



STATE OF NEVADA

Department of Conservation & Natural Resources

DIVISION OF ENVIRONMENTAL PROTECTION

Brian Sandoval, Governor

Leo M. Drozdoff, P.E., Director

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NEVADA DIVISION OF ENVIRONMENTAL PROTECTION FACT SHEET (Pursuant to NAC 445A.148)

Permittee Name: Republic Environmental Technologies
770 E. Sahara Avenue
Las Vegas, Nevada 89104

Permit No. NEV93011

Facility: Apex Bioremediation Facility and Liquids Solidification Area
Apex Landfill
13550 N. US Highway 93
Approximately 19 miles northeast of the City of Las Vegas
Las Vegas, Clark County, Nevada 89124
Township 18 South, Range 64 East, Sections 18

Latitude: 36° 23' 15" N

Longitude: 114° 52' 14" W

Drinking Water Protection and Wellhead Protection Areas:

The facility is within 3000' but outside the 1000' Drinking Water Protection Area (DWPA) of one public water supply well, W01 (NV0000379) owned by Apex Regional Waste Management Center. This well is considered highly vulnerable to synthetic organic compounds (SOCs) based on Source Water Assessment and Protection (SWAP) results. A Wellhead Protection Area has not been established for this area.

Bureau of Corrective Actions:

There are no Bureau of Corrective Actions sites within one mile of this facility.

General:

Bioremediation Facility

Republic Environmental Technologies (RET) of Nevada's Apex Bioremediation Facility (ABF) at Apex Landfill in Clark County proposes to modify their current water pollution control permit to consider for acceptance non-hazardous liquids and petroleum contaminated liquids for evaporation or treatment along with the currently permitted petroleum contaminated soils and water. Non-hazardous/non-petroleum liquids are placed into double lined (60 mil HDPE) cells separate from the petroleum contaminated liquids cells. The non-hazardous liquids are treated by evaporation. Petroleum contaminated liquids

are solidified within the double synthetically lined treatment cells using clean soils.

The liquids are evaporated or tilled into the soils to concentrate the petroleum sufficiently for biological treatment. Petroleum contaminated soils, which may include the solidification of liquids as described above, are treated using a biological "land farming" process, whereby the soil is spread, fertilized, watered, and inoculated with a bacterial mixture that consumes hydrocarbon content. The process is maintained by periodic watering and disking until the treatment goal is met. Treatment of petroleum contaminated soil is optional in that some materials may be placed in the landfill directly, in accordance with governing county, state, and federal requirements. The treated material is disposed of or used as cover at the adjacent landfill. The ABF extends over 8 acres and consists of ten (10) 100-foot by 400-foot treatment cells and a staging area, all underlain by a double HDPE liner with provision for detection of leaks and collection of leachate. A five (5)-foot soil layer is maintained between the liners and the bottoms of the treatment cells. This is a zero-discharge facility.

The permittee is authorized to accept liquids for solidification in the ABF having incidental total petroleum hydrocarbons. For the purpose of liquid solidification and conditioned soils placement management, TPH concentrations known by the permittee or generator to be originating from non-petroleum sources, such as fat, grease, and cooking oils, are waived from TPH analysis since such liquids are known to produce false positive petroleum based TPH values. TPH waived liquids, as described above, being accepted by the permittee for solidification are tallied as a liquid being received at the ABF; hence the volume is a portion of the total daily maximum volume of liquids allowed to be received by the permittee.

The facility has been permitted since 1995. Review of the Discharge Monitoring Reports (DMRs) submitted during the period from July 2005 through July 2010, the most recent permit term indicate that this facility has been in compliance with all permit limits.

Liquid Solidification Area

RET of Nevada also proposes to modify their current permit to include a Liquid Solidification Area (LSA) for the processing of non-hazardous and non-petroleum based liquid waste. This waste is comprised of mainly grease trap waste from food facilities, septic waste from residential and portable toilet businesses, and liquid waste from other light industrial facilities. No petroleum based liquids will be accepted for solidification at the LSA. Liquids with incidental total petroleum hydrocarbons (TPH) will be sent to the Bioremediation Facility for solidification.

The liquid waste will be placed into borrow areas where the liquids are absorbed and blended into surface soils. The liquid solidification site is prepared by ripping the ground surface, thus allowing liquid waste to readily

absorb into the surface soils. Additional clean soils and/or approved materials (i.e. saw dust, wood chips, or auto fluff) may be used to aid in the solidification process. Blending activities are conducted until free liquids are no longer present. In accordance with Federal Environmental Protection Agency Regulations 40 CFR 264.314 and 265.314, the paint filter test (Method 9095B) is administered to determine the presence or absence of remaining free liquids in the conditioned waste material. The solidified material will be used as cover material at Apex Landfill as needed, or comingled for disposal. These solidification facility activities will be included in the Division's modification of the active permit, NEV93011. All liquid waste accepted by the Permittee for solidification shall be managed as authorized by this permit. The LSA is located within the property of the landfill, near the active face, but is not in the active landfill footprint.

Liquid waste received at the ABF or LSA must have been approved in accordance with the Republic Environmental Technologies Operations & Maintenance (O&M) manual procedures for profiling and waste acceptance. Prior to issuing approval to process non-hazardous liquid waste at the ABF or LSA, analytical testing of the waste stream is performed at the generator's expense to determine whether the mixture is hazardous or not. Analysis of specified waste streams or types may be waived in accordance with the Division approved O&M manual. Records of these profiling analytical results will be kept by the permittee in accordance with the records management practices described in the Division approved O&M manual. Waste streams acceptable for processing at the ABF and LSA are issued "Waste Approval Numbers" and then maintained by the Republic Environmental Technologies waste tracking program. Liquid waste which has not been through the profile and waste acceptance process shall not be disposed of at the ABF or LSA. Neither the volume of conditioned soil generated by liquid waste solidification nor the volume of conditioned soil removed is limited by this permit. Daily activity shall be monitored and a daily report log maintained.

This permit, NEV93011, does not regulate activities performed by the permittee within the Republic Environmental Technologies Apex Landfill managed areas, with the exception of regulating the quality of materials generated for removal from the ABF and LSA that may be utilized by the permittee within Apex Landfill managed areas. All bioremediation and solidification end product materials used for cover placement or comingling with solid waste in the managed areas of the Apex Landfill must meet the permit criteria for such designated use as required by the Southern Nevada Health Authority. The Permittee has the design capacity and management ability to accept and treat 499,000 gallons per day of liquid waste at the ABF and LSA combined.

Receiving Water Characteristics:

The ABF and LSA are designed to be a zero discharge standard of performance. While this permit is for a zero-discharge facility, receiving water is considered to be groundwater of the state of Nevada. Depth to groundwater reported by

the Permittee is 520 feet, at an elevation of 1655 feet above mean sea level (AMSL). The groundwater flow is to the northwest.

Permit Limitations and Monitoring Requirements:

During the period beginning on the effective date of this permit, and lasting until the permit expires, the Permittee is authorized to manage hydrocarbon-contaminated soils and liquids as part of a lined soil bioremediation facility, and then use the bio-remediated soils for landfill materials in accordance with the limitations, requirements, and conditions of this permit. The Permittee is also authorized to condition on-site soils by liquid waste solidification for use as cover material or comingling in the Apex Landfill when such conditioned soils meet the requirements and conditions of this permit.

Monitoring requirements are listed below:

Table I.A.1.1a Bioremediation Facility: Petroleum Contaminated Soils

Parameter	Discharge Limitations	Monitoring Requirements		
		Sample Locations	Measurement Frequency	Sample Type
Maximum TPH concentration in treated soil and soil-water mixtures (mg/kg)	100	Treatment Cell	Each Batch	Composite
Maximum volume of material within each treatment cell (cubic yards)	2300	Treatment Cell	Each Batch	Estimate
Maximum weight of material within containment area (tons)	45,000	-	Each Load	Scale
Total weight of in-state waste accepted per month (tons)	M&R	-	Each Load	Scale
Total weight of out-of-state waste accepted per month (tons)	M&R	-	Each Load	Scale
Presence of liquid in leak detection system (Yes/No)	M&R	Leak Detection Pipe	Weekly	Inspection
Volume fluid removed from Leak Detection System (gallons/acre/day)	M&R	Leak Detection Pipe	Weekly	Discrete
Containment area inspections	M&R	Containment Area	Weekly	Inspection

TPH: Total Petroleum hydrocarbons mg/L: Milligrams per liter M&R: Monitor and Report

Table I.A.1.1b Bioremediation Facility: Non-Hazardous Liquids and Petroleum Contaminated Liquids

Parameter	Discharge Limitations	Monitoring Requirements		
		Sample Locations	Measurement Frequency	Sample Type
TPH concentration in liquid waste (mg/L)	M&R	Treatment Cell	Each Load or Profile Record	Analysis Record
GRO Concentration in Liquid Waste (mg/L)	M&R	Treatment Cell	Each Load or Profile Record	Analysis Record
Daily Max (gallons) (Bioremediation Facility and Soil Solidification Area combined)	499,000	Acceptance Area	Each Load	Calculate Est Load measure
Month Total (gallons)	M&R	-	Each Load	Est measure
Total gallons of in-state liquid waste accepted per month	M&R	-	Each Load	Calculate Est Load measure
Total gallons of out-of-state Liquid waste accepted per month ³	M&R	-	Each Load	Calculate Est Load measure
Presence of liquid in leak detection system (Yes/No)	M&R	Leak Detection Pipe	Weekly	Inspection
Volume fluid removed from Leak Detection System (gallons/acre/day)	M&R	Leak Detection Pipe	Weekly	Discrete
Containment area inspections	M&R	Containment Area	Weekly	Inspection

TPH: Total Petroleum hydrocarbons
 GRO: Gasoline Hydrocarbon range

mg/L: Milligrams per liter

M&R: Monitor and Report

Table I.A.1.2 Liquid Waste Solidification Area: Non-Hazardous and Non-Petroleum Liquids

PARAMETER		DISCHARGE LIMITATIONS	MONITORING REQUIREMENTS		
		Daily	Sample Locations	Measurement Frequency	Sample Type
Accept Liquid Waste	TPH Concentration	M&R	Liquid ¹ Acceptance	Each load or profile record	Analysis Record
	pH	M&R	Liquid Acceptance	Each load or profile record	Analysis Record
	Month Total (gallons)	M&R	Liquid Acceptance	Each load	Est measure
	Daily Max(gallons) (Bioremediation Facility and Soil Solidification Area combined)	499,000	Liquid Acceptance	Daily	Calc Est Load measure
Process Area	Containment Area Inspections	M&R	Containment Area	Weekly	Inspection
Remove Conditioned Soil	Free Liquids	M&R	Conditioned Soil	Each Removal Event	Paint Filter Test ³

TPH: Total Petroleum hydrocarbons mg/L: Milligrams per liter M&R: Monitor and Report

Groundwater is monitored in well MW5 according to the following:

Table I.A.2. Monitoring Requirements for Well MW5

Parameter	Sample Maximum	Frequency	Sample Type
Depth to Groundwater (feet)	M&R	Annual	Field Measurement
Groundwater Elevation (Feet AMSL)	M&R	Annual	Calculate
TPH, mg/l	M&R	Annual	Discrete
Volatile Organics, µg/L	M&R	Annual	Discrete

TPH: Total Petroleum hydrocarbons mg/L: Milligrams per liter µg/L: Micrograms per liter
 M&R: Monitor and Report

Schedule of Compliance: The Permittee shall implement and comply with the provisions of the schedule of compliance after approval by the Division, including in said implementation and compliance, any additions or

modifications which the Division may make in approving the schedule of compliance.

- a. Upon the effective date of this permit, the Permittee shall achieve compliance with effluent limits.
- b. On or prior to **MMM DD, 2012**, the Permittee shall submit the current updated O&M manual for the ABF and LSA activities for review and approval by the Division. The submitted O&M sections shall include any change made to the O&M manual needed to comply with this permit since the last Division approved edition. Two (2) copies of the O&M manual shall be submitted for review and approval to the following address:

**Department of Conservation and Natural Resources
Division of Environmental Protection
Bureau of Water Pollution Control
ATTN: Compliance Coordinator
901 S. Stewart Street, Suite 4001
Carson City, Nevada 89701**

- c. Prior to initiating any change to an approved O&M manual or approved system plan, in accordance with permit Part I.A.9 or Part I.A.10, a revision requesting such change must be prepared by a qualified professional and submitted to the Compliance Coordinator. The Permittee, or designated representative, shall adequately address all comments and concerns relating to the Division's review of a revised O&M manual or system plan.

Rationale for Permit Requirements: Bioremediation Facility

The limit for the maximum TPH concentration of treated soil is 100 mg/kg, which is the action level used by the Division's Bureau of Corrective Action. The 2300 cubic yard (cy) batch size limit is based on the size of the treatment cells and the need to operate earth moving equipment within the cells. The 45,000 ton limit for soil material within the containment area is based on the number of treatment cells and staging areas and the density of the material being treated. The amount of waste accepted is reported for tracking purposes. Weekly inspections of the leak collection system, and removal of any collected liquid, isolates the outer liner from liquid contact, thereby preventing leaks to the environment. No liquid has been found within the leak detection system to date. The nearby production well is tested annually for TPH and volatile organics.

Rationale for Permit Requirements: Liquids Solidification Area

Non-hazardous and non-petroleum based liquid waste accepted at the LSA must be solidified in accordance with the process described in the Division approved O&M manual before being removed and used on Apex Landfill managed areas or

comingled for disposal at Apex Landfill. The approved solidification process eliminates free liquids.

Out of state waste may be accepted according to the Division Approved O&M and upon notification to the Southern Nevada Health Authority.

Proposed Determination: The Division has made the tentative determination to issue the modified discharge permit NEV93011 for a period of five (5) years.

Procedures for Public Comment: The Notice of the Division's intent to issue the modified discharge permit subject to the conditions contained within the permit is being sent to the **Las Vegas Review Journal** for publication. The notice is being mailed to interested persons on our mailing list. Anyone wishing to comment on the proposed permit can do so in writing for a period of thirty (30) days following the date of publication of the public notice in the newspaper. The comment period can be extended at the discretion of the Administrator. The deadline date and time by which all comments are to be submitted (via postmarked mail or time-stamped faxes, e-mails, or hand-delivered items) to the Division is **March 21, 2012 by 5:00 P.M.**

A public hearing on the proposed determination can be requested by the applicant, any affected State, any affected interstate agency, the Regional Administrator or any interested agency, person or group of persons.

The request must be filed within the comment period and must indicate the interest of the person filing the request and the reasons why a hearing is warranted.

Any public hearing determined by the Administrator to be held must be conducted in the geographical area of the proposed discharge or any other area the Administrator determines to be appropriate. All public hearings must be conducted in accordance with NAC 445A.238.

The final determination of the Administrator may be appealed to the State Environmental Commission pursuant to NRS 445A.605.

Prepared by: Michele R. Reid, ES III
Bureau of Water Pollution Control
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