

**CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
CENTRAL COAST REGION**

WASTE DISCHARGE REQUIREMENTS ORDER NO. R3-2007-0003

Waste Discharger Identification No. 3 270304001

Proposed for Consideration at the February 9, 2007 Board Meeting

For

**SALINAS VALLEY SOLID WASTE AUTHORITY
CRAZY HORSE
CLASS III SANITARY LANDFILL
MONTEREY COUNTY**

The California Regional Water Quality Control Board, Central Coast Region (hereafter "Water Board") finds that:

SITE OWNER AND LOCATION

1. The Salinas Valley Solid Waste Authority (hereafter "Discharger") owns the Crazy Horse Class III Sanitary Landfill (hereafter "landfill"). Norcal Waste Systems is under contract with the Discharger to operate the landfill.
2. The California Code of Regulations, Title 27 (CCR Title 27) regulates waste discharges to land. The terms used herein are defined in CCR Title 27, Section 20164.
3. The 160-acre landfill is located at 350 Crazy Horse Canyon Road, in northern Monterey County, about nine miles north of the City of Salinas, as shown on **Figure 1**. The landfill is in Section 14 and 15, Township 13 South, Range 3 East, Mount Diablo Base & Meridian. The assessor's parcel numbers for the landfill are 125-271-063, 125-491-012 and 125-571-058.

PURPOSE OF ORDER

4. The purpose of Waste Discharge Requirements Order No. R3-2007-0003 (hereafter "Order" or "Order No. R3-2007-0003") is to regulate proposed landfill design and operational changes. This Order also updates and replaces Waste Discharge Requirements (WDR) Order No. 99-26, adopted by the Water Board on July 9, 1999.

5. The Discharger submitted a Joint Technical Document (JTD) in September 2004. The JTD proposes the following landfill design and operational changes:
 - a. Increasing the maximum elevation of the landfill (previously incorporated in WDR 99-26).
 - b. Revise the permitted daily maximum tonnage from 900 tons to 1400 tons.
 - c. Relocate the entrance to accommodate a new waste management unit/lateral expansion (optional).
 - d. Modify various environmental control systems (e.g., landfill gas collection)
 - e. Prepare a final closure and post-closure maintenance and monitoring plan.
6. Order No. R3-2007-0003 includes the following key elements:
 - a. Compliance review of the 160-acre landfill.
 - b. Description of landfill operations including waste management unit construction.
 - c. Updated geological and hydrogeological information.
 - d. Updated groundwater impact information; approach for refining/improving the corrective action plan (CAP).
 - e. Allowance for treated wood waste disposal.
 - f. Incorporation of the requirements of Order No. 93-84 "Waste Discharge Requirements Amendment for All

Municipal Solid Waste (MSW) Landfills in the Central Coast Region" (Super Order), and thereby rescission of the Super Order.

LANDFILL DESCRIPTION AND HISTORY

7. The landfill site is a 160-acre parcel, with 72 acres of the site permitted for Class III refuse disposal. The landfill is constructed as a typical "canyon fill" whereby limited areas of the canyon walls and bottom are excavated to provide cover soil as the canyon is filled. The landfill began operation in 1934 and operated as a burn dump until 1966 in the old fill area now identified as Closed Module I. In 1966, the burn dump operations were changed to sanitary landfill operations. Disposal operations continued in the 6-acre Module I area until about 1972. The current active disposal area has been in operation since 1972 and covers approximately 66 acres. The active landfill is being developed in phases over 15 acres of lined and 51 acres of unlined areas.
8. **Figure 2** shows the various areas of the landfill, including Closed Module I, the Subtitle D lined area, and remaining unlined active portions of the landfill. Two Subtitle D lined cells were constructed between 1992 and 1998, along the west side of the landfill. Post-Subtitle D construction was planned in four phases, with phases I through III functioning as a single waste containment unit over the Subtitle D lined areas in the western portion of the landfill, and Phase IV over existing waste in the central portion of the landfill. Phases I through IV have been developed and currently receive waste. Phase V, an approximate 4-acre area located near the current scale house facility, was planned as an optional phase. Phase V, if developed, will require a Subtitle D bottom liner over the portion of the area that does not already have waste. Pre-Subtitle D areas of the landfill are reported to be lined with a single one-foot thick low-permeability soil layer compacted to at least 90 percent compaction.
9. Upon issuance of new Solid Waste Facility Permit 27-AA-007 on March 25, 2005, the Discharger received approval to increase the maximum elevation of the landfill, allowing for extending the estimated capacity of the landfill until 2009. The highest elevation will be in the Phase IV area over the northeast portion of the landfill, with a large portion of the top deck sloped towards the southwest at three to five percent slope, according to the final grading plan.
10. Ancillary facilities at the site include the following: the Recycling Center, an equipment maintenance building, administrative office trailer, the scale house and vehicle scales, and a recycling and resource recovery area, including antifreeze, battery, oil and paint drop off. In addition, there is a gas-to-energy building, a gas flare station, and a hazardous waste storage bin, (located in the active disposal area). Other facilities include: leachate storage tanks and pump station, groundwater extraction and treatment system with passive groundwater air stripper, a volatile organic compound (VOC) air filter facility, and an archery range (located outside of the waste profile).
11. The landfill is located in a sparsely populated area of northern Monterey County. Land use within 1,000 feet of the landfill includes cattle grazing and rural residential use. The nearest residential buildings are located approximately 50 feet and 250 feet from the southeast and northwest sides of the landfill property boundary, respectively.
12. According to the Monterey County General Plan, adopted in 1982, the zoning of the landfill is Public/Quasi-public, suitable for landfill operations. The landfill has been continuously operated since 1934, which pre-dates the current land use permitting policy such that a conditional land-use permit is not required for the landfill.
13. In December 1984, water samples collected from residential wells (the Potter, Plescia, and Backus residences) located south of the landfill had reported concentrations of volatile organic compounds (VOCs). In 1985, a remedial investigation determined that the VOCs were from a release of banbury wastes from drums (major constituents included masticated rubber materials, carbon black, and other fillers and oils) and mixed solvents

(which mainly included benzene and toluene). These materials were placed within the 6-acre Module I fill area during the 1970's and the contaminated groundwater was drawn by pumping of nearby residential wells (Potter, Plescia, and Backus). These properties were subsequently purchased, moving the landfill's southern property boundary south to its current location.

14. In 1988, a groundwater extraction and treatment system was installed to mitigate the contamination from Module I (Module I plume). The groundwater extraction and treatment system commenced operation in 1988. As a further remediation measure, in 1988 a final cover was installed on Module I, after additional Class III waste was placed in the module. Based on the groundwater impacts from Module I, the U.S. Environmental Protection Agency placed Module I of the landfill on the National Priorities List (NPL) and the landfill became a Superfund site in 1990.

WASTE TYPE & CLASSIFICATION

15. The landfill is operated as a Class III Municipal Solid Waste Landfill as defined by California Code of Regulations (CCR) Title 27, Sections 20240 and 20260.
16. Waste received at the landfill consists of non-hazardous residential, commercial and industrial solid waste (Class III wastes) classified in CCR Title 27, Section 20220(a) as: all putresible and non-putresible solid, semi-solid, and liquid wastes, including garbage, trash, refuse, paper, rubbish, ashes, industrial wastes, demolition and construction wastes, abandoned vehicles and parts thereof, discarded home and industrial appliances, manure, vegetable or animal solid or semi-solid wastes and other discard waste (whether solid or semi-solid consistency); provided that such wastes do not contain wastes that must be managed as hazardous wastes, or wastes that contain soluble pollutants in concentrations that exceed applicable water quality objectives or could cause degradation of waters of the state.

17. Typical residential non-hazardous waste received at the landfill includes: household refuse, tree and lawn clippings, leaves and brush, scrap lumber and metal, appliances, furniture, wood chips, plastic containers, newspapers, and cardboard and glass containers. Commercial/construction and demolition (inert) waste typically includes: food wastes (including various salts from food processing facilities), agricultural wastes, paper, corrugated cardboard, plastic, rubber, glass, mixtures of concrete, asphalt, wood, steel, brick and block wastes. Nonfriable asbestos wastes in quantities up to one cubic yard are accepted without Local Enforcement Agency (LEA) approval. Inert wastes, such as asphalt and concrete, received at the landfill are stockpiled and utilized for construction of winter deck area, for maintenance of the internal roads, and drainage control facilities on the landfill. Recycling and resource recovery operations conducted at the landfill include salvaging of tires, large metal scrap and metal appliances, recycling of construction and demolition waste, universal hazardous wastes, and source-separating material activities. Some materials that are designated as hazardous, such as anti-freeze, batteries, used motor oil, and cathode ray tubes, are received and stored at the landfill in accordance with applicable regulations and permits before being transported for off site processing.
18. During 2005, the landfill received an average of 21,200 tons per month of waste, for a total of approximately 250,000 tons in 2005. Approximately 40% of the waste was received from Santa Clara County. The additional imported waste serves to help expedite closure and fund landfill operations. Over the remaining life of the landfill, approximately 600,000 cubic yards of airspace is available. Using a soil cover to waste ratio of 25%, the remaining landfill capacity is 450,000 cubic yards of waste, for a projected landfill closure date of April 2009.
19. Wastes containing greater than one percent (>1%) friable asbestos are classified as hazardous under CCR, Title 22. Since such wastes do not pose a threat to water quality, Section 25143.7 of the Health and Safety Code permits their disposal in any landfill,

providing waste discharge requirements specifically permit the discharge and the wastes are handled and disposed of in accordance with other applicable State and Federal statutes and regulations. Non-friable asbestos wastes in quantities up to one cubic yard are accepted without LEA pre-approval.

20. "Treated wood" means wood that has been treated with a chemical preservative for purposes of protecting the wood against attacks from insects, microorganisms, fungi, and other environmental conditions that can lead to decay of the wood and the chemical preservative is registered pursuant to the Federal Insecticide, Fungicide, and Rodenticide Act (7 United States Code, Sec. 136 and following). Existing law regulates the control of hazardous waste, but exempts from the hazardous waste control laws, wood waste that is exempt from regulation under the federal Resource Conservation and Recovery Act of 1976, as amended (RCRA), if the wood waste is disposed of in a municipal landfill that meets certain requirements imposed pursuant to the Porter-Cologne Water Quality Control Act for the classification of disposal sites, and the landfill meets other specified requirements outlined in Sections 25143.1.5 and 25150.7 of the Health and Safety Code. Section 25150.8 of the Health and Safety Code also provides that if treated wood waste is accepted by a solid waste landfill that manages and disposes of the treated wood waste in the manner specified, the treated wood waste shall be deemed to be a solid waste, and not a hazardous or designated waste. The Discharger has indicated that all treated wood waste accepted at the facility will be handled and disposed of in accordance with the provisions outlined in Sections 25143.1.5, 25150.7, and 25150.8 of the Health and Safety Code.

GEOLOGY/HYDROGEOLOGY

21. Setting—The landfill lies within the southeastern portion of the elevated hilly region in northern Monterey County between the Pajaro River valley to the north, the Salinas River Valley to the south, Monterey Bay to the west, and the Gabilan Range to the east. The landfill is approximately two

miles northeast of Prunedale and ten miles north of Salinas and approximately ten miles east of Moss Landing.

22. Topography—The topography near the site consists of moderately steep rolling hills and intervening drainage courses with hills ranging from approximately 300 to 950 feet above mean sea level (amsl). The original topography of the site consisted of a southwest draining canyon which has been modified substantially by 70 years of refuse placement. The current topography of the site consists of a rounded "top deck" at about 600 feet amsl, with gradual 5 percent slope to the outer edges. Slopes of 3:1 bound the top deck and extend down to the base of the refuse prism at about 400 feet amsl. The drainage of the central ravine below the landfill continues beyond the southern property line at about 290 amsl.
23. Geologic Structure—The landfill is situated within the Salinian Block of the south-central portion of the Coast Range Geomorphic Province. The Salinian Block consists of a basement of Cretaceous quartz diorite "granitic rocks" and older metasedimentary rocks. A series of northwest trending right-lateral faults partition the Salinian Block into smaller blocks, with the San Andreas Fault forming the eastern boundary. The relative vertical movement of these faults has controlled the patterns of sedimentation in the region, with up-thrown basement blocks serving as the provenance for the thick accumulation of Tertiary marine sediments found within intervening structural basins. The site and surrounding areas are underlain at various depths by granitic rocks of the Salinian Block. The buried erosional surface of the granitic rocks generally dips about seven degrees to the west and is locally exposed at higher elevations. Tertiary (Pliocene-Miocene) marine sedimentary deposits nonconformably overlie the basement rocks and thicken towards the west. Pleistocene eolian and fluvial deposits unconformably overlie the Tertiary marine sediments but in some places are nonconformably in direct contact with the granitic rocks. Pleistocene marine terrace deposits and Holocene alluvial deposits

unconformably overlies the eolian and fluvial deposits.

24. **Stratigraphy**—The identified geologic units within the vicinity of the landfill from youngest to oldest are: recent alluvial deposits, Pleistocene marine terrace deposits, Pleistocene eolian/fluvial deposits of the Aromas Sand, Tertiary marine sediments of the Purisima Formation, older Tertiary formations, and the Cretaceous quartz diorite (granitic rock) basement complex. In the vicinity of the landfill, recent alluvium, Aromas Sand, Purisima Formation, and granitic rock geologic units have been identified (from youngest to oldest):

- a. Alluvial/colluvial deposits occur in the central ravine area (directly down slope of the landfill) along the creek bottom in Crazy Horse Canyon to the east of the landfill, and may extend beneath a portion of the waste in the central ravine. The alluvium reaches a thickness of approximately 40 feet in the center of the ravine and is comprised of unconsolidated sands, silts, and clays derived from erosion of older deposits in the area.
- b. The Aromas Sand is exposed at the surface over portions of the site, and unconformably overlies the Purisima Formation except in the northeastern portion of the site, where it is reported to be in nonconformable contact with the granitic basement rock. Alternatively, the Aromas Sand may be in fault contact with the granitic rocks if the Gabilan Fault exists as depicted in reports. The Aromas Sand has a thickness of up to 140 feet near the landfill and consists of poorly to semiconsolidated, poorly bedded to cross-bedded, well-sorted fine sands interbedded with lenses of silty sands and sandy clays that increase in abundance with depth. In the southeast corner of the site, the fine-grained units within the Aromas Sand are more laterally continuous such that they form a base for a perched layer of groundwater. The brown to red-brown Aromas Sand is absent beneath the central ravine

where the drainage has incised below the base of the Aromas Sand and into the upper portion of the Purisima Formation.

- c. The Purisima Formation is characterized as marine in origin and consists of poorly indurated sand, silt, and clay with some gravel. In the vicinity of the landfill, the Purisima sediment contains a significant portion of granitic rock detritus, ranging in size from sand to gravel, that are reported to be the result of mass-wasting from adjacent granitic rock outcrops. The thickness of the Purisima Formation ranges between 0 to more than 300 feet thick in the vicinity of the landfill and is dominated by a sequence of siltstones, sandy claystones, and shales in the upper 50 to 75 feet (informally called the "Transition Zone"). The Transition Zone is in unconformable contact with the alluvium in the central ravine. In boring logs, the Transition Zone is identified at depths between 35 and 140 feet below ground surface and is marked by a blue-gray claystone/shale sequence. Below the Transition Zone, the Purisima Formation is described as primarily interbedded sand (or sandstone) and clay (or siltstone and claystone) with layers of sandy clay and gravelly clay and occasional gravel beds. Colors of the Purisima Formation sediments range from red and brown (nearer to the surface) to blue, gray, green, and black.
- d. The granitic basement rocks crop out immediately north of the landfill with 30 to 50 percent slopes that are covered with a thin veneer of McCoy clay loam. The upper 100 to 200 feet of the granitic basement rock is reported to be significantly weathered.

25. **Faulting/Seismicity**—Several active and potentially active faults exist within a distance of significance to the engineering of the landfill. These faults include the San Andreas, Hayward-Calaveras, San Gregorio-Palo Colorado and the Monterey Bay faults.

The nearest reported active fault is the San Andreas Fault, which is located approximately four miles to the northeast. No active faults have been mapped within the immediate vicinity of the landfill, although Figure 14 and 15 of the JTD (2004) indicate that a possible extension of the Gabilan Fault occurs along the northeast boundary of the landfill, and the Vergeles Fault Zone occurs approximately 1.25 miles northeast of the landfill.

As part of the proposed 30-foot vertical expansion of the landfill, the Discharger prepared a slope stability analyses for the waste mass and final cover, including a factor of safety of 1.5 under static conditions, a calculated maximum permanent displacement of 12 inches under dynamic (seismic) loads, and interface shear strengths equal or exceeding an envelope defined by a friction angle of 31 degrees.

This stability analyses included the use of the computer program EQFAULT to estimate the maximum ground accelerations at the site for the maximum probable earthquake (MPE). The MPE is defined as an earthquake causing a maximum peak ground acceleration (PGA) value at the landfill with a return period of 100 years, or the maximum historical ground acceleration at the site, whichever is greater. Based on the analyses, a maximum PGA of 0.32g was calculated for an associated Richter magnitude 7.5 earthquake on the San Andreas fault. To be conservative, a probabilistic seismic hazard assessment (using the USGS Earthquake Hazards Program) was also evaluated. A 10 percent probability of exceedance in 50 years (or return period of 475 years) was selected as a reasonable scenario for ground motion at the site. Under this scenario, the maximum acceleration was estimated to be 0.53g. This was used as the design ground motion. The results of the slope stability analysis, assuming maximum slopes of three horizontal to one vertical are as follows:

- a. Static factor of safety is equal to or greater than 1.5 for the proposed final landfill slopes.
- b. For the proposed final landfill slopes, displacement analysis concluded that

the permanent displacement would be less than one foot under design ground motion.

- c. For the proposed final cover, the permanent displacement would be less than one foot if the interface shear strengths within the final cover system equaled or exceeded a shear strength envelope defined by a friction angle of 31 degrees. Although the required shear strength is higher than the typical shear strengths for the geosynthetic interfaces, the shear strength is achievable with proper selection and physical testing of the final cover components.

26. Hydrogeology—The groundwater flow system in the vicinity of the landfill is complex, with five distinct hydrogeologic units identified in the vicinity of the landfill, including the unconfined alluvium, a perched zone within the upper portion of the Aromas Sand, the unconfined Aromas Sand, the semiconfined Purisima Formation, and the granitic bedrock. Groundwater recharge occurs in the exposed granitic rocks to the north of the landfill and seasonally in Crazy Horse Canyon. Groundwater in the Aromas Sand and underlying Purisima Formation is separated by an aquitard ("Transition Zone") that effectively creates a difference in hydraulic head of between 30 and 130 feet between the two units. The landfill hydrogeology is well characterized by well logs from over 80 groundwater monitoring and extraction wells and data from over 20 years of groundwater monitoring at the landfill. The following is a detailed description of the water-bearing units, starting with the shallowest unit:

- a. *Alluvium*: Groundwater flow within the unconsolidated, porous alluvium is limited by the narrow distribution of the unit within the central ravine, directly downgradient of the landfill. Groundwater levels vary between 8 and 17 feet below ground surface (bgs), according to measurements from two monitoring wells in the alluvium. Groundwater within the alluvium is probably recharged by

leakage from the adjacent Aromas Sand unit and seasonal runoff in the central ravine. Desilting Basin B, in the central ravine near the southwestern corner of the site, typically contains water through the dry season suggesting that groundwater discharges from the alluvium into Desilting Basin B during a portion of the year.

- b. *Aromas Sand*: Approximately 24 monitoring wells are completed in the Aromas Sand. The Aromas Sand consists of poorly to semiconsolidated fine-grained sand with interbeds of silty sand and sandy clay, hence it has relatively low permeability. A small, persistent, but discontinuous perched zone of groundwater has been identified beneath the southeast portion of Closed Module I in the upper portion of Aromas Sand. The perched zone has a saturated thickness of up to approximately 6 feet, and extends a short distance south and east of the refuse prism in Closed Module I, as defined by perched zone monitoring wells PA-1, PA-2, and PA-3. Groundwater levels within the perched zone are approximately 60 feet below ground surface (bgs) and 60 feet above the underlying saturated zone near the base of the Aromas Sand. The underlying saturated zone of the Aromas Sand ranges from 0 (unsaturated) to 30 feet in thickness on top of the Transition Zone. It is encountered over the majority of the landfill with exception of where the Aromas Sand is absent in the central ravine area and north of Crazy Horse Road where the water table intersects the contact between the Aromas Sand and the granitic bedrock. Based on boring logs, the Transition Zone is largely unsaturated, suggesting that groundwater in the Aromas Sand may itself be perched and not in hydraulic communication with the Purisima Formation. Groundwater within the Aromas Sand is encountered as deep

as approximately 150 feet bgs over portions of the site and surfaces at springs and seeps in the central ravine. According to piezometric surface maps, groundwater generally flows from northeast to southwest, or sub-parallel to the property boundary on the east side of the landfill.

- c. *Purisima Unit*: Fifteen monitoring wells have been completed in the semiconfined to confined Purisima unit with considerable variation in screen depths ranging from approximately 73 feet bgs to 400 feet bgs. Groundwater levels within the Purisima unit are approximately 40 to 230 feet bgs, or 30 to 130 feet below water levels in the Aromas Sand. Potentiometric surface maps indicate that groundwater flow is somewhat irregular but generally to the southwest, with a ridge in the potentiometric surface located near the central ravine area. The permeability of the Purisima unit is fairly low owing to its fine-grained nature.
- d. *Granitic Bedrock*: According to geologic cross sections, two wells P-4 and A-61, located north of the landfill entrance, are completed in granitic bedrock. Depth to groundwater is approximately 125 feet bgs in the area of these wells. The top of the granitic bedrock, as depicted in cross-sections, slopes towards the southwest, with horizontal beds of Aromas Sand and Purisima Formation nonconformably "lapping" onto the granitic bedrock. This is thought to be an area of exchange of groundwater from the granitic bedrock into the Aromas Sand and Purisima Formation.

GROUNDWATER, SURFACE WATER, AND STORM WATER

27. Groundwater—Groundwater in the Aromas Sand flows from the ridges towards the central ravine at the south end of the property (Figure 3). Based on potentiometric surface

maps, the over all groundwater gradient is approximately 0.04 feet per foot in both the Aromas Sand and Purisima Formations. It is reported that groundwater flows between 2 and 5 feet per day in the Aromas Sand and 0.2 and 0.5 feet per day in the Purisima Formation. These groundwater velocities appear high considering the poor production rates of the extraction wells (Finding No. 40) that suggest lower permeabilities. Since monitoring started at the landfill, groundwater levels have remained fairly constant, with no discernable long-term trends with time. Locally, some fluctuations occur, in particular near groundwater extraction wells.

28. Organic Groundwater Quality—Closed Module I plume VOCs likely originate from both landfill gas and landfill leachate sources. The VOCs are detected in both the Aromas Sand and Purisima Formation. Consistently detected VOCs include 1,1-dichloroethane, 1,1-dichloroethene, benzene, cis-1,2-Dichloroethene, dichlorodifluoromethane, methylene chloride, tetrachloroethene (PCE), trichloroethene (TCE), vinyl chloride, trichlorofluoromethane, and 1,2-dichloropropane. The VOC plume in the Aromas Sand originates from the southeast boundary of closed Module I (near monitoring well A-16) and extends southwest towards the southern landfill property where the plume bends and widens towards the central ravine to the west where the toe of the plume is defined, about 1,300 feet downgradient of the source (Figure 4).

In May 1996, samples collected from Aromas Sand monitoring well A-31, located west of the active fill area and the central ravine, began having VOC detections. In 1998, samples collected from well A-34, located directly northwest of the central ravine and east of A-31, began detecting VOCs, indicating a consistent release in the area (Figure 4). Exploratory borings helped delineate the extent of this new release, reported to be the result of landfill gas. The VOC migration in the closed Module I plume, and evidence of new release below the active fill area required the Discharger to implement an Evaluation Monitoring Program (EMP), to characterize the extent of new and expanding groundwater impacts in the southern area.

The results of the southern EMP indicate that the closed Module I plume extends slightly offsite near EMP monitoring well A-55 at concentrations below maximum contaminant levels ([MCLs] total VOCs of 12 µg/L in 2005) and the active fill plume skirts the western landfill boundary near well A-53 as it moves eastward toward the central ravine.

In 2002, detections of VOCs and increasing inorganic constituent concentrations in A-8 (former background well) indicated a release in the eastern area near the entrance to the landfill (Figure 4). This required the Discharger to implement an EMP to characterize the extent of impacts in the eastern area. This eastern EMP is ongoing; initial results suggest that the impact extends an unknown distance offsite to the east.

The impacts in the Purisima Formation are not as laterally extensive as the impacts in the Aromas Sand. Impacts in the Purisima Formation are reported to be the result of vertical migration of contaminants from above through improperly installed multi-zone wells. As a corrective action measure, the Discharger modified eight multi-zone wells in 1998 to seal lower screened portions of the wells.

29. Inorganic Groundwater Quality—Inorganic groundwater quality impacts occur at the landfill as indicated by elevated concentrations of chloride, bicarbonate, sodium, antimony, magnesium, and overall total dissolved solids (TDS). The closed Module I inorganic plume generally coincides with the organic plume but is shifted slightly to the west. The Discharger attributes the elevated TDS in groundwater in and around the central ravine to be partly the result of evapotranspiration. The background TDS concentration in groundwater is approximately 300 mg/L to 350 mg/L, which compares to a maximum TDS of about 2,200 mg/L found in shallow monitoring well A-58, located in the central ravine.
30. Supply Wells—There are approximately 30 domestic wells within a one-mile radius of the landfill. Most of the domestic wells are screened in the Purisima Formation; however, their filter packs typically extend

from 50 feet bgs to the bottom of the well, providing a conduit for hydraulic communication with shallower units. Eight downgradient domestic wells (Githens, Whitcomb, Howard, Newman [former Polinski], Grider, 370 Crazy Horse Canyon Road, 380 Crazy Horse Canyon Road, and Burton) are monitored regularly as part of the Detection Monitoring Program, as requested by homeowners and residents (Figure 2). Freon (di- and tri-chlorofluorocarbons) has historically been detected at trace concentrations below MCLs in the Grider well and Burton well. In early 2004, PCE, 1,1-dichloroethane, and freon 11 were routinely detected at trace concentrations in the Grider well. However, VOCs have not been detected (e.g., they are below the method detection limit of approximately 0.15 µg/L) in the domestic wells since April 2005. The EMP concludes that these past offsite VOC concentrations were caused by the dissolution of landfill gas into the underlying aquifer.

31. Groundwater Separation—California Code of Regulations Title 27, Section 20240(c), requires the Discharger to operate the landfill to ensure that wastes will be a minimum of five feet above highest anticipated groundwater, or engineered alternative. This operational requirement reduces leachate generation and impairment of beneficial uses. Current waste management units meet the separation criteria.
32. Surface water—Surface drainage from the fill areas passes through Desilting Pond A just beyond the toe of the active cell and from there into Desilting Pond B, located directly downgradient of the leachate collection system. Desilting Pond B contains water throughout the year, which is thought to be the result of discharging groundwater. Water from the Desilting Pond B overflows during the wet season into Pesante Creek, which is within the Tembladero Slough drainage basin. The ephemeral creek within Crazy Horse Canyon, located on the east side of Crazy Horse Canyon Road, is separated from the landfill surface water drainage by the landfill's perimeter drainage ditch system.
33. Storm Water—The landfill (WDID No. 3 271013453) is covered under the State Water Resources Control Board's (SWRCB) General Permit No. 3 27S002274 for Storm Water Discharges Associated with Industrial Activities. Surface water monitoring is conducted twice a year pursuant the permit and the Facility's Storm Water Pollution Prevention Plan (SWPPP), dated August 1997. The landfill is isolated hydrologically such that no run-on to the landfill occurs. Drainage along Crazy Horse Canyon Road isolates the landfill from an area of high relief north of the landfill. Drainage from north and west of the landfill is routed to Desilting Basin A, which in turn drains through a geofabric lined inlet to Desilting Basin B. Desilting Basin B also receives runoff originating from the eastern and southern portions of the landfill. Sampling is conducted at monitoring station SW-1, located at the point of discharge from Desilting Basin B into the unnamed tributary of Pesante Creek. As required by the permit, an annual sample is collected during the first qualifying major storm of the rainy season within the first hour of discharge (Monitoring and Reporting Program [MRP] No. R3-2007-0003), and one additional discharge event thereafter.
34. Precipitation—Daily and quarterly rainfall data for the landfill are reported in the semiannual detection monitoring reports, which are submitted to the Water Board. Annual precipitation data are also reported by the Department of Water Resources for the Prunedale Echo Valley Station (elevation 525 feet msl) located about 3 miles northwest of the landfill. According to the data, the landfill receives an average annual precipitation of approximately 18 inches. Based on 11 years of data collected from 1971 to 1981, the design storm of 100-year, 24-hour precipitation is approximately 4.8 inches for the landfill.
35. Floodplain—The landfill is not in a 100-year flood plain according to the National Flood Insurance Program, as it is located in Zone C, a zone of minimal flooding.
36. Springs—Groundwater seeps occur approximately 200 feet east and uphill from Desilting Basin B in the central ravine at the

contact between the Aromas Sand and underlying Transition Zone. In addition, because Desilting Basin B retains water throughout the year, it is likely spring fed from the underlying saturated alluvium. No other springs or seeps have been reported to occur in the immediate area of the landfill.

CONTROL SYSTEMS AND MONITORING PROGRAMS

37. Leachate Management System—Closed Module I does not have a leachate collection and recovery system (LCRS). Beneath the unlined active portion of the landfill up-canyon area in the central ravine, a drainage system was reportedly used to dewater the granitic rocks during construction of the landfill. In 1983, the drainage system was replaced with a LCRS constructed above naturally occurring clays. The LCRS consists of a gravel collection gallery wrapped in filter fabric. Leachate had been gravity drained to a leachate storage tank located near Desilting Basin B, then pumped to a tank located in the maintenance area. The system has since been modified to discharge into a sump located in the central ravine for temporary storage. Leachate generated from this discharge is minimal. The LCRS for the composite lined portion of the landfill is comprised of a 12-inch thick gravel layer that contains a network of perforated collection pipes and several clean-out risers that exit out of the side slopes of the landfill. Collected leachate is gravity fed to a leachate storage tank located near Desilting Basin A where the leachate is pumped to a storage tank in the maintenance area. The leachate is applied over lined portions of the landfill (a minimum of 48 hours before a forecasted storm event) as dust control. During the later half of 2005, the monthly quantity of leachate generated was approximately 23,000 to 50,000 gallons.
38. Landfill Gas Control—The landfill gas control/recovery system consists of an interior and perimeter network of gas extraction wells. The original system was installed in 1987 and consisted of collection wells installed in the interior of the refuse mass for both closed Module I and the active

fill area. The perimeter gas control was installed in June 1998 to reduce impacts to groundwater from landfill gas migration. This perimeter system originally consisted of 40 wells on 200-foot centers near the perimeter of the landfill. Gas produced from the perimeter wells is combusted in the onsite flare. Further enhancements to the landfill gas control were completed in 2004. In closed Module I, the enhancements included extending gas extraction well casings and associated piping above the landfill cover in order to provide better control on the distribution of gas production. This proved effective in reducing gas concentrations detected in perimeter gas monitoring wells in the area (GW-6 probe). In addition, new vertical wells were installed in the active area's lined module and unlined portion in the central ravine slope, and the leachate cleanout risers were connected to the gas extraction system. The gas collected from the interior wells is conveyed to the gas-to-energy plant.

39. Groundwater Detection Program Monitoring—The Detection Monitoring Program for the Active Fill Area includes 15 groundwater monitoring wells in the Aromas (upper) aquifer, one background monitoring well (A-14), seven wells in the Purisima (lower) aquifer, and eight domestic supply wells (Figure 2). Domestic wells are located as close as approximately 25 feet from the landfill property boundary.
40. Groundwater Corrective Action (CAP)—Remediation efforts have been underway downgradient of the Closed Module I area since 1988. The treatment system consists of 25 groundwater extraction wells completed in both the Aromas Sand and Purisima Formation, passive air stripping with induced draft for VOC removal from groundwater to the air stream, and a gas phase granulated activated carbon (GAC) column to remove VOCs from the air stream prior to discharge to the atmosphere. Treated groundwater is stored in a 500-gallon polyethylene tank to await re-injection to the Aromas aquifer through the nine recharge galleries, or used as dust control. The groundwater cleanup goals for the CAP are set at one-half of Federal MCLs. Specific details of the

groundwater flow model are either lacking in the project record or were never provided. In 1988 the performance of the interim remedial action extraction wells averaged 0.33 gpm per well for the Aromas Sand wells and 1.5 gpm per well for the Purisima Formation wells. For the full remedial system, 15 extraction wells in the Aromas Sand produced an average between <0.1 gpm and 1.5 gpm per well, totaling approximately 6 gpm (average of 0.4 gpm per well) up until the mid 1990's, with diminishing performance until rehabilitation efforts were conducted in 1998. Since that time, 2005 semiannual monitoring indicated that production from the Aromas Sand wells dropped to a total average extraction rate of 3 gpm.

Groundwater samples collected from Aromas Sand well A-12, located in the plume center, had declining VOC concentrations following startup of the groundwater corrective action in 1988, indicating successful remediation. However, VOC concentrations increased between 1995 and 1999. Since 1999, total VOC concentrations detected in A-12 have stabilized to approximately 70 µg/L. Starting in 1995, groundwater samples collected from well A-20, located south of well A-12 and within 30 feet of the landfill's southern property boundary line, had detectable VOC concentrations, indicating expansion of the plume. The plume expansion and lack of cleanup progress in the plume interior suggested that the groundwater corrective action program is not effective. The groundwater corrective action system ceased operating in June 2006 because of vandalism, and has remained offline up to the date of this Order. The Discharger is currently using this system shutdown as an opportunity to conduct a long-term rebound test to evaluate the past effectiveness of the system.

41. Corrective Action Program Monitoring—The CAP Monitoring Network, centered between the Closed Module I and the southern border of the property, consists of semiannual monitoring of 11 Aromas Sand monitoring wells, nine Purisima monitoring wells, and quarterly monitoring of influent stream, effluent stream, and ponded water in Desilting Basin B (Figure 2).

42. Leachate Monitoring—As noted in Finding 37, leachate gravity drains from lined and unlined portions of the landfill's active area. On a monthly basis, the pumping and containment systems are checked and the volume of collected leachate and disposal method are recorded. During the wet season the inspection frequency increases to biweekly. Annually, the plumbing of the LCRS system is tested and leachate is sampled and analyzed for monitored parameters specified in Monitoring and Reporting Program (MRP) No. R3-2007-0003. VOC concentrations in recent leachate samples are fairly low, with the sample from 2005 monitoring having a total VOCs concentration of 54.5 µg/L.
43. Surface Water Monitoring—Surface water monitoring consists of quarterly sampling at Sediment Desilting Basin B for VOCs and annual collection of storm water discharge at SW-1 located downstream of Desilting Basin B. SW-1 parameters are specified in MRP No. R3-2007-0003.
44. Landfill Gas Monitoring—The current landfill soil-pore gas monitoring system consists of 11 sampling locations around the perimeter of the landfill property boundary. Historically, with the exception GW-8 (along the northern property boundary), soil-pore gas monitoring around the perimeter of the waste had consistently shown elevated levels of methane and approximately 30 different VOC compounds. In 2002, the Discharger installed monitoring probes GW-9 through GW-13 to replace interior probes GW-1, GW-3, and GW-4. In 2003, the Discharger installed probes GW-14 through GW-17 to replace probes GW-5 through GW-7. In accordance with CCR Title 27, the 11 soil-pore gas monitoring wells are positioned on approximately 1,000 foot centers around the perimeter of the landfill to depths equivalent to the adjacent refuse, or to five to 10 feet above groundwater. The new system of monitoring, coupled with the expanded landfill gas extraction system, have resulted in a marked reduction in methane concentrations in the perimeter monitoring system. However, in 2005, several gas monitoring probes had low parts per billion by

volume (ppbv) VOC concentrations (generally less than 20 ppbv), with two monitoring probes GW-2D and GW-17D having higher concentrations of VOCs. In GW-2D, VOC concentrations of up to 140 ppbv, and methane detections of 2.2 percent, are reportedly attributed to temporary lack of landfill gas extraction in the area because of landfill construction activities. In GW-17D, approximately 16 VOC compounds were detected in 2005, with a reported PCE concentration of 270 ppbv. The area near GW-17 coincides with an ongoing evaluation monitoring program to delineate the source of impacts in the eastern area of the landfill, as discussed previously in Finding 28. No residential buildings occur within 1,000 feet of GW-17D and GW-2D. Soil-pore gas results from the other perimeter probes indicate concentrations are well below residential indoor air impact environmental screening levels. In addition, conservative vapor-water partitioning relationships indicate that the 2005 soil gas concentrations would not cause concentrations in groundwater to exceed MCLs (using PCE as a surrogate).

BASIN PLAN

45. The Water Quality Control Plan, Central Coast Basin (Basin Plan), was adopted by the Water Board on September 8, 1994, and approved by the SWRCB on November 17, 1994. The Basin Plan incorporates statewide plans and policies by reference and contains a strategy for protecting beneficial uses of State Waters. This Order implements the water quality objectives of the Basin Plan.
46. Present and anticipated beneficial uses of surface waters downgradient of the discharge include:
 - a. Municipal and domestic water supply
 - b. Groundwater Recharge
 - c. Non-Contact Water Recreation
 - d. Contact Water Recreation
 - e. Wildlife Habitat
47. The beneficial uses of groundwater in the vicinity of the landfill are:
 - a. Domestic and Municipal Water Supply
 - b. Agricultural Supply

c. Industrial Supply

CALIFORNIA ENVIRONMENTAL QUALITY ACT

48. Environmental impacts from the landfill were evaluated in a Regional Solid Waste Facilities Project, Environmental Impact Report (EIR), dated September 2002. The required public comment period was extended from the 45-day minimum, to a total of 100 days. In addition to the required public comment period, the project was also discussed during monthly Salinas Valley Solid Waste Authority Board meetings. The Notice of Determination approving the project was completed in December of 2003. Subsequent to completion of the EIR, amendments were drafted and approved to allow for tonnage increases and clarification that a "leachate barrier" was not required to complete the 30-foot vertical expansion at landfill.
49. This Order contains prohibitions, discharge specifications, water quality protection standards, and provisions intended to protect the environment by mitigating or avoiding impacts of the project on water quality. This Order is for an existing facility, and therefore, is exempt from provisions of the California Environmental Quality Act (Public Resources Code, Section 21000, et seq.) in accordance with Title 14, Chapter 3, and Section 15301.

GENERAL FINDINGS

50. The landfill currently meets all Title 27 criteria for classification as a Class III landfill suitable to receive non-hazardous solid wastes.
51. The landfill operates under the following Orders and Permits:
 - a. Waste Discharge Requirements Order No. 99-26.
 - b. Waste Discharge Requirements Order No. 93-84.
 - c. Region Wide Cleanup and Abatement Order No. R3-2002-0130.
 - d. National Pollutant Discharge Elimination System General Permit No. CAS000001, Waste Discharge Requirements For Discharges of Storm Water Associated

With Industrial Activities Excluding Construction Activities (Water Quality Order No. 91-13 DWQ), revised 1997. The facility is handled under the State Water Resources Control Board's (SWRCB) General Permit No. 3 27S002274 for Storm Water Discharges Associated with Industrial Activities.

- e. California Integrated Waste Management Board Solid Waste Facility Permit No. 27-AA-0007.
 - f. Monterey Bay Unified Air Pollution Control District Title V Operating Permit TV 32-02.
 - g. Monterey Bay Unified Air Pollution Control District permit to operate landfill gas collection & flare system 10364; contaminated groundwater treatment system 10544.
 - h. Monterey Regional Water Pollution Control Agency, Long Term Special Liquid Waste Discharge Permit.
52. This Order implements the prescriptive standards and performance goals of CCR Title 27, as promulgated on July 18, 1997, and in conformance with the goals of the Basin Plan.
53. In February 2004, the Discharger demonstrated availability of financial resources to conduct closure and post-closure maintenance activities.
54. In November 2003, the Discharger established a financial assurance instrument for ongoing corrective action in the form of a pledge of revenue.
55. On November 22, 2006, Water Board staff notified the Discharger and interested agencies and persons of its intention to update the landfill Waste Discharge Requirements and has provided them with a copy of the proposed Order and an opportunity to submit views and comments.
56. After considering all comments pertaining to this discharge during a public hearing on February 9, 2007, this Order was found consistent with the above findings.

IT IS HEREBY ORDERED pursuant to authority in Section 13263 of the California Water Code,

the Discharger, its agents, successors, and assigns may discharge wastes at the Crazy Horse Class III Landfill, providing compliance is maintained with the following:

A. COMPLIANCE WITH OTHER REGULATIONS, ORDERS AND STANDARD PROVISIONS

- 1. Discharge of waste is a privilege, not a right, and authorization to discharge waste is conditioned upon the discharge complying with provisions of Division 7 of the California Water Code and with any more stringent limitations necessary to implement the Basin Plan, to protect beneficial uses, and to prevent nuisance. Compliance with this Order should ensure conditions are met and mitigate any potential changes in water quality due to the project.
- 2. Discharge of waste shall comply with all applicable requirements contained in the California Code of Regulations Title 27, Division 2, Solid Waste (CCR Title 27) and Title 40 Code of Federal Regulations Parts 257 and 258 (40 CFR) Solid Waste Facility Disposal Criteria. If any applicable regulation requirements overlap or conflict in any manner, the most water quality protective requirement shall govern in all cases, unless specifically stated otherwise in this Order, or as directed by the Executive Officer.
- 3. This landfill is no longer subject to this Water Board's Order No. 93-84 "Waste Discharge Requirements (WDR) Amendment for All Municipal Solid Waste Landfills in the Central Coast Region" (Super Order). The Super Order updated all Central Coast Water Board landfill WDRs to comply with the updated federal landfill regulations, 40 CFR Parts 257 and 258. Through compliance with CCR Title 27 and 40 CFR Parts 257 and 258 as required above in A.2, the Discharger will satisfy requirements identical to those within Order No. 93-84.
- 4. The Discharger shall monitor potential releases from the landfill related to storm water runoff by complying with all requirements contained in the "State Water Resources Control Board's Water Quality Order No. 97-03-DWQ National Pollutant

Discharge Elimination System (NPDES) General Permit No. CAS000001 Waste Discharge Requirements for Discharge of Storm Water Associated with Industrial Activities Excluding Construction Activities."

5. This landfill is subject to this Central Coast Water Board's Cleanup and Abatement Order No. R3-2002-0130 "Moratorium on the Disposal of Decommissioned Materials to Class III and Unclassified Waste Management Units" adopted on October 11, 2002.

B. PROHIBITIONS

1. Discharge of waste to areas outside the Permitted Landfill Boundary, as identified on **Figure 2**, is prohibited.
2. Discharge of waste (solid or liquid) to areas within the Permitted Landfill Boundary that have not previously received waste is prohibited unless a composite liner system, as described in Specification C. 30, is installed and accepted by the Executive Officer. Inert wastes, as defined in CCR Title 27, Section 20230(a), may be disposed of outside the composite liner system and within the permitted waste footprint of the landfill, provided the Discharger complies with Specification C. 18 to demonstrate that the waste is inert.
3. Discharge of the following types of wastes is **prohibited**:
 - a. Radioactive wastes.
 - b. Designated waste.
 - c. Hazard waste, except wastes containing greater than one percent (>1%) friable asbestos.
 - d. Chemical and biological warfare agents.
 - e. Waste solvents, dry cleaning fluids, paint sludge, pesticides, phenols, brine, and acid and alkaline solutions.
 - f. Oils or other liquid petroleum products.
 - g. Wastes that have the potential to reduce or impair the integrity of containment structures or which, if commingled with other wastes in the unit, could produce violent reaction, heat or pressure, fire or explosion, toxic by-products, or reaction products.

- h. Wastes that require a higher level of containment than provided by the landfill.
- i. Liquid or semi-solid waste containing less than 50 percent solids by weight. This includes dewatered sewage or water treatment sludge, landfill leachate and gas condensate, except as allowed by Specification C. 35 and Provision E. 15.

4. Discharge of solid waste, liquid waste or leachate to surface waters, ponded water from any source, surface water drainage courses, or groundwater is prohibited.
5. Discharge of waste within 50 feet of the property line or within 100 feet of surface waters or domestic supply wells is prohibited.
6. Disposal site operations shall not be a source of odor nuisance.
7. Disposal of wastes within five feet of the highest anticipated elevation of underlying groundwater, including the capillary fringe, is prohibited. To maintain the five-foot separation, the Discharger shall install an engineered system, such as an under-drain barrier, approved by the Executive Officer.

C. SPECIFICATIONS

General Specifications

1. The Discharger shall implement the attached MRP No. R3-2007-0003, including any addendum thereof, in order to detect, at the earliest opportunity, any unauthorized discharge of waste constituents, or any unreasonable beneficial use impairment associated with and or caused by the discharge of waste. The Executive Officer may amend the Monitoring Reporting Program at any time to determine compliance with Order No. R3-2007-0003.
2. The discharge shall neither cause nor contribute to any surface water contamination, pollution, or nuisance, including, but not limited to:
 - a. Floating, suspended, or deposited macroscopic particulate matter or foam.
 - b. Increases in bottom deposits or aquatic growth.

- c. An adverse change in temperature, turbidity, or apparent color beyond natural background levels.
 - d. The creation or contribution of visible, floating, suspended, or deposited oil or other products of petroleum origin.
 - e. The introduction or increase in concentration of toxic or other pollutants and contaminants resulting in unreasonable impairment of beneficial uses of waters of the State.
3. "Treated wood" wastes may be discharged, but only to an area equipped with a composite liner and leachate collection and removal system, and shall be handled in accordance with California Health and Safety Code Sections 25143.1.5 and 250150.7. "Treated wood" means wood that has been treated with a chemical preservative for purposes of protecting the wood against attacks from insects, microorganisms, fungi, and other environmental conditions that can lead to decay of the wood and the chemical preservative is registered pursuant to the Federal Insecticide, Fungicide, and Rodenticide Act (7 United States Code, Sec. 136 and following). This may include but is not limited to waste wood that has been treated with chromated copper arsenate, pentachlorophenol, creosote, acid copper chromate, ammoniacal copper arsenate, ammoniacal copper zinc arsenate, or chromated zinc chloride.
 4. Treated wood must be managed to ensure consistency with Sections 25143.1.5 and 25150.7 of the Health and Safety Code. If a verified release is detected from the waste management unit where treated wood is disposed, the disposal of treated wood shall be terminated at the unit with the verified release until corrective action ceases the release.
 5. Discharge Specifications C.3 and C.4, above, apply only to treated wood waste that is a hazardous waste solely due to the presence of a preservative in the wood, and is not subject to regulation as a hazardous waste under the federal act.
 6. The discharge shall not cause a measurably significant increase in concentration of waste constituents in soil-pore gas, soil-pore liquid, perched water, groundwater or geologic materials outside of the Point of Compliance (as defined by CCR Title 27).
7. The Discharger shall conduct intake load checking as specified in the approved JTD.
 8. The Discharger shall remove and relocate any wastes discharged in violation of these requirements.
 9. All refuse material that is wind-blown outside the active landfill area shall be collected regularly and disposed of in the landfill. If wind-blown litter becomes a continuing problem, a containment barrier (additional screens and/or fences) shall be constructed to prevent spreading of refuse.
 10. Refuse shall be covered daily by at least six inches of soil cover material or an Executive Officer-accepted alternative daily cover and cover frequency. Daily cover shall promote lateral runoff of rainfall away from the active disposal area and shall comply with CCR Title 27, Section 20705.
 11. Water used over areas underlain by waste within unlined landfill areas shall be limited to the minimum amount necessary for dust control and construction.
 12. Water collected in any storm water catchment basin or a site water treatment facility may be used in minimum amounts necessary for dust control, compaction, or irrigation of cover vegetation provided:
 - a. The water does not infiltrate past the vegetation root zones or past a depth where effective evaporation can occur.
 - b. The water does not contain or carry waste constituents.
 13. Surface drainage from tributary areas and internal site drainage from non-landfill surface or subsurface sources shall not contact or percolate through wastes.
 14. To prevent erosion and percolation through the waste, permanent drainage ditches crossing over landfill areas shall be lined with either a synthetic liner or at least a one-foot-

thick layer of soil having an in-place hydraulic conductivity of 1×10^{-6} centimeter/sec or less, or an alternative material that restricts infiltration of surface waters into the underlying waste as approved by the Executive Officer.

15. Waste shall not be discharged to a wetland, as defined in 40 CFR Section 232.2(r), or to any portion thereof, unless the Discharger successfully completes all demonstrations pursuant to 40 CFR Section 258.12(a). Such demonstration is subject to approval of the Executive Officer.
16. The Discharger shall monitor potential releases from the site related to surface water runoff by complying with all National Pollutant Discharge Elimination System (NPDES) Stormwater Monitoring Program requirements.
17. Water Board staff shall be notified within 24 hours by phone, with a written report to follow within seven days, of any slope failure or leachate seep occurring at the landfill. Any leachate seep or any failure, which threatens the integrity of containment features or the landfill, shall be promptly corrected and the methods shall be so stated in the written report.
18. Inert wastes, as defined in CCR Title 27, Section 20230(a), may be disposed of outside the composite liner system and within the permitted waste footprint of the landfill. The discharger shall characterize inert liquid waste in accordance with the Executive Officer-approved Liquid Waste Sampling Plan to demonstrate that the waste is inert.
19. Current estimates indicate that the landfill will reach final capacity by April 2009. As such, the landfill shall not receive municipal solid waste after **April 30, 2009**. Construction of the final cover system shall commence no later than one month after last receipt of waste, unless the last receipt occurs during the wet season, in which case construction shall start the following dry season. In addition, the landfill may not reach final capacity for reasons that are beyond the control of the Discharger (e.g., the landfill receives less waste than expected). If

factors beyond the Discharger's control become a significant issue, by March 1, 2009, the Discharger shall submit a letter to the Water Board providing justification for up to a one-year extension of the April 30, 2009 closure date stated above. If the Discharger demonstrates to the satisfaction of the Executive Officer that construction delays are beyond the Discharger's control, the closure date may be extended by up to one year, to April 30, 2010. Future extensions beyond April 30, 2010 shall be at the discretion of the Executive Officer with concurrence from the Regional Water Quality Control Board, in no more than one-year increments, and based on justification submitted annually (by March 1 each year) by the Discharger.

Wet Weather

20. **By October 1 of each year**, all necessary runoff diversion and erosion prevention measures shall be implemented. All necessary construction, maintenance, or repairs of precipitation and drainage control facilities shall be completed to prevent erosion or flooding of the landfill and to prevent surface drainage from contacting or percolating through wastes.
21. **Throughout the rainy season of each year**, a compacted intermediate soil cover designed and constructed to minimize percolation of precipitation through wastes shall be maintained over all waste disposal areas containing buried waste. The soil cover shall be in place by **October 1 of each year**. The thickness and permeability of the intermediate cover shall be based primarily on site-specific conditions including, but not limited to: length of exposure time; volume of underlying material; permeability, thickness and composition of existing cover; amount of yearly rainfall; depth to groundwater; beneficial uses of underlying groundwater; site-specific geologic and hydrogeologic conditions; existing groundwater impacts and effectiveness of existing monitoring system. The only exception to this specification is the working face. The working face shall be confined to the smallest area practicable based on the anticipated quantity of waste discharged and required landfill facility operations. Based on site-specific

conditions, the Executive Officer may require a thicker soil cover for any portion of the landfill prior to the rainy season.

22. By **October 1 of each year**, placement of straw and initial round of vegetation shall be planted and maintained as necessary to minimize erosion on interim cover slopes and on slopes at final elevation. Vegetation shall be selected to require a minimum of irrigation and maintenance. Upon written Executive Officer approval, non-hazardous sewage sludge may be utilized as a soil amendment to promote vegetation. Soil amendments and fertilizers (including wastewater sludge) used to establish vegetation shall not exceed the vegetation's agronomic rates (i.e., annual nutrient needs), unless approved by the Executive Officer.

23. If adequate soil cover material is not accessible during inclement weather, such material shall be stockpiled during favorable weather to ensure year-round compliance.

24. All landfill surfaces and working faces shall be graded and operated to minimize rainfall infiltration into wastes, to prevent standing water, and to resist erosion.

25. Rills in the cover (final or interim) exceeding six inches in depth must be backfilled throughout the entire year.

26. Drainage facilities shall be designed, constructed, and maintained to accommodate anticipated precipitation and peak surface runoff flows from a 100-year, 24-hour rainstorm event.

27. Storage facilities associated with precipitation and drainage control systems shall be managed to maintain the design capacity, retention time, and effectiveness of the system. A minimum of two feet of freeboard shall be maintained in Desilting Basin A.

Design Criteria

28. All waste disposal areas, containment structures and drainage facilities shall be designed and constructed under the direct supervision of a California Registered Civil Engineer or a Certified Engineering

Geologist, and shall be certified by that individual as meeting the prescriptive standards and performance goals of all state and federal landfill regulations including, but not limited to, CCR Title 27 and 40 CFR parts 257 and 258. For containment structures (liners), certification of standards shall be obtained prior to waste discharge.

29. Waste management units, containment structures, and drainage facilities shall be designed, constructed and maintained to limit, to the greatest extent possible, standing water, infiltration, inundation, erosion, slope failure, washout, overtopping, and damage due to natural disasters (e.g., floods with a predicted frequency of once in 100 years, and severe wind storms).

30. Wastes shall not be discharged to new areas (i.e., areas which have not previously received wastes) unless equipped with a containment system, which meets either a. or b. below:

a. A composite liner and a leachate collection and removal system consisting of the following components:

- A well-prepared subgrade, engineered to support the landfill and associated structures.
- Lower Component: a minimum two-foot layer of compacted soil with a hydraulic conductivity of no more than 1×10^{-7} centimeters per second (cm/sec).
- Upper Component: a minimum 60-mils high-density polyethylene (HDPE). The upper component must be installed in direct and uniform contact with the lower component.
- A leachate collection and removal system (LCRS), designed so that leachate drains by gravity to a collection point/sump and is removed through gravity or pumping to a holding tank or sanitary sewer for volume measurement, testing and disposal.
- A protective soil layer or operations layer shall be placed above the LCRS

and liner system. This layer shall be a minimum of 12 inches thick

- b. An engineered alternative liner design, approved by the Executive Officer. Engineered alternative designs must satisfy the performance criteria in 40 CFR Section 258.40(a)(1) and (c), and satisfy the criteria for an engineered alternative to the above prescriptive design, as provided by CCR Title 27, Section 20080(b). Performance of the alternative composite liners' components, in combination, shall equal or exceed the waste containment capability of the prescriptive design outlined above.
31. Future composite-lined landfill modules not meeting the five-foot groundwater separation requirement [CCR Title 27, Section 20240(c)] will require installation of an under-drain beneath the composite liner. An engineered alternative design plan must be approved by the Executive Officer prior to installation of the underdrain.
 32. All landfill facilities shall be designed and constructed to prevent damage during the maximum probable earthquake.
 33. The Discharger shall ensure the integrity of final slopes under both static and dynamic conditions to protect public health and safety and prevent damage to post-closure land uses, roads, structures, utilities, gas monitoring and control systems, leachate collection and control systems to prevent public contact with leachate, and prevent exposure of waste. Slope stability analyses shall be conducted and reported pursuant to the requirements of Division 2, Subdivision 1, Chapter 4, Subchapter 3, Article 4 Section 21750(f)(5). A minimum factor of safety of 1.5 is required for permanent and interim slopes under both static and dynamic conditions. If a factor of safety of 1.5 is not achieved, calculated deformation under seismic loads shall be no greater than 6 inches of landfill slopes and bottom liners and 12 inches for final cover system slopes.
 34. The leachate collection and removal system shall:
 - a. Be designed and constructed to prevent more than 12 inches of static hydraulic head on the liner.
 - b. Convey to a sump, or other appropriate collection area, all leachate that reaches the liner. The depth of fluid in any collection sump shall be kept at the minimum needed to ensure efficient pump operation.
 - c. Be designed so that short and long term system performance can be monitored and evaluated [CCR Title 27, Section 20340 (d)].
 - d. Storage facilities shall have a secondary containment system sized to hold 110 percent of the primary containment system capacity or, if secondary containment is less than 110 percent of primary, it shall be equipped with an alarm system that notifies the Discharger of a leak in the primary containment.
 - e. Future landfill cells will be constructed with double lined sumps with leak detection capability.
 35. Discharge of condensate or leachate shall comply with the following:
 - a. Liquids shall be returned to only a waste management unit equipped with a containment system that meets or exceeds the performance standards of CCR Title 27, 40 CFR, Part 258.40(a)(2), or in this Order, whichever is more protective of water quality.
 - b. Liquids shall be measured by volume and recorded on a monthly basis during the dry season, and biweekly during the wet season. These monthly volumes shall be included as a part of monitoring submittals as required in the attached MRP No. R3-2007-0003.
 - c. No discharge of leachate shall occur within 48 hours of any forecasted rain event, during any rain event, or 48-hours after any rain event, unless a site specific leachate application plan is submitted and approved by the Executive Officer,
 - d. Have an approved alternate method of leachate disposal (e.g., wastewater treatment plant) that is acceptable to the Executive Officer.

Corrective Action Program

36. As part of the CAP refinement to be proposed in the upcoming engineering feasibility study (EFS) for the closed Module I plume, a refinement of the hydrogeochemical conceptual model (model) shall be completed. The model shall include quantification of chemical fate and transport (gas/liquid phases, saturated and unsaturated zones) and the groundwater flow balance. The model shall graphically illustrate the groundwater flow and chemical transport system using fence diagrams parallel and perpendicular to principal direction of groundwater flow through the plume centerline, and shall incorporate extraction wells and domestic well(s). The illustrations shall include estimates of groundwater and chemical fluxes and transport velocities. Key data gaps necessary for estimating the groundwater flow balance are transmissivity and hydraulic conductivity of the aquifers. These data gaps were addressed via aquifer testing and individual well tests, which were to be completed in December 31, 2006.
37. The engineering feasibility study for the southern area, shall be completed no later than **June 30, 2007**, and shall use the results of the rebound test and the model (see above finding) as a design basis for refining the CAP system for the Closed Module I plume. The feasibility study shall also include trigger values and remedial options for addressing impacts near the west side of the central ravine, should future concentrations increase in that area. The engineering feasibility study for the eastern area shall be completed by **June 30, 2007**, following completion and approval of the EMP for that area.
38. CAP system refinements shall be implemented by **September 30, 2007**. As part of the CAP refinement, any well identified as being a potential vertical conduit for contaminant migration shall be properly abandoned.

Closure

39. All landfill waste disposal areas that have not reached final fill elevation, but will remain

inactive more than one year, must be provided with an Executive Officer-approved long-term intermediate cover. The thickness and permeability of the long-term intermediate cover shall be based primarily on site-specific conditions including, but not limited to length of exposure time, volume of underlying material, permeability, thickness and composition of existing cover, amount of yearly rainfall, depth to groundwater, beneficial uses of underlying groundwater, site-specific geologic and hydrogeologic conditions, and effectiveness of existing monitoring system.

40. Final landfill configuration shall conform to the contours delineated on Figure 4 of the September 2004 JTD. Significant deviations from contours in Figure 4 must first be approved by the Executive Officer before being implemented.
41. All landfill waste disposal areas at final elevations shall receive final cover pursuant to CCR Title 27, Section 21090, which meets either a. or b. below:
- a.
- Minimum two-foot foundation layer placed over waste, compacted to maximum density obtainable at optimum moisture conditions [CCR Title 27, Section 21090 (a)(1)].
 - For units that have not been equipped with a Subtitle D composite liner system, a low hydraulic conductivity layer, consisting of compacted clay with a hydraulic conductivity of 1×10^{-6} cm/sec or less.
 - For units that have been equipped with a Subtitle D composite liner system, a low hydraulic conductivity layer equal to or less than the hydraulic conductivity of the bottom liner system.
 - At least one foot of soil capable of supporting vegetation, resisting erosion, and protecting the underlying low hydraulic conductivity layer.
- b. An engineered alternative design, approved by the Executive Officer, will be considered for final cover areas. Engineered alternative designs must satisfy the performance criteria in 40 CFR

Parts 257 and 258, and satisfy the criteria for an engineered alternative to the above prescriptive design, as provided by CCR Title 27. Performance of the alternative composite cover's components, in combination, shall equal or exceed the waste containment capability of the prescriptive design outlined above.

42. All closed landfill waste management units shall be provided with at least two permanent monuments, installed by a licensed land surveyor, from which the location and elevation of all wastes, containment structures, and monitoring facilities can be determined every five years throughout the post-closure maintenance period. Visual observations of cumulative waste subsidence and settlement where final cover is installed shall be documented in the annual report.
43. The Discharger shall control vectors to minimize and prevent, to the extent feasible, on and off-site impacts to water quality.
44. Leachate shall be removed from the landfill to the maximum extent feasible. Leachate removal and disposal shall be in accordance with this Order and the Executive Officer-approved MRP.

D. WATER QUALITY PROTECTION STANDARDS

1. Discharge of waste shall not cause the concentration of any Constituents of Concern (COC) or Monitoring Parameter to exceed its respective background value in any monitored media (i.e., soil or groundwater) at any Monitoring Point pursuant to MRP No. R3-2007-0003.
2. Constituents of Concern and Monitoring Parameters for groundwater and surface water are listed in MRP No. R3-2007-0003. Monitoring points and background monitoring points for detection monitoring and corrective action monitoring shall be those specified in MRP No. R3-2007-0003.
3. The discharge of waste shall not cause a statistically significant difference in water quality over background concentrations or Concentration Limit for each COC or

Monitoring Parameter (per MRP No. R3-2007-0003) at the Point of Compliance. The Concentration Limits shall be maintained for as long as the waste poses a threat to water quality. Discharge of waste shall not adversely impact the quality of State waters.

4. Discharge of waste shall not cause a violation of any applicable water quality standard for receiving waters adopted by the Water Board or the State Water Resources Control Board (SWRCB).
5. The Point of Compliance is the vertical surface located at the downgradient edge of the waste footprint as shown on **Figure 2**, and extends vertically down through the uppermost aquifer.
6. The Central Coast Water Board considers the Discharger to have a continuing responsibility for waste containment, monitoring, and correcting any problems that may arise in the future as a result of this waste discharge. This responsibility continues as long as the waste poses a threat to water quality.
7. Monitoring results are subject to the most appropriate statistical or non-statistical test, as required by the attached MRP No. R3-2007-0003.
8. The Discharger shall, in a timely fashion, install any additional groundwater, soil pore liquid, soil pore gas, surface water, and leachate monitoring devices as required by the Executive Officer.

E. PROVISIONS

General Provisions

1. Order No. 99-26, "Waste discharge Requirements for the Salinas Valley Waste Authority, Crazy Horse Class III Landfill, Monterey County," adopted by the Water Board on July 9, 1999, is hereby rescinded.
2. Coverage of the Crazy Horse Class III Landfill under Order No. 93-84 "Waste Discharge Requirements Amendment for all MSW Landfills in the Central Coast Region" (Super Order), is hereby rescinded.

3. The Discharger shall comply with "MRP No. R3-2007-0003," as specified by the Executive Officer.
4. The Central Coast Water Board will review this Order periodically and will revise these requirements when necessary.
5. A Construction Quality Assurance Plan, acceptable to the Executive Officer, must be implemented by a third party (i.e., unrelated to the Discharger, landfill operator, project designer, contractor) prior to initiating construction of the landfill's final cover system, constructing a new waste management unit, or repairing low-permeability components of the liner system.
6. Two weeks prior to and during construction of each module (e.g., preparing foundation, installing liner, installing leachate collection and removal system, placing operations layer, etc.), the Discharger shall provide a schedule of construction activities. Schedules shall be updated and provided to Water Board staff on a weekly basis.
7. For newly constructed waste management unit(s), the Discharger must submit Final Documentation verifying construction quality assurance [CCR Title 27, Section 20324(d)(1)(C)].
8. The Discharger shall maintain a copy of this Order at the facility and make it available at all times to regulatory agency personnel and to appropriate facility operating personnel (who shall be familiar with its contents).
9. The Discharger shall maintain legible records of the volume and type of all waste discharged at each Unit and the manner and location of discharge. Such records shall be maintained at the Discharger's central office location until the beginning of the post-closure maintenance period. These records shall be available for review by representatives of the Water Board and of the State Water Resources Control Board at any time during normal business hours. At the beginning of the post-closure maintenance period, copies of these records shall be sent to the Water Board.
10. The Discharger shall be responsible for accurate waste characterization, including determinations of whether or not wastes will be compatible with containment features or other wastes, whether or not wastes are required to be managed as hazardous wastes, whether waste is liquid, and whether waste is inert.
11. The Discharger shall comply with all other applicable provisions of CCR Title 27 and 40 CFR Parts 257 and 258 that are not specifically referred to in this Order. If any applicable requirements overlap or conflict in any manner, the requirement most protective of water quality shall govern in all cases, unless specifically stated otherwise in this Order, or as directed by the Executive Officer.
12. The Discharger shall have a continuing responsibility to ensure protection of usable waters from discharged wastes and from gases and leachate generated by discharged waste during the landfill's active life, closure, and post-closure maintenance periods and during subsequent use of the property for other purposes.
13. The Discharger shall maintain waste containment facilities and precipitation and drainage controls, and shall continue to monitor, as appropriate, groundwater, vadose zone, liquid and gas, surface waters, and leachate from waste management units throughout the post-closure monitoring and maintenance period.
14. Methane and other landfill gases, generated as a result of waste disposal, shall be adequately vented, removed from the landfill, or otherwise controlled to prevent the danger of explosion, adverse health effects, nuisance conditions, and the degradation of water quality.
15. Sewage sludge or water treatment sludge with greater than 50 percent moisture content may be discharged to the waste management unit only if all the following criteria are met:

- a. Sludge shall be discharged only to lined modules that have a LCRS, designed so that leachate drains by gravity to a collection point/sump and is removed through gravity or pumping to a holding tank or sanitary sewer for volume measurement, testing and disposal.
- b. A daily minimum solids-to-sludge ratio of 5 to 1, based on weight, shall be maintained when co-disposing sludge with solid waste.
- c. Primary and mixtures of primary and secondary sewage sludge shall contain at least 20 percent solids by weight.
- d. Secondary sewage sludge and water treatment sludge shall contain at least 15 percent solids by weight.

Reporting Provisions

16. All technical and monitoring reports submitted pursuant to this Order are required pursuant to Section 13267 of the California Water Code. Failure to submit reports in accordance with schedules established by this Order and attachments to this Order, or failure to submit a report of sufficient technical quality to be acceptable to the Executive Officer may subject the Discharger to enforcement action pursuant to Section 13268 of the California Water Code.
17. Discharger shall notify Water Board staff, within 24 hours by telephone and within seven days in writing, of any noncompliance potentially or actually endangering health or the environment. Any noncompliance that threatens the landfill's containment integrity shall be promptly corrected. Correction schedules are subject to the approval of the Executive Officer, except when delays will threaten the environment or the landfill's integrity (i.e., emergency corrective measures). Corrections initiated prior to Executive Officer approval shall be so stated in the written report. The written report shall contain a description of the noncompliance and its cause; the period of noncompliance including exact dates and times or anticipated duration; and steps taken or planned to reduce, eliminate, and prevent recurrence of the noncompliance. This provision includes, but is not limited to:

- a. Violation of a discharge prohibition.
- b. Violation of any Water Quality Protection Standard.
- c. Slope failure.
- d. Liner damage.
- e. Leachate seep(s) occurring on, or in proximity to, the landfill.

18. Reports of compliance or noncompliance, or any progress reports on interim and final requirements contained in any compliance schedule, shall be submitted within 14 days following each scheduled date unless otherwise specified within the Order. A report shall be submitted within 14 days of achieving full compliance.
19. Design reports shall be submitted 180 days in advance of any planned changes in the permitted facility or any activity that could potentially or actually result in noncompliance.
20. The Discharger shall report all changes in usage of daily cover and performance standards within 10 days following the change.
21. The Discharger shall implement all necessary wet weather preparedness measures to ensure discharges to surface waters or groundwater do not occur during the impending rainy season, and ensure all other relevant CCR Title 27 and 40 CFR criteria have been implemented. To ensure the appropriate wet weather measures have been implemented, the Discharger shall submit a report of Wet Weather Preparedness. The report shall detail all preparedness actions taken to comply with this requirement. **REPORT DUE DATE: October 1st** of each year.
22. The Discharger shall obtain and maintain Financial Assurance Instruments (Instruments), which comply with CCR Title 27 (Sections 22207 [Closure Fund], 22212 [Post-Closure Fund], and 22220 et seq. [Corrective Action Fund]), and 40 CFR parts 257 and 258. The Discharger shall evaluate the cost of Financial Assurance to cover the estimated costs of the worse case reasonably foreseeable release. Upon request, the Discharger shall submit a report

on financial assurance for corrective action for the Water Board Executive Officer's review and approval. Every five years after submittal of the initial financial assurance report, or earlier if requested by the Executive Officer, the Discharger shall submit a report, that either validates the Instruments' ongoing viability, or proposes and substantiates any needed changes. The Discharger may combine the three components (Closure, Post-Closure, Corrective Action) of the Instruments into one report to comply with this requirement. The Discharger shall also submit evidence (e.g., an acceptance letter from the California Integrated Waste Management Board—Financial Assurance Division) that a financial assurance instrument(s) is in place for closure, post-closure, and corrective action. The acceptance letter can be included in the landfills Annual Report to the Executive Officer.

23. For the protection of water quality, the Executive Officer may require partial or final closure of any Waste Management Unit or landfill area regardless of whether the unit or area has reached final capacity. Such a requirement will be requested in writing and in accordance with CCR Title 27, Section 22190.
24. The Discharger shall submit an updated Joint Technical Document (JTD) to the Executive Officer pursuant to CCR Title 27, Section 21710. The JTD shall contain, but is not limited to, the following:
 - a. Information on waste characteristics, geologic and climatologic characteristics of the landfill and the surrounding region, installed features, operation plans for waste containment, precipitation and drainage controls, and closure and post closure maintenance plans, in accordance with CCR Title 27, Sections 21740, 21750, 21760, and 21769.
 - b. A completed SWRCB JTD Index, in accordance with CCR Title 27, Section 21585(b), with your JTD addendum.
 - c. A discussion of whether, in the Discharger's opinion, there is any portion of this Order that is incorrect, obsolete, or otherwise in need of revision.
- d. Any technical documents needed to demonstrate continued compliance with this Order and all pertinent State and Federal requirements.
- e. Detailed information regarding regulatory considerations; design, construction and operating provisions; environmental monitoring; and final closure and post-closure engineering plans and specifications.
- f. A fill sequencing plan that includes detailed maps. The fill sequencing plan shall describe in detail the overall development of the entire landfill.
- g. A detailed description of the lateral and vertical extent of refuse within all existing Landfill Units. It must include an accurate estimate of waste volumes within each existing landfill fill area (i.e., phases) and an approximation of the remaining volume and years of capacity for each existing phase and all new proposed fill area within currently "Permitted Landfill Boundary." It must also describe all existing available space within currently permitted landfill areas (i.e., areas where refuse has been placed in the past, but have not reached final permitted elevation and Landfill Units or portions of Landfill Units where refuse has never been placed). **REPORT DUE DATE: September 30, 2009**, or as specified by the Executive Officer.
25. If updates are deemed necessary, the Discharger shall submit to the Water Board an updated final closure and post-closure maintenance plan (Closure Plan). The Closure Plan shall describe the methods and controls to be used to ensure protection of the quality of surface and groundwater during final closure operations and during any proposed subsequent use of the land. The Closure Plan shall include:
 - a. A description of the final cover, designed in accordance with all applicable State and Federal regulations and the methods and procedures to be used to install the cover.
 - b. An estimate of the waste disposal area (Waste Management Unit) requiring a final cover

- c. An estimate of the maximum inventory of wastes at the site over the active life of the landfill.
- d. A schedule for completing all activities necessary to satisfy all closure criteria as required by CCR Title 27 and 40 CFR Parts 257 and 258 regulations.
- e. An estimate of closure and post-closure maintenance costs.
- f. A proposal for a trust fund or equivalent financial arrangement to provide sufficient funding for closure and post-closure maintenance, and corrective action.
- g. The amount to be deposited in the trust fund or equivalent financial arrangement each year.

The Closure Plan shall be prepared by or under the supervision of a California Registered Civil Engineer or Certified Engineering Geologist. Updates of the post-closure maintenance plan are required whenever substantial changes occur or are proposed. The method identified for each Waste Management Unit closure and protection of the quality of surface and groundwater shall comply with this Order. The Closure Plan report shall be consistent with all applicable state and federal regulations, including CCR Title 27 and 40 CFR Parts 257 and 258. **REPORT DUE DATE: July 31, 2008.**

- 26. The Water Board considers the Discharger to have a continuing responsibility for correcting any problems that may arise in the future as a result of this waste discharge. This responsibility continues as long as the waste poses a threat to water quality. Waste has been reported to exist outside of the closed Module I cover and active fill areas. As such, the extent and nature of waste must be characterized by **September 30, 2007**.
- 27. The leachate collection and removal system shall be tested annually to demonstrate proper operation. The results of the test shall be compared with previous tests and included in the Annual Monitoring Report.
- 28. The Discharger shall notify the Water Board in writing of any proposed change in ownership or responsibility for construction or operation of the landfill in accordance with

CCR Title 27, Section 21710 (c)(1). Failure to submit the notice in writing shall be considered a violation of Section 13264 of the Water Code. The written notice shall be given at least **90 days** prior to the effective date of change in ownership or responsibility and shall:

- a. Be accompanied by an amended Joint Technical Document and any technical documents that are needed to demonstrate continued compliance with these Waste Discharge Requirements.
- b. Contain the requesting entity's full legal name, the state of incorporation if a corporation, the name and address and telephone number of the persons responsible for contact with the Water Board.
- c. Contain a statement indicating that the new owner or operator assumes full responsibility for compliance with this Order.

Request for change in ownership or responsibility may be approved or disapproved in writing by the Executive Officer. In the event of any change in ownership of this landfill, the Discharger shall notify the succeeding owner or operator, in writing, of the existence of this Order. A copy of that notification shall be sent to the Executive Officer.

- 29. At any time, the Discharger may file a written request (including appropriate supporting documents) with the Water Board Executive Officer, proposing appropriate modifications to the monitoring and reporting program. The Executive Officer either shall reject the proposal for reasons listed, or shall incorporate it into a revised monitoring and reporting program. The Discharger shall implement any changes in the monitoring and reporting program proposed by the Executive Officer upon receipt of a revised monitoring and reporting program.
- 30. The Discharger shall notify the Executive Officer at least 180 days prior to beginning any partial or final landfill closure activities. The notice shall include a statement that all closure activities will conform to the most recently approved Closure Plan and that the

Plan provides for closure in compliance with all applicable State and Federal regulations. If there is no approved Closure Plan, the Discharger must submit a complete Closure Plan at least 240 days prior to beginning any landfill closure activities.

31. The Water Board shall be allowed, at any time and without prior notification:
- a. Entry upon the landfill or where records must be kept under the conditions of this Order and MRP No. R3-2007-0003.
 - b. Access to copy any records that must be kept under the conditions of this Order and MRP No. R3-2007-0003.
 - c. To inspect any facility, equipment (including monitoring and control equipment), practices, or operations regulated or required under this Order and MRP No. R3-2007-0003.
 - d. To photograph, sample, and monitor for the purpose of showing compliance with this Order.
32. Except for data determined to be confidential under Section 13267 (b) of the California Water Code, all reports prepared in accordance with this Order are considered public record and shall be sent to the appropriate contact at the California Integrated Waste Management Board and Monterey County Health Department - Environmental Health Division. All reports shall be signed as follows:
- a. For a public agency - by either a principal executive officer or ranking elected official*.
 - b. For a partnership or sole proprietorship - by a general partner or the proprietor, respectively*.
 - c. For a corporation - by a principal executive officer of at least the level of vice president*.
 - d. For engineering reports and monitoring reports- by a California Registered Civil Engineer or Certified Engineering Geologist.

*or their "duly authorized representative."

33. Any person signing a report makes the following certification, whether it is expressed or implied:

"I certify under penalty of perjury I have personally examined and am familiar with the information submitted in this document and all attachments and, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe the information is true, accurate, and complete. I am aware there are significant penalties for submitting false information, including the possibility of fine and imprisonment."

34. Any person who violates Waste Discharge Requirements and/or who intentionally or negligently discharges waste or causes or permits waste to be deposited where it is discharged into waters of the State is liable for civil and/or criminal remedies, as appropriate, pursuant to Section 13350, 13385, and 13387 of the California Water Code.
35. As provided by CWC Section 13350(a), any person may be civilly liable if that person in violation of a waiver condition or waste discharge requirements, discharges waste, or causes waste to be deposited where it is discharged, into the waters of the State.
36. Provisions of this Order are severable. If any provision of this Order is found invalid, the remainder of this Order shall not be affected.
37. This Order does not authorize commission of any act causing injury to the property of another, does not convey any property rights of any sort, does not remove liability under federal, state, or local laws, and does not guarantee a capacity right.
38. The Discharger must comply with all conditions of these Waste Discharge Requirements. Violations may result in enforcement actions, including Water Board orders or court orders requiring corrective action or imposing civil monetary liability, or in modification or revocation of these Waste Discharge Requirements by the Water Board. [CWC Section 13261, 13263, 13265, 13267, 13268, 13300, 13301, 13304, 13340, 13350].

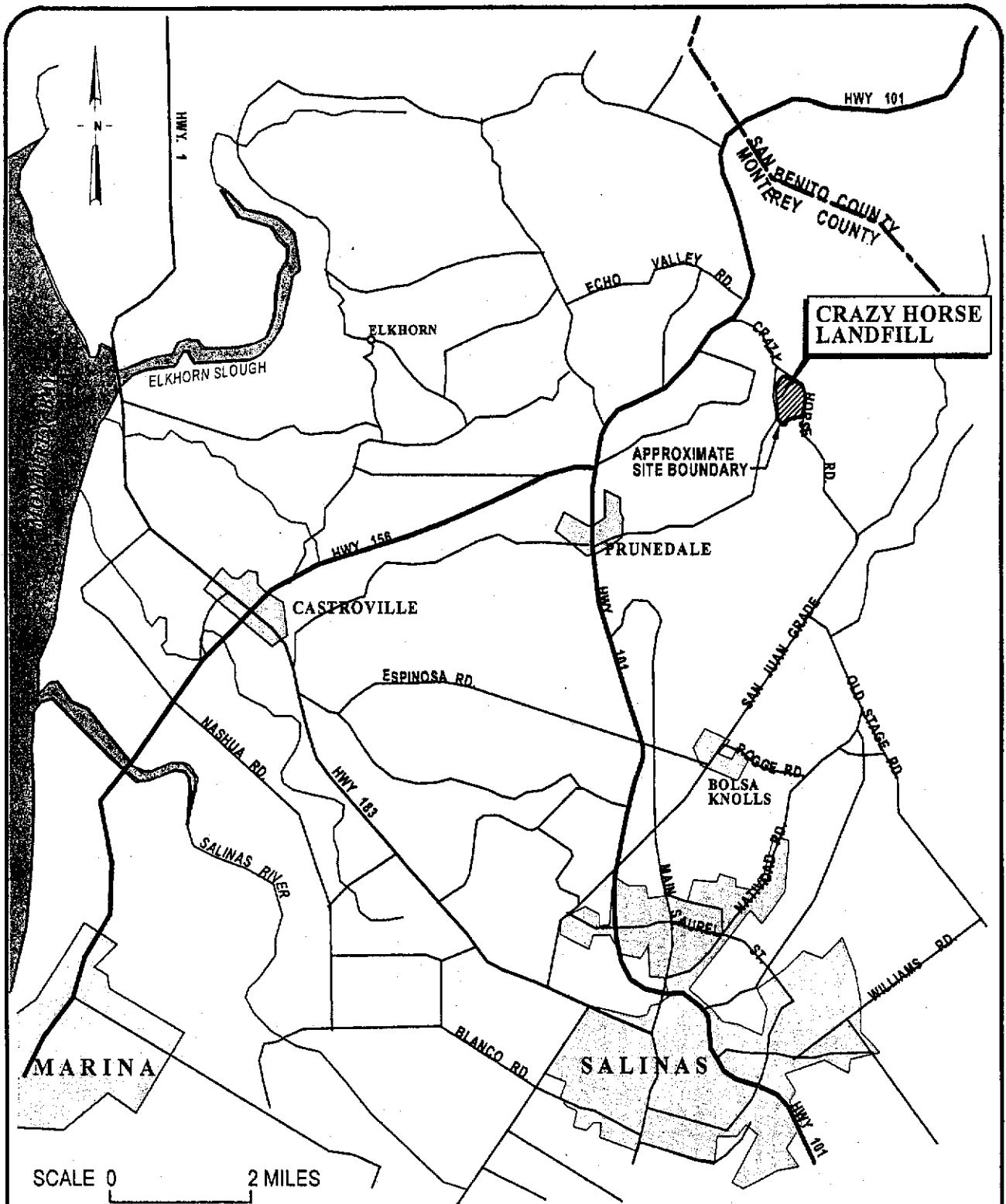
The Discharger shall comply with the following submittal and implementation schedule for all tasks and reports required by this Order:

REPORT AND TASK IMPLEMENTATION DATE SUMMARY

REPORT/TASK	IMPLEMENTATION DATE
Wet Weather Preparedness Report [Provision E.21]	October 1, 2007, and yearly thereafter
EFS, Southern Area (closed Module I plume)	June 30, 2007
EFS, Eastern Area	June 30, 2007
JTD Amendment for Corrective Action	August 30, 2007
Implement CAP system modifications	September 30, 2007
Characterize Waste Extent [Provision E.26]	September 30, 2007
Financial Assurance Report [Provision E.22]	July 31, 2008, and every five years thereafter
Joint Technical Document [Provision E.24]	September 30, 2009
Final Closure and Post Closure Maintenance Plan [Provision E.25]	July 31, 2008

I, Roger W. Briggs, Executive Officer, do hereby certify the foregoing is a full, true, and correct copy of an Order adopted by the California Water Quality Control Board, Central Coast Region, on February 9, 2007.

Executive Officer

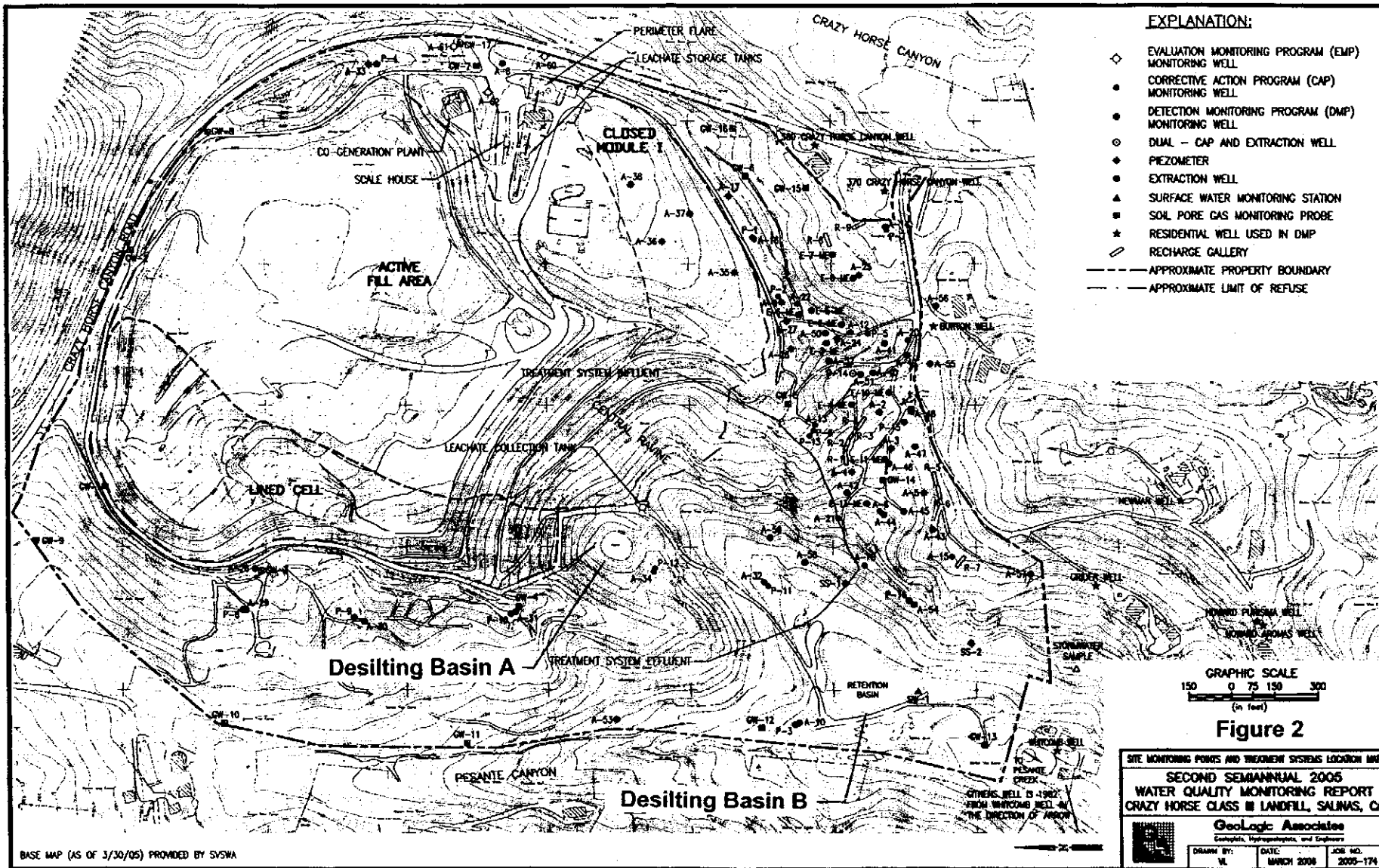


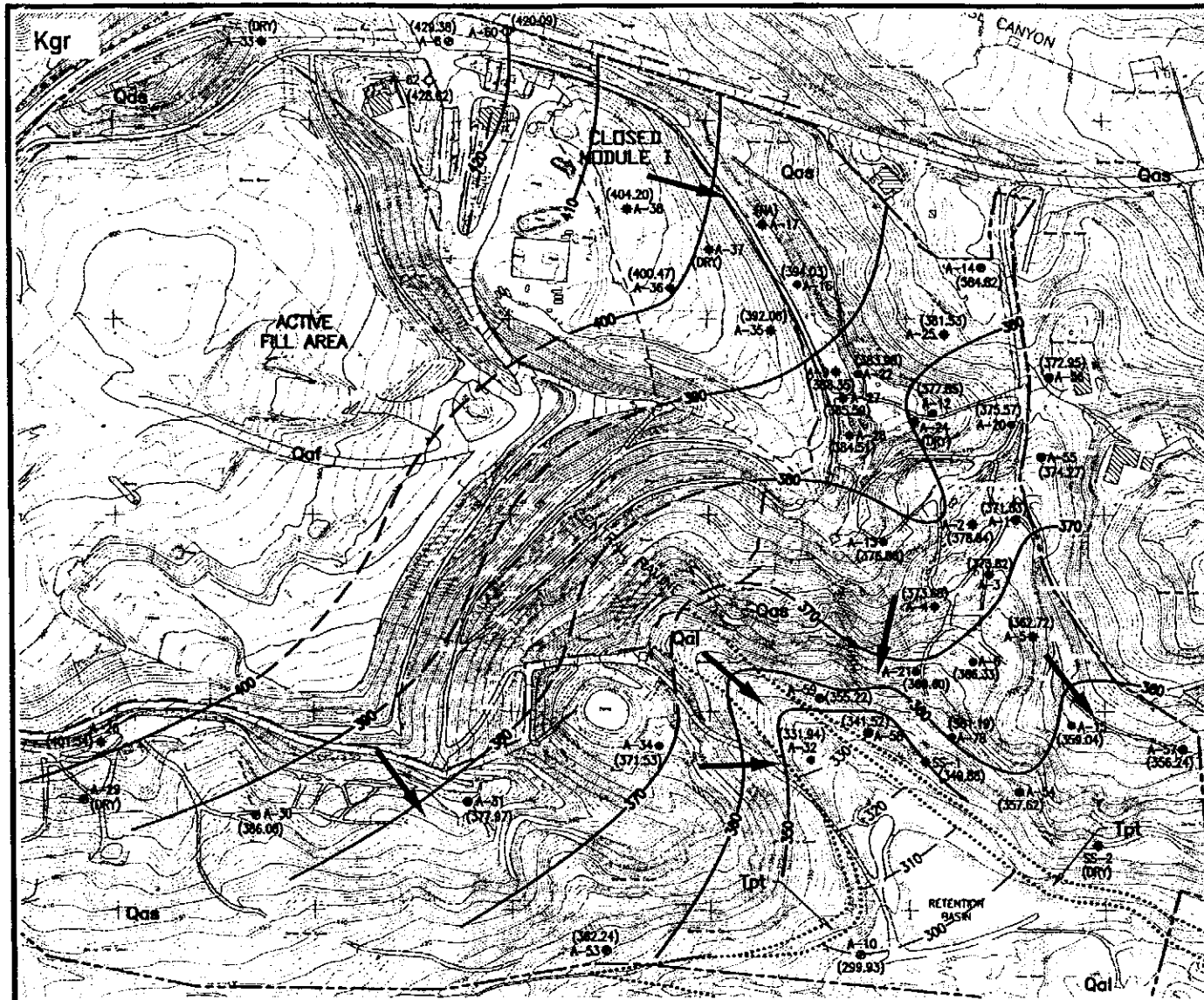
SCALE 0 2 MILES

 **Shaw**® EMCON/OWT, INC.

DATE SEPT 2004
 DWN S.E.R.
 APPR _____
 REV _____
 PROJECT NO.
 844835

FIGURE 1
CRAZY HORSE LANDFILL
MONTEREY COUNTY, CALIFORNIA
 JOINT TECHNICAL DOCUMENT
 SITE LOCATION MAP





EXPLANATION:

- ◊ EVALUATION MONITORING PROGRAM (EMP) MONITORING WELL
- CORRECTIVE ACTION PROGRAM (CAP) MONITORING WELL
- DETECTION MONITORING PROGRAM (DMP) MONITORING WELL
- PIEZOMETER
- (384.82) OCTOBER 2005 GROUNDWATER ELEVATION IN FEET ABOVE MEAN SEA LEVEL (FAMSL)
- (NA) NOT ACCESSIBLE
- 400 — LINE OF EQUAL GROUNDWATER ELEVATION OF AROMAS SAND AQUIFER IN FAMSL; DASHED WHERE INFERRED
- 310 — LINE OF EQUAL GROUNDWATER ELEVATION OF ALLUVIAL AQUIFER IN FAMSL; DASHED WHERE INFERRED
- ← DIRECTION OF GROUNDWATER FLOW
- - - APPROXIMATE PROPERTY BOUNDARY
- — — APPROXIMATE LIMIT OF REFUSE

- GEOLOGY (FROM GEOMATRIX, 2004):**
- Qaf REFUSE FILL } QUATERNARY
 - Qal ALLUVIUM AND COLLUVIUM } QUATERNARY
 - Qas AROMAS SAND } QUATERNARY
 - Tpt TRANSITION ZONE OF THE PURISIMA FORMATION } TERTIARY
 - — — APPROXIMATE GEOLOGIC CONTACT, DOTTED WHERE CONCEALED
 - Kgr GRANITICS } CRETACEOUS

BASE MAP (AS OF 3/30/05) PROVIDED BY SYSRA

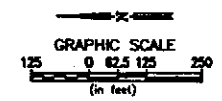


Figure 3

AROMAS AND ALLUVIAL AQUIFERS HYDROLOGIC SURFACE MAP
SECOND SEMIANNUAL 2005
WATER QUALITY MONITORING REPORT
CRAZY HORSE CLASS III LANDFILL, SALINAS, CA

GeoLogic Associates
Geologists, Hydrogeologists, and Engineers

DRAWN BY: ML	DATE: MARCH 2006	JOB NO. 2005-174
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EXPLANATION:

- ◇ EVALUATION MONITORING PROGRAM (EMP) MONITORING WELL
- CORRECTIVE ACTION PROGRAM (CAP) MONITORING WELL
- DETECTION MONITORING PROGRAM (DMP) MONITORING WELL
- (23.32) OCTOBER 2005 TOTAL VOLATILE ORGANIC COMPOUNDS (VOC) CONCENTRATION IN MICROGRAMS PER LITER (µg/L)
- (ND) NOT DETECTED
- (NA) NOT AVAILABLE
- 20 — LINE OF EQUAL TOTAL VOC CONCENTRATION IN µg/L; DASHED WHERE INFERRED
- - - - - APPROXIMATE PROPERTY BOUNDARY
- — — — — APPROXIMATE LIMIT OF REFUSE

BASE MAP (AS OF 3/30/05) PROVIDED BY SVSMA

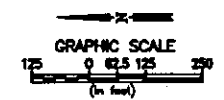


Figure 4

APPROXIMATE EXTENT OF TOTAL VOLATILE ORGANIC COMPOUNDS IN GROUNDWATER (AROMATIC SAND AQUIFER)
 SECOND SEMIANNUAL 2005
 WATER QUALITY MONITORING REPORT
 CRAZY HORSE CLASS III LANDFILL, SALINAS, CA

GeoLogic Associates
 Geologists, Hydrogeologists, and Engineers

DRAWN BY: VL	DATE: MARCH 2006	JOB NO. 2005-174
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