INITIAL STUDY

The Department of Toxic Substances Control (DTSC) has completed the following Initial Study for this project in accordance with the California Environmental Quality Act (§ 21000 et seq., California Public Resources Code) and implementing Guidelines (§15000 et seq., Title 14, California Code of Regulations).

I. PROJECT INFORMATION

Project Name: Issuance of Post Closure Permit for former Surface Impoundments 250, 635 and 706 at United Technologies Corporation, Pratt and Whitney Rocketdyne

Site Address: 600 Metcalf Road

City: San Jose State: CA Zip Code: 95138-9601 County: Santa Clara

Company Contact Person: Don Bilder, Remediation Manager

Address: 600 Metcalf Road

City: San Jose State: CA Zip Code: 95138 Phone Number: (561) 796-3904

Project Description:

In accordance with the California Health and Safety Code, Chapter 6.5, Section 25100 et seq., this project is for the proposed issuance by the Department of Toxic Substances Control (DTSC) of a Resource Conservation and Recovery Act (RCRA) Part A and Part B Hazardous Waste Post Closure Permit to the United Technologies Corporation (UTC), Pratt and Whitney Space Propulsion for specified hazardous waste units. The units addressed in this application are three former Surface Impoundments (Unit #'s 0250, 0635 and 0706). Surface Impoundment 0250 was used for the storage of liquid wastes resulting from metal finishing. Surface Impoundment 0635 was used for the storage of liquid wastes resulting from polymer production. Former Surface Impoundment 0706 was used for the storage of liquid wastes resulting from container washing. All of these units were operated under grant of authorization persuant to Resource Conservation and Recovery Act (RCRA) and Health &Safety Code as Hazardous Waste management units. These units are currently closed and undergoing groundwater remediation by contaminant removal and treatment. The proposed Post Closure Permit has a term of 10 years. Before the proposed Permit expires, UTC will apply to DTSC to renew the proposed Permit.

Background:

UTC is located in an unincorporated area of Santa Clara County approximately fourteen miles southeast of downtown San Jose and five miles north of Morgan Hill. The following maps are attached at the end of this document: Exhibit 1 - General Area Map, Exhibit 2 - Local Area Map, and Exhibit 3 - Facility Map. UTC has operated at this site since the late 1950's. Production and research locations are spread over the approximately 5,113 acre site and are housed in approximately 200 buildings. United Technologies Corporation, Pratt and Whitney Space Propulsion (UTC) operates near San Jose, California. At this location, UTC is authorized to operate storage and treatment units under permits separate from this Post Closure Permit.

UTC is currently implementing a program to address past releases of hazardous constituents, under the supervision of the Regional Water Quality Control Board (RWQCB). The RWQCB has issued numerous clean-up orders, called Site Cleanup Requirements (SCRs). SCR Order No. R2-2004-0032, adopted by the RWQCB on May 19, 2004, presents current regulatory requirements, cleanup standards and constituents of concern. Attached to the Order is a specified ground water and surface water self-monitoring program that the facility is required to follow for the purposes of supplying data to guide the continued implementation of the remediation program. Acting as the lead regulatory agency, the RWQCB may adopt additional SCRs as required to implement investigation of contamination and corrective measures. The DTSC has regulatory involvement with the facility for past operations of hazardous waste, and this pending Post-Closure Permit addresses the three former Surface Impoundments, 0250, 0635, and 0706 .

UTC developed, manufactured and tested solid rocket motors. Operations at the site included small research and development laboratories, plating and printing shops, tool cleaning and de-greasing operations, and rocket fuel production areas. Solid rocket fuel (propellant) manufacturing generated propellant waste and miscellaneous wastes containing

explosives and/or propellants. Production of solid propellant ceased in August 2003. On May 13, 2004, UTC announced that rocket manufacturing operations at the site would be halted, and all permitted units closed. The Post Closure Permit addresses the following three units, all of which are currently undergoing scheduled groundwater monitoring under RWQCB oversight:

1) Former Surface Impoundment (0250):
Surface Impoundment 0250 was a 110,540-gallon impoundment that received metal finishing wastewater from the metal finishing shop at Station 0250 in Shingle Valley. The unit was located in the Administrative and Inert Area. Construction of Surface Impoundment 0250 was completed in approximately 1968. Metal finishing operations were discontinued in 1983 and the impoundment was backfilled and capped in February 1986. Although the bulk of impacted soils were removed, impacts to groundwater persist. The facility was certified closed on October 31, 1991.

2) Former Surface Impoundment (0635):
Surface Impoundment 0635 was constructed in 1972 adjacent to the former polymer manufacturing plant at Station 0635 in Mixer Valley. The polymer, polybutadiene acrylic acid acrylonitrile (PBAN), was used as a binding agent in propellants. Plant operations ceased in 1983. When the plant was operating, the 174,000-gallon impoundment received wastewater bearing sodium chloride, acrylic acid, acrylonitrile, chlorinated solvents and polymer emulsions. The surface impoundment was approximately 60 feet by 100 feet and five feet deep. It was of earthen berm construction with a Hypalon liner. The pond liner was replaced by a second Hypalon liner installed in 1981. The pH of the wastewater was normally in the range of 1 to 4. The pond was emptied in June 1983 and prepared for closure in October 1985. The impoundment was backfilled and capped in March 1988. Although the bulk of impacted soils were removed, impacts to groundwater persist. Former Surface Impoundment 0635 was certified closed on October 31, 1991.

3) Former Surface Impoundment (0706):
Surface Impoundment 0706 was a 42,964-gallon concrete subgrade impoundment constructed in 1965 in Mixer Valley. The facility was used for washing out empty hoppers containing residual ammonium perchlorate and for evaporating waste solvents. The solvents and ammonium perchlorate washwater were temporarily stored in the impoundment. Use of former Surface Impoundment 0706 was discontinued in late 1985. The 61 by 22-foot impoundment was removed and backfilled. In 1991, the impoundment area was paved with a concrete cover. An asphalt apron was constructed around the four sides of the concrete cap. The asphalt apron extends at least three feet on all sides. Although the bulk of impacted soils were removed, impacts to groundwater persist. The facility was certified closed on October 31, 1991.

Health Risk Discussion:

Environmental Risk Assessment: In 1992, UTC performed a baseline risk assessment and a human health and environmental health evaluation. Primary chemicals of interest and their toxicity were determined, and potential exposure pathways were identified. Risks were identified for carcinogenic and noncarcinogenic chemicals in soil, water, and air, and compared to the acceptable risk range.

In the report entitled Proposed Final Remedial actions and Cleanup Standards for Operable Unit 2 (December 1997), UTC provided a risk assessment for current industrial cleanup exposures to chemicals of concern, including volatile organic compounds (VOCs) and semi-volatile organic compounds (SVOCs). The report also evaluated risk from potential residential exposure to current site conditions, which reflects more health-protective criteria. For industrial receptors, the pathway for exposure to carcinogenic and potentially carcinogenic chemicals is inhalation of vapors and dermal contact with soil. For residential receptors, ingestion of groundwater is the primary pathway for exposure. A less significant pathway is inhalation of dust. Exposure to TCE represented the greatest cancer risk. Although the current estimated potential increased health risks to industrial receptors did not exceed the EPA guidelines, the current risks to potential residential receptors was found to be excessive. Assuming chemical concentrations proposed for soil and groundwater cleanup standards are achieved before the site would be developed for residential occupancy, the estimated carcinogenic risks after remediation of soil and groundwater would be below acceptable levels.

In December 2003, UTC submitted an addendum to the 1997 risk assessment that evaluated the human health risk posed by two additional chemicals, perchlorate and 1,4-dioxane. On the basis of the perchlorate risk assessment, the addendum proposed cleanup standards for perchlorate of 0.02 milligrams per kilogram (mg/kg) in soil and 6 micrograms per liter (ug/L) in water. The addendum proposed cleanup standards for 1,4-dioxane of 0.002 mg/kg in soil and 3 ug/L in groundwater. The low soil cleanup standards for these chemicals reflect the ease with which these chemicals are leached from soil, and were driven primarily by the goal of protecting groundwater quality rather than limiting human exposure.

The Water Board and DTSC considers the following risks to be acceptable at remediation sites: a hazard index of 1.0 or less for non-carcinogens, and an excess cancer risk of one in ten thousand or less for carcinogens.

Due to excessive risk that will be present at the site pending full remediation, institutional controls have been imposed to limit on-site exposure to acceptable levels. Institutional constraints include a deed restriction, and measures to maintain site security and require worker notification of potential health and safety concerns due to the presence of hazardous chemicals in the environment. The deed restriction, approved by the Water Board's Executive Officer and recorded with Santa Clara County in 2002, prohibits the use of impacted shallow groundwater for drinking water at the site. The deed restriction also prohibits residential development at the former Open Burn Facility (0891) and restricts its use for sensitive uses such as hospitals, day care centers, or the growing of food or use as pasture. DTSC would require a land use Covenant which will impose similar controls until all contamination is below safe levels.

Former Surface Impoundments 0250, 0635, and 0706:

The Surface Impoundment areas are each covered with asphalt pavement, reducing the likelihood of direct contact exposures. All of the surface impoundment soils have been removed, replaced with clean fill and capped. The cover of former Surface Impoundment 0250 extends beyond the removed impoundment. The wall of former Surface Impoundment 0635 extends four feet around the perimeter of the cap and is four to eight inches thick. Former Surface Impoundment 0706 has an asphalt apron that extends at least three feet on all sides.

The health based screening levels for Chemicals of Potential Concern (COPCs) were calculated for COPCs in soils at the three surface impoundments. The maximum soil concentrations of COPCs at former Surface Impoundments 0250, 0635, and 0706 are below residential soil Health Based Screening Levels (HBSLs) corresponding to either one in one million excess cancer risk or a hazard quotient of 1.0 with the exception of trichloroethylene (TCE) in soil at Station 0250. However, the frequency of detection of TCE is low. The average concentration in soil does not exceed the HBSL, and soil vapor extraction has been conducted at former Surface Impoundment 0250 since the collection of additional soil samples. Consequently, the concentrations of COPCs in soil at former Surface Impoundments 0250, 0635, and 0706 are not expected to pose adverse health effects.

Soil Cleanup Standards for the entire facility are as follows, the units are milligrams per kilogram (mg/kg):

Chemical	Cleanup Goal, mg/kg
Total VOCs	1
1,4-Dioxane	0.002
PCBs less than 3 feet deep	3
PCBs greater than 3 feet deep	10
Perchlorate	0.020
TPH-diesel	500

The cleanup goals for 1,4-dioxane and perchlorate are based on results of 2003 Risk Assessment. These cleanup standards reflect the tendency of these chemicals to leach from soil into groundwater, and will be protective of groundwater quality.

Groundwater / Surface Water Cleanup Standards for the entire facility are as follows, the units are micrograms per liter:

Chemical	Groundwater / Surface Water
Cleanup Goal	(ug/L) a
Acetone	700
Methyl ethyl ketone (MEK)	4,200
Benzene	1
Chlorobenzene (groundwater)	50
Chlorobenzene (surface water)	25
Chloroform	100
Carbon tetrachloride	0.5
1,1-Dichloroethene	6
1,1-Dichloroethane	5
cis-1,2-Dichloroethene	6
1,2-Dichloroethane	0.5

1,4-Dioxane	3
Ethylbenzene	680
Freon 11	150
Freon 113	1,200
Methylene chloride	5
Tetrachloroethene (PCE)	5
Perchlorate	6 c
Phenol	4,200
Polychlorinated biphenyls (PCBs)	0.5
TPH-diesel	1,000
Trichloroethene (TCE)	5
1,1,1-Trichloroethane (TCA)	200
Toluene	150
Vinyl chloride	0.5
Xylenes	1,750

Groundwater cleanup standards are set at the primary Maximum Contaminant Level (MCL) or drinking water standard for each chemical. For chemicals that do not have an established MCL, the State of California provisional action level or Public Health Goal (PHG) is used as the cleanup standard.

For most chemicals, the surface water cleanup standards are the same as for groundwater. To protect aquatic life, surface water cleanup standards for chlorobenzene, phenol, 1,1,1-TCA, xylenes, and TPH-diesel are set lower than drinking water standards. The surface water standard for these chemicals also applies to groundwater within 75 feet of surface water bodies.

Cal/EPA issued a PHG of 6 ug/L for perchlorate in March 2004. The groundwater cleanup standard is currently set equal to the PHG. If the MCL differs from the PHG, Water Board staff will consider changing the cleanup standard for perchlorate to the MCL.

Ecological Risk Discussion:

The UTC ecological assessment report prepared by ICF Technology in 1989 as part of its Management Plan for Disposal of Extracted Groundwater at United Technologies Corporation (RWQCB Waste Discharge Requirements Order 89-008, Provision C.8.c) evaluated sensitive species occurrences in the Upper Shingle Valley, Middle Shingle Valley, Lower Shingle Valley, and Mixer Valley areas. This assessment focused on the ecosystems at potential risk due to the presence of chemicals in groundwater, surface water, and soils on-site. The primary source of chemicals in the environment had been releases from UTC through contamination of groundwater by leaching of chemicals from soils on-site. However, UTC has implemented groundwater remediation activities as required by orders of the RWQCB in 1990, and these remediation activities are ongoing. The UTC assessment concluded that VOCs detected in groundwater do not accumulate to a significant degree in either plant or animal species and that current levels of organic chemicals found in the Upper Shingle Valley area do not exceed applicable water quality criteria. In the Lower Shingle Valley, the chemicals of concern do not exceed ambient water quality standards. Inorganics have not been included in the analysis for this area, and facility usage patterns did not indicate inorganics use in the Lower Shingle Valley. The ICF report concludes that sensitive species in the Mixer Creek area would probably be unaffected by groundwater remediation activities.

Project Activities:

The proposed Post-Closure permit would encompass activities on the subject property described as follows:

1. Groundwater treatment of perchlorate contaminated groundwater. Surface impoundments 0250, 0635 and 0706 lie within plumes commingled with multiple sources. Groundwater extraction and monitoring wells have already been installed for former Surface Impoundments 0250, 0635, 0706 and the former Open Burn Facility (0891).

Immediately downgradient of former Surface Impoundment 0250 are extraction wells routed to Groundwater Treatment System (GTS) 2405, where the extracted water is treated with aqueous phase carbon to remove VOCs, perchlorate and 1,4-dioxane prior to introduction to UTC's treated groundwater reuse system. A number of monitoring wells have been installed near former Surface Impoundment 0250 and are regularly sampled and analyzed for chemical contamination.

Immediately downgradient of former Surface Impoundment 0635 are extraction wells routed to Groundwater Treatment System (GTS) 2404, where the extracted water is treated with air stripping, aqueous phase carbon and ion exchange resin to remove VOCs and perchlorate prior to introduction to UTC's treated groundwater reuse system. A number of monitoring wells have been installed near former Surface Impoundment 0635 and are regularly sampled and analyzed for chemical contamination.

Immediately downgradient of former Surface Impoundment 0706 are extraction wells routed to Groundwater Treatment System 2404, where the extracted water is treated with air stripping, aqueous phase carbon and ion exchange resin to remove VOCs and perchorate prior to introduction to UTC's treated groundwater reuse system. A number of monitoring wells have been installed near former Surface Impoundment 0706 and are regularly sampled and analyzed for chemical contamination.

Groundwater contaminated with VOCs and/or perchlorate has the potential to seep to drainages and creeks. Groundwater from the Surface Impoundment 0250 area is removed by extraction wells and a groundwater interception trench between Former Surface Impoundment 0250 and Shingle Creek. These extraction wells remove contaminated groundwater and reduce contaminated groundwater and reduce groundwater seepage to Shingle Creek.

Groundwater from the former Surface Impoundments 0635 and 0706 areas is removed by extraction wells. These extraction wells and others in Mixer Valley remove contaminated groundwater and lower the water table, thereby reducing groundwater seepage to Mixer Creek.

Pounds of Chemicals Removed from Groundwater in 2004 from the Groundwater Treatment Systems (GTSs)

Chemical	GTS 1710	GTS 2403	GTS 2404	GTS 2405	GTS 2406
VOCs	0.006	1.0	19.8	46.3	3.66
Perchlorate	0.061	1.25	545.0	8.16	0.017
1,4-Dioxane	0	0	2.08	0.49	0

Agencies Having Jurisdiction Over the Project/ Types of Permits Required:

Water District: Water Discharge Permits/National Pollution Discharge Elimination System Permit
Department of Toxic Substances Control: Hazardous Waste Facility Permit
Bay Area Air Quality Management District: Title V Air Permit
County of Santa Clara: Industrial Use Permit, Conditional Land Use Permit

II. DISCRETIONARY APPROVAL ACTION BEING CONSIDERED BY DTSC

☐ Initial Permit Issuance ☐ Closure Plan ☐ Removal Action Workplan

☐ Permit Renewal ☐ Regulations ☐ Interim Removal

☐ Permit Modification ☐ Remedial Action Plan ☒ Other (Specify)
Post Closure Permit

Program/ Region Approving Project: Hazardous Waste Management Program Region 2

DTSC Contact Person: Andrew Berna-Hicks

Address: 700 Heinz Ave

City: Berkeley State: CA Zip Code: 94704 Phone Number: (510) 540-3956

III. ENVIRONMENTAL RESOURCES POTENTIALLY AFFECTED

The boxes checked below identify environmental resources in the following ENVIRONMENTAL SETTING/IMPACT ANALYSIS section found to be potentially affected by this project, involving at least one impact that is a "Potentially Significant Impact."

☒ None Identified	☐ Aesthetics	☐ Agricultural Resources
☐ Air Quality	☐ Biological Resources	☐ Cultural Resources
☐ Geology And Soils	☐ Hazards and Hazardous Materials	☐ Hydrology and Water Quality
☐ Land Use and Planning	☐ Mineral Resources	☐ Noise
☐ Population and Housing	☐ Public Services	☐ Recreation
☐ Transportation and Traffic	☐ Utilities and Service Systems	

IV. ENVIRONMENTAL IMPACT ANALYSIS

The following pages provide a brief description of the physical environmental resources that exist within the area affected by the proposed project and an analysis of whether or not those resources will be potentially impacted by the proposed project. Preparation of this section follows guidance provided in DTSC's California Environmental Quality Act Initial Study Workbook [Workbook]. A list of references used to support the following discussion and analysis are contained in Attachment A and are referenced within each section below.

Mitigation measures which are made a part of the project (e.g.: permit condition) or which are required under a separate Mitigation Measure Monitoring or Reporting Plan which either avoid or reduce impacts to a level of insignificance are identified in the analysis within each section.

1. Aesthetics

Project activities likely to create an impact:

None. There will be no visual disturbances to the area as a result of the project. The project is for closed unit maintenance.

Description of Environmental Setting:

Surface Impoundment 0250 was located near Shingle Valley Road in Upper Shingle Valley. The 65-foot diameter surface impoundment was removed. In 1965, the impoundment area was paved with an asphaltic concrete cover. The existing cover extends several feet beyond the removed impoundment and is currently being used for parking and material storage.

Surface Impoundment 0635 was located on Mixer Road in Mixer Valley. The approximately 60-foot by 100-foot impoundment was removed and backfilled. In 1991, the impoundment area was paved with an asphaltic concrete cover.

Surface Impoundment 0706 was located on Oxidizer Road in Mixer Valley. The 61 by 22-foot impoundment was removed and backfilled. In 1991, the impoundment area was paved with a concrete cover. An asphalt apron was constructed around the four sides of the concrete cap. The asphalt apron extends at least three feet on all sides.

Analysis of Potential Impacts:

There are no scenic vistas or historic buildings, or other significant resources surrounding or adjacent to the site.

Therefore, the project activities would not:

a. Have a substantial adverse effect on a scenic vista.

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

c. Substantially degrade the existing visual character or quality of the site and its surroundings.

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

References:

RCRA Part A and Part B Post-Closure Permit Application, United Technologies Corporation, Pratt and Whitney Space Propulsion, February 2004.

Findings of Significance:

☐ Potentially Significant Impact
☐ Potentially Significant Unless Mitigated
☐ Less Than Significant Impact
☒ No Impact

2. Agricultural Resources

Project activities likely to create an impact:

None.

Description of Environmental Setting:

The UTC has been in operation since the late 1950's in accordance with the Use Permit granted by Santa Clara County in 1959. The UTC property covers 5,113 acres of land and incorporates approximately 200 buildings and other site structures which facilitate the development, manufacturing and testing of rocket motors. The land surrounding this site is characterized by ranch land and open, undeveloped space, a portion of which is dedicated to a regional public park. The majority of the land surrounding the UTC has been zoned for agricultural use. This zoning requires that the parcels be a minimum of 20 acres. Exceptions to agricultural use are the Motorcycle Park and public lands to the northwest of UTC. The UTC was granted an Industrial Use Permit on November 18, 1959, which was amended December 4, 1963, and finalized on December 18, 1963, and allowed the establishment and maintenance of the UTC plant site.

Analysis of Potential Impacts. Describe to what extent project activities would:

a. Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland) as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use.

   Refer to the Environmental Setting for the responses to items a. through c. Deed restrictions prohibiting agricultural uses currently apply to the property as described in the Environmental Setting due to current and past use of the property. Mitigation of contaminated soils and groundwater is on-going at the facility and required by the proposed Post Closure Permit to continue until cleanup goals are achieved. The cleanup goals for the site, as stated in the RWQCB Site Cleanup Requirements issued in 2004, are below levels determined to be acceptable for residential use by health risk assessments approved by DTSC. Therefore, when these goals are achieved, restrictions through the use of deed restrictions and/or landuse covenants prohibiting agriculture and residential uses may be removed if appropriate.

b. Conflict with existing zoning or agriculture use, or Williamson Act contract.

c. Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural uses.

Specific References:

RCRA Part A and Part B Post-Closure Permit Application, United Technologies Corporation, Pratt and Whitney Space Propulsion, February 2004.

Site Cleanup Requirements (SCR) Order R2-2004-0032, California Regional Water Quality Control Board, San Francisco Bay Region.

Santa Clara County Recorder: Deed Notation and Covenant and Environmental Restriction on Property, July 29, 2002.

Findings of Significance:

☐ Potentially Significant Impact
☐ Potentially Significant Unless Mitigated
☐ Less Than Significant Impact
☒ No Impact

3. Air Quality

Project activities likely to create an impact:

- Risk of Upset to Soil vapor extraction by Granular Activated Charcoal (GAC)
- Risk of Upset to Groundwater Treatment System (GTS)

Description of Environmental Setting:

The project is located within the jurisdiction of the Bay Area Air Quality Management District (BAAQMD). The BAAQMD is responsible for enforcing air quality standards within its jurisdiction established by the California Air Resources Board (CARB) and the federal Environmental Protection Agency. These air quality standards contain averaging times and threshold concentration levels for certain criteria pollutants that cannot be exceeded by proposed projects.

The BAAQMD has been designated by the CARB as being in attainment for the national 8-hour carbon monoxide standard. In June 2002, CARB established new annual standards for PM2.5 and PM10. In August 1998, the Bay Area was redesignated to nonattainment-unclassified for the national 1-hour ozone standard. The above data was extracted from the summary contained within the BAAQMD's Ambient Air Quality Standards & Bay Area Attainment Status (January 2003) table.

Winds at the UTC facility blow predominantly from the north and west with occasional gusts to the southeast and northwest. Wind speeds typically range from 15 to 20 miles per hour from the north and west, and 6 to 8 miles from the southeast and northwest.

Environmental remediation is described in the Project Activities section of the Initial Study and describes maintenance activities in the closed Surface Impoundments areas that have undergone remedial treatment of certain RCRA wastes. All groundwater treatment systems are permitted by the BAAQMD and comply with existing regulations.

Analysis of Potential Impacts. Describe to what extent project activities would:

a. Conflict with or obstruct implementation of the applicable air quality plan.

For the responses to a. through e., refer to the environmental setting above. The treatment systems must comply with BAAQMD requirements. Consequently, no conflicts or excessive emissions are anticipated.

b. Violate any air quality standard or contribute substantially to an existing or projected air quality violation.

c. Result in 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).

d. Expose sensitive receptors to substantial pollutant concentrations.

e. Create objectionable odors affecting a substantial number of people.

f. Result in human exposure to Naturally Occurring Asbestos (see also Geology and Soils, f.).

The project will not result in asbestos exposure; there will be no earth disturbance.

Specific References (list a, b, c, etc):

RCRA Part A and Part B Post-Closure Permit Application, United Technologies Corporation, Pratt and Whitney Space Propulsion, February 2004.

Bay Area Air Quality Management District: http://www.baaqmd.gov/planning/resmod/baas.htm

California Regional Water Quality Control Board, San Francisco Bay Region, Groundwater and Surface Water Self-Monitoring Program for United Technologies Corporation Chemical Systems Division; Order No. R2-2004-0032.

Findings of Significance:

☐ Potentially Significant Impact
☐ Potentially Significant Unless Mitigated
☒ Less Than Significant Impact
☐ No Impact

4. Biological Resources

Project activities likely to create an impact:

- Site maintenance: sampling activities
- trucks traversing site areas Direct contact with vegetation removal equipment
- Foot traffic
- Habitat disturbance in close proximity to a den, burrow, or nesting site
- Risk of Upset to Soil Vapor Extraction by Granular Activated Charcoal GAC
- Risk of Upset to Groundwater Treatment System (GTS)

Description of Environmental Setting:

Sensitive species were identified in the Upper Shingle Valley and Lower Shingle Valley, and exist in the Morgan Hill quadrangle. Information sources included the ecological assessment performed for UTC by ICF Technology in 1989 as part of its Management Plan for Disposal of Extracted Groundwater at United Technologies Corporation (RWQCB Waste Discharge Requirements Order 89-008, Provision C.8.c) and the California Department of Fish and Game (CDFG) Rarefind Report dated March 22, 2006, obtained and interpreted by Department of Toxic Control staff. Sensitive species in the Shingle Valley Creek area included the California tiger salamander (CTS) (*Ambystoma californiense*). The CTS is currently listed as endangered. It is federally listed as threatened. It requires underground refuges, especially ground squirrel burrows and vernal pools or other seasonal water sources for breeding. A DFG sighting was reported on the UTC property in the vicinity of Metcalfe Road. Suitable habitat exists in the lower reaches of the Shingle Valley Creek and the Las Animas Creek. For the Lower Shingle Valley, at the bridge crossing, the California red-legged frog (CRLF) (*Rana aurora draytonii)* was identified. Its federal status is threatened. Sycamore and willow trees and blackberry bushes, scattered near intermittent ponds provide habitat to the frog along the Lower Shingle Valley Creek.

A UTC report dated July 2005 (Aquatic Sampling for CRLF and CTS) on the presence of the CRLF and the CTS documented that these two federally-threatened amphibians do exist at the facility. There are no ponds and/or water impoundments in these areas for the amphibians to take up residence. However, the July 2005 report also stated that

CRLF and the CTS may move up to two miles and one and one half miles between non-breeding and breeding sites respectively. Therefore, the potential to encounter both species during site maintenance and other facility activities is considered high.

According to the 1989 ICF Technology report, the Mixer Creek channel is a dry, heavily grazed creek bed consisting of herbaceous vegetation and scattered live and valley oaks, located to the east of Mixer Road. The current channel of Mixer Creek is west of and parallel to Mixer Road. The Valley Oak is the only plant species of concern that is expected to occur in the Mixer Creek area due to the lack of suitable habitat for other species. Valley oaks have been observed along the reaches of Mixer Creek along the mid and upper portions of the stream bank. The habitat along Mixer Creek was generally not suitable for many of the sensitive species identified for other areas of UTC, such as the CTS and the CRLF, and Western Pond turtle. The riparian corridor associated with Mixer Creek could provide habitat for the Sharp-shinned Hawk, Cooper's Hawk, and on rare occasions, Merlins. American badgers and mountain lions could occasionally occur along Mixer Creek. The riparian vegetation along the northern end of Mixer Creek is sparse. The creek contains cattails with dead and emergent vegetation in dry portions of the channel above the intersection of Mixer and Oxidizer Roads. Species occurring in non-riparian habitats may visit for water, cover, food, or in transit to other areas.

UTC met with the United States Army Corps of Engineers (USACE) in 2005 and was advised to apply for a Programmatic 404 Permit to addresses activities anticipated under the entire Site Closure Plan (SCP) for the facility. Activities anticipated under SCP include the need for United States Army Corps of Engineers (USACE) permits to address erosion control projects at several locations within waters of the US, need to conduct surface and subsurface investigational and remediation that may occur within waters of the US and delineated jurisdictional wetlands, and the potential need to expand the capture and diversion of surface water for treatment. UTC submitted a 404 Permit application to the USACE in January 2006 to address SCP projects that would occur over the next five (5) to 10 years. Many SCP activities will result in no habitat disturbance. The potential for incidental take for these activities may exist if listed species migrate through the work area, use manmade facility debris or construction materials for temporary cover in the project area or are injured or killed as a result of project-related vehicle traffic. The majority of SCP projects will fall into Category 1 (zero (0) to 0.1 acres of habitat disturbed or lost). Due to the presence of federally-listed threatened and endangered species on the UTC site, formal consultation with the United States Fish and Wildlife Service (USFWS) was required to assess potential impact that may result to species from activities covered under the Programmatic 404 Permit. Therefore, a Programmatic Biological Assessment (PBA) was submitted to the USACE, USFWS, and the CDFG.

The PBA summarized the UTC facility site biological setting, survey activities performed to assess the presence of special status species, general descriptions of anticipated projects, each project's potential impact to special status species, and avoidance, minimization, and project controls proposed to reduce and/or eliminate impacts to these species. The PBA is intended to provide regulatory agencies with sufficient information to issue a Programmatic Biological Opinion that will establish measures to protect threatened and endangered species during the life of the Programmatic 404 Permit.

According to the May 12, 2006 Blasland, Bouck and Lee, Inc. 2006 Projects Addendum to the Programmatic Biological Assessment, California red-legged frog (CRLF), California tiger salamander (CTS), and Coast horned lizard (CHL) may be present in the project areas that were identified for either Middle Shingle Valley or Mixer Valley. The project sites are located within areas identified as California CTS critical habitat. Maintenance activities will incur minimal habitat disturbance, that is, zero to 0.1 acres. Project-related maintenance activities include surface water and groundwater sampling, soil sampling, remediation system maintenance, decontamination. Potential impacts associated with these activities are the capture and relocation of CRLF, CTS, and CHL that may enter a work area. The PBA concluded that during maintenance activities, CTS and CRLF may be adversely affected by vegetation clearance activities if they come in contact with vegetation clearance equipment. In accordance with facility 404 Permit the UTC, must comply with avoidance, minimization, and project controls measures when performing maintenance activities. The PBA states that implementation of avoidance, minimization, and project control measures identified in the project summary form should allow maintenance activities to proceed with negligible direct impacts to special status species because they will be identified and avoided. These measures include those specified from the list for operations and maintenance activities and section B2, SVE System Maintenance, in the Addendum to the PBA, Table 2-2 and are listed below:

1. All field crew members will be educated on all listed species and special concern species issues for each project when appropriate. Crews will be regularly briefed on changes in seasonal conditions and required conservation.

2. Work will not commence until one-half hour after sunrise and should conclude one-half hour before sunset during the rain season, (i.e., first rains to May) and during the CRLF and CTS young of the year dispersal (i.e., June to August).

3. Biomonitoring inspections will be provided by a qualified biologist or trained field crew member each morning for activities that will be conducted during the CRLF and CTS migration periods.

4. Biomonitors have stop work authority if a listed species or species of concern is at risk of injury, harassment, or death in the project area. Work will not commence in that area until the biomonitor has assessed that the animal is clear of potentially dangerous or harassing conditions.

5. No listed species will be moved or relocated from an active work area without permission or as authorized under the Programmatic Biological Opinion.

6. No California species of concern will be moved or relocated from an active work area without CDFG permission or as authorized under the Programmatic Biological Opinion.

7. Vehicle speeds should not exceed 15 miles per hour in project areas during rain events or the subsequent 48 hours.

8. No activities will be conducted in a riparian corridor with active migratory bird nests between April 1st and July 31st.

9. Grassland, shrub, and riparian vegetation clearance areas will be inspected for rare and special status plant species.

10. Vegetation clearance will be conducted manually or with gas powered hand tools unless otherwise specified in the project description.

11. Equipment refueling and/or fluid change will occur outside of riparian corridors and wetland areas.

12. Equipment to be used for activities occurring in riparian corridors and/or wetland areas will be inspected for fuel and/or fluid leaks prior to use.

13. Trash should be picked up daily and stored in secured containers. Trash should be removed from the site weekly.

Species of Concern for the Project Areas as identified in section B2, SVE System Maintenance in the Addendum to the PBA:

Species	State Status	Federal Status	Habitat Description
San Joaquin kit fox (*Vulpes macrotis mutica*)	ST	FE	Open level areas with loose soil supporting scattered shrubs
Western pond turtle (*Emys marmorata*)	CSC	--	In or near quiet permanent pools in streams, marshes, or ponds
Burrowing owl (*Athene cunicularia*)	BCC	CSC	Open grassland and shrub habitat with perches and rodent burrows
California horned lark (*Eremophila alpestris actia*)	CSC	--	Short-grass prairie, bald hills, mountain meadows, open coastal plains, fallow grain fields, alkali flats
Northern harrier (*Circus cyaneus*)	CSC	--	Open wetlands, lightly grazed pastures, old fields, freshwater, and brackish marshes, open grasslands, and riparian woodlands
American badger (*Taxidea taxus*)	CSC	--	Open herbaceous and shrub habitat with dry, friable soils.
San Francisco dusty-footed woodrat (*Neotoma fuscipes annectens*)	CSC	--	Found in oak and riparian woodland and scrub habitats, rarely found in open grassland habitat.
Pallid bat (*Antrozous palidus*)	CSC	--	Roosts in rock crevices, caves, mine shafts, under bridges, buildings and tree hollows.
Townsend's big-eared bat (*Corynorhinus townsendii*)	CSC	--	Roosts in rock crevices, caves, mine shafts, under bridges, buildings and tree hollows.
Western mastiff bat	CSC	--	Lives in rocky areas and cliff faces. Roosts in crevices

(*Eumpos peroytis*)			in cliff faces and high buildings.
California tiger salamander (*Ambystoma californiense*)	CSC	FT	Small mammal burrows in annual grassland and open grasslands or oak savannahs habitat. Seasonal or vernal pools crucial to breeding.
California red-legged frog (*Rana aurora draytonii*)	CSC	FT	In or near quiet permanent pools in streams, marshes, or ponds.
Coast (California) horned lizard (*Phrynosoma coronatum*)	CSC	--	A wide variety of habitats including coastal scrub, oak.

Species Designations:

-- - No list status

Federal:
FE – Listed as Endangered under the Federal Endangered Species Act
FT - Listed as Threatened under the Federal Endangered Species Act
BCC – Birds of Conservation Concern

State:
CSC – California Species of Concern
CFP – California Fully Protected
SE – Listed as Endangered under the California Endangered Species Act
ST – Listed as Threatened under the California Endangered Species Act

Analysis of Potential Impacts.

The UTC ecological assessment report prepared by ICF Technology in 1989 as part of its Management Plan for Disposal of Extracted Groundwater at United Technologies Corporation (RWQCB Waste Discharge Requirements Order 89-008, Provision C.8.c) evaluated sensitive species occurrences in the Upper Shingle Valley, Middle Shingle Valley, Lower Shingle Valley, and Mixer Valley areas. This assessment focused on the ecosystems at potential risk due to the presence of chemicals in groundwater, surface water, and soils on-site. The primary source of chemicals in the environment had been releases from UTC through contamination of groundwater by leaching of chemicals from soils on-site. However, UTC has implemented groundwater remediation activities as required by orders of the RWQCB in 1990, and these remediation activities are ongoing. The UTC assessment concluded that volatile organic compounds (VOCs) detected in groundwater do not accumulate to a significant degree in either plant or animal species and that current levels of organic chemicals found in the Upper Shingle Valley area do not exceed applicable water quality criteria. In the Lower Shingle Valley, the chemicals of concern do not exceed ambient water quality standards. Inorganics have not been included in the analysis for this area, and facility usage patterns did not indicate inorganics use in the Lower Shingle Valley. The ICF report concludes that sensitive species in the Mixer Creek area would probably be unaffected by groundwater remediation activities. In addition, RWQCB Order No. 95-112 states that the Mixer Creek has poor value as aquatic and riparian habitat due to lack of water, low habitat diversity, and the poor quality of substrate in the creek. Soils data indicate that the area is dry for most of the year.

For project maintenance activities, the PBA for the 404 permit provides project controls to avoid impacts to species as detailed in the Environmental Setting. By implementing the avoidance, minimization, and project control measures above, impacts to senstive species and their habitats are expected to be minimal.

The UTC facility has applied for a Stream Bed Alteration Agreement to address future closure projects included in the 404 Permit related to culvert and stream bank repair for the Mixer Creek, Shingle Creek, and Las Animas Creek areas. These projects are not related to the Post-Closure Permit that is the subject of this Initial Study. In-situ boremediation projects are also planned for the UCT facility in the future, but are not the subjec ot this Post Closure Permit. These projects are anticipated to have temporary effects that will disturb grassland habitat of marginal quality immediately adjacent to station pads and paved roads.

Describe to what extent project activities would:

a. 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 California Department of Fish and Game or U.S. Fish and Wildlife Service.

As explained in the above analysis, the current inspection and monitoring systems are designed to prevent accidental releases of contaminants while remediation of contaminants at the facility continues. Maintenance activities that could potentially impact species include foot traffic, vehicle traffic, and brush clearing; however, avoidance, minimization, and project controls are provided to reduce impacts to sensitive species during project maintenance activities. Post Closure Permit activities will not result in permanent loss of upland or aquatic habitat. Generally, project activities will result in improvements in environmental conditions. Post Closure activities will lead to reductions in soil, groundwater, and surface water constituent concentrations, thereby improving habitat quality for animals and aquatic life.

b. 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 California Department of Fish and Game or U.S. Fish and Wildlife Service.

The proposed UTC remediation activities will address potential contamination sources at the facility in groundwater. Two threatened species, the red-legged frog and the tiger salamander have been sighted in nearby facility areas. Waste units near those areas have been remediated, capped, and are undergoing continuous monitoring as described above. Surface water locations are monitored through the Environmental Monitoring Program Plan, the analytical results of the monitoring are available on a quarterly basis through the facility. As mentioned in the Environmental Setting and Analysis sections above, impacts to those species are expected to be minimal due to project controls that include minimization and avoidance measures. Site conditions are expected to improve as a result of the project.

c. 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.

As mentioned above in the Environmental Setting, activities will be conducted on facility property in the Mixer Valley where identified sensitive species may occur or have been sighted. Many of the potential species identified have been seen in other UTC facility areas where tiger salamander and red legged frog habitat is more abundant. There will be no effects on wetland areas. As stated in the PBA, effects on sensitive species are expected to be minimal due to project controls, avoidance, and minimization measures as previously discussed.

d. 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.

UTC facility activities will not interfere with the migratory patterns of wildlife in the area, nor will they interfere with wildlife nursery sites. Therefore, it will not pose a barrier to any species migration. Refer to the response to items a. through c. and the Environmental Setting and Analysis sections above. Project effects are anticipated to be minimal.

e. Conflict with local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance.

The project will occur in a disturbed area. Tree removal will not occur under the project. This activity will not interfere with a tree preservation policy or ordinance. Also refer to the responses to items a. through c. above.

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

UTC's activities will be conducted on facility property in the Mixer Valley and other facility areas that where the tiger salamander and the red-legged frog have the potential to occur along with other sensitive species. As stated previously, surface impoundments that are near habitat areas (Shingle Valley areas) have been removed and

capped and undergo continuous monitoring as described above. Project effects are anticipated to be minimal due to project controls, avoidance, and mitigation measures. Also refer to the responses to items a. through c. above.

References:

Blasland, Bouck and Lee, Inc. 2006 Projects Addendum to the Programmatic Biological Assessment, May 12, 2006.

RCRA Part A and Part B Post-Closure Permit Application, United Technologies Corporation, Pratt and Whitney Space Propulsion, February 2004.

Department of Fish and Game, Wildlife and Habitat Data Analysis Branch, Natural Diversity Database Rarefind Report, March 22, 2006.

ICF Technology Incorporated, Management Plan for Disposal of Extracted Groundwater at United Technologies Corporation, Santa Clara County, California (RWQCB Waste Discharge Requirements Order 89-008, Provision C.8.c), August 1989.

California Regional Water Quality Control Board, San Francisco Bay Region, Final Site Cleanup Requirements Order No. R2-2004-0032.United Technologies Corporation Chemical Systems Division-Coyote Center Operable Unit 1, Order No. 95-112, September 14, 1995.

ENSR Corporation, Work Plan For Pilot Testing Of Field-Proven Treatment Technologies For Perchlorate Contaminated Surface Soils, Prepared for: United Technologies Corporation Pratt & Whitney Space Propulsion San Jose Operations, August 2004.

BioSearch Associates, Aquatic Sampling for California Red-Legged Frog and California Tiger Salamander, July 2005.

Findings of Significance:

☐ Potentially Significant Impact
☐ Potentially Significant Unless Mitigated
☒ Less Than Significant Impact
☐ No Impact

5. Cultural Resources

Project activities likely to create an impact:

None. There will be no excavation activities under this project. No further analysis is necessary.

Description of Environmental Setting:

No cultural resources are known to exist at the site. The Santa Clara County State Historic Preservation Office, Heritage Resource Inventory web site was reviewed for resources, and none were located for the project area. However, the California Historical Resources Information System indicated there is moderately high likelihood that unrecorded Native American cultural sites exist at the site. The Native American Heritage Commission was contacted concerning this project which responded with a list of nine tribal contacts (see references). Since that time, the project description has been changed to remove activities which required digging or soil disturbance.

Analysis of Potential Impacts.

This project does not involve soil disturbance, only the continuance of groundwater treatment systems already in place. No known historic resources exist at the UTC facility. However, in the event such resources are located, the UTC facility Owner/Operator will cease operations in the portion of the UTC facility which could affect the resources until a qualified archaeologist or Native American monitor can conduct a survey on the subject property and make recommendations to the Owner/Operator concerning appropriate action. The Owner/Operator will be responsible for all necessary notifications to the County Planning Office and/or other notifications required by such discoveries.

Therefore, the project activities would not:

a. Cause a substantial adverse change in the significance of a historical resource as defined in 15064.5.

b. Cause a substantial adverse change in the significance of an archeological resource pursuant to 15064.5.

c. Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature.

d. Disturb any human remains, including those interred outside of formal cemeteries.

References:

RCRA Part A and Part B Post-Closure Permit Application, United Technologies Corporation, Pratt and Whitney Space Propulsion, February 2004.

Santa Clara County, Historic Preservation Office, Heritage Resource Inventory:
http://www.sccplanning.org/planning/content/PlansPolicy/PlansPolicy_Historic_Preservation.jsp

Native American Burial Protection Plan for the Site Closure Program for the United Technologies-Pratt & Whitney Rocketdyne San Jose Facility Site Closure Program, March 10, 2006

Letter from the Native American Heritage Commission to Nicole Sotak, DTSC, regarding the Proposed Closure Plan for United Technologies Corp., Santa Clara County, March 18, 2006

Findings of Significance:

☐ Potentially Significant Impact
☐ Potentially Significant Unless Mitigated
☐ Less Than Significant Impact
☒ No Impact

6. Geology and Soils

Project activities likely to create an impact:

Seismic activity in the project area.

Description of Environmental Setting:

Former Surface Impoundments 0250, 0635 and 0706 are located in the southwest section of the Diablo Range, a component of the Coast Range geomorphic province.

The Diablo Range consists of a central core of the Jurassic-Cretaceous Franciscan Complex flanked by Cretaceous and Tertiary Formations along the western edge. The major ridges and streams at the UTC site parallel the regional northwest/southeast geologic trend. Stream valleys, especially along Las Animas Creek, are filled with unconsolidated recent alluvium. These deposits generally consist of interfingering, subhorizontal beds of poorly sorted silt, clay, sand, and sandy gravel. Subsurface investigations in Mixer Valley, near Station 0635 and 0706, identified alluvium up to 30 feet in thickness. In Shingle Valley, near Station 0250, the maximum alluvial thickness was found to be 46 feet.

The UTC facility is located in Uniform Building Codes designated seismic Zone 4. This is a seismically active region near the Calaveras Fault, Silver Creek Fault, Metcalf Fault, and the smaller Animas and Quimby Faults. The major active regional fault, the Calaveras Fault, passes northeast the panhandle area of the facility. This fault is classified as a right-lateral strike-slip fault with a subordinate amount of dip-slip (down to the west) displacement. The fault zone consists of a main fault trace with branches and smaller faults. Numerous other active faults are located in the area. Most of these faults trend nearly parallel to the Calaveras Fault. The Silver Creek Fault and Coyote Creek Fault are reverse faults. Past

movement along the Silver Creek Fault has thrust a large serpentinite block over younger Santa Clara Formation rocks. This fault, however, is considered to have been inactive during the last 10,000 years. The Coyote Creek Fault lies west of the Silver Creek Fault. Vertical movement along this fault is estimated to have occurred during Pleistocene time. Dip-slip movement mapped along the transverse sections of these faults may represent en echelon faulting in response to right lateral movement along the Calaveras Fault, which truncates these fault traces. The Calaveras Fault is active, having experienced movement during Holocene time (10,000 years or less).

Analysis of Potential Impacts. Describe to what extent project activities would:

a. 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. (Refer to Division of Mines and Geology Special Publication 42):

  As stated in the Environmental Setting above, the UTC facility is located in Uniform Building Codes designated seismic Zone 4, which is a seismically active region. The UTC facility lies near the Calaveras Fault, Silver Creek Fault, Metcalf Fault, and the smaller Animas and Quimby Faults. Consequently, ground shaking could be expected if seismic activity occurs along a major fault. Since there are no structures containing hazardous materials located on the former surface impoundments, ground shaking would have minimal or no impact.

- Strong seismic ground shaking:

  Since there are no structures located on the former surface impoundments, ground shaking would have minimal or no impact.

- Seismic-related ground failure, including liquefaction:

  Liquefaction is not anticipated at the facility, based upon currently understood soil lithology.

- Landslides:

  Landslides are not anticipated to negatively impact the former surface impoundments.

b. Result in substantial soil erosion or the loss of topsoil.

   The units are capped.

c. 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.

   Refer to the Environmental Setting above. No impact is anticipated.

d. Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property.

   No impact is anticipated (expansive soils are not present on the property).

e. Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of water.

   There will be no need for septic tanks for alternative waste water disposal systems under the project.

f. Be located in an area containing naturally occurring asbestos (see also Air Quality, f.).

   There will be no earth disturbing activities under the project.

References:

RCRA Part A and Part B Post-Closure Permit Application, United Technologies Corporation, Pratt and Whitney Rocketdyne, February 2004.

Findings of Significance:

☐ Potentially Significant Impact
☐ Potentially Significant Unless Mitigated
☒ Less Than Significant Impact
☐ No Impact

7. Hazards and Hazardous Materials

Project activities likely to create an impact:

- Risk of Upset to Groundwater Treatment System (GTS)

Description of Environmental Setting:

Hazardous waste was generated primarily from three activities at the UTC facility: manufacturing operations, research and development, and site remediation. The majority of hazardous wastes generated at the facility resulted from the full-scale production of rocket propellants and rocket propulsion systems. Energetic wastes were treated at the Hydrolysis Treatment Facility (0503) and the Size Reduction Facility (1986). The Storage Facility (2233) received wastes generated on site from manufacturing operations, research and development, testing activities and site remediation. The Storage Magazine (0312) stored explosive, ignitable and reactive wastes. The Storage Magazine held wastes for a period of longer than 90 days. None of these activities are addressed in this proposed Post-Closure Permit, but are addressed in a separate permit previously issued by the Department of Toxic Substances Control. This proposed Post-Closure Permit only addresses four former hazardous waste management units which have been previously closed and are no longer in use, but still have wastes remaining in place.

Security at the facility includes an eight-foot chain link fence topped by three-strand barbed wire, which encloses the entire UTC facility, with the exception of the western portion. The western boundary is two miles from public access and is protected by four-strand barbed wire cattle fencing. The perimeter fencing is posted with signs prohibiting trespass. Gates occur along the fence at strategic locations to allow emergency vehicle access. These gates may be kept locked depending on their use and are monitored for signs of tampering if they are normally kept locked. Security is controlled by trained staff in the Security Control Room located adjacent to the UTC facility's main entrance. This room serves as a 24-hour emergency and security communication center. Telephone and radio communication are controlled from this room. Fire, smoke, personnel assistance, and leak detection alarms are monitored from the Control Room. There is also a closed circuit television monitor at the Control Room that is connected to surveillance cameras throughout the facility. The Security Control Room also monitors access to all gates. Security lighting is provided around the perimeter of buildings and along roadways. Uniformed security officers in radio-dispatched vehicles make continuous rounds of the facility during non-work hours. These officers are trained and equipped to respond to physical security emergencies.

Current storage, handling and treatment practices, equipment design, and employee training at UTC are designed to ensure that the potential for accidents and releases of pollutants are minimized to the greatest extent possible. Incompatible materials are segregated and materials are only stored in containers that are compatible with the material itself. Secondary containment is provided for liquid materials. Materials are managed in a manner to preclude contact with soil or storm water. All outdoor storage of hazardous materials or wastes is restricted to covered areas and specialized chemical storage sheds. The sheds are covered, enclosed on three sides, and have built-in secondary containment capacity. In some areas, the sheds are additionally contained within a concrete or asphalt berm.

To minimize the potential for a release to soil or waters, hazardous substances are not exposed to storm water during transfer operations. In areas where contact with storm water is possible, UTC has implemented control measures to prevent such contact by training truck drivers in spill response and use of appropriate equipment to transfer wastes, such as drum carriers, pallets and forklifts.

Selected personnel who work in areas where hazardous materials are handled receive initial, refresher, and on-the-job training in spill prevention and response procedures. Spill kits are present in locations where hazardous substances are handled. UTC work instructions exist and are readily available on the UTC intranet to document appropriate material and waste handling procedures. Loading and unloading of hazardous wastes are done on flat surfaces in front of the individual storage magazines. Materials are moved with forklifts and hand-operated pallet jacks. Station stockmen are forklift certified, respirator trained, and high-energy propellant trained. Through training of staff and strict adherence to handling procedures, it is not anticipated that materials will contact soil or storm water at storage and treatment locations in the Storage Magazines which include storage pallets with built-in secondary containment to prevent liquid from leaking during standard storage conditions. Explosives are packaged in drums in accordance with Title 49 Code of Federal Regulations and California Code of Regulations Title 22 shipping requirements that minimize contact with storm water; therefore, the potential for release of these materials to the environment is remote.

The four former hazardous waste management units addressed in the proposed Post-Closure Permit are as follows:

Surface Impoundment 0250 received wastewater containing metals, acids and bases from Station 0250 alodining operations. The metal treatment process at Station 0250 started in 1968. Aluminum pieces were dipped into acidic and caustic solution before being dipped into water to rinse the chemicals from the aluminum pieces. The rinse water and floor wash water (containing some of the acidic and caustic chemicals) were pumped to Surface Impoundment 0250. Sodium hydroxide, phosphoric acid, chromate solution, potassium dichromate, sulfuric acid and nitric acid were present in the impoundment wastewater. Ferrous sulfate was added to reduce hexavalent chromium to trivalent chromium. Lime was added to precipitate the trivalent chromium to chromic hydroxide. Organic chemicals were not discharged to the impoundment wastewater. Surface Impoundment 0250 received approximately 71,000 gallons per year. The capacity of the impoundment was 110,540 gallons. All of the wastes sent to Surface Impoundment 0250 have been removed.

Surface Impoundment 0635 was a chemical process plant that manufactured a polymer product and an explosive material, trichlorotrinitrobenzene. Surface Impoundment 0635 served as an evaporation pond for process waste water and plant runoff. Acrylic acid, acrylonitrile, butadiene, cetyldimethylbenzyl ammonium chloride (Ammonyx-T), dodecanethiol, azo-bis-iso-butyronitrile, hydroquinone, sodium chloride and sodium bisulfite were used in the production of polymer. Aniline, ethanol and chlorine gas were used to produce trichloroaniline. Trichloroaniline, toluene and sodium sulfite were used to produce trichlorobenzene. Trichlorobenzene, sulfuric acid and nitric acid were used to produce trichlorotrinitrobenzene. Dimethyl sulfoxide, trichloroethene (TCE) and 1,1,1-trichloroethane (TCA) were used as solvents. Surface Impoundment 0635 received approximately 170,000 gallons per year. The capacity of the impoundment was 174,000 gallons. A 2-foot freeboard was normally maintained so that the maximum inventory in the impoundment was normally 92,000 gallons. All of the wastes sent to Surface Impoundment 0635 have been removed.

Surface Impoundment 0706 consisted of four inground cells. Two cells held ammonium perchlorate wastewater. The other two cells were used for storage and evaporation of waste solvents, such as TCE and TCA, and paint sludges. Surface Impoundment 0706 received approximately 4,800 gallons per year. The capacity of the impoundment was 42,964 gallons. The wastes were pumped out and properly disposed of.

As previously stated in the Health Risk Discussion, the maximum soil concentrations of COPCs at surface impoundments 0250, 0635, and 0706 are considered to be below levels corresponding to one in one million excess cancer risks or hazard quotient of 1.0.

Remediation technologies currently employed at the UTC facility include those listed listed in the Project Description. These units include the following:

- Groundwater treatment of perchlorate contaminated groundwater. Former Surface Impoundments 0250, 0635 and 0706 lie within plumes commingled with multiple sources. Groundwater extraction and monitoring wells have already been installed for former Surface Impoundments 0250, 0635, and 0706.

- Immediately downgradient of former Surface Impoundment 0250 are extraction wells routed to Groundwater Treatment System (GTS) 2405, where the extracted water is treated with aqueous phase carbon to remove VOCs, perchlorate and 1,4-dioxane prior to introduction to UTC's treated groundwater reuse system. A number of monitoring wells have been installed near former Surface Impoundment 0250 and are regularly sampled and analyzed for chemical contamination.

- Immediately downgradient of former Surface Impoundment 0635 are extraction wells routed to Groundwater Treatment System (GTS) 2404, where the extracted water is treated with air stripping, aqueous phase carbon and ion exchange resin to remove VOCs, perchlorate, and 1,4-dioxane prior to introduction to UTC's treated groundwater reuse system. A

number of monitoring wells have been installed near former Surface Impoundment 0635 and are regularly sampled and analyzed for chemical contamination.

• Immediately downgradient to former Surface Impoundment 0706 are extraction wells routed to Groundwater Treatment System 2404, where the extracted water is treated with air stripping, aqueous phase carbon and ion exchange resin to remove VOCs, perchlorate and 1,4-dioxane prior to introduction to UTC's treated groundwater reuse system. A number of monitoring wells have been installed near former Surface Impoundment 0706 and are regularly sampled and analyzed for chemical contamination.

• Groundwater contaminated with VOCs and/or perchlorate has the potential to seep to drainages and creeks. Groundwater from the Surface Impoundment 0250 area is removed by extraction wells and a groundwater interception trench between Former Surface Impoundment 0250 and Shingle Creek. These extraction wells remove contaminated groundwater and reduce contaminated groundwater seepage to Shingle Creek.

• Groundwater from the former Surface Impoundments 0635 and 0706 areas are removed by extraction wells. These extraction wells and others in Mixer Valley remove contaminated groundwater and lower the water table, thereby reducing groundwater seepage to Mixer Creek.

• The Groundwater Treatment System (GTS): This unit removes contaminants on a continuous schedule. In the event the system failed, contaminants might be released by UTC until the system failure was identified and corrected. Such a system failure is not anticipated given the periodic monitoring and inspection schedule.

Groundwater monitoring will occur according to the schedule defined in the proposed Post-Closure Permit, and described in Section 8 of this Initial Study under Hydrology and Water Quality.

Analysis of Potential Impacts. Describe to what extent project activities would:

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

Based on site security, personnel training, and health risk for the nits, impacts to the environment are not anticipated.

b. 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.

See response to item a. Accident conditions are not anticipated due to safety controls at the project site.

UTC maintains an-in-house staff of professional firefighters assigned to respond to fires, hazardous materials releases, and medical emergencies. In this capacity, all UTC fire department personnel receive training in order to provide response action.

Maintenance Activities for the surface impoundments 0250, 0635, and 0706 will consist of groundwater monitoring and treatment.

During groundwater sampling and water level measurements, the groundwater wells are inspected.

Workers at the UTC facility handling hazardous materials are trained pursuant to federal Occupational Safety Health Agency (OSHA) and California Code of Regulations Title 8, Cal OSHA requirements. UTC will comply with its site Health and Safety Plan (HSP) when undertaking hazardous work. The purpose of the HSP is to describe the controls and procedures that will be implemented to minimize any incidents, injury, and health risks associated with project activities. The HSP was prepared according to OSHA and hazardous waste management requirements. Elements addressed in the HSP include:

- General descriptions of the project site, including location and site plans.
- Work objectives.
- A hazard evaluation, including characteristics of known or expected site or work hazards.

- Statements from any contractor that site personnel have completed training in accordance with 29CFR1910.120 and 8CCR5192 (General Industrial Safety Order).
- Medical surveillance requirements.
- Personal protective equipment (PPE) to be used by site personnel, for each task of work and type of operation.
- Decision criteria to be used in determining levels of PPE.
- The types and frequency of personal and area air monitoring, instrumentation, and sampling techniques for health and safety monitoring.
- Site control measures, including designation of work zones.
- Decontamination procedures for personnel and equipment.
- Noise control procedures and action levels.
- Dust control procedures and action levels.
- Description of how wastes generated during project will be managed.

Also among items identified in the HSP, are the appropriate engineering and administrative controls at the project site, such as dust suppression measures, perimeter monitoring, traffic-safety planning, spill prevention, and contingency planning.

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

The nearest residents are located over one half mile from the nearest surface impoundment. There are no schools or hospitals within one-half mile of the UTC facility. Also refer to the Air section for discussion of the SVE unit.

The nearest school is Encinal Elementary School, located approximately 2.8 miles from the UTC facility.

d. 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, would it create a significant hazard to public or the environment.

The site is a listed site. The project will reduce the contaminant levels in waste units as described above to prevent potential migration of contaminants to nearby water supplies.

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

The project activities will not interfere with an emergency response plan. UTC has adopted an Incident Response and Contingency Plan for the facility. Mutual aid agreements have been established with local emergency response entities should an incident occur. The plan includes spill and fire prevention control measures for all hazardous waste management units, general preparedness and prevention procedures, emergency coordinator, and incident command information, and the procedures for documenting and notifying appropriate agencies of releases.

References:

RCRA Part A and Part B Post-Closure Permit Application, United Technologies Corporation, Pratt and Whitney Rocketdyne, February 2004.

Findings of Significance:

☐ Potentially Significant Impact
☐ Potentially Significant Unless Mitigated
☒ Less Than Significant Impact
☐ No Impact

8. Hydrology and Water Quality

Project activities likely to create an impact:

Potential failure of carbon-source composting, Soil Vapor Extraction or Groundwater Treatment Systems

Description of Environmental Setting:

Drainage and Run-off: The majority of the UTC's surface runoff flows overland to nearby drainage courses and into one of several ephemeral streams. Stream flow in the region is highly seasonal with the majority of the annual run-off occurring from November to April. Formal storm drain inlets and piping are provided only in those areas where natural drainage is insufficient to prevent ponding of storm water. All of the drainage flows from UTC to local creeks and eventually reaches Anderson Reservoir. Anderson Reservoir is a municipal water source for Santa Clara County. The reservoir ultimately drains to Coyote Creek which flows to the San Francisco Bay. Uses of the reservoir include recreational activities, groundwater recharge, wildlife habitat, and fish spawning.

Surface Water: The surface water system at the UTC Facility consists of three ephemeral streams, Shingle Creek, Mixer Creek, and Las Animas Creek. All three are generally small streams with both dry and wet sections during the summer months. In addition to these three streams, San Felipe Creek traverses the far east portion of the UTC facility before flowing into Las Animas Creek to the south of the facility boundary. Surface water locations are monitored through the Environmental Monitoring Program Plan, which is updated annually. The analytical results of surface water monitoring are available on a quarterly basis through the facility.

Supply Wells: There is one well located in the Panhandle Area, which serves a fraction of the UTC's potable water needs. Water from this well is pumped to a treatment system at Station 2215, then to one of the five storage tanks. The majority of the potable water supply for the facility is from one water well located on UTC's property in Santa Clara Valley proper, near Highway 101. This water is pumped approximately six miles to the site where it is treated and transferred to one of the five on-site water storage tanks.

Analysis of Potential Impacts. Describe to what extent project activities would:

a. Violate any water quality standards or waste discharge requirements.

Waste discharges at UTC, including those to the waters of the state, are regulated under Order No. 95-190 Waste Discharge Requirements (WDRs) adopted on September 14, 1995, by the Regional Water Quality Control Board. In addition, UTC has been issued Site Cleanup Requirements (SCRs) for treated groundwater. UTC also complies with Storm Water National Pollutant Discharge Elimination System (NPDES) General Permit Number CAS000001. Monitoring will be conducted in accordance with Health and Safety Code, Article 5.5, section 25159.18, Hydrogeological Assessment Report.

In accordance with the California Regional Water Quality Control Board, Order No. R2-2004-0032, all new wells at the UTC facility are required to be sampled on a quarterly basis for the first year. Existing wells at the facility are on a regular sampling schedule, most are sampled quarterly. Groundwater cleanup standards for the site are based on applicable water quality objectives and are the more stringent of USEPA and California primary maximum contaminated levels (MCLs) for each chemical of concern. The following water reclamation specifications apply to constituents:

Constituent	Instantaneous Maximum Limit in Micrograms per liter	Analytical Method

Volatile Organic Compounds (VOCs)		
Vinyl chloride	0.5	U.S. EPA method 8240, 8010, 8020 or equivalent
Benzene	0.5	
All others, per constituent	5.0	
Semi-volatile organic compounds (SVOCs)		
PCBs	0.5	U.S. EPA method 8080, 8270 or equivalent
All others, per constituent	5.0	
Total Petroleum Hydrocarbons	50.0	U.S. EPA method 8015 or equivalent.
Perchlorate	6.0	U.S. EPA method 314.0 or equivalent

The sampling and analysis program for the units addressed in the proposed Post-Closure Permit are described in the following table:

RCRA Post-Closure Groundwater Monitoring Plan

RCRA Unit	RCRA Well ID	Contaminant of Concern	Frequency	Next Sampling	USEPA Method
0250	18P-01R*	Perchlorate	6 MO		314.0
	18P-01R*	17 CAM Metals	A		6010
	18P-01R*	VOCs	6 MO		8260
	18P-01R*	Total Cyanides	A		9010
	18P-02	Perchlorate	6 MO		314.0
	18P-02	17 CAM Metals	A		6010
	18P-02	VOCs	6 MO		8260
	18P-02	Total Cyanides	A		9010
	AI-06	Perchlorate	6 MO		314.0
	AI-06	17 CAM Metals	A		6010
	AI-06	VOCs	6 MO		8260
	AI-06	Total Cyanides	A		9010
0635	20C-13	Perchlorate	6 MO		314.0
	20C-13	OC Pesticides	A		8081A
	20C-13	VOCs	6 MO		8260
	20C-14*	Perchlorate	6 MO		314.0
	20C-14*	OC Pesticides	A		8081A
	20C-14*	VOCs	6 MO		8260
	20C-17	Perchlorate	6 MO		314.0
	20C-17	OC Pesticides	A		8081A
	20C-17	VOCs	6 MO		8260
0706	20C-25	Perchlorate	6 MO		314.0
	20C-25	VOCs	6 MO		8260
	20C-35*	Perchlorate	6 MO		314.0
	20C-35*	VOCs	6 MO		8260
	20G-15	Perchlorate	6 MO		314.0
	20G-15	VOCs	6 MO		8260

*Point of Compliance (POC) well
6 MO: Monitoring parameters sampled every 6 months
A: Sampled once each year

In addition, the Order provides that no reclaimed water shall be allowed to escape from the authorized use areas by airborne spray, surface flow, except in minor amounts, nor from conveyance facilities. Other measures to protect the public health and safety from contact with potentially contaminated water is also provided in the Order,

including, notification of incidents within 24 hours, prohibition against cross-connection between potable water supply and any piping containing treated groundwater, freeboard areas in storage ponds to prevent contamination in the event of overflows, prohibition against public consumption, and warning signs.

b. Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted).

UTC reclaims extracted groundwater which is the result of groundwater remediation throughout the site. The VOC-contaminated groundwater throughout the site is treated at several treatment units located in Shingle and Mixer Valleys. Treated groundwater from the remediation systems at the site is stored in ponds 2140 and 2130. Pond 2140 (near station 0026) is located in Upper Shingle Valley. The pond is bordered by a ridge that slopes into the northeast. Shingle Creek is located about 150 to 200 feet to the southwest. The pond is rectangular, 135 feet long by 70 feet wide with a maximum depth of 8 feet, and has a storage capacity of 333,000 gallons. The pond is underlain by Quaternary alluvial deposits of unconsolidated clays, silt, sands and gravels.

Pond 2130 (near station 0730) is located in Lower Mixer Valley. This pond is bordered on the west by a ridge, on the south by an embankment and Manufacturing Road, and on the east by another ridge behind which is Las Animas Road. The pond has a capacity of approximately 19 million gallons. This pond is located eastward of a groundwater contaminant plume which is in Lower Mixer Valley.

The lithology of the soils underlying pond 2130 consist predominantly of varying plasticity organic clays. Onsite, treated groundwater is used for dust control, landscape irrigation, and pasture irrigation over portions of the site. Originally, treated groundwater was also used for dust control and soil compaction at a construction site known as Silver Creek Country Club and for dust control, landscape irrigation and fire control at the county parks.

c. Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in substantial erosion or siltation on or off-site.

Refer to the response to item b. above. Drainage at the site is controlled. Drainage at the site will not change as the result of the project.

d. Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner which would result in flooding on or off-site.

Refer to the response to item b. above. The drainage pattern at the site will not change as the result of the project.

e. Create or contribute runoff water which would exceed the capacity of existing or planned storm water drainage systems or provide substantial additional sources of polluted runoff.

f. Refer to the response to item a. Measures and conditions are in place to prevent these occurrences.

g. Otherwise substantially degrade water quality.

Please refer to the response in e. above. In addition, new wells that may be installed as part of this project will be sampled for pH and turbidity. Quality Assurance/Quality Control data submittal is also required as part of the quarterly monitoring report described in e. above.

g. Place within a 100-flood hazard area structures which would impede or redirect flood flows.

Surface Impoundments 0250, 0635, and 0706 are outside the 100-year flood boundary. It is not anticipated that the waste units would affect redirect flood flows.

h. Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam.

The above-mentioned structures are not located on or adjacent to the property and will not be affected by the project activities.

i. Inundation by seiche, tsunami or mudflow.

Surface Impoundments 0250, 0635, and 0706 are outside the 100-year flood boundary. As a result, seiche, tsunamis and mudflows are not reasonably anticipated.

References:

RCRA Part A and Part B Post-Closure Permit Application, United Technologies Corporation, Pratt and Whitney Rocketdyne, February, 2004.

California Regional Water Quality Control Board, San Francisco Bay Region, Order No. R2-2004-0032 Final Site Cleanup Requirements for United Technologies Corporation, 600 Metcalf Road, San Jose, May 19, 2004.

Findings of Significance:

☐ Potentially Significant Impact
☐ Potentially Significant Unless Mitigated
☒ Less Than Significant Impact
☐ No Impact

9. Land Use and Planning

Project activities likely to create an impact:

None anticipated.

Description of Environmental Setting:

UTC has two Land Use Permits from the County of Santa Clara Planning Commission. The County of Santa Clara issued the first Use Permit for the UTC site on November 18, 1959, and subsequently amended it on December 4, 1963. The second Use Permit was issued on December 18, 1963. The site is currently zoned for agriculture, and allows for industrial use through issuance of a Use Permit.

Analysis of Potential Impacts. Describe to what extent project activities would:

a. Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect.

The UTC facility operates consistent with existing land uses.

b. Conflict with any applicable habitat conservation plan or natural community conservation plan.

The Post Closure activities are to be conducted in accordance with provisions of the 404 Permit; consequently, no conflicts are anticipated.

References:

RCRA Part A and Part B Post-Closure Permit Application, United Technologies Corporation, Pratt and Whitney Rocketdyne, February 2004.

Findings of Significance:

☐ Potentially Significant Impact
☐ Potentially Significant Unless Mitigated
☐ Less Than Significant Impact
☒ No Impact

10. Mineral Resources

Project activities likely to create an impact:

None. There are no known mineral resources in the area.

Description of Environmental Setting:

The UTC facility covers parts of the Santa Clara Formation. Soils consist of alluvium with layers and lenses of silty, sandy and gravelly clay.

Analysis of Potential Impacts:

There are no activities that would impact mineral resources.

Therefore the project activities would not:

a. Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state.

b. Result in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan.

References:

RCRA Part A and Part B Post-Closure Permit Application, United Technologies Corporation, Pratt and Whitney Rocketdyne, February, 2004.

Findings of Significance:

☐ Potentially Significant Impact
☐ Potentially Significant Unless Mitigated
☐ Less Than Significant Impact
☒ No Impact

11. Noise

Project activities likely to create an impact:

Maintenance activities: brush clearing equipment

Description of Environmental Setting:

The UTC facility is located on approximately 5,113 acres in the Santa Clara County foothills and is approximately 14 miles southeast of downtown San Jose. Surrounding the UTC facility are ranchlands, a regional park, and open public lands are located toward the northwest. The nearest residence is approximately 900 feet from the facility boundary.

Analysis of Potential Impacts.

Maintenance activities and operations will not generate significant noise.

Therefore, the project activities would not:

a. Expose persons to or generate noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies.

b. Expose persons to or generate excessive groundbourne vibration or groundbourne noise levels.

c. A substantial permanent increase in ambient noise levels in the vicinity above levels existing without the project.

d. A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project.

References:

Findings of Significance:

☐ Potentially Significant Impact
☐ Potentially Significant Unless Mitigated
☒ Less Than Significant Impact
☐ No Impact

12. Population and Housing

Project activities likely to create an impact:

None

Description of Environmental Setting:

The facility is located on approximately 5,113 acres in the Santa Clara County foothills and is approximately 14 miles southeast of downtown San Jose. Surrounding the UTC facility are ranchlands, a regional park, and open public lands are located toward the northwest. It is anticipated that personnel visits to the site will entail approximately one hundred hours per year. There will be no impacts to local housing.

Analysis of Potential Impacts.

Therefore, the project activities would not:

a. Induce substantial population growth in area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure).

b. Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere.

c. Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere.

References:

RCRA Part A and Part B Post-Closure Permit Application, United Technologies Corporation, Pratt and Whitney Rocketdyne, February, 2004.

Findings of Significance:

☐ Potentially Significant Impact
☐ Potentially Significant Unless Mitigated
☐ Less Than Significant Impact
☒ No Impact

13. Public Services

Project activities likely to create an impact:

- Potential fires from incidents at the facility

Description of Environmental Setting

The UTC facility is located on approximately 5,113 acres in the Santa Clara County foothills and is approximately 14 miles southeast of downtown San Jose. Surrounding the UTC facility are ranchlands, a regional park, and open public lands are located toward the northwest.

Analysis of Potential Impacts.

UTC maintains an-in-house staff of professional firefighters assigned to respond to fires, hazardous materials releases, and medical emergencies. In this capacity, all UTC fire department personnel receive training in order to provide response action. Additional sources beyond those customarily used by the facility are not anticipated. As stated above, UTC maintains its own fire department at the UTC facility; consequently, impact to the community fire department in the event of a small incident would not be required. Please also refer to the Hazardous Materials section. There are no anticipated effects on schools, parks, or other public facilities.

Therefore, the project activities would not:

Result in substantial adverse physical impacts associated with the provision of new or physically altered government facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the following public services:

- Fire protection
- Police protection
- Schools
- Parks
- Other public facilities

References:

RCRA Part A and Part B Post-Closure Permit Application, United Technologies Corporation, Pratt and Whitney Rocketdyne, February, 2004.

Findings of Significance:

☐ Potentially Significant Impact
☐ Potentially Significant Unless Mitigated
☒ Less Than Significant Impact
☐ No Impact

14. Recreation

Project activities likely to create an impact:

None.

Description of Environmental Setting:

The facility is located on approximately 5,113 acres in the Santa Clara County foothills and is approximately 14 miles southeast of downtown San Jose. Surrounding the UTC facility are ranchlands, a regional park, and open public lands are located toward the northwest.

Analysis of Potential Impacts.

Site activities will not affect use of the surrounding areas. No further analysis is necessary.

Describe to what extent project activities would:

a. Increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated.

b. Include recreational facilities or require construction or expansion of recreational facilities which might have an adverse physical effect on the environment.

References:

RCRA Part A and Part B Post-Closure Permit Application, United Technologies Corporation, Pratt and Whitney Rocketdyne, February, 2004.

Findings of Significance:

☐ Potentially Significant Impact
☐ Potentially Significant Unless Mitigated
☐ Less Than Significant Impact
☒ No Impact

15. Transportation and Traffic

Project activities likely to create an impact:

Employees entering and exiting the UTC facility, supply deliveries.

Description of Environmental Setting:

The most prevalent traffic pattern for the UTC facility occurs during morning and evening cycles. The incoming commute traffic pattern occurs at about 7:30 a.m. and outgoing traffic occurs at about 4:00 p.m. Approximately 400 employee vehicles and approximately 50 contractor vehicles access the facility on a daily basis. Employees and contractors enter and exit from the gate on Metcalf Road. In addition, about 30 delivery vehicles access the UTC daily. Delivery vehicles typically range from vans to large semi-trailer trucks. Most deliveries occur during normal working hours. Generally, most deliveries are made using this gate which is in close proximity to the Storage Facility. Consequently, disposal facility

vendor trucks use access site internal roadways for movement of hazardous wastes. Approximately 140 company vehicles are present onsite. Employee traffic within the facility is not restricted, except in the former Open Burn Facility (0891) and the Research and Technology areas. The movement of hazardous and explosive wastes on the UTC facility is generally confined to the asphalt roads within the UTC facility.

Speed limits within the facility are enforced. The limits are 25 miles per hour within the propellant processing areas and 15 miles per hour in the inert work areas. All visitors to the facility must read and understand vehicle safety information presented to them upon issuance of their badge. Detailed internal safety regulations for the operation of company vehicles have been prepared and implemented to ensure safe and responsible operation of vehicles onsite.

The roads to the former Surface Impoundments 0250, 0635 and 0706 are asphalt. Public access to these former Surface Impoundments are controlled by guard posts at the front and back gates. There is no fencing around the former Surface Impoundments.

Analysis of Potential Impacts. Describe to what extent project activities would:

a. Cause an increase in traffic which is substantial in relation to the existing traffic load and capacity of the street system (i.e., result in a substantial increase in either the number of vehicle trips, the volume to capacity ratio on roads, or congestion at intersections).

   No additional traffic is anticipated.

b. Exceed, either individually or cumulatively, a level of service standard established by the country congestion management agency for designated roads or highway.

   As stated in a. above, effects on traffic will be minimal. The project will not affect the level of service standard that is currently established for the area.

c. Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment).

   There will not be an increased hazard due to design features or incompatible uses.

d. Result in inadequate emergency access.

   Emergency access will not be affected. Equipment will be located on-site with the exception of compost deliveries and miscellaneous off-site deliveries.

e. Result in inadequate parking capacity.

   The project will not affect parking capacity.

f. Conflict with adopted policies, plans, or programs supporting alternative transportation (e.g., bus turnouts, bicycle racks).

   The project will not affect alternative transportation modes.

References:

RCRA Part A and Part B Post-Closure Permit Application, United Technologies Corporation, Pratt and Whitney Rocketdyne, February, 2004.

Findings of Significance:

☐ Potentially Significant Impact
☐ Potentially Significant Unless Mitigated
☒ Less Than Significant Impact
☐ No Impact

16. Utilities and Service Systems

Project activities likely to create an impact:

Waste waster treatment facility discharges to surface waters

Description of Environmental Setting:

The former Surface Impoundments 0250, 0635 and 0706 do not have water, gas, or sewer lines. There is a potable water line outlet near former Surface Impoundment 0250. Electrical power is supplied to the groundwater extraction wells and the SVE power hook-ups near former Surface Impoundments 0250, 0635 and 0706.

Analysis of Potential Impacts. Describe to what extent project activities would:

a. Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board.

By Order No. 95-194 of the San Francisco Bay Region RWQCB, the facility is prohibited from discharging contaminated groundwater into creeks and surface water. No detectable concentrations of contaminants are allowed in surface waters or underflow at or beyond the property boundary, and no concentrations of contaminants in excess of cleanup standards are allowed in on-site surface waters.

b. Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects.

The facility has on-site its own wastewater treatment facilities in the form of groundwater treatment systems. There will be no need for a new facility or expansion of the existing facility.

c. Require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects.

There will be no need for construction of new drainage facilities or expansion of existing facilities.

d. Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed.

The facility has sufficient resources on-site to supply project needs.

e. Result in determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the projects projected demand in addition to the provider's existing commitments.

There will be no additional demand resulting from the project. The facility will supply its own demands.

f. Be served by a landfill with sufficient permitted capacity to accommodate the projects solid waste disposal needs.

The GAC unit will generate some waste which may or may not be classified as a RCRA hazardous waste. This waste will be shipped to an appropriate hazardous waste facility in accordance with California Code of Regulations Title 22 and Title 49 Code of Federal Regulations. Any other hazardous materials or wastes generated during this project will also be appropriately disposed of in accordance with applicable state and federal regulations.

g. Comply with federal, state, and local statutes and regulations related to solid waste.

Please refer to the response in item f. above.

References:

RCRA Part A and Part B Post-Closure Permit Application, United Technologies Corporation, Pratt and Whitney Rocketdyne, February, 2004.

Regional Water Quality Control Board, San Francisco Bay Region, Final Site Cleanup Requirements Order No. R2-2004-0032.

Findings of Significance:

☐ Potentially Significant Impact
☐ Potentially Significant Unless Mitigated
☒ Less Than Significant Impact
☐ No Impact

17. Cumulative Effects

Project activities likely to create an impact:

- Risk of Upset to Groundwater Treatment System (GTS)

Description of Environmental Setting:

Analysis of Potential Impacts. Describe to what extent project activities would:

a. Increase the need for developing new technologies, especially for managing any hazardous or non-hazardous wastes that the project generates.

Groundwater treatments are established technologies.

b. Increase the need for developing new technologies for any other aspects of the projects.

The Groundwater Treatment Systems are currently operating and are progressing toward the desired outcomes.

c. Leads to a larger project or leads to a series of projects, or is a step to additional projects. (Examples of DTSC projects include Interim Corrective Measures and Removal Actions that are not final remedies for a site or facility.)

A larger project is not anticipated.

d. Alters the location, distribution, density or growth rate of the human population of an area.

There will be no affect on the population surrounding the UTC facility.

e. Affect existing housing, public services, public infrastructure, or creates demands for additional housing.

There will be no affects on public housing or public services or public infrastructure.

f. Be cumulatively considerable on the environments with cumulative adverse effects on air, water, habitats, natural resources, etc.

The purpose of this project is to address potential impacts to groundwater resulting from previous UTC facility operations. Cumulative impacts resulting from the UTC facility closure are not anticipated.

The maximum soil concentrations of COPCs at surface impoundments 0250, 0635, and 0706 are considered to be below levels corresponding to one in one million excess cancer risks or hazard quotient of 1.0.

As stated in the Hazardous Materials section, UTC maintains an-in-house staff of professional firefighters assigned to respond to fires, hazardous materials releases, and medical emergencies. In this capacity, all UTC fire department personnel receive training in order to provide response action.

Maintenance Activities for the former surface impoundments 0250, 0635, and 0706 will consist of groundwater monitoring and weed clearing. Inspections are performed twice a year.

During groundwater sampling and water level measurements, the groundwater wells are inspected. Maintenance is performed as needed to ensure that the equipment and area are in good repair. An inspection will also be made after any major earthquakes.

Workers at the UTC facility handling hazardous materials are trained pursuant to federal Occupational Safety Health Agency (OSHA) and California Code of Regulations Title 8, Cal OSHA requirements. UTC will comply with its site Health and Safety Plan (HSP) when undertaking hazardous work.

Hazardous wastes at the UTC facility are handled in accordance with Title 49 CFR and CCR Title 22.

References:

RCRA Part A and Part B Post-Closure Permit Application, United Technologies Corporation, Pratt and Whitney Rocketdyne, February, 2004.

Findings of Significance:

☐ Potentially Significant Impact
☐ Potentially Significant Unless Mitigated
☒ Less Than Significant Impact
☐ No Impact

18. Mandatory Findings of Significance

Project activities likely to create an impact:

- Risk of Upset to Groundwater Treatment System (GTS)

Description of Environmental Setting:

Analysis of Potential Impacts. Describe to what extent project activities would:

a. Have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal, or eliminate important examples of the major periods of California history or prehistory.

   Based on the Initial Study analysis in the biological, cultural, hazards, and hydrological sections, the project will not have significant effects on rare or endangered plant or animal species or eliminate important examples of California history or prehistory. This project does not involve any soil disturbances.

b. Have impacts that are individually limited but cumulatively considerable. As used in the subsection, "cumulatively considerable".

   ["Cumulatively considerable" means that the incremental effects of an individual project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects]

   Based on the initial study analysis in the hazardous and hydrology sections, there are no tanks or containers of hazardous waste associated with these facilities that could fail. Discharged water from the treatment units must meet Water Quality Control Board cleanup standards, and monitoring wells are sampled on a regular schedule as discussed in the hydrology section of this Initial Study. In the event a release should occur, the movement of hazardous chemicals within soil and

groundwater is relatively slow compared to a surface discharge. Timely corrective action will be taken to prevent any health or environmental exposure. Periodic inspections are designed to ensure continued safe facility operations.

Inspections for former Surface Impoundments 0250, 0635, and 0706 include the following elements:

- Verifying that groundwater extraction wells, groundwater monitoring wells, and the Station 0250 SVE wells and manifold are in good condition;
- Verifying that runoff control catch basins and ditches are in good condition;

c. Have environmental effects that will cause substantial adverse effects on human beings, either directly or indirectly.

Please refer to the response to item "a" above. As discussed in the hazards and hydrology sections of this Initial Study, the project includes regular monitoring. Groundwater monitoring will occur as described in the RCRA Post Closure Groundwater Monitoring Plan, Post Closure Permit, and the Water Board's Site Cleanup Requirements. Action levels for continued monitoring and cleanup are established by the RWQCB and DTSC. Groundwater monitoring of former Surface Impoundments 0250, 0635, and 0706 will continue throughout the post-closure care period as required by the RWQCB and DTSC. Groundwater monitoring results are reported to the RWQCB and to the DTSC. The groundwater monitoring reports will be prepared under the direction of and certified by a geologist or civil engineer registered in California.

Former Surface Impoundments 0250, 0635, and 0706 are capped and require minimal maintenance. The soils under these former Surface Impoundments do not have contaminant levels at or above one in one million increased residential risk. All wastes have been removed from the former surface impoundments, only groundwater contamination remains.

During groundwater sampling water level measurements, the groundwater wells are verified to be in a state of good repair.

References:

RCRA Part A and Part B Post-Closure Permit Application, United Technologies Corporation, Pratt and Whitney Rocketdyne, February, 2004.

Findings of Significance:

☐ Potentially Significant Impact
☐ Potentially Significant Unless Mitigated
☒ Less Than Significant Impact
☐ No Impact

V. DETERMINATION OF APPROPRIATE ENVIRONMENTAL DOCUMENT

On the basis of this Initial Study:

☒ I find that the proposed project COULD NOT have a significant effect on the environment. A NEGATIVE DECLARATION will be prepared.

☐ I find that although the proposed project could have a significant effect on the environment, there will not be a significant effect in this case because revisions in the project have been made by or agreed to by the project proponent. A MITIGATED DECLARATION will be prepared.

☐ I find that the proposed project MAY HAVE a significant effect on the environment. An ENVIRONMENTAL IMPACT REPORT will be prepared.

Signed by Andrew Berna-Hicks		09/28/06
DTSC Project Manager Signature		Date
Andrew Berna-Hicks	Hazardous Substances Engineer	(510) 540-3956
DTSC Project Manager Name	DTSC Project Manager Title	Phone #
Signed by Sal Ciriello		09/28/06
DTSC Branch/Unit Chief Signature		Date
Salvatore Ciriello	Unit Chief, Standardized Permitting and Corrective Action Branch	(510) 540-3972
DTSC Branch/Unit Chief Name	DTSC Branch/Unit Chief Title	Phone #

ATTACHMENT A

INITIAL STUDY REFERENCE LIST

For

United Technologies Corporation, Pratt and Whitney Rocketdyne

Post Closure Permit for former Surface Impoundments 250, 635 and 706

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1. Bay Area Air Quality Management District: http://www.baaqmd.gov/planning/resmod/baas.htm

2. BioSearch Associated, Aquatic Sampling for California Red-Legged Frog and California Tiger Salamander, July 2005.

3. Blasland, Bouck & Lee, Inc., Engineers & Scientists, Addendum to the Risk Assessment for Closure of the Open Burn Facility Revised December 18, 1998, United Technologies Corporation Pratt & Whitney Space Propulsion, San Jose Facility, August 2003.

4. Blasland, Bouck and Lee, Inc. 2006 Projects Addendum to the Programmatic Biological Assessment, May 12, 2006.

5. Department of Toxic Substances Control, Calsites database, September 16, 2003.

6. Department of Fish and Game, Wildlife and Habitat Data Analysis Branch, Natural Diversity Database Rarefind Report, March 22, 2006.

7. United Technologies Corporation, ICF Technology Incorporated, Management Plan for Disposal of Extracted Groundwater at United Technologies Corporation, Santa Clara County, California (RWQCB Waste Discharge Requirements Order 89-008, Provision C.8.c), August 1989.

8. RCRA Part A and Part B Post-Closure Permit Application, United Technologies Corporation, Pratt and Whitney Space Propulsion, February, 2004.

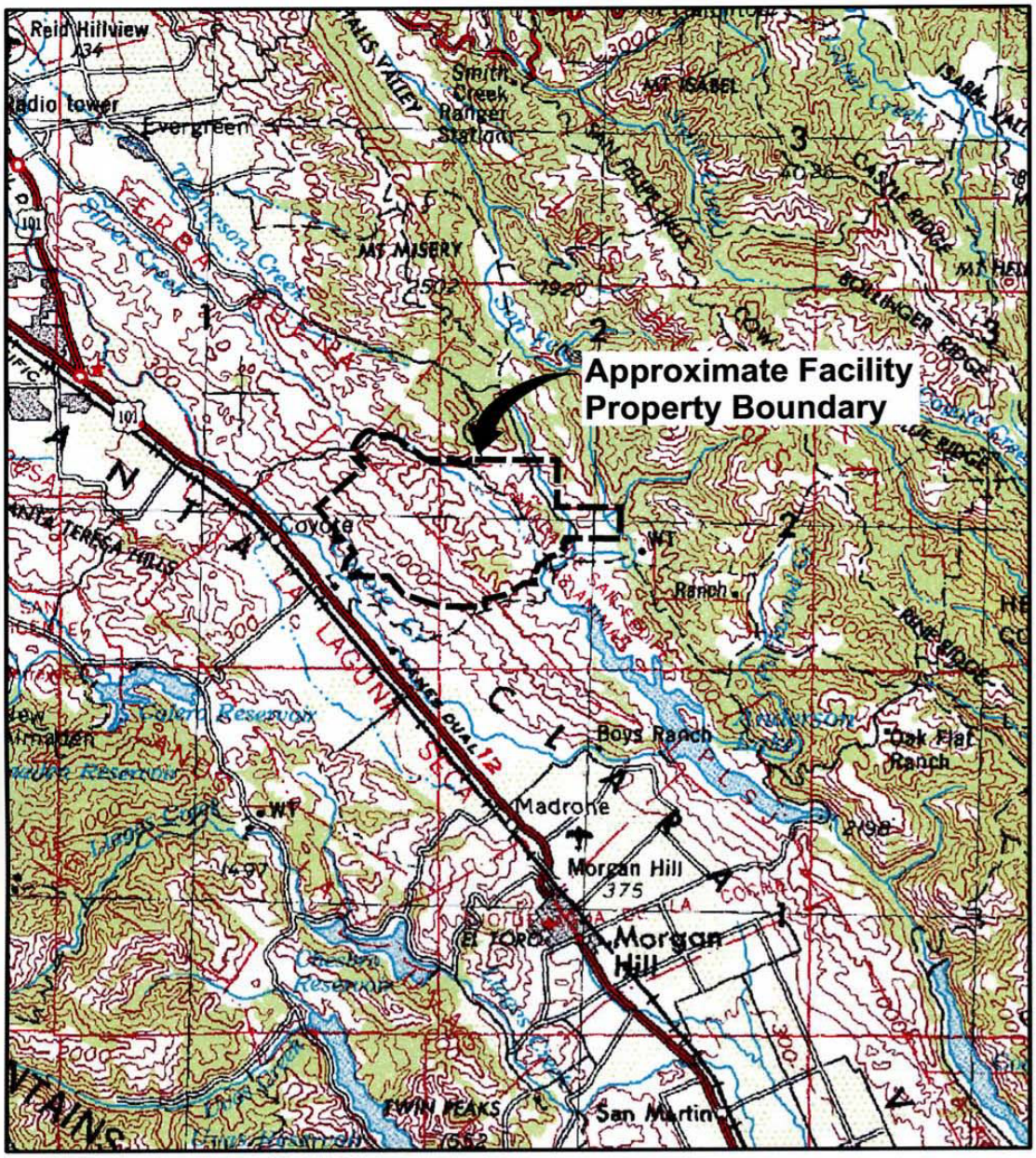
9. Santa Clara County, Historic Preservation Office, Heritage Resource Inventory: http://www.sccplanning.org/planning/content/PlansPolicy/PlansPolicy_Historic_Preservation.jsp

10. California Regional Water Quality Control Board, San Francisco Bay Region, Final Site Cleanup Requirements (Order No. R2-2004-0032) United Technologies Corporation, 600 Metcalf Road, San Jose, Santa Clara County, May 2004.

11. Aquatic Sampling for California Red-Legged Frog and California Tiger Salamander, United Technologies, August 10, 1995

10. Native American Burial Protection Plan for the Site Closure Program for the United Technologies-Pratt & Whitney Rocketdyne San Jose Facility Site Closure Program, March 10, 2006

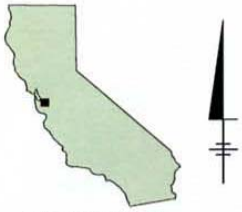
11. Letter from the Native American Heritage Commission to Nicole Sotak, DTSC, regarding the Proposed Closure Plan for United Technologies Corp., Santa Clara County, March 18, 2006



REFERENCE: BASE MAP USGS QUADS.

NOTE:

1. PROPERTY BOUNDARY IS APPROXIMATE.



Area Location

02/22/06 SYR-D85-DJH
39558004/39558n01.cdr

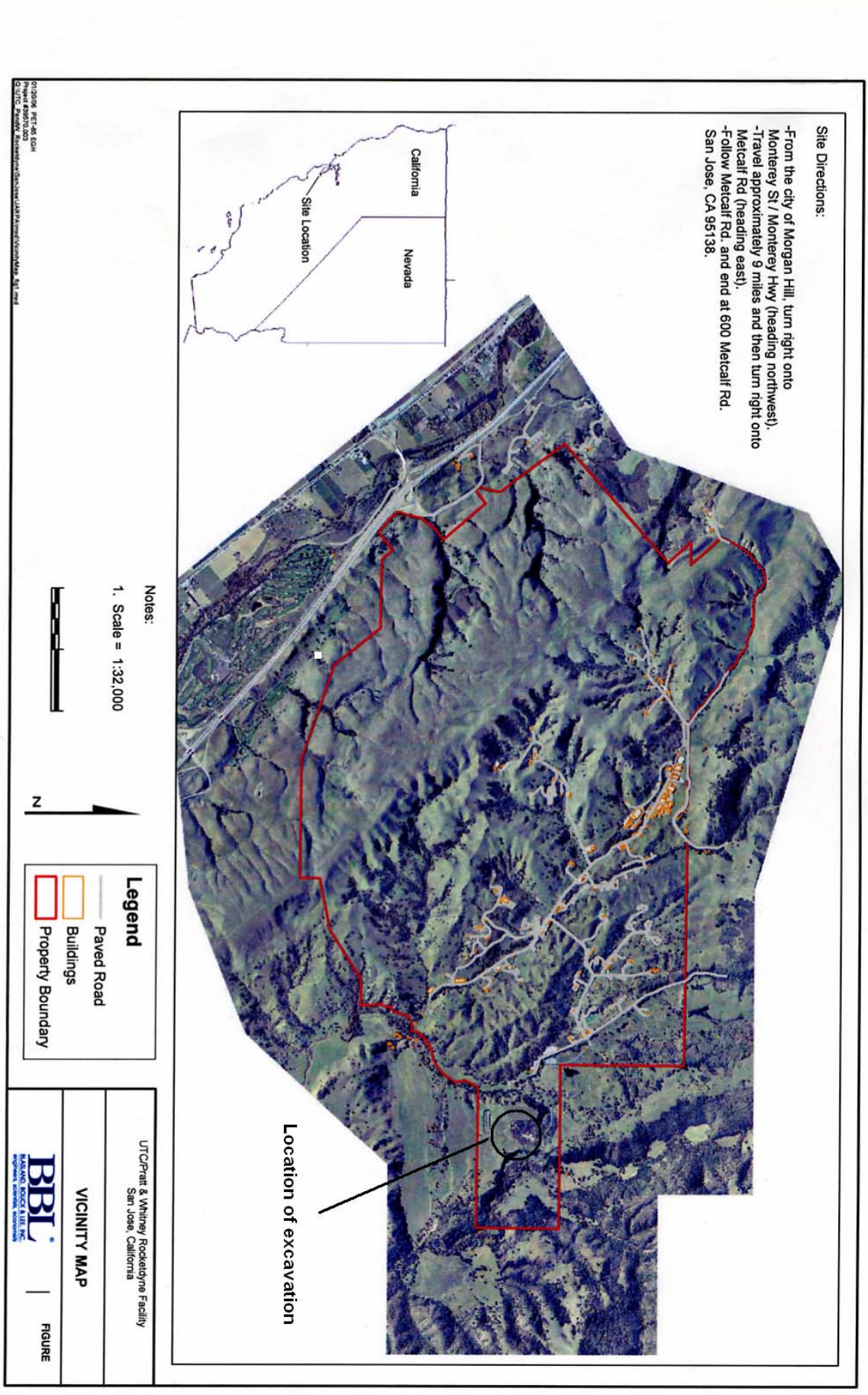
PRATT & WHITNEY ROCKETDYNE
SAN JOSE, CALIFORNIA

2005 ANNUAL EMP REPORT

SITE LOCATION MAP

BBL BLASLAND, BOUCK & LEE, INC. engineers, scientists, economists

FIGURE 1-1


Site Directions:
-From the city of Morgan Hill, turn right onto Monterey St / Monterey Hwy (heading northwest).
-Travel approximately 9 miles and then turn right onto Metcalf Rd (heading east).
-Follow Metcalf Rd. and end at 600 Metcalf Rd. San Jose, CA 95138.
California
Nevada
Site Location
Location of excavation
Notes:
1. Scale = 1:32,000
N
Legend
Paved Road
Buildings
Property Boundary
UTC/Pratt & Whitney Rocketdyne Facility
San Jose, California
VICINITY MAP
FIGURE
BBL

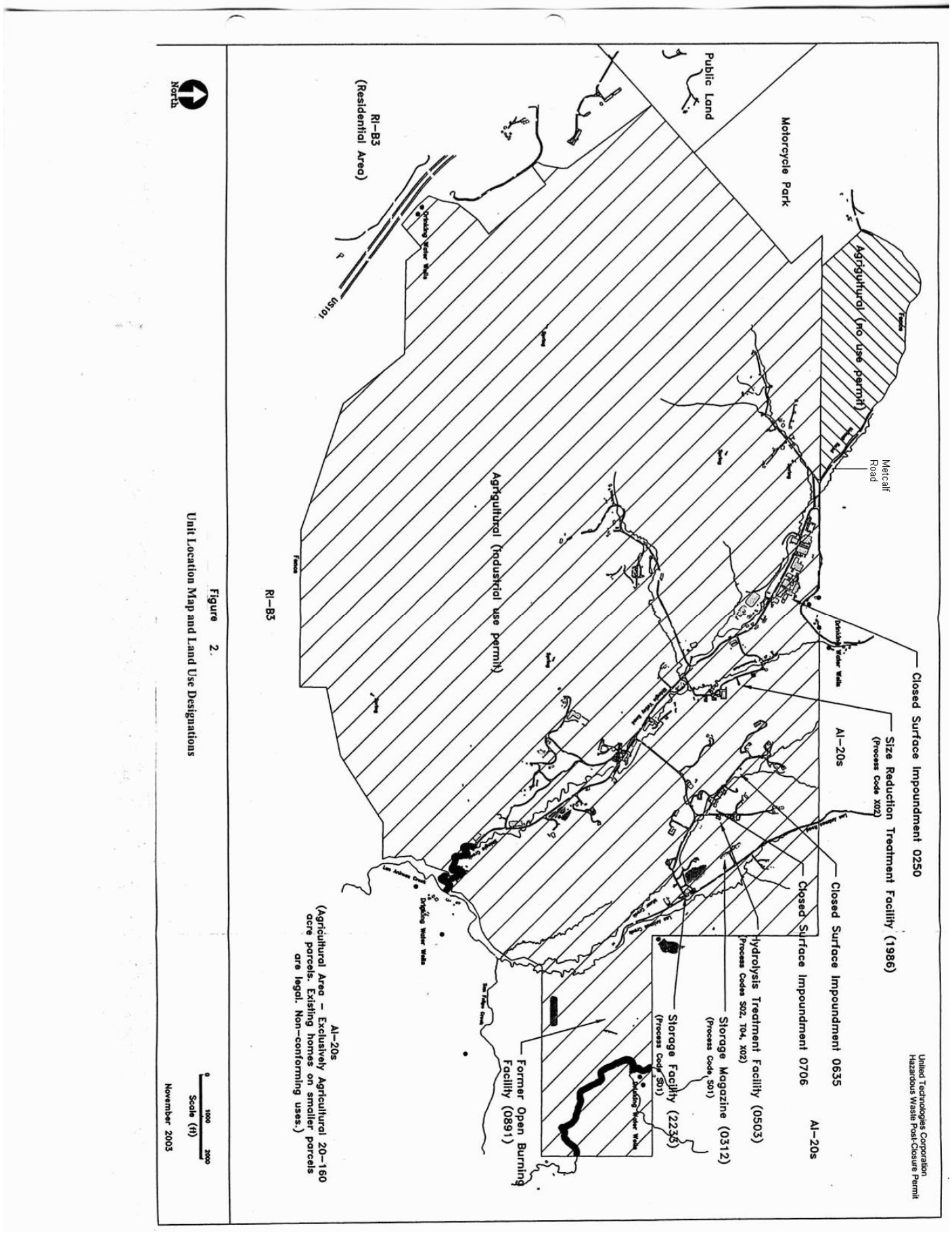


Figure 2.

Unit Location Map and Land Use Designations