the principal sources of water for the agricultural irrigation in this area, however, other beneficial uses exist for ground water in this area, such as municipal and domestic supply, and shall be protected accordingly. The lower aquifer system consists of the Hueneme, Fox Canyon, and Grimes Canyon Aquifers at a depth of over 450 feet bgs.
14. The Ventura County Environmental Health Division (EHD) is designated as the Local Enforcement Agency (LEA). The LEA is responsible for regulatory oversight of day to day operations at this disposal site until such time as remediation of the site is complete and determination of "clean closure" has occurred. To that end, EHD has deferred to this Regional Board, as State Lead agency, for the oversight of this cleanup and closure activity.
15. The City of Oxnard approved annexation of the subject 91-acre site on April 19, 2000.
16. The environmental impact report (EIR) for the site indicated an existing population of previously believed to be extinct Ventura Marsh Milk-Vetch (*Astragalus pycnostachyus* var. *lanosissimus*) was discovered on the site in June 1997. The Ventura Marsh Milk Vetch is a short-lived perennial that dies back each year. It produces annual growth stems each year and the "Died back" stems from previous years often contain pods with residual seeds. It is a perennial in the pea family with a thick taproot and several stout, hollow, and erect, reddish stems. The pinnately compound leaves are silvery white and densely covered with long hairs. The numerous greenish-white to cream colored flowers are in dense clusters that are 0.3 to 0.4 inches long. The blooming time has been recorded as between August and October, however, this population was observed in flower in June 1997. At that time, there were two distinct colonies located approximately 23 feet apart at the site. Colony A had

about 79 plants contained within approximately 496 square feet of land and Colony B had about 294 plants contained within approximately 2,700 square feet of land. In addition, one individual outlying plant, which was dead, was observed in 1997 approximately 150 feet to the southwest of Colony B. In June 1998, there were only 192 plants surviving. In 1998, there were 97 adult reproductive plants. In 2000, this number had declined to 23 plants. The direct cause of this mortality is unknown at this time. The mortality of the plants has been primarily attributed to herbivory by non-native European milk snails and rabbits. It has been suggested that the petroleum hydrocarbon contamination in the soil may be contributing to this mortality as the plants mature and send down deeper taproots into the contaminated soil, although there is no direct evidence that this is the case. There is some evidence that the hydrocarbons reduce water infiltration beneath the plants and help maintain near-surface soil moisture, allowing the plants to survive. The location of the outlying dead plant is termed Colony C. Colony C is an area of potential seed bank measuring approximately 3,000 square feet.

17. The Ventura Marsh Milk Vetch was listed as an endangered species by the State of California on April 4, 2000.
18. The City of Oxnard has prepared a final environmental impact report in accordance with the California Environmental Quality Act (Public Resources Code Section 21000 et seq.) and the State Guidelines.
19. As initiated by the discharger in November 1997, Dr. Thomas Yamashita of Sunburst Plant Disease Clinic has been successfully germinating Ventura Marsh Milk-Vetch plants from seeds taken from the subject site. The success rate has been nearly 99 percent. By August 1998, 170 Milk Vetch seedlings and 57 Milk Vetch plants from germinated seeds are being maintained in the Sunburst Plant Disease Clinic greenhouse. In addition, six cuttings were taken from the mature plants that were transplanted to the Sunburst Plant Disease Clinic in March 1998. All of these cuttings were successfully established by August 1998. In addition, the improved health of the four plants transplanted from the site demonstrated that transplanted plants can be successfully established under greenhouse conditions. Successful propagation of Milk Vetch plants under greenhouse conditions should not be construed to suggest that plants can successfully be transplanted to the wild. Limited efforts to establish populations of the plants at other locations have had poor success to date.
20. The Discharger, in a signed Memorandum of Understanding (MOU) prepared jointly with the State of California Department of Fish and Game, has developed a project site plan that avoids all direct impacts to the Milk Vetch and establishes a 5.2-acre buffer around the plants. In addition, no ex-situ soil remediation will occur within the Milk Vetch population but will be restricted from soils located 100 feet to the west, north and east of Colonies A and B, and 30 feet around Colony C. A copy of the MOU can be obtained from this Regional Board. A map showing the buffer area is attached as Figure 2.

The Regional Board has notified the Discharger and interested agencies and persons of its intent to issue Waste Discharge Requirements 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 the discharge and to the tentative requirements.

IT IS HEREBY ORDERED that the Discharger shall comply with the following:

A. Waste discharge requirements:

1. Wastes discharged at the North Shore at Mandalay property for treatment shall be conducted in such a way that no contaminants are added to surface water or ground waters. Technologies appropriate for site cleanup include: soil bioremediation and thermal desorption for petroleum hydrocarbon soil contamination, stabilization/fixation for metal soil contamination, vapor extraction for soil VOC contamination, and vapor extraction/air sparging, or pump and treat for ground water remediation. Other remedial technologies may be used at the site with written approval from the Executive Officer.
2. With the exception of certain areas discussed in the California Department of Fish and Game MOU, all areas of the site will be remediated where contamination exists at concentrations above the limits stated herein.
3. Neither the disposal nor any handling of waste shall cause pollution, or nuisance odor at the site boundaries. No water shall be used at the site except for surface dust control or in the purpose of maintain optimum moisture content in the treatment units. Such water shall not be allowed to pond on the site.
4. No off-site soils shall be imported for treatment at this site unless specifically approved by the Executive Officer.
5. Remediation of waste at the site shall only be conducted in accordance with a detailed remedial work plan. The detailed workplan must be submitted to and approved by the Executive Officer before the start of any activities associated with soil remediation.
6. Adequate facilities shall be provided to divert away all storm water runoff from the treatment area.
7. The discharger shall comply with all California Department of Fish & Game requirements related to the preservation of the Ventura Marsh Milk Vetch.

8. All soils suitable for reuse on-site, shall have contaminant concentrations less than the limits tabulated below:

<u>Parameter</u>	<u>Limit¹</u> (mg/kg)
<u>Total Petroleum Hydrocarbons (8015M)</u>	
(C ₄ -C ₁₂)	<100
(C ₁₃ -C ₁₆)	<500
(C ₁₇ -C ₂₃)	<1,000
(C ₂₃₊)	<10,000

Note: Soil containing hydrocarbons (C₄₊) shall not be placed within two feet of the final surface grade beneath any parcel ultimately used for residences or recreation. Site closure will not be granted unless the Executive Officer determines that the upper two feet of soil beneath residences and recreational areas contain <100 mg/kg hydrocarbons (C₄₊).

<u>Parameter</u>	<u>Limit¹</u> (mg/kg)
<u>Volatile Organic Compounds (VOCs)</u>	
benzene	0.001
toluene	0.150
ethylbenzene	0.700
xylene	1.750
1,1-DCA	0.005
1,2-DCA	0.0005
c-1,2-DCE	0.006
methylene chloride	0.005
vinyl chloride	0.0005
acetone	0.224
methyl ethyl ketone (MEK)	0.1105
PCE	0.005
TCE	0.005

¹ The limits specified in requirement 8 may be modified by the Regional Board, based on site specific background concentrations, leachability factors, fate and transport assessment, or health risk analyses.

Sample concentrations for the following compounds shall be less than the value tabulated below and the leachate from a CAM-WET distilled water extraction shall be less than the detection limits for the following specific metals or compounds:

<u>Parameter</u>	<u>Limit</u> ¹ (mg/kg)
Semi-Volatile Organic Compounds	Non-detect
PCB – aroclor 1248	Non-detect
 <u>CAM Metals</u>	
arsenic	0.39
barium	500
beryllium	0.14
chromium	0.05
lead	0.05
mercury	0.002
nickel	0.10
selenium	0.05
zinc	5.0
 <u>Pesticides</u>	
4,4-DDD + 4,4-DDE + 4,4-DDT	<1.0

Note: Non-detect in the CAM-WET distilled water extract at the practical quantification limits of detection for each compound.

9. Any excavated hazardous waste shall be transported off-site to a legal point of disposal. For the purpose of this requirement, a legal point of disposal is defined as one for which waste discharge requirements have been established by a California Regional Water Quality Control Board and which is in full compliance therewith.

10. The treatment area shall be bermed in such a way that storm water falling directly on the treatment area will be contained. Standing water within the contained treatment area shall be pumped down and removed to treatment facilities on-site or disposed of at a legal disposal site. For the purpose of this requirement, a legal point of disposal is defined as one for which waste discharge requirements have been established by a California Regional Water Quality Control Board and which is in full compliance therewith.

¹ The limits specified in requirement 8 may be modified by the Regional Board, based on site specific background concentrations, leachability factors, fate and transport assessment, or health risk analyses.

11. All soil collection, transport, treatment, or disposal shall be conducted in such a way that no contaminants are allowed to impact surface or ground water. All facilities used for collection, transport, treatment, or disposal of waste shall be adequately protected against overflow, washout, inundation, or structural damage, resulting from a storm or flood having a recurrence interval of once in 100 years, 24 hour duration.
12. Prior to excavation, the Discharger shall inventory and locate all monitoring wells at the site. All monitoring wells constructed on the site to depths greater than fifty feet must be recovered and properly abandoned under a permit to be issued by the Water Resources Division, Public Works Agency, County of Ventura, unless they are to be part of an ongoing ground water monitoring program. At least two water supply wells (State Well Numbers 1N/22W-1G1 and 1N/22W-1H1) were constructed on the site. These wells must be found and converted to monitoring wells or properly abandoned.

B. Provisions:

1. This Order includes "Standard Provisions Applicable to Waste Discharge Requirements" (Attachment 1). If there is any conflict between provisions stated herein and the "Standard Provisions Applicable to Waste Discharge Requirements", these provisions stated herein will prevail
2. A copy of these requirements shall be maintained at the Discharger's on-site office and be available at all times to operating personnel.
3. In the event of any change in name, ownership, or control of this property, the Discharger shall notify this Board in writing and shall notify the succeeding owner or operator of the existence of this order by letter, a copy of which shall be forwarded to the Board.
4. The Discharger must notify this Board by telephone within 24 hours, followed by written notification within one week, in the event they are unable to comply with any of the conditions of this Order due to:
 - a. Breakdown of waste treatment equipment,
 - b. Accidents caused by human error or negligence,
 - c. Other causes such as acts of nature,
 - d. Permits required from other agencies, or
 - e. Site development.

5. At least 180 days prior to closure of the land treatment units, the Discharger shall submit the following documents, acceptable to the Executive Officer: operation plans for precipitation and drainage controls, any required cover, and a closure and post-closure maintenance plan, as set forth in Title 27, California Code of Regulations Division 2, Chapter 3, Subchapter 3; and Subchapter 5, Sections 21090, 21740 through 21769.
6. In accordance with Section 13260 of the California Water Code, the Discharger shall file a report with this Regional Board of any material change or proposed change in the character, location or volume of the discharge.
7. In accordance with Section 13267 of the California Water Code, the Discharger shall furnish, under penalty of perjury, technical monitoring program reports; such reports shall be submitted in accordance with specifications prepared by the Executive Officer. The specifications are subject to periodic revisions as may be warranted.
8. The Regional Board and other authorized representative shall be allowed:
 - a. Entry upon premises where a regulated facility or activity is located or conducted, or where records are kept under the conditions of this Order;
 - b. Access to copy any records that are kept under the conditions of this order;
 - c. To inspect any facility, equipment (including monitoring and control equipment), practices, or operations regulated or required under this order; and
 - d. To photograph, sample, and monitor for the purpose of assuring compliance with this Order, or as otherwise authorized by the California Water Code.
9. In accordance with Section 13263 of the Water Code, these waste discharge requirements are subject to periodic review and revision by this Regional Board.
10. These requirements do not exempt the Discharger from compliance with any other laws, regulations, or ordinances, which may be applicable. They do not legalize these waste treatment and disposal facilities and they leave unaffected any further restraints on those facilities that may be contained in other statutes or required by other agencies.
11. These requirements shall not be construed to limit, waive, or otherwise impair any additional or more stringent requirements imposed upon the discharger pursuant to the provisions of any agreement entered into by the discharger.

C. Expiration Date

This Order expires on December 7, 2003.

Waste Discharge Requirements for
North Shore at Mandalay Bay - North East Corner of
West Fifth Street and Harbor Boulevard
Oxnard, Ventura County

File No. 98-197
Order 00-180

The Discharger must file a Report of Waste Discharge in accordance with Title 27, California Code of Regulations, not later than 180 days in advance of such date as application for issuance of new waste discharge requirements.

I, Dennis A. Dickerson, 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, December 7, 2000.

DENNIS A. DICKERSON
Executive Officer