3.0 - Environmental Impact Analysis

DRAFT

3.0 - Environmental Impact Analysis

3.1 ENVIRONMENTAL RESOURCES ADDRESSED

Public and agency input received during the Notice of Preparation (NOP) comment period and during the public scoping process helped to determine the scope of evaluation for this dEIR. Through this process, 12 environmental resource areas were evaluated for potential project impacts. These environmental resource areas and their corresponding section numbers are listed below:

- 3.3.1 Aesthetics
- 3.3.2 Air Quality
- 3.3.3 Biological Resources
- 3.3.4 Cultural Resources
- 3.3.5 Geology and Soils
- 3.3.6 Hazards and Hazardous Materials
- 3.3.7 Hydrology and Water Quality
- 3.3.8 Land Use and Planning
- 3.3.9 Noise
- 3.3.10 Public Services
- 3.3.11 Transportation and Traffic
- 3.3.12 Utilities and Service Systems

3.2 ORGANIZATION OF ENVIRONMENTAL ANALYSIS

Each environmental resource section is organized into the following subsections:
1) Environmental Setting; 2) Applicable Standards; 3) Thresholds of Significance; 4) Potential Environmental Impacts; 5) Mitigation Measures; 6) Level of Significance After Mitigation; and 7) References. A description of each subsection follows.

3.2.1 Environmental Setting

This section describes the physical environmental conditions in the vicinity of the project, as they currently exist and under currently authorized operations. This environmental setting constitutes the baseline physical conditions by which DTSC

DRAFT

determines whether an impact is significant in this EIR. (Cal. Code Regs., tit. 14, §15125(a)). As an existing permitted facility, the physical characteristics of the Romic facility were included in this baseline environmental description.

3.2.2 Applicable Standards

Statutes and regulations applicable to the environmental resource being evaluated for potential impacts are provided in this section. The agencies responsible for enforcement of these statutes and regulations as they relate to the proposed project are also described.

3.2.3 Thresholds of Significance

This section sets-forth the criteria used to determine when physical changes to the environment created as a result of project approval would be considered significant. The criteria used in each environmental resources area was based on the Environmental Checklist in Appendix G of the CEQA Guidelines (as amended July 22, 2003).

3.2.4 Potential Environmental Impacts

This section provides an analysis of potential project impacts and the degree to which those impacts meet or exceed applicable thresholds of significance. The analysis also identifies any proposed controls that are inherent to the project that would serve to influence the level of impact. Impacts are categorized according to the following:

- *"Potentially Significant Impact"* applies if an effect is significant or potentially significant, or if information was lacking to make a finding of insignificance.
- *"Potentially Significant Unless Mitigated"* applies where the incorporation of mitigation measures has reduced an effect from "Potentially Significant Impact" to a "Less than Significant Impact." An objective standard or measure of significance is identified and compared to the level of impacts to be generated by the project upon implementation of the identified mitigation measures.

DRAFT

- *"Less than Significant Impact"* applies where the environmental impact does not exceed the threshold of significance.
- *"No Impact"* applies to projects that have no potential for impacting an environmental factor based on supporting evidentiary data.

3.2.5 Mitigation Measures

This section describes, if applicable, feasible measures that could minimize significant adverse impacts that may result with project approval.

CEQA Guidelines (Cal. Code Regs., tit. 14, §15370) defines "mitigation" to include:

- Avoiding the impact altogether by not taking a certain action or parts of an action.
- Minimizing impacts by limiting the degree or magnitude of the action and its implementation.
- Rectifying the impact by repairing, rehabilitating or restoring the impacted environment.
- Reducing or eliminating the impact over time by preservation and maintenance operations during the life of the action.
- Compensating for the impact by replacing or providing substitute resources or environments.

In accordance with CEQA Guidelines (Pub. Resources Code, §21081.6), a mitigation and monitoring program would be required to be adopted by DTSC to demonstrate and monitor compliance with any mitigation measures identified in this EIR. The program would identify specific mitigation measures to be undertaken, when the measure would be implemented, and the agency responsible for oversight, implementation and enforcement.

DRAFT

3.2.6 Level of Impacts after Mitigation

This section provides a summary explanation as to the level of impact to the environmental resource after imposition of any required mitigation measures. If no mitigation measures are required, a statement to that effect is provided.

3.2.7 References

This section lists documents and personal communications that were used to support the conclusions or findings in each environmental resources area section.

3.3 ENVIRONMENTAL IMPACT ANALYSIS

The following sections examine the potential impacts that the proposed project may have upon the "baseline" environmental conditions that exist for each environmental resource area affected by the proposed project. The proposed project is Romic's existing operations and proposed upgrades, limited expansions, and modifications as described in Chapter 2. Project Description.

Closure Plan

This chapter also contains an analysis of potential impacts associated with Closure Plan (CP) activities. However, since the environmental setting when future CP activities will be implemented is not known at this time, the analysis of potential impacts to the future setting may only be speculative. A more thorough analysis may become necessary if any of the activities proposed in the CP are amended.

DRAFT

3.3.1 - Aesthetics

DRAFT

3.3.1 – Aesthetics

DRAFT

ENVIRONMENTAL SETTING

Current conditions of the Romic site and facility operations and existing other businesses and facilities in the area are considered the environmental setting for this analysis. The Romic site has been utilized as a recycling facility since 1963 by Romic, and since 1956 by others. The surrounding area is occupied by commercial/industrial businesses that include auto salvage and wrecking. Adjacent and nearby properties are subject to deed restrictions related to residual petroleum hydrocarbons and inorganic compounds in the soil from previous uses at these sites.

The adjacent areas are visually characterized by business properties and vacant land that are poorly maintained. High voltage power lines cross the area. Bay Road, the only access to the Romic facility, is a paved road without gutters or drainage. Figures 3.3.1-1 and 3.3.1-2 show characteristic views entering and within the Romic vicinity.

The Romic facility is surrounded by a chain link fence and block wall, that limits views of the interior of the site. Romic is viewed from the south/southeast by traffic on Bay Road and from the west by adjacent industrial facilities. The site is viewed from the east by recreationalists using the bicycle path and nature preserve. From the north/northwest the site is viewed by residents living on Illinois Street, located at a distance of approximately one-half mile. These receptors may be the most sensitive with respect to aesthetic considerations. Figures3.3.1-3 through 3.3.1-5 show views of the Romic facility from Bay Road and the bicycle path.

APPLICABLE STANDARDS

- **City of East Palo Alto Draft General Plan, Land Use Element**

The City of East Palo Alto Draft General Plan, Land Use Element (City of East Palo Alto, June 1998) provides a guide to land use planning and identifies how land will be

used in the future. The following goals expressed in the Land Use Element also are related to aesthetic qualities of the local environment:

- Maintaining a quality environment for families.
- Strengthening the community's distinctive image.
- Preserving natural areas that make East Palo Alto unique.

- **East Palo Alto Revitalization Plan, Preliminary Draft**

The East Palo Alto Revitalization Plan, Preliminary Draft Chapter 7, Design Guidelines, (Freedman Tung & Bottomley, August 2000) provides guidelines for aesthetic elements of the proposed plan. Those that may be applicable to the proposed project include Site Improvements and Landscaping, which includes guidelines for

- Walls, fences and piers
- Plant materials and landscape treatments
- Lighting
- Signs

THRESHOLDS OF SIGNIFICANCE

In accordance with Appendix G of the CEQA Guidelines (as amended July 22, 2003), the proposed project could be considered to have a significant impact on the aesthetics of the local area if it would:

- Have a substantial adverse effect on a scenic vista.
- Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings and historic buildings within a state scenic highway.
- Substantially degrade the existing visual character or quality of the site and its surroundings.
- Create a new source of substantial light or glare that would adversely affect day or nighttime views in the area.

POTENTIAL ENVIRONMENTAL IMPACTS

- **Have a substantial adverse effect on a scenic vista**

  The East Palo Alto General Plan does not identify a scenic vista within the City. Project-related activities will occur entirely within the fenced site, and no new facilities will be taller than those currently existing at the facility. As a result, the proposed project has no potential to adversely impact a scenic vista.

- **Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings and historic buildings within a state scenic highway**

  The project site is not located along a scenic highway. In addtion, the East Palo Alto General Plan does not identify scenic resources within the City. However, the Conservation and Open Space Element does address specific natural features, such as the bay lands, San Francisquito Creek and the shoreline as resources that provide visual changes in the urban environment that create interest. It states that these "resources need to be preserved and enhanced to maintain the natural physical and visual quality of East Palo Alto" (City of East Palo Alto, 1998).

  The Palo Alto Baylands Nature Preserve is located to the southeast of the facility across Bay Road. The Ravenswood Open Space Preserve is adjacent to the east side of the Romic site and also to the north of the site. However, project-related activities will occur entirely within the fenced site, and no new facilities will be taller than those currently existing at the site. Further, the proposed project basically involves a continuation of ongoing activities at the facility. As a result, there will be no visual change to the facility from the outside, and the proposed project will not result in adverse impacts to natural resources in the area.

DRAFT

- **Substantially degrade the existing visual character or quality of the site and its surroundings**

  Project-related activities will occur entirely within the fenced site with the addition of some tanks and process units and the removal of other tanks and units. The new facilities will be no taller than those currently existing at the facility. As a result, after completion of the proposed project, the visual character of the site will be similar to what currently exists. Therefore, the project has no potential to degrade the visual character of the site or its surroundings.

- **Create a new source of substantial light or glare that would adversely affect day or nighttime views in the area**

  Romic currently operates 24 hours a day, 7 days a week, 365 days per year. The facility utilizes night lighting for security and operational reasons. The proposed project will not result in changes to the existing lighting. As a result, there will be no new sources of light and glare related to the proposed project.

CLOSURE

The Closure Plan (CP) identifies steps necessary to close the facility at the end of its intended operating life, and applies to the operating units. Implementation of the CP would result in dismantling activities and some worker trips to and from the Romic site. The ultimate use of the facility following closure is unknown.

CP activities would be conducted using construction equipment and vehicles similar to those currently being used at the facility and would be temporary in nature. Thus, aesthetic impacts would not be significant.

DRAFT

MITIGATION MEASURES

Impacts to aesthetic resources of the project area will be less than significant. Therefore, mitigation measures are not required.

LEVEL OF SIGNIFICANCE AFTER MITIGATION

Mitigation measures are not required. Impacts remain less than significant.

DRAFT

REFERENCES

1. City of East Palo Alto, June 1998 *Draft General Plan*. Prepared by Cotton/Beland/Associates, Inc., and Dinwiddie & Associates. June 1998.

2. The East Palo Alto Revitalization Plan, Ravenswood Business District, Four Corners/Bay Road, University Avenue Corridor, Weeks Neighborhood, by Freedman Tung & Bottomley, Preliminary Draft, August 2000.

DRAFT

FIGURE 3.3.1-1. Entrance to Romic Facility from Bay Road**.**

FIGURE 3.3.1-2. Columns and reboilers within the production area.

FIGURE 3.3.1-3. View from Bay Road looking north. Rainwater tank in foreground and columns/reboilers in background.

FIGURE 3.3.1-4. Entrance to bicycle trail from Bay Road. View of Romic Facility columns/reboilers to the northwest.

FIGURE 3.3.1-5. Bicycle trail northeast of Romic Facility. Office building and columns/reboilers visible across slough.

3.3.2 - Air Quality

DRAFT

3.3.2 - Air Quality

ENVIRONMENTAL SETTING

The project is located within the San Francisco Bay Area Air Basin, which encompasses a nine-county region including all of Alameda, Contra Costa, Santa Clara, San Francisco, San Mateo, Marin and Napa Counties, and the southern portions of Solano and Sonoma Counties. The Peninsula, where the project is located is a climatological subregion of the Bay Area Air Basin and extends from northwest of San Jose to the south to the Golden Gate bridge to the north.

Climatic Characteristics

The proposed project area on the Peninsula is surrounded by a coastal mountain range to the west and another to the east across the Bay. The climate of the region is controlled by a semi-permanent, high-pressure region, centered some 1,100 miles west of central California. In the summer, the high-pressure region blocks low-pressure areas from entering the state. The flow of air is nearly always from the west, both at the surface and aloft and wind speeds are moderate. Summers are largely sunny (with the exception of fog along the coast) and dry. In the winter, the high-pressure region moves south, allowing low-pressure areas to move south from the Aleutian Islands into northern California. These low-pressure fronts bring rain during the months November through April.

Gaps in the coastal mountain range channel winds down the San Francisco Peninsula. Particularly, the San Bruno Gap, tends to channel pollutants released by automobiles and stationary sources upwind of East Palo Alto into East Palo Alto and other locations located downwind. Temperature inversions often form in spring through fall putting a cap on vertical motions of air at lower altitudes and trapping fog, clouds and pollutants at low levels. The inversion layer is often marked by a fog bank that extends from the surface to about 200 feet above ground level in the spring and as high as 2,000 above ground level in the fall. The combination of upwind sources and temperature inversions that restrict vertical dilution, give East Palo Alto a moderate potential for air pollution.

The key meteorological parameters that affect air quality are winds, temperature, and precipitation. Winds as recorded at the Moffett Field meteorological station (5.7 miles to the southeast) and the San Carlos meteorological station (7.3 miles to the northwest), are predominantly from the west/northwest and average 5-10 miles per hour. Maximum summer temperatures are in the low 80s and average low temperatures in the winter are in the high 30s to the low 40s. Average annual rainfall is approximately 16 inches.

Baseline Air Quality

The federal and California ambient air quality standards for criteria pollutants are shown in Table 3.3.2-1. The Redwood City monitoring station was in attainment for ozone in 2002 under both the state and federal standards. It was non-attainment under the state standard in 2001 for one day. For the years 1998 through 2000 it was in attainment under both the state and federal standards. For PM_{10}, the Redwood City monitoring station was non-attainment for 1999 through 2002. Days that the station was non-attainment were: 1999-15; 2000-6; 2001-24; and 2002-6. The station was attainment under the federal standard for all years 1999-2002. The station is in attainment for all other criteria pollutants.

APPLICABLE STANDARDS

The federal Clean Air Act and the California Clean Air Act set air quality standards and regulate emissions of pollutants. National Ambient Air Quality Standards have been established for what are known as “criteria” pollutants and the state of California has established more stringent standards for these pollutants. The criteria pollutants are nitrogen dioxide, carbon monoxide, sulfur dioxide, ozone, particulate matter, and lead. Air basins such as the San Francisco Bay Area Air Basin are designated “attainment” or non-attainment” for these criteria pollutants, that is whether they meet or do not meet the federal and state standards. Air quality for toxic air pollutants is determined based on the risk to human health. The agency responsible for enforcement of the air quality standards and toxic emissions and development of air quality plans in the project area is the Bay Area Air Quality Management District.

THRESHOLDS OF SIGNIFICANCE

In accordance with Appendix G of the CEQA Guidelines (as amended July 22, 2003), an impact related to air quality could be considered significant if it would:

- Conflict with or obstruct implementation of the applicable air quality plan;
- Violate any air quality standard or contribute substantially to an existing or projected air quality violation;
- Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors);
- Expose sensitive receptors to substantial pollutant concentrations;
- Create objectionable odors affecting a substantial number of people;
- Result in human exposure to Naturally Occurring Asbestos.

The BAAQMD has developed its own CEQA guidelines for assessing the air quality impacts of projects (BAAQMD CEQA Guidelines, Dec 1999). These guidelines provide thresholds of significance for criteria pollutants, toxic air emissions, and odors for both the construction and operational phases of a proposed project.

Construction Phase

The BAAQMD's approach to CEQA analyses of construction impacts is to emphasize implementation of effective and comprehensive control measures rather than a detailed quantification of emissions. If certain control measures are implemented, then air pollutant emissions from construction activities would be considered a less than significant impact.

For construction sites of 4 acres and less, the following control measures are required (BAAQMD CEQA Guidelines, Dec 1999):

- Water all active construction areas at least twice daily.

- Cover all trucks hauling soil, sand, and other loose materials or require all trucks to maintain at least two feet of freeboard.
- Pave, apply water three times daily, or apply (non-toxic) soil stabilizers on all unpaved access roads, parking areas and staging areas at construction sites.
- Sweep daily (with water sweepers) all paved access roads, parking areas and staging areas at construction sites.
- Sweep streets daily (with water sweepers) if visible soil material is carried onto adjacent public streets.

Operational Phase

Sources of pollutant emissions during the operational phase of a project include motor vehicles traveling to and from the project and project stationary sources that emit pollutants. Pollutants emitted by motor vehicles are criteria pollutants while emissions from stationary sources can be either criteria pollutants or toxic air contaminants or both. In addition, offensive odors may be emitted by project stationary sources. The BAAQMD's thresholds of significance for emission impacts from project operations are as follows:

- **Criteria Pollutants**. The threshold level of emissions for NO_x, PM_{10}, and ROG are 80 lbs./day and 15 tons/year. Localized carbon monoxide concentrations should be estimated for projects in which: 1) vehicle emissions of CO would exceed 550 lb/day, 2) project traffic would impact intersections or roadway links operating at a Level of Service (LOS) D, E or F or would cause LOS to decline to D, E or F, or 3) project traffic would increase traffic volumes on nearby roadways by 10% or more (unless the increase in traffic volume is less than 100 vehicles/hour). The project would be considered to have a significant impact if it contributed to CO concentrations exceeding the State Ambient Air Quality Standard of 9 ppm (averaged over 8 hours; 20 ppm over 1 hour).

- **Toxic Air Contaminants.** Toxic air contaminants are those contaminants which are known or suspected of causing cancer, genetic mutations, birth defects or other serious illnesses. Toxic contaminants include many of the chemicals stored and processed by Romic and evaluated in the Human Health Risk Assessment performed for the Romic Facility. Projects that have the potential to expose the public to toxic air contaminants in excess of the following thresholds would be considered to have a significant air quality impact:

  - If the probability of contracting cancer for the Maximally Exposed Individual (MEI) exceeds 10 in one million.
  - If ground-level concentrations of non-carcinogenic toxic air contaminants would result in a Hazard Index greater than 1 for the MEI.

- **Odors.** Any project with the potential to frequently expose the public to objectionable odors would be deemed to have a significant impact.

POTENTIAL ENVIRONMENTAL IMPACTS

➢ **Conflict with or obstruct implementation of the applicable air quality plan**

The BAAQMD is responsible for enforcing the area's air quality plan. If the proposed project does not exceed the BAAQMD thresholds of significance for emissions, then it will not conflict with or obstruct the air quality plan. The following subsections analyze emissions from the project to determine if they exceed the thresholds of significance.

Construction Phase -

Primarily outside contractors will perform construction of new tanks and process vessels/units, improvements to existing process equipment and/or waste

management units, proposed new process equipment and/or waste management units, and new processes. Construction will involve a number of construction personnel and construction vehicles and equipment as well as trucks delivering supplies and equipment over an approximate 24-month period. On average, two crews of four workers in each crew will be onsite over the 24-month period, although this average will vary depending on the construction activity being performed. Trucks delivering equipment and supplies will average one per week but as many as three could arrive at the site on any one day during, for example, the pouring of concrete. All roads and streets used to access the site are paved. The site is also paved at all locations where construction will take place. The existing pavement will be penetrated at various locations and soil will be removed to construct foundations for new tanks and process units. However, no grading or extensive soil removal or importation will occur. There is therefore expected to be only a minimal potential for the creation of particulate matter or dust. Implementation of the BAAQMD's applicable control measures for construction activities will reduce construction impacts on air quality to less than significant.

Operational Phase -

During the operational phase, both criteria pollutants and toxic air emissions will be emitted from the Romic facility.

Criteria Pollutants

Criteria pollutants will be produced from the facility's gas-fired steam boilers, its emergency diesel-fuel engine/generator, and from any additional traffic that results from the project. The gas-fired boilers have already been permitted by the BAAQMD to use a maximum of 54 million Btu/hour of natural gas. The natural gas and the resulting steam from the boilers are used in the process units, primarily for distillation processes. This quantity of natural gas will not be exceeded as a result of the project, since the facility will still be limited to processing the current permitted quantity of 154,512 gallons/day. Therefore, criteria pollutants will not increase from the boilers as a result of the project. The 795-hp diesel fuel-fired engine/generator is

for use in an emergency where electric power from PG&E is cut off. The engine/generator has already been permitted by the BAAQMD. Use is unlimited for emergency purposes but limited to 100 hr/year for reliability testing. Use of the engine/generator and emission of criteria pollutants will not increase as a result of implementation of the project.

Although the quantity of liquids will not increase from the currently permitted 154,512 gallons/day, the project is proposing an increase in treatment of solids from 2 tons/day to 85 tons/day. This increase may result in an increase of up to 12 additional delivery trucks per week and additional employees to process the increased quantity of solids. The additional employees are expected to add approximately 30 vehicles per day for commuting to the site with six of these adding to the morning and evening daily peak commutes. Estimated emissions from these additional vehicles using the BAAQMD recommended trip lengths, exhaust emission rates, and trip end emission factors are:

ROG: 0.6 lb./day,
NO_x: 1.2 lb./day,
PM_{10}: 0.5lb./day

These emissions are well below the threshold quantities of 80 lb./day for these criteria pollutants. (Table 3.3.2-2).

While the Bay Area is in attainment for CO under the national and State of California standards, CO concentrations at locations other than the area monitoring stations can be reason for concern. These locations are usually roadways and intersections where traffic is heavy, usually during the morning and evening commute to work periods. The BAAQMD CEQA Guidelines recommend that calculations of CO concentrations at intersections and roadway segments that are most likely to be impacted by a proposed project be estimated to see if they exceed State of California and national ambient air standards.

The BAAQMD CEQA Guidelines provide formulas and procedures to manually calculate the CO concentrations at impacted intersections and roadway segments. The total CO concentration at a location consists of the sum of the background concentration plus the concentration caused by the local traffic. Concentrations for the current condition in 2003, the future condition in 2006 assuming no project, and the future condition in 2006 with the additional traffic produced by the project should be estimated. The project could add a maximum of 30 commute vehicles and 2-3 delivery trucks per day to local traffic. The intersection selected as being the key intersection or the intersection that would probably realize the highest CO concentrations was Bayfront Expressway and University Avenue. It was assumed that all of the additional project traffic would pass daily through this intersection in route to the project site. Traffic volumes for the intersection were obtained from Draft EIR, Amendments to General Plan (June 2003).

Calculations of the CO concentrations at the intersection in accordance with the procedures provided by the BAAQMD CEQA Guidelines are shown in Table 3.3.2-3. The results of the calculations are:

CONDITION	**CO Concentration (1-Hour) ppm**	**CO Concentration (8-Hour) ppm**
Current-2003	7.1	4.87
Future-No Project-2006	6.1	4.18
Future-Project-2006	6.12	4.19

The ambient air standard for CO concentration averaged over 8 hours is 9 ppm for both federal and State of California. For averaging over 1 hour, the standard is 35 ppm for federal and 20 ppm for the State of California (see Table 3.3.2-1). The calculated concentrations at the key project intersection are all well below these standards. Implementation of the project will therefore have an insignificant impact on air quality as measured by CO concentrations.

- *Toxic Air Emissions*

An extensive study of toxic air emissions from the Romic facility, both current and post-project, and their potential effect on human health was performed for the facility over the period 2001-2003 (HHRA and Ecological Risk Assessment, Feb 2001 and Addendum HHRA and Ecological Risk Assessment, Sept 2003). The results of this study show that the additional risk to the Maximum Exposed Individual (MEI) of contracting cancer was less than 10 in one million and that ground-level concentrations of non-carcinogenic toxic air contaminants resulted in a Hazard Index less than 1 for the MEI. According to the BAAQMD CEQA Guidelines , this potential exposure to the public would be considered to have a less than significant impact.

- **Violate any air quality standard or contribute substantially to an existing or projected air quality violation**

The analysis in the above sections shows that emissions from the proposed project do not exceed the thresholds of significance established by the BAAQMD. The proposed project will therefore not violate any air quality standard or contribute substantially to an existing or projected air quality standard.

- **Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors)**

The area has been non-attainment for only one criteria pollutant, PM_{10}. The proposed project will add approximately 0.5 lb./day of PM_{10} to the atmosphere. The BAAQMD threshold of significance for emissions of PM_{10} from a proposed project is 80 lb./day. This small increase of 0.5 lb./day relative to the large threshold of significance will not result in a considerable net increase to the non-attainment

pollutant PM_{10}. Therefore the project will cause a less than significant impact on PM_{10} atmospheric concentrations in the area.

- **Expose sensitive receptors to substantial pollutant concentrations**

The proposed project will emit less than significant amounts of criteria pollutants and therefore will not cause substantial criteria pollutant concentrations. The impact on sensitive receptors will be less than significant. The results from the HHRA described above showed that exposure to the public, including sensitive receptors, from proposed project toxic emissions would be less than significant. Therefore, the proposed project will not expose sensitive receptors to substantial pollutant concentrations.

- **Create objectionable odors affecting a substantial number of people**

In the Human Health Risk Assessment (Feb 2001 and Sept 2003), estimates of ambient air concentrations of chemicals emitted from the Romic facility were compared to odor thresholds to evaluate whether or not the emissions could pose an odor nuisance to individuals in the vicinity of the facility. A chemical need only be present at concentrations above the odor threshold for the period of time that it takes to inhale (a few seconds) to result in a perceived odor. For this analysis, the 3-minute average ambient air concentrations at the facility boundary were compared with odor thresholds to evaluate the likelihood of odor impacts.

Thirty-five chemicals with odor thresholds less than 1 ppm were selected for odor evaluation. For these chemicals, the estimated 3-minute concentrations were less than the corresponding odor thresholds and for most, the concentration was less than one-tenth of one percent (<0.1%) of their odor thresholds. The highest percentages were 4-methyl-2-pentanone, carbon disulfide and formaldehyde, each at approximately 3 percent.

The proposed project therefore does not have the potential to frequently expose the public to objectionable odors under the BAAQMD CEQA Guidelines and would not have a significant impact.

Result in Human Exposure to Naturally Occurring Asbestos

The proposed project will not be located in an area containing naturally occurring asbestos. Therefore, there will be no impact from naturally occurring asbestos.

CLOSURE

Implementations of the Closure Plan (CP) would result in dismantling activities and some worker trips to and from the Romic site. Dismantling activities would be temporary and trips generated would be fewer than under current conditions. Thus, no significant impacts to air quality would result from implementation of the CP.

MITIGATION MEASURES

Since emissions from the proposed project will not have a significant impact on air quality, no mitigation measures other than those stated for control of particulate matter in the form of dust during the construction period are required.

LEVEL OF SIGNIFICANCE AFTER MITIGATION

Potential impacts on air quality after implementation of mitigation measures during the construction period are considered less-than-significant.

REFERENCES

1. City of East Palo Alto, 2002
   General Plan Amendment Related to the Ravenswood Business District. Prepared by the Community Development Department, Planning division. May 31, 2002.

2. City of East Palo Alto, June 1998
   Draft General Plan. Prepared by Cotton/Beland/Associates, Inc., and Dinwiddie & Associates. June 1998.

3. Amendments to the East Palo Alto General Plan and Zoning Ordinance and Infrastructure Improvements in the Ravenswood Business District, Draft Environmental Impact Report, State Clearinghouse No. 2003012113, June 18, 2003.

4. BAAQMD CEQA Guidelines; Assessing the Air Quality Impacts of Projects and Plans, December 1999.

5. Human Health Risk Assessment and Ecological Risk Assessment for Romic's East Palo Alto Facility. Prepared by ENVIRON Corporation, February 19, 2001.

6. Addendum, Human Health Risk Assessment and Ecological Risk Assessment for Romic's East Palo Alto Facility. Prepared by ENVIRON Corporation, September 23, 2003.

DRAFT

TABLE 3.3.2-1

AMBIENT AIR QUALITY STANDARDS

Pollutant	Averaging Time	California Standard	Federal Standard
Ozone	1 Hour	0.09 ppm	0.12 ppm
	8 Hour	No standard	0.08 ppm
PM_{10}	24 Hour	50 ug/m^3	150 ug/m^3
	Annual Arithmetic Mean	20 ug/m^3	50 ug/m^3
$PM_{2.5}$	24 Hour	No standard	65 ug/m^3
	Annual Arithmetic Mean	12 ug/m^3	15 ug/m^3
Carbon Monoxide	8 Hour	9.0 ppm	9.0 ppm
	1 Hour	20 ppm	35 ppm
	8 Hour (Lake Tahoe)	6 ppm	No standard
Nitrogen Dioxide	Annual Arithmetic Mean	No standard	0.053 ppm
	1 Hour	0.25 ppm	No standard
Sulfur Dioxide	Annual Arithmetic Mean	No standard	0.030 ppm
	24 Hour	0.04 ppm	0.14 ppm
	1 Hour	0.25 ppm	No standard
Lead	30 Day Average	1.5 ug/m^3	No standard
	Calendar Quarter	No standard	1.5 ug/m^3

Ppm = parts per million; ug/m^3 = micrograms per cubic meter

Source: www.arb.ca.gov

TABLE 3.3.2-2
Total Emissions - Criteria Pollutants

Additional Project Vehicles-Per Day																
Employee commute				30												
Delivery trucks				2.4												
Total				32.4												
								NOx								
Additional Vehicle Trips/Day =			Total Vehicles x 2 =		64.8											
									U =	32.4	vehicles/day					
Emission Equation - Each Pollutant									T =	2	trips/day					
									L =	7.7	miles/trip					
	E = (U x T) x [(L x R) + S]								R =	0.97	grams/mile					
									S =	1.08	grams/trip					
	Where:															
	E equals total emissions (of each pollutant), in grams per day								E = (32.4 vehicles/day) x (2 trips/day) x [(7.7 miles/trip)(0.36 grams/mile)							
	U equals number of units in the project								+ 1.36 grams/trip]							
	T equals trip generation rate, or average trips per day															
	L equals average trip length in miles per trip								E =	553.9752	grams/day					
	R equals motor vehicle emission rate for each pollutant								E =	**1.22**	lb./day					
	S equals trip end emissions															
ROG								**PM10**								
	U =	32.4	vehicles/day						U =	32.4	vehicles/day					
	T =	2	trips/day						T =	2	trips/day					
	L =	7.7	miles/trip						L =	7.7	miles/trip					
	R =	0.36	grams/mile						R =	0.44	grams/mile					
	S =	1.36	grams/trip						S =	0	grams/trip					
	E = (32.4 vehicles/day) x (2 trips/day) x [(7.7 miles/trip)(0.36 grams/mile)								E = (32.4 vehicles/day) x (2 trips/day) x [(7.7 miles/trip)(0.36 grams/mile)							
	+ 1.36 grams/trip]								+ 1.36 grams/trip]							
	E =	267.7536	grams/day						E =	219.5424	grams/day					
	E =	**0.59**	lb./day						E =	**0.48**	lb./day					

TABLE 3.3.2-2(a)
Total Emissions - Criteria Pollutants-Construction Period

Additional Project Vehicles-Per Day			
Construction Worker commute		14	
Construction trucks		6	
Total		20	
Add.Vehicle Round Trips/Day =	Total Vehicles x 2 =		40

Emission Equation - Each Pollutant

E = (U x T) x [(L x R) + S]

Where:

E - equals total emissions (of each pollutant), in grams per day
U - equals number of units in the project
T - equals trip generation rate, or average trips per day
L - equals average trip length in miles per trip[1]
R - equals motor vehicle emission rate for each pollutant[2]
S - equals trip end emissions[3]

ROG

U =	20	
T =	2	trips/day
L =	7.7	miles/trip
R =	0.36	grams/mile
S =	1.36	grams/trip

E = (20 vehicles/day) x (2 trips/day) x [(7.7 miles/trip)(0.36 grams/mile) + 1.36 grams/trip]

E =	165.28	grams/day
E =	**0.36**	lb./day

NOx

U =	20	
T =	2	trips/day
L =	7.7	miles/trip
R =	0.97	grams/mile
S =	1.08	grams/trip

E = (20 vehicles/day) x (2 trips/day) x [(7.7 miles/trip)(0.97 grams/mile) + 1.08 grams/trip]

E =	341.96	grams/day
E =	**0.75**	lb./day

PM10

U =	20	
T =	2	trips/day
L =	7.7	miles/trip
R =	0.44	grams/mile
S =	0	grams/trip

E = (20 vehicles/day) x (2 trips/day) x [(7.7 miles/trip)(0.44 grams/mile) + 0.0 grams/trip]

E =	135.52	grams/day
E =	**0.30**	lb./day

[1] Table 9, BAAQMD CEQA Guidelines
[2] Table 10, BAAQMD CEQA Guidelines
[3] Table 11, BAAQMD CEQA Guidelines

TABLE 3.3.2-2(b)
Total Emissions - Criteria Pollutants-Operation Period

Additional Project Vehicles-Per Day													
Employee commute				0									
Delivery trucks				12									
Total				12									
							NOx						
Additional Vehicle Trips/Day =		Total Vehicles x 2 =			24								
								U =	12				
Emission Equation - Each Pollutant								T =	2	trips/day			
								L =	7.7	miles/trip			
	E = (U x T) x [(L x R) + S]							R =	0.97	grams/mile			
								S =	1.08	grams/trip			
	Where:												
	E - equals total emissions (of each pollutant), in grams per day							E = (12 vehicles/day) x (2 trips/day) x [(7.7 miles/trip)(0.97 grams/mile)					
	U - equals number of units in the project							+ 1.08 grams/trip]					
	T = equals trip generation rate, or average trips per day												
	L - equals average trip length in miles per trip[1]							E =	205.176	grams/day			
	R - equals motor vehicle emission rate for each pollutant[2]							E =	**0.45**	lb./day			
	S - equals trip end emissions[3]												
ROG							**PM10**						
	U =	12						U =	12				
	T =	2	trips/day					T =	2	trips/day			
	L =	7.7	miles/trip					L =	7.7	miles/trip			
	R =	0.36	grams/mile					R =	0.44	grams/mile			
	S =	1.36	grams/trip					S =	0	grams/trip			
	E = (12 vehicles/day) x (2 trips/day) x [(7.7 miles/trip)(0.36 grams/mile)							E = (12 vehicles/day) x (2 trips/day) x [(7.7 miles/trip)(0.44 grams/mile)					
	+ 1.36 grams/trip]							+ 0.0 grams/trip]					
	E =	99.168	grams/day					E =	81.312	grams/day			
	E =	**0.22**	lb./day					E =	**0.18**	lb./day			
	[1] Table 9, BAAQMD CEQA Guidelines												
	[2] Table 10, BAAQMD CEQA Guidelines												
	[3] Table 11, BAAQMD CEQA Guidelines												

TABLE 3.3.2-3
Carbon Monoxide (CO) Concentrations
Key Intersection

Additional Project Vehicles-Per Day											
Employee commute				30							
Delivery trucks				2.4							
Total				32.4							
Background CO Concentrations (C_o)								**Key Intersection-Access to Project Site**			
Current:								University and Bayfront Expressway			
	Hour	1992*	Factor**	2003				Bayfront Expressway - 4 lanes			
	1	4.50	0.67	3.02				University Avenue - 4 lanes			
	8	3.00	0.67	2.01							
								Total Traffic - Peak commute hour - AM			
Project Completion:								Primary Road (Bayfront Exp)			
	Hour	1992*	Factor**	2006				Current-Vehicles/hr			5869
	1	4.50	0.62	2.79				Future-No project			6091
	8	3	0.62	1.86				Future - project			6123
* Figures 3 & 4 BAAQMD CEQA Guidelines								Secondary Road (University Ave.)			
** Table 13 BAAQMD CEQA Guidelines								Current-Vehicles/hr			566
								Future-No project			626
Local Traffic CO Contribution								Future - project			658
For Each Road of Intersection											
$C_i = (C_{ri} \times V_i \times EF_i)/100{,}000$											
Where:	C_{ri} = Value from Table 12 BAAQMD CEQA Guidelines							Bayfront.	11.9	University	3.3
	V_i = Traffic volume in vehicles/hour										
	EF_i = Emission factor from Table 10 BAAQMD CEQA Guidelines							2003	5.69	2006	4.44
Total CO Concentrations = Background + Local Traffic											
Current CO Concentration				**Future CO Concentration-No Project**				**Future CO Concentration-Project**			
1-Hour Concentration-ppm				1-Hour Concentration-ppm				1-Hour Concentration-ppm			
Background =		3.02		Background =		2.79		Background =		2.79	
Bayfront Exp. =		3.97		Bayfront Exp. =		3.22		Bayfront Exp. =		3.24	
University Ave =		0.11		University Ave =		0.09		University Ave =		0.10	
Total		**7.10**		Total		**6.10**		Total		**6.12**	
8-hour Concentration-ppm				8-hour Concentration-ppm				8-hour Concentration-ppm			
Background =		2.01		Background =		1.86		Background =		1.86	
Local =		2.86		Local =		2.32		Local =		2.33	
Total		**4.87**		Total		**4.18**		Total		**4.19**	

TABLE 3.3.2-3(a)
Carbon Monoxide (CO) Concentrations-Construction Period
Key Intersection

Additional Project Vehicles-Per Day										
Employee commute				14						
Delivery trucks				6						
Total				20						
Background CO Concentrations (C_o)							**Key Intersection-Access to Project Site**			
Construction Year:							University and Bayfront Expressway			
	Hour	1992*	Factor**	2005			Bayfront Expressway - 4 lanes			
	1	4.50	0.63	2.84			University Avenue - 4 lanes			
	8	3.00	0.63	1.89						
							Total Traffic - Peak commute hour - AM			
* Figures 3 & 4 BAAQMD CEQA Guidelines							Primary Road (Bayfront Exp)			
** Table 13 BAAQMD CEQA Guidelines							Current-Vehicles/hr			5869
							Future - project			5889
							Secondary Road (University Ave.)			
							Current-Vehicles/hr			566
							Future - project			586
Local Traffic CO Contribution										
For Each Road of Intersection										
$C_i = (C_{ri} \times V_i \times EF_i)/100{,}000$										
Where:	C_{ri} = Value from Table 12 BAAQMD CEQA Guidelines						Bayfront	11.9	University	3.3
	V_i = Traffic volume in vehicles/hour									
	EF_i = Emission factor from Table 10 BAAQMD CEQA Guidelines						2005	4.63	2008	4.05
Total CO Concentrations = Background + Local Traffic										
Construction Year CO Concentration										
1-Hour Concentration-ppm				8-hour Concentration-ppm						
Background =		2.84		Background =		1.89				
Bayfront Exp. =		3.24		Local =		2.33				
University Ave =		0.09								
Total		**6.17**		Total		**4.22**				

TABLE 3.3.2-3(b)
Carbon Monoxide (CO) Concentrations-Operation Period
Key Intersection

Additional Project Vehicles-Per Day				
Employee commute				0
Delivery trucks				12
Total				12
Background CO Concentrations (C_o)				
Current:				
	Hour	1992*	Factor**	2005
	1	4.50	0.63	2.84
	8	3.00	0.63	1.89
Project Completion:				
	Hour	1992*	Factor**	2008
	1	4.50	0.59	2.66
	8	3	0.59	1.77
* Figures 3 & 4 BAAQMD CEQA Guidelines				
** Table 13 BAAQMD CEQA Guidelines				
Local Traffic CO Contribution				
For Each Road of Intersection				
$C_i = (C_{ri} \times V_i \times EF_i)/100{,}000$				
Where:	C_{ri} = Value from Table 12 BAAQMD CEQA Guidelines			
	V_i = Traffic volume in vehicles/hour			
	EF_i = Emission factor from Table 10 BAAQMD CEQA Guidelines			
Total CO Concentrations = Background + Local Traffic				

Current CO Concentration		**Future CO Concentration-No Project**		**Future CO Concentration-Project**	
1-Hour Concentration-ppm		1-Hour Concentration-ppm		1-Hour Concentration-ppm	
Background =	2.84	Background =	2.66	Background =	2.66
Bayfront Exp. =	3.23	Bayfront Exp. =	2.94	Bayfront Exp. =	2.94
University Ave =	0.09	University Ave =	0.08	University Ave =	0.09
Total	**6.16**	Total	**5.67**	Total	**5.68**
8-hour Concentration-ppm		8-hour Concentration-ppm		8-hour Concentration-ppm	
Background =	1.89	Background =	1.77	Background =	1.77
Local =	2.32	Local =	2.11	Local =	2.12
Total	**4.21**	Total	**3.88**	Total	**3.89**

Key Intersection-Access to Project Site			
University and Bayfront Expressway			
Bayfront Expressway - 4 lanes			
University Avenue - 4 lanes			
Total Traffic - Peak commute hour - AM			
Primary Road (Bayfront Exp)			
Current-Vehicles/hr			5869
Future-No project			6091
Future - project			6103
Secondary Road (University Ave.)			
Current-Vehicles/hr			566
Future-No project			626
Future - project			638
Bayfront	11.9	University	3.3
2005	4.63	2008	4.05

3.3.3 - Biological Resources

DRAFT

3.3.3 - Biological Resources

ENVIRONMENTAL SETTING

The Romic facility is located within the City of East Palo Alto, adjacent to the western shore of San Francisco Bay. Coastal habitats in the vicinity include salt marshes, brackish sloughs, coastal prairies and coastal sage scrub communities. Elevation of the Romic site ranges from 4 to 11 feet above mean sea level.

Figure 3.3.3-1 provides a regional overview of biological and natural resources in the area. As shown, Romic lies between the East Palo Alto urban area and the aquatic environments associated with San Francisco Bay. On the east, Romic is separated from Cooley Landing and a salt pond by a slough and levees. Another slough is located on the north side of the facility. Areas to the north and south are designated as the Ravenswood Open Space Preserve and Baylands Nature Preserve, respectively.

Sensitive habitats in the area include seasonal wetlands, tidal salt marshes, salt ponds and riparian habitat. Wetlands, located east and north of the Romic facility are areas of land that are frequently flooded or ponded, or have permanently or seasonally saturated soils. The slough north of Cooley Landing opens to the Bay and provides regular flooding of the tidal salt marshes, which in turn provide habitat for a diversity of fish and wildlife species.

Salt ponds in the vicinity provide raw material for the chemical industry and are a source of up to 750,000 pounds of brine shrimp annually (Final EIR, Nov 23, 1999). Salt ponds adjacent to the Bay are generally diked. The diked marshlands provide habitat for shore birds and other wildlife.

The study area evaluated for biological resources is shown on Figure 3.3.3.-2. It comprises an area of both industrial development and aquatic habitat associated with

San Francisco Bay. Within the study area, the Romic facility contains no viable ecological habitat, as concrete, asphalt, gravel or buildings cover most of the site.

Plant Communities

Plant communities in the vicinity of Romic occur in the developed, industrial area to the south and west of the facility and in the aquatic environment to the north and east. In the industrial area, plant communities consist primarily of planted vegetation that includes tree groves, street strips, and other landscaped features in an urban setting.

Plant communities to the north and east of the facility are comprised primarily of salt-tolerant aquatic species that occur naturally in the sloughs, wetlands and salt ponds.

- **Common Plant Species**

Tree species in the industrial area are mostly ornamentals or other non-native plants, including sweetgum (*Liquidambar styraciflua*) and blue gum (*Eucalyptus globules*). A few native plants are present including coast live oak (*Quercus agrifolia*) and California walnut (*Juglans californica* var. *hindsii*). Shrubs include Oleander (*Nerium oleander*) and native coyote brush (*Baccharis pilularis*). Herbaceous species include prickly ox-tongue (*Picris echiodes*), wild radish (*Rapainus sativus*), yellow star thistle (*Centaurea solstitialis*), and many other non-native invasive plants (Draft EIR, Amendments to General Plan, June 18, 2003).

Plant communities in the aquatic areas north and east of Romic are generally classified as northern coastal salt marsh, consisting of herbaceous and bushy, salt-tolerant and water-adapted plants (hydrophytes) that form a dense cover to a height of three feet. California cordgrass (*Spartina foliosa*) is often nearest the water, with common pickleweed (*Salicorniinica verginica*) upgradient, and a rich mixture of species located close to the high ground (JSA, 1993). California or Pacific cordgrass is listed as a species of local concern (SLC) on the U.S. Fish and Wildlife Palo Alto and Mountain

View 7.5-minute topographic quadrangles lists. Table 3.3.3-1 provides a list of representative plant species that are expected to be present in the vicinity of the Romic facility.

Salt marsh vegetation occurs along each of the channels north and south of the salt pond, and between the west levee and residential/industrial area where Romic is located. The only salt marsh within the salt pond is a small area in the southwest corner of the pond that is at a higher elevation than the remainder of the pond. The back marsh and wetland area adjacent to San Francisco Bay consists primarily of pickleweed (*Salicornia verginica*), with some alkali heath (*Frankenia grandifolia*) and Pacific cordgrass (*Spartina foliosa*). The salt pond is different from the rest of the salt marsh area, with reduced plant cover that consists primarily of pickleweed (*Salicornia verginica*), an introduced ice plant (JSA, 1993).

- **Sensitive Plant Species**

As shown in Table 3.3.3-1, two sensitive plant species are expected to be present in the study area which includes portions of the Palo Alto and Mountain View 7.5-minute topographic quadrangles. The Point Reyes birds-beak (*Cordylanthus maritimus* ssp. *palustris*) is a federal species of concern and appears on CNPS List 1B (rare, threatened, or endangered in California and elsewhere). The California seablite (*Suaeda californica*) is a federal endangered species that is on CNPS List 1B.

<u>Wildlife</u>

There is no viable habitat within the Romic facility; as concrete, asphalt, gravel or buildings cover most of the site. Terrestrial and avian wildlife species that are present or expected to be present in the study area primarily are associated with the aquatic environment to the north and east of Romic, especially San Francisco Bay. Representative terrestrial and avian wildlife species that are expected to be present in the vicinity are shown in Table 3.3.3-2.

- **Common Wildlife Species**

Bird surveys of the salt pond and adjacent marshes and slough were conducted to evaluate avian utilization of these habitats. During the surveys, 10,000 to 20,000 shorebirds were observed foraging at the Cooley Landing salt pond, and numerous songbirds were observed foraging in the surrounding grassland-urban area. A more abundant and diverse avifauna was observed during high tide than during low tide. At low tide, ruddy ducks (Oxyura Jamaicensis), Greater and lesser scaups (Aythya Marila; Aythya Affinis), American wigeons (Anas Americana), gadwalls (Anas Strepera) and herring gulls (Larus Argentatus) comprised an estimated 80 percent of all birds. At high tide, shorebirds were the dominant group, with western sandpipers (Calidris Mauri) comprising an estimated 75 to 90 percent of birds seen (JSA, 1993).

No mammals were observed on the study area during the initial reconnaissance or vegetation surveys conducted by Jenkins, Sanders, and Associates (JSA, 1993). Based on available literature and information of habitat types, mammalian species that reside in salt marsh habitats may occur in the study area. Representative mammalian species are shown in Table 3.3.3-2.

Species fed on the mudflat during the surveys, indicating that the salt pond provides a high tide foraging refuge for over-wintering shorebirds and waterfowl. The levee banks and surrounding wetland also provide forage for a variety of bird species (JSA, 1993). Representative bird species are shown in Table 3.3.3-2.

- **Sensitive Wildlife Species**

Based on the studies described above, there are 10 sensitive species of birds and two sensitive species of mammals in the study area. Of these, six birds are listed by the USFWS and/or CDFG as threatened or endangered. One of the mammals is a listed species, the salt marsh harvest mouse (*Reithrodontomys raviventris*).

- Mammals

Two mammalian species of special interest, the salt marsh harvest mouse and the salt marsh wandering shrew (*Sorex vagrans ssp. halicoetes*), have been observed in the

vicinity of the study area (JSA, 1993). Both species are endemic to central California salt marshes. The salt marsh harvest mouse, a federal and California endangered species, is found only in salt marshes, diked seasonal wetlands and peripheral grasslands within the San Francisco Bay historic wetlands margin. The wandering shrew, which occurs in the region immediately north of the study area (JSA, 1993), is a CDFG species of special concern (Natural Diversity Database, April 4, 2000). Because both species have been reported in the vicinity of the salt marsh, it is likely they also are present around the sloughs (JSA, 1993).

- Birds

Special status avian species are known to occur in the tidal wetlands and the Cooley Landing salt pond. The California clapper rail *(Rallus longirostis obsoletus*) is a federal- and state-listed endangered species known to forage and breed along the sloughs in the salt marshes in the vicinity of the study area. One clapper rail was seen during the survey (JSA, 1993). The Alameda (South Bay) song sparrow (*Melospiza jamaicensis coturniculus*) is a federal species of concern and CDFG species of special concern. It has been observed foraging along the levee banks and surrounding grasslands. The northern harrier (*Circus cyaneus*), also a CDFG species of special concern, has been observed foraging along the levees. The California black rail (*Laterallus jamaicensis* ssp. *corurniculus*), a CDFG Fully Protected and California Threatened Species, is likely to be found feeding along the slough channels of the study site

Other special status species that are known to inhabit coastal wetlands and adjacent uplands are unlikely to occur in the study area (JSA, 1993).

<u>Aquatic Species</u>

- **Common Aquatic Species**

The east and north sloughs in the study area are expected to be used seasonally by fish species that have been identified in similar habitats in the vicinity. Based on data from adjacent wetlands and other studies of the San Francisco Bay region, various fish species are likely to be present or become established. These include, but are not

limited to, top smelt (*Athrinops affinis*), arrow goby (*Clevelandia ios*), longjaw mudsucker (*Gillichthys mirabilis*), yellowfin goby (*Acanthogobius flavimanus*) and staghorn sculpin (*Leptocottus armatus*) (JSA, 1993). There are also a number of common benthic (bottom of the slough) invertebrates that could exist in the vicinity of the project site. These are listed along with the fish species in Table 3.3.3-3.

- **Sensitive Aquatic Species**

There are no known sensitive aquatic species in the vicinity of the project site.

APPLICABLE STANDARDS

Federal Endangered Species Act (FESA)

The FESA, as amended, extends legal protection to plants and animals listed as "threatened" or "endangered" by the U.S. Fish and Wildlife Service (USFWS). The USFWS derives its regulatory authority from Sections 7 and 9 of the FESA, which prohibits the import, export, sale, taking or possession of any federally listed species of fish or wildlife. Listed species are those that are threatened or endangered (in danger of extinction throughout all or a significant portion of their range) and have been the subject of final regulation and listing in the Federal Register. Also represented are those species officially proposed for listing in a notice of the Federal Register.

In addition to listed species, a second group of species is identified under the FESA. This group, known as candidate species or FCS, has not yet been the subject of a proposed or final ruling to become listed. While not provided protection under the FESA, agencies are required to consider candidate species in their planning process (California Natural Diversity Database, April 4, 2000).

California Endangered Species Act and Native Plant Protection Act

The CESA of 1984 and the California Native Plant Protection Act of 1977 are administered by the California Department of Fish and Game (CDFG). These acts include rare, endangered, threatened and candidate species of plants and wildlife. Candidate species are those that have been accepted by the state for review and

potential inclusion on the list of rare, threatened or endangered species. The rare designation applies to plants only and includes those plants that are not threatened or endangered, but that could become eligible to be listed as threatened or endangered due to decreasing numbers or further restrictions to habitat.

California also has identified plant and wildlife Species of Special Concern (SSC). These species are rare, restricted in geographic distribution or declining throughout their geographic range. Downward trends in distribution and population size have been documented for many plant and wildlife species over the last century. Where these patterns appear to be symptomatic of critical decline, the species may be recognized on various "watch lists" published by agencies and conservation groups. Sensitive species are to be considered in resource planning and management. These plant and wildlife species are considered candidates for state listing and are afforded protection from local destruction pursuant to CEQA (§15380).

California Native Plant Society List

The California Native Plant Society (CNPS) maintains an inventory of rare, threatened and endangered plants of the state and lists the plants in one of five categories. Plants of List 1A are plants presumed extinct in California, List 1B plants are rare, threatened or endangered in California and elsewhere, and List 2 plants are rare, threatened or endangered in California, but more common elsewhere. Plants for which the CNPS needs more information are on List 3, and plants of limited distribution are on List 4 (Inventory of Rare and Endangered Vascular Plants and California, Feb 1994).

City of East Palo Alto General Plan

The Conservation and Open Space Element of the East Palo Alto General Plan includes goals and policies to protect and maintain state natural resources such as wildlife (Reference 3). In particular, Conservation/Open Space Goal 2.0 is to "Preserve and enhance important natural resources and features." The corresponding Policy 2.1 is to "Conserve, protect, and maintain important natural plant and animal communities, such as the baylands, Cooley Landing, San Francisquito Creek, the shoreline, and

significant tree stands." The Implementation Program of the General Plan provides strategies to implement the above goal and policy. In addition, future developments in East Palo Alto potentially affecting wildlife habitat are subject to regulations of the USFWS and CDFG.

San Mateo County General Plan

The San Mateo County General Plan includes an inventory of county-wide fish and wildlife resources. The plan includes goals, policies, and programs for development, management, preservation and conservation of County resources (San Mateo General Plan, Nov 1986).

Bay Conservation and Development Commission

The Bay Conservation and Development Commission (BCDC), created in 1965 by the McAteer-Petris Act, has jurisdiction over all areas of San Francisco Bay subject to tidal action, including a shoreline band extending 100 feet inland. The BCDC also has jurisdiction over salt ponds, managed wetlands, and certain other waterways and marshlands. This agency has the authority to grant development permits within its San Francisco Bay jurisdiction for projects that involve filling, excavation or substantial change in use (Final EIR, Nov 23, 1999). The proposed project would not involve these activities, but areas near the Romic facility fall under BCDC jurisdiction.

THRESHOLDS OF SIGNIFICANCE

In accordance with Appendix G of the CEQA Guidelines (as amended July 22, 2003), an impact to biological resources could be considered significant if it would:

- Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the CDFG or USFWS.
- Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the CDFG or USFWS.

- Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to marsh, vernal pool, coastal etc.) through direct removal, filling, hydrological interruption or other means.
- Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors or impede the use of native wildlife nursery sites.
- Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance.
- Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan or other approved local, regional or state habitat conservation plan.

POTENTIAL ENVIRONMENTAL IMPACTS

- **Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the CDFG or USFWS**

Plant Species -

The proposed project will occur within the existing facility boundary. There is no viable ecological habitat onsite, because concrete, asphalt, gravel or buildings cover most of the facility. As a result, the proposed project will not have a significant adverse impact on plant species in the area, including candidate, sensitive or special status species.

Terrestrial Wildlife-

The proposed project will occur within the existing facility boundary. The facility is fenced, and there is no viable ecological habitat onsite, as concrete, asphalt, gravel

or buildings cover most of the facility. Impacts to wildlife do not occur as a result of existing, ongoing operations. As a result, the proposed project will not have a significant adverse impact on wildlife species in the area, including candidate, sensitive or special status species

An ecological risk assessment (ERA) was conducted to estimate the potential for exposure to terrestrial (and aquatic) receptors in the vicinity of the Romic facility (HHRA and Ecological Risk Assessment, Feb 19, 2001 and Addendum, HHRA and Ecological Risk Assessment, Sept 23, 2003). The study area for the ERA was the north-south trending slough immediately east of the facility (eastern slough) that connects to a smaller, east-west trending slough to the north (northern slough). These two sloughs are referred to as the “tidal slough”.

The ERA evaluated potential impacts to terrestrial mammals (raccoon) and shorebirds (California clapper rail) via exposure pathways. The exposure pathways include food chain exposure through ingestion of contaminated prey and sediment, as well as inhalation of volatile chemicals in slough sediments.

The results, using a food chain model, indicated that exposure to the two indicator species (California clapper rail and raccoon) resulted in hazard quotients that were below a level of concern and no adverse impacts are expected to birds and mammals foraging in the slough. (HHRA and Ecological Risk Assessment, Feb 19, 2001, p. 9-3).

Aquatic Species-

The ERA aquatic assessment evaluated the potential impacts to benthic (bottom of the slough) invertebrates. The exposure pathways include direct contact with and ingestion of sediments. The analysis and conclusions concerning benthic invertebrates was based on previous studies that included sediment and surface water laboratory bioassays, in situ bivalve bioassays, and a field community survey. An amphipod bioassay study showed that there was potential for deleterious effects

to occur to the benthic community utilizing the tidal slough. However, the cause of the observed toxicity couldn't be explained or defined by dose-response relationships. Three other studies, an insitu growth and survival of caged bivalves, a benthic invertebrate community analysis, and a study of the surface water overlying the slough sediment, all showed no deleterious effects. While the results of the studies were somewhat mixed, the ERA concluded that the direct measure of the community provides greater confidence than a single laboratory bioassay and is the best indicator of risk to the community. Based on the results of the benthic community analysis, a finding of "no unacceptable risk" for the benthic community living in the study area is supported (HHRA and Ecological Risk Assessment, Feb 19, 2001, pg. 9-4).

The ERA did not evaluate potential impacts to fish in the tidal slough, as feeding patterns and residence time in the slough were insufficient to support rigorous exposure models. Protection of benthic invertebrates would be expected to also protect fish as the invertebrates have much greater exposure to sediments than do fish.

The overall results and conclusions of the ERA were that the chemicals detected in slough sediment do not pose unacceptable risk s to local receptors.

- **Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the CDFG or USFWS**

  Two sensitive plant species, the Point Reyes birds-beak (*Cordylanthus maritimus* ssp. *palustris*), a federal species of concern, and the California seablite (*Suaeda californica*), a federal endangered species, are expected to be in the vicinity of the proposed project. In addition, there are sensitive mammals and birds that are expected to inhabit the area around the Romic facility. Mammals include the salt marsh harvest mouse (*Reithrodontomys raviventris*), a federal and California endangered species, and the salt marsh wandering shrew (*Sorex vagrans ssp.*

halicoetes), a CDFG species of special concern. Birds include The California clapper rail *(Rallus longirostis obsoletus*), a federal- and state-listed endangered species, the Alameda (South Bay) song sparrow (*Melospiza jamaicensis coturniculus*), a federal species of concern and CDFG species of special concern, the northern harrier (*Circus cyaneus*), also a CDFG species of special concern, and the California black rail (*Laterallus jamaicensis* ssp. *corurniculus*), a CDFG Fully Protected and California Threatened Species,

Since the proposed project will occur entirely within the boundary of the Romic facility where there is no riparian or other habitat for the species listed above, the project-related activities will not have a significant impact on these sensitive species or their habitat which exist outside the project site.

- **Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to marsh, vernal pool, coastal etc.) through direct removal, filling, hydrological interruption or other means**

  Wetlands exist to the east of the Romic facility in the form of marshes and the San Francisco Bay. Since the proposed project will occur entirely within the boundary of the Romic facility where there are no wetlands, the project-related activities will not affect the wetlands through direct removal, filling, hydrological interruption or other means. Therefore, there will be no significant adverse effect on the wetlands located outside the project site.

- **Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors or impede the use of native wildlife nursery sites**

  The proposed project will occur entirely within the boundary of the Romic facility. As a result, project-related activities will not significantly affect the movement of fish or wildlife, which occur outside the project site.

- **Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance**

  The policy of the City of East Palo Alto is to conserve, protect, and maintain important natural plant and animal communities, such as the baylands, Cooley Landing, San Francisquito Creek, the shoreline, and significant tree stands. The City's General Plan includes goals, policies, and programs for development, management, preservation and conservation of County fish and wildlife resources. Since the proposed project will occur entirely within the boundary of the Romic facility and will not affect any plant, fish, or wildlife habitat, it will not conflict with or significantly affect the City of East Palo Alto's programs for development, management and preservation of fish and wildlife resources. .

- **Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan or other approved local, regional or state habitat conservation plan**

  The proposed project will occur entirely within the boundary of the Romic facility and will therefore not conflict with the provisions of any habitat conversation plans.

CLOSURE

Implementation of the Closure Plan (CP) would result in dismantling activities and some worker trips to and from the Romic site. Dismantling activities would be temporary and trips generated would be fewer than under current conditions. The ultimate use of the facility following closure is unknown. Thus, no significant impacts to biological resources would result from implementation of the CP.

MITIGATION MEASURES

Operational procedures in place and utilized at Romic, including loading and unloading trucks within the boundaries of the facility, discharging wastewater to the sewer, and containment berms and basins to keep accidental releases within the site, reduce potential impacts to offsite plant and animal life to a level that is less than significant. Mitigation measures are not required.

LEVEL OF SIGNIFICANCE AFTER MITIGATION

Potential impacts to biological resources from the proposed project would be less than significant. As a result, mitigation is not required.

DRAFT

REFERENCES

1. McGriff, D. Zoologist, California Natural Diversity Database, Sacramento. Personal Communication with B. Bakrania. April 4, 2000.
2. California Native Plant Society. *Inventory of Rare and Endangered Vascular Plants of California*. Sacramento, February 1994.
3. City of East Palo Alto, June 1998 *Draft General Plan*. Prepared by Cotton/Beland/Associates, Inc., and Dinwiddie & Associates. June 1998.
4. San Mateo County Building and Planning Division. *San Mateo County General Plan*. November 1986. Amended 1992.
5. Cotton/Beland/Associates (CBA). *Final Program Environmental Impact Report, City of East Palo Alto General Plan*. November 23, 1999.
6. Amendments to the East Palo Alto General Plan and Zoning Ordinance and Infrastructure Improvements in the Ravenswood Business District, Draft Environmental Impact Report, State Clearinghouse No. 2003012113, June 18, 2003.
7. An Ecological Assessment of the Slough Adjacent to Romic Facility, East Palo Alto, California. Draft Final (JSA, 1993).
8. Human Health Risk Assessment and Ecological Risk Assessment for Romic's East Palo Alto Facility. Prepared by ENVIRON Corporation, February 19, 2001.
9. Addendum, Human Health Risk Assessment and Ecological Risk Assessment for Romic's East Palo Alto Facility. Prepared by ENVIRON Corporation, September 23, 2003.
10. Risk Assessment for the Tidal Slough, Romic Chemical Corporation, East Palo Alto, California. Draft. HLA Job No. 17460,039.02 (Harding Lawson Associates [HLA], 1991).
11. Biological Evaluation of the Cooley Landing Salt Pond and the Surrounding Wetlands (Jenkins, Sanders & Associates [JSA], 1992).

DRAFT

12. In Situ Growth Study for Macomb Baltic exposed to Sediments of the Slough Adjacent to the Romic Facility. Final Report (JSA, 1994); Addendum to the Final Report (JSA, 1995).

13. A computerized database search of the California Natural Diversity Database (CDFG, 2000) was conducted for the Palo Alto U.S. Geologic Service 7.5 minute topographic quadrangle to determine if there were known occurrences of state or federally-listed species recorded in the project area. In addition, the following were reviewed:

- List of California Terrestrial Natural Communities Recognized by the Natural Diversity Database. (January 1999).
- Special Animals (January 2000).
- State and Federally Listed Endangered and Threatened Animals of California (10/30/03).
- Special Plants List (January 2000).
- State and Federally Listed Endangered, Threatened and Rare Plants of California (10/30/03).
- California Native Plant Society's Inventory of Rare and Endangered Vascular Plants of California (10/13/03).
- Federal Endangered and Threatened Species that may be Affected by Projects in the Palo Alto and Mountain View 7 ½ Minute Quad. Last updated, October 21, 2003

DRAFT

TABLE 3.3.3-1

REPRESENTATIVE PLANT SPECIES
IN VICINITY OF ROMIC FACILITY
East Palo Alto, California

COMMON NAME	SCIENTIFIC NAME	STATUS
Special Interest Species		
Point Reyes birds-beak	*Cordylanthus maritimus* ssp. *palustris*	Federal SSC, CNPS List 1B
California seablite	*Suaeda californica*	Federally Endangered, CNPS List 1B
Common Plant Species		
Sweetgum	*Liquidambar styraciflua*	Common
Blue gum	*Eucalyptus globules*	Common
Coast live oak	*Quercus agrifolia*	Common
California walnut	*Juglans californica* var. *hindsii*	Common
Oleander	*Nerium oleander*	Common
Native coyote brush	*Baccharis pilularis*	Common
Prickly Ox-tongue	*Picris echiodes*	Common
Wild radish	*Rapainus sativus*	Common
Yellow star thistle	*Centaurea solstitialis*	Common
Pickleweed	*Salicornia verginica*	Common
Salt grass	*Distichlis spicata*	Common
Pacific/California cord grass	*Spartina foliosa*	Common-federal SLC
Alkali heath	*Frankenia grandifolia*	Common
Fathen	*Atriplex patula* ssp. *hastata*	Common
Jaumea	*Jaumea carnosa*	Common
Sandspurrey	*Spergularia marina*	Common
Coyote bush	*Baccharis pilularis*	Common
Creeping salt bush	*Atriplex semibaccata*	Common
Seaside arrow-grass	*Triglochin maritima*	Common
Marsh rosemary	*Limonium californicum*	Common

Source: HLA, 1991; JSA, 1993.
SSC = Species of Special Concern
CNPS = California Native Plant Society
SLC = Species of local concern

TABLE 3.3.3-2

REPRESENTATIVE WILDLIFE SPECIES
EXPECTED IN VICINITY OF ROMIC FACILITY
East Palo Alto, California

COMMON NAME	SCIENTIFIC NAME	STATUS
Mammals		
Special Interest Species		
Saltmarsh harvest mouse	*Reithrodontomys raviventris*	Federal and California Endangered Species
Saltmarsh wandering shrew	*Sorex vagrans* ssp. *halicoetes*	CDFG SSC
Common Species		
House mouse	*Mus musculus*	Common
California vole	*Microtus californicus*	Common
Raccoon	*Procyon lotor*	Common
Rat	*Rattus* sp.	Common
Western harvest mouse	*Reithrodontomys megalotus*	Common
Striped skunk	*Mephitis mephitis*	Common
Norway rat	*Rattus norvegicus*	Common
Birds		
Special Interest Species		
California clapper rail	*Rallus longirostrus* ssp. *obsoletus*	Federal and California Endangered Species
California least tern	*Sterna antillarum* ssp. *browni*	Federal and California Endangered Species
California black rail	*Laterallus jamaicensis* ssp. *coturniculus*	California Threatened Species
Northern harrier	*Circus cyaneus*	CDFG Special Concern Species-SSC
Alameda song sparrow	*Melospiza melodia* ssp. *pusillula*	Federal Species of Concern; California Special Concern Species-SSC
Common Species		
Marsh wren	*Cistothorus palustris*	Common
Red-winged blackbird	*Agelaius phoeniceus*	Common
Black-crowned night heron	*Nycticorax nyctocorax*	Common
Snowy egret	*Egretta thula*	Common
Great egret	*Casmerodius albus*	Common
Great blue heron	*Ardea herodias*	Common
Green heron	*Butorides virsecens*	Common
American avocet	*Recurvirostra americana*	Common
Long-billed dowitcher	*Limnodromus scolopaceus*	Common
Marbled godwit	*Limosa fedoa*	Common

Willet	*Catoptrophorus semipalmatus*	Common
Black-necked stilt	*Himantopus mexicanus*	Common
Killdeer	*Charadrius vociferous*	Common
Mallard	*Anas platyrhynchos*	Common
Pintail	*Anas acuta*	Common
Greater scaup	*Aythya marila*	Common
Lesser scaup	*Aythya affinis*	Common
Ruddy duck	*Oxyura jamaicensis*	Common
Western sandpiper	*Calidris mauri*	Common
Herring gull	*Larus argentatus*	Common
Gadwall	*Anas strepera*	Common
American wigeon	*Anas americana*	Common

Source: HLA, 1991; JSA, 1992.

FE – Federal endangered species
CE – California endangered species
FT – Federal threatened species
CT – California threatened species
CSC/SSC – California special concern species
FSC – Federal species of concern

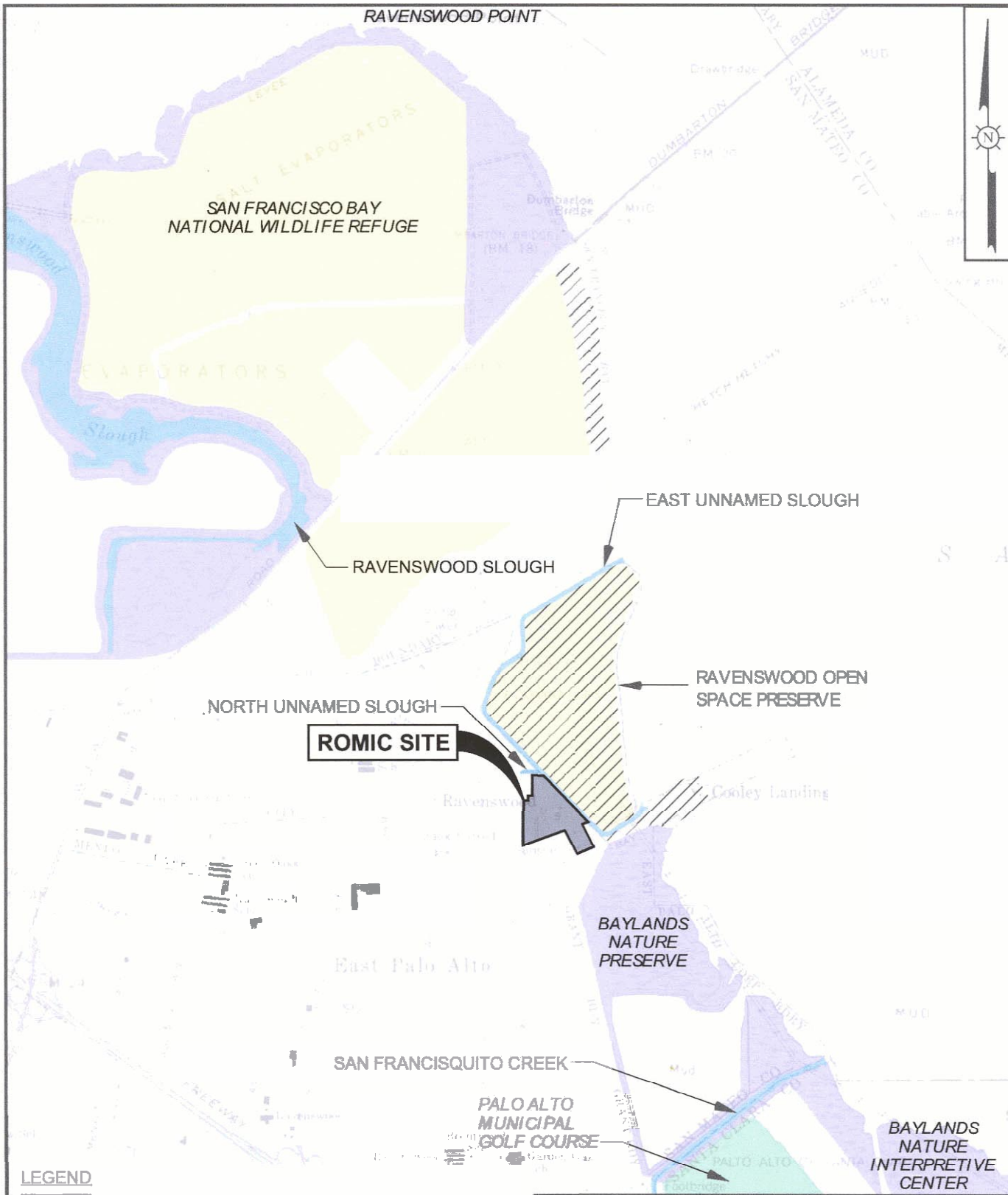
TABLE 3.3.3-3

REPRESENTATIVE BENTHIC INVERTEBRATE AND FISH SPECIES EXPECTED IN VICINITY OF ROMIC FACILITY
East Palo Alto, California

COMMON NAME	SCIENTIFIC NAME	STATUS
Benthic Invertebrates		
California brackish water snail	*Tryonia imitator*	Common
Yellow shore crab	*Hemigrapsus oregonensis*	Common
Ribbed mussel	*Ischadium dimissum*	Common
Mud snail	*Ilyanassa obsoleta*	Common
Tube-forming amphipod	*Corophium spinicorne*	Common
Tube-forming amphipod	*Grandidierella japonica*	Common
Isopod	*Sphaeroma quoyana*	Common
Polychaete	*Capitalla capitata*	Common
Polychaete	*Streblospio benedictii*	Common
Polychaete	*Eteone californica*	Common
Bivalve	*Gemma gemma*	Common
Bivalve	*Tapes japonica*	Common
Bivalve	*Macoma nasuta*	Common
Bivalve	*Macoma balthica*	Common
Fish		
Topsmelt	*Atherinops affinis*	Common
Northern anchovy	*Engraulis mordax*	Common
Arrow goby	*Clevelandia ios*	Common
Staghorn sculpin	*Leptocottus armatus*	Common
Yellowfin goby	*Acanthogobius flavimanus*	Common
Stickleback	*Gasterosteus aculeatus*	Common
Mosquitofish	*Gambusia affinis*	Common
Longjaw mudsucker	*Gillichthys*	Common

Source: HLA, 1991; JSA, 1993.

97-231EIR-07 REV.04/24/00



LEGEND

- SALT PONDS
- MARSHLANDS
- RAVENSWOOD OPEN SPACE PRESERVE

0 2,000 4,000 FEET

SCALE

REFERENCE: USGS 7.5 MINUTE TOPOGRAPHIC MAPS OF PALO ALTO (1973) AND MOUNTAIN VIEW (1981), CALIFORNIA

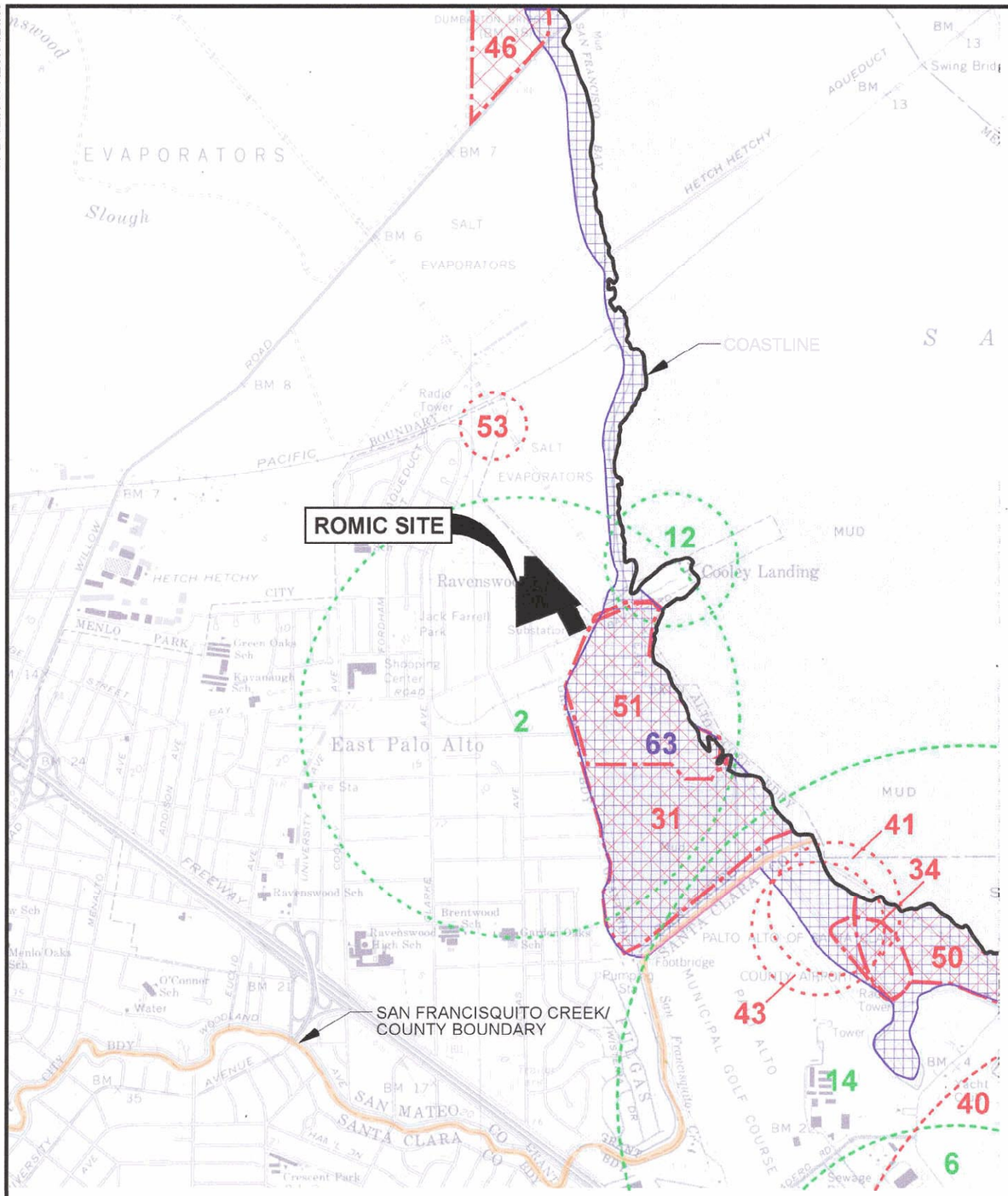
REGIONAL OVERVIEW

ROMIC ENVIRONMENTAL
TECHNOLOGIES CORPORATION
EAST PALO ALTO, CALIFORNIA

TRC

FIGURE 3.3.3-1

97-231EIR-08 REV.04/28/00



0 2,000 4,000 FEET

SCALE

REFERENCE: USGS 7.5 MINUTE TOPOGRAPHIC MAPS OF PALO ALTO (1973) AND MOUNTAIN VIEW (1981), CALIFORNIA

LEGEND

12	ELEMENT OCCURRENCE NUMBER
	INDICATES PLANT - ACCURACY CLASS 4-9
	INDICATES ANIMAL - ACCURACY CLASS 3
	INDICATES ANIMAL - ACCURACY CLASS 4-9
	INDICATES TERRESTRIAL NATURAL COMMUNITY - ACCURACY CLASS 2
	INDICATES ANIMAL - ACCURACY CLASS 3

Accuracy Class	Description
1	Specific bounded area with an 80 meter radius
2	Specific bounded area
3	Non-specific bounded area
4	Circular feature with a 150 meter radius (1/10 mile)
5	Circular feature with a 300 meter radius (1/5 mile)
6	Circular feature with a 600 meter radius (2/5 mile)
7	Circular feature with a 1000 meter radius (3/5 mile)
8	Circular feature with a 1300 meter radius (4/5 mile)
9	Circular feature with a 1600 meter radius (1 mile)
10	Circular feature with a 8000 meter radius (5 mile) (General element occurrence - not shown)

Specific Bounded Area

Non-Specific Bounded Area

SENSITIVE BIOLOGICAL RESOURCES WITHIN PROJECT AREA

ROMIC ENVIRONMENTAL TECHNOLOGIES CORPORATION
EAST PALO ALTO, CALIFORNIA

TRC

FIGURE 3.3.3-2

3.3.4 - Cultural Resources

DRAFT

3.3.4 - Cultural Resources

DRAFT

ENVIRONMENTAL SETTING

Regional Setting

The Romic facility is located in the Ravenswood Industrial Area in the northeasterly portion of the City of East Palo Alto, San Mateo County, west of San Francisco Bay. From review of previous Environmental Impact Reports prepared for the City of East Palo Alto in 1999 by Cotton Beland Associates, and in 1990 by the City of East Palo Alto, the area had been previously determined to be inhabited by the Ohlone Native American tribe until the late 1600s. The Ohlone Native American tribe was largely eliminated by disease brought by the Europeans when they arrived in California. In the 19th Century, during Spanish rule, East Palo Alto was the eastern border to Rancho de Las Pulgas, one of the largest ranches in the California territories.

After California became part of the United States in the mid-1800s, Americans started to settle in the area to search for gold. In 1848, Cooley's Landing was constructed at the end of Bay Road to promote and facilitate local trading. In 1850, the City of East Palo Alto, formerly Ravenswood, was founded.

During the 1900s, the farming community of Runneymede was established. In 1925 the cities of Runneymede and Ravenswood merged and became the City of East Palo Alto. The first major industry, Hiller Aircraft Company, arrived in 1947, and the City began a period of growth.

Archaeological Resources

A California Historical Resources Information System (CHRIS) database search was performed by the City of East Palo Alto (CHRIS, 2002), for the EIR of its Ravenswood Business District General Plan and Zoning Ordinance (DEIR, 2003). The following sites were identified:

The nearest recorded prehistoric site to the Romic facility, commonly referred to as "the University Village Site" (Site CA-SMA-77), is located approximately 0.4 mile northwest of the Romic facility and proposed project site. This site contains abundant artifacts as well as numerous burials, suggesting that the site was once a large Native American village. The site was discovered during the construction of the University Village subdivision in 1951. During 1951 and 1952, approximately 43 Ohlone burials and over 3,000 Ohlone artifacts were recovered from the site. The site was occupied approximately 3,000 years ago. Another prehistoric village site (CA-SMA-235) is located approximately 0.6 mile west/northwest of the Romic facility and a prehistoric shell and lithics scatter (CA-SMA-235) site is located approximately 0.8 mile northwest of the Romic Facility.

Paleontological Resources

While ancient fossilized remains of land vertebrates, fossilized beds of oysters, scallops, and clams, and fossilized plants have been found in the Bay Area, no paleontological resources have been identified in the City of East Palo Alto.

Historical Resources

There are no nationally registered historical sites in the City of East Palo Alto. However, the City has a list of sites it considers historical. One is an Ohlone artifact fount located on the northwest corner of the intersection of Bay Road and Cooley Avenue, about one-half mile west of the Romic facility. Another is Cooley's Landing/Port of Ravenswood that juts into San Francisco Bay at the eastern terminus of Bay Road, about one-half mile west of Romic (City of East Palo Alto, *Draft General Plan*, June 1998). In addition, two properties have been identified as potential historic resources. These are residences at 965 Weeks Street and 1001 Weeks Street located approximately 0.3 mile south/southwest of the Romic facility.

Project Site

There are no known historical, archaeological, or paleontological resources on the site. There are no known human remains on the site.

APPLICABLE STANDARDS

Cultural Resources

Applicable standards that pertain to cultural resources include the following:

- California Environmental Quality Act (CEQA) and its Implementing Guidelines.
- California Public Resources Code, Sections 5097 to 5097.6, 5097.9 to 5097.991, and 21083.
- East Palo Alto General Plan, Conservation and Open Space Element, Cultural Resources, Policies 1.1 and 1.2.

The CEQA Guidelines, specifically Appendix G, Sections 15064.5 and 15126.4(b), and the above-referenced sections of the Public Resources Code (PRC) are applicable to the assessment of the proposed project and whether it could result in significant impacts to cultural resources. In accordance with CEQA and the PRC, only impacts on "unique archaeological resources" or "historical resources" as defined within the guidelines and PRC are considered significant in terms of the potential effects of a proposed project.

The City of East Palo Alto General Plan contains policies to identify and conserve important cultural resources within the city. These include historical and archaeological resources. Policy 1.1 encourages the protection of important archaeological resources. Policy 1.2 protects and conserves buildings or sites of historic significance.

Paleontological Resources

Applicable standards that pertain to paleontological resources include the following:

- California Environmental Quality Act (CEQA) and its Implementing Guidelines
- California Public Resources Code, Sections 5097 to 5097.6.

According to Public Resources Code 5097.5(a), fossils can be removed from public lands only with the express permission of the agency having jurisdiction over the lands. In the case of the proposed project at the Romic facility, the agency with jurisdiction over the lands is the City of East Palo Alto (Aguirre, May 2004).

The City of East Palo Alto General Plan contains policies to identify and conserve important cultural resources within the city, including paleontological resources. Policy 1.1 encourages the protection of important paleontological resources.

THRESHOLDS OF SIGNIFICANCE

In accordance with Appendix G of the CEQA Guidelines (as amended July 22, 2003), an impact to cultural and/or paleontological resources would be considered to have a significant impact if it would:

- Cause a substantial adverse change in the significance of a historical resource as defined in §15064.5.
- Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5.
- Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature.
- Disturb any human remains, including those interred outside of formal cemeteries.

POTENTIAL ENVIRONMENTAL IMPACTS

This section analyzes and describes the impacts to historical, archaeological, and paleontological resources from implementation of the proposed project.

- **Cause a substantial adverse change in the significance of a historical resource as defined in §15064.5**

  The proposed project will be implemented entirely within the existing Romic facility site and therefore will have no significant impact on existing historical resources.

- **Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5**

  There are no known archaeological resources on the site. The proposed project will be implemented entirely within the existing site. There will be no grading, and soil disturbance from construction of new foundations will be minimal. Therefore there will be no significant impact on potential archaeological resources.

- **Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature**

  No paleontological resources have been discovered in East Palo Alto and there are no known paleontological resources on the site. The proposed project will be developed entirely within the existing site. There will be no grading, and soil disturbance from construction of new foundations will be minimal. Therefore there will be no significant impact on potential paleontological resources.

- **Disturb any human remains, including those interred outside of formal cemeteries**

  There are no known human remains on the site. The proposed project will be developed entirely within the existing site. There will be no grading, and soil disturbance from construction of new foundations will be minimal. Therefore there will be no significant impact on potential human remains.

DRAFT

CLOSURE

Implementation of the Closure Plan (CP) would result in dismantling activities and some worker trips to and from the Romic site. Since the site does not contain any known cultural or historical resources, there would be no impacts to such resources as a result of implementation of CP activities.

MITIGATION MEASURES

The project will not significantly impact historical, archaeological, or paleontological resources or human remains. Therefore no mitigation measures are required.

LEVEL OF SIGNIFICANCE AFTER MITIGATION

Mitigation is not required. The proposed project will not impact cultural and paleontological resources.

DRAFT

DRAFT

REFERENCES

1. Amendments to the East Palo Alto General Plan and Zoning Ordinance and Infrastructure Improvements in the Ravenswood Business District, Draft Environmental Impact Report, State Clearinghouse No. 2003012113, June 18, 2003.

2. Aguirre, Dennis, Senior Planner, City of East Palo Alto. Telephone conversation on May 18, 2004.

3. California Historical Resources Information System (CHRIS), Northwest Information Center, Record Search Results for City of East Palo Alto Ravenswood Business District and Four Corners, San Mateo County, File No: 02-354, November 26, 2002.

4. City of East Palo Alto, 2002
   General Plan Amendment Related to the Ravenswood Business District. Prepared by the Community Development Department, Planning division. May 31, 2002.

5. City of East Palo Alto, June 1998
   Draft General Plan. Prepared by Cotton/Beland/Associates, Inc., and Dinwiddie & Associates. June 1998.

6. City of East Palo Alto. *City of East Palo Alto Zoning Ordinance, 1995 Edition*. Adopted March 1996.

7. The East Palo Alto Revitalization Plan, Ravenswood Business District, Four Corners/Bay Road, University Avenue Corridor, Weeks Neighborhood, by Freedman Tung & Bottomley, Preliminary Draft, August 2000.

DRAFT

3.3.5 - Geology and Soils

DRAFT

3.3.5 - Geology and Soils

ENVIRONMENTAL SETTING

This section summarizes the known existing geologic and seismic conditions in the region, the City of East Palo Alto and within the Romic facility site boundary. Information is based on available published and unpublished maps and literature, pertinent site-specific studies, Resource Conservation and Recovery Act (RCRA) facility investigations, and risk assessments conducted as part of the Part B Permit Application.

Regional Setting

- **Regional Geomorphology**

The Romic facility is located within the central portion of the Coast Range Geomorphic Province. The Coast Range consists of a sequence of northwest trending mountains and valleys, aligned with and adjacent to the California coastline. The Coast Range extends eastward from the Pacific coast to the San Joaquin Valley and averages 60 miles in width. A dominant structural feature of the Coast Range Province is the northwest trending San Andreas Fault, which is located 10 miles to the west of the city of East Palo Alto.

The Romic facility is located within the Bay Plain physiographic region (HLA Risk Assessment for the Tidal Slough, April 2, 1991) about one-half mile west of San Francisco Bay, in the City of East Palo Alto. The land slopes towards the bay to the northeast and is characterized by generally flat topography (approximately 4 to 11 feet above mean sea level [msl]). Land to the west is fairly flat (approximately 20 to 40 feet above msl and rises up to approximately 2000 feet above msl at the Santa Cruz Mountains, approximately 10 miles south and west of the Romic site. The Bay Plain region also contains tidelands associated with San Francisco Bay (City of East Palo Alto, General Plan, June 1998).

The Bay Plain region is underlain by interbedded alluvial deposits and fine-grained marine deposits of Pleistocene to Recent age. Alluvial sediments consist predominantly

of gravel and sand deposits with some clay, and have the same makeup as the Niles Cone fan, which consists of sediments shed westward from the Diablo Range into the lowlands presently occupied by the San Francisco Bay. The marine deposits and estuarine muds are associated with deposition in shallow bay environments similar to the present-day San Francisco Bay. West of the region, Niles Cone alluvial deposits interfinger with alluvium of the San Francisquito Cone, which consists of sediments from the Santa Cruz Mountains to the west. General trends throughout the southern part of the San Francisco Bay indicate that the alluvial deposits are coarser grained and thicker toward the Santa Cruz mountains to the southwest (HLA Risk Assessment for the Tidal Slough, April 2, 1991).

- **Regional Stratigraphy**

Surficial geologic units within the City of East Palo Alto are mapped on Figure 3.3.5-1 and described below (Geologic Map of the Palo Alto and Part of the Redwood Point, San Mateo and Santa Clara Counties, 1993; Preliminary Quaternary Geologic Maps of Santa Clara Valley, Santa Clara, Alameda and San Mateo Counties, 1994; Preliminary geologic map of the onshore part of the Palo Alto 1:100,000 Quadrangle, California, 1993):

- *Qhl* - Natural levee deposits (Holocene). Loose, moderately to well-sorted sandy or clayey silt grading to sandy or silty clay. These deposits are porous and permeable and provide conduits for transport of ground water. Unit thickness is 50 feet near heads of fans.
- *Qhfp* – Flood plain deposits (Holocene). Unconsolidated to moderately consolidated, moderately sorted fine sand, silt and clayey silt deposited at the edge of coarse-grained alluvial fans (*Qhl*). Forms much of the flatland alluvial plain. Unit is generally less than 20 feet thick.
- *Qhb* - Basin deposits (Holocene). Unconsolidated, poorly sorted, plastic, organic clay and silty clay in poorly drained interfluvial basins, usually at margins of tidal marshlands. Locally contains thin well-

sorted interbeds of sand and fine gravel; contains modern vertebrate and invertebrate fossils. Unit is generally less than 15 feet thick.

- *Qhbm* - Bay mud (Holocene). Very poorly consolidated to well-consolidated, water-saturated organic clay and silt, with lenses of sand, shells and layers of peat. Bedding ranges from distinct to indistinct. Deposited in brackish to saline water along the margin of San Francisco Bay. When wet, has low to moderate potential for liquefaction under seismic loading conditions. Unit is at least 66 feet thick and may be as thick as 280 feet along the Bay margin.

- **Regional Soils**

Six soil units are found within the region of East Palo Alto (CBA, 1999):

- Botella-Urban land complex with 0 to 5 percent slopes (*108*). Botella soil (clay loam) is very deep and well drained. It formed in alluvium derived from various rock types and is found on alluvial fans, old flood plains and stream terraces. The Urban land consists of areas covered by asphalt, concrete, buildings and other structures. The material beneath these structures consists of soils that are similar to the Botella soil. Permeability is moderately slow. Runoff is slow and the hazard of water erosion is slight. The unit has few limitations for homesite and urban development.

- Novato clay with 0 to 1 percent slopes (*117*). This very deep, very poorly drained soil is found in saltwater marshes along the edges of San Francisco Bay. It formed in alluvium derived from various rock types. Permeability is slow in the Novato soil. Runoff is very slow and the hazard of water erosion is null. It is subject to tidal flooding. The water level fluctuates from 2 feet above the surface at high tide to 2 feet below the surface at low tide. This unit is used as wildlife habitat.

- Novato clay with 0 to 1 percent slopes, ponded (*118*). This very deep, very poorly drained soil is found in saltwater marshes along the edges of San Francisco Bay. It formed in alluvium derived from various rock types. Permeability is slow in the Novato soil. Runoff is very slow and the hazard of water erosion is null. This unit is used as evaporation ponds for the production of salt.

- Urban land (*131*). This unit consists of areas where more than 85 percent of the surface is covered by asphalt, concrete, buildings and other structures. This unit is used for homesite, urban and recreational development.

- Urban land-Orthents, cut and fill complex with 0 to 5 percent slopes (*132*). This unit is on coastal terraces and alluvial fans. The Urban land consists of areas that are covered by asphalt, concrete, buildings, and other structures. The material covered by these structures is similar to the Orthents. The Orthents consists of soils that have cut and filled for urban development. They are dominantly deep and are loam or clay loam. Runoff is slow and the hazard of water erosion is slight. Excavation for roads and buildings increases the risk of erosion. The unit has few limitations when used for homesite and urban development.

- Urban land-Orthents, reclaimed complex with 0 to 2 percent slopes (*134*). This unit is found in areas that were once part of San Francisco Bay and adjacent tidal flats. The Urban land consists of areas that are covered by asphalt, concrete, buildings, and other structures. The material covered by these structures is similar to the Orthents. The Orthents consists of soils that are very deep and are poorly drained and somewhat poorly drained. They are made up of soil material, gravel, broken cement and asphalt, bay mud, and solid waste material.

Runoff is slow and hazard of water erosion is low. If the unit is used for urban and recreational development, the main limitations are the susceptibility of the soils to subsidence and the highly variable soil properties, including texture and permeability. A high water table is also a limitation in some areas.

The City of East Palo Alto is on the northern edge of an area that has experienced an estimated 2.5 feet of subsidence since 1934 due to the withdrawal of groundwater. A groundwater recharge program, implemented in the Santa Clara Valley, has virtually eliminated subsidence in the area. Under current groundwater management practices, the likelihood of further subsidence is minimal (CBA, 1999).

Regional Faulting and Seismicity

The City of East Palo Alto is located in a region with active (i.e. Holocene) faults. The San Andreas Fault runs the length of the San Francisco peninsula, approximately 8 miles west of the City. The Hayward fault runs along the eastern side of San Francisco Bay, approximately 10 miles east of the Romic facility (Figure 3.3.5-2). Both are major, active faults. Movement along a major fault anywhere in the Bay Area would likely result in moderate to severe ground shaking in East Palo Alto. Surface faults indicating Holocene movement were not identified within a 3,000-foot radius of the site. The site is located within 200 feet of the eastern edge of the buried Redwood City Fault zone. This buried fault ceased movement prior to Holocene time (Pampeyan, E. H., 1993).

Additionally, some areas within East Palo Alto have been identified as having the potential for liquefaction in the event of seismic activity (City of East Palo Alto, June 1998).

DRAFT

Project Site

- **Site Geomorphology and Stratigraphy**

The Romic facility is located within the fine-grained portion of the basin deposits (identified as the Niles Cone fan) and in the Bay muds. Changes in the San Francisco Bay water level, historic flooding, and stream channel shifts have resulted in alternating units of coarse sand and fine-grained sediments immediately below the facility. The "Ravenswood boring," drilled near the Romic facility, extends to a depth of 555 feet into bedrock, indicating the great thickness of unconsolidated alluvial and fluvial material (RCRA Facility Assessment of Solid Waste Management Units at Romic Chemical Corporation, November 1989).

Surface elevations on the Romic site range between 4 and 11 feet above msl. Elevations are generally higher along the perimeter and lower in the center portion of the site.

- **Site Soils**

Most of the site is covered by asphalt paving except for a gravel-covered parking area. Beneath the asphalt and gravel, the site is capped by up to 8 feet of heterogeneous fill material, which is underlain by an estimated 500 to 1,000 feet of alluvial and estuarine sediments. The fill ranges in grain size from clay to gravel with organic material intermixed. The fill was characterized by drilling fifteen soil borings on the site as part of a Corrective Action Study required in the Hazardous Waste Facility Permit issued to Romic in May 1986. Underlying the fill material is a clay layer up to 10 feet thick. Underlying this clay, there is a sand and gravel layer, up to 9 feet thick. The fill material is underlain by four discontinuous water-bearing zones, which are discussed in greater detail in Chapter 3, Section 3.3.7.

- **Site Mineral Resources**

The City of East Palo Alto General Plan, Conservation and Open Space Element, contains goals and policies to protect and maintain natural resources such as water, soils, wildlife and minerals, and to prevent wasteful resource exploitation, degradation

and destruction. Important state mineral resources have not been designated within East Palo Alto (City of East Palo, June 1998).

- **Non-seismic Hazards**

Ground settlement, collapsible soils or subsidence are not anticipated under the Romic site; the underlying materials are unconsolidated bedrock or engineered fill. Landslides, mudslides and debris flows in the area are unlikely as the topography of East Palo Alto area is relatively flat.

Local Faulting and Seismicity

Known active faults do not exist within the City of East Palo Alto. The buried Redwood City fault zone runs northwest through the southeast side of the City, but is not active. Consequently, the potential for ground rupture is low, and an Alquist-Priolo Special Study Zone has not been established by the state for this area (Hart, E.W. and Bryant, W.A., 1997).

The City of Palo Alto lies within an area that has potential for strong ground movement/shaking during the next 30 years. Active faults in the area including the San Andreas (8 miles west) and the Hayward (10 miles east) can be expected to produce a range of ground movement/shaking at the project site. The unconsolidated aluvial material that underlies the project site could intensify ground movement/shaking in the event of an earthquake (Draft EIR, June 18, 2003).

Areas within East Palo Alto have been identified as having "low," "moderate" or "high" potential for liquefaction in the event of seismic activity. The Romic facility is located in the area of East Palo Alto east of University Avenue and north of Highway 101, which is in the "moderate to low" range. There is a 0.1 to 1.0 percent probability of liquefiable sediments in this area (City of East Palo, June 1998).

APPLICABLE STANDARDS

Applicable geological standards specific to hazardous waste treatment and storage facilities include:

- **Location Standards for Hazardous Waste Transfer, Treatment, Storage and Disposal Facilities (California Code of Regulations [CCR] Title 22, Division 4.5, Chapter 14, Article 2, Section 66264.18 and Chapter15, Article 2, Section 66265.18)**. These standards specify that facilities undergoing substantial modification where transfer, storage, or disposal of hazardous waste is conducted shall not be located within 61 meters (200 feet) of a fault that has had displacement in Holocene time (approximately the last 11,000 years).

  Additionally, the location standards state that a facility located within a 100-year floodplain or within the maximum high tide shall be designed, constructed, operated, and maintained to prevent washout of any hazardous waste by a 100-year flood or maximum high tide, unless the owner or operator can demonstrate that procedures are in effect that will cause the waste to be removed safely, before flood or tide waters can reach the facility, to a location where the wastes will not be vulnerable to flood waters. The Romic facility is located within a 100-year floodplain and is protected on its eastern boundary by an engineered levee two feet above the level of a 100-year flood.

  The location standards also state that non-containerized or bulk liquid hazardous waste cannot be placed in any salt dome or bed formation, underground mine, or cave.

- **Classification and Siting Criteria for Waste Management Units (CCR Title 23, Division 3, Chapter 15, Article 3, Sections 2530 and 2531).** These standards specify that all containment structures shall have a foundation and base capable of providing support for the structures and withstanding hydraulic pressure gradients to prevent failure due to settlement, compression or uplift as certified by a registered civil engineer or certified engineering geologist. In addition, waste management

units shall be located outside areas of rapid geologic change and areas subject to tsunamis, seiches and surges. Units may be located within these areas if designed, constructed and maintained to preclude failure as a result of such changes or events.

Standards Not Applicable

The California Alquist-Priolo Faulting Zone Act requires California Geological Survey (CGS) to delineate "special studies" zones along known active faults, with the intent of prohibiting human occupancy across traces of active faults. While the proposed project does not involve human occupancy, the Alquist-Priolo special studies zones and CGS's definition of active faults are used in this analysis. According to the California Public Resources Code, an "active fault" is defined as one with surface displacement within Holocene time (approximately the last 11,000 years). A "potentially active" fault is defined as one that has shown displacement in the Quaternary period (the last 1.6 million years) with unknown Holocene activity. If CGS determines that a Quaternary fault has not produced surface displacement during the Holocene period, the fault is considered "not active."

Although the City of East Palo Alto and the site are located in a seismically active area, active faults are not located beneath the site or within 200 feet of the site (Hart, E.W. and Bryant, W.A., 1997).

THRESHOLDS OF SIGNIFICANCE

In accordance with Appendix G of the CEQA Guidelines, (as amended July 22, 2003), an impact to earth resources could be considered significant if it would:

- Expose people or structures to potential substantial adverse effects, including the risk of loss, injury or death involving:
  - Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault.

- Strong seismic ground shaking
- Seismic-related ground failure, including liquefaction
- Landslides

- Result in substantial soil erosion or the loss of topsoil.
- Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse.
- Be located on expansive soil, as defined in Table 1-1-B of the Uniform Building Code (1994), creating substantial risks to life or property.
- Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater.
- Be located in an area containing naturally occurring asbestos.

POTENTIAL ENVIRONMENTAL IMPACTS

- **Expose people or structures to potential substantial adverse effects, including the risk of loss, injury or death involving:**
  - **Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault.**
  - **Strong seismic ground shaking**
  - **Seismic-related ground failure, including liquefaction**
  - **Landslides**

There is no evidence that any active or potentially active faults are located beneath the site. Therefore, the potential for fault-related ground rupture is low. Due to the presence of numerous faults in the project region, there is a moderate to high potential that the site will experience ground shaking over its lifetime during an earthquake. The

site area is relatively flat and has been previously graded. Thus, the potential for landslides is low.

The Romic facility withstood the large 1989 Loma Prieta earthquake caused by the San Andreas fault with little or no damage to tanks or process units or releases of hazardous waste/material. Romic recently had an engineering seismic risk analysis performed for its facility (Plecnik, 2003). Based on the analysis of three boring soil samples, the study concluded that liquefaction is unlikely to occur at the site.

As a result of the analysis of potential ground shaking, a number of tanks and process units will be brought up to the 1997 Uniform Building Code and the International Building Code 2000 standards for seismic design at the site location. These standards will insure that tanks and columns will be able to withstand an average peak acceleration of 0.66-0.72 g. The tanks and columns with high seismic risk will be removed, replaced and/or reinforced as soon as possible under temporary authorizations from DTSC (see Project Description, Section 2.5). The remainder of the upgrades will be performed as part of this project. Upon completion of the upgrades, particularly the high-risk upgrades to be performed as soon as possible, exposure of people or structures to potential substantial adverse effects due to an earthquake, will be less than significant.

- **Result in substantial soil erosion or the loss of topsoil.**

  Soil erosion from water or wind due to implementation of the proposed project will be less than significant since the site is predominantly covered with concrete or asphalt.

- **Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse.**

The soils in the area have a low to moderate potential for liquefaction due to the high water table and soil types present. The seismic risk analysis cited above concluded that liquefaction is unlikely to occur at the Romic facility and that the maximum probably settlement under the design earthquake would be less than 0.6 inches. Therefore, the potential impact of unstable soil on the project is less than significant.

- **Be located on expansive soil, as defined in Table 1-1-B of the Uniform Building Code (1994), creating substantial risks to life or property.**

Soils in the project vicinity consist of a clay loam which has a moderate shrink-swell potential. The existing facility has not been affected by expansive soils and the impact of expansive soil on the proposed project is expected to be less than significant.

- **Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater**

A septic system will not be used at the facility and therefore there will be no impact on soil from use of a septic or other water disposal system.

Be located in an area containing naturally occurring asbestos

The proposed project will not be located in an area containing naturally occurring asbestos. Therefore, there will be no impact from naturally occurring asbestos.

CLOSURE

Implementation of the Closure Plan (CP) would result in removal of many of the onsite facilities. However, closure would not include removal of onsite pavement, as pavement is considered the final cover for the project site. Thus, no significant impacts to geologic or soil resource would result from implementation of the CP.

MIGATION MEASURES

Potential impacts to geology and soils as a result of the proposed project will be less than significant. Therefore, mitigation measures are not required.

LEVEL OF SIGNIFICANCE AFTER MITIGATION

Impacts to geology and soils from the proposed project are less than significant. Mitigation is not required.

DRAFT

REFERENCES

1. Hart, E.W. and Bryant, W.A. 1997, Fault-Rupture Hazard Zones in California; Alquist-Priolo Earthquake Fault Zoning Act with Index to Earthquake Fault Zones Maps: California Division of Mines and Geology (now the California Geological Survey) Special Publication 42 (with supplements added in 1999-refer to http://www.consrv.ca.gov/cgs/rghm/ap/index.htm.

2. HLA. Risk Assessment for the Tidal Slough, Romic Chemical Corporation, East Palo Alto, California, Draft. April 2, 1991.

3. City of East Palo Alto. City of East Palo Alto General Plan, June 1998. Adopted December 1999.

4. Pampeyan, E. H. Geologic Map of the Palo Alto and Part of the Redwood Point
7-1/2' Quadrangles, San Mateo and Santa Clara Counties, California. U.S. Geologic Survey, Map I-2371. 1993.

5. Helley, E.J. Preliminary Quaternary Geologic Maps of Santa Clara Valley, Santa Clara, Alameda, and San Mateo Counties, California: A Digital Database. U.S. Geologic Survey Open-File Report 94-231. 1994.

6. Brabb, E. E. *Preliminary geologic map of the onshore part of the Palo Alto 1:100,000 Quadrangle, California*. U.S. Geologic Survey Open-File Report 93-271. 1993.

7. Cotton/Beland/Associates (CBA). Final Program Environmental Impact Report, City of East Palo Alto General Plan. November 23, 1999.

DRAFT

8. Pampeyan, E. H. Geologic Map of the Palo Alto and Part of the Redwood Point 7-1/2' Quadrangles, San Mateo and Santa Clara Counties, California. U.S. Geologic Survey, Map I-2371. 1993.

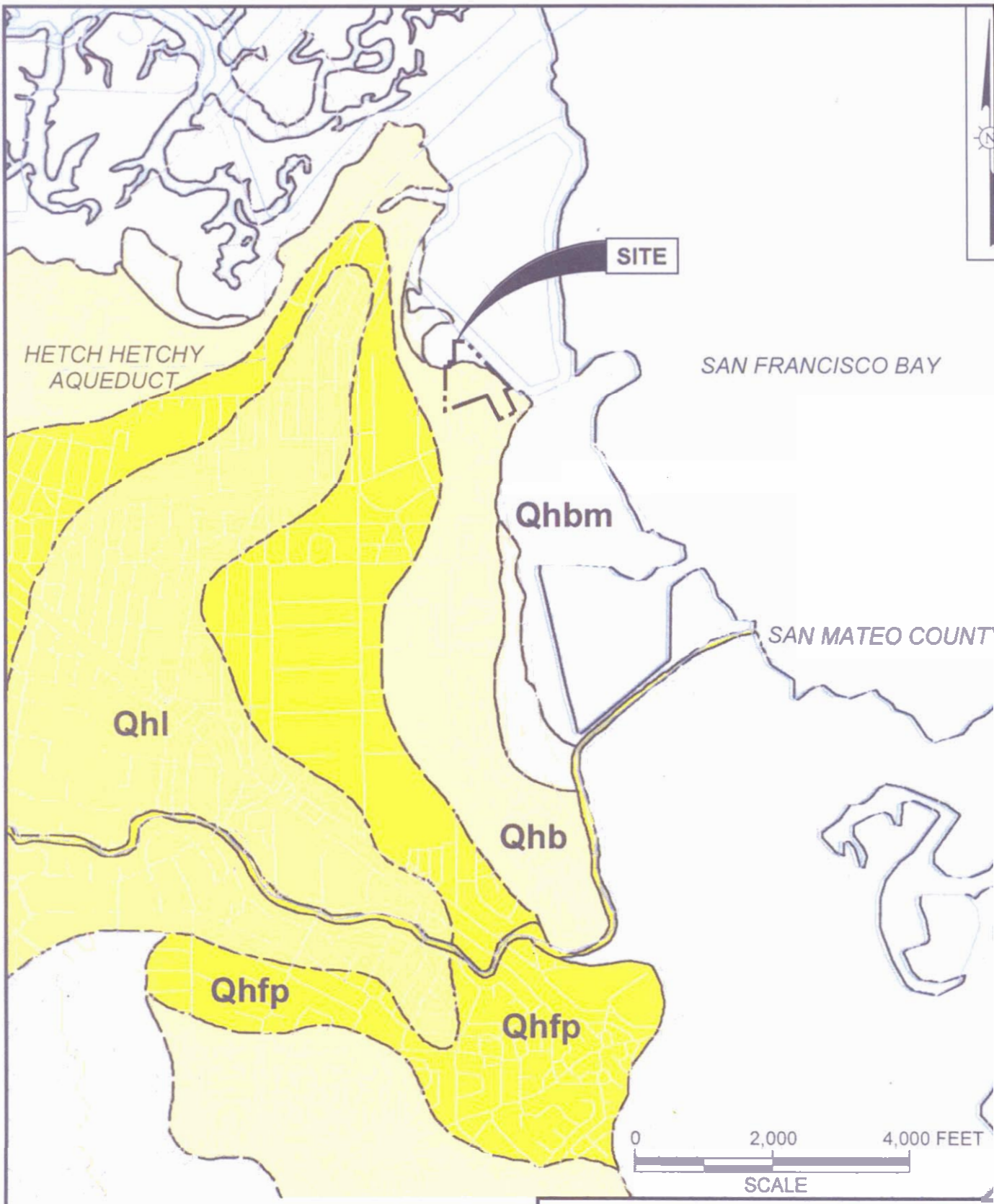
9. Dames & Moore. RCRA Facility Assessment of Solid Waste Management Units at Romic Chemical Corporation, East Palo Alto, California. November 1989.

10. Amendments to the East Palo Alto General Plan and Zoning Ordinance and Infrastructure Improvements in the Ravenswood Business District, Draft Environmental Impact Report, State Clearinghouse No. 2003012113, June 18, 2003.

11. Plecnik, Joseph M., Ph.D., P.E., Summary of Seismic Risk Analysis of 111 Tanks and Ten Columns at the Romic Facility in East Palo Alto, CA. Report Number 03-11-22, November 26, 2003

DRAFT

97-231EIR-06 REV.03/30/00



LEGEND

Qhfp	FLOODPLAIN DEPOSITS (HOLOCENE)
Qhl	NATURAL LEVEE DEPOSITS (HOLOCENE)
Qhb	FLOODBASIN DEPOSITS (HOLOCENE)
Qhbm	ESTUARY DEPOSITS (BAY MUD)(HOLOCENE)

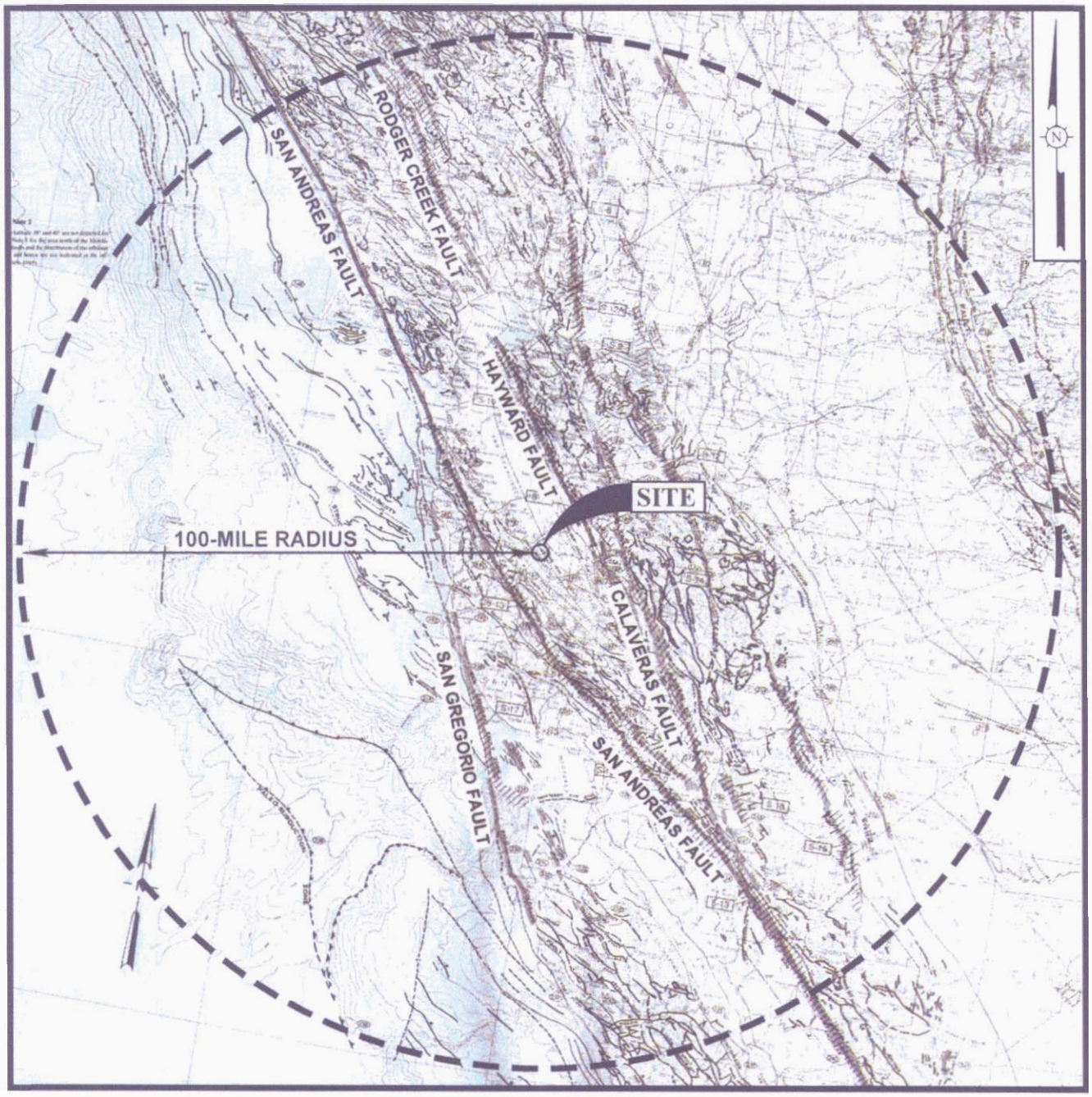
REFERENCE: U.S. GEOLOGICAL SURVEY (HELLEY, 1994).

GEOLOGIC MAP

ROMIC ENVIRONMENTAL TECHNOLOGIES CORPORATION
EAST PALO ALTO, CALIFORNIA

TRC

FIGURE 3.3.5-1



0 30 60 MILES

SCALE

NOTE: SHADED FAULTS INDICATE ACTIVE FAULTS WITH HOLOCENE DISPLACEMENT (DURING THE LAST 11,000 YEARS).

SOURCE: JENNINGS, 1994.

PRINCIPAL FAULTS IN THE EAST PALO ALTO REGION

ROMIC ENVIRONMENTAL TECHNOLOGIES CORPORATION
EAST PALO ALTO, CALIFORNIA

TRC

FIGURE 3.3.5-2

3.3.6 - Hazards and Hazardous Materials

DRAFT

3.3.6 - Hazards and Hazardous Materials

ENVIRONMENTAL SETTING

The Romic facility is located on an irregularly shaped site of approximately 14 acres that connects to Bay Road within the City of East Palo Alto (Figure 2-1). A paved driveway that is approximately 480-feet in length provides access to the site from Bay Road. The site is paved throughout, except for a narrow strip of unpaved area along the perimeter and a gravel parking area near the Bay Road entrance. The site is sloped to capture drainage and is underlain by a system of drains and sumps.

Romic primarily recycles waste solvents to produce reusable solvents, blends wastes to produce fuel-grade materials, recycles antifreeze and treats industrial wastewater. Most of the industrial wastes shipped to Romic for recycling and processing are solvents, antifreeze, industrial wastewater and other oil-based chemicals. These general wastes comprise about 95 percent of the materials recycled and processed at Romic. The remainder consists of dyes, photo processing chemicals, detergents/soaps, adhesives, metals, household hazardous waste and coatings.

Most of the hazardous waste processed at the Romic facility is recycled as product to industry, developed into fuel, reused on site, or discharged to the sewer. About five percent is non-recyclable and is shipped offsite to a hazardous waste landfill (Figure 2-2). Approximately 80-90 percent of the hazardous waste sent offsite consists of blended fuels for use at cement kilns. The remainder consists of liquids (primarily) and solids sent for offsite treatment (e.g., incineration, stabilization) and/or landfilling. Hazardous solids sent offsite for landfilling include the following:

- Empty containers
- Contaminated absorbents
- Contaminated soil
- Production trash (rags, wood, plastic, etc.)
- Sludges from air or water pollution control

DRAFT

The quantity of hazardous waste shipped to landfill has varied from year-to-year and currently averages approximately 1,000 to 1,200 tons per year. The vast majority of this waste (e.g., 99.9 percent) consists of wastes received from offsite sources for processing at the facility. Onsite generated hazardous wastes represent less than 0.1 percent of the total shipped offsite and generally arise from vehicle and equipment maintenance and building management activities.

The following are not accepted by Romic for treatment or processing:

- Radioactive wastes
- Explosives
- Reactive wastes (cyanides, sulfides)
- Polychlorinated biphenyls (PCBs) in excess of 50 ppm
- Medical Waste
  - Etiological wastes (disease research wastes)
  - Pathogenic wastes (disease producing wastes)
- Certain pesticide/herbicide wastes

A detailed description of activities that are currently authorized and that are contained in Romics's proposed permit renewal and modification request can be found in Chapter 2.0 – Project Description.

APPLICABLE STANDARDS

Federal

- Transportation

Federal law governing the transportation of hazardous materials/waste includes the Hazardous Materials Transportation Act of 1975 and the Hazardous Materials Transportation Uniform Safety Act of 1990. Regulations implementing these statutes are found at Title 49, Code of Federal Regulations, Parts 171-180. Particularly applicable to shipments of hazardous materials and waste to and from the Romic facility are: Part 172, Hazardous Materials Table, Special Provisions, Hazardous Materials Communications, Emergency Response Information and Training Requirements; Part

DRAFT

173, Shippers-General Requirements For Shipments and Packaging; and Part 177, Carriage By Public Highway. The U.S. Department of Transportation enforces these regulations. The Resource Conservation and Recovery Act (42 United States Code (U.S.C.) section 6901 *et. eq.*) also requires that transporters of hazardous waste obtain an EPA identification number, comply with the manifest system, and take certain actions in response to hazardous waste discharges that occur during transport.

- Storage

There is no single comprehensive federal law governing the storage of hazardous materials and waste. However, portions of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) apply to hazardous materials and the Resource Conservation and Recovery Act (RCRA) apply to hazardous waste.

An amendment to CERCLA, the Superfund Amendments and Reauthorization Act of 1986 (SARA), governs hazardous materials. The applicable part of SARA is Title III, otherwise known as the Emergency Planning and Community Right-To-Know Act of 1986 (EPCRA). Title III requires states to establish a process for developing local chemical emergency preparedness programs and to receive and disseminate information on hazardous materials present at facilities in local communities. The law primarily provides for planning, reporting and notification concerning hazardous materials. Key sections of the law are:

- Section 304—when there is a release of a hazardous material in excess of its RQ, Section 304 requires immediate notification to the local emergency planning committee (LEPC) and the state emergency response committee (SERC). If the release is of a regulated quantity (RQ) of a CERCLA-listed hazardous substance, notification must also be given to the National Response Center in Washington, D.C. (RQs are listed in 40 CFR Part 302, Table 302.4). These notifications are in addition to notification given to the local emergency response team or fire personnel.

DRAFT

- Section 311— requires that either Material Safety Data Sheets (MSDSs) for all hazardous materials or a list of all hazardous materials be submitted to the SERC, LEPC, and the local fire department.
- Section 313—requires annual reporting of hazardous materials released into the environment either routinely or as a result of an accident.

RCRA and its implementing regulations found at 40 Code of Federal Regulations (CFR) Part-260 et seq. regulates hazardous waste. Subtitle C controls the generation, transportation, treatment, storage and disposal of hazardous waste through a comprehensive "cradle to grave" system of hazardous waste management techniques and requirements. It applies to all states and to all generators of hazardous waste above certain levels of waste produced.

The Federal Clean Water Act requires that a Spill Prevention Control and Countermeasures Plan (SPCC) be prepared if oil is stored onsite in certain quantities. The purpose of the requirement is to prevent discharge of oil into navigable waters of the United States or adjoining shorelines.

State of California

-Transportation

California law governing the transportation of hazardous materials and waste is contained in Division 20, Chapter 6.5, Article 6 and Article 13 of the California Health and Safety Code (H&SC). Regulations implementing this statute are found in Title 22, Division 4.5, Chapter 13 of the California Code of Regulations (CCR). In addition, the California Vehicle Code, CHP Regulations (13 CCR), and the California State Fire Marshal Regulations (19 CCR) also apply to the transportation of hazardous materials and waste.

The H&SC and its regulations require that a transporter of hazardous waste hold a valid registration issued by the DTSC and liability insurance. A Uniform Hazardous Waste Manifest signed by the generator and transporter must be in the transporter's

DRAFT

possession, and hazardous wastes can only be delivered to authorized facilities. If a release occurs during transportation, the transporter must take immediate action to protect human health and the environment. Vehicles and containers used to transport hazardous waste must be in sound condition and designed to contain hazardous waste. DTSC administers and insures compliance with the H&SC and its regulations that apply to transportation of hazardous materials and waste.

California Vehicle Code, sections 31301-31309 control, among other things, the routes that vehicles use in transporting hazardous materials and wastes. The California Highway Patrol is responsible for enforcement of these sections of the Vehicle Code.

- Storage

H&SC section 25500 et seq. and implementing regulations in title 19 of CCR section 2620 et seq. requires local governments to regulate local businesses' storage of hazardous materials if in excess of certain threshold quantities. The law also requires that entities storing hazardous materials be prepared to respond to releases. Those using and storing hazardous materials are required to submit a hazardous materials "Business Plan" to their local administering agency (AA) and to report releases to their AA and the Governor's Office of Emergency Services. The threshold quantities for hazardous materials are 55 gallons for liquids, 500 pounds for solids, and 200 cubic feet for compressed gases measured at standard temperature and pressure.

RCRA allows the states to develop their own programs to regulate hazardous waste. The programs developed must be at least as stringent as RCRA. California has developed its own program by passage of the California Hazardous Waste Control Law (HWCL). This statute is found in Health and Safety Code Sections 25100 et seq. Administration and enforcement of the HWCL was originally with the former Department of Health Services (DHS), which was transferred to the Cal/EPA and became the DTSC. Some of the elements of implementation of the HWCL were delegated to local health departments by DHS via a Memorandum of Understanding. The DTSC continues to recognize these local programs. The HWCL performs essentially the same

DRAFT

regulatory functions as RCRA and is the law that actually regulates hazardous waste at the Romic Facility, since the State of California has elected to develop its own program. The HWCL also regulates hazardous wastes that are not classified as hazardous waste under RCRA.

The Aboveground Petroleum Storage Act, found in the Health and Safety Code at sections 25270 to 25270.13, is intended to ensure compliance with the federal Clean Water Act. The law applies if a facility has an aboveground petroleum storage tank with capacity greater than 660 gallons or combined above ground storage tank (AST) capacity greater than 1,320 gallons and there is a reasonable possibility that the tank(s) may discharge oil in "harmful quantities" into navigable waters or adjoining shore lands. If a facility falls under these criteria, it must prepare a Spill Prevention Control and Countermeasures plan (SPCC). The law does not cover AST design, engineering, construction and other technical requirements, which are usually determined by local fire departments. Romic has a SPCC plan in place that provides for current operations. The current SPCC plan lists two aboveground gasoline storage tanks (650 and 500 gallons) and three aboveground diesel storage tanks (8,800, 5,000, and 6,500 gallons) as used for petroleum storage. These tanks are used to store fuel for facility vehicles. The quantity and size of petroleum storage tanks will not change with implementation of the proposed project.

Codes

The design, engineering, and construction of hazardous materials/waste storage and dispensing systems will be in accordance with all applicable codes and standards, including:

The Uniform Fire Code, Article 80 - This is the hazardous materials section of the Fire Code. Local fire agencies or departments enforce this code and can require that a Hazardous Materials Management Plan and a Hazardous Materials Inventory Statement be prepared.

DRAFT

State Building Standard Code, Health and Safety Code §18901 to 18949 - This code incorporates the Uniform Building Code, Uniform Fire Code, and Uniform Plumbing Code.

THRESHOLDS OF SIGNIFICANCE

In accordance with Appendix G of the CEQA Guidelines (as amended July 22, 2003) under Hazards and Hazardous Materials, an upset associated with the proposed project could be considered to have a significant impact if it would:

- Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials.

- Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment.

- Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school.

- Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, create a significant hazard to the public or the environment.

- For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, the project would result in a safety hazard for people residing or working in the project area.

DRAFT

- For a project within the vicinity of a private airstrip, the project would result in a safety hazard for people residing or working in the project area.

- Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan.

- Expose people or structures to a significant risk of loss, injury or death involving wild land fires, including where wild lands are adjacent to urbanized areas or where residences are intermixed with wild lands.

DRAFT

POTENTIAL ENVIRONMENTAL IMPACTS

- **Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials**

  Romic has a Process Safety Management (PSM) program in place, including safe operating procedures for handling the different types of materials processed to reduce the likelihood and/or severity of a hazard occurring during routine operations. The program includes a process hazard analyses, training for employees and contractors, a mechanical integrity program, a hot work permit program, management of change procedures, and an incident investigation program.

  In developing the PSM program, Romic undertook process hazard analyses (PHAs) whereby units at the facility were evaluated for potential causes of upset conditions. All aspects of the various processes were reviewed to identify possible operational hazards. The PHAs were conducted using a Hazard Operability Study methodology and a "what-if" checklist. Existing safe work practices and operations procedures at Romic incorporate the results of these PHAs. Representative PHAs that have been performed are shown in Table 3.3.6-1.

  The probability of an offsite release of liquid waste will not change from what has already been permitted. This is because the allowed throughput of the plant will remain at 154,512 gallons per day and the already permitted truck traffic associated with that maximum production should not increase. The quantity of solid waste that can be processed will increase and truck traffic with that waste will also increase. To the extent that solid waste presents an offsite release hazard, that hazard will increase. The quantity of drums and containers for storage that will be permitted under the project will increase substantially, and this increased number may increase the probability of an onsite release from a tank or container.

DRAFT

Offsite Release

There is the potential for a release to occur as a result of a truck accident. Based on existing operations, most of the materials shipped to and from Romic consist of blended fuel, lacquer wash, wastewater or refined product. Materials are transported via truck, typically in 55-gallon drums or in tankers. Large bulk volume products, such as blended fuel, are transported via tanker truck in volumes of 2,500 or 5,000 gallons. Reclaimed products such as solvents are transported in either 55-gallon drums or in tankers. Wastewater is usually shipped to Romic in 55-gallon drums or tankers.

Under existing procedures, a driver of any motor vehicle that transports hazardous materials must receive training that covers general awareness/familiarization with the duties, safety and function-specific aspects of the job, such as transport of hazardous waste. In addition, the driver must receive training on the safe operation of the motor vehicle that will be transporting hazardous materials (49 CFR 177.816). Romic drivers complete a 24-hour HAZWOPER training course that meets the requirement of 49 CFR Part 172 Subpart G. The training includes proper maintenance of shipping papers and manifests, labels, placards and markings required for shipping, pre-transportation packaging, loading, transporting, unloading, and how to respond in the event of a spill, leak or other emergency.

The drivers also are required to receive training in the applicable requirements of 49 CFR Parts 390 to 397 (Federal Motor Carrier Safety Regulations) and the procedures necessary for safe operation of the motor vehicle. Training includes:

- Pre-trip inspection
- Use of vehicle controls and equipment, including emergency equipment
- Maneuvering in tunnels, on bridges and at railroad crossings
- General operation of the vehicle (safe turning, backing, braking, parking)

DRAFT

- Requirements pertaining to attendance of vehicle, parking, smoking, routing, incident reporting
- Loading and unloading materials (includes compatibility and segregation of cargo in a mixed load, package handling and securing).

Accidental Onsite Release

There is the potential for the release of a chemical from an onsite storage tank (spill) at the facility. However, there is no additional potential for the release of a chemical from an onsite storage tank above baseline associated with the proposed project. Existing equipment features that act to prevent or contain spills include automatic valve shutoffs for isolating problems in a line or a storage/process unit and secondary containment provided by berms around the tank farms. The berms isolate groups of tanks and prevent the spread of liquids. Operating procedures to prevent onsite releases include a mechanical integrity program that ensures standardized work practices and equipment maintenance, and thorough inspections by a certified electrician of electric units annually and routine inspections monthly. The boilers are inspected at least annually. Process units are inspected at least quarterly. Visual inspections of all storage and process units are conducted daily.

In addition to these measures to prevent onsite releases, there are existing emergency response protocols for promptly responding to a spill. Romic personnel are often present in the process and storage areas of the facility during the day shift and these areas are subject to walkthroughs by Romic personnel or its security contractor during all hours for potential rapid identification and response to a spill. The effect of passive mitigation measures (dikes or berms around tank areas) is to reduce the potential extent of a spill. The use of a vacuum truck to remove substantial liquid spills is the standard emergency spill response protocol at Romic.

DRAFT

Fire or Explosion

There is the potential for a fire or explosion as a result of facility operations. Potential ignition sources include sparking from metal-to-metal contact, sparking from electrical contacts, and high-temperature surfaces. Possible fuel sources for a fire/explosion include vapor pockets in and out of units. However, there are existing features of onsite equipment and operational procedures to prevent and/or minimize the extent of a fire or explosion.

- **Equipment Features**

The storage and process units at Romic have design features to prevent fire or explosion. In addition, piping and transfer devices between units have backflow protection to prevent the spread of fire. Process lines have automatic valve shutoffs for isolating problems in the line or in a unit. Secondary containment is provided by berms around the tank farms. The berms isolate groups of tanks and prevent the spread of liquids. Storage units are located within secondary containment, are grounded, and are not heated or pressurized.

Process units can be heated and/or under pressure or vacuum. All heating systems in process units are indirect, so there is no direct flame, and there are no electric heating elements used in the process units. Process units that are under pressure conform to standards of the America Society of Mechanical Engineers and have pressure differential monitors that sound alarms if the pressure increases above the set point. These units have resealable pressure relief devices to vent in the case of excess pressure. Level controls prevent overfilling.

The drum liquefaction systems are nitrogen-blanketed and maintained under positive pressure to reduce the potential for fire. A nitrogen blanket system continuously pumps nitrogen gas into a closed unit. This lowers or entirely displaces oxygen in the vapor space within the unit and prevents reactive vapors from oxidizing.

DRAFT

- **Onsite Operating Procedures**

Employees are trained in the identification of preventive measures to reduce the likelihood of fire or explosion. All employees receive Hazardous Waste Operations and Emergency Response (HAZWOPER) training, and refresher courses are conducted annually. In the labpack operations, where small quantities of a wide range of chemicals are received and handled, professional chemists handle the material to ensure a high level of safety. Heavy tools used by employees and contractors must be non-sparking, and electric devices must be certified as intrinsically safe. In the process area, operation of vehicles is restricted. Any spark-producing activity outside the welding shop requires a Hot Work Permit.

A mechanical integrity program is implemented to ensure standardized work practices and equipment maintenance. A certified electrician conducts a thorough inspection of electric units annually and a non-intrusive inspection monthly. The boiler is inspected at least annually. Process units are mechanically inspected at least quarterly. Visual inspections of all storage and process units are conducted daily.

Management of change procedures are in place to ensure that changes (such as unit changes, process stream changes) that are not "in kind" are evaluated on the basis of process safety. A management of change report is filed in advance of such change and is reviewed to ensure the change is consistent with operating procedures and safety precautions.

Materials Profiling and Management

Materials are profiled and pre-approved by Romic prior to being received. The physical parameters and compatibility with other materials is determined, and a treatment method is identified. This information is stored in the Romic database. Once the material is received, it is sampled to confirm the profile. If the profile is not confirmed, the material is isolated and either profiled appropriately or returned to the generator.

DRAFT

Each unit of material received is labeled with a bar code and electronically verified with the use of hand-held computers tied to the facility's main database. The label accompanies the material throughout the process and is verified by computer prior to being combined with any other material. The computer also flags incompatible combinations to avoid the occurrence of a situation that could lead to a fire or explosion.

Emergency Response Planning

Romic has an emergency response team in place for communicating with emergency responders. Fire trucks and emergency responders stationed at the facility can be at the site of an emergency in less than 2 minutes. The facility emergency response plan is coordinated with the Menlo Park and Palo Alto Fire Departments.

Romic has an incident investigation program to ensure than any incidents or "near misses" are thoroughly investigated and documented. Romic also has a safety committee that convenes monthly and reviews any incidents related to worker or operations safety. Any reported incidents are reviewed, and preventive measures are discussed and implemented to avoid future incidents.

- **Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment.**

Three inadvertent or accidental release of hazardous materials/waste conditions were identified by DTSC and evaluated in the Human Health Risk Assessment (February 19, 2001) to determine their potential impact:

DRAFT

- Offsite Release - spill from a truck transporting hazardous material/waste to or from the facility;
- Accidental release of hazardous material/waste from a tank or container at the facility;
- Explosion or fire at the facility.

Offsite Releases -

The Human Health Risk Assessment (HHRA) assumed that a release from a truck could result in a pool of liquid on the ground and that evaporation and wind entrainment from the pool prior to cleanup would result in ambient air concentrations of the spilled material. The location of the hypothetical spill was placed at the intersection of two main roads between the Bayshore Freeway and Romic. The Menlo Park Fire Department was assumed to take up to 5 minutes to respond, evacuate the area and commence cleanup.

The HHRA, in order to represent a reasonable worst-case situation, assumed the spill would be 100 percent methanol and would cover one-quarter of the intersection. The reasonable worst-case receptor was assumed to have the following exposure to emissions from the spill:

- Initial location = 10 meters from the spill
  - Initial exposure = up to 5 minutes to the 5-minute peak average concentration;

- Emergency responders would clear bystanders from the area up to 5 minutes after the spill.

- Subsequent location = at least 100 meters from the spill
  - Subsequent exposure = up to 25 minutes to the 25-minute peak concentration;

DRAFT

- Resultant total exposure = time-weighted average over 30 minutes to the 5 minute and 25 minute exposures above.

- Also considered a longer exposure at 100 meters of up to 55 minutes to the 55-minute peak concentration; Resultant total exposure = time-weighted average over 60 minutes to the 5 minute and 55 minute concentrations.

The 30-minute and 60-minute exposures to methanol concentrations that were calculated for the intersection spill were then compared to the National Institute of Occupational Safety and Health (NIOSH) Immediately Dangerous to Life and Health (IDLH) standard (1994) and the Emergency Response Planning Guidelines – Level 3 (ERPG-3) standard was used (1999).

The IDLH for methanol is 6,000 ppm. The HHRA estimated the 30-minute exposure from the truck spill to be 2,715 ppm, less than one-half of the IDLH. The ERPG-3 for methanol is 5,000 ppm. The HHRA estimated the 60-minute exposure from the truck spill to be 1,565 ppm, about one-third of the ERPG-3. In summary, the results of the offsite release analyzed in the HHRA are as follows:

SCENARIO	**STANDARD**	**STANDARD VALUE (Methanol)**	**ESTIMATED EXPOSURE**	**ESTIMATED ÷ STANDARD**
30-minute exposure; 5 minutes at 10 meters and 25 minutes at 100 meters	IDLH	6,000 ppm	2,715 ppm.	**45 %**
60-minute				

DRAFT

exposure; 5 minutes at 10 meters and 55 minutes at 100 meters	ERPG-3	5,000 ppm	1,565 ppm.	**31 %**

The results of the offsite release analysis show that the maximum credible release of a chemical routinely processed and trucked to/from the Romic facility will not have a significant impact on human life or health.

Release at Facility -

The HHRA assumed that the contents of a 12,000-gallon tank containing100 percent 1,1,1-trichloroethane would spill into the bermed area of Tank Farm Q, located in the western portion of the Romic site. This scenario actually overstates risk, as the facility does not (and most likely will never again) store 1,1,1-trichloroethane in bulk. The facility also does not expect to store any materials in bulk with the same combination of volatility and toxicity characteristics as 1,1,1-tricholorethane.

Tank Farm Q is the tank storage area located closest to sensitive receptors. The spill would be contained by the berm around the tank farm and therefore limited to the area contained within the berm. In the analysis, it was assumed that evaporation from the spill would last up to one hour. The reasonable worst-case receptor was identified as the nearest residential receptor, which is located about one-quarter mile west of Tank Farm Q.

As in the offsite spill scenario, concentrations were calculated for periods of 30 and 60 minutes, before the spilled chemical was cleaned up and evaporation into the atmosphere halted. The same standards, IDLH and ERPG-3, used in the offsite analysis were also used. The IDLH for 1,1,1-trichloroethane is 700 ppm. The 30- minute concentration calculated for the spill was 68 ppm, or less than 10 percent

DRAFT

of the IDLH. The ERPG-3 for 1,1,1-trichloroethane is 350 ppm. The 60-minute concentration calculated for the spill was 65 ppm, or less than 20 percent of the ERPG-3.

In summary, the results of the onsite release analyzed in the HHRA are as follows:

SCENARIO	STANDARD	STANDARD VALUE (1,1,1-trichloroethane)	ESTIMATED EXPOSURE	ESTIMATED ÷ STANDARD
30-minute evaporation period and exposure of nearest sensitive receptor located approximately ¼ -mile away.	IDLH	700 ppm	68 ppm.	**9.7 %**
60-minute evaporation period and exposure of nearest sensitive receptor located approximately ¼ -mile away.	ERPG-3	350 ppm	65 ppm.	**18.6%**

The results of the onsite release analysis show that the maximum credible release of a chemical routinely processed and stored at the Romic facility will not have a significant impact on human life or health.

Explosion and/or Fire at Facility -

There is a theoretical potential for simultaneous failure of safety systems, resulting in a fire or explosion at Romic. In the event of such occurrence, onsite emergency response protocols would be implemented, and offsite emergency response would be at the facility within minutes. Based on the history of fire and explosion at the

DRAFT

facility since 1984 (Table 3.3.6-2), the process safety systems and design features, the fire/explosion suppression and response systems, and process safety program, there is little potential for an offsite impact from an onsite fire or explosion.

For a fire or explosion to occur at Romic, it would be necessary for three safety systems to fail simultaneously. Based on a hazard evaluation of the site facilities and processes, it is unlikely that this would occur, especially as several of these systems are intrinsic design features of the units themselves. In the event of less than three simultaneous safety system failures, the worst-case scenario is not expected to be a fire or explosion.

As a result of the conditions described above, there is no real potential for the failure of three safety systems, resulting in a fire or explosion at Romic. Onsite operations and programs are in place to prevent incidents and to quickly mitigate potential incidents before they develop. In addition, in response to each historical incident, Romic has implemented measures to prevent recurrence in the future. As a result, the potential for a fire or explosion that would result in offsite impacts is less than significant.

Release from Seismic Event -

Romic has performed a seismic risk analysis of 111 tanks and 10 columns at the facility (Plecnik, 2003). The analysis considered ground shaking, flooding, soil liquefaction, and soil settlement potential from a design earthquake as specified in the 1997 Uniform Building Code (UBC) and the International Building Code 2000 (IBC). The analysis concluded that the potential exists for a sufficiently strong earthquake to topple or rupture tanks and other containers at the Romic facility leading to on-site releases of hazardous waste/material.

Following the analysis for ground-shaking impacts from a seismic event, the 111 tanks and 10 columns were assigned to one of the following risk categories:

DRAFT

A) - No Risk

The structural system or its elements in this category will experience no structural damage to the entire structure or any of its elements under the design earthquake, based on seismic forces calculated per the 1997 UBC, with an importance factor of 1.5. No spillage of liquid is anticipated in this category, and no risk to health or safety of the operating personnel.

B) – Low Risk

In this category, minor, local structural damage to elements (shell, knuckle region, anchor lugs, anchor bolts, footing, etc.) of the structure will occur under seismic forces prescribed by the 1997 UBC, with an importance factor of 1.5. No spillage of the liquid is anticipated in this category, and no risk to health and safety of the operating personnel. No global structural collapse is anticipated.

C) – Medium Risk

In this category, severe local structural damage to elements (shell, knuckle region, anchor lugs, anchor bolts, footing, etc.) of the structure will occur under seismic forces prescribed by the 1997 UBC, with an importance factor of 1.5. Minor spillage of liquid is anticipated. No risk to health and safety of operating personnel is anticipated. No global structural collapse is anticipated. Many tanks at Romic are located in areas where few, if any, personnel are present and spillage will be contained by secondary containment.

D) – High Risk

In this category, severe local structural damage to elements (shell, knuckle region, anchor lugs, anchor bolts, footing, etc.) of the structure will occur under seismic forces prescribed by the 1997 UBC, with an importance factor of 1.5. Spillage of liquid is anticipated. Risk to health and safety of operating personnel is anticipated. Global structural collapse may or may not occur. Health and safety of operating personnel may be jeopardized, since global collapse of a

DRAFT

structure may occur before employees can safely leave containment areas. Spilled liquid will be contained in secondary containment.

E) – Catastrophic Risk

In this category under 1997 UBC design seismic loads, global collapse of structures will occur, resulting in extreme health and safety hazards to operating personnel. Structures in this category should be immediately removed from service.

The engineering analysis of the impact to tanks, reboilers and columns from an earthquake causing design seismic loads as specified in the 1997 UBC (a level VIII earthquake on the Mercalli Intensity scale), resulted in the following assigned risk categories for the tanks, columns, and reboilers.

DRAFT

RISK CATEGORY	TANKS COLUMNS REBOILERS	PROPOSED ACTION	PLANNED COMPLETION
A	7	Reinforce anchor bolts, lugs, etc.	May 2007
B	44	Reinforce anchor bolts, foundation, etc.	May 2007
C	34	Reinforce anchor bolts, anchor lugs, foundation, etc.	May 2006
D	Tanks A-J	Cease using 10 cone bottom tanks, remove tanks and replace with 9 flat bottom tanks.	Cease use by July 1, 2004, Start closure process, replace piecemeal or upon receipt of Part B Permit
	Reboilers 24 & 32	Additional anchorage, bracing and foundation work on reboilers & their mezzanine.	completed
E	NONE	None required	N/A

Tanks and reboilers in risk categories A through C do not have the potential to cause a significant impact to operator human life and health or the environment in the event of a substantial earthquake. While some release of hazardous materials/waste could occur, the liquid would be captured in secondary containment. The tanks and reboilers in risk category D were identified as having the potential to result in a substantial release of hazardous material/waste

DRAFT

(which would be captured by secondary containment) and cause a significant impact on operator human life and health in the event of a Level VIII or larger earthquake. However Romic has ceased use of the tanks and reinforced the reboilers as of July 1, 2004 which has resulted a less than significant potential for impact to human life and health, and also reduced the potential for an inadvertent release of hazardous material/waste to less than significant.

An analysis of the probability of a release due to a seismic event is included in Chapter 3.0, Section 3.3.5, Geology and Soils.

- **Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school.**

The Romic Facility is not located within one-quarter mile of an existing or proposed school. Trucks carrying hazardous materials/waste and using the route off of Highway 101 to University Avenue to Bay Road and then to the facility will not come within one-quarter mile of a school. Trucks using Highway 84 to University Avenue to Bay Road and then to the facility will pass within one-quarter mile of Costano Elementary School located approximately 600 feet east of University Avenue. The probability of a release of hazardous materials/waste from a truck traveling on University Avenue near the school is considered unlikely. However, even if there was a release opposite the school, the HHRA analysis of the maximum credible release described above shows that the threat to human health or life at or near the school would be less than significant.

- **Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, create a significant hazard to the public or the environment.**

DRAFT

The Romic facility is not included on the list of hazardous materials sites compiled pursuant to Government Code Section 65962.5.

- **For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, the project would result in a safety hazard for people residing or working in the project area.**

The Romic facility is included within the airport land use plan for the Palo Alto Airport. It is outside the airport safety zone which is primarily for the safety of takeoffs and landings but is within the 355-foot height above ground level height restriction for structures (see Chapter 3.0, Section 3.3.11, Transportation and Traffic). The takeoff flight path is designed so that aircraft departing the Palo Alto Airport do not pass over the Romic facility. Since the facility and proposed project are outside the airport safety zone and aircraft traffic does not pass over the facility and project, the project will result in a less than significant safety hazard for people residing or working in the project area and for persons in the surrounding area.

- **For a project within the vicinity of a private airstrip, the project would result in a safety hazard for people residing or working in the project area.**

The proposed project site is not located in the vicinity of a private airstrip.

- **Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan.**

The proposed project does not impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan. The proposed project will be located entirely within the existing Romic facility and will not place structures, vehicles, or other objects within the pathway or route of an adopted emergency response or evacuation plan.

DRAFT

- **Expose people or structures to a significant risk of loss, injury or death involving wild land fires, including where wild lands are adjacent to urbanized areas or where residences are intermixed with wild lands.**

  The proposed project will be located entirely within the existing facility which consists of tanks, equipment, buildings, and paved surfaces. There are no wild lands at or in the vicinity of the proposed project, so the risk or loss, injury, or death from a wildfire is less than significant.

CLOSURE

The CP identifies steps necessary to close the facility at the end of its intended operating life, and applies to the operating units. These steps include decontamination of facility equipment and structures, sampling and analysis, and removal of all hazardous waste reside and contaminated soil. The ultimate use of the facility following closure is unknown.

All dismantling and related closure activities would be conducted in accordance with the approved Closure Plan. Thus, impacts from hazards or hazardous materials would be less than significant.

MITIGATION MEASURES

Adequate operational procedures and construction-related activities are in place and will be utilized to reduce potential impacts from risk of inadvertent release of hazardous waste/materials to a level that is less than significant. No mitigation measures are required.

LEVEL OF SIGNIFICANCE AFTER MITIGATION

Mitigation measures are not required. Potential impacts related to risk of inadvertent release of hazardous waste/materials remain less than significant.

DRAFT

REFERENCES

1. Human Health Risk Assessment and Ecological Risk Assessment for Romic's East Palo Alto Facility, Draft, by Environ Corporation, February 19, 2001.

2. National Institute of Occupational Safety and Health (NIOSH), 1994, *Pocket Guide to Chemical Hazards.* Public Health Service, Center for Disease Control.

3. American Industrial Hygiene Association (AIHA), 1999. *1999 Emergency Response Planning Guidelines.*

4. Amendments to the East Palo Alto General Plan and Zoning Ordinance and Infrastructure Improvements in the Ravenswood Business District, Draft Environmental Impact Report, State Clearinghouse No. 2003012113, June 18, 2003.

5. Plecnik, Joseph M., Ph.D, P.E., Summary of Seismic Risk Analysis of 111 Tanks and Ten Columns at the Romic Facility in East Palo Alto, CA. Report Number 03-11-22, November 26, 2003.

DRAFT

TABLE 3.3.6-1

PROCESS HAZARD ANALYSES

PROCESS	DATE COMPLETED	LAST REVALIDATED
Distillation Column 24	June 1996	January 2004
Distillation Column 32	April 1997	April 2004
Distillation Column 35	July 1996	In Progress
Distillation Column 36	June 1996	November 2003
Distillation Column 37	December 1998	June 2003
Distillation Column 42	June 1996	November 2003
Distillation Column 43	July 1996	June 2003
Distillation Column 48	July 1996	January 2004
Distillation Column 49	July 1997	June 2003
Thin Film Evaporator 1	June 1996	October 2003
Thin Film Evaporator 2	June 1996	October 2003
Thin Film Evaporator 3	June 1996	October 2003
Vacuum Pot 24	June 1996	August 2003
Vacuum Pot 25	June 1996	August 2003
Truck Wash	February 2001	February 2001
Transfer System	March 2002	In Progress

TABLE 3.3.6-2

HISTORY OF ACCIDENTS AT THE ROMIC FACILITY

DATE	TYPE OF ACCIDENT	DESCRIPTION
5/30/84	Release	An estimated 300-450 gallons of alpha picoline waste was released from the 10,000 gallon reboiler with 200-300 gallons spilling onto a concrete surface and 100-150 gallons escaping into the atmosphere.
11/28/84	Fire	Small flash fire.
8/19/86	Fire	Pressure blowout and fire.
5/23/89	Fire	Fire in liquefaction building caused by a short in the electrical wiring. Unit was closed and reconstructed.
11/91	Fires	Three fire incidents caused by static charge created from scraping, shredding and mixing of the waste fuel in an oxygen-rich atmosphere.
8/3/93	Fire	Fire in dump trailer. Controlled by facility personnel.
12/23/99	Potential Fire	Smoldering in roll-off box.
12/28/99	Potential Fire	Smoldering in roll-off box.