SITE-SPECIFIC
HAZARDOUS MATERIALS RISK ANALYSIS REPORT

Warm Springs BART/South Fremont Development Area 3
Fremont, CA 94538

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1.0 EXECUTIVE SUMMARY

The Proposed Development is located in an area zoned for mixed use including Industrial and Research and Development. As a result, it is expected that existing businesses and public and private utility structures (i.e. pipelines) sited within the Study Area store, generate, and use significant quantities of hazardous materials which can exhibit toxic, flammable, and explosive properties. An Initial Study conducted in 2012 for the Warm Springs BART Development Area and incorporated into the corresponding Environmental Impact Report suggested mitigation for future sensitive receptors within the Study Area as a safeguard against potential hazardous material releases. In this Site-Specific Analysis, hazardous release modeling was updated to include information found in current Hazardous Material Inventory Statements. The influence of passive mitigation measures, where documented and confirmed, was also incorporated in the modeling. Where available, facility-specific storage and/or release locations within the geographic limits of a facility boundary were considered in this analysis. Potential toxic and flammable endpoints resulting from releases of regulated hazardous materials were mapped to determine the extent to which these endpoints would overlap the Proposed Development boundary.

The updated modeling conducted in this Site-Specific Analysis shows that it is unlikely that the consequences of an offsite release would pose a health and safety risk to future receptors within the Proposed Development. Therefore, TRC does not recommend adoption or implementation of specific mitigation measures within the Proposed Development.

Given the low probability, but potentially significant consequence of a pipeline release and subsequent fire or explosion, TRC suggests that, where practical and feasible, certain proactive mitigation measures be considered for development along the eastern perimeter adjacent to the pipeline corridor. These proactive mitigation measures may include site design considerations such as placement of structured parking adjacent to the pipeline to reduce the consequences of an unlikely release and subsequent fire and explosion in this area and/or setback distance to maximize the separation between the pipeline corridor and living space.

Based on our current knowledge and review of best management practices that have been identified in hazardous material regulations (state and federal) along with the conservative release scenario modeling that was conducted in this analysis, TRC has concluded that the hazard endpoints relative to their impact thresholds on sensitive receptors within the Proposed Development would be unlikely.

The probability of a future release is significantly influenced by the operating procedures of the businesses using hazardous materials. Factors that could influence the probability of occurrence and/or severity of potential impacts include changes in management practices and methods, inventory, site conditions and other extreme circumstances beyond the parameters and variables that were used in this analysis.

Businesses are required to abide by state and federal regulations which are designed to ensure that hazardous materials are used, stored, and generated in a safe manner. State and City regulators such as CalOSHA and the City of Fremont CUPA should continue to conduct periodic inspections to ensure compliance with regulatory requirements.

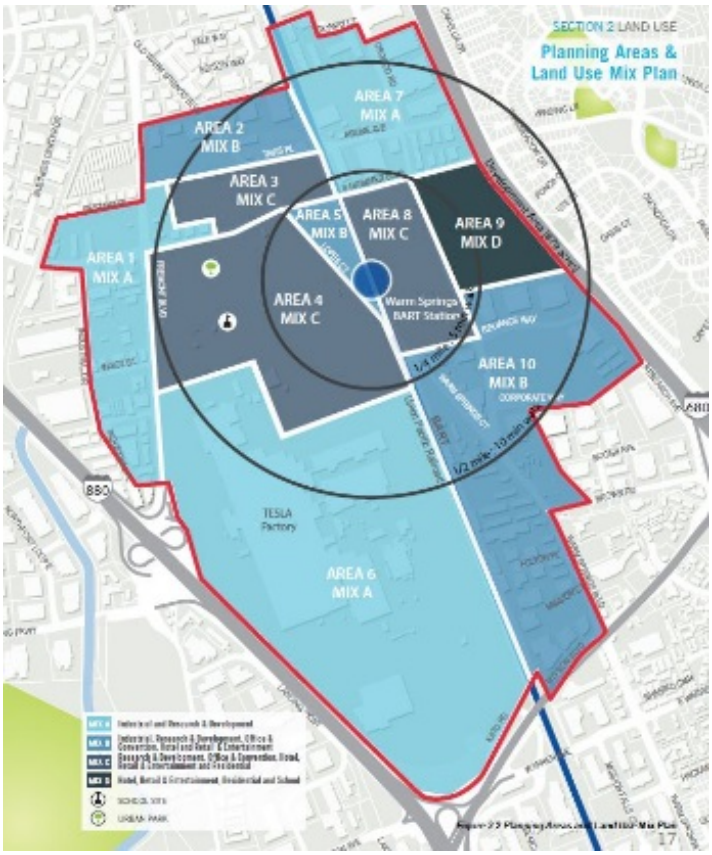
2.0 INTRODUCTION

2.1 Purpose

This Site-Specific Hazardous Materials Risk Analysis ("Study") describes the potential hazardous material risks and suggested mitigation measures to reduce, to the maximum extent possible, the severity of consequences during a release at Area 3 ("Proposed Development", See Figure 1) within the Warm Springs BART Development Area. These mitigation measures are intended to reduce the risk resulting from hazardous materials releases and afford additional protection to future site users in the surrounding area. The Study incorporates, refines, and builds upon findings from the Hazardous Materials User Study ("Initial Study") described in the Environmental Impact Report prepared for the Warm Springs/South Fremont Community Plan ("EIR").

The Study is being prepared for Valley Oak Partners, LLC by TRC Solutions, Inc. The Study is intended to fulfill the requirement of Mitigation Measure MM HAZ-2a of the EIR and is also being submitted to the City of Fremont for review and approval. Once approved, any mitigation measures suggested shall be considered for incorporation into the Proposed Development's project plans.

Figure 1: Warm Springs/South Fremont Community Plan Planning Areas and Land Use Mix Plan.



2.2 Scope of Services

The scope of the Study included the following:

1) A reconnaissance of accessible sites, business and areas surrounding the Proposed Development;
2) Identification of hazardous materials of concern and determination of quantities stored at identified businesses;
3) Review of updated documents pertaining to applicable hazardous material storage and use (e.g., hazardous materials business plans, risk management plans, correspondence, permits, checklists, etc.);
4) Estimation of potential risks calculated using the Environmental Protection Agencies (EPA) Risk Management Program Guidance for Offsite Consequence Analysis (March, 2009), California Department of Education (CDE) Pipeline Risk Protocol (February, 2007) , and the Final California Accidental Release Prevention (CalARP) Program Regulations (June, 2004) for any hazardous materials identified as a concern;
5) Summary of mitigation measures to reduce the magnitude of identified offsite consequences to future sensitive receptors within the Study Area;
6) Where applicable, discussions related to feasibility of relocating hazardous materials in order to reduce the risk to human health and safety within the Study Area; and
7) Completion of a final report documenting methodologies, findings, conclusions and recommendations; prepared and signed by a Certified Industrial Hygienist.

3.0 BACKGROUND

Study Area Setting

Fremont, California is located in south western Alameda County which lies in the southeast section of the San Francisco Bay Area. It is bordered on the west by the San Francisco Bay and on the east by the East Bay Hills. Fremont is generally flat with a slight increase in elevation moving eastward until reaching the foothills. It is part of the San Francisco Bay Area Air Basin (SFBAAB). The Bay Area Air Quality Management District (BAAQMD) is responsible for monitoring air quality and meteorological conditions within this basin. The local Certified Unified Program Agency (CUPA) which is responsible for coordinating the implementation of California's hazardous materials regulatory programs is the City of Fremont Fire Department.

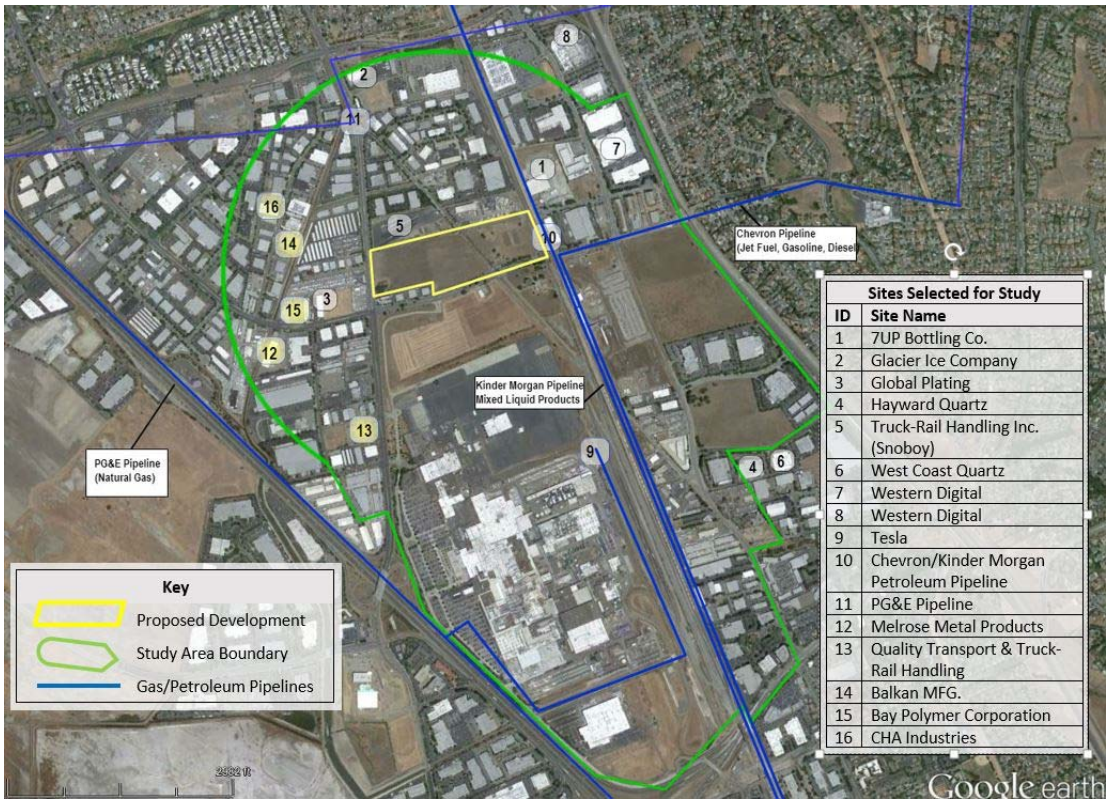
The Proposed Development includes approximately 30 acres of land recently rezoned to include a combination of Research & Development, Office & Convention, Hotel, Retail & Entertainment, and Residential land uses. The Proposed Development site is currently vacant and is just north of South Grimmer Boulevard, west of Union Pacific Rail Corridor (which the BART transit line will also use), and east of Fremont Blvd. Old Warm Springs Blvd currently bisects the Proposed Development approximately north to south. Properties surrounding the facility include a mixture of similarly zoned areas and industrial sites. Figure 2 includes hazardous material users identified in the Initial Study and hazardous material users within a half mile radius of the Proposed Development (Study Area).

Meteorological Conditions

During the summer, the weather in Fremont is typical of weather on the California west coast. The consistent seasonal formation of a semi-permanent, subtropical high-pressure cell over the north eastern Pacific Ocean blocks storms and causes negligible precipitation. During the winter, the Pacific High shifts southward and exposes the Bay Area to occasional rainstorms. The vast majority of the precipitation occurs during the winter months.

Winds during the summer months are steady and predominantly from the northwest. In the winter months, winds alternate from periods of storminess with strong winds to periods of stagnation and weak winds. During periods of storminess, winds are predominantly oriented from the west and northwest while during periods of stagnation, light and variable winds are expected. The average annual wind speed in Fremont is six (6) miles per hour (mph) from the northwest (BAAQMD).

Figure 2: Study Area Boundary and Hazardous Materials Users of Interest.



Sites Selected for Study	
ID	Site Name
1	7UP Bottling Co.
2	Glacier Ice Company
3	Global Plating
4	Hayward Quartz
5	Truck-Rail Handling Inc. (Snoboy)
6	West Coast Quartz
7	Western Digital
8	Western Digital
9	Tesla
10	Chevron/Kinder Morgan Petroleum Pipeline
11	PG&E Pipeline
12	Melrose Metal Products
13	Quality Transport & Truck-Rail Handling
14	Balkan MFG.
15	Bay Polymer Corporation
16	CHA Industries

3.1 Identification of Hazardous Sources

The Study included all hazardous material users identified during the Initial Study and was expanded to include other hazardous materials users located within a half mile of the Proposed Development. Current Hazardous Material Inventory Statements and Risk Management Plans were requested in order to confirm hazardous material storage amounts. Pipeline information was considered to be consistent with the Initial Study.

3.1.1 Study Area Reconnaissance

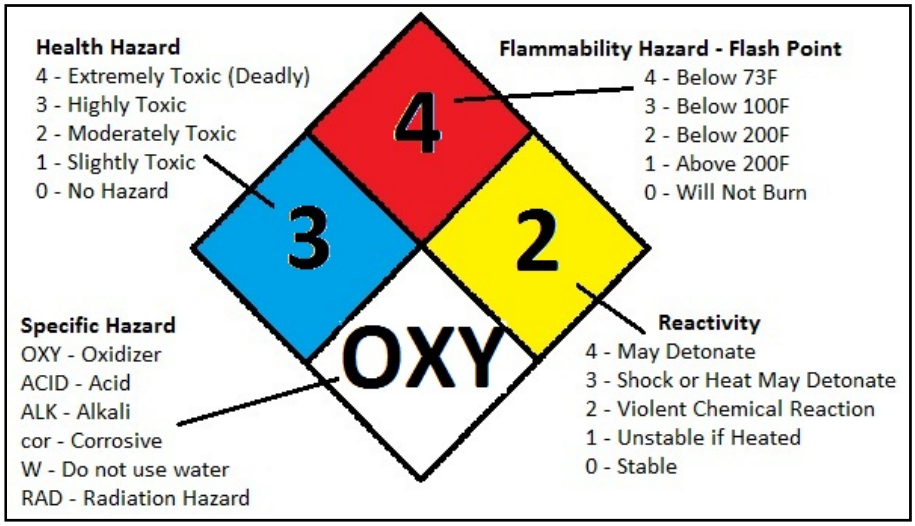
On Tuesday, November 18, 2014 a reconnaissance of the Study Area was conducted in order to confirm hazards identified in the Initial Study and identify potential new sources of hazardous materials within the Study Area. Visual cues to hazardous materials such as the presence of liquid storage tanks, pipeline markers and transmission lines were noted and photographs were obtained.

Stationary Sources

During the reconnaissance, businesses displaying the National Fire Protection Association (NFPA) 704 placard were identified. According to The California Emergency Management Agency Business Plan/ Emergency Planning and Community Right-to-Know Act (EPCRA) 312 program (established in 1986), businesses that handle hazardous materials in quantities greater than 55 gallons of liquids, 200 cubic feet of gases, and 500 pounds of solids, or extremely hazardous materials above the threshold planning quantities (40 Code of Federal Regulations (CFR), Part 355, Appendix A and B) must submit a Hazardous Material Business Plan (HMBP)

to a Certified Unified Program Agency (CUPA). The requirements also mandate that these businesses display NFPA placards which provide information on the hazards associated with the hazardous materials present. NFPA placards are color coded based on the type (health, flammability, reactivity, and specific hazards) and a number (e.g., 0 to 4) reflecting the severity of the hazard (with 0 representing the lowest hazard and 4 representing the highest hazard). Figure 3 illustrates an example of a NFPA placard and an explanation of the numerical scale for each of the hazard classifications.

Figure 3: NFPA 704 Placard Example and Explanation.



TRC identified approximately five (5) new sources with potential large quantities of hazardous materials.

Mobile Sources

The Union Pacific rail corridor abuts the Proposed Development's eastern perimeter and travels north-south through the Study Area. Rail tracks spur into the Truck-Rail Handling facility (Snoboy) just north of the Proposed Development. During the reconnaissance, the storage of liquid tank cars was observed at Snoboy. Figure 4, taken during the Initial Study reconnaissance, displays various liquid rail tanker cars parked in the truck rail facility. These rail cars pass through the Study Area in order to be loaded or unloaded at Snoboy. Figure 4 also depicts above ground liquid storage tanks and gas cylinders which may represent stationary source hazards.

Figure 4: Example of Liquid Rail Tanker Car Storage.

Transmission Lines / Pipelines

Two liquid petroleum product pipelines operated by Chevron Pipeline Company (CPL) and Kinder Morgan Energy Partners (KMEP) operate within the Study Area. The CPL pipeline travels north south along the UP rail corridor until it elbows east just south of South Grimmer Boulevard. The KMEP pipelines travels along the rail corridor and the Proposed Development's eastern perimeter. In addition, during the Initial Study it was discovered that Pacific Gas and Electric (PG&E) operates two pipelines within the Study Area. There are service lines which "dead-end" in Tesla Motors facility and in a vacant lot just north of Mission Boulevard and east of I-880. The more northern of the two service lines is within the Study Area. Figure 1 contains an overview map exhibiting the locations of pipelines of interest within the Study Area.

3.1.2 Records Review

Following the Study Area reconnaissance, the City of Fremont CUPA was contacted to review site specific records for Sites selected in the Initial Study and additional sites identified during the study area reconnaissance. All businesses selected were found to participate in the HMBP program and hazardous material inventory statements (HMIS) were obtained. See Appendix A for copies of HMIS's.

HMBP Review

In the State of California, HMBPs must be submitted for any business which generates hazardous waste or uses hazardous materials over threshold quantities. HMBP's contain Hazardous Material Inventory Statement's (HMIS) which contain listing of each hazardous material a business stores over the course of a year. The HMIS also includes general physical properties of the hazardous material and storage details (e.g., drum/tank, quantity, location of storage).

CalARP Program Review

The CalARP Program, codified in the California Code of Regulations (CCR) Title 19, Chapter 4.5, includes the federal Accidental Release Prevention Program [Title 40, Code of Federal Regulations (CFR) Part 68] and certain additions specific to the state pursuant to Article 2, Chapter 6.95, of the Health and Safety Code (HSC). The local CUPA may require a stationary source business to submit a Risk Management Plan (RMP) if the quantity of regulated material exceeds the threshold quantity specified in CalARP. Regulated materials include the toxic or flammable materials found in Section 112(r) of the federal Clean Air Act (CAA) and Section 25532(g)(2) and 25543.3 of the California HSC.

During records review performed at the City of Fremont Fire Department during the Initial Study, it was found that two stationary sources identified as potential hazardous sources during the site reconnaissance participate in the CalARP program and have previously prepared RMP's. These sources were Glacier Ice Company at 43960 Fremont Boulevard and Global Plating, Inc. at 44620 Grimmer Boulevard.

4.0 RISK ASSESSMENT

A risk assessment was conducted in order to determine whether hazardous materials users within the Study Area could expose individuals to a health and safety risk during a worst-case release scenario (WCRS) or alternative release scenario (ARS). Risk modeling was conducted using standardized state and federal assumptions for off-site consequence. The modeling was performed to determine the distance from the release source to federal or state defined flammable and toxic Levels of Concern (LOC) or "endpoints". These endpoints represent threshold values associated with a specific hazard (e.g., toxicity, flammability, thermal radiation, or overpressure). Where the modeled concentration of a hazardous material exceeds the specified threshold, a potential threat to human health and/or property may exist. For sites that have prepared and submitted RMP's to the CUPA, the results of the existing offsite consequence analysis presented in the RMP prepared by the facilities are incorporated into this report.

4.1 Selection of Sites

During the initial study, the professional judgments of TRC and City of Fremont staff were used in order to select sites for which quantitative risk assessments (based on worst-case, hypothetical chemical releases) would be performed. Table 1 provides a summary of the sites selected for quantitative risk assessment, the hazardous material associated with the site, and whether a previous RMP had been prepared for the site.

Table 1: Businesses and Corresponding Hazardous Materials Selected for Risk Assessment.

Facility Name	Hazardous Material	RMP? (Y/N)
Global Plating	Nitric Acid	Y
Global Plating	Hydrocyanic Acid (HCN) Gas	Y
Glacier Ice Company	Ammonia (anhydrous)	Y
West Coast Quartz	Hydrogen	N
Hayward Quartz	Hydrogen	N
Truck-Rail Handling Inc.	Methanol	N
Western Digital	Chlorine	N
Western Digital	Ammonia (anhydrous)	N
Western Digital	Silane	N
7UP Bottling Co.	Propane	N

Additionally, based on NFPA placards observed during the site-reconnaissance TRC also identified five additional sites that warranted additional consideration as summarized in Table 2.

Table 2: New Sites Selected for Hazardous Risk Analysis.

Facility Name	NFPA Placard Levels			Special	Industry Type
	Fire	Health	Reactivity		
Melrose Metal Products	4	2	3		Industrial Metal manufacturing
Quality Transport & Truck Rail Handling	4	3	2	Oxy	Bulk transport and transfer of chemicals
Balkan MFG.	4	2	2	Oxy	High-tech manufacturing
Bay Polymer Corporation	4	2	2	Oxy	Plastics
CHA Industries	4	3	2	Oxy/Cryo	Thin film deposition

Following review of the HMIS for facilities listed in Table 2, TRC determined that, based on the nature of hazardous materials stored, none of the sites identified in Table 2 store sufficient quantities of hazardous materials to warrant release modeling at these sites. The 2014 HMIS statements for these facilities are included in Appendix A.

Finally, releases from a PG&E natural gas pipeline and a Chevron Pipe Line Company (CPL) were considered in this analysis. Table 3 identifies the pipeline operator and the associated hazardous material conveyed within the pipeline. The CPL was used as a surrogate for the KMEP pipeline since the potential hazards posed by each are similar.

Table 3: Pipelines and Corresponding Hazardous Material Selected for Risk Assessment

Pipeline Operator	Chemical of Concern
PG&E	Natural Gas – Modeled as Methane
CPL	Gasoline – Modeled as Pentane and Octane

4.2 Risk Modeling Methodology and Assumptions

Computerized modeling was conducted using Areal Location of Hazardous Atmospheres model (ALOHA) version 5.4.4 developed by the Office of Emergency Management of the EPA and the Emergency Response Division of National Oceanic and Atmospheric Administration (NOAA). Modeling of potential releases from the selected facilities was performed assuming worst case and, if applicable, alternative release scenario assumptions. The WCRS and associated assumptions result in the maximum potential impact for a specific hazardous material and endpoint. Conversely, the Alternative Release Scenario and associated assumptions are considered to be more reflective of releases and conditions that are more likely to occur. Consequently, the potential impacts resulting from the ARS conditions are of more limited extent.

4.2.1 Mitigation Measures Not Considered in Risk Modeling

The Initial Study included an evaluation of WCRS that did not consider the influence of certain mitigation measures that could reduce the magnitude of a release or the severity of the potential offsite consequences. While the updated WCRS models presented in this assessment account for specific chemicals, quantities, and distances, they do not necessarily take into account best management practices (BMPs) and/or regulatory requirements that are designed to reduce the probability of a worst-case release scenario and the resulting offsite consequence. Examples of mitigation measures that are specified in other regulations are provided below:

- California Code of Regulations (CCR), Title 24, also referred to as the California Building Standards Code which establishes building requirements for the use and storage of hazardous materials.
- 49 CFR 195 which concerns hazardous liquid pipeline safety laws.
- CCR Title 24 Chapter 34 establishes regulations for the storage of flammable in combustible liquids. Section 3404.2.2 mandates that tank cars and tank vehicles shall not be used as storage tanks. Consequently, a spill from the truck/rail handling facility would be assumed to occur during transportation or bulk transfer. Section 3406.5.1.18 mandates that transfer operations shall be surrounded by a noncombustible fence not less than 5 feet in height and Section 3406.5.1.17 requires all transfer operations be monitored by an approved monitoring system or attendant who is present at all times. In consideration of these additional regulatory requirements, it is unlikely that the conditions of a WCRS would occur from a truck/rail handling facility.
- CCR Title 24 Chapter 30 establishes regulations for the storage, use, and handling of compressed gases in compressed gas containers and cylinders. The regulation safeguards releases of compressed gases due to seismic activity, physical disturbances, and security risks while also setting forth design requirements for cylinders and valves which also mitigate the likelihood of releases.
- CCR Title 24 Chapter 37 establishes storage and use requirements for toxic gas cylinders. Per Section 3704.2.2 toxic gas cylinders must be located within gas cabinets, exhausted enclosures, and gas rooms ventilated to treatment system capable of diluting, adsorbing, absorbing, containing, neutralizing, burning the largest single vessel of compressed gas. These treatment systems also must be designed to reduce the maximum allowable discharge concentrations of the gas to one-half the Immediately Dangerous to Life or Health (IDLH) threshold at the point of discharge to the atmosphere. The regulation also mandates automatic shut off valves and gas detection systems connected to emergency power.

The potential influence of the additional regulatory requirements and associated mitigation measures were not considered in the risk modeling performed as a component of this evaluation. The regulatory requirements identified above, would be anticipated to either decrease the probability of a WCRS or reduce the offsite consequence of the WCRS.

4.2.2 Endpoints

CalARP Section 2750.2 sets forth endpoints for regulated toxic and flammable materials. These endpoints are defined as the point where serious injuries from short-term exposure to a regulated substance will no longer occur.

Toxic endpoints vary by chemical and are available in CalARP Section 2770.5 in Tables 1 and 3. Flammable endpoints set forth in the regulation are defined in Table 4 below.

Table 4: Flammable Endpoints.

Type of Scenario	Endpoint
Explosion	Overpressure of 1 psi
Radiant heat/exposure time	5 kw/m^2 for 40 seconds
Lower Flammability Limit	As provided in NFPA documents or other generally recognized sources

CalARP defined toxic and flammable endpoints are the standard exposure thresholds for hazardous risk modeling found in RMP's. However, there are a number of other established exposure thresholds for hazardous materials, as outlined below:

- For overpressure exposure, one (1) pound per square inch is known to cause partial demolition of houses, 5 pounds per square inch is known to cause nearly complete destruction of houses, and 10 pounds per square inch is known to destroy buildings.
- For thermal radiation exposure, two (2) kilowatts per square meter is known to cause pain within 60 seconds, five (5) kilowatts per square meter is known to cause second degree burns after 60 seconds, and 10 kilowatts per square meter is potentially lethal after 60 seconds.
- One of the most common of these thresholds is called the Immediately Dangerous to Life and Health (IDLH) limits. IDLH's are workplace exposure limits that are used primarily for making decisions regarding respirator use. The National Institute of Occupational Safety and Health (NIOSH) defines an IDLH condition as a situation "that poses a threat of exposure to airborne contaminants when that exposure is likely to cause death or immediate, delayed, or permanent adverse health effects or prevent escape from such an environment." In the 1980's, before public exposure guidelines were available for most common chemicals, IDLH's were used. In general, IDLH values are higher than the toxic endpoints defined by CalARP meaning that it represents a more severe hazard. Thus, the distance to an IDLH will be shorter than that to a CalARP toxic endpoint.

Chemicals for which both toxic and flammable endpoints are applicable, were evaluated for both possible endpoints.

4.2.3 Worst-Case Release Scenario

The quantity of regulated substances released from a vessel, container, conveyance or process line can vary depending on the circumstances associated with the root cause of the release

triggering event. Once released from a container, vessel, or conveyance, the rate at which a regulated substance is released into the atmosphere can be influenced by a variety of factors including meteorological conditions (e.g., temperature, wind speed, stability) and chemical-specific properties (e.g., vapor pressure, density, concentration). For the purpose of this analysis, determination of the worst-case release quantity was assumed to involve the maximum quantity of a regulated substance contained in a vessel or the greatest amount of a regulated substance in a pipe or conveyance (taking into account administrative controls that limit the maximum quantity). Worst-case release scenario modeling was conducted in general accordance with the following guidelines and protocols:

- California Code of Regulations, Title 19, Division 2, Chapter 4.5 – Final Regulations for California Accidental Release (CalARP) Program, June 2004.
- EPA's Risk Management Plan Guidance for Offsite Consequence Analysis, March 2009.
- California Department of Education, Guidance Protocol for School Site Pipeline Risk Analysis, February 2007.

When details regarding the presence of positive controls and/or mitigation systems for a specific location are not known, potential releases or regulated substances were assumed to occur under worst-case release scenario conditions. Consistent with CalARP Section 2750.3(h) passive mitigation measures employed at a facility can be considered during WCRS modeling. Passive mitigation measures include equipment, devices, or technologies that function without human, mechanical or other energy inputs. Descriptions of existing, site-specific passive mitigation systems were not available in the CUPA programs documentation reviewed as a component of this analysis. However, where information regarding the presence of passive mitigation measures was confirmed, the influence of the mitigation measures was considered in the modeling. Unless it was known that the release of the regulated substance could only occur indoors, the modeling was carried out as if the WCRS occurred outdoors and without the influence of passive mitigation measures. This release scenario would be equivalent to a release that occurs during transport or exchange of materials or tanks on site, rather than as part of the industrial process that is contained within a building. The following paragraphs provide an overview of the CalARP definitions for the WCRS for liquids and toxic or flammable gases.

- CalARP Section 2750.3(b) defines the worst-case release quantity. The WCRS for chemicals modeled in this risk assessment were assumed to occur from the greatest amount held in a single vessel as recorded in the HMIS. The analysis does not consider releases from multiple vessels or cumulative effects of multiple releases. As stated in the EPA's RMP Guidance, releases occurring from multiple vessels at the same time are highly unlikely.
- CalARP Section 2750.3(c), (d), (e), and (f) defines WCRS for toxic gases, toxic liquids, flammable gases, and flammable liquids, respectively. These hazard specific assumptions are provided in Table 5.

Table 5: Hazard Specific WCRS Assumptions

Type of Hazard	Parameter	Value
Toxic Gases	Type of Release	Full quantity released to air over a span of 10 minutes
	Endpoint Modeled	Toxic endpoint
Toxic Liquids	Type of Release	Full quantity instantaneously forms an evaporating pool
	Spill Depth	1 centimeter or 0.394 inches (unless containment present)
	Surface Type	Flat, non-absorbing
	Release Rate to Air	Evaporation rate from pool
	Endpoint Modeled	Toxic endpoint
Flammable Gases	Type of Release	Full quantity released to air over a span of 10 minutes
	Ignition	Detonation of vapor cloud at 10 minutes as soon as full quantity has been released [1]
	Endpoints Modeled	Overpressure of 1.0 pounds per square inch
Flammable Liquids	Type of Release	Full quantity instantaneously forms an evaporating pool or burning pool
	Spill Depth	1 centimeter or 0.394 inches (unless containment present)
	Surface Type	Flat, non-absorbing
	Endpoint Modeled	Detonation of vapor cloud at 10 minutes for evaporating pools [1] or radiant heat of 5 kilowatts per square meter for pool fires

[1] The source of ignition associated with a vapor cloud explosion significantly influences the severity of the explosion and the estimated threat zone. Under rare circumstances, accidental explosions may be triggered by detonation (e.g., a high-power explosive device). The potential damage associated with a detonation explosion represents a worst-case accidental explosion. However, accidental explosions are most often triggered by common ignition sources (e.g., sparks, flames, heat, and static electricity). Under rare circumstances, an accidental explosion can be triggered by a common ignition source and still become a detonation explosion. For the purpose of this analysis, potential vapor cloud explosions were modeled for both the detonation and common ignition source conditions.

Quantities released from liquid petroleum product pipelines were assumed to occur following a full rupture of the pipe over a period of 15 minutes. Full ruptures are defined as the area of the rupture equaling the cross sectional area of the pipeline. ALOHA provides a tool to calculate the quantity released during this situation. After determining the quantity released using ALOHA, the WCRS was modeled using assumptions for flammable liquids. Similarly, the quantity released from natural gas pipelines was assumed to be that released for a period of 15 minutes following a full rupture.

As was previously discussed, meteorological conditions may also influence the rate at which a regulated substance is introduced into the atmosphere and migrates from the release source. CalARP Section 2750.2 defines general WCRS parameters for meteorological conditions including the ambient air temperature, height of release, surface roughness, temperature of the

released material, wind speed, and atmospheric stability. For the purpose of this analysis, the ambient air temperature was set to 77° F, as opposed to the default worst case condition (i.e., the highest daily maximum concentration over the previous three years). The meteorological conditions used for the WCRS scenario are generally intended to predict greater offsite impacts than if more representative, average meteorological conditions were used. CalARP also requires that the model used accounts for the density of gases. A summary of the WCRS parameters is provided in Table 6.

Table 6: General WCRS Parameters.

Parameter	Value
Wind Speed	1.5 m/s
Atmospheric Stability Class	F
Ambient Air Temperatures	25° C or 77° F
Height of Release	0 feet
Surface Roughness	"Urban"
Dense or Neutrally Buoyant Gases	Models used for dispersion analysis must account for gas density.
Temperature of Released Material	Liquids other than gases liquefied by refrigeration only shall be considered to be released at the highest daily maximum temperature.

m/s = meters per second
°C = degrees Celsius
°F = degrees Fahrenheit

4.2.4 Alternative Release Scenario (ARS)

An alternative release scenario is one that is more likely to occur than a worst-case release scenario and general involve release of a smaller quantity of the regulated substances. For example, an alternative release scenario may involve a release due to the partial failure of a container, piping or conveyance (as opposed to the more catastrophic failure considered under the WCRS). In addition, the alternative release scenarios account for active mitigation measures such as emergency shut-off valves and other equipment, devices, or technologies that require human, mechanical, or other energy inputs to function (e.g., water deluge systems). The ARS also differs from the WCRS relative to assumptions regarding meteorological conditions. For example, higher wind speeds (3 m/s) and more representative atmospheric stability class (e.g., D atmospheric stability class) are used in the ARS. Under the ARS, the atmospheric conditions are considered to be more representative of the typical meteorological conditions. The difference between the predicted offsite consequence for the WCRS and ARS provides general information regarding the sensitivity of the predicted consequence to the release assumptions and/or meteorologic conditions.

As described in Section 4.2.3, vapor cloud explosions may occur following a release in the presence of either an external detonation source or ignition source (e.g., spark or flame). In the event that the WCRS for pressurized natural gas and petroleum pipelines indicated that a vapor cloud explosion could only occur under the unlikely condition of an external detonation, the blast

overpressure threat would not exist. Since a release from these pipelines could potentially ignite, the ARS also considered the potential thermal radiation impacts resulting from a jet fire (natural gas) or pool fire (petroleum pipelines). The release parameters utilized in the ARS for these scenarios were the same as those utilized in the WCRS. The ARS for these types of releases is considered to be more representative of the potential impacts that could occur under the defined release conditions.

Appendix B, Table B-1, contains a summary of the WCRS and ARS release scenario assumptions and additional details regarding the facilities and hazardous materials that were evaluated as a component of this assessment. This table also summarizes the modeling results of the Initial Study and any changes to the modeling assumptions and predicted endpoints determined from this analysis.

4.3 Risk Assessment Results Summary

Appendix B provides an overview of the refined risk modeling release parameters and assumptions and the ALOHA dispersion modeling results. Table 7 summarizes modeling results for selected hazardous materials of concern for each facility or pipeline with an Extremely Hazardous Substance (40 CFR 355) or with large quantities of other hazardous materials. The modeling was conducted using the most recent quantities reported in the HMIS documents reviewed as a component of this evaluation.

For facilities subject to CalARP, RMP's were reviewed for offsite consequence analysis (OCA) modeling during the Initial Study. City of Fremont officials confirmed that these facilities are still subject to the CalARP regulations and are engaged in updating the RMP documents (See Appendix C). In consideration of the CalARP regulations and the influence of these requirements in minimizing the likelihood of a Worst Case Scenario Release, modified WCRS and ARS distances to CalARP endpoints were generated in order to determine risk for the Proposed Development. The modified WCRS and ARS distances to CalARP endpoints are generally less or equal to the WCRS distances determined during the Initial Study.

Worst Case Release Scenario Modeling was performed using the parameters defined in Section 5.2 of this document. When passive mitigation was confirmed for a facility, it was incorporated into the modeling and noted in Appendix B, Table B-1. When information contained in the HMIS indicated that the regulated substance was stored within a building, the EPA suggested enclosure factor of 0.55 was used to modify the rate of release to the atmosphere. Changes in hazardous materials storage (e.g., increases or decreases in maximum quantities stored or the elimination of hazardous materials as determined from the 2014 HMBP information) were also reflected in the updated modeling. The results of the ALOHA modeling performed as a component of this analysis are provided in Appendix B.

Table 7: WCRS and ARS Modeling Results Summary

Site ID[a]	Facility / Pipeline Name	Material	Threat Type (Endpoint)	WCRS Distance[b] (ft)	ARS Distance[b] (ft)	Comments
1	7UP Bottling Co.	Liquid Propane	Blast Overpressure (1 PSI)	537 [1] 0 [2]	174 [1] 0 [2]	Due to storage tank location at Warehouse E of facility, a WCRS does not affect the development site. ARS represents a more likely release during transfer activities.
2	Glacier Ice Company	Ammonia	Toxic Endpoint (See Comments)	7,920	363	WCRS from Initial Study (RMP prepared by Facility) at endpoint of 0.14 mg/l. For this analysis, ARS is based on a release from an uncoupled hose during delivery. In consideration of RMP and PSM requirements, routine inspections, and operating history, ARS was determined to be a more appropriate scenario for quantitative analysis.
3	Global Plating	HCN Gas	Toxic Endpoint (0.011 mg/l)	2,112	528	WCRS and ARS based on Facility RMP. Largest tank of Potassium Cyanide was tank no. E11 with 209 lbs in the silver plating bath / Enclosure factor of 0.55 used for WCRS, while no enclosure factor was used for the ARS. Both WCRS and ARS require reaction of KCN with excess acid. Given the presence of existing secondary containment surrounding Tank E11 and segregation from acid sources, conditions of the WCRS are considered to be unrealistic. In consideration of RMP program elements, routine inspections, and operating history, the ARS was determined to be a more appropriate scenario for quantitative evaluation as the conditions that could lead to this type of release are considered more likely to occur.
4	Hayward Quartz	Liquid Hydrogen	Blast Overpressure (1 PSI)	2,169 [1] 1,491 [2]	156 [1] 81 [2]	WCRS performed in Initial Study and threat zone did not cross property boundary. ARS evaluated to provide additional information on a more likely release scenario.
5	Snoboy	Methanol	Thermal Radiation (5 KW/M^2)	51	Not Analyzed	WCRS modified from Initial Study to reflect a containment basin which extends along the entire west and north boundary. The modeling distance assumes the spilled xylene fills the entire west portion of the ditch and centerpoint at the mid-point location.
			Toxic Endpoint (6,000 ppm [IDLH])	57	Not Analyzed	
5	Snoboy	Mixed Xylene	Thermal Radiation (5 KW/M^2)	150	Not Analyzed	Mixture of Xylene, Ethyl benzene, and hexane. WCRS modified from Initial Study to reflect a containment basin which extends along the entire west and north boundary. The modeling distance assumes the spilled xylene fills the entire west portion of the ditch and centerpoint at the mid-point location.
			Toxic Endpoint (900 ppm [IDLH])	72	Not Analyzed	

Site ID[a]	Facility / Pipeline Name	Material	Threat Type (Endpoint)	WCRS Distance[b] (ft)	ARS Distance[b] (ft)	Comments
6	West Coast Quartz	Liquid Hydrogen	Blast Overpressure (1 PSI)	852 [1] 402 [2]	156 [1] 81 [2]	Size of hydrogen storage tank is decreased as compared to Initial Study. WCRS revised to reflect reduced quantity stored. ARS developed for release during transfer event. Both WCRS and ARS evaluated for external detonation and spark/flame detonation of vapor cloud.
7	Western Digital	Ammonia	Toxic Endpoint (0.14 mg/l)	Not Applicable	Not Applicable	Updated HMIS indicates Facility no longer stores ammonia.
7	Western Digital	Silane gas	Blast Overpressure (1 PSI)	Not Applicable	Not Applicable	Initial Study modeling indicates that WCRS threat did not cross property boundary. Current (2014) HMBP does not list silane as used or stored at the facility
8	Western Digital	Chlorine gas	Toxic Endpoint (10 ppm [IDLH])	1,452	735	Site-specific modifications include adjustment for enclosure factor and IDLH toxic endpoint for both WCRS and ARS scenarios.
9	Tesla	Natural Gas	Blast Overpressure (1 PSI)	783 [1]	0 [2]	WCRS assumes detonation explosion following a pipeline release. ARS assumes vapor cloud explosion ignited by spark or flame and is the more appropriate model to utilize for the blast overpressure analysis. All other release parameters for ARS are consistent with the WCRS.
			Thermal Radiation (5 KW/M^2)	Not Analyzed	81	ARS involves a jet fire which occurs following release based on the same release parameters utilized in the WCRS vapor cloud explosion analysis.
10	CPL / KMEP	Petroleum Products	Blast Overpressure (1 PSI)	870 [1]	0 [2]	WCRS assumes external detonation of vapor cloud following pipeline release. ARS assumes vapor cloud explosion ignited by spark or flame. All other ARS release parameters are the same as WCRS. Vapor cloud explosion ignited by spark or flame does not exceed 1 PSI at any distance
			Thermal Radiation (5 KW/M^2)	Not Analyzed	459	ARS based on WCRS release parameters, but assumes a pool fire at the point of release.
11	PG&E	Natural Gas	Blast Overpressure (1 PSI)	783 [1]	0 [2]	WCRS not changed from Initial Study (assumes vapor cloud explosion with external source of detonation). ARS assumes vapor cloud explosion ignited by spark or flame and is the more appropriate model to utilize for the blast overpressure analysis. All other release parameters for ARS are consistent with the WCRS.
			Thermal Radiation (5 KW/M^2)	Not Analyzed	81	ARS based on WCRS release parameters, but assumes a jet fire at the point of release.

Refer to Figures 1, 5, or 6 for facility location
[b] Maximum distance to IDLH or flammable endpoint
[1] Threat endpoint based on external detonation ignition source (unlikely, worst case).
[2] Threat endpoint based on spark or flame ignition source (more common)
psi = pounds per square inch
kW/m^2 = kilowatt per meter squared
ppm = Parts Per Million by Volume
WCRS = Worst Case Release Scenario
ARS = Alternative Release Scenario
mg/L = milligrams per liter

The Glacier Ice and Globe Plating facilities are subject to the RMP program and therefore have existing risk mitigation plans and policies in place. Potential development related impacts associated with facilities that are subject to RMP program requirements are evaluated on the basis of the alternative release scenarios.

Figure 5 contains an aerial photograph that identifies the location of Proposed Development and the hazardous materials users and pipelines that were evaluated in this analysis. Figure 5 also depicts the radii from the release location to the toxic or flammable endpoints. Where the specific hazardous materials storage location is known, the distance to the toxic or flammable endpoint reflects the storage or release location. For potential releases from pipelines, the release location is assumed to occur at the point nearest to the Proposed Development. In consideration of the RMP program elements (e.g., routine inspections, training, and internal auditing) and operating histories for Glacier Ice Company and Global Plating facility, the Figure 5 radii are based on the ARS. For releases from all other locations, the radii depicted in Figure 5 reflect the WCRS endpoints.

Figure 6 contains similar details as presented in Figure 5, except that the radii are based on the ARS for modeled facilities and releases. Since the ARS conditions are reflective of release conditions that are more likely to occur, the radii presented in Figure 6 would be considered to be more representative of the potential impacts in the event of a typical release. It should also be noted that the flammable endpoints resulting from releases from natural gas and petroleum pipelines for the ARS are based on thermal radiation as opposed to blast overpressure. In consideration of these factors, the radii depicted in Figure 6 are significantly reduced as compared to those depicted in Figure 5.

5.0 CONCLUSIONS AND RECOMMENDATIONS

The Site-Specific Hazardous Material Risk Analysis has taken a conservative approach to determine whether hazardous materials users within the Study Area pose a risk to future sensitive receptors located within the Proposed Development. As shown in Figure 5, highly unlikely worst case scenario releases from the selected stationary sources would not be anticipated to result in significant impacts within the Proposed Development. Under the alternative release scenario depicted in Figure 6, the potential impacts within the Proposed Development are further reduced.

The probability of a future release is significantly influenced by the operating procedures of the businesses using hazardous materials. These businesses are required to abide by state and federal regulations which are designed to ensure that hazardous materials are used, stored, and generated in a safe manner. State and City regulators such as CalOSHA and the City of Fremont CUPA conduct periodic inspections of stationary sources to ensure compliance with regulatory requirements. The OPS, DOT, and the California State Fire Marshall Office enforce compliance with pipeline operating and maintenance procedures.

In consideration of the findings of this evaluation, TRC does not suggest relocation of any hazardous materials within the Study Area be mandated, provided that proactive operation and maintenance safeguards found in 49 CFR 195 et seq and the California Pipeline Safety Act are followed.

Based on the worst case release scenarios for the petroleum pipelines and in the absence of additional mitigation measures, potentially significant impacts to the adjacent property of the Proposed Development could occur. As summarized in Section 1.2 of Appendix D, the Initial Study did not establish mitigation requirements for siting sensitive receptors near pipelines due to the operation and maintenance requirements found in 49 CFR 195 et seq. (hazardous liquid pipeline safety laws) and the California Pipeline Safety Act. Given the low probability, but potentially significant consequence of a pipeline release and subsequent fire or explosion, TRC suggests that the proposed site development incorporate the following proactive mitigation measures:

- **Setback Distance**:
    - 1) Placement of access roads along the eastern portion of the proposed development to establish a minimum setback distance of 150 feet between the living space of occupied structures and the KMEP petroleum pipeline located within the Union Pacific right-of-way.
- **Siting and Building Design**:
    - 1) Siting of parking structures along the eastern edge of the proposed development to establish a physical barrier between the KMEP petroleum pipeline and occupied structures associated with the proposed development. In addition to establishing a physical barrier, this recommendation would also reduce the number of occupied residences facing the KMEP petroleum pipeline in the eastern-most area. It should be noted that this recommendation would not require that a parking structure occupy the *entire* eastern edge of the property.

- 2) Any exterior building corridors within the eastern portion of the proposed development that face the KMEP petroleum pipeline area should be enclosed by an exterior building wall in order to provide a physical barrier that affords protection against potential thermal radiation impacts during building egress.

- **Building Materials**:
  - 1) The eastern-most exterior building wall facing the KMEP petroleum pipeline area should be constructed of non-combustible or fire-resistant materials. Examples of suitable materials would include, but are not necessarily limited to, concrete, fiber-cement panels or siding, exterior fire-retardant treated wood siding or panels, stucco, masonry, or metal. The entire exterior wall assembly should have a minimum 1-hour fire-resistance rating tested in accordance with ASTM E119.
  - 2) Non-combustible or fire-resistant materials should also be used for trim boards around doors, windows, eaves, and corners of the eastern-most exterior building wall facing the KMEP petroleum pipeline area.
  - 3) The roofing system of structures located within 200 feet of the KMEP petroleum pipeline should be constructed of Class A roof covering materials or assembly as defined by UL 790 (ASTM E108) *Standard Test Methods for Fire Tests of Roof Coverings*.

The proactive mitigation measures identified above are consistent with Mitigation Measure HAZ-2a of the Warm Springs/South Fremont Community Plan Mitigation Monitoring and Reporting Program and would reduce the pipeline impacts to a less than significant level. Such measures would be incorporated into the project plans and detailed in architectural and engineering designs to be prepared. It should be noted that the recommended mitigation measures are intended to minimize potential thermal radiation impacts in the unlikely event of a petroleum release and fire within the Union Pacific Railroad right-of-way. The recommended mitigation measures are not intended to satisfy other possible impacts such as noise and vibration from the Union Pacific Railroad.

6.0 LIMITATIONS

The findings, conclusions and recommendations presented in this report are based in part on information provided by Hazardous Material Business Plan from businesses within the City of Fremont, information from the Chevron and Kinder Morgan Pipeline Companies, and modeling protocols set forth by the EPA, CalARP, and CDE. The findings are accurate only to the extent that the information gathered by and provided to TRC was accurate and complete.

7.0 SIGNATURES

TRC Solutions, Inc. conducted this Site-Specific Hazardous Materials Risk Analysis for Valley Oak Partners, LLC. This report presents the results of the analysis and was prepared by Mr. Jimmie Ryan and reviewed by Mr. Todd Stanford, REHS and Karen Terry, CIH.

TRC Solutions, Inc.

Karen Terry, CIH
Senior Project Manager

J. Todd Stanford, REHS, CEM
Principal Scientist

8.0 ACRONYMS

AA – Administering Agency

AEGL – Acute Exposure Guide Level

ALOHA – Areal Location of Hazardous Atmospheres

ARS - Alternative Release Scenario

ASTM – American Society for Testing and Materials

BAAQMD – Bay Area Air Quality Management District

BMP – Best Management Practice

CAA – Federal Clean Air Act

CAMEO – Computer-Aided Management of Emergency Operations

CAS – Chemical Abstracts Service

CalARP – California Accidental Release Prevention

CDE – California Department of Education

CFR – Code of Federal Regulations

CPUC – California Public Utilities Commission

CUPA – Certified Unified Program Agency

EDR – Environmental Data Resources

EPA – Environmental Protection Agency

EPCRA – Emergency Planning and Community Right-to-Know Act

ERPG – Emergency Response Planning Guidelines

HMBP – Hazardous Material Business Plan

IDLH – Immediately Dangerous to Life or Health

KMEP – Kinder Morgan Energy Partners

LEL – Lower Explosive Limit

LOC – Level of Concern

NFPA – National Fire Protection Associate

NPMS – National Pipeline Mapping System

NOAA – National Oceanic and Atmospheric Administration

OCA – Off-Site Consequence Analysis

PG&E – Pacific Gas and Electric

SFBAAB – San Francisco Bay Area Air Basin

SFM – California Office of the State Fire Marshal

STP – Standard Temperature and Pressure

WCRS – Worst Case Release Scenario

9.0 REFERENCES

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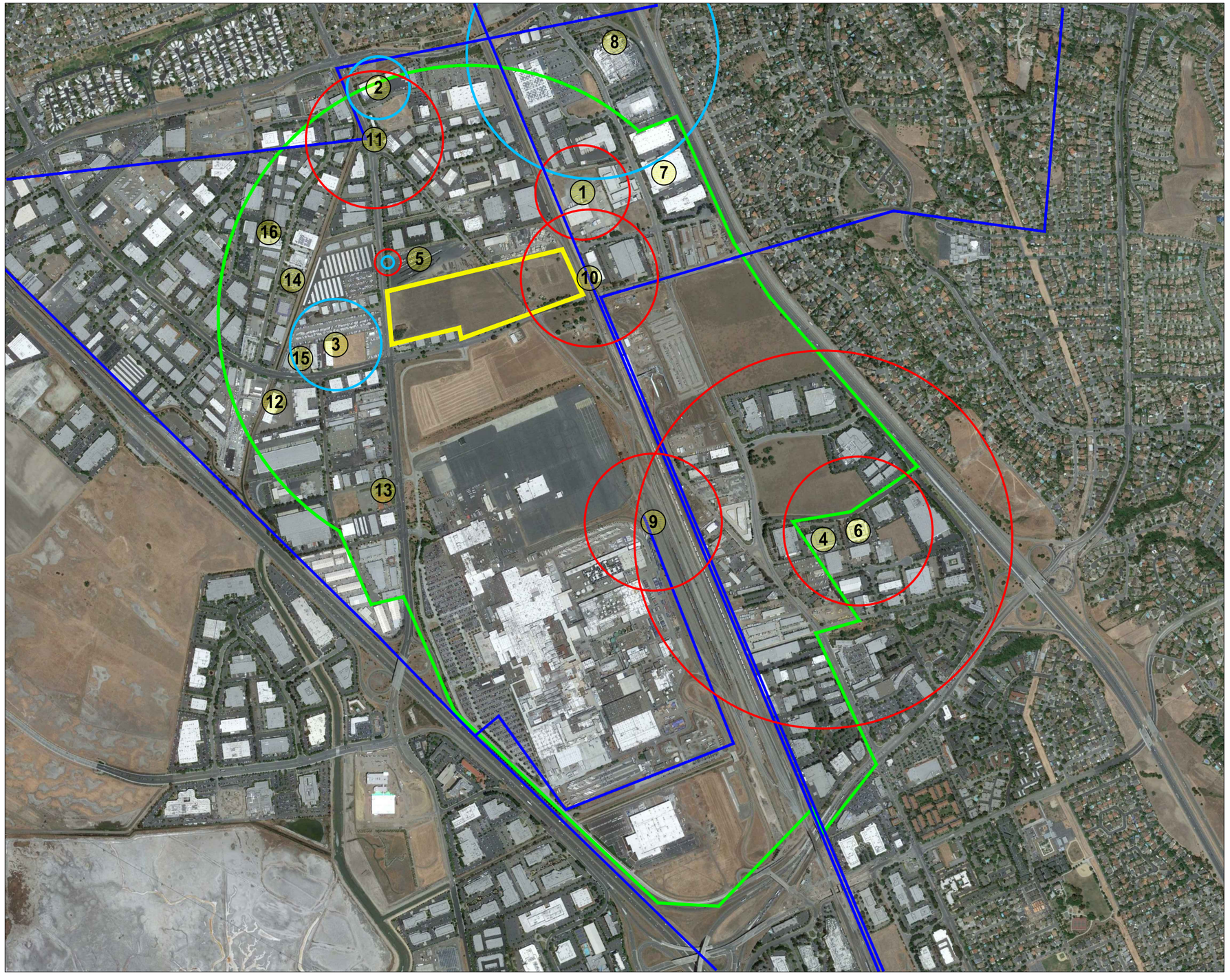
FIGURES



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LEGEND

- Proposed Development
- Study Area Boundary
- Gas/Petroleum Pipelines
- Flammable Endpoint Radii
- Toxic Endpoint Radii

SITES SELECTED FOR STUDY	
ID	**SITE NAME**
1	7UP Bottling Co.
2	Glacier Ice Company
3	Global Plating
4	Hayward Quartz
5	Truck-Rail Handling Inc. (Snoboy)
6	West Coast Quartz
7	Western Digital
8	Western Digital
9	Tesla
10	Chevron/Kinder Morgan Petroleum Pipeline
11	PG&E Pipeline
12	Melrose Metal Products
13	Quality Transport & Truck-Rail Handling
14	Balkan MFG.
15	Bay Polymer Corporation
16	CHA Industries

SCALE (FEET)

0 1,200

NOTE:

Modified from a map provided by Google Earth Professional, dated 6/9/2014.

PROJECT: **228133**

FACILITY:

VALLEY OAK PARTNERS, LLC
FREMONT, CALIFORNIA

HAZARDOUS RISK ASSESSMENT MODELING
RADII TO ENDPOINT
(WCRS AND ARS FOR RMP FACILITIES)

TRC

FIGURE 5

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N

LEGEND

- Proposed Development
- Study Area Boundary
- Gas/Petroleum Pipelines
- Flammable Endpoint Radii
- Toxic Endpoint Radii

SITES SELECTED FOR STUDY	
ID	**SITE NAME**
1	7UP Bottling Co.
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5	Truck-Rail Handling Inc. (Snoboy)
6	West Coast Quartz
7	Western Digital
8	Western Digital
9	Tesla
10	Chevron/Kinder Morgan Petroleum Pipeline
11	PG&E Pipeline
12	Melrose Metal Products
13	Quality Transport & Truck-Rail Handling
14	Balkan MFG.
15	Bay Polymer Corporation
16	CHA Industries

SCALE (FEET)

0 1,200

NOTE:

Modified from a map provided by Google Earth Professional, dated 6/9/2014.

PROJECT: **228133**

FACILITY:

VALLEY OAK PARTNERS, LLC
FREMONT, CALIFORNIA

HAZARDOUS RISK ASSESSMENT MODELING
RADII TO ENDPOINT
(ARS ONLY)

TRC

FIGURE 6

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Appendix A

Selected Facilities Hazardous Material Inventory Statements

Hazardous Materials And Wastes Inventory Matrix Report

CERS Business/Org. West Coast Quartz Corp
Facility Name West Coast Quartz Corp
1000 Corporate Way, Fremont 94539

Chemical Location Area A (Hydrogen Tank Pad)

CERS ID 10169345
Facility ID C90006845
Status **Submitted** on 2/24/2014 2:44 PM

DOT Code/Fire Haz. Class	Common Name	Unit	Quantities: Max. Daily	Quantities: Largest Cont.	Quantities: Avg. Daily	Annual Waste Amount	Federal Hazard Categories	Hazardous Components (For mixture only): Component Name	% Wt	EHS	CAS No.
DOT: 2.1 - Flammable Gases Flammable Gas, Cryogen, Other Health Hazard	**Hydrogen, Liquid** CAS No 1333-74-0	**Gallons** State Liquid Type Pure	**1250** Storage Container Aboveground Tank Days on Site: 365	**1500**	750 Pressue < Ambient Temperature Cryogenic	Waste Code	- Fire - Pressure Release - Acute Health	Hydrogen, Liquid	100 %		1333-74-0

Hazardous Materials And Wastes Inventory Matrix Report

CERS Business/Org. **West Coast Quartz Corp**
Facility Name **West Coast Quartz Corp**
1000 Corporate Way, Fremont 94539

Chemical Location **Area A (Laser)**

CERS ID **10169345**
Facility ID **C90006845**
Status **Submitted** on 2/24/2014 2:44 PM

DOT Code/Fire Haz. Class	Common Name	Unit	Quantities: Max. Daily	Quantities: Largest Cont.	Quantities: Avg. Daily	Annual Waste Amount	Federal Hazard Categories	Hazardous Components (For mixture only): Component Name	% Wt	EHS	CAS No.
DOT: 3 - Flammable and Combustible Liquids Flammable Liquid, Class I-B, Irritant	**Isopropyl Alcohol** CAS No 67-63-0	**Gallons** State Liquid Type	**0.2** Storage Container Plastic Bottle or Jug Days on Site: 365	**0.1**	0.1 Pressue Ambient Temperature Ambient	Waste Code	- Fire				

Hazardous Materials And Wastes Inventory Matrix Report

CERS Business/Org. **West Coast Quartz Corp**
Facility Name **West Coast Quartz Corp**
1000 Corporate Way, Fremont 94539

Chemical Location **Area B (O2)**

CERS ID **10169345**
Facility ID **C90006845**
Status **Submitted** on 2/24/2014 2:44 PM

DOT Code/Fire Haz. Class	Common Name	Unit	Quantities: Max. Daily	Quantities: Largest Cont.	Quantities: Avg. Daily	Annual Waste Amount	Federal Hazard Categories	Hazardous Components (For mixture only): Component Name	% Wt	EHS	CAS No.
DOT: 2.2 - Nonflammable Gases	**Oxygen, Liquid**	**Gallons**	**900**	**975**	500		- Reactive - Pressure Release	Oxygen, Liquid	100 %		7782-44-7
Cryogen, Oxidizing Gas, Liquified	CAS No: 7782-44-7	State: Liquid Type: Pure	Storage Container: Aboveground Tank Days on Site: 365		Pressue Temperature: Cryogenic	Waste Code					

Hazardous Materials And Wastes Inventory Matrix Report

CERS Business/Org. **West Coast Quartz Corp**
Facility Name **West Coast Quartz Corp**
1000 Corporate Way, Fremont 94539

Chemical Location **Area C (HF room)**

CERS ID **10169345**
Facility ID **C90006845**
Status **Submitted** on 2/24/2014 2:44 PM

DOT Code/Fire Haz. Class	Common Name	Unit	Quantities: Max. Daily	Quantities: Largest Cont.	Quantities: Avg. Daily	Annual Waste Amount	Federal Hazard Categories	Hazardous Components (For mixture only): Component Name	% Wt	EHS	CAS No.
	water and polymer	**Gallons**	**200**	**200**	100		- Acute Health	2-Propenoic acid, sodium salt (1:1), polymer with 2-propenamide	0 %		25085-02-3
Irritant	CAS No 25085-02-3	State Liquid	Storage Container Tank Inside Building		Pressue Ambient	Waste Code					
		Type Mixture	Days on Site: 365		Temperature Ambient						

Hazardous Materials And Wastes Inventory Matrix Report

CERS Business/Org. **West Coast Quartz Corp**
Facility Name **West Coast Quartz Corp**
1000 Corporate Way, Fremont 94539

Chemical Location **Area C (HF Room)**

CERS ID **10169345**
Facility ID **C90006845**
Status **Submitted** on 2/24/2014 2:44 PM

DOT Code/Fire Haz. Class	Common Name	Unit	Quantities: Max. Daily	Quantities: Largest Cont.	Quantities: Avg. Daily	Annual Waste Amount	Federal Hazard Categories	Hazardous Components (For mixture only): Component Name	% Wt	EHS	CAS No.
DOT: 8 - Corrosives (Liquids and Solids) Corrosive, Water Reactive, Class 1, Highly Toxic, Other Health Hazard	**49% Hydrofluoric Acid** CAS No 7664-39-3	**Gallons** State Liquid Type Pure	**4** Storage Container Plastic Bottle or Jug Days on Site: 365	**1**	4 Pressue Ambient Temperature Ambient	Waste Code	- Reactive - Acute Health - Chronic health	Hydrofluoric Acid	49 %		7664-39-3
DOT: 8 - Corrosives (Liquids and Solids) Corrosive, Water Reactive, Class 1, Toxic, Other Health Hazard	**10% Hydrofluoric Acid** CAS No 7664-39-3	**Gallons** State Liquid Type Pure	**55** Storage Container Tank Inside Building Days on Site: 365	**70**	55 Pressue Ambient Temperature Ambient	Waste Code		Hydrofluoric Acid	10 %		7664-39-3
DOT: 8 - Corrosives (Liquids and Solids) Corrosive, Water Reactive, Class 1, Toxic, Other Health Hazard	**15% Hydrofluoric Acid** CAS No 7664-39-3	**Gallons** State Liquid Type Pure	**50** Storage Container Tank Inside Building Days on Site: 365	**100**	50 Pressue Ambient Temperature Ambient	Waste Code	- Acute Health	Hydrofluoric Acid	15 %		7664-39-3
Corrosive, Irritant	**Branson IS cleaner** CAS No 6834-92-0	**Gallons** State Liquid Type Mixture	**1** Storage Container Plastic Bottle or Jug Days on Site: 365	**1**	0.5 Pressue Ambient Temperature Ambient	Waste Code	- Acute Health - Chronic health	Sodium Metasilicate 2 Butoxyethanol	6 % 6 %		6834-92-0 111-76-2
Irritant	**Calcium chloride** CAS No 10043-52-4	**Gallons** State Liquid Type Pure	**800** Storage Container Tank Inside Building Days on Site: 365	**1000**	800 Pressue Ambient Temperature Ambient	Waste Code	- Acute Health	Calcium chloride (CaCl2)	30 %		10043-52-4
DOT: 8 - Corrosives (Liquids and Solids) Corrosive, Toxic, Water Reactive, Class 2	**Caustic Soda** CAS No 1310-73-2	**Gallons** State Liquid Type Mixture	**500** Storage Container Tank Inside Building	**500**	100 Pressue Ambient Temperature Ambient	Waste Code	- Reactive - Acute Health - Chronic health	Sodium Hydroxide	49 %		1310-73-2
Other Health Hazard	**Hydrofluoric Acid Solution** CAS No	**Gallons** State Liquid Type Waste	**165** Storage Container Plastic/Non-metalic Drum Days on Site: 365	**55**	110 Pressue Ambient Temperature Ambient	Waste Code 131	- Acute Health	Water Hydrofluotic Acid	90 % 10 %		7732-18-5 7664-39-3

Hazardous Materials And Wastes Inventory Matrix Report

CERS Business/Org. **West Coast Quartz Corp**
Facility Name **West Coast Quartz Corp**
1000 Corporate Way, Fremont 94539

Chemical Location **Area D (Polishing)**

CERS ID **10169345**
Facility ID **C90006845**
Status **Submitted** on 2/24/2014 2:44 PM

DOT Code/Fire Haz. Class	Common Name	Unit	Quantities: Max. Daily	Quantities: Largest Cont.	Quantities: Avg. Daily	Annual Waste Amount	Federal Hazard Categories	Hazardous Components (For mixture only): Component Name	% Wt	EHS	CAS No.
Irritant	**Aluminum Oxide PWA 12** CAS No: 1344-28 State: Solid Type: Pure Storage Container: Bag Days on Site: 365 Pressue: Ambient Temperature: Ambient Waste Code:	**Pounds**	**88**	**44**	44		- Acute Health	Aluminum Oxide	100 %		1344-28
Irritant	**Cerium oxide (CeO2)** CAS No: 1306-38-3 State: Solid Type: Pure Storage Container: Other Days on Site: 365 Pressue: Ambient Temperature: Ambient Waste Code:	**Pounds**	**88**	**44**	44		- Acute Health				
DOT: 3 - Flammable and Combustible Liquids Flammable Liquid, Class I-B, Irritant	**Isopropyl Alcohol** CAS No: 67-63-0 State: Liquid Type: Storage Container: Plastic Bottle or Jug Days on Site: 365 Pressue: Ambient Temperature: Ambient Waste Code:	**Gallons**	**0.2**	**0.1**	0.1		- Fire - Acute Health				
Irritant	**Nalco 2354** CAS No: 110-85-0 State: Liquid Type: Mixture Storage Container: Plastic/Non-metalic Drum Days on Site: 365 Pressue: Ambient Temperature: Ambient Waste Code:	**Gallons**	**10**	**5**	5		- Acute Health	Piperazine	8 %		110-85-0
Flammable Liquid, Class I-A, Toxic, Irritant	**Ronsonol Lighter Fluid** CAS No: Light aliphatic State: Liquid Type: Mixture Storage Container: Plastic Bottle or Jug Days on Site: 365 Pressue: Ambient Temperature: Ambient Waste Code:	**Gallons**	**0.2**	**0.1**	0.1		- Fire - Acute Health - Chronic health	Light aliphatic naphtha Medium aliphatic naphtha Benzene	95 % 5 % 0 %		64742-89-11 64742-88-10 71-42-5
DOT: 3 - Flammable and Combustible Liquids Combustible Liquid, Class III-B, Other Health Hazard, Irritant	**WD40** CAS No: 64742-47-8 State: Liquid Type: Mixture Storage Container: Plastic Bottle or Jug Days on Site: 365 Pressue: Ambient Temperature: Ambient Waste Code:	**Gallons**	**0.5**	**0.25**	0.25		- Fire - Acute Health - Chronic health	Alphatic Petroleum Distillates Petroleum Base Oil	70 % 30 %		64742-47-8 64742-58-1

Hazardous Materials And Wastes Inventory Matrix Report

CERS Business/Org. **West Coast Quartz Corp**
Facility Name **West Coast Quartz Corp**
1000 Corporate Way, Fremont 94539

Chemical Location **Area E (QC)**

CERS ID **10169345**
Facility ID **C90006845**
Status **Submitted** on 2/24/2014 2:44 PM

DOT Code/Fire Haz. Class	Common Name	Unit	Quantities: Max. Daily	Largest Cont.	Avg. Daily	Annual Waste Amount	Federal Hazard Categories	Hazardous Components (For mixture only): Component Name	% Wt	EHS	CAS No.
DOT: 3 - Flammable and Combustible Liquids Flammable Liquid, Class I-B, Irritant	**Acetone** CAS No 67-64-1	**Gallons** State Liquid Type Pure	**0.2** Storage Container Plastic Bottle or Jug Days on Site: 365	**0.1**	0.1 Pressue Ambient Temperature Ambient	Waste Code	- Fire - Acute Health				
DOT: 3 - Flammable and Combustible Liquids Flammable Liquid, Class I-B, Irritant	**Isopropyl Alcohol** CAS No 67-63-0	**Gallons** State Liquid Type Pure	**0.2** Storage Container Plastic Bottle or Jug Days on Site: 365	**0.1**	0.1 Pressue Ambient Temperature Ambient	Waste Code	- Fire - Acute Health				
Flammable Liquid, Class I-A, Toxic, Irritant	**Ronsonol Lighter Fluid** CAS No 64742-89-11	**Gallons** State Liquid Type Mixture	**0.2** Storage Container Plastic Bottle or Jug Days on Site: 365	**0.1**	0.1 Pressue Ambient Temperature Ambient	Waste Code	- Fire - Acute Health - Chronic health	Light aliphatic naphtha Medium aliphatic naphtha Benzene	95 % 5 % 0 %		64742-89-11 64742-88-10 71-42-5
Combustible Liquid, Class II, Irritant	**Starrett Tru-Stone Plate Cleaner** CAS No 35590-94-8	**Gallons** State Liquid Type Mixture	**4** Storage Container Plastic Bottle or Jug Days on Site: 365	**1**	2 Pressue Ambient Temperature Ambient	Waste Code	- Fire - Acute Health	(2-methoxymethylethoxy) propanol Xi R36	10 % 0 %		35590-94-8 252-104-2

Hazardous Materials And Wastes Inventory Matrix Report

CERS Business/Org. **West Coast Quartz Corp**
Facility Name **West Coast Quartz Corp**
1000 Corporate Way, Fremont 94539

Chemical Location **Area F (Fusion Bench Lathe)**

CERS ID **10169345**
Facility ID **C90006845**
Status **Submitted** on 2/24/2014 2:44 PM

DOT Code/Fire Haz. Class	Common Name	Unit	Quantities: Max. Daily	Quantities: Largest Cont.	Quantities: Avg. Daily	Annual Waste Amount	Federal Hazard Categories	Hazardous Components (For mixture only): Component Name	% Wt	EHS	CAS No.
DOT: 3 - Flammable and Combustible Liquids Flammable Liquid, Class I-B, Irritant	**Isopropyl Alcohol** CAS No 67-63-0	**Gallons** State Liquid Type	**0.2** Storage Container: Plastic Bottle or Jug Days on Site: 365	**0.1**	0.1 Pressue: Ambient Temperature: Ambient	Waste Code	- Fire				

Hazardous Materials And Wastes Inventory Matrix Report

CERS Business/Org. **West Coast Quartz Corp**
Facility Name **West Coast Quartz Corp**
1000 Corporate Way, Fremont 94539

Chemical Location **Area G (Lapping)**

CERS ID **10169345**
Facility ID **C90006845**
Status **Submitted** on 2/24/2014 2:44 PM

DOT Code/Fire Haz. Class	Common Name	Unit	Quantities: Max. Daily	Quantities: Largest Cont.	Quantities: Avg. Daily	Annual Waste Amount	Federal Hazard Categories	Hazardous Components (For mixture only): Component Name	% Wt	EHS	CAS No.
Irritant	**Aluminum Oxide PWA 12** CAS No 1344-28	**Pounds** State: Solid Type: Storage Container: Bag Days on Site: 365	**88**	**44**	44 Pressue: Ambient Temperature: Ambient	Waste Code:	- Acute Health				
DOT: 3 - Flammable and Combustible Liquids Flammable Liquid, Class I-B, Irritant	**Isopropyl Alcohol** CAS No 67-63-0	**Gallons** State: Liquid Type: Storage Container: Plastic Bottle or Jug Days on Site: 365	**0.2**	**0.1**	0.1 Pressue: Ambient Temperature: Ambient	Waste Code:	- Fire				
DOT: 9 - Misc. Hazardous Materials Irritant	**Vector HTS slurry** CAS No 102-71-6	**Gallons** State: Liquid Type: Mixture Storage Container: Plastic/Non-metalic Drum Days on Site: 365	**110**	**55**	55 Pressue: Ambient Temperature: Ambient	Waste Code:	- Acute Health	Trihydroxytriethylamine	10 %		102-71-6
DOT: 3 - Flammable and Combustible Liquids Combustible Liquid, Class III-B, Other Health Hazard, Irritant	**WD40** CAS No 64742-47-8	**Gallons** State: Liquid Type: Mixture Storage Container: Plastic Bottle or Jug Days on Site: 365	**0.2**	**0.1**	0.1 Pressue: Ambient Temperature: Ambient	Waste Code:	- Fire - Acute Health - Chronic health	Alphatic Petroleum Distillates Petroleum Base Oil	70 % 30 %		64742-47-8 64742-58-1

Hazardous Materials And Wastes Inventory Matrix Report

CERS Business/Org. **West Coast Quartz Corp**
Facility Name **West Coast Quartz Corp**
1000 Corporate Way, Fremont 94539

Chemical Location **Area H (Fusion Polish)**

CERS ID **10169345**
Facility ID **C90006845**
Status **Submitted** on 2/24/2014 2:44 PM

DOT Code/Fire Haz. Class	Common Name	Unit	Quantities: Max. Daily	Quantities: Largest Cont.	Quantities: Avg. Daily	Annual Waste Amount	Federal Hazard Categories	Hazardous Components (For mixture only): Component Name	% Wt	EHS	CAS No.
DOT: 3 - Flammable and Combustible Liquids Flammable Liquid, Class I-B, Irritant	**Isopropyl Alcohol** CAS No 67-63-0	**Gallons** State Liquid Type	**0.2** Storage Container Plastic Bottle or Jug Days on Site: 365	**0.1**	0.1 Pressue Ambient Temperature Ambient	Waste Code	- Fire				

Hazardous Materials And Wastes Inventory Matrix Report

CERS Business/Org. **West Coast Quartz Corp**
Facility Name **West Coast Quartz Corp**
1000 Corporate Way, Fremont 94539

Chemical Location **Area I (Laser)**

CERS ID **10169345**
Facility ID **C90006845**
Status **Submitted** on 2/24/2014 2:44 PM

DOT Code/Fire Haz. Class	Common Name	Unit	Quantities: Max. Daily	Quantities: Largest Cont.	Quantities: Avg. Daily	Annual Waste Amount	Federal Hazard Categories	Hazardous Components (For mixture only): Component Name	% Wt	EHS	CAS No.
DOT: 2.2 - Nonflammable Gases Other Health Hazard	**Laser Gas Mix** CAS No 7727-37-9	**Cu. Feet** State Gas Type Mixture	**800** Storage Container Cylinder Days on Site: 365	**200**	600 Pressue Ambient Temperature Ambient	Waste Code	- Chronic health	Nitrogen Helium Carbon Dioxide Carbon Monoxide	60 % 28 % 8 % 4 %		7727-37-9 74440-59-7 124-38-9 630-08-0
Flammable Liquid, Class I-A, Toxic, Irritant	**Ronsonol Lighter Fluid** CAS No 64742-89-11	**Gallons** State Liquid Type Mixture	**0.2** Storage Container Plastic Bottle or Jug	**0.1**	0.1 Pressue Ambient Temperature Ambient	Waste Code	- Fire - Acute Health - Chronic health	Light aliphatic naphtha Medium aliphatic naphtha Benzene	95 % 5 % 1 %		64742-89-11 64742-88-10 71-42-5

Hazardous Materials And Wastes Inventory Matrix Report

CERS Business/Org. **West Coast Quartz Corp**
Facility Name **West Coast Quartz Corp**
1000 Corporate Way, Fremont 94539

Chemical Location **Area J (Liquid Argon)**

CERS ID **10169345**
Facility ID **C90006845**
Status **Submitted** on 2/24/2014 2:44 PM

DOT Code/Fire Haz. Class	Common Name	Unit	Quantities: Max. Daily	Quantities: Largest Cont.	Quantities: Avg. Daily	Annual Waste Amount	Federal Hazard Categories	Hazardous Components (For mixture only): Component Name	% Wt	EHS	CAS No.
DOT: 2.2 - Nonflammable Gases Cryogen, Other	**Argon, Liquid** CAS No 7440-37-1	**Gallons** State Gas Type Pure	**6000** Storage Container Aboveground Tank Days on Site: 365	**6000**	3000 Pressue < Ambient Temperature Cryogenic	Waste Code	- Pressure Release				

Hazardous Materials And Wastes Inventory Matrix Report

CERS Business/Org. **West Coast Quartz Corp**
Facility Name **West Coast Quartz Corp**
1000 Corporate Way, Fremont 94539

Chemical Location **Area K (Backup Powere Generator**

CERS ID **10169345**
Facility ID **C90006845**
Status **Submitted** on 2/24/2014 2:44 PM

DOT Code/Fire Haz. Class	Common Name	Unit	Quantities: Max. Daily	Largest Cont.	Avg. Daily	Annual Waste Amount	Federal Hazard Categories	Hazardous Components (For mixture only): Component Name	% Wt	EHS	CAS No.
DOT: 3 - Flammable and Combustible Liquids Combustible Liquid, Class II	**Diesel Fuel No. 2** CAS No 68476-34-6	**Gallons** State Liquid Type Pure	**250** Storage Container Aboveground Tank Days on Site: 365	**250**	200 Pressue Ambient Temperature Ambient	Waste Code	- Fire - Acute Health				

Hazardous Materials And Wastes Inventory Matrix Report

CERS Business/Org. **West Coast Quartz Corp**
Facility Name **West Coast Quartz Corp**
1000 Corporate Way, Fremont 94539

Chemical Location **Area L (Compressor Alley)**

CERS ID **10169345**
Facility ID **C90006845**
Status **Submitted** on 2/24/2014 2:44 PM

DOT Code/Fire Haz. Class	Common Name	Unit	Quantities: Max. Daily	Largest Cont.	Avg. Daily	Annual Waste Amount	Federal Hazard Categories	Hazardous Components (For mixture only): Component Name	% Wt	EHS	CAS No.
	SSR Ultra Coolant	**Gallons**	**10**	**5**	5		- Fire - Acute Health				
Combustible Liquid, Class III-B, Irritant	CAS No	State: Liquid Type: Mixture	Storage Container: Other Days on Site: 365		Pressue: Ambient Temperature: Ambient	Waste Code					

Hazardous Materials And Wastes Inventory Matrix Report

CERS Business/Org. **West Coast Quartz Corp**
Facility Name **West Coast Quartz Corp**
1000 Corporate Way, Fremont 94539

Chemical Location
Area M (Hazmat Shed)

CERS ID **10169345**
Facility ID **C90006845**
Status **Submitted** on 2/24/2014 2:44 PM

DOT Code/Fire Haz. Class	Common Name	Unit	Quantities: Max. Daily	Largest Cont.	Avg. Daily	Annual Waste Amount	Federal Hazard Categories	Hazardous Components (For mixture only): Component Name	% Wt	EHS	CAS No.
DOT: 9 - Misc. Hazardous Materials Combustible Liquid, Class III-B, Irritant	**Inland 77 Vacuum Pump Oil** CAS No 64742-65-0	**Gallons** State Liquid Type Pure	**110** Storage Container Steel Drum Days on Site: 365	**55**	55 Pressue Ambient Temperature Ambient	Waste Code	- Fire - Acute Health				

Hazardous Materials And Wastes Inventory Matrix Report

CERS Business/Org. **West Coast Quartz Corp**
Facility Name **West Coast Quartz Corp**
1000 Corporate Way, Fremont 94539

Chemical Location **Area N (Silicon Growing)**

CERS ID **10169345**
Facility ID **C90006845**
Status **Submitted** on 2/24/2014 2:44 PM

DOT Code/Fire Haz. Class	Common Name	Unit	Quantities: Max. Daily	Largest Cont.	Avg. Daily	Annual Waste Amount	Federal Hazard Categories	Hazardous Components (For mixture only): Component Name	% Wt	EHS	CAS No.
Toxic	**Boron** CAS No 7440-42-8	**Pounds** State Solid Type Pure	**10** Storage Container Glass Bottle or Jug Days on Site: 365	**5**	5 Pressue Ambient Temperature Ambient	Waste Code	- Acute Health				
DOT: 2.2 - Nonflammable Gases Oxidizing, Class 2	**Emergency Oxygen Tank** CAS No 7782-44-7	**Cu. Feet** State Gas Type Pure	**70** Storage Container Cylinder Days on Site: 365	**35**	70 Pressue Ambient Temperature Ambient	Waste Code	- Fire - Pressure Release				
DOT: 2.2 - Nonflammable Gases Other	**Helium** CAS No 7440-59-7	**Cu. Feet** State Gas Type Pure	**300** Storage Container Cylinder Days on Site: 365	**300**	300 Pressue Ambient Temperature Ambient	Waste Code	- Pressure Release - Acute Health				
DOT: 3 - Flammable and Combustible Liquids Flammable Liquid, Class I-B, Irritant	**Isopropyl Alcohol** CAS No 67-63-0	**Gallons** State Liquid Type	**1.5** Storage Container Plastic Bottle or Jug Days on Site: 365	**1**	0.5 Pressue Ambient Temperature Ambient	Waste Code	- Fire				

Hazardous Materials And Wastes Inventory Matrix Report

CERS Business/Org. **West Coast Quartz Corp**
Facility Name **West Coast Quartz Corp**
1000 Corporate Way, Fremont 94539

Chemical Location **Area O (Storage Cabinet)**

CERS ID **10169345**
Facility ID **C90006845**
Status **Submitted** on 2/24/2014 2:44 PM

DOT Code/Fire Haz. Class	Common Name	Unit	Quantities: Max. Daily	Largest Cont.	Avg. Daily	Annual Waste Amount	Federal Hazard Categories	Hazardous Components (For mixture only): Component Name	% Wt	EHS	CAS No.
DOT: 3 - Flammable and Combustible Liquids Flammable Liquid, Class I-B, Irritant	**Isopropyl Alcohol** CAS No 67-63-0	**Gallons** State: Liquid Type:	**10** Storage Container: Plastic/Non-metalic Drum, Can Days on Site: 365	**5**	5 Pressue: Ambient Temperature: Ambient	Waste Code	- Fire - Acute Health				
DOT: 3 - Flammable and Combustible Liquids Combustible Liquid, Class II, Irritant	**Kerosene** CAS No 8008-20-6	**Gallons** State: Liquid Type: Pure	**5** Storage Container: Plastic/Non-metalic Drum Days on Site: 365	**5**	5 Pressue: Ambient Temperature: Ambient	Waste Code	- Fire - Reactive - Pressure Release - Acute Health - Chronic health				
DOT: 3 - Flammable and Combustible Liquids Combustible Liquid, Class II, Irritant	**paint thinner** CAS No 8052-41-3	**Gallons** State: Liquid Type: Pure	**0.5** Storage Container: Can Days on Site: 365	**0.25**	0.5 Pressue: Ambient Temperature: Ambient	Waste Code	- Fire - Acute Health				
DOT: 3 - Flammable and Combustible Liquids Combustible Liquid, Class III-B, Other Health Hazard, Irritant	**WD40** CAS No 64742-47-8	**Gallons** State: Liquid Type: Pure	**25** Storage Container: Can Days on Site: 365	**5**	15 Pressue: Ambient Temperature: Ambient	Waste Code	- Fire - Acute Health - Chronic health	Alphatic Petroleum Distillates Petroleum Base Oil	70 % 30 %		64742-47-8 64742-58-1

Hazardous Materials And Wastes Inventory Matrix Report

CERS Business/Org. **West Coast Quartz Corp**
Facility Name **West Coast Quartz Corp**
1000 Corporate Way, Fremont 94539

Chemical Location **Area P (Waste Storage)**

CERS ID **10169345**
Facility ID **C90006845**
Status **Submitted** on 2/24/2014 2:44 PM

DOT Code/Fire Haz. Class	Common Name	Unit	Quantities: Max. Daily	Largest Cont.	Avg. Daily	Annual Waste Amount	Federal Hazard Categories	Hazardous Components (For mixture only): Component Name	% Wt	EHS	CAS No.
Combustible Liquid, Class III-B	**Oil contaminated filters, PPE, booms, mats** CAS No	**Pounds**	**6000**	**2000**	4000		- Fire - Acute Health				
		State: Solid	Storage Container: Bag		Pressue: Ambient	Waste Code: 223					
		Type: Waste	Days on Site: 365		Temperature: Ambient						
Combustible Liquid, Class III-B	**Waste Oil** CAS No	**Gallons**	**110**	**55**	55		- Fire - Acute Health				
		State: Liquid	Storage Container: Steel Drum		Pressue: Ambient	Waste Code: 223					
		Type: Waste	Days on Site: 365		Temperature: Ambient						

Hazardous Materials And Wastes Inventory Matrix Report

CERS Business/Org. **Hayward Quartz**
Facility Name **Hayward Quartz**
1500 Corporate Way. , Fremont 94539

Chemical Location
AA - HYDROGEN TANK

CERS ID **10168327**
Facility ID **C90006831**
Status **Submitted** on 6/27/2014 11:48 AM

DOT Code/Fire Haz. Class	Common Name	Unit	Quantities: Max. Daily	Quantities: Largest Cont.	Quantities: Avg. Daily	Annual Waste Amount	Federal Hazard Categories	Hazardous Components (For mixture only): Component Name	% Wt	EHS	CAS No.
DOT: 2.1 - Flammable Gases Flammable Gas, Cryogen, Other Health Hazard	**HYDROGEN, LIQUID** CAS No 1333-74-0	**Gallons** State Liquid Type Pure	**9000** Storage Container Aboveground Tank Days on Site: 365	**9000**	6000 Pressue > Ambient Temperature Cryogenic	Waste Code	- Fire - Pressure Release - Acute Health				

Hazardous Materials And Wastes Inventory Matrix Report

CERS Business/Org. **Hayward Quartz**
Facility Name **Hayward Quartz**
1500 Corporate Way. , Fremont 94539

Chemical Location **P**

CERS ID **10168327**
Facility ID **C90006831**
Status **Submitted** on 6/27/2014 11:48 AM

DOT Code/Fire Haz. Class	Common Name	Unit	Quantities: Max. Daily	Quantities: Largest Cont.	Quantities: Avg. Daily	Annual Waste Amount	Federal Hazard Categories	Hazardous Components (For mixture only): Component Name	% Wt	EHS	CAS No.
	GREASE #2	**Gallons**	**20**	**10**	10						
Combustible Liquid, Class III-B	CAS No: NA	State: Liquid	Storage Container: Can		Pressue: Ambient	Waste Code					
		Type: Pure	Days on Site: 365		Temperature: Ambient						

Hazardous Materials And Wastes Inventory Matrix Report

CERS Business/Org. **Hayward Quartz**
Facility Name **Hayward Quartz**
1500 Corporate Way. , Fremont 94539

Chemical Location **R**

CERS ID **10168327**
Facility ID **C90006831**
Status **Submitted** on 6/27/2014 11:48 AM

DOT Code/Fire Haz. Class	Common Name	Unit	Quantities: Max. Daily	Quantities: Largest Cont.	Quantities: Avg. Daily	Annual Waste Amount	Federal Hazard Categories	Hazardous Components (For mixture only): Component Name	% Wt	EHS	CAS No.
DOT: 8 - Corrosives (Liquids and Solids) Corrosive, Other Health Hazard	**HYDROFLUORIC ACID, 5% SOLUTION** CAS No 7664-39-3	**Gallons** State Liquid Type Pure	**100** Storage Container Tank Inside Building Days on Site: 365	**200**	100 Pressue Ambient Temperature Ambient	Waste Code	- Acute Health				

Hazardous Materials And Wastes Inventory Matrix Report

CERS Business/Org. **Hayward Quartz**
Facility Name **Hayward Quartz**
1500 Corporate Way. , Fremont 94539

Chemical Location **S**

CERS ID **10168327**
Facility ID **C90006831**
Status **Submitted** on 6/27/2014 11:48 AM

DOT Code/Fire Haz. Class	Common Name	Unit	Quantities: Max. Daily	Quantities: Largest Cont.	Quantities: Avg. Daily	Annual Waste Amount	Federal Hazard Categories	Hazardous Components (For mixture only): Component Name	% Wt	EHS	CAS No.
DOT: 3 - Flammable and Combustible Liquids Combustible Liquid, Class III-B	**AIRTOOL LUBE** CAS No: NA State: Liquid Type: Mixture Storage Container: Can Days on Site: 365 Pressue: Ambient Temperature: Ambient Waste Code:	**Gallons**	**5**	**5**	2.5		- Fire	LUBRICATING OIL	100 %		610-00-0
Irritant	**FLC-260 COOLANT** CAS No: NA State: Liquid Type: Mixture Storage Container: Tote Bin Days on Site: 365 Pressue: Ambient Temperature: Ambient Waste Code:	**Gallons**	**275**	**275**	150		- Acute Health	TRIETHANOLAMINE BORIC ACID	15 % 5 %		102-71-6 10043-35-3
DOT: 3 - Flammable and Combustible Liquids Combustible Liquid, Class III-B	**GEAR OIL** CAS No: NA State: Liquid Type: Pure Storage Container: Can Days on Site: 365 Pressue: Ambient Temperature: Ambient Waste Code:	**Gallons**	**5**	**5**	2.5		- Fire				
DOT: 3 - Flammable and Combustible Liquids Flammable Liquid, Class I-B, Irritant, Other Health Hazard	**LOCTITE SOLVENT** CAS No: NA State: Liquid Type: Mixture Storage Container: Plastic Bottle or Jug Pressue: Ambient Temperature: Ambient Waste Code:	**Gallons**	**1**	**1**	0.5		- Fire - Acute Health - Chronic health	NITROMETHANE TOLUENE	80 % 7 %		75-52-5 108-88-3
Combustible Liquid, Class III-B	**MOBIL VACTRA OIL #2** CAS No: NA State: Liquid Type: Pure Storage Container: Steel Drum, Can Days on Site: 365 Pressue: Ambient Temperature: Ambient Waste Code:	**Gallons**	**80**	**55**	60						
DOT: 3 - Flammable and Combustible Liquids Combustible Liquid, Class II, Other Health Hazard	**PAINT THINNER** CAS No: NA State: Liquid Type: Mixture Storage Container: Can Days on Site: 365 Pressue: Temperature: Waste Code:	**Gallons**	**2**	**1**	1		- Fire - Acute Health - Chronic health	1,2,4-TRIMETHYLBENZENE STODDARD SOLVENT	2 % 98 %		95-63-6 8052-41-3
DOT: 3 - Flammable and Combustible Liquids Combustible Liquid, Class III-B	**TAPPING FLUID** CAS No: 64742-47-8 State: Liquid Type: Mixture Storage Container: Plastic Bottle or Jug Days on Site: 365 Pressue: Ambient Temperature: Ambient Waste Code:	**Gallons**	**1**	**1**	1		- Fire				
DOT: 3 - Flammable and Combustible Liquids Combustible Liquid, Class II, Irritant	**WD-40** CAS No: 8052-41-3 State: Liquid Type: Pure Storage Container: Can Days on Site: 365 Pressue: Ambient Temperature: Ambient Waste Code:	**Gallons**	**0.5**	**1**	0.5		- Fire - Acute Health				

Hazardous Materials And Wastes Inventory Matrix Report

CERS Business/Org. **Hayward Quartz** | Chemical Location | CERS ID **10168327**

Facility Name **Hayward Quartz** | **T** | Facility ID **C90006831**

1500 Corporate Way. , Fremont 94539 | Status **Submitted** on 6/27/2014 11:48 AM

DOT Code/Fire Haz. Class	Common Name	Unit	Quantities: Max. Daily	Largest Cont.	Avg. Daily	Annual Waste Amount	Federal Hazard Categories	Hazardous Components (For mixture only): Component Name	% Wt	EHS	CAS No.
DOT: 3 - Flammable and Combustible Liquids Flammable Liquid, Class I-B, Irritant	**ACETONE** CAS No 67-64-1	**Gallons** State: Liquid Type: Pure	**1** Storage Container: Plastic Bottle or Jug Days on Site: 365	**1**	1 Pressue: Ambient Temperature: Ambient	Waste Code	- Fire - Acute Health				
DOT: 2.1 - Flammable Gases Unstable (Reactive), Class 2, Flammable Gas	**ACETYLENE** CAS No 74-86-2	**Cu. Feet** State: Gas Type: Pure	**115** Storage Container: Cylinder Days on Site: 365	**115**	115 Pressue: > Ambient Temperature: Ambient	Waste Code	- Fire - Reactive - Pressure Release - Acute Health				
Irritant, Other Health Hazard	**ALLOY POWDER FA-318** CAS No NA	**Pounds** State: Solid Type: Mixture	**60** Storage Container: Plastic/Non-metalic Drum Days on Site: 365	**40**	40 Pressue: Ambient Temperature: Ambient	Waste Code	- Acute Health - Chronic health	COPPER TIN IRON			7440-50-8 7440-31-5 7439-89-6
Irritant, Other Health Hazard	**ALLOY POWDER FA-403** CAS No NA	**Pounds** State: Solid Type: Mixture	**200** Storage Container: Plastic/Non-metalic Drum Days on Site: 365	**40**	200 Pressue: Ambient Temperature: Ambient	Waste Code	- Acute Health - Chronic health	COPPER TIN			7440-50-8 7440-31-5
DOT: 2.2 - Nonflammable Gases Other	**ARGON, COMPRESSED** CAS No 7440-37-1	**Cu. Feet** State: Gas Type: Pure	**510** Storage Container: Cylinder Days on Site: 365	**255**	255 Pressue: > Ambient Temperature: Ambient	Waste Code	- Pressure Release				
DOT: 2.2 - Nonflammable Gases	**ARGON/CO2 MIXTURE** CAS No NA	**Cu. Feet** State: Gas Type: Mixture	**600** Storage Container: Cylinder Days on Site: 365	**300**	300 Pressue: > Ambient Temperature: Ambient	Waste Code	- Pressure Release	ARGON CARBON DIOXIDE	75 % 25 %		7440-37-1 124-38-9
DOT: 2.1 - Flammable Gases Flammable Gas, Unstable (Reactive), Class 1	**BRAZING FUEL** CAS No 115-07-1	**Gallons** State: Liquid Type: Pure	**0.88** Storage Container: Cylinder Days on Site: 365	**0.44**	0.44 Pressue: > Ambient Temperature: Ambient	Waste Code	- Fire - Reactive - Pressure Release				
DOT: 2.1 - Flammable Gases Flammable Gas	**HYDROGEN** CAS No 1333-74-0	**Cu. Feet** State: Gas Type: Pure	**510** Storage Container: Cylinder Days on Site: 365	**510**	255 Pressue: > Ambient Temperature: Ambient	Waste Code	- Fire - Pressure Release				

Hazardous Materials And Wastes Inventory Matrix Report

CERS Business/Org. **Hayward Quartz**
Facility Name **Hayward Quartz**
1500 Corporate Way. , Fremont 94539

Chemical Location **T**

CERS ID **10168327**
Facility ID **C90006831**
Status **Submitted** on 6/27/2014 11:48 AM

DOT Code/Fire Haz. Class	Common Name	Unit	Quantities: Max. Daily	Largest Cont.	Avg. Daily	Annual Waste Amount	Federal Hazard Categories	Hazardous Components (For mixture only): Component Name	% Wt	EHS CAS No.
DOT: 3 - Flammable and Combustible Liquids Flammable Liquid, Class I-B, Irritant	**ISOPROPYL ALCOHOL** CAS No 67-63-0	**Gallons** State Liquid Type Pure	**7** Storage Container Plastic Bottle or Jug Days on Site: 365	**1**	5 Pressue Temperature	Waste Code	- Fire			
DOT: 3 - Flammable and Combustible Liquids Combustible Liquid, Class II, Irritant	**KEROSENE** CAS No 8008-20-6	**Gallons** State Liquid Type Pure	**20** Storage Container Can Days on Site: 365	**5**	15 Pressue Ambient Temperature Ambient	Waste Code	- Fire - Acute Health			
Combustible Liquid, Class III-B	**KOOLMIST** CAS No NA	**Gallons** State Liquid Type Mixture	**3** Storage Container Plastic Bottle or Jug Days on Site: 365	**1**	3 Pressue Ambient Temperature Ambient	Waste Code	- Fire	Carboxylic acid salt Triethanolamine Polyalkylene glycol monobutyl ether	45 % 30 % 3 %	688188 - 07 - 0 102-71-6 9038 - 95 - 3
DOT: 2.2 - Nonflammable Gases	**NITROGEN** CAS No 7727-37-9	**Cu. Feet** State Gas Type Pure	**510** Storage Container Cylinder Days on Site: 365	**255**	255 Pressue > Ambient Temperature Ambient	Waste Code	- Pressure Release			
DOT: 2.2 - Nonflammable Gases Oxidizing, Class 2	**OXYGEN** CAS No 7782-44-7	**Cu. Feet** State Gas Type Pure	**149** Storage Container Cylinder Days on Site: 365	**149**	149 Pressue > Ambient Temperature Ambient	Waste Code	- Fire - Pressure Release			
DOT: 3 - Flammable and Combustible Liquids Combustible Liquid, Class II, Other Health Hazard	**PAINT THINNER** CAS No NA	**Gallons** State Liquid Type Mixture	**2** Storage Container Can	**1**	1 Pressue Ambient Temperature Ambient	Waste Code	- Fire - Acute Health - Chronic health	1,2,4-TRIMETHYLBENZENE STODDARD SOLVENT	2 % 98 %	95-63-6 8052-41-3
Irritant	**SILICON CARBIDE** CAS No 409-21-2	**Pounds** State Solid Type Pure	**3000** Storage Container Plastic/Non-metalic Drum Days on Site: 365	**300**	2400 Pressue Ambient Temperature Ambient	Waste Code	- Acute Health			
DOT: 3 - Flammable and Combustible Liquids Flammable Liquid, Class I-C, Carcinogen, Other Health Hazard	**SOLDER FLUX** CAS No 788-00-0	**Gallons** State Liquid Type Pure	**3** Storage Container Can Days on Site: 365	**1**	3 Pressue Ambient Temperature Ambient	Waste Code	- Fire - Chronic health			

Hazardous Materials And Wastes Inventory Matrix Report

CERS Business/Org. **Hayward Quartz**
Facility Name **Hayward Quartz**
1500 Corporate Way. , Fremont 94539

Chemical Location **T**

CERS ID **10168327**
Facility ID **C90006831**
Status **Submitted** on 6/27/2014 11:48 AM

DOT Code/Fire Haz. Class	Common Name	Unit	Quantities: Max. Daily	Largest Cont.	Avg. Daily	Annual Waste Amount	Federal Hazard Categories	Hazardous Components (For mixture only): Component Name	% Wt	EHS	CAS No.
	TELLUS OIL #32 CAS No NA	**Gallons** State Liquid Type Pure	**10** Storage Container Can Days on Site: 365	**5**	5 Pressue Ambient Temperature Ambient	Waste Code					
DOT: 3 - Flammable and Combustible Liquids Combustible Liquid, Class II, Irritant	**WD-40** CAS No 8052-41-3	**Gallons** State Liquid Type Pure	**3** Storage Container Can Days on Site: 365	**1**	3 Pressue Ambient Temperature Ambient	Waste Code	- Fire - Acute Health				

Hazardous Materials And Wastes Inventory Matrix Report

CERS Business/Org. **Hayward Quartz**
Facility Name **Hayward Quartz**
1500 Corporate Way. , Fremont 94539

Chemical Location
X

CERS ID **10168327**
Facility ID **C90006831**
Status **Submitted** on 6/27/2014 11:48 AM

DOT Code/Fire Haz. Class	Common Name	Unit	Quantities: Max. Daily	Quantities: Largest Cont.	Quantities: Avg. Daily	Annual Waste Amount	Federal Hazard Categories	Hazardous Components (For mixture only): Component Name	% Wt	EHS	CAS No.
DOT: 3 - Flammable and Combustible Liquids Flammable Liquid, Class I-B, Irritant	**ISOPROPYL ALCOHOL** CAS No 67-63-0	**Gallons** State Liquid Type Pure	**0.25** Storage Container Plastic Bottle or Jug Days on Site: 365	**0.25**	0.125 Pressue Ambient Temperature Ambient	Waste Code	- Fire				
DOT: 3 - Flammable and Combustible Liquids Flammable Liquid, Class I-B, Irritant, Other Health Hazard	**METHANOL** CAS No 67-56-1	**Gallons** State Liquid Type Pure	**1** Storage Container Plastic Bottle or Jug Days on Site: 365	**0.25**	1 Pressue Ambient Temperature Ambient	Waste Code	- Fire - Acute Health				

Hazardous Materials And Wastes Inventory Matrix Report

CERS Business/Org. **Hayward Quartz**
Facility Name **Hayward Quartz**
1500 Corporate Way. , Fremont 94539

Chemical Location **Y**

CERS ID **10168327**
Facility ID **C90006831**
Status **Submitted** on 6/27/2014 11:48 AM

DOT Code/Fire Haz. Class	Common Name	Unit	Quantities: Max. Daily	Largest Cont.	Avg. Daily	Annual Waste Amount	Federal Hazard Categories	Hazardous Components (For mixture only): Component Name	% Wt	EHS	CAS No.
DOT: 8 - Corrosives (Liquids and Solids) Corrosive, Other Health Hazard	**HYDROFLUORIC ACID, 5% SOLUTION** CAS No 7664-39-3	**Gallons** State Liquid Type Pure	**100** Storage Container Tank Inside Building Days on Site: 365	**200**	100 Pressue Ambient Temperature Ambient	Waste Code	- Acute Health				
DOT: 3 - Flammable and Combustible Liquids Flammable Liquid, Class I-B, Irritant	**ISOPROPYL ALCOHOL** CAS No 67-63-0	**Gallons** State Liquid Type Pure	**1** Storage Container Plastic Bottle or Jug Days on Site: 365	**0.25**	0.5 Pressue Ambient Temperature Ambient	Waste Code	- Fire				
DOT: 3 - Flammable and Combustible Liquids Combustible Liquid, Class II, Irritant	**KEROSENE** CAS No 8008-20-6	**Gallons** State Liquid Type Pure	**2** Storage Container Can Days on Site: 365	**1**	1 Pressue Ambient Temperature Ambient	Waste Code	- Fire - Acute Health				

Hazardous Materials And Wastes Inventory Matrix Report

CERS Business/Org. **Hayward Quartz** | Chemical Location | CERS ID **10168329**

Facility Name **Hayward Quartz** | **A** | Facility ID **C90550056**

1700 Corporate Way. , Fremont 94539 | Status **Submitted** on 6/27/2014 11:56 AM

DOT Code/Fire Haz. Class	Common Name	Unit	Quantities: Max. Daily	Largest Cont.	Avg. Daily	Annual Waste Amount	Federal Hazard Categories	Hazardous Components (For mixture only): Component Name	% Wt	EHS	CAS No.
DOT: 8 - Corrosives (Liquids and Solids) Corrosive, Toxic	**Ammonium Hydrogen Fluoride** CAS No 1341-49-7	**Pounds** State: Solid Type: Pure	**5** Storage Container: Glass Bottle or Jug Days on Site: 365	**5**	2.5 Pressue: Ambient Temperature: Ambient	Waste Code					
Irritant	**Calcium chloride** CAS No 10043-52-4	**Gallons** State: Liquid Type: Pure	**220** Storage Container: Plastic/Non-metalic Drum	**55**	110 Pressue: Ambient Temperature: Ambient	Waste Code	- Acute Health				
DOT: 8 - Corrosives (Liquids and Solids) Corrosive, Other Health Hazard	**Hydrochloric Acid 10-33%** CAS No 7647-01-0	**Gallons** State: Liquid Type: Pure	**1** Storage Container: Plastic Bottle or Jug Days on Site: 365	**1**	0.5 Pressue: Ambient Temperature: Ambient	Waste Code	- Acute Health - Chronic health				
DOT: 8 - Corrosives (Liquids and Solids) Corrosive, Other Health Hazard, Toxic, Other Health Hazard	**Hydrofluoric Acid, 35-49%** CAS No 7664-39-3	**Gallons** State: Liquid Type: Pure	**5** Storage Container: Plastic Bottle or Jug Days on Site: 365	**1**	2 Pressue: Ambient Temperature: Ambient	Waste Code					
DOT: 5.1 - Oxidizing Substances Corrosive, Oxidizing, Class 2, Other Health Hazard, Unstable (Reactive), Class 1	**Hydrogen Peroxide 30-50%** CAS No 7722-84-1	**Gallons** State: Liquid Type: Pure	**4** Storage Container: Plastic Bottle or Jug Days on Site: 365	**1**	3 Pressue: Ambient Temperature: Ambient	Waste Code	- Fire - Reactive - Acute Health				
DOT: 8 - Corrosives (Liquids and Solids) Corrosive, Oxidizing, Class 2	**Nitric Acid** CAS No 7697-37-2 ✓EHS	**Pounds** State: Liquid Type: Pure	**45.6** Storage Container: Glass Bottle or Jug Days on Site: 365	**11.4**	22.8 Pressue: Ambient Temperature: Ambient	Waste Code 791	- Reactive - Acute Health - Chronic health				
DOT: 8 - Corrosives (Liquids and Solids) Corrosive	**Sodium Hydroxide Solution** CAS No 1310-73-2	**Gallons** State: Liquid Type: Pure	**55** Storage Container: Plastic/Non-metalic Drum Days on Site: 365	**55**	25 Pressue: Ambient Temperature: Ambient	Waste Code	- Reactive - Acute Health				
DOT: 8 - Corrosives (Liquids and Solids) Corrosive, Water Reactive, Class 2, Toxic, Oxidizing, Class 1	**Sulfuric Acid** CAS No 7664-93-9 ✓EHS	**Pounds** State: Liquid Type: Pure	**46** Storage Container: Glass Bottle or Jug Days on Site: 365	**15.3**	23 Pressue: Ambient Temperature: Ambient	Waste Code	- Reactive - Acute Health				

Hazardous Materials And Wastes Inventory Matrix Report

CERS Business/Org. **Hayward Quartz**
Facility Name **Hayward Quartz**
1700 Corporate Way. , Fremont 94539

Chemical Location **A**

CERS ID **10168329**
Facility ID **C90550056**
Status **Submitted** on 6/27/2014 11:56 AM

DOT Code/Fire Haz. Class	Common Name	Unit	Quantities: Max. Daily	Quantities: Largest Cont.	Quantities: Avg. Daily	Annual Waste Amount	Federal Hazard Categories	Hazardous Components (For mixture only): Component Name	% Wt	EHS	CAS No.
DOT: 8 - Corrosives (Liquids and Solids) Corrosive, Water Reactive, Class 1, Toxic, Oxidizing, Class 1	**Sulfuric Acid, 33% Solution** CAS No 7664-93-9	**Gallons** State Liquid Type Pure	**10** Storage Container Carboy Days on Site: 365	**10**	5 Pressue Ambient Temperature Ambient	Waste Code	- Reactive - Acute Health				

Hazardous Materials And Wastes Inventory Matrix Report

CERS Business/Org. **Hayward Quartz**
Facility Name **Hayward Quartz**
1700 Corporate Way. , Fremont 94539

Chemical Location **B**

CERS ID **10168329**
Facility ID **C90550056**
Status **Submitted** on 6/27/2014 11:56 AM

DOT Code/Fire Haz. Class	Common Name	Unit	Quantities: Max. Daily	Quantities: Largest Cont.	Quantities: Avg. Daily	Annual Waste Amount	Federal Hazard Categories	Hazardous Components (For mixture only): Component Name	% Wt	EHS	CAS No.
DOT: 3 - Flammable and Combustible Liquids Flammable Liquid, Class I-B, Irritant	**Acetone** CAS No 67-64-1	**Gallons** State Liquid Type Pure	**10** Storage Container Plastic Bottle or Jug Days on Site: 365	**1**	5 Pressue Ambient Temperature Ambient	Waste Code	- Fire - Acute Health				
Irritant	**Calcium chloride** CAS No 10043-52-4	**Gallons** State Liquid Type Pure	**220** Storage Container Plastic/Non-metalic Drum Days on Site: 365	**55**	110 Pressue Ambient Temperature Ambient	Waste Code	- Acute Health				
DOT: 8 - Corrosives (Liquids and Solids) Corrosive, Other Health Hazard, Other Health Hazard	**Hydrofluoric Acid, 5% Solution** CAS No 7664-39-3	**Gallons** State Liquid Type Pure	**100** Storage Container Tank Inside Building Days on Site: 365	**150**	100 Pressue Ambient Temperature Ambient	Waste Code	- Acute Health - Chronic health				
DOT: 3 - Flammable and Combustible Liquids Flammable Liquid, Class I-B, Irritant	**Isopropyl Alcohol** CAS No 67-63-0	**Gallons** State Liquid Type Pure	**8** Storage Container Plastic Bottle or Jug Days on Site: 365	**1**	4 Pressue Ambient Temperature Ambient	Waste Code	- Fire - Acute Health - Chronic health				
DOT: 3 - Flammable and Combustible Liquids Flammable Liquid, Class I-B, Irritant, Other Health Hazard	**Methanol** CAS No 67-56-1	**Gallons** State Liquid Type Pure	**8** Storage Container Plastic Bottle or Jug Days on Site: 365	**1**	4 Pressue Ambient Temperature Ambient	Waste Code	- Fire - Acute Health				
DOT: 8 - Corrosives (Liquids and Solids) Corrosive	**Silconox** CAS No NA	**Gallons** State Liquid Type Mixture	**55** Storage Container Plastic/Non-metalic Drum Days on Site: 365	**55**	25 Pressue Ambient Temperature Ambient	Waste Code	- Acute Health - Chronic health	Potassium Hydroxide	10 %		1310-58-3
DOT: 3 - Flammable and Combustible Liquids Flammable Liquid, Class I-B, Irritant, Other Health Hazard	**Toluene** CAS No 108-88-3	**Gallons** State Liquid Type Pure	**1** Storage Container Plastic Bottle or Jug Days on Site: 365	**1**	0.5 Pressue Ambient Temperature Ambient	Waste Code	- Fire - Acute Health				

Hazardous Materials And Wastes Inventory Matrix Report

CERS Business/Org. **Hayward Quartz**
Facility Name **Hayward Quartz**
1700 Corporate Way. , Fremont 94539

Chemical Location **C**

CERS ID **10168329**
Facility ID **C90550056**
Status **Submitted** on 6/27/2014 11:56 AM

DOT Code/Fire Haz. Class	Common Name	Unit	Quantities: Max. Daily	Quantities: Largest Cont.	Quantities: Avg. Daily	Annual Waste Amount	Federal Hazard Categories	Hazardous Components (For mixture only): Component Name	% Wt	EHS	CAS No.
DOT: 3 - Flammable and Combustible Liquids Combustible Liquid, Class III-B	**Alvania Bearing Grease** CAS No: NA	**Gallons** State: Liquid Type: Mixture	**5** Storage Container: Can Days on Site: 365	**5**	2.5 Pressue: Ambient Temperature: Ambient	Waste Code:		HIGHLY REFINED PETROLEUM OILS	80 %		NA
DOT: 3 - Flammable and Combustible Liquids Combustible Liquid, Class III-B	**Coolacide** CAS No: NA	**Gallons** State: Liquid Type: Mixture	**10** Storage Container: Plastic Bottle or Jug Days on Site: 365	**2**	5 Pressue: Ambient Temperature: Ambient	Waste Code:	- Fire	POLYOXYETHYLENE	50 %		24991-53-5
DOT: 3 - Flammable and Combustible Liquids Flammable Liquid, Class I-B, Irritant, Other Health Hazard	**Ethyl Alcohol** CAS No: 64-17-5	**Gallons** State: Liquid Type: Pure	**1** Storage Container: Plastic Bottle or Jug Days on Site: 365	**1**	0.5 Pressue: Ambient Temperature: Ambient	Waste Code:	- Fire - Acute Health - Chronic health				
DOT: 2.2 - Nonflammable Gases	**Laser Gas Mixture** CAS No: NA	**Cu. Feet** State: Gas Type: Mixture	**1955** Storage Container: Cylinder Days on Site: 365	**391**	1173 Pressue: > Ambient Temperature: Ambient	Waste Code:		NITROGEN HELIUM CARBON DIOXIDE	60 % 28 % 4 %		7440-37-9 7440-59-7 124-38-9
DOT: 2.2 - Nonflammable Gases	**Nitrogen** CAS No: 7727-37-9	**Cu. Feet** State: Gas Type: Pure	**1785** Storage Container: Cylinder Days on Site: 365	**255**	890 Pressue: > Ambient Temperature: Ambient	Waste Code:	- Pressure Release				
DOT: 2.2 - Nonflammable Gases Cryogen	**Nitrogen, Liquid** CAS No: 7727-37-9	**Cu. Feet** State: Liquid Type: Pure	**6510** Storage Container: Cylinder Days on Site: 365	**6510**	3255 Pressue: > Ambient Temperature: Cryogenic	Waste Code:	- Pressure Release - Acute Health				
Combustible Liquid, Class III-B, Irritant	**Vacuum Pump Oil** CAS No: NA	**Gallons** State: Liquid Type: Mixture	**1** Storage Container: Plastic Bottle or Jug Days on Site: 365	**1**	0.5 Pressue: Ambient Temperature: Ambient	Waste Code:	- Fire	Solvent-dewaxed heavy paraffinic petroleum distillates	100 %		000826-00-0

Hazardous Materials And Wastes Inventory Matrix Report

CERS Business/Org. **Hayward Quartz**
Facility Name **Hayward Quartz**
1700 Corporate Way. , Fremont 94539

Chemical Location **D - Polishing**

CERS ID **10168329**
Facility ID **C90550056**
Status **Submitted** on 6/27/2014 11:56 AM

DOT Code/Fire Haz. Class	Common Name	Unit	Quantities: Max. Daily	Quantities: Largest Cont.	Quantities: Avg. Daily	Annual Waste Amount	Federal Hazard Categories	Hazardous Components (For mixture only): Component Name	% Wt	EHS	CAS No.
DOT: 9 - Misc. Hazardous Materials Other Health Hazard	**Aluminum Oxide** CAS No 1344-28-1	**Pounds** State Solid Type Pure	**2650** Storage Container Plastic/Non-metalic Drum Days on Site: 365	**50**	1325 Pressue Ambient Temperature Ambient	Waste Code					

Hazardous Materials And Wastes Inventory Matrix Report

CERS Business/Org. **Hayward Quartz**
Facility Name **Hayward Quartz**
1700 Corporate Way. , Fremont 94539

Chemical Location **D - Polishing Area**

CERS ID **10168329**
Facility ID **C90550056**
Status **Submitted** on 6/27/2014 11:56 AM

DOT Code/Fire Haz. Class	Common Name	Unit	Quantities: Max. Daily	Quantities: Largest Cont.	Quantities: Avg. Daily	Annual Waste Amount	Federal Hazard Categories	Hazardous Components (For mixture only): Component Name	% Wt	EHS	CAS No.
DOT: 9 - Misc. Hazardous Materials Other Health Hazard	**Cerium oxide (CeO2)** CAS No: 1306-38-3	**Pounds** State: Solid Type: Pure	**45** Storage Container: Plastic/Non-metalic Drum Days on Site: 365	**45**	25 Pressue: Ambient Temperature: Ambient	Waste Code					
DOT: 2.2 - Nonflammable Gases	**Helium** CAS No: 7440-59-7	**Cu. Feet** State: Gas Type: Pure	**255** Storage Container: Cylinder Days on Site: 365	**255**	125 Pressue: > Ambient Temperature: Ambient	Waste Code	- Fire - Reactive - Pressure Release - Acute Health - Chronic health				
Combustible Liquid, Class III-B	**Mobil Gear 629** CAS No: NA	**Gallons** State: Liquid Type: Pure	**55** Storage Container: Steel Drum Days on Site: 365	**55**	30 Pressue: Ambient Temperature: Ambient	Waste Code		Petroleum Distillate	75 %		000374-00-0
DOT: 9 - Misc. Hazardous Materials Other Health Hazard	**Regipol Polishing Compound** CAS No: 1306-38-3	**Pounds** State: Solid Type: Mixture	**770** Storage Container: Plastic/Non-metalic Drum Days on Site: 365	**55**	175 Pressue: Ambient Temperature: Ambient	Waste Code		Cerium Oxide	90 %		1306-38-3

Hazardous Materials And Wastes Inventory Matrix Report

CERS Business/Org. **Hayward Quartz**
Facility Name **Hayward Quartz**
1700 Corporate Way. , Fremont 94539

Chemical Location **E**

CERS ID **10168329**
Facility ID **C90550056**
Status **Submitted** on 6/27/2014 11:56 AM

DOT Code/Fire Haz. Class	Common Name	Unit	Quantities: Max. Daily	Largest Cont.	Avg. Daily	Annual Waste Amount	Federal Hazard Categories	Hazardous Components (For mixture only): Component Name	% Wt	EHS	CAS No.
DOT: 2.1 - Flammable Gases Flammable Gas	**Hydrogen** CAS No 1333-74-0	**Cu. Feet** State: Gas Type: Pure	**1530** Storage Container: Cylinder Days on Site: 365	**255**	1020 Pressue: > Ambient Temperature: Ambient	Waste Code	- Fire - Pressure Release				
DOT: 3 - Flammable and Combustible Liquids Combustible Liquid, Class III-B	**Kool Grind 960** CAS No NA	**Gallons** State: Liquid Type: Mixture	**220** Storage Container: Steel Drum Days on Site: 365	**55**	110 Pressue: Ambient Temperature: Ambient	Waste Code	- Fire	Petroleum Distillate	50 %		NA
DOT: 3 - Flammable and Combustible Liquids Flammable Liquid, Class I-C, Other Health Hazard	**Safety Kleen Solvent Waste** CAS No 64742-47-8	**Gallons** State: Liquid Type: Waste	**40** Storage Container: Steel Drum Days on Site: 365	**20**	20 Pressue: Ambient Temperature: Ambient	240 Waste Code: 213	- Fire - Acute Health - Chronic health	Petroleum Distillate	100 %		64742-47-8

Hazardous Materials And Wastes Inventory Matrix Report

CERS Business/Org. **Hayward Quartz** | Chemical Location | CERS ID **10168329**

Facility Name **Hayward Quartz** | **F** | Facility ID **C90550056**

1700 Corporate Way. , Fremont 94539 | Status **Submitted** on 6/27/2014 11:56 AM

DOT Code/Fire Haz. Class	Common Name	Unit	Quantities: Max. Daily	Quantities: Largest Cont.	Quantities: Avg. Daily	Annual Waste Amount	Federal Hazard Categories	Hazardous Components (For mixture only): Component Name	% Wt	EHS	CAS No.
Combustible Liquid, Class III-B	**CASTROL HYSPIN AW-32 OIL** CAS No: NA	**Gallons** State: Liquid Type: Mixture	**55** Storage Container: Steel Drum Days on Site: 365	**55**	25 Pressue: Ambient Temperature: Ambient	Waste Code:	- Acute Health	Highly Refined Base Oil	95 %		
Combustible Liquid, Class III-B, Other Health Hazard	**CASTROL MAGNA BD-68 WAYLUBE OIL** CAS No: NA	**Gallons** State: Liquid Type:	**55** Storage Container: Steel Drum Days on Site: 365	**55**	25 Pressue: Ambient Temperature: Ambient	Waste Code:	- Fire - Acute Health	Highly Refined Base Oil	90 %		NA
Other Health Hazard	**FLC-260 Coolant** CAS No: NA	**Gallons** State: Liquid Type: Mixture	**200** Storage Container: Tank Inside Building Days on Site: 365	**265**	200 Pressue: Ambient Temperature: Ambient	Waste Code:	- Acute Health	Triethanolamine Boric Acid	20 % 5 %		102-71-6 10043-35-3
Other Health Hazard	**Fluoride Filtercake from Wastewater Treatment Operations** CAS No: NA	**Pounds** State: Solid Type: Waste	**400** Storage Container: Steel Drum Days on Site: 365	**400**	200 Pressue: Ambient Temperature: Ambient	800 Waste Code: 181	- Acute Health - Chronic health				
DOT: 2.1 - Flammable Gases Flammable Gas	**Hydrogen** CAS No: 1333-74-0	**Cu. Feet** State: Gas Type: Pure	**3315** Storage Container: Cylinder Days on Site: 365	**255**	1657 Pressue: > Ambient Temperature: Ambient	Waste Code:	- Fire - Pressure Release				
DOT: 3 - Flammable and Combustible Liquids Combustible Liquid, Class II, Irritant	**Kerosene** CAS No: 8008-20-6	**Gallons** State: Liquid Type: Pure	**55** Storage Container: Steel Drum Days on Site: 365	**55**	25 Pressue: Ambient Temperature: Ambient	Waste Code:	- Fire - Acute Health - Chronic health				
Combustible Liquid, Class III-B, Irritant	**Kool Grind 960** CAS No: NA	**Gallons** State: Liquid Type: Mixture	**660** Storage Container: Steel Drum Days on Site: 365	**55**	330 Pressue: Ambient Temperature: Ambient	Waste Code:	- Fire	Petroleum Distillate	50 %		NA
DOT: 2.2 - Nonflammable Gases	**Nitrogen** CAS No: 7727-37-9	**Cu. Feet** State: Gas Type: Pure	**765** Storage Container: Cylinder Days on Site: 365	**255**	385 Pressue: > Ambient Temperature: Ambient	Waste Code:	- Fire - Reactive - Pressure Release - Acute Health - Chronic health				

Hazardous Materials And Wastes Inventory Matrix Report

CERS Business/Org. **Hayward Quartz** | Chemical Location | CERS ID **10168329**

Facility Name **Hayward Quartz** | **F** | Facility ID **C90550056**

1700 Corporate Way. , Fremont 94539 | Status **Submitted** on 6/27/2014 11:56 AM

DOT Code/Fire Haz. Class	Common Name	Unit	Quantities: Max. Daily	Quantities: Largest Cont.	Quantities: Avg. Daily	Annual Waste Amount	Federal Hazard Categories	Hazardous Components (For mixture only): Component Name	% Wt	EHS	CAS No.
DOT: 2.2 - Nonflammable Gases Oxidizing, Class 2, Cryogen	**Oxygen, Refrigerated Liquid** CAS No 7782-44-7	**Gallons** State Liquid Type Pure	**1500** Storage Container Aboveground Tank Days on Site: 365	**1500**	1000 Pressue > Ambient Temperature Cryogenic	Waste Code	- Fire - Pressure Release - Acute Health				
Combustible Liquid, Class III-B, Irritant, Other Health Hazard	**Synspar GP Coolant** CAS No NA	**Gallons** State Liquid Type Mixture	**110** Storage Container Steel Drum Days on Site: 365	**55**	55 Pressue Ambient Temperature Ambient	Waste Code	- Fire - Acute Health	Triethanolamine Polyaklylene Glycol Boric Acid Dodecandioic Acid Phosphate Ester	20 % 5 % 5 % 5 % 5 %		102-71-6 9038-95-3 10043-35-3 693-23-2 39464-70-5
Combustible Liquid, Class III-B, Irritant	**Waste Oil** CAS No NA	**Gallons** State Liquid Type Waste	**55** Storage Container Steel Drum Days on Site: 365	**55**	25 Pressue Ambient Temperature Ambient	220 Waste Code 221	- Fire - Acute Health				
	Waste Sludge/Oil CAS No NA	**Pounds** State Liquid Type Waste	**1600** Storage Container Steel Drum Days on Site: 365	**400**	1200 Pressue Ambient Temperature Ambient	24000 Waste Code 223	- Acute Health - Chronic health				
	Wastewater from Quartz Processing CAS No NA	**Gallons** State Liquid Type Waste	**3000** Storage Container Tank Inside Building Days on Site: 365	**3000**	1500 Pressue Ambient Temperature Ambient	96000 Waste Code 131					

Hazardous Materials And Wastes Inventory Matrix Report

CERS Business/Org. **Hayward Quartz**
Facility Name **Hayward Quartz**
1700 Corporate Way. , Fremont 94539

Chemical Location **G**

CERS ID **10168329**
Facility ID **C90550056**
Status **Submitted** on 6/27/2014 11:56 AM

DOT Code/Fire Haz. Class	Common Name	Unit	Quantities: Max. Daily	Quantities: Largest Cont.	Quantities: Avg. Daily	Annual Waste Amount	Federal Hazard Categories	Hazardous Components (For mixture only): Component Name	% Wt	EHS	CAS No.
DOT: 8 - Corrosives (Liquids and Solids) Corrosive, Other Health Hazard, Toxic, Other Health Hazard	**Hydrofluoric Acid, 49%** CAS No 7664-39-3	**Gallons** State Liquid Type Pure	**10** Storage Container Glass Bottle or Jug Days on Site: 365	**1**	5 Pressue Ambient Temperature Ambient	Waste Code	- Acute Health - Chronic health				

Hazardous Materials And Wastes Inventory Matrix Report

CERS Business/Org. **7Up Bottling Co**
Facility Name **7Up Bottling Co**
2875 Prune Ave. , Fremont 94539

Chemical Location **FOUNTAIN DEPARTMENT**

CERS ID **10167419**
Facility ID **C90550728**
Status **Submitted** on 10/29/2014 10:34 AM

DOT Code/Fire Haz. Class	Common Name	Unit	Quantities: Max. Daily	Quantities: Largest Cont.	Quantities: Avg. Daily	Annual Waste Amount	Federal Hazard Categories	Hazardous Components (For mixture only): Component Name	% Wt	EHS	CAS No.
DOT: 2.1 - Flammable Gases	**MISC. SPRAY PAINTS**	**Pounds**	**25**	**0.16**	25		- Fire				
Flammable Gas	CAS No: VARIES	State: Liquid	Storage Container: Can		Pressue: > Ambient	Waste Code					
		Type: Mixture	Days on Site: 365		Temperature: Ambient						

Hazardous Materials And Wastes Inventory Matrix Report

CERS Business/Org. **7Up Bottling Co**
Facility Name **7Up Bottling Co**
2875 Prune Ave. , Fremont 94539

Chemical Location **Truck Shop - A**

CERS ID **10167419**
Facility ID **C90550728**
Status **Submitted** on 10/29/2014 10:34 AM

DOT Code/Fire Haz. Class	Common Name	Unit	Quantities: Max. Daily	Quantities: Largest Cont.	Quantities: Avg. Daily	Annual Waste Amount	Federal Hazard Categories	Hazardous Components (For mixture only): Component Name	% Wt	EHS	CAS No.
DOT: 2.1 - Flammable Gases Unstable (Reactive), Class 2	**ACCTYLENE** CAS No 74-86-2 ✔EHS State: Gas Type: Pure Storage Container: Cylinder Days on Site: 365 Pressue: > Ambient Temperature: Ambient	**Pounds**	**130**	**130**	100	Waste Code	- Fire - Reactive - Pressure Release - Acute Health				
DOT: 2.1 - Flammable Gases Other Health Hazard	**ANTIFREEZE COOLENT** CAS No 107-21-1 State: Liquid Type: Pure Storage Container: Plastic Bottle or Jug Days on Site: 365 Pressue: Ambient Temperature: Ambient	**Gallons**	**24**	**12**	12	Waste Code	- Chronic health				
DOT: 3 - Flammable and Combustible Liquids Combustible Liquid, Class II	**ATF TRANS. FLUID** CAS No 6574-26-50 State: Liquid Type: Mixture Storage Container: Steel Drum Days on Site: 365 Pressue: Ambient Temperature: Ambient	**Gallons**	**55**	**55**	25	Waste Code	- Fire - Chronic health				
DOT: 8 - Corrosives (Liquids and Solids) Corrosive	**LEAD-ACID BATTERIES** CAS No 7664-93-9 ✔EHS State: Liquid Type: Mixture Storage Container: Bag Days on Site: 365 Pressue: Temperature:	**Pounds**	**0**			Waste Code	- Acute Health - Chronic health				
DOT: 3 - Flammable and Combustible Liquids Combustible Liquid, Class II	**MISC. LUBRICANTS** CAS No 6474-26-50 State: Liquid Type: Pure Storage Container: Can Days on Site: 365 Pressue: Ambient Temperature: Ambient	**Gallons**	**5**	**0.2**	2.5	Waste Code	- Fire - Chronic health				
DOT: 2.1 - Flammable Gases Flammable Gas	**MISC. SPRAY PAINTS** CAS No VARIES State: Liquid Type: Mixture Storage Container: Can Days on Site: 365 Pressue: > Ambient Temperature: Ambient	**Pounds**	**25**	**0.16**	25	Waste Code	- Fire				
DOT: 3 - Flammable and Combustible Liquids Combustible Liquid, Class III-B	**MOTOR OIL** CAS No 6474-25-50 State: Liquid Type: Mixture Storage Container: Aboveground Tank Days on Site: 365 Pressue: Ambient Temperature: Ambient	**Gallons**	**200**	**200**	150	Waste Code	- Fire				
DOT: 2.2 - Nonflammable Gases Oxidizing, Class 2	**OXYGEN** CAS No 7782-44-7 State: Gas Type: Pure Storage Container: Cylinder Days on Site: 365 Pressue: > Ambient Temperature: Ambient	**Cu. Feet**	**250**	**250**	100	Waste Code	- Fire - Pressure Release				

Hazardous Materials And Wastes Inventory Matrix Report

CERS Business/Org. **7Up Bottling Co**
Facility Name **7Up Bottling Co**
2875 Prune Ave. , Fremont 94539

Chemical Location **Truck Shop - A**

CERS ID **10167419**
Facility ID **C90550728**
Status **Submitted** on 10/29/2014 10:34 AM

DOT Code/Fire Haz. Class	Common Name	Unit	Quantities: Max. Daily	Quantities: Largest Cont.	Quantities: Avg. Daily	Annual Waste Amount	Federal Hazard Categories	Hazardous Components (For mixture only): Component Name	% Wt	EHS	CAS No.
DOT: 3 - Flammable and Combustible Liquids Combustible Liquid, Class II	**PARTS CLEANING SOLVENT** CAS No 803-24-24	**Gallons** State Liquid Type Mixture	**15** Storage Container Steel Drum Days on Site: 365	**30**	15 Pressue Ambient Temperature Ambient	Waste Code	- Fire - Acute Health				
DOT: 2.2 - Nonflammable Gases Other	**SHIELDING GAS** CAS No	**Gallons** State Gas Type Mixture	**280** Storage Container Cylinder Days on Site: 365	**280**	200 Pressue > Ambient Temperature Ambient	Waste Code	- Pressure Release - Chronic health				

Hazardous Materials And Wastes Inventory Matrix Report

CERS Business/Org. **7Up Bottling Co**
Facility Name **7Up Bottling Co**
2875 Prune Ave. , Fremont 94539

Chemical Location **Truck Shop - B / Outside Storage**

CERS ID **10167419**
Facility ID **C90550728**
Status **Submitted** on 10/29/2014 10:34 AM

DOT Code/Fire Haz. Class	Common Name	Unit	Quantities: Max. Daily	Largest Cont.	Avg. Daily	Annual Waste Amount	Federal Hazard Categories	Hazardous Components (For mixture only): Component Name	% Wt	EHS	CAS No.
DOT: 2.1 - Flammable Gases Unstable (Reactive), Class 2	**ACCTYLENE** CAS No 74-86-2 ✓EHS State: Gas Type: Pure	**Pounds** Storage Container: Cylinder Days on Site: 365	**750**	**130**	500 Pressue: > Ambient Temperature: Ambient	Waste Code	- Fire - Reactive - Pressure Release - Acute Health				
DOT: 3 - Flammable and Combustible Liquids Combustible Liquid, Class III-B	**MOTOR OIL** CAS No 6474-25-50 State: Liquid Type: Mixture	**Gallons** Storage Container: Aboveground Tank Days on Site: 365	**200**	**200**	150 Pressue: Ambient Temperature: Ambient	Waste Code	- Fire				
DOT: 3 - Flammable and Combustible Liquids Combustible Liquid, Class III-B	**MOTOR OIL (VARIOUS)** CAS No 6474-25-50 State: Liquid Type: Mixture	**Gallons** Storage Container: Aboveground Tank Days on Site: 365	**220**	**55**	150 Pressue: Ambient Temperature: Ambient	Waste Code	- Fire				
DOT: 2.2 - Nonflammable Gases Oxidizing, Class 2	**OXYGEN** CAS No 7782-44-7 State: Gas Type: Pure	**Cu. Feet** Storage Container: Cylinder Days on Site: 365	**500**	**250**	250 Pressue: > Ambient Temperature: Ambient	Waste Code	- Fire - Pressure Release				

Hazardous Materials And Wastes Inventory Matrix Report

CERS Business/Org. **7Up Bottling Co**
Facility Name **7Up Bottling Co**
2875 Prune Ave. , Fremont 94539

Chemical Location **WAREHOUSE - C**

CERS ID **10167419**
Facility ID **C90550728**
Status **Submitted** on 10/29/2014 10:34 AM

DOT Code/Fire Haz. Class	Common Name	Unit	Quantities: Max. Daily	Quantities: Largest Cont.	Quantities: Avg. Daily	Annual Waste Amount	Federal Hazard Categories	Hazardous Components (For mixture only): Component Name	% Wt	EHS	CAS No.
DOT: 2.1 - Flammable Gases Unstable (Reactive), Class 2	**ACETYLENE** CAS No 74-86-2	**Pounds** State: Gas Type: Pure	**500** Storage Container: Aboveground Tank, Cylinder Days on Site: 365	**200**	200 Pressue: > Ambient Temperature: Ambient	Waste Code	- Fire - Reactive - Pressure Release - Acute Health				
DOT: 2.2 - Nonflammable Gases Other	**ARGON** CAS No UN1006	**Cu. Feet** State: Gas Type: Pure	**150** Storage Container: Cylinder Days on Site: 365	**150**	150 Pressue: > Ambient Temperature: Ambient	Waste Code	- Pressure Release				
DOT: 2.2 - Nonflammable Gases Other Health Hazard	**CARBON DIOXIDE** CAS No 124-38-9	**Pounds** State: Liquid Type: Pure	**150** Storage Container: Aboveground Tank Days on Site: 365	**5**	50 Pressue: > Ambient Temperature: Ambient	Waste Code	- Pressure Release - Acute Health - Chronic health				
DOT: 8 - Corrosives (Liquids and Solids) Corrosive	**LEAD-ACID BATTERIES** CAS No 7664-93-9 ✔EHS	**Pounds** State: Liquid Type: Mixture	**36** Storage Container: Box, Other Days on Site: 365	**6**	30 Pressue: Ambient Temperature: Ambient	Waste Code	- Acute Health - Chronic health				
DOT: 2.2 - Nonflammable Gases Oxidizing, Class 2	**OXYGEN** CAS No 7782-44-7	**Cu. Feet** State: Gas Type: Pure	**1200** Storage Container: Cylinder Days on Site: 365	**300**	750 Pressue: > Ambient Temperature: Ambient	Waste Code	- Fire - Pressure Release				
DOT: 2.2 - Nonflammable Gases Other	**SHIELDING GAS** CAS No	**Cu. Feet** State: Gas Type: Mixture	**125** Storage Container: Cylinder Days on Site: 365	**125**	100 Pressue: > Ambient Temperature: Ambient	Waste Code	- Pressure Release - Chronic health				

Hazardous Materials And Wastes Inventory Matrix Report

CERS Business/Org. **7Up Bottling Co**
Facility Name **7Up Bottling Co**
2875 Prune Ave. , Fremont 94539

Chemical Location
WAREHOUSE - E / Outside Storage

CERS ID **10167419**
Facility ID **C90550728**
Status **Submitted** on 10/29/2014 10:34 AM

DOT Code/Fire Haz. Class	Common Name	Unit	Quantities: Max. Daily	Largest Cont.	Avg. Daily	Annual Waste Amount	Federal Hazard Categories	Hazardous Components (For mixture only): Component Name	% Wt	EHS	CAS No.
DOT: 2.1 - Flammable Gases Flammable Gas	**PROPANE** CAS No 724-98-6	**Gallons** State Liquid Type Pure	**100** Storage Container Cylinder Days on Site: 365	**8**	80 Pressue > Ambient Temperature Ambient	Waste Code	- Fire - Pressure Release				
DOT: 2.1 - Flammable Gases Flammable Gas	**PROPANE TANK** CAS No 74-98-6	**Gallons** State Gas Type Pure	**900** Storage Container Cylinder Days on Site: 365	**1000**	500 Pressue > Ambient Temperature Ambient	Waste Code	- Fire - Pressure Release				

Hazardous Materials And Wastes Inventory Matrix Report

CERS Business/Org. **7Up Bottling Co**
Facility Name **7Up Bottling Co**
2875 Prune Ave. , Fremont 94539

Chemical Location **WASTE/BULK STORAGE OUTSIDE TRUCK SHOP - B**

CERS ID **10167419**
Facility ID **C90550728**
Status **Submitted** on 10/29/2014 10:34 AM

DOT Code/Fire Haz. Class	Common Name	Unit	Quantities: Max. Daily	Quantities: Largest Cont.	Quantities: Avg. Daily	Annual Waste Amount	Federal Hazard Categories	Hazardous Components (For mixture only): Component Name	% Wt	EHS	CAS No.
DOT: 9 - Misc. Hazardous Materials Other Health Hazard	**GREASE SWEEP** CAS No: VARIES	**Pounds** State: Solid Type: Mixture	**50** Storage Container: Steel Drum Days on Site: 365	**55**	50 Pressue: Temperature:	120 Waste Code: 223					
DOT: 8 - Corrosives (Liquids and Solids) Corrosive	**LEAD-ACID BATTERIES** CAS No: 7664-93-9 ✔EHS	**Pounds** State: Liquid Type: Mixture	**0** Storage Container: Bag Days on Site: 365		0 Pressue: Temperature:	96 Waste Code: 792	- Acute Health - Chronic health				
DOT: 3 - Flammable and Combustible Liquids Combustible Liquid, Class III-B	**USED OIL** CAS No: 6474-25-50	**Gallons** State: Liquid Type: Waste	**150** Storage Container: Aboveground Tank Days on Site: 365	**150**	75 Pressue: Ambient Temperature: Ambient	550 Waste Code: 221	- Fire				
DOT: 6.1 - Toxic Substances Combustible Liquid, Class III-B	**WASTE COOLANT** CAS No: 107-21-1	**Gallons** State: Liquid Type: Waste	**55** Storage Container: Steel Drum Days on Site: 365	**55**	35 Pressue: Ambient Temperature: Ambient	55 Waste Code: 343	- Chronic health				

Hazardous Materials And Wastes Inventory Matrix Report

CERS Business/Org. **Cha Industries**
Facility Name **Cha Industries**
4201 Business Center Dr. , Fremont 94538

Chemical Location
Final Test (D)

CERS ID **10167863**
Facility ID **C90002107**
Status **Submitted** on 2/10/2014 3:36 PM

DOT Code/Fire Haz. Class	Common Name	Unit	Quantities: Max. Daily	Quantities: Largest Cont.	Quantities: Avg. Daily	Annual Waste Amount	Federal Hazard Categories	Hazardous Components (For mixture only): Component Name	% Wt	EHS	CAS No.
DOT: 2.2 - Nonflammable Gases	**Nitrogen** CAS No 7727-37-9	**Gallons** State Gas Type Pure	**480** Storage Container Cylinder Days on Site: 365	**40**	480 Pressue > Ambient Temperature > Ambient	Waste Code	- Fire - Reactive - Pressure Release - Acute Health - Chronic health				
DOT: 2.2 - Nonflammable Gases Cryogen	**Nitrogen, Liquid** CAS No 7727-37-9	**Cu. Feet** State Liquid Type Pure	**600** Storage Container Cylinder Days on Site: 365	**300**	300 Pressue > Ambient Temperature < Ambient	Waste Code	- Pressure Release - Acute Health				

Hazardous Materials And Wastes Inventory Matrix Report

CERS Business/Org. **Cha Industries**
Facility Name **Cha Industries**
4201 Business Center Dr. , Fremont 94538

Chemical Location
Final Test (D), Welding (A)

CERS ID **10167863**
Facility ID **C90002107**
Status **Submitted** on 2/10/2014 3:36 PM

DOT Code/Fire Haz. Class	Common Name	Unit	Quantities: Max. Daily	Quantities: Largest Cont.	Quantities: Avg. Daily	Annual Waste Amount	Federal Hazard Categories	Hazardous Components (For mixture only): Component Name	% Wt	EHS	CAS No.
DOT: 2.2 - Nonflammable Gases	**Helium** CAS No 7440-59-7	**Cu. Feet** State Gas Type Pure	**720** Storage Container Cylinder Days on Site: 365	**360**	720 Pressue Ambient Temperature Ambient	Waste Code	- Fire - Reactive - Pressure Release - Acute Health - Chronic health				

Hazardous Materials And Wastes Inventory Matrix Report

CERS Business/Org. **Cha Industries**
Facility Name **Cha Industries**
4201 Business Center Dr. , Fremont 94538

Chemical Location
Machine Shop(B)

CERS ID **10167863**
Facility ID **C90002107**
Status **Submitted** on 2/10/2014 3:36 PM

DOT Code/Fire Haz. Class	Common Name	Unit	Quantities: Max. Daily	Quantities: Largest Cont.	Quantities: Avg. Daily	Annual Waste Amount	Federal Hazard Categories	Hazardous Components (For mixture only): Component Name	% Wt	EHS	CAS No.
DOT: 3 - Flammable and Combustible Liquids Combustible Liquid, Class III-B	**Blasscut 2000 Universal** CAS No 8012-95-1	**Gallons** State Liquid Type Mixture	**55** Storage Container Steel Drum Days on Site: 365	**55**	55 Pressue Ambient Temperature Ambient	Waste Code	- Fire - Reactive - Pressure Release - Acute Health - Chronic health				

Hazardous Materials And Wastes Inventory Matrix Report

CERS Business/Org. **Cha Industries**
Facility Name **Cha Industries**
4201 Business Center Dr. , Fremont 94538

Chemical Location **Warehouse (C), Welding (A), Final Test (D)**

CERS ID **10167863**
Facility ID **C90002107**
Status **Submitted** on 2/10/2014 3:36 PM

DOT Code/Fire Haz. Class	Common Name	Unit	Quantities: Max. Daily	Quantities: Largest Cont.	Quantities: Avg. Daily	Annual Waste Amount	Federal Hazard Categories	Hazardous Components (For mixture only): Component Name	% Wt	EHS	CAS No.
DOT: 2.2 - Nonflammable Gases Oxidizing, Class 2	**Oxygen** CAS No 7782-44-7	**Cu. Feet** State Gas Type Pure	**375** Storage Container Cylinder Days on Site: 365	**125**	125 Pressue > Ambient Temperature > Ambient	Waste Code	- Fire - Pressure Release				

Hazardous Materials And Wastes Inventory Matrix Report

CERS Business/Org. **Cha Industries**
Facility Name **Cha Industries**
4201 Business Center Dr. , Fremont 94538

Chemical Location
Welding Area (A), Warehouse (C)

CERS ID **10167863**
Facility ID **C90002107**
Status **Submitted** on 2/10/2014 3:36 PM

DOT Code/Fire Haz. Class	Common Name	Unit	Quantities: Max. Daily	Quantities: Largest Cont.	Quantities: Avg. Daily	Annual Waste Amount	Federal Hazard Categories	Hazardous Components (For mixture only): Component Name	% Wt	EHS	CAS No.
DOT: 2.1 - Flammable Gases Unstable (Reactive), Class 2, Flammable Gas	**Acetylene** CAS No 74-86-2	**Cu. Feet** State Gas Type Pure	**280** Storage Container Cylinder Days on Site: 365	**140**	140 Pressue > Ambient Temperature Ambient	Waste Code	- Fire - Reactive - Pressure Release - Acute Health				

Hazardous Materials And Wastes Inventory Matrix Report

CERS Business/Org. **Cha Industries**
Facility Name **Cha Industries**
4201 Business Center Dr. , Fremont 94538

Chemical Location **Welding area (A),final test (D), Assembly (F)**

CERS ID **10167863**
Facility ID **C90002107**
Status **Submitted** on 2/10/2014 3:36 PM

DOT Code/Fire Haz. Class	Common Name	Unit	Quantities: Max. Daily	Quantities: Largest Cont.	Quantities: Avg. Daily	Annual Waste Amount	Federal Hazard Categories	Hazardous Components (For mixture only): Component Name	% Wt	EHS	CAS No.
DOT: 2.2 - Nonflammable Gases	**Argon Compressed**	**Cu. Feet**	**2400**	**300**	300		- Pressure Release				
Other	CAS No 7440-37-1	State: Gas	Storage Container: Cylinder		Pressue: > Ambient	Waste Code					
		Type: Pure	Days on Site: 365		Temperature: > Ambient						

Hazardous Materials And Wastes Inventory Matrix Report

CERS Business/Org. **Cha Industries**
Facility Name **Cha Industries**
4201 Business Center Dr. , Fremont 94538

Chemical Location **Welding Area(A)**

CERS ID **10167863**
Facility ID **C90002107**
Status **Submitted** on 2/10/2014 3:36 PM

DOT Code/Fire Haz. Class	Common Name	Unit	Quantities: Max. Daily	Quantities: Largest Cont.	Quantities: Avg. Daily	Annual Waste Amount	Federal Hazard Categories	Hazardous Components (For mixture only): Component Name	% Wt	EHS	CAS No.
	Blazing Flux	**Pounds**	**0.2**	**0.2**	0.2		- Acute Health				
	CAS No: 1332-77-0	State: Liquid	Storage Container: Plastic Bottle or Jug		Pressue: > Ambient	Waste Code					
		Type: Mixture	Days on Site: 365		Temperature: > Ambient						

Hazardous Materials And Wastes Inventory Matrix Report

CERS Business/Org. **Balkan Manufacturing Inc**
Facility Name **Balkan Manufacturing Inc**
4240 Business Center Dr. , Fremont 94538

Chemical Location **In Building**

CERS ID **10167691**
Facility ID **10167691**
Status **Submitted** on 5/8/2014 2:07 PM

DOT Code/Fire Haz. Class	Common Name	Unit	Quantities: Max. Daily	Largest Cont.	Avg. Daily	Annual Waste Amount	Federal Hazard Categories	Hazardous Components (For mixture only): Component Name	% Wt	EHS	CAS No.
Combustible Liquid, Class III-B	**Degreaser DNA** CAS No 64-17-5	**Gallons** State Liquid Type Mixture	**55** Storage Container Can, Plastic Bottle or Jug Days on Site: 365	**5**	5 Pressue Ambient Temperature Ambient	Waste Code	- Fire - Acute Health - Chronic health				
DOT: 2.1 - Flammable Gases	**Propane** CAS No	**Gallons** State Gas Type Pure	**32** Storage Container Cylinder Days on Site: 365	**8**	20 Pressue Ambient Temperature Ambient	Waste Code	- Fire - Pressure Release				

Hazardous Materials And Wastes Inventory Matrix Report

CERS Business/Org. **Balkan Manufacturing Inc**
Facility Name **Balkan Manufacturing Inc**
4240 Business Center Dr. , Fremont 94538

Chemical Location
In Building/Flamable Cabinet

CERS ID **10167691**
Facility ID **10167691**
Status **Submitted** on 5/8/2014 2:07 PM

DOT Code/Fire Haz. Class	Common Name	Unit	Quantities: Max. Daily	Quantities: Largest Cont.	Quantities: Avg. Daily	Annual Waste Amount	Federal Hazard Categories	Hazardous Components (For mixture only): Component Name	% Wt	EHS	CAS No.
DOT: 2.1 - Flammable Gases	**Acetone /Isopropyl**	**Gallons**	**10**	**55**	3		- Fire				
	CAS No	State: Liquid	Storage Container: Steel Drum		Pressue: Ambient	Waste Code					
		Type: Pure	Days on Site: 365		Temperature: Ambient						
DOT: 2.1 - Flammable Gases	**Kerosene**	**Gallons**	**5**	**5**	1						
	CAS No	State: Liquid	Storage Container: Can		Pressue: Ambient	Waste Code					
		Type: Pure	Days on Site: 365		Temperature: Ambient						

Hazardous Materials And Wastes Inventory Matrix Report

CERS Business/Org. **Balkan Manufacturing Inc**
Facility Name **Balkan Manufacturing Inc**
4240 Business Center Dr. , Fremont 94538

Chemical Location **In Building/North Side**

CERS ID **10167691**
Facility ID **10167691**
Status **Submitted** on 5/8/2014 2:07 PM

DOT Code/Fire Haz. Class	Common Name	Unit	Quantities: Max. Daily	Quantities: Largest Cont.	Quantities: Avg. Daily	Annual Waste Amount	Federal Hazard Categories	Hazardous Components (For mixture only): Component Name	% Wt	EHS	CAS No.
DOT: 2.2 - Nonflammable Gases	**Blaser Swisslube** CAS No: 64742-52-5	**Gallons** State: Liquid Type: Mixture	**100** Storage Container: Steel Drum Days on Site: 365	**55**	30 Pressue: Ambient Temperature: Ambient	Waste Code:					
	Coolant/Oil mix CAS No: 614-00-0	**Gallons** State: Liquid Type: Mixture	**4000** Storage Container: Aboveground Tank Days on Site: 365	**250**	3500 Pressue: Ambient Temperature: Ambient	Waste Code:					
DOT: 3 - Flammable and Combustible Liquids	**Misc. Lubricants** CAS No: 6474-26-50	**Gallons** State: Liquid Type: Pure	**440** Storage Container: Steel Drum Days on Site: 365	**55**	20 Pressue: Ambient Temperature: Ambient	Waste Code:					
	Recycled Coolant/ Oil Mix CAS No:	**Gallons** State: Liquid Type: Waste	**500** Storage Container: Aboveground Tank Days on Site: 365	**400**	250 Pressue: Ambient Temperature: Ambient	6000 Waste Code: 223					
	Waste Way Lube CAS No: 614-00-0	**Gallons** State: Liquid Type:	**220** Storage Container: Steel Drum Days on Site: 365	**55**	Pressue: Temperature:	3000 Waste Code: 221					

Hazardous Materials And Wastes Inventory Matrix Report

CERS Business/Org. **Balkan Manufacturing Inc**
Facility Name **Balkan Manufacturing Inc**
4240 Business Center Dr. , Fremont 94538

Chemical Location **In Building/South Side**

CERS ID **10167691**
Facility ID **10167691**
Status **Submitted** on 5/8/2014 2:07 PM

DOT Code/Fire Haz. Class	Common Name	Unit	Quantities Max. Daily	Largest Cont.	Avg. Daily	Annual Waste Amount	Federal Hazard Categories	Hazardous Components (For mixture only) Component Name	% Wt	EHS	CAS No.
DOT: 2.1 - Flammable Gases	**Acetylene** ✓EHS CAS No 74-86-2	**Cu. Feet**	**125**	**125**	100		- Fire - Reactive - Pressure Release				
		State: Gas	Storage Container: Cylinder		Pressue: > Ambient	Waste Code					
		Type: Pure	Days on Site: 365		Temperature: Ambient						
DOT: 2.2 - Nonflammable Gases	**Argon** CAS No 7440-37-1	**Cu. Feet**	**1124**	**281**	800		- Pressure Release				
		State: Gas	Storage Container: Cylinder		Pressue: > Ambient	Waste Code					
		Type: Pure	Days on Site: 365		Temperature: Ambient						
	Argon/Hydrogen CAS No	**Cu. Feet**	**710**	**355**	400		- Pressure Release				
		State: Gas	Storage Container: Cylinder		Pressue: > Ambient	Waste Code					
		Type: Mixture	Days on Site: 365		Temperature: Ambient						
DOT: 2.2 - Nonflammable Gases	**Helium** CAS No	**Cu. Feet**	**562**	**281**	281		- Pressure Release				
		State: Gas	Storage Container: Cylinder		Pressue: > Ambient	Waste Code					
		Type: Pure	Days on Site: 365		Temperature: Ambient						
DOT: 5.1 - Oxidizing Substances	**Oxygen** CAS No 7782-44-7	**Cu. Feet**	**562**	**281**	500		- Reactive - Pressure Release				
		State: Gas	Storage Container: Cylinder		Pressue: > Ambient	Waste Code					
		Type: Pure	Days on Site: 365		Temperature: Ambient						
DOT: 2.2 - Nonflammable Gases	**Shielding Gas** CAS No	**Cu. Feet**	**1065**	**355**	900		- Pressure Release				
		State: Gas	Storage Container: Cylinder		Pressue: > Ambient	Waste Code					
		Type: Mixture	Days on Site: 365		Temperature: Ambient						
DOT: 2.2 - Nonflammable Gases	**Ultra Pure Helium** CAS No	**Cu. Feet**	**2810**	**281**	1000		- Pressure Release				
		State: Gas	Storage Container: Cylinder		Pressue: > Ambient	Waste Code					
		Type: Pure	Days on Site: 365		Temperature: Ambient						

Hazardous Materials And Wastes Inventory Matrix Report

CERS Business/Org. **Glacier Ice Company**
Facility Name **Glacier Ice Company**
43960 Fremont Blvd. , Fremont 94538

Chemical Location **Refrigration System**

CERS ID **10168293**
Facility ID **C90000365**
Status **Submitted** on 11/11/2014 9:11 AM

DOT Code/Fire Haz. Class	Common Name	Unit	Quantities: Max. Daily	Quantities: Largest Cont.	Quantities: Avg. Daily	Annual Waste Amount	Federal Hazard Categories	Hazardous Components (For mixture only): Component Name	% Wt	EHS	CAS No.
DOT: 2.2 - Nonflammable Gases Corrosive, Flammable Gas, Irritant	**Ammonia** CAS No 7664-41-7 ✓EHS	**Pounds** State: Gas Type: Pure	**15000** Storage Container: Aboveground Tank, Other Days on Site: 365	**15000**	12000 Pressue: > Ambient Temperature: Ambient	0 Waste Code: 141	- Fire - Pressure Release - Acute Health				

Hazardous Materials And Wastes Inventory Matrix Report

CERS Business/Org.	**Glacier Ice Company**	Chemical Location	CERS ID **10168293**
Facility Name	**Glacier Ice Company**	**shop**	Facility ID **C90000365**
	43960 Fremont Blvd. , Fremont 94538		Status **Submitted** on 11/11/2014 9:11 AM

DOT Code/Fire Haz. Class	Common Name	Unit	Quantities Max. Daily	Largest Cont.	Avg. Daily	Annual Waste Amount	Federal Hazard Categories	Hazardous Components (For mixture only) Component Name	% Wt	EHS	CAS No.
	Used lubricating oils	**Gallons**	**50**	**55**	1	300					
	CAS No 70514-12-4	State Liquid	Storage Container Steel Drum		Pressue Ambient	Waste Code 221					
		Type Waste	Days on Site: 365		Temperature Ambient						

Hazardous Materials And Wastes Inventory Matrix Report

CERS Business/Org. **Glacier Ice Company**
Facility Name **Glacier Ice Company**
43960 Fremont Blvd. , Fremont 94538

Chemical Location **Shop**

CERS ID **10168293**
Facility ID **C90000365**
Status **Submitted** on 11/11/2014 9:11 AM

DOT Code/Fire Haz. Class	Common Name	Unit	Quantities: Max. Daily	Quantities: Largest Cont.	Quantities: Avg. Daily	Annual Waste Amount	Federal Hazard Categories	Hazardous Components (For mixture only): Component Name	% Wt	EHS	CAS No.
DOT: 3 - Flammable and Combustible Liquids Flammable Liquid, Class I-B, Irritant	**Acetone** CAS No 67-64-1	**Gallons** State Liquid Type Pure	**2** Storage Container Can Days on Site: 365	**1**	1 Pressue Ambient Temperature Ambient	0 Waste Code	- Fire - Acute Health				
DOT: 2.1 - Flammable Gases Unstable (Reactive), Class 2, Flammable Gas	**Acetylene** CAS No 74-86-2	**Cu. Feet** State Gas Type Pure	**121** Storage Container Cylinder Days on Site: 365	**121**	121 Pressue > Ambient Temperature Ambient	0 Waste Code	- Fire - Reactive - Pressure Release - Acute Health				
DOT: 2.2 - Nonflammable Gases Other Health Hazard	**Chloropentafluoroethane** CAS No 76-15-3	**Pounds** State Gas Type Pure	**60** Storage Container Cylinder Days on Site: 365	**30**	30 Pressue > Ambient Temperature Ambient	0 Waste Code	- Pressure Release				
	DEF Fluid CAS No 57-13-6	**Gallons** State Liquid Type Mixture	**55** Storage Container Plastic/Non-metalic Drum Days on Site: 365	**55**	28 Pressue Ambient Temperature Ambient	0 Waste Code		Urea Water	33 % 68 %		57-13-6
DOT: 8 - Corrosives (Liquids and Solids) Corrosive	**De-scaler** CAS No 1310-73-2	**Gallons** State Liquid Type Mixture	**25** Storage Container Plastic Bottle or Jug Days on Site: 365	**5**	10 Pressue Ambient Temperature Ambient	0 Waste Code	- Fire - Reactive - Pressure Release - Acute Health - Chronic health				
DOT: 2.1 - Flammable Gases Flammable Gas	**Liquefied Petroleum Gas (lpg)** CAS No 74-98-6	**Gallons** State Gas Type Pure	**24** Storage Container Cylinder Days on Site: 365	**8**	12 Pressue > Ambient Temperature Ambient	0 Waste Code	- Fire - Pressure Release				
DOT: 3 - Flammable and Combustible Liquids Combustible Liquid, Class III-B	**Motor Oil** CAS No	**Gallons** State Liquid Type Mixture	**75** Storage Container Plastic Bottle or Jug Days on Site: 365	**55**	60 Pressue Ambient Temperature Ambient	Waste Code 221	- Fire	VARIOUS LUBRICATING BASE OILS ADDITIVE PACKAGE, INCLUDING ZINC ALKYLDITHIOPHOSPHATE	85 % 15 % 2 %		6474X-XX-X MIXTURE 68649-42-3
DOT: 2.2 - Nonflammable Gases Oxidizing, Class 2	**Oxygen** CAS No 7782-44-7	**Cu. Feet** State Gas Type Pure	**282** Storage Container Cylinder Days on Site: 365	**282**	141 Pressue > Ambient Temperature Ambient	0 Waste Code	- Fire - Pressure Release				

Hazardous Materials And Wastes Inventory Matrix Report

CERS Business/Org. **Glacier Ice Company**
Facility Name **Glacier Ice Company**
43960 Fremont Blvd. , Fremont 94538

Chemical Location **Shop**

CERS ID **10168293**
Facility ID **C90000365**
Status **Submitted** on 11/11/2014 9:11 AM

DOT Code/Fire Haz. Class	Common Name	Unit	Quantities: Max. Daily	Largest Cont.	Avg. Daily	Annual Waste Amount	Federal Hazard Categories	Hazardous Components (For mixture only): Component Name	% Wt	EHS	CAS No.
DOT: 3 - Flammable and Combustible Liquids Combustible Liquid, Class II, Other Health Hazard	**Paint Thinner** CAS No: NA State: Liquid Type: Mixture	**Gallons** Storage Container: Can Days on Site: 365	**2**	**1**	1 Pressue: Temperature:	0 Waste Code:	- Fire - Acute Health - Chronic health	1,2,4-TRIMETHYLBENZENE STODDARD SOLVENT	2 % 98 %		95-63-6 8052-41-3
	Shielding Gas CAS No: 70343-43-0 State: Gas Type: Mixture	**Cu. Feet** Storage Container: Cylinder Days on Site: 365	**350**	**350**	175 Pressue: > Ambient Temperature: Ambient	0 Waste Code:					

Hazardous Materials And Wastes Inventory Matrix Report

CERS Business/Org. **WESTERN DIGITAL TECHNOLOGIES INC**
Facility Name **WESTERN DIGITAL TECHNOLOGIES INC**
44100 OSGOOD RD, FREMONT 94539

Chemical Location **acid storage bunker**

CERS ID **10152759**
Facility ID **C900006072**
Status **Submitted** on 3/4/2014 2:23 PM

DOT Code/Fire Haz. Class	Common Name	Unit	Quantities: Max. Daily	Quantities: Largest Cont.	Quantities: Avg. Daily	Annual Waste Amount	Federal Hazard Categories	Hazardous Components (For mixture only): Component Name	% Wt	EHS	CAS No.
DOT: 9 - Misc. Hazardous Materials Other Health Hazard, Irritant	**Sodium Dodecylsulfate** CAS No 151-21-3 Map: B1.13	**Pounds** State Solid Type Pure	**18** Storage Container Plastic Bottle or Jug Days on Site: 365	**2**	9 Pressue Ambient Temperature Ambient	Waste Code					

Hazardous Materials And Wastes Inventory Matrix Report

CERS Business/Org. **WESTERN DIGITAL TECHNOLOGIES INC**
Facility Name **WESTERN DIGITAL TECHNOLOGIES INC**
44100 OSGOOD RD, FREMONT 94539

Chemical Location **analytical lab**

CERS ID **10152759**
Facility ID **C900006072**
Status **Submitted** on 3/4/2014 2:23 PM

DOT Code/Fire Haz. Class	Common Name	Unit	Quantities: Max. Daily	Quantities: Largest Cont.	Quantities: Avg. Daily	Annual Waste Amount	Federal Hazard Categories	Hazardous Components (For mixture only): Component Name	% Wt	EHS	CAS No.
	copper gleam PC CAS No Map: B1.05	**Gallons** State: Liquid Type: Mixture	**10** Storage Container: Carboy Days on Site: 365	**5**	5 Pressue: Ambient Temperature: Ambient	Waste Code	- Acute Health - Chronic health	sulfuric acid	1 %		7664-93-9
	ECF Conducting salt CAS No Map: B1.05	**Pounds** State: Solid Type: Mixture	**20** Storage Container: Can Days on Site: 365	**10**	20 Pressue: Ambient Temperature: Ambient	Waste Code	- Acute Health - Chronic health	boric acid	1 %		10043-35-3
	Formaldehyde CAS No ✔EHS 50-00-0 Map: B1.05	**Pounds** State: Liquid Type: Mixture	**2** Storage Container: Plastic Bottle or Jug Days on Site: 365	**1**	1 Pressue: Temperature:	Waste Code	- Fire - Acute Health - Chronic health	formaldehyde methanol	37 % 15 %	✔	50-00-0 67-56-1
DOT: 3 - Flammable and Combustible Liquids Flammable Liquid, Class I-B, Irritant, Other Health Hazard	**Methanol** CAS No 67-56-1 Map: B1.05	**Gallons** State: Liquid Type: Pure	**2** Storage Container: Glass Bottle or Jug	**1**	1 Pressue: Ambient Temperature: Ambient	Waste Code	- Fire - Acute Health				

Hazardous Materials And Wastes Inventory Matrix Report

CERS Business/Org. **WESTERN DIGITAL TECHNOLOGIES INC**
Facility Name **WESTERN DIGITAL TECHNOLOGIES INC**
44100 OSGOOD RD, FREMONT 94539

Chemical Location **bulk carbon dioxide tank**

CERS ID **10152759**
Facility ID **C900006072**
Status **Submitted** on 3/4/2014 2:23 PM

DOT Code/Fire Haz. Class	Common Name	Unit	Quantities: Max. Daily	Quantities: Largest Cont.	Quantities: Avg. Daily	Annual Waste Amount	Federal Hazard Categories	Hazardous Components (For mixture only): Component Name	% Wt	EHS	CAS No.
DOT: 2.2 - Nonflammable Gases Cryogen, Other Health Hazard, Irritant	**Carbon Dioxide, Liquid** CAS No 124-38-9 Map: B1.03	**Gallons** State Liquid Type Pure	**3200** Storage Container Aboveground Tank Days on Site: 365	**3200**	1200 Pressue > Ambient Temperature Cryogenic	Waste Code	- Pressure Release - Acute Health - Chronic health				

Hazardous Materials And Wastes Inventory Matrix Report

CERS Business/Org. **WESTERN DIGITAL TECHNOLOGIES INC**
Facility Name **WESTERN DIGITAL TECHNOLOGIES INC**
44100 OSGOOD RD, FREMONT 94539

Chemical Location **bulk nitrogen pad**

CERS ID **10152759**
Facility ID **C900006072**
Status **Submitted** on 3/4/2014 2:23 PM

DOT Code/Fire Haz. Class	Common Name	Unit	Quantities: Max. Daily	Largest Cont.	Avg. Daily	Annual Waste Amount	Federal Hazard Categories	Hazardous Components (For mixture only): Component Name	% Wt	EHS	CAS No.
DOT: 2.2 - Nonflammable Gases	**Helium** CAS No 7440-59-7 Map: B1.02	**Cu. Feet** State Gas Type Pure	**9603** Storage Container Cylinder Days on Site: 365	**291**	7566 Pressue > Ambient Temperature Ambient	Waste Code	- Fire - Reactive - Pressure Release - Acute Health - Chronic health				
DOT: 2.2 - Nonflammable Gases Cryogen	**Nitrogen, Liquid** CAS No 7727-37-9 Map: B1.02	**Gallons** State Liquid Type Pure	**30000** Storage Container Aboveground Tank Days on Site: 365	**20000**	15000 Pressue > Ambient Temperature Cryogenic	Waste Code	- Pressure Release - Acute Health				

Hazardous Materials And Wastes Inventory Matrix Report

CERS Business/Org. **WESTERN DIGITAL TECHNOLOGIES INC**
Facility Name **WESTERN DIGITAL TECHNOLOGIES INC**
44100 OSGOOD RD, FREMONT 94539

Chemical Location **bulk nitronen pad**

CERS ID **10152759**
Facility ID **C900006072**
Status **Submitted** on 3/4/2014 2:23 PM

DOT Code/Fire Haz. Class	Common Name	Unit	Quantities: Max. Daily	Quantities: Largest Cont.	Quantities: Avg. Daily	Annual Waste Amount	Federal Hazard Categories	Hazardous Components (For mixture only): Component Name	% Wt	EHS	CAS No.
DOT: 2.2 - Nonflammable Gases	**Carbon Dioxide**	**Cu. Feet**	**15000**	**341**	12000		- Pressure Release - Acute Health - Chronic health				
	CAS No 124-38-9 Map: B1.02	State Gas Type Pure	Storage Container Cylinder Days on Site: 365		Pressue > Ambient Temperature Ambient	Waste Code					

Hazardous Materials And Wastes Inventory Matrix Report

CERS Business/Org.	**WESTERN DIGITAL TECHNOLOGIES INC**	Chemical Location	CERS ID **10152759**
Facility Name	**WESTERN DIGITAL TECHNOLOGIES INC**	**chase 22A**	Facility ID **C900006072**
	44100 OSGOOD RD, FREMONT 94539		Status **Submitted** on 3/4/2014 2:23 PM

DOT Code/Fire Haz. Class	Common Name	Unit	Quantities: Max. Daily	Largest Cont.	Avg. Daily	Annual Waste Amount	Federal Hazard Categories	Hazardous Components (For mixture only): Component Name	% Wt	EHS	CAS No.
DOT: 2.2 - Nonflammable Gases	**Nitrogen**	**Cu. Feet**	**460**	**230**	230		- Fire - Reactive - Pressure Release - Acute Health - Chronic health				
	CAS No 7727-37-9 Map: B1.27	State Gas	Storage Container Cylinder		Pressue > Ambient	Waste Code					
		Type Pure	Days on Site: 365		Temperature Ambient						

Hazardous Materials And Wastes Inventory Matrix Report

CERS Business/Org. **WESTERN DIGITAL TECHNOLOGIES INC**
Facility Name **WESTERN DIGITAL TECHNOLOGIES INC**
44100 OSGOOD RD, FREMONT 94539

Chemical Location **chemical mix lab**

CERS ID **10152759**
Facility ID **C900006072**
Status **Submitted** on 3/4/2014 2:23 PM

DOT Code/Fire Haz. Class	Common Name	Unit	Quantities: Max. Daily	Quantities: Largest Cont.	Quantities: Avg. Daily	Annual Waste Amount	Federal Hazard Categories	Hazardous Components (For mixture only): Component Name	% Wt	EHS	CAS No.
DOT: 8 - Corrosives (Liquids and Solids) Corrosive, Other Health Hazard	**Phosphoric Acid** CAS No 7664-38-2 Map: B1.08	**Gallons** State Liquid Type Pure	**8** Storage Container Plastic Bottle or Jug Days on Site: 365	**1**	4 Pressue Ambient Temperature Ambient	Waste Code	- Acute Health - Chronic health				
DOT: 9 - Misc. Hazardous Materials Other Health Hazard, Irritant	**Sodium Dodecylsulfate** CAS No 151-21-3 Map: B1.08	**Pounds** State Solid Type Pure	**4** Storage Container Plastic Bottle or Jug Days on Site: 365	**2**	2 Pressue Ambient Temperature Ambient	Waste Code					

Hazardous Materials And Wastes Inventory Matrix Report

CERS Business/Org. **WESTERN DIGITAL TECHNOLOGIES INC**
Facility Name **WESTERN DIGITAL TECHNOLOGIES INC**
44100 OSGOOD RD, FREMONT 94539

Chemical Location **fab bay 3A**

CERS ID **10152759**
Facility ID **C900006072**
Status **Submitted** on 3/4/2014 2:23 PM

DOT Code/Fire Haz. Class	Common Name	Unit	Quantities: Max. Daily	Largest Cont.	Avg. Daily	Annual Waste Amount	Federal Hazard Categories	Hazardous Components (For mixture only): Component Name	% Wt	EHS	CAS No.
DOT: 8 - Corrosives (Liquids and Solids) Corrosive, Oxidizing, Class 2	**copper theif etch solution** CAS No 7697-37-2 ✓EHS Map: B1>22	**Pounds** State Liquid Type Pure	**28** Storage Container Tank Inside Building Days on Site: 365	**28**	28 Pressue Ambient Temperature Ambient	Waste Code 791	- Reactive - Acute Health - Chronic health				

Hazardous Materials And Wastes Inventory Matrix Report

CERS Business/Org. **WESTERN DIGITAL TECHNOLOGIES INC**
Facility Name **WESTERN DIGITAL TECHNOLOGIES INC**
44100 OSGOOD RD, FREMONT 94539

Chemical Location **fab chase 0B**

CERS ID **10152759**
Facility ID **C900006072**
Status **Submitted** on 3/4/2014 2:23 PM

DOT Code/Fire Haz. Class	Common Name	Unit	Quantities: Max. Daily	Quantities: Largest Cont.	Quantities: Avg. Daily	Annual Waste Amount	Federal Hazard Categories	Hazardous Components (For mixture only): Component Name	% Wt	EHS	CAS No.
DOT: 2.2 - Nonflammable Gases	**Nitrogen** CAS No 7727-37-9 Map: B1.22	**Cu. Feet** State Gas Type Pure	**690** Storage Container Cylinder Days on Site: 365	**230**	460 Pressue > Ambient Temperature Ambient	Waste Code	- Fire - Reactive - Pressure Release - Acute Health - Chronic health				

Hazardous Materials And Wastes Inventory Matrix Report

CERS Business/Org. **WESTERN DIGITAL TECHNOLOGIES INC**
Facility Name **WESTERN DIGITAL TECHNOLOGIES INC**
44100 OSGOOD RD, FREMONT 94539

Chemical Location **fab chase 12**

CERS ID **10152759**
Facility ID **C900006072**
Status **Submitted** on 3/4/2014 2:23 PM

DOT Code/Fire Haz. Class	Common Name	Unit	Quantities: Max. Daily	Largest Cont.	Avg. Daily	Annual Waste Amount	Federal Hazard Categories	Hazardous Components (For mixture only): Component Name	% Wt	EHS	CAS No.
DOT: 6.1 - Toxic Substances Highly Toxic, Oxidizing Gas, Gaseous	**fluorine gas mixture** CAS No 7782-41-4 ✓EHS Map: B1.25	**Pounds** State: Gas Type: Mixture	**2** Storage Container: Cylinder Days on Site: 365	**1**	1 Pressue: > Ambient Temperature: Ambient	Waste Code	- Acute Health	fluorine krypton neon	1 % 1 % 97 %	✓	7782-41-4 7439-90-9 7440-01-9
DOT: 2.2 - Nonflammable Gases	**helium in nitrogen** CAS No 7727-37-9 Map: B1.25	**Cu. Feet** State: Gas Type: Mixture	**582** Storage Container: Cylinder Days on Site: 365	**291**	582 Pressue: > Ambient Temperature: Ambient	Waste Code	- Pressure Release	nitrogen helium	99 % 1 %		7727-37-9 7440-59-7

Hazardous Materials And Wastes Inventory Matrix Report

CERS Business/Org. **WESTERN DIGITAL TECHNOLOGIES INC**
Facility Name **WESTERN DIGITAL TECHNOLOGIES INC**
44100 OSGOOD RD, FREMONT 94539

Chemical Location **fab chase 19B**

CERS ID **10152759**
Facility ID **C900006072**
Status **Submitted** on 3/4/2014 2:23 PM

DOT Code/Fire Haz. Class	Common Name	Unit	Quantities: Max. Daily	Quantities: Largest Cont.	Quantities: Avg. Daily	Annual Waste Amount	Federal Hazard Categories	Hazardous Components (For mixture only): Component Name	% Wt	EHS	CAS No.
DOT: 2.2 - Nonflammable Gases	**Nitrogen**	**Cu. Feet**	**920**	**230**	920		- Pressure Release				
	CAS No: 7727-37-9	State: Gas	Storage Container: Cylinder		Pressue: > Ambient	Waste Code					
	Map: B1.26	Type: Pure	Days on Site: 365		Temperature: Ambient						

Hazardous Materials And Wastes Inventory Matrix Report

CERS Business/Org. **WESTERN DIGITAL TECHNOLOGIES INC**
Facility Name **WESTERN DIGITAL TECHNOLOGIES INC**
44100 OSGOOD RD, FREMONT 94539

Chemical Location **fab chase 19D**

CERS ID **10152759**
Facility ID **C900006072**
Status **Submitted** on 3/4/2014 2:23 PM

DOT Code/Fire Haz. Class	Common Name	Unit	Quantities: Max. Daily	Quantities: Largest Cont.	Quantities: Avg. Daily	Annual Waste Amount	Federal Hazard Categories	Hazardous Components (For mixture only): Component Name	% Wt	EHS	CAS No.
DOT: 2.2 - Nonflammable Gases	**Nitrogen** CAS No 7727-37-9 Map: B1.26	**Cu. Feet** State Gas Type Pure	**460** Storage Container Cylinder Days on Site: 365	**230**	460 Pressue > Ambient Temperature Ambient	Waste Code	- Fire - Reactive - Pressure Release - Acute Health - Chronic health				

Hazardous Materials And Wastes Inventory Matrix Report

CERS Business/Org. **WESTERN DIGITAL TECHNOLOGIES INC**
Facility Name **WESTERN DIGITAL TECHNOLOGIES INC**
44100 OSGOOD RD, FREMONT 94539

Chemical Location **fab chase 1B**

CERS ID **10152759**
Facility ID **C900006072**
Status **Submitted** on 3/4/2014 2:23 PM

DOT Code/Fire Haz. Class	Common Name	Unit	Quantities: Max. Daily	Quantities: Largest Cont.	Quantities: Avg. Daily	Annual Waste Amount	Federal Hazard Categories	Hazardous Components (For mixture only): Component Name	% Wt	EHS	CAS No.
	copper gleam PC	**Gallons**	**5**	**2.5**	2.5		- Acute Health	sulfuric acid	1 %		7664-93-9
Irritant	CAS No	State: Liquid	Storage Container: Carboy		Pressue: Ambient	Waste Code					
	Map: B1.22	Type: Mixture	Days on Site: 365		Temperature: Ambient						

Hazardous Materials And Wastes Inventory Matrix Report

CERS Business/Org. **WESTERN DIGITAL TECHNOLOGIES INC**
Facility Name **WESTERN DIGITAL TECHNOLOGIES INC**
44100 OSGOOD RD, FREMONT 94539

Chemical Location **fab chase 26**

CERS ID **10152759**
Facility ID **C900006072**
Status **Submitted** on 3/4/2014 2:23 PM

DOT Code/Fire Haz. Class	Common Name	Unit	Quantities: Max. Daily	Quantities: Largest Cont.	Quantities: Avg. Daily	Annual Waste Amount	Federal Hazard Categories	Hazardous Components (For mixture only): Component Name	% Wt	EHS	CAS No.
DOT: 2.2 - Nonflammable Gases	**Nitrogen**	**Cu. Feet**	**1380**	**230**	1380		- Pressure Release				
	CAS No: 7727-37-9	State: Gas	Storage Container: Cylinder		Pressue: > Ambient	Waste Code					
	Map: B1.28	Type: Pure	Days on Site: 365		Temperature: Ambient						

Hazardous Materials And Wastes Inventory Matrix Report

CERS Business/Org. **WESTERN DIGITAL TECHNOLOGIES INC**
Facility Name **WESTERN DIGITAL TECHNOLOGIES INC**
44100 OSGOOD RD, FREMONT 94539

Chemical Location **fab chase 2A**

CERS ID **10152759**
Facility ID **C900006072**
Status **Submitted** on 3/4/2014 2:23 PM

DOT Code/Fire Haz. Class	Common Name	Unit	Quantities: Max. Daily	Quantities: Largest Cont.	Quantities: Avg. Daily	Annual Waste Amount	Federal Hazard Categories	Hazardous Components (For mixture only): Component Name	% Wt	EHS	CAS No.
DOT: 2.2 - Nonflammable Gases	**Carbon Dioxide** CAS No 124-38-9 Map: B1.22	**Cu. Feet** State Gas Type Pure	**140** Storage Container Cylinder Days on Site: 365	**35**	105 Pressue > Ambient Temperature Ambient	Waste Code	- Pressure Release - Acute Health - Chronic health				

Hazardous Materials And Wastes Inventory Matrix Report

CERS Business/Org. **WESTERN DIGITAL TECHNOLOGIES INC**
Facility Name **WESTERN DIGITAL TECHNOLOGIES INC**
44100 OSGOOD RD, FREMONT 94539

Chemical Location **fab chase 2B**

CERS ID **10152759**
Facility ID **C900006072**
Status **Submitted** on 3/4/2014 2:23 PM

DOT Code/Fire Haz. Class	Common Name	Unit	Quantities: Max. Daily	Quantities: Largest Cont.	Quantities: Avg. Daily	Annual Waste Amount	Federal Hazard Categories	Hazardous Components (For mixture only): Component Name	% Wt	EHS	CAS No.
DOT: 2.2 - Nonflammable Gases	**Nitrogen**	**Cu. Feet**	**690**	**230**	460		- Pressure Release				
	CAS No: 7727-37-9	State: Gas	Storage Container: Cylinder		Pressue: > Ambient	Waste Code					
	Map: B1.22	Type: Pure	Days on Site: 365		Temperature: Ambient						

Hazardous Materials And Wastes Inventory Matrix Report

CERS Business/Org. **WESTERN DIGITAL TECHNOLOGIES INC**
Facility Name **WESTERN DIGITAL TECHNOLOGIES INC**
44100 OSGOOD RD, FREMONT 94539

Chemical Location **fab chase 5A**

CERS ID **10152759**
Facility ID **C900006072**
Status **Submitted** on 3/4/2014 2:23 PM

DOT Code/Fire Haz. Class	Common Name	Unit	Quantities: Max. Daily	Quantities: Largest Cont.	Quantities: Avg. Daily	Annual Waste Amount	Federal Hazard Categories	Hazardous Components (For mixture only): Component Name	% Wt	EHS	CAS No.
DOT: 2.2 - Nonflammable Gases	**Nitrogen**	**Cu. Feet**	**460**	**230**	230		- Pressure Release				
	CAS No: 7727-37-9	State: Gas	Storage Container: Cylinder		Pressue	Waste Code					
	Map: B1.23	Type: Pure	Days on Site: 365		Temperature						

Hazardous Materials And Wastes Inventory Matrix Report

CERS Business/Org. **WESTERN DIGITAL TECHNOLOGIES INC**
Facility Name **WESTERN DIGITAL TECHNOLOGIES INC**
44100 OSGOOD RD, FREMONT 94539

Chemical Location **fab chase 6A**

CERS ID **10152759**
Facility ID **C900006072**
Status **Submitted** on 3/4/2014 2:23 PM

DOT Code/Fire Haz. Class	Common Name	Unit	Quantities: Max. Daily	Quantities: Largest Cont.	Quantities: Avg. Daily	Annual Waste Amount	Federal Hazard Categories	Hazardous Components (For mixture only): Component Name	% Wt	EHS	CAS No.
DOT: 2.2 - Nonflammable Gases	**Carbon Dioxide**	**Pounds**	**341**	**341**	341		- Pressure Release - Acute Health				
	CAS No 124-38-9 Map: B1.23	State Gas Type Pure	Storage Container Cylinder Days on Site: 365		Pressue > Ambient Temperature Ambient	Waste Code					

Hazardous Materials And Wastes Inventory Matrix Report

CERS Business/Org. **WESTERN DIGITAL TECHNOLOGIES INC**
Facility Name **WESTERN DIGITAL TECHNOLOGIES INC**
44100 OSGOOD RD, FREMONT 94539

Chemical Location **fab chase 7A**

CERS ID **10152759**
Facility ID **C900006072**
Status **Submitted** on 3/4/2014 2:23 PM

DOT Code/Fire Haz. Class	Common Name	Unit	Quantities: Max. Daily	Quantities: Largest Cont.	Quantities: Avg. Daily	Annual Waste Amount	Federal Hazard Categories	Hazardous Components (For mixture only): Component Name	% Wt	EHS	CAS No.
DOT: 2.2 - Nonflammable Gases	**Nitrogen**	**Cu. Feet**	**920**	**230**	690		- Pressure Release				
	CAS No: 7727-37-9	State: Gas	Storage Container: Cylinder		Pressue: > Ambient	Waste Code					
	Map: B1.24	Type: Pure	Days on Site: 365		Temperature: Ambient						

Hazardous Materials And Wastes Inventory Matrix Report

CERS Business/Org. **WESTERN DIGITAL TECHNOLOGIES INC**
Facility Name **WESTERN DIGITAL TECHNOLOGIES INC**
44100 OSGOOD RD, FREMONT 94539

Chemical Location **gas bunker A**

CERS ID **10152759**
Facility ID **C900006072**
Status **Submitted** on 3/4/2014 2:23 PM

DOT Code/Fire Haz. Class	Common Name	Unit	Quantities: Max. Daily	Quantities: Largest Cont.	Quantities: Avg. Daily	Annual Waste Amount	Federal Hazard Categories	Hazardous Components (For mixture only): Component Name	% Wt	EHS	CAS No.
DOT: 2.1 - Flammable Gases Unstable (Reactive), Class 2, Flammable Gas	**Acetylene** CAS No 74-86-2 Map: B1.03	**Cu. Feet** State Gas Type Pure	**14.5** Storage Container Cylinder Days on Site: 365	**14.5**	14.5 Pressue > Ambient Temperature Ambient	Waste Code	- Fire - Reactive - Pressure Release - Acute Health				
DOT: 2.3 - Toxic Gases Flammable Gas, Irritant, Other Health Hazard	**Carbon Monoxide** CAS No 630-08-0 Map: B1.03	**Cu. Feet** State Gas Type Pure	**250** Storage Container Cylinder Days on Site: 365	**250**	250 Pressue > Ambient Temperature Ambient	Waste Code	- Fire - Pressure Release - Acute Health - Chronic health				

Hazardous Materials And Wastes Inventory Matrix Report

CERS Business/Org. **WESTERN DIGITAL TECHNOLOGIES INC**
Facility Name **WESTERN DIGITAL TECHNOLOGIES INC**
44100 OSGOOD RD, FREMONT 94539

Chemical Location **gas bunker C**

CERS ID **10152759**
Facility ID **C900006072**
Status **Submitted** on 3/4/2014 2:23 PM

DOT Code/Fire Haz. Class	Common Name	Unit	Quantities: Max. Daily	Quantities: Largest Cont.	Quantities: Avg. Daily	Annual Waste Amount	Federal Hazard Categories	Hazardous Components (For mixture only): Component Name	% Wt	EHS	CAS No.
DOT: 2.2 - Nonflammable Gases	**Nitrogen** CAS No 7727-37-9 Map: B1.03	**Cu. Feet** State Gas Type Pure	**4600** Storage Container Cylinder Days on Site: 365	**230**	3910 Pressue Temperature	Waste Code	- Fire - Reactive - Pressure Release - Acute Health - Chronic health				

Hazardous Materials And Wastes Inventory Matrix Report

CERS Business/Org. **WESTERN DIGITAL TECHNOLOGIES INC**
Facility Name **WESTERN DIGITAL TECHNOLOGIES INC**
44100 OSGOOD RD, FREMONT 94539

Chemical Location **plating dispensing**

CERS ID **10152759**
Facility ID **C900006072**
Status **Submitted** on 3/4/2014 2:23 PM

DOT Code/Fire Haz. Class	Common Name	Unit	Quantities: Max. Daily	Quantities: Largest Cont.	Quantities: Avg. Daily	Annual Waste Amount	Federal Hazard Categories	Hazardous Components (For mixture only): Component Name	% Wt	EHS	CAS No.
DOT: 9 - Misc. Hazardous Materials Other Health Hazard, Irritant	**Sodium Dodecylsulfate** CAS No 151-21-3 Map: B1.07	**Pounds** State Solid Type Pure	**8** Storage Container Plastic Bottle or Jug Days on Site: 365	**2**	4 Pressue Ambient Temperature Ambient	Waste Code					

Hazardous Materials And Wastes Inventory Matrix Report

CERS Business/Org. **WESTERN DIGITAL TECHNOLOGIES INC**
Facility Name **WESTERN DIGITAL TECHNOLOGIES INC**
44100 OSGOOD RD, FREMONT 94539

Chemical Location **silane and generator pad**

CERS ID **10152759**
Facility ID **C900006072**
Status **Submitted** on 3/4/2014 2:23 PM

DOT Code/Fire Haz. Class	Common Name	Unit	Quantities: Max. Daily	Largest Cont.	Avg. Daily	Annual Waste Amount	Federal Hazard Categories	Hazardous Components (For mixture only): Component Name	% Wt	EHS	CAS No.
DOT: 3 - Flammable and Combustible Liquids Combustible Liquid, Class II	**Diesel Fuel** CAS No 68334-30-5 Map: B1.01	**Gallons** State Liquid Type Pure	**2000** Storage Container Aboveground Tank Days on Site: 365	**2000**	1000 Pressue Ambient Temperature Ambient	Waste Code	- Fire - Chronic health				
DOT: 2.2 - Nonflammable Gases	**Nitrogen** CAS No 7727-37-9 Map: B1.01	**Cu. Feet** State Gas Type Pure	**460** Storage Container Cylinder Days on Site: 365	**230**	230 Pressue > Ambient Temperature Ambient	Waste Code	- Fire - Reactive - Pressure Release - Acute Health - Chronic health				

Hazardous Materials And Wastes Inventory Matrix Report

CERS Business/Org. **WESTERN DIGITAL TECHNOLOGIES INC**
Facility Name **WESTERN DIGITAL TECHNOLOGIES INC**
44100 OSGOOD RD, FREMONT 94539

Chemical Location **spent solvent collection tank**

CERS ID **10152759**
Facility ID **C900006072**
Status **Submitted** on 3/4/2014 2:23 PM

DOT Code/Fire Haz. Class	Common Name	Unit	Quantities: Max. Daily	Quantities: Largest Cont.	Quantities: Avg. Daily	Annual Waste Amount	Federal Hazard Categories	Hazardous Components (For mixture only): Component Name	% Wt	EHS	CAS No.
DOT: 3 - Flammable and Combustible Liquids Combustible Liquid, Class III-B, Irritant	**waste N-methyl-2-pyrrolidone** CAS No 872-50-4 Map: B1.15	**Gallons** State Liquid Type Pure	**3000** Storage Container Aboveground Tank	**3000**	1500 Pressue Ambient Temperature Ambient	Waste Code 212	- Fire - Acute Health				

Hazardous Materials And Wastes Inventory Matrix Report

CERS Business/Org. **WESTERN DIGITAL TECHNOLOGIES INC**
Facility Name **Western Digital Technologies**
44200 Osgood Rd. , Fremont 94539

Chemical Location **Argon Pad (B2. 01)**

CERS ID **10169351**
Facility ID **C90551245**
Status **Submitted** on 3/10/2014 10:21 AM

DOT Code/Fire Haz. Class	Common Name	Unit	Quantities: Max. Daily	Largest Cont.	Avg. Daily	Annual Waste Amount	Federal Hazard Categories	Hazardous Components (For mixture only): Component Name	% Wt	EHS	CAS No.
	Gasoline	**Gallons**	**30**								
	CAS No	State: Liquid	Storage Container: Can		Pressue	Waste Code					
		Type			Temperature						
	Gasoline	**Gallons**	**30**								
	CAS No	State: Liquid	Storage Container: Can		Pressue	Waste Code					
		Type			Temperature						
	Liquified Petroleum Gas	**Pounds**	**106**								
	CAS No	State: Liquid	Storage Container: Cylinder		Pressue	Waste Code					
		Type			Temperature						
	Liquified Petroleum Gas	**Pounds**	**106**								
	CAS No	State: Liquid	Storage Container: Cylinder		Pressue	Waste Code					
		Type			Temperature						
	Motor Oil	**Gallons**	**4**								
	CAS No	State: Liquid	Storage Container: Plastic Bottle or Jug		Pressue	Waste Code					
		Type			Temperature						
	Motor Oil	**Gallons**	**4**								
	CAS No	State: Liquid	Storage Container: Plastic Bottle or Jug		Pressue	Waste Code					
		Type			Temperature						
	Nitrogen	**Gallons**	**6000**								
	CAS No	State: Liquid	Storage Container: Aboveground Tank		Pressue	Waste Code					
		Type			Temperature						
	Nitrogen	**Gallons**	**6000**								
	CAS No	State: Liquid	Storage Container: Aboveground Tank		Pressue	Waste Code					
		Type			Temperature						

Hazardous Materials And Wastes Inventory Matrix Report

CERS Business/Org. **WESTERN DIGITAL TECHNOLOGIES INC**
Facility Name **Western Digital Technologies**
44200 Osgood Rd. , Fremont 94539

Chemical Location **East Lab suite (B2.06)**

CERS ID **10169351**
Facility ID **C90551245**
Status **Submitted** on 3/10/2014 10:21 AM

DOT Code/Fire Haz. Class	Common Name	Unit	Quantities: Max. Daily	Largest Cont.	Avg. Daily	Annual Waste Amount	Federal Hazard Categories	Hazardous Components (For mixture only): Component Name	% Wt	EHS	CAS No.
	Acetone CAS No	**Gallons** **2** State: Liquid Storage Container: Plastic Bottle or Jug Type Pressue Temperature Waste Code									
	Acetone CAS No	**Gallons** **2** State: Liquid Storage Container: Plastic Bottle or Jug Type Pressue Temperature Waste Code									
	Argon CAS No	**Cu. Feet** **750** State: Gas Storage Container: Cylinder Type Pressue Temperature Waste Code									
	Argon CAS No	**Cu. Feet** **2750** State: Gas Storage Container: Cylinder Type Pressue Temperature Waste Code									
	Argon CAS No	**Cu. Feet** **750** State: Gas Storage Container: Cylinder Type Pressue Temperature Waste Code									
	Argon CAS No	**Cu. Feet** **2750** State: Gas Storage Container: Cylinder Type Pressue Temperature Waste Code									
	Coventry Series 10 Non-Ionic Glass Cleaner CAS No	**Gallons** **1** State: Liquid Storage Container: Plastic Bottle or Jug Type Pressue Temperature Waste Code									
	Coventry Series 10 Non-Ionic Glass Cleaner CAS No	**Gallons** **1** State: Liquid Storage Container: Plastic Bottle or Jug Type Pressue Temperature Waste Code									

Hazardous Materials And Wastes Inventory Matrix Report

CERS Business/Org. **WESTERN DIGITAL TECHNOLOGIES INC**
Facility Name **Western Digital Technologies**
44200 Osgood Rd. , Fremont 94539

Chemical Location **East Lab suite (B2.06)**

CERS ID **10169351**
Facility ID **C90551245**
Status **Submitted** on 3/10/2014 10:21 AM

DOT Code/Fire Haz. Class	Common Name	Unit	Quantities: Max. Daily	Largest Cont.	Avg. Daily	Annual Waste Amount	Federal Hazard Categories	Hazardous Components (For mixture only): Component Name	% Wt	EHS	CAS No.
	Helium	**Cu. Feet**	**291**								
	CAS No	State: Gas	Storage Container: Cylinder		Pressue	Waste Code					
		Type			Temperature						
	Helium	**Cu. Feet**	**2037**								
	CAS No	State: Gas	Storage Container: Cylinder		Pressue	Waste Code					
		Type			Temperature						
	Helium	**Cu. Feet**	**291**								
	CAS No	State: Gas	Storage Container: Cylinder		Pressue	Waste Code					
		Type			Temperature						
	Helium	**Cu. Feet**	**2037**								
	CAS No	State: Gas	Storage Container: Cylinder		Pressue	Waste Code					
		Type			Temperature						
	Helium, liquified	**Gallons**	**50**								
	CAS No	State: Liquid	Storage Container: Tote Bin		Pressue	Waste Code					
		Type			Temperature						
	Helium, liquified	**Gallons**	**50**								
	CAS No	State: Liquid	Storage Container: Tote Bin		Pressue	Waste Code					
		Type			Temperature						
	Hydrogen	**Cu. Feet**	**627**								
	CAS No	State: Gas	Storage Container: Cylinder		Pressue	Waste Code					
		Type			Temperature						
	Hydrogen	**Cu. Feet**	**627**								
	CAS No	State: Gas	Storage Container: Cylinder		Pressue	Waste Code					
		Type			Temperature						

Hazardous Materials And Wastes Inventory Matrix Report

CERS Business/Org. **WESTERN DIGITAL TECHNOLOGIES INC**
Facility Name **Western Digital Technologies**
44200 Osgood Rd. , Fremont 94539

Chemical Location **East Lab suite (B2.06)**

CERS ID **10169351**
Facility ID **C90551245**
Status **Submitted** on 3/10/2014 10:21 AM

DOT Code/Fire Haz. Class	Common Name	Unit	Quantities: Max. Daily	Largest Cont.	Avg. Daily	Annual Waste Amount	Federal Hazard Categories	Hazardous Components (For mixture only): Component Name	% Wt	EHS	CAS No.
	Isopropyl Alcohol CAS No	**Gallons** **1** State: Liquid Storage Container: Plastic Bottle or Jug Type Pressue Temperature Waste Code									
	Isopropyl Alcohol CAS No	**Gallons** **1** State: Liquid Storage Container: Plastic Bottle or Jug Type Pressue Temperature Waste Code									
	Nitrogen CAS No	**Cu. Feet** **1150** State: Gas Storage Container: Cylinder Type Pressue Temperature Waste Code									
	Nitrogen CAS No	**Cu. Feet** **1150** State: Gas Storage Container: Cylinder Type Pressue Temperature Waste Code									
	Oxygen CAS No	**Cu. Feet** **1506** State: Gas Storage Container: Cylinder Type Pressue Temperature Waste Code									
	Oxygen CAS No	**Cu. Feet** **1506** State: Gas Storage Container: Cylinder Type Pressue Temperature Waste Code									
	ToRus Solution (ethyl fluorinated, methyl fluorinated, ruthenium oxide) CAS No	**Gallons** **1** State: Liquid Storage Container: Can Type Pressue Temperature Waste Code									
	ToRus Solution (ethyl fluorinated, methyl fluorinated, ruthenium oxide) CAS No	**Gallons** **1** State: Liquid Storage Container: Can Type Pressue Temperature Waste Code									

Hazardous Materials And Wastes Inventory Matrix Report

CERS Business/Org. **WESTERN DIGITAL TECHNOLOGIES INC**
Facility Name **Western Digital Technologies**
44200 Osgood Rd. , Fremont 94539

Chemical Location **East Lab suite (B2.06)**

CERS ID **10169351**
Facility ID **C90551245**
Status **Submitted** on 3/10/2014 10:21 AM

DOT Code/Fire Haz. Class	Common Name	Unit	Quantities: Max. Daily	Largest Cont.	Avg. Daily	Annual Waste Amount	Federal Hazard Categories	Hazardous Components (For mixture only): Component Name	% Wt	EHS	CAS No.
	Trimethyl Aluminum (TMA)	**Gallons**	**2**								
	CAS No	State: Liquid	Storage Container: Can		Pressue	Waste Code					
		Type			Temperature						
	Trimethyl Aluminum (TMA)	**Gallons**	**2**								
	CAS No	State: Liquid	Storage Container: Can		Pressue	Waste Code					
		Type			Temperature						

Hazardous Materials And Wastes Inventory Matrix Report

CERS Business/Org. **WESTERN DIGITAL TECHNOLOGIES INC**
Facility Name **Western Digital Technologies**
44200 Osgood Rd. , Fremont 94539

Chemical Location **Fab- chase 204A (B2.07)**

CERS ID **10169351**
Facility ID **C90551245**
Status **Submitted** on 3/10/2014 10:21 AM

DOT Code/Fire Haz. Class	Common Name	Unit	Quantities: Max. Daily	Largest Cont.	Avg. Daily	Annual Waste Amount	Federal Hazard Categories	Hazardous Components (For mixture only): Component Name	% Wt	EHS	CAS No.
	Argon	**Cu. Feet**	**2500**								
	CAS No	State: Gas	Storage Container: Cylinder		Pressue	Waste Code					
		Type			Temperature						
	Argon	**Cu. Feet**	**2500**								
	CAS No	State: Gas	Storage Container: Cylinder		Pressue	Waste Code					
		Type			Temperature						
	Halocarbon-14 (R-14)	**Cu. Feet**	**210**								
	CAS No	State: Gas	Storage Container: Cylinder		Pressue	Waste Code					
		Type			Temperature						
	Halocarbon-14 (R-14)	**Cu. Feet**	**210**								
	CAS No	State: Gas	Storage Container: Cylinder		Pressue	Waste Code					
		Type			Temperature						
	Halocarbon-23	**Cu. Feet**	**1152**								
	CAS No	State: Gas	Storage Container: Cylinder		Pressue	Waste Code					
		Type			Temperature						
	Halocarbon-23	**Cu. Feet**	**1152**								
	CAS No	State: Gas	Storage Container: Cylinder		Pressue	Waste Code					
		Type			Temperature						
	Helium	**Cu. Feet**	**2037**								
	CAS No	State: Gas	Storage Container: Cylinder		Pressue	Waste Code					
		Type			Temperature						
	Helium	**Cu. Feet**	**2037**								
	CAS No	State: Gas	Storage Container: Cylinder		Pressue	Waste Code					
		Type			Temperature						

Hazardous Materials And Wastes Inventory Matrix Report

CERS Business/Org. **WESTERN DIGITAL TECHNOLOGIES INC**
Facility Name **Western Digital Technologies**
44200 Osgood Rd. , Fremont 94539

Chemical Location **Fab- chase 204A (B2.07)**

CERS ID **10169351**
Facility ID **C90551245**
Status **Submitted** on 3/10/2014 10:21 AM

DOT Code/Fire Haz. Class	Common Name	Unit	Quantities: Max. Daily	Largest Cont.	Avg. Daily	Annual Waste Amount	Federal Hazard Categories	Hazardous Components (For mixture only): Component Name	% Wt	EHS	CAS No.
	Nitrogen	**Cu. Feet**	**1380**								
	CAS No	State: Gas	Storage Container: Cylinder		Pressue	Waste Code					
		Type			Temperature						
	Nitrogen	**Cu. Feet**	**1380**								
	CAS No	State: Gas	Storage Container: Cylinder		Pressue	Waste Code					
		Type			Temperature						
	Oxygen	**Cu. Feet**	**1757**								
	CAS No	State: Gas	Storage Container: Cylinder		Pressue	Waste Code					
		Type			Temperature						
	Oxygen	**Cu. Feet**	**1757**								
	CAS No	State: Gas	Storage Container: Cylinder		Pressue	Waste Code					
		Type			Temperature						
	Sulfur Hexafluoride (SF6)	**Pounds**	**230**								
	CAS No	State: Gas	Storage Container: Cylinder		Pressue	Waste Code					
		Type			Temperature						
	Sulfur Hexafluoride (SF6)	**Pounds**	**230**								
	CAS No	State: Gas	Storage Container: Cylinder		Pressue	Waste Code					
		Type			Temperature						
	Xenon	**Cu. Feet**	**429**								
	CAS No	State: Gas	Storage Container: Cylinder		Pressue	Waste Code					
		Type			Temperature						
	Xenon	**Cu. Feet**	**429**								
	CAS No	State: Gas	Storage Container: Cylinder		Pressue	Waste Code					
		Type			Temperature						

Hazardous Materials And Wastes Inventory Matrix Report

CERS Business/Org. **WESTERN DIGITAL TECHNOLOGIES INC**
Facility Name **Western Digital Technologies**
44200 Osgood Rd. , Fremont 94539

Chemical Location **Fab- chase 205A (B2.07)**

CERS ID **10169351**
Facility ID **C90551245**
Status **Submitted** on 3/10/2014 10:21 AM

DOT Code/Fire Haz. Class	Common Name	Unit	Quantities: Max. Daily	Largest Cont.	Avg. Daily	Annual Waste Amount	Federal Hazard Categories	Hazardous Components (For mixture only): Component Name	% Wt	EHS	CAS No.
	Argon	**Cu. Feet**	**2750**								
	CAS No	State: Gas	Storage Container: Cylinder		Pressue	Waste Code					
		Type			Temperature						
	Argon	**Cu. Feet**	**2750**								
	CAS No	State: Gas	Storage Container: Cylinder		Pressue	Waste Code					
		Type			Temperature						
	Boron Tricholoride (BCl3)	**Pounds**	**80**								
	CAS No ✔EHS	State: Gas	Storage Container: Cylinder		Pressue	Waste Code					
		Type			Temperature						
	Boron Tricholoride (BCl3)	**Pounds**	**80**								
	CAS No ✔EHS	State: Gas	Storage Container: Cylinder		Pressue	Waste Code					
		Type			Temperature						
	Chlorine Gas (cl2)	**Pounds**	**88**								
	CAS No ✔EHS	State: Gas	Storage Container: Cylinder		Pressue	Waste Code					
		Type			Temperature						
	Chlorine Gas (cl2)	**Pounds**	**88**								
	CAS No ✔EHS	State: Gas	Storage Container: Cylinder		Pressue	Waste Code					
		Type			Temperature						
	Galden HT 200 heat transfer fluid	**Gallons**	**6**								
	CAS No	State: Liquid	Storage Container: Plastic Bottle or Jug		Pressue	Waste Code					
		Type			Temperature						
	Galden HT 200 heat transfer fluid	**Gallons**	**6**								
	CAS No	State: Liquid	Storage Container: Plastic Bottle or Jug		Pressue	Waste Code					
		Type			Temperature						

Hazardous Materials And Wastes Inventory Matrix Report

CERS Business/Org. **WESTERN DIGITAL TECHNOLOGIES INC**
Facility Name **Western Digital Technologies**
44200 Osgood Rd. , Fremont 94539

Chemical Location **Fab- chase 205A (B2.07)**

CERS ID **10169351**
Facility ID **C90551245**
Status **Submitted** on 3/10/2014 10:21 AM

DOT Code/Fire Haz. Class	Common Name	Unit	Quantities: Max. Daily	Largest Cont.	Avg. Daily	Annual Waste Amount	Federal Hazard Categories	Hazardous Components (For mixture only): Component Name	% Wt	EHS	CAS No.
	Halocarbon 23	**Cu. Feet**	**1152**								
	CAS No	State: Gas	Storage Container: Cylinder		Pressue	Waste Code					
		Type			Temperature						
	Halocarbon 23	**Cu. Feet**	**1152**								
	CAS No	State: Gas	Storage Container: Cylinder		Pressue	Waste Code					
		Type			Temperature						
	Halocarbon-14 (R-14)	**Cu. Feet**	**140**								
	CAS No	State: Gas	Storage Container: Cylinder		Pressue	Waste Code					
		Type			Temperature						
	Halocarbon-14 (R-14)	**Cu. Feet**	**140**								
	CAS No	State: Gas	Storage Container: Cylinder		Pressue	Waste Code					
		Type			Temperature						
	Helium	**Cu. Feet**	**3000**								
	CAS No	State: Gas	Storage Container: Cylinder		Pressue	Waste Code					
		Type			Temperature						
	Helium	**Cu. Feet**	**3000**								
	CAS No	State: Gas	Storage Container: Cylinder		Pressue	Waste Code					
		Type			Temperature						
	Isopropyl Alcohol	**Gallons**	**2**								
	CAS No	State: Liquid	Storage Container: Plastic Bottle or Jug		Pressue	Waste Code					
		Type			Temperature						
	Isopropyl Alcohol	**Gallons**	**2**								
	CAS No	State: Liquid	Storage Container: Plastic Bottle or Jug		Pressue	Waste Code					
		Type			Temperature						

Hazardous Materials And Wastes Inventory Matrix Report

CERS Business/Org. **WESTERN DIGITAL TECHNOLOGIES INC**
Facility Name **Western Digital Technologies**
44200 Osgood Rd. , Fremont 94539

Chemical Location **Fab- chase 205A (B2.07)**

CERS ID **10169351**
Facility ID **C90551245**
Status **Submitted** on 3/10/2014 10:21 AM

DOT Code/Fire Haz. Class	Common Name	Unit	Quantities: Max. Daily	Largest Cont.	Avg. Daily	Annual Waste Amount	Federal Hazard Categories	Hazardous Components (For mixture only): Component Name	% Wt	EHS	CAS No.
	Methane (10%) in Argon	**Cu. Feet**	**250**								
	CAS No	State: Gas	Storage Container: Cylinder		Pressue	Waste Code					
		Type			Temperature						
	Methane (10%) in Argon	**Cu. Feet**	**250**								
	CAS No	State: Gas	Storage Container: Cylinder		Pressue	Waste Code					
		Type			Temperature						
	Methanol	**Gallons**	**5**								
	CAS No	State: Liquid	Storage Container: Can		Pressue	Waste Code					
		Type			Temperature						
	Methanol	**Gallons**	**5**								
	CAS No	State: Liquid	Storage Container: Can		Pressue	Waste Code					
		Type			Temperature						
	Nitrogen	**Cu. Feet**	**3000**								
	CAS No	State: Gas	Storage Container: Cylinder		Pressue	Waste Code					
		Type			Temperature						
	Nitrogen	**Cu. Feet**	**3000**								
	CAS No	State: Gas	Storage Container: Cylinder		Pressue	Waste Code					
		Type			Temperature						
	Oxygen	**Cu. Feet**	**2259**								
	CAS No	State: Gas	Storage Container: Cylinder		Pressue	Waste Code					
		Type			Temperature						
	Oxygen	**Cu. Feet**	**2259**								
	CAS No	State: Gas	Storage Container: Cylinder		Pressue	Waste Code					
		Type			Temperature						

Hazardous Materials And Wastes Inventory Matrix Report

CERS Business/Org. **WESTERN DIGITAL TECHNOLOGIES INC**
Facility Name **Western Digital Technologies**
44200 Osgood Rd. , Fremont 94539

Chemical Location **Fab- chase 205A (B2.07)**

CERS ID **10169351**
Facility ID **C90551245**
Status **Submitted** on 3/10/2014 10:21 AM

DOT Code/Fire Haz. Class	Common Name	Unit	Quantities: Max. Daily	Largest Cont.	Avg. Daily	Annual Waste Amount	Federal Hazard Categories	Hazardous Components (For mixture only): Component Name	% Wt	EHS	CAS No.
	Sulfur Hexafluoride (SF6)	**Pounds**	**230**								
	CAS No	State: Gas	Storage Container: Cylinder		Pressue	Waste Code					
		Type			Temperature						
	Sulfur Hexafluoride (SF6)	**Pounds**	**230**								
	CAS No	State: Gas	Storage Container: Cylinder		Pressue	Waste Code					
		Type			Temperature						

Hazardous Materials And Wastes Inventory Matrix Report

CERS Business/Org. **WESTERN DIGITAL TECHNOLOGIES INC**
Facility Name **Western Digital Technologies**
44200 Osgood Rd. , Fremont 94539

Chemical Location **Fab- chase 206A (B2.07)**

CERS ID **10169351**
Facility ID **C90551245**
Status **Submitted** on 3/10/2014 10:21 AM

DOT Code/Fire Haz. Class	Common Name	Unit	Quantities: Max. Daily	Largest Cont.	Avg. Daily	Annual Waste Amount	Federal Hazard Categories	Hazardous Components (For mixture only): Component Name	% Wt	EHS	CAS No.
	Argon	**Pounds**	**2750**								
	CAS No	State: Gas	Storage Container: Cylinder		Pressue	Waste Code					
		Type			Temperature						
	Argon	**Pounds**	**2750**								
	CAS No	State: Gas	Storage Container: Cylinder		Pressue	Waste Code					
		Type			Temperature						
	Helium	**Cu. Feet**	**1200**								
	CAS No	State: Gas	Storage Container: Cylinder		Pressue	Waste Code					
		Type			Temperature						
	Helium	**Cu. Feet**	**1200**								
	CAS No	State: Gas	Storage Container: Cylinder		Pressue	Waste Code					
		Type			Temperature						
	Isopropyl Alcohol	**Gallons**	**2**								
	CAS No	State: Liquid	Storage Container: Plastic Bottle or Jug		Pressue	Waste Code					
		Type			Temperature						
	Isopropyl Alcohol	**Gallons**	**2**								
	CAS No	State: Liquid	Storage Container: Plastic Bottle or Jug		Pressue	Waste Code					
		Type			Temperature						
	Krypton	**Cu. Feet**	**250**								
	CAS No	State: Gas	Storage Container: Cylinder		Pressue	Waste Code					
		Type			Temperature						
	Krypton	**Cu. Feet**	**250**								
	CAS No	State: Gas	Storage Container: Cylinder		Pressue	Waste Code					
		Type			Temperature						

Hazardous Materials And Wastes Inventory Matrix Report

CERS Business/Org. **WESTERN DIGITAL TECHNOLOGIES INC**
Facility Name **Western Digital Technologies**
44200 Osgood Rd. , Fremont 94539

Chemical Location **Fab- chase 206A (B2.07)**

CERS ID **10169351**
Facility ID **C90551245**
Status **Submitted** on 3/10/2014 10:21 AM

DOT Code/Fire Haz. Class	Common Name	Unit	Quantities: Max. Daily	Largest Cont.	Avg. Daily	Annual Waste Amount	Federal Hazard Categories	Hazardous Components (For mixture only): Component Name	% Wt	EHS	CAS No.
	Nitrogen	**Cu. Feet**	**1380**								
	CAS No	State: Gas	Storage Container: Cylinder		Pressue	Waste Code					
		Type			Temperature						
	Nitrogen	**Cu. Feet**	**1380**								
	CAS No	State: Gas	Storage Container: Cylinder		Pressue	Waste Code					
		Type			Temperature						
	O2 (10%) in Argon	**Cu. Feet**	**250**								
	CAS No	State: Gas	Storage Container: Cylinder		Pressue	Waste Code					
		Type			Temperature						
	O2 (10%) in Argon	**Cu. Feet**	**250**								
	CAS No	State: Gas	Storage Container: Cylinder		Pressue	Waste Code					
		Type			Temperature						
	Oxygen	**Cu. Feet**	**1000**								
	CAS No	State: Gas	Storage Container: Cylinder		Pressue	Waste Code					
		Type			Temperature						
	Oxygen	**Cu. Feet**	**1000**								
	CAS No	State: Gas	Storage Container: Cylinder		Pressue	Waste Code					
		Type			Temperature						

Hazardous Materials And Wastes Inventory Matrix Report

CERS Business/Org. **WESTERN DIGITAL TECHNOLOGIES INC**
Facility Name **Western Digital Technologies**
44200 Osgood Rd. , Fremont 94539

Chemical Location **Facilities Maintenance Shop (B2.02)**

CERS ID **10169351**
Facility ID **C90551245**
Status **Submitted** on 3/10/2014 10:21 AM

DOT Code/Fire Haz. Class	Common Name	Unit	Quantities: Max. Daily	Largest Cont.	Avg. Daily	Annual Waste Amount	Federal Hazard Categories	Hazardous Components (For mixture only): Component Name	% Wt	EHS	CAS No.
	Acetylene	**Cu. Feet**	**182**								
	CAS No	State: Gas	Storage Container: Cylinder		Pressue	Waste Code					
		Type			Temperature						
	Acetylene	**Cu. Feet**	**182**								
	CAS No	State: Gas	Storage Container: Cylinder		Pressue	Waste Code					
		Type			Temperature						
	Argon	**Cu. Feet**	**255**								
	CAS No	State: Gas	Storage Container: Cylinder		Pressue	Waste Code					
		Type			Temperature						
	Argon	**Cu. Feet**	**255**								
	CAS No	State: Gas	Storage Container: Cylinder		Pressue	Waste Code					
		Type			Temperature						
	Armaflex 520 Adhesive	**Gallons**	**0.25**								
	CAS No	State: Liquid	Storage Container: Can		Pressue	Waste Code					
		Type			Temperature						
	Armaflex 520 Adhesive	**Gallons**	**0.25**								
	CAS No	State: Liquid	Storage Container: Can		Pressue	Waste Code					
		Type			Temperature						
	Gasoline	**Gallons**	**18**								
	CAS No	State: Liquid	Storage Container: Other		Pressue	Waste Code					
		Type			Temperature						
	Gasoline	**Gallons**	**18**								
	CAS No	State: Liquid	Storage Container: Other		Pressue	Waste Code					
		Type			Temperature						

Hazardous Materials And Wastes Inventory Matrix Report

CERS Business/Org. **WESTERN DIGITAL TECHNOLOGIES INC**
Facility Name **Western Digital Technologies**
44200 Osgood Rd. , Fremont 94539

Chemical Location **Facilities Maintenance Shop (B2.02)**

CERS ID **10169351**
Facility ID **C90551245**
Status **Submitted** on 3/10/2014 10:21 AM

DOT Code/Fire Haz. Class	Common Name	Unit	Quantities: Max. Daily	Largest Cont.	Avg. Daily	Annual Waste Amount	Federal Hazard Categories	Hazardous Components (For mixture only): Component Name	% Wt	EHS	CAS No.
	Gunk General Purpose Degreaser	**Gallons**	**1**								
	CAS No	State: Liquid	Storage Container: Can		Pressue	Waste Code					
		Type			Temperature						
	Gunk General Purpose Degreaser	**Gallons**	**1**								
	CAS No	State: Liquid	Storage Container: Can		Pressue	Waste Code					
		Type			Temperature						
	Gunk liquid Wrench Dry-Lube	**Gallons**	**0.5**								
	CAS No	State: Liquid	Storage Container: Can		Pressue	Waste Code					
		Type			Temperature						
	Gunk liquid Wrench Dry-Lube	**Gallons**	**0.5**								
	CAS No	State: Liquid	Storage Container: Can		Pressue	Waste Code					
		Type			Temperature						
	Ingersor & Rand Ultra Coolant	**Gallons**	**5**								
	CAS No	State: Liquid	Storage Container: Carboy		Pressue	Waste Code					
		Type			Temperature						
	Ingersor & Rand Ultra Coolant	**Gallons**	**5**								
	CAS No	State: Liquid	Storage Container: Carboy		Pressue	Waste Code					
		Type			Temperature						
	Isopropyl Alcohol	**Gallons**	**2**								
	CAS No	State: Liquid	Storage Container: Plastic Bottle or Jug		Pressue	Waste Code					
		Type			Temperature						
	Isopropyl Alcohol	**Gallons**	**2**								
	CAS No	State: Liquid	Storage Container: Plastic Bottle or Jug		Pressue	Waste Code					
		Type			Temperature						

Hazardous Materials And Wastes Inventory Matrix Report

CERS Business/Org. **WESTERN DIGITAL TECHNOLOGIES INC**
Facility Name **Western Digital Technologies**
44200 Osgood Rd. , Fremont 94539

Chemical Location **Facilities Maintenance Shop (B2.02)**

CERS ID **10169351**
Facility ID **C90551245**
Status **Submitted** on 3/10/2014 10:21 AM

DOT Code/Fire Haz. Class	Common Name	Unit	Quantities: Max. Daily	Largest Cont.	Avg. Daily	Annual Waste Amount	Federal Hazard Categories	Hazardous Components (For mixture only): Component Name	% Wt	EHS	CAS No.
	MAPP gas	**Gallons**	**2**								
	CAS No	State: Gas	Storage Container: Cylinder		Pressue	Waste Code					
		Type			Temperature						
	MAPP gas	**Gallons**	**2**								
	CAS No	State: Gas	Storage Container: Cylinder		Pressue	Waste Code					
		Type			Temperature						
	Misc. aerosol cleaners	**Gallons**	**2**								
	CAS No	State: Liquid	Storage Container: Can		Pressue	Waste Code					
		Type			Temperature						
	Misc. aerosol cleaners	**Gallons**	**2**								
	CAS No	State: Liquid	Storage Container: Can		Pressue	Waste Code					
		Type			Temperature						
	Misc. aerosol coatings	**Gallons**	**8**								
	CAS No	State: Liquid	Storage Container: Can		Pressue	Waste Code					
		Type			Temperature						
	Misc. aerosol coatings	**Gallons**	**8**								
	CAS No	State: Liquid	Storage Container: Can		Pressue	Waste Code					
		Type			Temperature						
	Misc. aerosol lubricants	**Gallons**	**3**								
	CAS No	State: Liquid	Storage Container: Can		Pressue	Waste Code					
		Type			Temperature						
	Misc. aerosol lubricants	**Gallons**	**3**								
	CAS No	State: Liquid	Storage Container: Can		Pressue	Waste Code					
		Type			Temperature						

Hazardous Materials And Wastes Inventory Matrix Report

CERS Business/Org. **WESTERN DIGITAL TECHNOLOGIES INC**
Facility Name **Western Digital Technologies**
44200 Osgood Rd. , Fremont 94539

Chemical Location **Facilities Maintenance Shop (B2.02)**

CERS ID **10169351**
Facility ID **C90551245**
Status **Submitted** on 3/10/2014 10:21 AM

DOT Code/Fire Haz. Class	Common Name	Unit	Quantities: Max. Daily	Largest Cont.	Avg. Daily	Annual Waste Amount	Federal Hazard Categories	Hazardous Components (For mixture only): Component Name	% Wt	EHS	CAS No.
	Misc. areosol adhesive	**Gallons**	**1**								
	CAS No	State: Liquid	Storage Container: Plastic Bottle or Jug		Pressue	Waste Code					
		Type			Temperature						
	Misc. areosol adhesive	**Gallons**	**1**								
	CAS No	State: Liquid	Storage Container: Plastic Bottle or Jug		Pressue	Waste Code					
		Type			Temperature						
	Misc. areosol pesticides	**Gallons**	**5**								
	CAS No	State: Liquid	Storage Container: Can		Pressue	Waste Code					
		Type			Temperature						
	Misc. areosol pesticides	**Gallons**	**5**								
	CAS No	State: Liquid	Storage Container: Can		Pressue	Waste Code					
		Type			Temperature						
	Misc. lamp oil	**Gallons**	**2**								
	CAS No	State: Liquid	Storage Container: Can		Pressue	Waste Code					
		Type			Temperature						
	Misc. lamp oil	**Gallons**	**2**								
	CAS No	State: Liquid	Storage Container: Can		Pressue	Waste Code					
		Type			Temperature						
	Misc. liquid cleaner	**Gallons**	**10**								
	CAS No	State: Liquid	Storage Container: Carboy		Pressue	Waste Code					
		Type			Temperature						
	Misc. liquid cleaner	**Gallons**	**10**								
	CAS No	State: Liquid	Storage Container: Carboy		Pressue	Waste Code					
		Type			Temperature						

Hazardous Materials And Wastes Inventory Matrix Report

CERS Business/Org. **WESTERN DIGITAL TECHNOLOGIES INC**
Facility Name **Western Digital Technologies**
44200 Osgood Rd. , Fremont 94539

Chemical Location **Facilities Maintenance Shop (B2.02)**

CERS ID **10169351**
Facility ID **C90551245**
Status **Submitted** on 3/10/2014 10:21 AM

DOT Code/Fire Haz. Class	Common Name	Unit	Quantities: Max. Daily	Largest Cont.	Avg. Daily	Annual Waste Amount	Federal Hazard Categories	Hazardous Components (For mixture only): Component Name	% Wt	EHS	CAS No.
	Misc. motor oil CAS No	**Gallons** **5** State: Liquid Type	Storage Container: Other		Pressue Temperature	Waste Code					
	Misc. motor oil CAS No	**Gallons** **5** State: Liquid Type	Storage Container: Other		Pressue Temperature	Waste Code					
	Misc. Nalco brand water test solutions CAS No	**Gallons** **5** State: Liquid Type	Storage Container: Plastic Bottle or Jug		Pressue Temperature	Waste Code					
	Misc. Nalco brand water test solutions CAS No	**Gallons** **5** State: Liquid Type	Storage Container: Plastic Bottle or Jug		Pressue Temperature	Waste Code					
	Misc. paints & coatings CAS No	**Gallons** **15** State: Liquid Type	Storage Container: Other		Pressue Temperature	Waste Code					
	Misc. paints & coatings CAS No	**Gallons** **15** State: Liquid Type	Storage Container: Other		Pressue Temperature	Waste Code					
	Misc. refrigerants, reclaimed CAS No	**Pounds** **160** State: Liquid Type	Storage Container: Cylinder		Pressue Temperature	Waste Code					
	Misc. refrigerants, reclaimed CAS No	**Pounds** **160** State: Liquid Type	Storage Container: Cylinder		Pressue Temperature	Waste Code					

Hazardous Materials And Wastes Inventory Matrix Report

CERS Business/Org. **WESTERN DIGITAL TECHNOLOGIES INC**
Facility Name **Western Digital Technologies**
44200 Osgood Rd. , Fremont 94539

Chemical Location **Facilities Maintenance Shop (B2.02)**

CERS ID **10169351**
Facility ID **C90551245**
Status **Submitted** on 3/10/2014 10:21 AM

DOT Code/Fire Haz. Class	Common Name	Unit	Quantities: Max. Daily	Largest Cont.	Avg. Daily	Annual Waste Amount	Federal Hazard Categories	Hazardous Components (For mixture only): Component Name	% Wt	EHS	CAS No.
	Misc. vacuum pump oil	**Gallons**	**1**								
	CAS No	State: Liquid	Storage Container: Other		Pressue	Waste Code					
		Type			Temperature						
	Misc. vacuum pump oil	**Gallons**	**1**								
	CAS No	State: Liquid	Storage Container: Other		Pressue	Waste Code					
		Type			Temperature						
	Nitrogen	**Cu. Feet**	**360**								
	CAS No	State: Liquid	Storage Container: Cylinder		Pressue	Waste Code					
		Type			Temperature						
	Nitrogen	**Cu. Feet**	**360**								
	CAS No	State: Liquid	Storage Container: Cylinder		Pressue	Waste Code					
		Type			Temperature						
	Oxygen	**Cu. Feet**	**251**								
	CAS No	State: Gas	Storage Container: Cylinder		Pressue	Waste Code					
		Type			Temperature						
	Oxygen	**Cu. Feet**	**251**								
	CAS No	State: Gas	Storage Container: Cylinder		Pressue	Waste Code					
		Type			Temperature						
	Paint Thinner	**Gallons**	**1**								
	CAS No	State: Liquid	Storage Container: Can		Pressue	Waste Code					
		Type			Temperature						
	Paint Thinner	**Gallons**	**1**								
	CAS No	State: Liquid	Storage Container: Can		Pressue	Waste Code					
		Type			Temperature						

Hazardous Materials And Wastes Inventory Matrix Report

CERS Business/Org. **WESTERN DIGITAL TECHNOLOGIES INC**
Facility Name **Western Digital Technologies**
44200 Osgood Rd. , Fremont 94539

Chemical Location **Facilities Maintenance Shop (B2.02)**

CERS ID **10169351**
Facility ID **C90551245**
Status **Submitted** on 3/10/2014 10:21 AM

DOT Code/Fire Haz. Class	Common Name	Unit	Quantities: Max. Daily	Largest Cont.	Avg. Daily	Annual Waste Amount	Federal Hazard Categories	Hazardous Components (For mixture only): Component Name	% Wt	EHS	CAS No.
	R134a Refrigerant	**Pounds**	**30**								
	CAS No	State: Liquid	Storage Container: Plastic Bottle or Jug		Pressue	Waste Code					
		Type			Temperature						
	R134a Refrigerant	**Pounds**	**30**								
	CAS No	State: Liquid	Storage Container: Plastic Bottle or Jug		Pressue	Waste Code					
		Type			Temperature						
	R-22 Refrigerant	**Gallons**	**120**								
	CAS No	State: Liquid	Storage Container: Plastic Bottle or Jug		Pressue	Waste Code					
		Type			Temperature						
	R-22 Refrigerant	**Gallons**	**120**								
	CAS No	State: Liquid	Storage Container: Plastic Bottle or Jug		Pressue	Waste Code					
		Type			Temperature						
	R407 refrigerant	**Pounds**	**30**								
	CAS No	State: Liquid	Storage Container: Plastic Bottle or Jug		Pressue	Waste Code					
		Type			Temperature						
	R407 refrigerant	**Pounds**	**30**								
	CAS No	State: Liquid	Storage Container: Plastic Bottle or Jug		Pressue	Waste Code					
		Type			Temperature						
	R-410a Refrigerant	**Pounds**	**50**								
	CAS No	State: Liquid	Storage Container: Cylinder		Pressue	Waste Code					
		Type			Temperature						
	R-410a Refrigerant	**Pounds**	**50**								
	CAS No	State: Liquid	Storage Container: Cylinder		Pressue	Waste Code					
		Type			Temperature						

Hazardous Materials And Wastes Inventory Matrix Report

CERS Business/Org. **WESTERN DIGITAL TECHNOLOGIES INC**
Facility Name **Western Digital Technologies**
44200 Osgood Rd. , Fremont 94539

Chemical Location **Facilities Maintenance Shop (B2.02)**

CERS ID **10169351**
Facility ID **C90551245**
Status **Submitted** on 3/10/2014 10:21 AM

DOT Code/Fire Haz. Class	Common Name	Unit	Quantities: Max. Daily	Largest Cont.	Avg. Daily	Annual Waste Amount	Federal Hazard Categories	Hazardous Components (For mixture only): Component Name	% Wt	EHS	CAS No.
	Roto Z lubricant	**Gallons**	**20**								
	CAS No	State: Liquid	Storage Container: Carboy		Pressue	Waste Code					
		Type			Temperature						
	Roto Z lubricant	**Gallons**	**20**								
	CAS No	State: Liquid	Storage Container: Carboy		Pressue	Waste Code					
		Type			Temperature						
	Rust-Oleum 7219 Various	**Gallons**	**15**								
	CAS No	State: Liquid	Storage Container: Can		Pressue	Waste Code					
		Type			Temperature						
	Rust-Oleum 7219 Various	**Gallons**	**15**								
	CAS No	State: Liquid	Storage Container: Can		Pressue	Waste Code					
		Type			Temperature						
	Rydlyme Descaler	**Gallons**	**5**								
	CAS No	State: Liquid	Storage Container: Plastic Bottle or Jug		Pressue	Waste Code					
		Type			Temperature						
	Rydlyme Descaler	**Gallons**	**5**								
	CAS No	State: Liquid	Storage Container: Plastic Bottle or Jug		Pressue	Waste Code					
		Type			Temperature						
	Spar Urethane	**Gallons**	**1**								
	CAS No	State: Liquid	Storage Container: Can		Pressue	Waste Code					
		Type			Temperature						
	Spar Urethane	**Gallons**	**1**								
	CAS No	State: Liquid	Storage Container: Can		Pressue	Waste Code					
		Type			Temperature						

Hazardous Materials And Wastes Inventory Matrix Report

CERS Business/Org. **WESTERN DIGITAL TECHNOLOGIES INC**
Facility Name **Western Digital Technologies**
44200 Osgood Rd. , Fremont 94539

Chemical Location **Facilities Maintenance Shop (B2.02)**

CERS ID **10169351**
Facility ID **C90551245**
Status **Submitted** on 3/10/2014 10:21 AM

DOT Code/Fire Haz. Class	Common Name	Unit	Quantities: Max. Daily	Largest Cont.	Avg. Daily	Annual Waste Amount	Federal Hazard Categories	Hazardous Components (For mixture only): Component Name	% Wt	EHS	CAS No.
	Special HD Calclean	**Gallons**	**1**								
	CAS No	State: Liquid	Storage Container: Plastic Bottle or Jug		Pressue	Waste Code					
		Type			Temperature						
	Special HD Calclean	**Gallons**	**1**								
	CAS No	State: Liquid	Storage Container: Plastic Bottle or Jug		Pressue	Waste Code					
		Type			Temperature						
	Tire Sealant	**Gallons**	**1**								
	CAS No	State: Liquid	Storage Container: Can		Pressue	Waste Code					
		Type			Temperature						
	Tire Sealant	**Gallons**	**1**								
	CAS No	State: Liquid	Storage Container: Can		Pressue	Waste Code					
		Type			Temperature						
	WD-40	**Gallons**	**2**								
	CAS No	State: Liquid	Storage Container: Can		Pressue	Waste Code					
		Type			Temperature						
	WD-40	**Gallons**	**2**								
	CAS No	State: Liquid	Storage Container: Can		Pressue	Waste Code					
		Type			Temperature						
	Weld-On P-70 Primer for PVC	**Gallons**	**8**								
	CAS No ✓EHS	State: Liquid	Storage Container: Can		Pressue	Waste Code					
		Type			Temperature						
	Weld-On P-70 Primer for PVC	**Gallons**	**8**								
	CAS No ✓EHS	State: Liquid	Storage Container: Can		Pressue	Waste Code					
		Type			Temperature						

Hazardous Materials And Wastes Inventory Matrix Report

CERS Business/Org. **WESTERN DIGITAL TECHNOLOGIES INC**
Facility Name **Western Digital Technologies**
44200 Osgood Rd. , Fremont 94539

Chemical Location **Facilities Pad (B2.04)**

CERS ID **10169351**
Facility ID **C90551245**
Status **Submitted** on 3/10/2014 10:21 AM

DOT Code/Fire Haz. Class	Common Name	Unit	Quantities: Max. Daily	Largest Cont.	Avg. Daily	Annual Waste Amount	Federal Hazard Categories	Hazardous Components (For mixture only): Component Name	% Wt	EHS	CAS No.
	Buffer Solution	**Gallons**	**5**								
	CAS No	State: Liquid	Storage Container: Can		Pressue	Waste Code					
		Type			Temperature						
	Buffer Solution	**Gallons**	**5**								
	CAS No	State: Liquid	Storage Container: Can		Pressue	Waste Code					
		Type			Temperature						
	Diesel Fuel #2	**Gallons**	**4000**								
	CAS No	State: Liquid	Storage Container: Aboveground Tank		Pressue	Waste Code					
		Type			Temperature						
	Diesel Fuel #2	**Gallons**	**4000**								
	CAS No	State: Liquid	Storage Container: Aboveground Tank		Pressue	Waste Code					
		Type			Temperature						
	Hypersperse Scale Inhibitor	**Gallons**	**150**								
	CAS No	State: Liquid	Storage Container: Plastic/Non-metalic Drum		Pressue	Waste Code					
		Type			Temperature						
	Hypersperse Scale Inhibitor	**Gallons**	**150**								
	CAS No	State: Liquid	Storage Container: Plastic/Non-metalic Drum		Pressue	Waste Code					
		Type			Temperature						
	latex paint	**Gallons**	**25**								
	CAS No	State: Liquid	Storage Container: Can		Pressue	Waste Code					
		Type			Temperature						
	latex paint	**Gallons**	**25**								
	CAS No	State: Liquid	Storage Container: Can		Pressue	Waste Code					
		Type			Temperature						

Hazardous Materials And Wastes Inventory Matrix Report

CERS Business/Org. **WESTERN DIGITAL TECHNOLOGIES INC**
Facility Name **Western Digital Technologies**
44200 Osgood Rd. , Fremont 94539

Chemical Location **Facilities Pad (B2.04)**

CERS ID **10169351**
Facility ID **C90551245**
Status **Submitted** on 3/10/2014 10:21 AM

DOT Code/Fire Haz. Class	Common Name	Unit	Quantities: Max. Daily	Largest Cont.	Avg. Daily	Annual Waste Amount	Federal Hazard Categories	Hazardous Components (For mixture only): Component Name	% Wt	EHS	CAS No.
	Nalco 3D Trasar 3DT265 Scale inhibitor CAS No	**Gallons** **110** State: Liquid Type	Storage Container: Aboveground Tank		Pressue Temperature	Waste Code					
	Nalco 3D Trasar 3DT265 Scale inhibitor CAS No	**Gallons** **110** State: Liquid Type	Storage Container: Aboveground Tank		Pressue Temperature	Waste Code					
	Nalco Stabrex ST70 CAS No	**Gallons** **110** State: Liquid Type	Storage Container: Aboveground Tank		Pressue Temperature	Waste Code					
	Nalco Stabrex ST70 CAS No	**Gallons** **110** State: Liquid Type	Storage Container: Aboveground Tank		Pressue Temperature	Waste Code					
	Paint Thinner #1 CAS No	**Gallons** **5** State: Liquid Type	Storage Container: Can		Pressue Temperature	Waste Code					
	Paint Thinner #1 CAS No	**Gallons** **5** State: Liquid Type	Storage Container: Can		Pressue Temperature	Waste Code					
	Sodium Hydroxide 30% CAS No	**Gallons** **55** State: Liquid Type	Storage Container: Aboveground Tank		Pressue Temperature	Waste Code					
	Sodium Hydroxide 30% CAS No	**Gallons** **55** State: Liquid Type	Storage Container: Aboveground Tank		Pressue Temperature	Waste Code					

Hazardous Materials And Wastes Inventory Matrix Report

CERS Business/Org. **WESTERN DIGITAL TECHNOLOGIES INC**
Facility Name **Western Digital Technologies**
44200 Osgood Rd. , Fremont 94539

Chemical Location **Facilities Pad (B2.04)**

CERS ID **10169351**
Facility ID **C90551245**
Status **Submitted** on 3/10/2014 10:21 AM

DOT Code/Fire Haz. Class	Common Name	Unit	Quantities: Max. Daily	Largest Cont.	Avg. Daily	Annual Waste Amount	Federal Hazard Categories	Hazardous Components (For mixture only): Component Name	% Wt	EHS	CAS No.
	Sulfuric Acid 36%	**Gallons**	**55**								
	CAS No ✓EHS	State: Liquid	Storage Container: Aboveground Tank		Pressue	Waste Code					
		Type			Temperature						
	Sulfuric Acid 36%	**Gallons**	**55**								
	CAS No ✓EHS	State: Liquid	Storage Container: Aboveground Tank		Pressue	Waste Code					
		Type			Temperature						
	various coatings	**Gallons**	**17**								
	CAS No	State: Liquid	Storage Container: Carboy		Pressue	Waste Code					
		Type			Temperature						
	various coatings	**Gallons**	**17**								
	CAS No	State: Liquid	Storage Container: Can		Pressue	Waste Code					
		Type			Temperature						

Hazardous Materials And Wastes Inventory Matrix Report

CERS Business/Org. **WESTERN DIGITAL TECHNOLOGIES INC**
Facility Name **Western Digital Technologies**
44200 Osgood Rd. , Fremont 94539

Chemical Location **Flammable Bunker (B2.03)**

CERS ID **10169351**
Facility ID **C90551245**
Status **Submitted** on 3/10/2014 10:21 AM

DOT Code/Fire Haz. Class	Common Name	Unit	Quantities: Max. Daily	Largest Cont.	Avg. Daily	Annual Waste Amount	Federal Hazard Categories	Hazardous Components (For mixture only): Component Name	% Wt	EHS	CAS No.
	waste debris/solvent triwall	**Cu. Feet**	**300**								
	CAS No	State: Liquid	Storage Container: Box		Pressue	Waste Code					
		Type			Temperature						
	waste debris/solvent triwall	**Cu. Feet**	**300**								
	CAS No	State: Liquid	Storage Container: Box		Pressue	Waste Code					
		Type			Temperature						

Hazardous Materials And Wastes Inventory Matrix Report

CERS Business/Org. **WESTERN DIGITAL TECHNOLOGIES INC**
Facility Name **Western Digital Technologies**
44200 Osgood Rd. , Fremont 94539

Chemical Location **Gas Storage Bunker (B2.03)**

CERS ID **10169351**
Facility ID **C90551245**
Status **Submitted** on 3/10/2014 10:21 AM

DOT Code/Fire Haz. Class	Common Name	Unit	Quantities: Max. Daily	Largest Cont.	Avg. Daily	Annual Waste Amount	Federal Hazard Categories	Hazardous Components (For mixture only): Component Name	% Wt	EHS	CAS No.
	Argon	**Cu. Feet**	**2500**								
	CAS No	State: Gas	Storage Container: Cylinder		Pressue	Waste Code					
		Type			Temperature						
	Argon	**Cu. Feet**	**2500**								
	CAS No	State: Gas	Storage Container: Cylinder		Pressue	Waste Code					
		Type			Temperature						
	Helium	**Cu. Feet**	**3000**								
	CAS No	State: Gas	Storage Container: Cylinder		Pressue	Waste Code					
		Type			Temperature						
	Helium	**Cu. Feet**	**3000**								
	CAS No	State: Gas	Storage Container: Cylinder		Pressue	Waste Code					
		Type			Temperature						
	Nitrogen	**Cu. Feet**	**2760**								
	CAS No	State: Gas	Storage Container: Cylinder		Pressue	Waste Code					
		Type			Temperature						
	Nitrogen	**Cu. Feet**	**2760**								
	CAS No	State: Gas	Storage Container: Cylinder		Pressue	Waste Code					
		Type			Temperature						
	Oxygen	**Cu. Feet**	**1000**								
	CAS No	State: Gas	Storage Container: Cylinder		Pressue	Waste Code					
		Type			Temperature						
	Oxygen	**Cu. Feet**	**1000**								
	CAS No	State: Gas	Storage Container: Cylinder		Pressue	Waste Code					
		Type			Temperature						

Hazardous Materials And Wastes Inventory Matrix Report

CERS Business/Org. **WESTERN DIGITAL TECHNOLOGIES INC**
Facility Name **Western Digital Technologies**
44200 Osgood Rd. , Fremont 94539

Chemical Location **Gas Storage Bunker (B2.03)**

CERS ID **10169351**
Facility ID **C90551245**
Status **Submitted** on 3/10/2014 10:21 AM

DOT Code/Fire Haz. Class	Common Name	Unit	Quantities: Max. Daily	Largest Cont.	Avg. Daily	Annual Waste Amount	Federal Hazard Categories	Hazardous Components (For mixture only): Component Name	% Wt	EHS	CAS No.
	Trifluoromethane	**Cu. Feet**	**500**								
	CAS No	State: Gas	Storage Container: Cylinder		Pressue	Waste Code					
		Type			Temperature						
	Trifluoromethane	**Cu. Feet**	**500**								
	CAS No	State: Gas	Storage Container: Cylinder		Pressue	Waste Code					
		Type			Temperature						

Hazardous Materials And Wastes Inventory Matrix Report

CERS Business/Org. **WESTERN DIGITAL TECHNOLOGIES INC**
Facility Name **Western Digital Technologies**
44200 Osgood Rd. , Fremont 94539

Chemical Location **Mezzanine Mechanical Rooms (B2.08)**

CERS ID **10169351**
Facility ID **C90551245**
Status **Submitted** on 3/10/2014 10:21 AM

DOT Code/Fire Haz. Class	Common Name	Unit	Quantities: Max. Daily	Largest Cont.	Avg. Daily	Annual Waste Amount	Federal Hazard Categories	Hazardous Components (For mixture only): Component Name	% Wt	EHS	CAS No.
	Formula 3000B Sodium Nitrite Mixture (scale inhibitor)	**Gallons**	**5**								
	CAS No	State: Liquid	Storage Container: Carboy		Pressue	Waste Code					
		Type			Temperature						
	Formula 3000B Sodium Nitrite Mixture (scale inhibitor)	**Gallons**	**5**								
	CAS No	State: Liquid	Storage Container: Carboy		Pressue	Waste Code					
		Type			Temperature						
	HCFC-123 Refrigerant	**Gallons**	**1010**								
	CAS No	State: Liquid	Storage Container: Tote Bin		Pressue	Waste Code					
		Type			Temperature						
	HCFC-123 Refrigerant	**Gallons**	**1010**								
	CAS No	State: Liquid	Storage Container: Tote Bin		Pressue	Waste Code					
		Type			Temperature						

Hazardous Materials And Wastes Inventory Matrix Report

CERS Business/Org. **WESTERN DIGITAL TECHNOLOGIES INC**
Facility Name **Western Digital Technologies**
44200 Osgood Rd. , Fremont 94539

Chemical Location **West Lab Suite (B2.05)**

CERS ID **10169351**
Facility ID **C90551245**
Status **Submitted** on 3/10/2014 10:21 AM

DOT Code/Fire Haz. Class	Common Name	Unit	Quantities: Max. Daily	Largest Cont.	Avg. Daily	Annual Waste Amount	Federal Hazard Categories	Hazardous Components (For mixture only): Component Name	% Wt	EHS	CAS No.
	Acetone	**Gallons**	**4**								
	CAS No	State: Liquid	Storage Container: Plastic Bottle or Jug		Pressue	Waste Code					
		Type			Temperature						
	Acetone	**Gallons**	**4**								
	CAS No	State: Liquid	Storage Container: Plastic Bottle or Jug		Pressue	Waste Code					
		Type			Temperature						
	Argon	**Cu. Feet**	**500**								
	CAS No	State: Gas	Storage Container: Cylinder		Pressue	Waste Code					
		Type			Temperature						
	Argon	**Cu. Feet**	**500**								
	CAS No	State: Gas	Storage Container: Cylinder		Pressue	Waste Code					
		Type			Temperature						
	Ethylene Glycol	**Gallons**	**2**								
	CAS No	State: Liquid	Storage Container: Glass Bottle or Jug		Pressue	Waste Code					
		Type			Temperature						
	Ethylene Glycol	**Gallons**	**2**								
	CAS No	State: Liquid	Storage Container: Plastic Bottle or Jug		Pressue	Waste Code					
		Type			Temperature						
	Fomblin YL-Vac-25/6	**Pounds**	**17**								
	CAS No	State: Liquid	Storage Container: Plastic Bottle or Jug		Pressue	Waste Code					
		Type			Temperature						
	Fomblin YL-Vac-25/6	**Pounds**	**17**								
	CAS No	State: Liquid	Storage Container: Plastic Bottle or Jug		Pressue	Waste Code					
		Type			Temperature						

Hazardous Materials And Wastes Inventory Matrix Report

CERS Business/Org. **WESTERN DIGITAL TECHNOLOGIES INC**
Facility Name **Western Digital Technologies**
44200 Osgood Rd. , Fremont 94539

Chemical Location **West Lab Suite (B2.05)**

CERS ID **10169351**
Facility ID **C90551245**
Status **Submitted** on 3/10/2014 10:21 AM

DOT Code/Fire Haz. Class	Common Name	Unit	Quantities: Max. Daily	Largest Cont.	Avg. Daily	Annual Waste Amount	Federal Hazard Categories	Hazardous Components (For mixture only): Component Name	% Wt	EHS	CAS No.
	Isopropyl Alcohol CAS No	**Gallons** **3** State: Liquid Storage Container: Plastic Bottle or Jug Type Pressue Temperature Waste Code									
	Isopropyl Alcohol CAS No	**Gallons** **3** State: Liquid Storage Container: Plastic Bottle or Jug Type Pressue Temperature Waste Code									
	Mechanical Pump Oil- Ultragrade 15,19,20,70 CAS No	**Gallons** **4** State: Liquid Storage Container: Plastic Bottle or Jug Type Pressue Temperature Waste Code									
	Mechanical Pump Oil- Ultragrade 15,19,20,70 CAS No	**Gallons** **4** State: Liquid Storage Container: Plastic Bottle or Jug Type Pressue Temperature Waste Code									
	Nitrogen CAS No	**Cu. Feet** **230** State: Gas Storage Container: Cylinder Type Pressue Temperature Waste Code									
	Nitrogen CAS No	**Cu. Feet** **230** State: Gas Storage Container: Cylinder Type Pressue Temperature Waste Code									
	Omnisolve Denatured Alcohol CAS No	**Gallons** **2** State: Liquid Storage Container: Glass Bottle or Jug Type Pressue Temperature Waste Code									
	Omnisolve Denatured Alcohol CAS No	**Gallons** **2** State: Liquid Storage Container: Glass Bottle or Jug Type Pressue Temperature Waste Code									

Hazardous Materials And Wastes Inventory Matrix Report

CERS Business/Org. **WESTERN DIGITAL TECHNOLOGIES INC**
Facility Name **Western Digital Technologies**
44200 Osgood Rd. , Fremont 94539

Chemical Location **West Lab Suite (B2.05)**

CERS ID **10169351**
Facility ID **C90551245**
Status **Submitted** on 3/10/2014 10:21 AM

DOT Code/Fire Haz. Class	Common Name	Unit	Quantities: Max. Daily	Largest Cont.	Avg. Daily	Annual Waste Amount	Federal Hazard Categories	Hazardous Components (For mixture only): Component Name	% Wt	EHS	CAS No.
	Oxygen (5%) in Argon	**Cu. Feet**	**540**								
	CAS No	State: Gas	Storage Container: Cylinder		Pressue	Waste Code					
		Type			Temperature						
	Oxygen (5%) in Argon	**Cu. Feet**	**540**								
	CAS No	State: Gas	Storage Container: Cylinder		Pressue	Waste Code					
		Type			Temperature						
	Slurry Finish Lap Slurry	**Gallons**	**4**								
	CAS No	State: Liquid	Storage Container: Plastic Bottle or Jug		Pressue	Waste Code					
		Type			Temperature						
	Slurry Finish Lap Slurry	**Gallons**	**4**								
	CAS No	State: Liquid	Storage Container: Plastic Bottle or Jug		Pressue	Waste Code					
		Type			Temperature						
	Slurry M2 Slurry	**Gallons**	**4**								
	CAS No	State: Liquid	Storage Container: Plastic Bottle or Jug		Pressue	Waste Code					
		Type			Temperature						
	Slurry M2 Slurry	**Gallons**	**4**								
	CAS No	State: Liquid	Storage Container: Plastic Bottle or Jug		Pressue	Waste Code					
		Type			Temperature						
	Slurry Rough Lap Slurry	**Gallons**	**4**								
	CAS No	State: Liquid	Storage Container: Plastic Bottle or Jug		Pressue	Waste Code					
		Type			Temperature						
	Slurry Rough Lap Slurry	**Gallons**	**4**								
	CAS No	State: Liquid	Storage Container: Plastic Bottle or Jug		Pressue	Waste Code					
		Type			Temperature						

Hazardous Materials And Wastes Inventory Matrix Report

CERS Business/Org. **WESTERN DIGITAL TECHNOLOGIES INC**
Facility Name **Western Digital Technologies**
44200 Osgood Rd. , Fremont 94539

Chemical Location **West Lab Suite (B2.05)**

CERS ID **10169351**
Facility ID **C90551245**
Status **Submitted** on 3/10/2014 10:21 AM

DOT Code/Fire Haz. Class	Common Name	Unit	Quantities: Max. Daily	Largest Cont.	Avg. Daily	Annual Waste Amount	Federal Hazard Categories	Hazardous Components (For mixture only): Component Name	% Wt	EHS	CAS No.
	Sulfur Hexafluoride (SF6)	**Gallons**	**115**								
	CAS No	State: Gas	Storage Container: Cylinder		Pressue	Waste Code					
		Type			Temperature						
	Sulfur Hexafluoride (SF6)	**Gallons**	**115**								
	CAS No	State: Gas	Storage Container: Cylinder		Pressue	Waste Code					
		Type			Temperature						
	Vacuum Pump Oil	**Gallons**	**2**								
	CAS No	State: Liquid	Storage Container: Plastic Bottle or Jug		Pressue	Waste Code					
		Type			Temperature						
	Vacuum Pump Oil	**Gallons**	**2**								
	CAS No	State: Liquid	Storage Container: Plastic Bottle or Jug		Pressue	Waste Code					
		Type			Temperature						

Hazardous Materials And Wastes Inventory Matrix Report

CERS Business/Org. **Truck-Rail Handling Inc**
Facility Name **Truck-Rail Handling Inc**
44355 Old Warm Springs Blvd. , Fremont 94538

Chemical Location **Rail Yard**

CERS ID **10169223**
Facility ID **C90001963**
Status **Submitted** on 11/7/2014 10:20 AM

DOT Code/Fire Haz. Class	Common Name	Unit	Quantities: Max. Daily	Largest Cont.	Avg. Daily	Annual Waste Amount	Federal Hazard Categories	Hazardous Components (For mixture only): Component Name	% Wt	EHS	CAS No.
DOT: 3 - Flammable and Combustible Liquids Flammable Liquid, Class I-C	**Acetone** CAS No 67-64-1	**Gallons** State Liquid Type Pure	**30769** Storage Container Rail Car Days on Site: 365	**30769**	30769 Pressue Ambient Temperature Ambient	Waste Code	- Fire - Chronic health	Acetone	1 %		67-64-1
DOT: 9 - Misc. Hazardous Materials Other	**Dissolvine** CAS No 17084-02-5	**Gallons** State Liquid Type Mixture	**47058** Storage Container Rail Car Days on Site: 365	**15686**	31372 Pressue Ambient Temperature Ambient	Waste Code		Ferric HEDTA Ferrous Sodium HEDTA Ammonium Nitrate Sodium Nitrate Water	0 % 0 % 0 % 0 % 0 %		17084-02-5 16485-47-5 6484-52-2 7631-99-4 7732-18-5
DOT: 9 - Misc. Hazardous Materials Other	**Ethylene Glycol** CAS No 107-21-1	**Gallons** State Liquid Type Mixture	**21000** Storage Container Rail Car Days on Site: 365	**21000**	11000 Pressue Ambient Temperature Ambient	Waste Code	- Fire	Ethylene Glycol Diethylene Glycol	1 % 0 %		107-21-1 111-46-6
DOT: 8 - Corrosives (Liquids and Solids) Corrosive	**Ferric Chloride Solution** CAS No 7705-08-0	**Gallons** State Liquid Type Mixture	**128000** Storage Container Rail Car Days on Site: 365	**16000**	64000 Pressue Ambient Temperature Ambient	Waste Code	- Acute Health - Chronic health	Ferric Chloride Hydrochloric acid	0 % 0 %		7705-08-0 7647-01-0
DOT: 8 - Corrosives (Liquids and Solids) Corrosive	**Ferrous Chloride Solution** CAS No 775-89-43	**Gallons** State Liquid Type Mixture	**128000** Storage Container Rail Car Days on Site: 365	**18000**	64000 Pressue Ambient Temperature Ambient	Waste Code	- Acute Health - Chronic health	Ferrous Chloride Hydrochloric acid	0 % 0 %		775-89-43 7647-01-1
DOT: 3 - Flammable and Combustible Liquids Flammable Liquid, Class I-C	**Fuel Additive** CAS No 64742-95-6	**Gallons** State Liquid Type Mixture	**100000** Storage Container Rail Car Days on Site: 365	**25000**	50000 Pressue Ambient Temperature Ambient	Waste Code	- Fire	Solvent naphtha Polyolefin alkyl phenol alkyl amene Benzene 1,2,4-trimethyl Benzene 1,3,5-trimethyl	0 % 0 % 0 % 0 %		64742-95-6 proprietary 95-3-6
DOT: 3 - Flammable and Combustible Liquids Flammable Liquid, Class I-C	**Fuel Ethanol** CAS No 64-17-5	**Gallons** State Liquid Type Mixture	**58000** Storage Container Rail Car Days on Site: 365	**29000**	36250 Pressue Ambient Temperature Ambient	Waste Code	- Fire	Ethyl Alcohol Natural Gasoline	1 % 0 %		64-17-5 8006-61-9

Hazardous Materials And Wastes Inventory Matrix Report

CERS Business/Org. **Truck-Rail Handling Inc**
Facility Name **Truck-Rail Handling Inc**
44355 Old Warm Springs Blvd. , Fremont 94538

Chemical Location **Rail Yard**

CERS ID **10169223**
Facility ID **C90001963**
Status **Submitted** on 11/7/2014 10:20 AM

DOT Code/Fire Haz. Class	Common Name	Unit	Quantities: Max. Daily	Quantities: Largest Cont.	Quantities: Avg. Daily	Annual Waste Amount	Federal Hazard Categories	Hazardous Components (For mixture only): Component Name	% Wt	EHS	CAS No.
DOT: 3 - Flammable and Combustible Liquids Flammable Liquid, Class I-C	**Gasoline / motor fuel** CAS No 86290-81-5	**Gallons** State Liquid Type Mixture	**258899** Storage Container Rail Car Days on Site: 365	**23062**	194174 Pressue Ambient Temperature Ambient	Waste Code	- Fire	Gasoline / motor fuel	1 %		86290-81-5
DOT: 5.1 - Oxidizing Substances Corrosive	**Hydrogen Peroxide** CAS No 7722-84-1	**Gallons** State Liquid Type Mixture	**131600** Storage Container Rail Car Days on Site: 365	**21000**	84600 Pressue Ambient Temperature Ambient	Waste Code	- Fire - Reactive - Acute Health	Hydrogen Peroxide Water	0 % 1 %		7722-84-1 7732-18-5
DOT: 3 - Flammable and Combustible Liquids Flammable Liquid, Class I-C	**Isopropyl Alcohol** CAS No 67-63-0	**Gallons** State Liquid Type Pure	**84000** Storage Container Rail Car Days on Site: 365	**28000**	28000 Pressue Ambient Temperature Ambient	Waste Code	- Fire	2-Propanol	1 %		67-63-0
DOT: 3 - Flammable and Combustible Liquids Flammable Liquid, Class I-C	**Metanol** CAS No 67-56-1	**Gallons** State Liquid Type Pure	**196721** Storage Container Rail Car Days on Site: 365	**31250**	147540 Pressue Ambient Temperature Ambient	Waste Code	- Fire - Acute Health	Methanol	1 %		67-56-1
DOT: 3 - Flammable and Combustible Liquids Combustible Liquid, Class III-A	**Methylpyrrolidone** CAS No 872-50-4	**Gallons** State Liquid Type Mixture	**42000** Storage Container Rail Car Days on Site: 365	**21000**	21000 Pressue Ambient Temperature Ambient	Waste Code	- Fire	Methylpyrrolidone Pyrrolidinome, dimethyl	1 % 0 %		872-50-4 60544-40-3
DOT: 3 - Flammable and Combustible Liquids Flammable Liquid, Class I-C	**Mineral Spirits, <1%** CAS No 64742-47-8	**Gallons** State Liquid Type Pure	**31250** Storage Container Rail Car Days on Site: 365	**31250**	15625 Pressue Ambient Temperature Ambient	Waste Code	- Fire	Hydrotrated light distillates	1 %		64742-47-8
DOT: 3 - Flammable and Combustible Liquids Flammable Liquid, Class I-C	**Mixed Xylene** CAS No 1330-20-7	**Gallons** State Liquid Type Mixture	**53000** Storage Container Rail Car Days on Site: 365	**26500**	26500 Pressue Ambient Temperature Ambient	Waste Code	- Fire	Xylene Ethylbenzene Hexane	1 % 0 % 0 %		1330-20-7 100-41-4 mixture
DOT: 9 - Misc. Hazardous Materials Other	**Nitrogen** CAS No 7727-37-9	**Cu. Feet** State Gas Type Pure	**2364** Storage Container Cylinder Days on Site: 365	**228**	1492 Pressue Ambient Temperature Ambient	Waste Code	- Pressure Release	Nitrogen	1 %		7727-37-9

Hazardous Materials And Wastes Inventory Matrix Report

CERS Business/Org. **Truck-Rail Handling Inc**
Facility Name **Truck-Rail Handling Inc**
44355 Old Warm Springs Blvd. , Fremont 94538

Chemical Location **Rail Yard**

CERS ID **10169223**
Facility ID **C90001963**
Status **Submitted** on 11/7/2014 10:20 AM

DOT Code/Fire Haz. Class	Common Name	Unit	Quantities: Max. Daily	Largest Cont.	Avg. Daily	Annual Waste Amount	Federal Hazard Categories	Hazardous Components (For mixture only): Component Name	% Wt	EHS	CAS No.
DOT: 8 - Corrosives (Liquids and Solids) Corrosive	**Phosphoric Acid** CAS No 7664-38-2	**Gallons** State Liquid Type Mixture	**45000** Storage Container Rail Car Days on Site: 365	**15000**	28788 Pressue Ambient Temperature Ambient	Waste Code	- Acute Health - Chronic health	Phosphoric Acid Water	0 % 1 %		7664-38-2 7732-18-5

Hazardous Materials And Wastes Inventory Matrix Report

CERS Business/Org. **Truck-Rail Handling Inc**
Facility Name **Truck-Rail Handling Inc**
44355 Old Warm Springs Blvd. , Fremont 94538

Chemical Location **Sample Storage**

CERS ID **10169223**
Facility ID **C90001963**
Status **Submitted** on 11/7/2014 10:20 AM

DOT Code/Fire Haz. Class	Common Name	Unit	Quantities: Max. Daily	Largest Cont.	Avg. Daily	Annual Waste Amount	Federal Hazard Categories	Hazardous Components (For mixture only): Component Name	% Wt	EHS	CAS No.
DOT: 8 - Corrosives (Liquids and Solids) Corrosive	**Ferric Chloride Solution** CAS No 7705-08-0	**Gallons** State Liquid Type Mixture	**25** Storage Container Plastic Bottle or Jug Days on Site: 365	**0.125**	12.5 Pressue Ambient Temperature Ambient	Waste Code	- Acute Health - Chronic health	Ferric Chloride Hydrochloric acid	0 % 0 %		7705-08-0 7647-01-0
DOT: 8 - Corrosives (Liquids and Solids) Corrosive	**Ferrous Chloride Solution** CAS No 775-89-43	**Gallons** State Liquid Type Mixture	**25** Storage Container Plastic Bottle or Jug Days on Site: 365	**0.125**	12.5 Pressue Ambient Temperature Ambient	Waste Code	- Acute Health - Chronic health	Ferrous Chloride Hydrochloric acid	0 % 0 %		775-89-43 7647-01-1
DOT: 3 - Flammable and Combustible Liquids Flammable Liquid, Class I-C	**Fuel Additive** CAS No 64742-95-6	**Gallons** State Liquid Type Mixture	**25** Storage Container Glass Bottle or Jug Days on Site: 365	**0.125**	12.5 Pressue Ambient Temperature Ambient	Waste Code	- Fire	Solvent naphtha Polyolefin alkyl phenol alkyl amene Benzene 1,2,4-trimethyl Benzene 1,3,5-trimethyl	0 % 0 % 0 % 0 %		64742-95-6 proprietary 95-3-6

Hazardous Materials And Wastes Inventory Matrix Report

CERS Business/Org. **Truck-Rail Handling Inc**
Facility Name **Truck-Rail Handling Inc**
44355 Old Warm Springs Blvd. , Fremont 94538

Chemical Location
Secondary Containment

CERS ID **10169223**
Facility ID **C90001963**
Status **Submitted** on 11/7/2014 10:20 AM

DOT Code/Fire Haz. Class	Common Name	Unit	Quantities: Max. Daily	Quantities: Largest Cont.	Quantities: Avg. Daily	Annual Waste Amount	Federal Hazard Categories	Hazardous Components (For mixture only): Component Name	% Wt	EHS	CAS No.
DOT: 3 - Flammable and Combustible Liquids Flammable Liquid, Class I-C	**Diesel Fuel** CAS No 68476-34-6	**Gallons** State Liquid Type Mixture	**330** Storage Container Steel Drum Days on Site: 365	**55**	220 Pressue Ambient Temperature Ambient	Waste Code	- Fire	Fuels, diesel	1 %		68476-34-6
DOT: 3 - Flammable and Combustible Liquids Flammable Liquid, Class I-C	**Gasoline / motor fuel** CAS No 86290-81-5	**Gallons** State Liquid Type Mixture	**50** Storage Container Steel Drum Days on Site: 365	**20**	20 Pressue Ambient Temperature Ambient	Waste Code	- Fire	Gasoline / motor fuel	1 %		86290-81-5

Hazardous Materials And Wastes Inventory Matrix Report

CERS Business/Org. **Bay Polymer Corp**
Facility Name **Bay Polymer Corp**
44530 Grimmer Blvd South, Fremont 94538

Chemical Location **Outside Storage**

CERS ID **10167709**
Facility ID **C90005166**
Status **Submitted** on 4/16/2014 2:32 PM

DOT Code/Fire Haz. Class	Common Name	Unit	Quantities: Max. Daily	Quantities: Largest Cont.	Quantities: Avg. Daily	Annual Waste Amount	Federal Hazard Categories	Hazardous Components (For mixture only): Component Name	% Wt	EHS	CAS No.
Combustible Liquid, Class III-B, Irritant	**Aiti Freeze Oil** CAS No 107-21-1	**Gallons** State: Liquid Type: Mixture	**4** Storage Container: Other Days on Site: 365	**1**	1 Pressue: Ambient Temperature: Ambient	Waste Code	- Acute Health - Chronic health				
DOT: 3 - Flammable and Combustible Liquids Combustible Liquid, Class II	**Diesel Fuel No. 2** CAS No 68476-34-6	**Gallons** State: Liquid Type: Mixture	**110** Storage Container: Steel Drum Days on Site: 365	**55**	55 Pressue: Ambient Temperature: Ambient	Waste Code	- Fire - Acute Health				
DOT: 2.1 - Flammable Gases Flammable Gas, Unstable (Reactive), Class 3	**GC30 Algicide** CAS No 75-21-8 ✓EHS	**Pounds** State: Liquid Type: Mixture	**30** Storage Container: Plastic/Non-metalic Drum Days on Site: 365	**30**	Pressue: Ambient Temperature: Ambient	Waste Code	- Fire - Pressure Release				
DOT: 2.1 - Flammable Gases Flammable Gas	**Liquefied Petroleum Gas (lpg)** CAS No 74-98-6	**Gallons** State: Gas Type: Pure	**596** Storage Container: Aboveground Tank Days on Site: 365	**500**	350 Pressue: Ambient Temperature: Ambient	Waste Code	- Fire - Pressure Release				
DOT: 3 - Flammable and Combustible Liquids Flammable Liquid, Class I-B, Other Health Hazard, Irritant	**Petrol Hydrocarbons** CAS No 8006-61-9	**Gallons** State: Liquid Type: Mixture	**25** Storage Container: Aboveground Tank Days on Site: 365	**5**	10 Pressue: Ambient Temperature: Ambient	Waste Code	- Fire - Chronic health				

Hazardous Materials And Wastes Inventory Matrix Report

CERS Business/Org.	**Bay Polymer Corp**	Chemical Location	CERS ID **10167709**
Facility Name	**Bay Polymer Corp**	**shop**	Facility ID **C90005166**
	44530 Grimmer Blvd South, Fremont 94538		Status **Submitted** on 4/16/2014 2:32 PM

DOT Code/Fire Haz. Class	Common Name	Unit	Quantities: Max. Daily	Quantities: Largest Cont.	Quantities: Avg. Daily	Annual Waste Amount	Federal Hazard Categories	Hazardous Components (For mixture only): Component Name	% Wt	EHS	CAS No.
DOT: 9 - Misc. Hazardous Materials Combustible Liquid, Class III-B	**Hydraulic Oil #68** CAS No 64742-65-0	**Gallons** State Liquid Type Mixture	**40** Storage Container Steel Drum Days on Site: 365	**55**	20 Pressue Ambient Temperature Ambient	Waste Code					

Hazardous Materials And Wastes Inventory Matrix Report

CERS Business/Org. **Bay Polymer Corp**
Facility Name **Bay Polymer Corp**
44530 Grimmer Blvd South, Fremont 94538

Chemical Location **Shop**

CERS ID **10167709**
Facility ID **C90005166**
Status **Submitted** on 4/16/2014 2:32 PM

DOT Code/Fire Haz. Class	Common Name	Unit	Quantities: Max. Daily	Largest Cont.	Avg. Daily	Annual Waste Amount	Federal Hazard Categories	Hazardous Components (For mixture only): Component Name	% Wt	EHS	CAS No.
DOT: 2.1 - Flammable Gases Unstable (Reactive), Class 2, Flammable Gas	**Acetylene** CAS No 74-86-2	**Cu. Feet** State: Gas Type: Pure	**300** Storage Container: Cylinder Days on Site: 365	**150**	150 Pressue: > Ambient Temperature: Ambient	Waste Code	- Fire - Reactive - Pressure Release - Acute Health				
DOT: 9 - Misc. Hazardous Materials Combustible Liquid, Class III-B	**Gear Oil #320** CAS No 64742-65-0	**Gallons** State: Liquid Type: Mixture	**55** Storage Container: Plastic/Non-metalic Drum Days on Site: 365	**55**	55 Pressue: Ambient Temperature: Ambient	Waste Code					
DOT: 9 - Misc. Hazardous Materials Combustible Liquid, Class III-B	**Motor Oil #30** CAS No 64742-65-0	**Gallons** State: Liquid Type: Mixture	**110** Storage Container: Steel Drum Days on Site: 365	**55**	55 Pressue: Ambient Temperature: Ambient	Waste Code					
Combustible Liquid, Class III-B	**Used lubricating oils** CAS No 70514-12-4	**Gallons** State: Liquid Type: Waste	**110** Storage Container: Steel Drum Days on Site: 365	**55**	55 Pressue: Ambient Temperature: Ambient	Waste Code 221	- Fire				

Hazardous Materials And Wastes Inventory Matrix Report

CERS Business/Org. **Bay Polymer Corp**
Facility Name **Bay Polymer Corp**
44530 Grimmer Blvd South, Fremont 94538

Chemical Location **Warehouse**

CERS ID **10167709**
Facility ID **C90005166**
Status **Submitted** on 4/16/2014 2:32 PM

DOT Code/Fire Haz. Class	Common Name	Unit	Quantities Max. Daily	Largest Cont.	Avg. Daily	Annual Waste Amount	Federal Hazard Categories	Hazardous Components (For mixture only) Component Name	% Wt	EHS	CAS No.
	Zinc stearate	**Pounds**	**2000**	**25**	1000						
	CAS No 557-05-1	State Solid	Storage Container Box		Pressue Ambient	Waste Code					
		Type Mixture	Days on Site: 365		Temperature Ambient						

Hazardous Materials And Wastes Inventory Matrix Report

CERS Business/Org. **Melrose Metal Products**
Facility Name **Melrose Metal Products**
44533 Grimmer Blvd South, Fremont 94538

Chemical Location **A-Flam. Cabinet**

CERS ID **10168645**
Facility ID **C90000902**
Status **Submitted** on 1/27/2014 2:09 PM

DOT Code/Fire Haz. Class	Common Name	Unit	Quantities: Max. Daily	Quantities: Largest Cont.	Quantities: Avg. Daily	Annual Waste Amount	Federal Hazard Categories	Hazardous Components (For mixture only): Component Name	% Wt	EHS	CAS No.
DOT: 3 - Flammable and Combustible Liquids Flammable Liquid, Class I-B, Irritant	**Acetone** CAS No 67-64-1	**Gallons** State Liquid Type Pure	**10** Storage Container Can Days on Site: 365	**5**	10 Pressue Ambient Temperature Ambient	Waste Code	- Fire - Acute Health				
DOT: 3 - Flammable and Combustible Liquids Flammable Liquid, Class I-B, Irritant	**Cold Galv Spray** CAS No 67-64-1	**Gallons** State Liquid Type Pure	**1.5** Storage Container Can Days on Site: 365	**0.125**	1.5 Pressue > Ambient Temperature Ambient	0 Waste Code	- Fire - Pressure Release - Acute Health				
DOT: 3 - Flammable and Combustible Liquids Combustible Liquid, Class II, Irritant	**Equipment Enamel** CAS No 8052-41-3	**Gallons** State Liquid Type Pure	**30** Storage Container Can Days on Site: 365	**5**	30 Pressue Ambient Temperature Ambient	Waste Code	- Fire - Acute Health				
DOT: 3 - Flammable and Combustible Liquids Flammable Liquid, Class I-B, Irritant	**Laquer Thinner** CAS No 64742-89-8	**Gallons** State Liquid Type Mixture	**10** Storage Container Can Days on Site: 365	**5**	10 Pressue Ambient Temperature Ambient	Waste Code		Toluene Acetone			108-88-3 67-64-1
	Metal Check Developer D-70 CAS No 67-63-0	**Gallons** State Liquid Type Pure	**0.75** Storage Container Can Days on Site: 365	**0.0625**	0.75 Pressue > Ambient Temperature Ambient	0 Waste Code	- Fire - Pressure Release	2 PROPANOL WATER	7 % 93 %		67-63-0 7732-18-5
Flammable Liquid, Class I-A	**Metal Check Penetrant** CAS No 64742-88-7	**Gallons** State Liquid Type Mixture	**0.75** Storage Container Can Days on Site: 365	**0.0625**	0.75 Pressue > Ambient Temperature Ambient	0 Waste Code	- Fire - Pressure Release				
Combustible Liquid, Class II	**Paint** CAS No 64742-95-6	**Gallons** State Liquid Type Pure	**30** Storage Container Can Days on Site: 365	**5**	30 Pressue Ambient Temperature Ambient	Waste Code 331	- Chronic health				
Flammable Liquid, Class I-B, Irritant	**Reducer #15** CAS No 108-10-1	**Gallons** State Liquid Type Pure	**1** Storage Container Can Days on Site: 365	**1**	1 Pressue Ambient Temperature Ambient	Waste Code	- Fire	Z-Propanol Xylene Z Butoxyethylacetate Ethylbenzene			67-63-0 1330-20-7 112-07-2 100-41-4

Hazardous Materials And Wastes Inventory Matrix Report

CERS Business/Org. **Melrose Metal Products**
Facility Name **Melrose Metal Products**
44533 Grimmer Blvd South, Fremont 94538

Chemical Location **A-Flam. Cabinet**

CERS ID **10168645**
Facility ID **C90000902**
Status **Submitted** on 1/27/2014 2:09 PM

DOT Code/Fire Haz. Class	Common Name	Unit	Quantities: Max. Daily	Largest Cont.	Avg. Daily	Annual Waste Amount	Federal Hazard Categories	Hazardous Components (For mixture only): Component Name	% Wt	EHS	CAS No.
DOT: 3 - Flammable and Combustible Liquids Flammable Liquid, Class I-B, Irritant, Other Health Hazard	**Toluene** CAS No 108-88-3	**Gallons** State Liquid Type Pure	**30** Storage Container Can Days on Site: 365	**5**	30 Pressue Ambient Temperature Ambient	Waste Code	- Fire - Acute Health				

Hazardous Materials And Wastes Inventory Matrix Report

CERS Business/Org. **Melrose Metal Products**
Facility Name **Melrose Metal Products**
44533 Grimmer Blvd South, Fremont 94538

Chemical Location **B-Shop Floor**

CERS ID **10168645**
Facility ID **C90000902**
Status **Submitted** on 1/27/2014 2:09 PM

DOT Code/Fire Haz. Class	Common Name	Unit	Quantities: Max. Daily	Quantities: Largest Cont.	Quantities: Avg. Daily	Annual Waste Amount	Federal Hazard Categories	Hazardous Components (For mixture only): Component Name	% Wt	EHS	CAS No.
	"F5" NIHY5200 CAS No 70356-01-3	**Cu. Feet** State Gas Type Mixture	**213** Storage Container Cylinder Days on Site: 365	**213**	213 Pressue > Ambient Temperature Ambient	0 Waste Code		Nitrogen Hydrogen	95 % 5 %		
	"H35" ARHY35200 CAS No 70355-96-3	**Cu. Feet** State Gas Type Mixture	**231** Storage Container Cylinder Days on Site: 365	**231**	231 Pressue > Ambient Temperature Ambient	0 Waste Code		Argon Hydrogen	65 % 35 %		
DOT: 2.1 - Flammable Gases Unstable (Reactive), Class 2, Flammable Gas	**Acetylene** CAS No 74-86-2	**Cu. Feet** State Gas Type Pure	**618** Storage Container Cylinder Days on Site: 365	**309**	309 Pressue > Ambient Temperature Ambient	0 Waste Code	- Fire - Reactive - Pressure Release - Acute Health				
DOT: 2.2 - Nonflammable Gases Other	**Argon** CAS No 7440-37-1	**Cu. Feet** State Gas Type Pure	**1008** Storage Container Cylinder Days on Site: 365	**336**	1008 Pressue > Ambient Temperature Ambient	0 Waste Code	- Pressure Release				
	Argon,75 Helium 25 CAS No 70355-95-2	**Cu. Feet** State Gas Type Mixture	**464** Storage Container Cylinder Days on Site: 365	**232**	232 Pressue > Ambient Temperature Ambient	0 Waste Code		Argon Helium	75 % 25 %		7440-37-1 7440-59-7
DOT: 2.2 - Nonflammable Gases Other	**C25** CAS No 7440-37-1	**Cu. Feet** State Gas Type Mixture	**4191** Storage Container Cylinder Days on Site: 365	**381**	4191 Pressue > Ambient Temperature Ambient	0 Waste Code	- Pressure Release	Argon Carbon Dioxide	75 % 25 %		7440-37-1 124-38-9
DOT: 2.2 - Nonflammable Gases	**Carbon Dioxide** CAS No 124-38-9	**Cu. Feet** State Gas Type Pure	**1400** Storage Container Cylinder Days on Site: 365	**280**	1400 Pressue > Ambient Temperature Ambient	0 Waste Code	- Pressure Release - Acute Health - Chronic health				
DOT: 2.2 - Nonflammable Gases	**Nitrogen** CAS No 7727-37-9	**Cu. Feet** State Gas Type Pure	**1380** Storage Container Cylinder Days on Site: 365	**230**	1380 Pressue > Ambient Temperature Ambient	0 Waste Code	- Pressure Release				

Hazardous Materials And Wastes Inventory Matrix Report

CERS Business/Org. **Melrose Metal Products**
Facility Name **Melrose Metal Products**
44533 Grimmer Blvd South, Fremont 94538

Chemical Location **B-Shop Floor**

CERS ID **10168645**
Facility ID **C90000902**
Status **Submitted** on 1/27/2014 2:09 PM

DOT Code/Fire Haz. Class	Common Name	Unit	Quantities: Max. Daily	Largest Cont.	Avg. Daily	Annual Waste Amount	Federal Hazard Categories	Hazardous Components (For mixture only): Component Name	% Wt	EHS	CAS No.
DOT: 2.2 - Nonflammable Gases Oxidizing, Class 2	**Oxygen** CAS No 7782-44-7	**Cu. Feet** State: Gas Type: Pure	**1405** Storage Container: Cylinder Days on Site: 365	**281**	1405 Pressue: > Ambient Temperature: Ambient	0 Waste Code	- Fire - Pressure Release				
DOT: 2.2 - Nonflammable Gases Other	**Stainless Mix Ar97Cd3** CAS No 7440-37-1	**Cu. Feet** State: Gas Type: Mixture	**1705** Storage Container: Cylinder Days on Site: 365	**341**	1705 Pressue: > Ambient Temperature: Ambient	Waste Code	- Pressure Release	Argon Carbon Dioxide	97 % 3 %		7440-37-1 124-38-9

Hazardous Materials And Wastes Inventory Matrix Report

CERS Business/Org. **Melrose Metal Products**
Facility Name **Melrose Metal Products**
44533 Grimmer Blvd South, Fremont 94538

Chemical Location **C-Paint Booth Area**

CERS ID **10168645**
Facility ID **C90000902**
Status **Submitted** on 1/27/2014 2:09 PM

DOT Code/Fire Haz. Class	Common Name	Unit	Quantities: Max. Daily	Largest Cont.	Avg. Daily	Annual Waste Amount	Federal Hazard Categories	Hazardous Components (For mixture only): Component Name	% Wt	EHS	CAS No.
DOT: 9 - Misc. Hazardous Materials Combustible Liquid, Class III-B	**Hyd Pump Oil** CAS No 64742-65-0	**Gallons** State Liquid Type Pure	**50** Storage Container Plastic/Non-metalic Drum Days on Site: 365	**5**	50 Pressue Temperature	Waste Code					
	Paint Bakote CAS No 64742-88-7	**Gallons** State Liquid Type Mixture	**155** Storage Container Can Days on Site: 365	**5**	20 Pressue Ambient Temperature Ambient	Waste Code					

Hazardous Materials And Wastes Inventory Matrix Report

CERS Business/Org. **Melrose Metal Products**
Facility Name **Melrose Metal Products**
44533 Grimmer Blvd South, Fremont 94538

Chemical Location **D-Gas Storage**

CERS ID **10168645**
Facility ID **C90000902**
Status **Submitted** on 1/27/2014 2:09 PM

DOT Code/Fire Haz. Class	Common Name	Unit	Quantities: Max. Daily	Quantities: Largest Cont.	Quantities: Avg. Daily	Annual Waste Amount	Federal Hazard Categories	Hazardous Components (For mixture only): Component Name	% Wt	EHS	CAS No.
	"F5" NIHY5200 CAS No 70356-01-3	**Cu. Feet** State Gas Type Mixture	**426** Storage Container Cylinder Days on Site: 365	**213**	213 Pressue > Ambient Temperature Ambient	0 Waste Code		Nitrogen Hydrogen	95 % 5 %		
	"H35" ARHY35200 CAS No 70355-96-3	**Cu. Feet** State Gas Type Mixture	**462** Storage Container Cylinder Days on Site: 365	**231**	231 Pressue > Ambient Temperature Ambient	0 Waste Code		Argon Hydrogen	65 % 35 %		
DOT: 2.1 - Flammable Gases Unstable (Reactive), Class 2, Flammable Gas	**Acetylene** CAS No 74-86-2	**Cu. Feet** State Gas Type Pure	**618** Storage Container Cylinder Days on Site: 365	**309**	309 Pressue > Ambient Temperature Ambient	0 Waste Code	- Fire - Reactive - Pressure Release - Acute Health				
DOT: 2.2 - Nonflammable Gases Other	**Argon** CAS No 7440-37-1	**Cu. Feet** State Gas Type Pure	**672** Storage Container Cylinder Days on Site: 365	**336**	672 Pressue > Ambient Temperature Ambient	0 Waste Code	- Pressure Release				
DOT: 2.2 - Nonflammable Gases Other	**C25** CAS No 7440-37-1	**Cu. Feet** State Gas Type Mixture	**1905** Storage Container Cylinder Days on Site: 365	**381**	1905 Pressue > Ambient Temperature Ambient	0 Waste Code	- Pressure Release	Argon Carbon Dioxide	75 % 25 %		7440-37-1 124-38-9
DOT: 2.2 - Nonflammable Gases	**Carbon Dioxide** CAS No 124-38-9	**Cu. Feet** State Gas Type Pure	**1400** Storage Container Cylinder Days on Site: 365	**280**	1400 Pressue > Ambient Temperature Ambient	Waste Code	- Pressure Release - Acute Health - Chronic health				
DOT: 2.1 - Flammable Gases Flammable Gas	**Liquefied Petroleum Gas (lpg)** CAS No 74-98-6	**Cu. Feet** State Gas Type Pure	**450** Storage Container Aboveground Tank Days on Site: 365	**500**	200 Pressue > Ambient Temperature Ambient	Waste Code	- Fire - Pressure Release				
DOT: 2.2 - Nonflammable Gases	**Nitrogen** CAS No 7727-37-9	**Cu. Feet** State Gas Type Pure	**460** Storage Container Cylinder Days on Site: 365	**230**	460 Pressue > Ambient Temperature Ambient	0 Waste Code	- Pressure Release				

Hazardous Materials And Wastes Inventory Matrix Report

CERS Business/Org. **Melrose Metal Products**
Facility Name **Melrose Metal Products**
44533 Grimmer Blvd South, Fremont 94538

Chemical Location **D-Gas Storage**

CERS ID **10168645**
Facility ID **C90000902**
Status **Submitted** on 1/27/2014 2:09 PM

DOT Code/Fire Haz. Class	Common Name	Unit	Quantities: Max. Daily	Largest Cont.	Avg. Daily	Annual Waste Amount	Federal Hazard Categories	Hazardous Components (For mixture only): Component Name	% Wt	EHS	CAS No.
DOT: 2.2 - Nonflammable Gases Oxidizing, Class 2	**Oxygen** CAS No 7782-44-7	**Cu. Feet** State: Gas Type: Pure	**1686** Storage Container: Cylinder Days on Site: 365	**281**	1686 Pressue: > Ambient Temperature: Ambient	0 Waste Code	- Fire - Pressure Release				
DOT: 2.2 - Nonflammable Gases Other	**Stainless Mix Ar97Cd3** CAS No 7440-37-1	**Cu. Feet** State: Gas Type: Mixture	**1023** Storage Container: Cylinder Days on Site: 365	**341**	1023 Pressue: > Ambient Temperature: Ambient	Waste Code	- Pressure Release	Argon Carbon Dioxide	97 % 3 %		7440-37-1 124-38-9

Hazardous Materials And Wastes Inventory Matrix Report

CERS Business/Org. **Melrose Metal Products**
Facility Name **Melrose Metal Products**
44533 Grimmer Blvd South, Fremont 94538

Chemical Location **Waste Storage Area**

CERS ID **10168645**
Facility ID **C90000902**
Status **Submitted** on 1/27/2014 2:09 PM

DOT Code/Fire Haz. Class	Common Name	Unit	Quantities: Max. Daily	Quantities: Largest Cont.	Quantities: Avg. Daily	Annual Waste Amount	Federal Hazard Categories	Hazardous Components (For mixture only): Component Name	% Wt	EHS	CAS No.
Combustible Liquid, Class III-B	**Used lubricating oils** CAS No 70514-12-4	**Gallons** State Liquid Type Waste	**55** Storage Container Steel Drum Days on Site: 365	**55**	5 Pressue Ambient Temperature Ambient	55 Waste Code 221	- Fire				
	Waste absorbant contaminated with lubricants CAS No 70514-12-4	**Pounds** State Solid Type Waste	**55** Storage Container Steel Drum Days on Site: 365	**55**	25 Pressue Ambient Temperature Ambient	400 Waste Code 223					
Irritant	**Waste Coolant** CAS No 107-21-1	**Gallons** State Liquid Type Waste	**55** Storage Container Steel Drum Days on Site: 365	**55**	5 Pressue Ambient Temperature Ambient	55 Waste Code 331	- Acute Health - Chronic health				
Irritant	**Waste latex Paint** CAS No 13463-67-7	**Gallons** State Liquid Type Waste	**55** Storage Container Steel Drum Days on Site: 365	**55**	10 Pressue Ambient Temperature Ambient	400 Waste Code 291					
DOT: 3 - Flammable and Combustible Liquids Flammable Liquid, Class I-B, Irritant, Other Health Hazard	**Waste Paint - Flammable** CAS No 108-88-3	**Gallons** State Liquid Type Waste	**55** Storage Container Steel Drum Days on Site: 365	**55**	10 Pressue Ambient Temperature Ambient	400 Waste Code 331	- Fire - Acute Health				

Hazardous Materials And Wastes Inventory Matrix Report

CERS Business/Org. **GLOBAL PLATING INC**
Facility Name **GLOBAL PLATING INC**
44620 S GRIMMER BLVD, FREMONT 94538

Chemical Location **Chemical Inventory Rack D**

CERS ID **10153337**
Facility ID
Status **Submitted** on 11/3/2014 1:04 PM

DOT Code/Fire Haz. Class	Common Name	Unit	Quantities: Max. Daily	Quantities: Largest Cont.	Quantities: Avg. Daily	Annual Waste Amount	Federal Hazard Categories	Hazardous Components (For mixture only): Component Name	% Wt	EHS	CAS No.
	Sodium Bichromate	**Pounds**	**50**	**50**	35		- Fire - Acute Health - Chronic health				
Carcinogen, Oxidizing, Class 1, Corrosive	CAS No 10588-01-9	State Solid Type Pure	Storage Container Plastic/Non-metalic Drum		Pressue Ambient Temperature Ambient	Waste Code					

Hazardous Materials And Wastes Inventory Matrix Report

CERS Business/Org. **GLOBAL PLATING INC**
Facility Name **GLOBAL PLATING INC**
44620 S GRIMMER BLVD, FREMONT 94538

Chemical Location **Chemical Sorage Rack C**

CERS ID **10153337**
Facility ID
Status **Submitted** on 11/3/2014 1:04 PM

DOT Code/Fire Haz. Class	Common Name	Unit	Quantities Max. Daily	Largest Cont.	Avg. Daily	Annual Waste Amount	Federal Hazard Categories	Hazardous Components (For mixture only) Component Name	% Wt	EHS	CAS No.
	Potassium Bicarbonate	**Pounds**	**50**	**25**	15						
	CAS No 298-14-6	State Solid	Storage Container Bag		Pressue Ambient	Waste Code					
		Type Pure	Days on Site: 365		Temperature Ambient						

Hazardous Materials And Wastes Inventory Matrix Report

CERS Business/Org. **GLOBAL PLATING INC**
Facility Name **GLOBAL PLATING INC**
44620 S GRIMMER BLVD, FREMONT 94538

Chemical Location **Chemical Storage C**

CERS ID **10153337**
Facility ID
Status **Submitted** on 11/3/2014 1:04 PM

DOT Code/Fire Haz. Class	Common Name	Unit	Quantities: Max. Daily	Quantities: Largest Cont.	Quantities: Avg. Daily	Annual Waste Amount	Federal Hazard Categories	Hazardous Components (For mixture only): Component Name	% Wt	EHS	CAS No.
DOT: 8 - Corrosives (Liquids and Solids) Corrosive, Irritant	**Alumatte Etch** CAS No	**Pounds** State: Solid Type: Mixture	**110** Storage Container: Plastic/Non-metalic Drum Days on Site: 365	**55**	55 Pressue: Ambient Temperature: Ambient	Waste Code		Sodium Hydroxide	100 %		1310-73-2

Hazardous Materials And Wastes Inventory Matrix Report

CERS Business/Org. **GLOBAL PLATING INC**
Facility Name **GLOBAL PLATING INC**
44620 S GRIMMER BLVD, FREMONT 94538

Chemical Location **Chemical Storage Rack C**

CERS ID **10153337**
Facility ID
Status **Submitted** on 11/3/2014 1:04 PM

DOT Code/Fire Haz. Class	Common Name	Unit	Quantities: Max. Daily	Quantities: Largest Cont.	Quantities: Avg. Daily	Annual Waste Amount	Federal Hazard Categories	Hazardous Components (For mixture only): Component Name	% Wt	EHS	CAS No.
Combustible Liquid, Class II, Corrosive	**Acetic Acid** CAS No 64-19-7	**Gallons** State: Liquid Type: Pure	**15** Storage Container: Plastic/Non-metalic Drum Days on Site: 365	**15**	7 Pressue: Ambient Temperature: Ambient	Waste Code	- Fire - Acute Health	Acetic Acid	99 %		64-19-7
Corrosive	**Alumatte Etch** CAS No 1310-73-2	**Pounds** State: Solid Type: Mixture	**500** Storage Container: Fiber Drum Days on Site: 365	**500**	250 Pressue: Ambient Temperature: Ambient	Waste Code	- Reactive - Acute Health				
Irritant	**Ammonium Chloride** CAS No 12125-02-9	**Pounds** State: Solid Type: Pure	**100** Storage Container: Bag Days on Site: 365	**50**	50 Pressue: Ambient Temperature: Ambient	Waste Code	- Acute Health	Ammonium Chloride	99 %	✓	12125-02-9
Irritant, Toxic	**Ammonium Hydroxide** CAS No 1336-21-6	**Gallons** State: Liquid Type: Pure	**10** Storage Container: Plastic/Non-metalic Drum Days on Site: 365	**5**	7 Pressue: Ambient Temperature: Ambient	Waste Code	- Acute Health				
	Ammonium Sulfate CAS No 7783-20-2	**Pounds** State: Solid Type: Pure	**50** Storage Container: Bag Days on Site: 365	**50**	10 Pressue: Ambient Temperature: Ambient	Waste Code					
DOT: 6.1 - Toxic Substances Irritant, Toxic	**Barium Carbonate** CAS No 513-77-9	**Pounds** State: Solid Type: Pure	**5** Storage Container: Plastic Bottle or Jug Days on Site: 365	**5**	2 Pressue: Ambient Temperature: Ambient	Waste Code	- Acute Health	Barium Carbonate	99 %	✓	513-77-99
DOT: 8 - Corrosives (Liquids and Solids) Irritant, Other Health Hazard	**Boric Acid** CAS No 10043-35-3	**Pounds** State: Solid Type: Pure	**200** Storage Container: Bag Days on Site: 365	**50**	25 Pressue: Temperature:	Waste Code	- Acute Health - Chronic health				
Water Reactive, Class 1, Corrosive, Toxic	**Caustic Potash** CAS No 1310-58-3	**Pounds** State: Solid Type: Pure	**20** Storage Container: Bag Days on Site: 365	**20**	5 Pressue: Ambient Temperature: Ambient	Waste Code	- Reactive - Acute Health	Potassium Hydroxide	90 %	✓	1310-58-3

Hazardous Materials And Wastes Inventory Matrix Report

CERS Business/Org. **GLOBAL PLATING INC**
Facility Name **GLOBAL PLATING INC**
44620 S GRIMMER BLVD, FREMONT 94538

Chemical Location **Chemical Storage Rack C**

CERS ID **10153337**
Facility ID
Status **Submitted** on 11/3/2014 1:04 PM

DOT Code/Fire Haz. Class	Common Name	Unit	Quantities: Max. Daily	Quantities: Largest Cont.	Quantities: Avg. Daily	Annual Waste Amount	Federal Hazard Categories	Hazardous Components (For mixture only): Component Name	% Wt	EHS	CAS No.
	Copper Cyanide Bath	**Gallons**	**55**	**55**	40		- Reactive	Copper Cyanide	99 %	✓	544-92-3
Highly Toxic, Water Reactive, Class 1	CAS No 544-92-3	State: Liquid	Storage Container: Plastic/Non-metalic Drum		Pressue: Ambient	Waste Code	- Acute Health	Rochelle Salts	1 %		6381-59-5
		Type: Mixture	Days on Site: 365		Temperature: Ambient						
DOT: 9 - Misc. Hazardous Materials	**Copper Strike Bath**	**Gallons**	**55**	**55**	20		- Acute Health	Copper Cyanide	3 %		544-92-3
Corrosive, Irritant, Highly Toxic	CAS No 544-92-3	State: Liquid	Storage Container: Plastic/Non-metalic Drum		Pressue: Ambient	Waste Code 711		Potassium Cyanide	6 %		151-50-8
		Type: Mixture	Days on Site: 365		Temperature: Ambient			Potassium Hydroxide	1 %		1310-58-3
DOT: 6.1 - Toxic Substances	**Copper Sulfate**	**Pounds**	**50**	**50**	25		- Acute Health	Copper	98 %		7440-50-8
Irritant, Toxic	CAS No 7758-98-7	State: Solid	Storage Container: Bag		Pressue: Ambient	Waste Code 181		Cupric Sulfate	1 %		7758-98-7
		Type: Pure			Temperature: Ambient			Copper Compounds NDS	1 %		
DOT: 9 - Misc. Hazardous Materials	**Copper Sulfate**	**Pounds**	**50**	**50**	20		- Acute Health - Chronic health				
Irritant, Toxic	CAS No 7758-98-7	State: Solid	Storage Container: Bag		Pressue: Ambient	Waste Code					
		Type: Pure	Days on Site: 365		Temperature: Ambient						
	Deoxidizer Bath	**Gallons**	**55**	**55**	30		- Reactive	Sulfuric Acid	6 %		7664-93-9
Corrosive, Irritant	CAS No	State: Liquid	Storage Container: Plastic/Non-metalic Drum		Pressue: Ambient	Waste Code	- Acute Health	Nitric Acid	3 %		7697-37-2
		Type: Mixture	Days on Site: 365		Temperature: Ambient						
	Electrocleaner 820	**Pounds**	**500**	**500**	250		- Acute Health	Sodium Hydroxide <20%	20 %		1310-73-2
Corrosive	CAS No	State: Solid	Storage Container: Plastic/Non-metalic Drum		Pressue: Ambient	Waste Code		Disodium Trioxosilicate <70%	70 %		6834-92-0
		Type: Mixture	Days on Site: 365		Temperature: Ambient						
	Liquid Sodium Copper Cyanide	**Gallons**	**55**	**55**	40		- Acute Health	Copper Cyanide	3 %		544-92-3
Irritant, Highly Toxic	CAS No 544-92-3	State: Liquid	Storage Container: Plastic/Non-metalic Drum		Pressue:	Waste Code		Potassium Cyanide	6 %		151-50-8
		Type: Mixture	Days on Site: 365		Temperature:			Potassium Carbonate	2 %		584-08-7
	Magnesium Oxide	**Gallons**	**55**	**55**	50		- Acute Health	Magnesium Oxide	99 %		1309-48-4
	CAS No 1309-48-4	State: Liquid	Storage Container: Plastic/Non-metalic Drum		Pressue: Ambient	Waste Code					
		Type: Pure	Days on Site: 365		Temperature: Ambient						

Hazardous Materials And Wastes Inventory Matrix Report

CERS Business/Org. **GLOBAL PLATING INC**
Facility Name **GLOBAL PLATING INC**
44620 S GRIMMER BLVD, FREMONT 94538

Chemical Location **Chemical Storage Rack C**

CERS ID **10153337**
Facility ID
Status **Submitted** on 11/3/2014 1:04 PM

DOT Code/Fire Haz. Class	Common Name	Unit	Quantities: Max. Daily	Quantities: Largest Cont.	Quantities: Avg. Daily	Annual Waste Amount	Federal Hazard Categories	Hazardous Components (For mixture only): Component Name	% Wt	EHS	CAS No.
Irritant	**Monosodium Phosphate** CAS No 7558-80-7	**Pounds** State Solid Type Pure	**50** Storage Container Bag Days on Site: 365	**50**	50 Pressue Ambient Temperature Ambient	Waste Code	- Acute Health				
Irritant	**Nimac 33** CAS No 128-44-9	**Gallons** State Liquid Type Mixture	**5** Storage Container Plastic/Non-metalic Drum Days on Site: 365	**5**	5 Pressue Ambient Temperature Ambient	Waste Code	- Acute Health				
Irritant	**Potassium Chloride** CAS No 7447-40-7	**Pounds** State Solid Type Pure	**300** Storage Container Bag Days on Site: 365	**50**	300 Pressue Ambient Temperature Ambient	Waste Code	- Acute Health				
DOT: 6.1 - Toxic Substances Highly Toxic, Irritant	**Potassium Cyanide** CAS No 151-50-8 ✔EHS	**Pounds** State Solid Type Pure	**110** Storage Container Steel Drum Days on Site: 365	**110**	15 Pressue Ambient Temperature Ambient	Waste Code	- Fire - Reactive - Pressure Release - Acute Health - Chronic health				
Corrosive, Other Health Hazard, Toxic	**Potassium Fluoride** CAS No 7789-23-3	**Pounds** State Solid Type Pure	**100** Storage Container Fiber Drum Days on Site: 365	**100**	50 Pressue Ambient Temperature Ambient	Waste Code	- Acute Health	Potassium Fluoride	99 %	✔	7789-23-3
Combustible Liquid, Class II, Corrosive, Toxic	**Rostrip Nickel Stripping Liquid** CAS No	**Gallons** State Liquid Type Mixture	**10** Storage Container Plastic/Non-metalic Drum Days on Site: 365	**5**	4 Pressue Ambient Temperature Ambient	Waste Code	- Fire - Acute Health	Ethylenediamine Ammonium Hydroxide	10 % 5 %		107-15-3 1366-21-6
Corrosive, Other Health Hazard	**Silver E2 Make-up A2** CAS No 1310-58-3	**Gallons** State Liquid Type Mixture	**5** Storage Container Plastic/Non-metalic Drum Days on Site: 365	**5**	1 Pressue Ambient Temperature Ambient	Waste Code	- Acute Health				
Corrosive	**Sodium Hypochlorite** CAS No 7681-52-9	**Gallons** State Liquid Type Mixture	**55** Storage Container Plastic/Non-metalic Drum Days on Site: 365	**55**	40 Pressue Ambient Temperature Ambient	Waste Code	- Acute Health				

Hazardous Materials And Wastes Inventory Matrix Report

CERS Business/Org. **GLOBAL PLATING INC**
Facility Name **GLOBAL PLATING INC**
44620 S GRIMMER BLVD, FREMONT 94538

Chemical Location **Chemical Storage Rack C**

CERS ID **10153337**
Facility ID
Status **Submitted** on 11/3/2014 1:04 PM

DOT Code/Fire Haz. Class	Common Name	Unit	Quantities: Max. Daily	Quantities: Largest Cont.	Quantities: Avg. Daily	Annual Waste Amount	Federal Hazard Categories	Hazardous Components (For mixture only): Component Name	% Wt	EHS	CAS No.
DOT: 9 - Misc. Hazardous Materials Irritant	**Stannous Sulfate** CAS No 7488-55-3	**Pounds** State: Solid Type: Pure	**50** Storage Container: Steel Drum Days on Site: 365	**50**	5 Pressue: Ambient Temperature: Ambient	Waste Code		Stannous Sulfate	100 %		7488-55-3
Irritant	**Sulfamic acid** CAS No 5329-14-6	**Pounds** State: Solid Type: Pure	**50** Storage Container: Bag Days on Site: 365	**50**	30 Pressue: Ambient Temperature: Ambient	Waste Code	- Acute Health				
DOT: 3 - Flammable and Combustible Liquids Combustible Liquid, Class II, Irritant, Other Health Hazard	**Tarniban** CAS No	**Gallons** State: Liquid Type: Mixture	**1** Storage Container: Other Days on Site: 365	**1**	1 Pressue: Ambient Temperature: Ambient	Waste Code	- Fire - Acute Health	Butyl Carbitol Perchloroethylen Butyl Cellosolve	5 % 5 % 10 %		112-34-5 127-18-4 111-75-2
Irritant	**Tetra Sodium Borate Salt, Mild Alkaline Cleaner** CAS No 1303-96-4	**Pounds** State: Solid Type: Mixture	**100** Storage Container: Fiber Drum Days on Site: 365	**100**	50 Pressue: Ambient Temperature: Ambient	Waste Code		Tetra Sodium Borate Salt	60 %		1303-96-4

Hazardous Materials And Wastes Inventory Matrix Report

CERS Business/Org. **GLOBAL PLATING INC**
Facility Name **GLOBAL PLATING INC**
44620 S GRIMMER BLVD, FREMONT 94538

Chemical Location **Chemical Storage Rack C**

CERS ID **10153337**
Facility ID
Status **Submitted** on 11/3/2014 1:04 PM

DOT Code/Fire Haz. Class	Common Name	Unit	Quantities: Max. Daily	Quantities: Largest Cont.	Quantities: Avg. Daily	Annual Waste Amount	Federal Hazard Categories	Hazardous Components (For mixture only): Component Name	% Wt	EHS	CAS No.
DOT: 6.1 - Toxic Substances	**Gold Strip**	**Gallons**	**5**	**5**	4		- Acute Health				
Highly Toxic	CAS No: N/A	State: Liquid	Storage Container: Plastic/Non-metalic Drum		Pressue: Ambient	Waste Code: 711					
		Type: Mixture	Days on Site: 365		Temperature: Ambient						

Hazardous Materials And Wastes Inventory Matrix Report

CERS Business/Org. **GLOBAL PLATING INC**
Facility Name **GLOBAL PLATING INC**
44620 S GRIMMER BLVD, FREMONT 94538

Chemical Location **Chemical Storage Rack D**

CERS ID **10153337**
Facility ID
Status **Submitted** on 11/3/2014 1:04 PM

DOT Code/Fire Haz. Class	Common Name	Unit	Quantities: Max. Daily	Quantities: Largest Cont.	Quantities: Avg. Daily	Annual Waste Amount	Federal Hazard Categories	Hazardous Components (For mixture only): Component Name	% Wt	EHS	CAS No.
DOT: 4.1 - Flammable Solids Flammable Solid	**Activated Carbon** CAS No 7440-44-0	**Pounds** State Solid Type Pure	**250** Storage Container Bag Days on Site: 365	**50**	140 Pressue Ambient Temperature Ambient	Waste Code	- Fire - Reactive - Pressure Release - Acute Health - Chronic health				
DOT: 8 - Corrosives (Liquids and Solids) Corrosive, Toxic	**Ammonium Bifluoride** CAS No 1341-49-7	**Pounds** State Solid Type Pure	**100** Storage Container Plastic/Non-metalic Drum Days on Site: 365	**50**	60 Pressue Ambient Temperature Ambient	Waste Code	- Acute Health				
Irritant	**Barrett SNAC** CAS No 5329-14-6	**Gallons** State Liquid Type Mixture	**100** Storage Container Plastic/Non-metalic Drum Days on Site: 365	**25**	80 Pressue Ambient Temperature Ambient	Waste Code	- Acute Health				
Carcinogen, Irritant, Sensitizer	**Barrett SNR-24** CAS No 13770-89-3	**Gallons** State Liquid Type Mixture	**5** Storage Container Plastic/Non-metalic Drum Days on Site: 365	**5**	5 Pressue Ambient Temperature Ambient	Waste Code	- Acute Health - Chronic health				
DOT: 8 - Corrosives (Liquids and Solids) Corrosive, Water Reactive, Class 1	**Calcium Hydrated Lime** CAS No 1305-62-0	**Pounds** State Solid Type Pure	**150** Storage Container Bag Days on Site: 365	**50**	150 Pressue Ambient Temperature Ambient	Waste Code					
Irritant, Oxidizing, Class 1, Unstable (Reactive), Class 2	**Calcium Nitrate** CAS No 10124-37-5	**Pounds** State Solid Type Pure	**200** Storage Container Fiber Drum Days on Site: 365	**100**	120 Pressue Ambient Temperature Ambient	Waste Code	- Fire - Reactive - Acute Health				
DOT: 5.1 - Oxidizing Substances Carcinogen, Corrosive, Oxidizing, Class 2, Toxic	**Chromic Acid** CAS No 1333-82-0	**Gallons** State Liquid Type Pure	**5** Storage Container Plastic/Non-metalic Drum Days on Site: 365	**5**	4 Pressue Ambient Temperature Ambient	Waste Code	- Fire - Reactive - Acute Health - Chronic health				
Corrosive, Toxic	**Electropolish Solution** CAS No	**Gallons** State Liquid Type Mixture	**5** Storage Container Plastic/Non-metalic Drum Days on Site: 365	**5**	4 Pressue Ambient Temperature Ambient	Waste Code	- Acute Health	Sulfuric Acid <20% Phosphoric Acid <66%	20 % 66 %		7664-93-9 7664-38-2

Hazardous Materials And Wastes Inventory Matrix Report

CERS Business/Org. **GLOBAL PLATING INC**
Facility Name **GLOBAL PLATING INC**
44620 S GRIMMER BLVD, FREMONT 94538

Chemical Location **Chemical Storage Rack D**

CERS ID **10153337**
Facility ID
Status **Submitted** on 11/3/2014 1:04 PM

DOT Code/Fire Haz. Class	Common Name	Unit	Quantities: Max. Daily	Quantities: Largest Cont.	Quantities: Avg. Daily	Annual Waste Amount	Federal Hazard Categories	Hazardous Components (For mixture only): Component Name	% Wt	EHS	CAS No.
	Epson Salt CAS No: N/A	**Pounds** State: Solid Type: Pure	**150** Storage Container: Bag Days on Site: 365	**50**	150 Pressue: Ambient Temperature: Ambient	Waste Code:					
DOT: 8 - Corrosives (Liquids and Solids) Corrosive, Toxic	**Ferric Chloride** CAS No: 7705-08-0	**Gallons** State: Liquid Type: Pure	**55** Storage Container: Plastic/Non-metalic Drum Days on Site: 365	**55**	55 Pressue: Ambient Temperature: Ambient	Waste Code:	- Acute Health				
Corrosive	**Hydrochloric Acid 32-37%** CAS No: 7647-01-1	**Gallons** State: Liquid Type: Pure	**165** Storage Container: Plastic/Non-metalic Drum	**55**	100 Pressue: Ambient Temperature: Ambient	Waste Code:	- Acute Health				
DOT: 5.1 - Oxidizing Substances Corrosive, Oxidizing, Class 2, Other Health Hazard, Unstable (Reactive), Class 1	**Hydrogen Peroxide** CAS No: 7722-84-1	**Gallons** State: Liquid Type: Pure	**5** Storage Container: Plastic Bottle or Jug Days on Site: 365	**5**	2 Pressue: Temperature:	Waste Code:	- Fire - Reactive - Acute Health				
DOT: 6.1 - Toxic Substances Carcinogen, Irritant, Other Health Hazard, Sensitizer	**Nickel Carbonate** CAS No: 3333-67-3	**Pounds** State: Solid Type: Pure	**100** Storage Container: Bag Days on Site: 365	**50**	100 Pressue: Ambient Temperature: Ambient	Waste Code:	- Acute Health - Chronic health				
DOT: 9 - Misc. Hazardous Materials Carcinogen, Irritant, Other Health Hazard, Sensitizer	**Nickel Chloride** CAS No: 7718-54-9	**Gallons** State: Liquid Type: Mixture	**20** Storage Container: Plastic/Non-metalic Drum Days on Site: 365	**5**	10 Pressue: Ambient Temperature: Ambient	Waste Code:	- Acute Health - Chronic health				
DOT: 8 - Corrosives (Liquids and Solids) Corrosive, Oxidizing, Class 2	**Nitric Acid** CAS No: 7697-37-2	**Gallons** State: Liquid Type: Pure	**55** Storage Container: Carboy Days on Site: 365	**55**	50 Pressue: Ambient Temperature: Ambient	Waste Code: 791	- Fire - Reactive - Acute Health - Chronic health				
DOT: 8 - Corrosives (Liquids and Solids) Corrosive, Other Health Hazard	**Phosphoric Acid** CAS No: 7664-38-2	**Gallons** State: Liquid Type: Pure	**30** Storage Container: Plastic/Non-metalic Drum Days on Site: 365	**15**	15 Pressue: Ambient Temperature: Ambient	Waste Code:	- Acute Health - Chronic health				

Hazardous Materials And Wastes Inventory Matrix Report

CERS Business/Org. **GLOBAL PLATING INC**
Facility Name **GLOBAL PLATING INC**
44620 S GRIMMER BLVD, FREMONT 94538

Chemical Location **Chemical Storage Rack D**

CERS ID **10153337**
Facility ID
Status **Submitted** on 11/3/2014 1:04 PM

DOT Code/Fire Haz. Class	Common Name	Unit	Quantities: Max. Daily	Quantities: Largest Cont.	Quantities: Avg. Daily	Annual Waste Amount	Federal Hazard Categories	Hazardous Components (For mixture only): Component Name	% Wt	EHS	CAS No.
Carcinogen, Oxidizing, Class 2, Corrosive	**Sodium Dichromate** CAS No 10588-01-9	**Gallons** State Liquid Type Pure	**100** Storage Container Steel Drum Days on Site: 365	**100**	100 Pressue Ambient Temperature Ambient	Waste Code	- Fire - Acute Health - Chronic health				
DOT: 8 - Corrosives (Liquids and Solids) Irritant, Corrosive, Other Health Hazard	**Sodium Metabisulfite** CAS No 7631-90-5	**Pounds** State Solid Type Pure	**50** Storage Container Bag Days on Site: 365	**50**	45 Pressue Ambient Temperature Ambient	Waste Code	- Acute Health				
DOT: 8 - Corrosives (Liquids and Solids) Corrosive, Water Reactive, Class 2, Toxic, Oxidizing, Class 1	**Sulfuric Acid** CAS No 7664-93-9	**Gallons** State Liquid Type Pure	**5** Storage Container Plastic Bottle or Jug	**5**	3 Pressue Ambient Temperature Ambient	Waste Code	- Reactive - Acute Health				
Combustible Liquid, Class II, Irritant	**Teflon** CAS No	**Gallons** State Liquid Type Mixture	**10** Storage Container Other Days on Site: 365	**5**	6 Pressue Ambient Temperature Ambient	Waste Code	- Fire - Acute Health	Polytetrafluoroethylene Surfactant	60 % 5 %		9002-84-0 9002-93-1

Hazardous Materials And Wastes Inventory Matrix Report

CERS Business/Org. **GLOBAL PLATING INC**
Facility Name **GLOBAL PLATING INC**
44620 S GRIMMER BLVD, FREMONT 94538

Chemical Location **Gas Storage E**

CERS ID **10153337**
Facility ID
Status **Submitted** on 11/3/2014 1:04 PM

DOT Code/Fire Haz. Class	Common Name	Unit	Quantities: Max. Daily	Largest Cont.	Avg. Daily	Annual Waste Amount	Federal Hazard Categories	Hazardous Components (For mixture only): Component Name	% Wt	EHS	CAS No.
DOT: 2.1 - Flammable Gases Unstable (Reactive), Class 2, Flammable Gas	**Acetylene** CAS No 74-86-2	**Cu. Feet** State Gas Type Pure	**250** Storage Container Cylinder Days on Site: 365	**125**	125 Pressue Temperature Ambient	Waste Code	- Fire - Reactive - Pressure Release - Acute Health				
DOT: 2.2 - Nonflammable Gases Other	**Argon** CAS No 7440-37-1	**Cu. Feet** State Gas Type Pure	**136** Storage Container Cylinder Days on Site: 365	**136**	75 Pressue Temperature Ambient	Waste Code	- Pressure Release - Acute Health				
DOT: 2.2 - Nonflammable Gases	**Helium** CAS No 7440-59-7	**Cu. Feet** State Gas Type Pure	**125** Storage Container Cylinder Days on Site: 365	**125**	75 Pressue Temperature Ambient	Waste Code	- Pressure Release				
DOT: 2.1 - Flammable Gases Oxidizing, Class 2	**Oxygen** CAS No 7782-44-7	**Cu. Feet** State Gas Type Pure	**125** Storage Container Cylinder Days on Site: 365	**125**	75 Pressue Temperature Ambient	Waste Code	- Fire - Pressure Release - Acute Health				

Hazardous Materials And Wastes Inventory Matrix Report

CERS Business/Org. **GLOBAL PLATING INC**
Facility Name **GLOBAL PLATING INC**
44620 S GRIMMER BLVD, FREMONT 94538

Chemical Location **Propane Storage F**

CERS ID **10153337**
Facility ID
Status **Submitted** on 11/3/2014 1:04 PM

DOT Code/Fire Haz. Class	Common Name	Unit	Quantities: Max. Daily	Largest Cont.	Avg. Daily	Annual Waste Amount	Federal Hazard Categories	Hazardous Components (For mixture only): Component Name	% Wt	EHS	CAS No.
DOT: 2.1 - Flammable Gases Flammable Gas	**Propane** CAS No 74-98-6	**Cu. Feet** State Gas Type Pure	**70** Storage Container Cylinder Days on Site: 365	**7**	35 Pressue Temperature Ambient	Waste Code	- Fire - Pressure Release				

Hazardous Materials And Wastes Inventory Matrix Report

CERS Business/Org. **GLOBAL PLATING INC**
Facility Name **GLOBAL PLATING INC**
44620 S GRIMMER BLVD, FREMONT 94538

Chemical Location **Tank A-1**

CERS ID **10153337**
Facility ID
Status **Submitted** on 11/3/2014 1:04 PM

DOT Code/Fire Haz. Class	Common Name	Unit	Quantities: Max. Daily	Quantities: Largest Cont.	Quantities: Avg. Daily	Annual Waste Amount	Federal Hazard Categories	Hazardous Components (For mixture only): Component Name	% Wt	EHS	CAS No.
DOT: 9 - Misc. Hazardous Materials Irritant	**Aluminum Cleaner Tank A-1** CAS No	**Gallons** State: Liquid Type: Mixture	**600** Storage Container: Aboveground Tank Days on Site: 365	**600**	600 Pressue: Ambient Temperature: > Ambient	Waste Code: 121	- Acute Health	Tetrasodium Borate Salt Water	30 % 70 %		1303-96-4 7732-18-5

Hazardous Materials And Wastes Inventory Matrix Report

CERS Business/Org. **GLOBAL PLATING INC**
Facility Name **GLOBAL PLATING INC**
44620 S GRIMMER BLVD, FREMONT 94538

Chemical Location **Tank A-13A**

CERS ID **10153337**
Facility ID
Status **Submitted** on 11/3/2014 1:04 PM

DOT Code/Fire Haz. Class	Common Name	Unit	Quantities: Max. Daily	Quantities: Largest Cont.	Quantities: Avg. Daily	Annual Waste Amount	Federal Hazard Categories	Hazardous Components (For mixture only): Component Name	% Wt	EHS	CAS No.
DOT: 5.1 - Oxidizing Substances Carcinogen, Corrosive, Oxidizing, Class 2, Toxic	**Chromic Acid Tank A-13A** CAS No 1333-82-0	**Gallons** State Liquid Type Mixture	**20** Storage Container Aboveground Tank, Tank Inside Building Days on Site: 365	**20**	20 Pressue Ambient Temperature > Ambient	Waste Code	- Reactive - Acute Health - Chronic health	Chromium Trioxide Water	3 % 97 %		1333-82-0 7732-18-5

Hazardous Materials And Wastes Inventory Matrix Report

CERS Business/Org. **GLOBAL PLATING INC**
Facility Name **GLOBAL PLATING INC**
44620 S GRIMMER BLVD, FREMONT 94538

Chemical Location **Tank A-13B**

CERS ID **10153337**
Facility ID
Status **Submitted** on 11/3/2014 1:04 PM

DOT Code/Fire Haz. Class	Common Name	Unit	Quantities: Max. Daily	Largest Cont.	Avg. Daily	Annual Waste Amount	Federal Hazard Categories	Hazardous Components (For mixture only): Component Name	% Wt	EHS	CAS No.
DOT: 8 - Corrosives (Liquids and Solids) Carcinogen, Corrosive, Oxidizing, Class 2, Sensitizer	**Sodium Dichromate Tank A-13B** CAS No 7789-12-0	**Gallons** State Liquid Type Mixture	**20** Storage Container Aboveground Tank, Tank Inside Building Days on Site: 365	**20**	20 Pressue Ambient Temperature > Ambient	Waste Code	- Fire - Acute Health - Chronic health	Sodium Dichromate Water	3 % 97 %		7789-12-0 7732-18-5

Hazardous Materials And Wastes Inventory Matrix Report

CERS Business/Org. **GLOBAL PLATING INC**
Facility Name **GLOBAL PLATING INC**
44620 S GRIMMER BLVD, FREMONT 94538

Chemical Location **Tank A-13D**

CERS ID **10153337**
Facility ID
Status **Submitted** on 11/3/2014 1:04 PM

DOT Code/Fire Haz. Class	Common Name	Unit	Quantities: Max. Daily	Largest Cont.	Avg. Daily	Annual Waste Amount	Federal Hazard Categories	Hazardous Components (For mixture only): Component Name	% Wt	EHS	CAS No.
	Green Dye Tank A-13D	**Gallons**	**5**	**5**	5			Clariant Green Dye AEN	15 %		
	CAS No	State: Liquid	Storage Container: Aboveground Tank, Plastic/Non-metalic Drum		Pressue	Waste Code		Water	85 %		7732-18-5
Irritant		Type: Mixture	Days on Site: 365		Temperature						

Hazardous Materials And Wastes Inventory Matrix Report

CERS Business/Org. **GLOBAL PLATING INC**
Facility Name **GLOBAL PLATING INC**
44620 S GRIMMER BLVD, FREMONT 94538

Chemical Location **Tank A-14**

CERS ID **10153337**
Facility ID
Status **Submitted** on 11/3/2014 1:04 PM

DOT Code/Fire Haz. Class	Common Name	Unit	Quantities: Max. Daily	Quantities: Largest Cont.	Quantities: Avg. Daily	Annual Waste Amount	Federal Hazard Categories	Hazardous Components (For mixture only): Component Name	% Wt	EHS	CAS No.
DOT: 8 - Corrosives (Liquids and Solids) Corrosive, Water Reactive, Class 1	**Sulfuric Acid Tank A-14** CAS No 7664-93-9	**Gallons** State Liquid Type Mixture	**350** Storage Container Aboveground Tank, Tank Inside Building Days on Site: 365	**350**	350 Pressue Ambient Temperature Ambient	Waste Code 791	- Reactive - Acute Health - Chronic health	Sulfuric Acid Water	20 % 80 %		7664-93-9 7732-18-5

Hazardous Materials And Wastes Inventory Matrix Report

CERS Business/Org. **GLOBAL PLATING INC**
Facility Name **GLOBAL PLATING INC**
44620 S GRIMMER BLVD, FREMONT 94538

Chemical Location **Tank A-17C**

CERS ID **10153337**
Facility ID
Status **Submitted** on 11/3/2014 1:04 PM

DOT Code/Fire Haz. Class	Common Name	Unit	Quantities: Max. Daily	Quantities: Largest Cont.	Quantities: Avg. Daily	Annual Waste Amount	Federal Hazard Categories	Hazardous Components (For mixture only): Component Name	% Wt	EHS	CAS No.
	Red Dye Tank A-17C	**Gallons**	**85**	**85**	85		- Acute Health	Techevon eco Red R	15 %		
	CAS No	State: Liquid	Storage Container: Aboveground Tank, Tank Inside Building		Pressue: Ambient	Waste Code		Water	85 %		7732-18-5
Irritant		Type: Mixture	Days on Site: 365		Temperature: > Ambient						

Hazardous Materials And Wastes Inventory Matrix Report

CERS Business/Org. **GLOBAL PLATING INC**
Facility Name **GLOBAL PLATING INC**
44620 S GRIMMER BLVD, FREMONT 94538

Chemical Location **Tank A-6**

CERS ID **10153337**
Facility ID
Status **Submitted** on 11/3/2014 1:04 PM

DOT Code/Fire Haz. Class	Common Name	Unit	Quantities: Max. Daily	Quantities: Largest Cont.	Quantities: Avg. Daily	Annual Waste Amount	Federal Hazard Categories	Hazardous Components (For mixture only): Component Name	% Wt	EHS	CAS No.
	Hard Anodize Tank A-6	**Gallons**	**1200**	**1200**	1200		- Reactive	Sulfuric Acid	9 %		7664-93-9
Corrosive, Toxic, Water Reactive, Class 1	CAS No	State: Liquid Type: Mixture	Storage Container: Aboveground Tank, Tank Inside Building Days on Site: 365		Pressue: Ambient Temperature: < Ambient	Waste Code	- Acute Health	Water	85 %		7732-18-5

Hazardous Materials And Wastes Inventory Matrix Report

CERS Business/Org. **GLOBAL PLATING INC**
Facility Name **GLOBAL PLATING INC**
44620 S GRIMMER BLVD, FREMONT 94538

Chemical Location **Tank A-7**

CERS ID **10153337**
Facility ID
Status **Submitted** on 11/3/2014 1:04 PM

DOT Code/Fire Haz. Class	Common Name	Unit	Quantities: Max. Daily	Quantities: Largest Cont.	Quantities: Avg. Daily	Annual Waste Amount	Federal Hazard Categories	Hazardous Components (For mixture only): Component Name	% Wt	EHS	CAS No.
DOT: 9 - Misc. Hazardous Materials Corrosive, Oxidizing, Class 1	**Passivate Tank A-7** CAS No	**Gallons** State: Liquid Type: Mixture	**800** Storage Container: Aboveground Tank, Tank Inside Building Days on Site: 365	**800**	800 Pressue: Ambient Temperature: Ambient	Waste Code	- Acute Health	Nitric Acid Sodium Dichromate Water	20 % 1 % 80 %		7697-37-2 7789-12-0 7732-18-5

Hazardous Materials And Wastes Inventory Matrix Report

CERS Business/Org.	**GLOBAL PLATING INC**	Chemical Location	CERS ID **10153337**
Facility Name	**GLOBAL PLATING INC**	**Tank A-9**	Facility ID
	44620 S GRIMMER BLVD, FREMONT 94538		Status **Submitted** on 11/3/2014 1:04 PM

DOT Code/Fire Haz. Class	Common Name	Unit	Quantities Max. Daily	Largest Cont.	Avg. Daily	Annual Waste Amount	Federal Hazard Categories	Hazardous Components (For mixture only) Component Name	% Wt	EHS	CAS No.
DOT: 9 - Misc. Hazardous Materials Corrosive, Toxic, Water Reactive, Class 1	**Anodize Type II Tank A-9** CAS No	**Gallons** State: Liquid Type: Mixture	**1200** Storage Container: Aboveground Tank, Tank Inside Building Days on Site: 365	**1200**	1200 Pressue: Ambient Temperature: < Ambient	Waste Code	- Reactive - Acute Health	Sulfuric Acid Water	15 % 85 %		7764-93-9 7732-18-5

Hazardous Materials And Wastes Inventory Matrix Report

CERS Business/Org. **GLOBAL PLATING INC**
Facility Name **GLOBAL PLATING INC**
44620 S GRIMMER BLVD, FREMONT 94538

Chemical Location **Tank B-13**

CERS ID **10153337**
Facility ID
Status **Submitted** on 11/3/2014 1:04 PM

DOT Code/Fire Haz. Class	Common Name	Unit	Quantities: Max. Daily	Quantities: Largest Cont.	Quantities: Avg. Daily	Annual Waste Amount	Federal Hazard Categories	Hazardous Components (For mixture only): Component Name	% Wt	EHS	CAS No.
	Clear Zinc Chromate Tank B-13	**Gallons**	**1200**	**1200**	1200		- Acute Health	Nitric Acid	1 %		7697-37-2
	CAS No	State: Liquid	Storage Container: Aboveground Tank, Tank Inside Building		Pressue: Ambient	Waste Code	- Chronic health	Chrome III Nitrate	3 %		13548-38-4
Oxidizing, Class 1, Irritant		Type: Mixture	Days on Site: 365		Temperature: > Ambient			Ammonium Bifluoride	2 %		1341-49-7
								Water	95 %		7732-18-5

Hazardous Materials And Wastes Inventory Matrix Report

CERS Business/Org. **GLOBAL PLATING INC**
Facility Name **GLOBAL PLATING INC**
44620 S GRIMMER BLVD, FREMONT 94538

Chemical Location **Tank B-14**

CERS ID **10153337**
Facility ID
Status **Submitted** on 11/3/2014 1:04 PM

DOT Code/Fire Haz. Class	Common Name	Unit	Quantities: Max. Daily	Quantities: Largest Cont.	Quantities: Avg. Daily	Annual Waste Amount	Federal Hazard Categories	Hazardous Components (For mixture only): Component Name	% Wt	EHS	CAS No.
DOT: 8 - Corrosives (Liquids and Solids) Corrosive, Irritant	**Yellow Zinc Chromate Tank B-14** CAS No	**Gallons** State: Liquid Type: Mixture	**1200** Storage Container: Aboveground Tank, Tank Inside Building Days on Site: 365	**1200**	1200 Pressue: Ambient Temperature: > Ambient	Waste Code	- Acute Health - Chronic health	Chromic Acid Sulfuric Acid Potassium Dichromate Water	0 % 0 % 4 % 95 %		7738-94-5 7664-93-9 7778-50-9 7732-18-5

Hazardous Materials And Wastes Inventory Matrix Report

CERS Business/Org.	**GLOBAL PLATING INC**	Chemical Location	CERS ID **10153337**
Facility Name	**GLOBAL PLATING INC**	**Tank B-18**	Facility ID
	44620 S GRIMMER BLVD, FREMONT 94538		Status **Submitted** on 11/3/2014 1:04 PM

DOT Code/Fire Haz. Class	Common Name	Unit	Quantities Max. Daily	Largest Cont.	Avg. Daily	Annual Waste Amount	Federal Hazard Categories	Hazardous Components (For mixture only) Component Name	% Wt	EHS	CAS No.
DOT: 9 - Misc. Hazardous Materials Carcinogen, Irritant	**Bright Nickel Bath Tank B-18** CAS No	**Gallons** State Liquid Type Mixture	**1200** Storage Container Aboveground Tank, Tank Inside Building Days on Site: 365	**1200**	1200 Pressue Ambient Temperature > Ambient	Waste Code		Nickel Sulfate Nickel Chloride Boric Acid Water	18 % 3 % 4 % 75 %		7786-02-0 7791-20-0 10043-35-3 7732-18-5

Hazardous Materials And Wastes Inventory Matrix Report

CERS Business/Org. **GLOBAL PLATING INC**
Facility Name **GLOBAL PLATING INC**
44620 S GRIMMER BLVD, FREMONT 94538

Chemical Location **Tank B-2**

CERS ID **10153337**
Facility ID
Status **Submitted** on 11/3/2014 1:04 PM

DOT Code/Fire Haz. Class	Common Name	Unit	Quantities: Max. Daily	Largest Cont.	Avg. Daily	Annual Waste Amount	Federal Hazard Categories	Hazardous Components (For mixture only): Component Name	% Wt	EHS	CAS No.
DOT: 8 - Corrosives (Liquids and Solids) Corrosive	**Electrocleaner Tank B-2** CAS No	**Gallons** State: Liquid Type: Mixture	**1200** Storage Container: Aboveground Tank, Tank Inside Building Days on Site: 365	**1200**	1200 Pressue: Ambient Temperature: > Ambient	Waste Code	- Acute Health	Sodium Hydroxide Disodium Trioxosilicate Tetrasodium Pyrophosphate Water	7 % 4 % 1 % 89 %		1310-73-2 683492-0 7722-88-5 7732-18-5

Hazardous Materials And Wastes Inventory Matrix Report

CERS Business/Org. **GLOBAL PLATING INC**
Facility Name **GLOBAL PLATING INC**
44620 S GRIMMER BLVD, FREMONT 94538

Chemical Location **Tank B-4**

CERS ID **10153337**
Facility ID
Status **Submitted** on 11/3/2014 1:04 PM

DOT Code/Fire Haz. Class	Common Name	Unit	Quantities: Max. Daily	Largest Cont.	Avg. Daily	Annual Waste Amount	Federal Hazard Categories	Hazardous Components (For mixture only): Component Name	% Wt	EHS	CAS No.
DOT: 8 - Corrosives (Liquids and Solids) Corrosive, Other Health Hazard	**Muriatic Acid Tank B-4** CAS No 7647-01-0	**Gallons** State Liquid Type Mixture	**1275** Storage Container Aboveground Tank, Tank Inside Building Days on Site: 365	**1275**	1275 Pressue Ambient Temperature Ambient	Waste Code 791	- Reactive - Acute Health - Chronic health	Hydrogen Chloride Water	31 % 69 %		7647-01-0 7732-18-5

Hazardous Materials And Wastes Inventory Matrix Report

CERS Business/Org. **GLOBAL PLATING INC**
Facility Name **GLOBAL PLATING INC**
44620 S GRIMMER BLVD, FREMONT 94538

Chemical Location **Tank B-5**

CERS ID **10153337**
Facility ID
Status **Submitted** on 11/3/2014 1:04 PM

DOT Code/Fire Haz. Class	Common Name	Unit	Quantities: Max. Daily	Largest Cont.	Avg. Daily	Annual Waste Amount	Federal Hazard Categories	Hazardous Components (For mixture only): Component Name	% Wt	EHS	CAS No.
DOT: 8 - Corrosives (Liquids and Solids) Corrosive, Other Health Hazard	**Muriatic Acid Tank B-5** CAS No 7647-01-0	**Gallons** State Liquid Type Mixture	**1275** Storage Container Aboveground Tank, Tank Inside Building Days on Site: 365	**1275**	1275 Pressue Ambient Temperature Ambient	Waste Code	- Acute Health - Chronic health	Hydrochloric Acid Water	31 % 69 %		7647-01-0 7732-18-5

Hazardous Materials And Wastes Inventory Matrix Report

CERS Business/Org.	**GLOBAL PLATING INC**	Chemical Location	CERS ID **10153337**
Facility Name	**GLOBAL PLATING INC**	**Tank B-7**	Facility ID
	44620 S GRIMMER BLVD, FREMONT 94538		Status **Submitted** on 11/3/2014 1:04 PM

DOT Code/Fire Haz. Class	Common Name	Unit	Quantities: Max. Daily	Quantities: Largest Cont.	Quantities: Avg. Daily	Annual Waste Amount	Federal Hazard Categories	Hazardous Components (For mixture only): Component Name	% Wt	EHS	CAS No.
DOT: 9 - Misc. Hazardous Materials Irritant	**Zinc Bath Tank B-7** CAS No	**Gallons** State: Liquid Type: Mixture	**1800** Storage Container: Aboveground Tank, Tank Inside Building Days on Site: 365	**1800**	1800 Pressue: Ambient Temperature: Ambient	Waste Code	- Acute Health	Potassium Chloride Zinc Chloride Boric Acid Kenlevel Select HT Water	15 % 4 % 3 % 1 %		7447-40-7 7646-85-7 10043-35-3 7732-18-5

Hazardous Materials And Wastes Inventory Matrix Report

CERS Business/Org.	**GLOBAL PLATING INC**	Chemical Location	CERS ID **10153337**
Facility Name	**GLOBAL PLATING INC**	**Tank B-8**	Facility ID
	44620 S GRIMMER BLVD, FREMONT 94538		Status **Submitted** on 11/3/2014 1:04 PM

DOT Code/Fire Haz. Class	Common Name	Unit	Quantities: Max. Daily	Quantities: Largest Cont.	Quantities: Avg. Daily	Annual Waste Amount	Federal Hazard Categories	Hazardous Components (For mixture only): Component Name	% Wt	EHS	CAS No.
DOT: 9 - Misc. Hazardous Materials Irritant	**Zinc Bath Tank B-8** CAS No	**Gallons** State: Liquid Type: Mixture	**1800** Storage Container: Aboveground Tank, Tank Inside Building Days on Site: 365	**1800** Pressue: Ambient Temperature: Ambient	1800 Waste Code		- Acute Health	Potassium Chloride Zinc Chloride Boric Acid Kenlevel Select HT Water	15 % 4 % 3 % 1 %		7447-40-7 7646-85-7 10043-35-3 7732-18-5

Hazardous Materials And Wastes Inventory Matrix Report

CERS Business/Org. **GLOBAL PLATING INC**
Facility Name **GLOBAL PLATING INC**
44620 S GRIMMER BLVD, FREMONT 94538

Chemical Location **Tank C-1**

CERS ID **10153337**
Facility ID
Status **Submitted** on 11/3/2014 1:04 PM

DOT Code/Fire Haz. Class	Common Name	Unit	Quantities: Max. Daily	Quantities: Largest Cont.	Quantities: Avg. Daily	Annual Waste Amount	Federal Hazard Categories	Hazardous Components (For mixture only): Component Name	% Wt	EHS	CAS No.
DOT: 8 - Corrosives (Liquids and Solids) Corrosive	**Electrocleaner Tank C-1** CAS No	**Gallons** State: Liquid Type: Mixture	**500** Storage Container: Aboveground Tank, Tank Inside Building Days on Site: 365	**500**	500 Pressue: Ambient Temperature: > Ambient	Waste Code	- Acute Health	Sodium Hydroxide Disodium Trioxosilicate Tetrasodium Pyrophosphate Water	7 % 4 % 1 % 89 %		1310-73-2 683492-0 7722-88-5 7732-18-5

Hazardous Materials And Wastes Inventory Matrix Report

CERS Business/Org. **GLOBAL PLATING INC**
Facility Name **GLOBAL PLATING INC**
44620 S GRIMMER BLVD, FREMONT 94538

Chemical Location **Tank C-2**

CERS ID **10153337**
Facility ID
Status **Submitted** on 11/3/2014 1:04 PM

DOT Code/Fire Haz. Class	Common Name	Unit	Quantities: Max. Daily	Quantities: Largest Cont.	Quantities: Avg. Daily	Annual Waste Amount	Federal Hazard Categories	Hazardous Components (For mixture only): Component Name	% Wt	EHS	CAS No.
DOT: 8 - Corrosives (Liquids and Solids) Corrosive	**Electrocleaner Tank C-2** CAS No	**Gallons** State: Liquid Type: Mixture	**500** Storage Container: Aboveground Tank, Tank Inside Building Days on Site: 365	**500**	500 Pressue: Ambient Temperature: > Ambient	Waste Code	- Acute Health	Sodium Hydroxide Disodium Trioxosilicate Tetrasodium Pyrophosphate Water	7 % 4 % 1 % 89 %		1310-73-2 683492-0 7722-88-5 7732-18-5

Hazardous Materials And Wastes Inventory Matrix Report

CERS Business/Org. GLOBAL PLATING INC
Facility Name GLOBAL PLATING INC
44620 S GRIMMER BLVD, FREMONT 94538

Chemical Location Tank C-4

CERS ID 10153337
Facility ID
Status **Submitted** on 11/3/2014 1:04 PM

DOT Code/Fire Haz. Class	Common Name	Unit	Quantities: Max. Daily	Quantities: Largest Cont.	Quantities: Avg. Daily	Annual Waste Amount	Federal Hazard Categories	Hazardous Components (For mixture only): Component Name	% Wt	EHS	CAS No.
DOT: 8 - Corrosives (Liquids and Solids) Corrosive, Other Health Hazard	**Muriatic Acid Tank C-4** CAS No 7647-01-0	**Gallons** State Liquid Type Mixture	**550** Storage Container Aboveground Tank, Tank Inside Building Days on Site: 365	**550**	550 Pressue Ambient Temperature Ambient	Waste Code 791	- Reactive - Acute Health - Chronic health	Hydrogen Chloride Water	31 % 69 %		7647-01-0 7732-18-5

Hazardous Materials And Wastes Inventory Matrix Report

CERS Business/Org. **GLOBAL PLATING INC**
Facility Name **GLOBAL PLATING INC**
44620 S GRIMMER BLVD, FREMONT 94538

Chemical Location **Tank C-6**

CERS ID **10153337**
Facility ID
Status **Submitted** on 11/3/2014 1:04 PM

DOT Code/Fire Haz. Class	Common Name	Unit	Quantities: Max. Daily	Quantities: Largest Cont.	Quantities: Avg. Daily	Annual Waste Amount	Federal Hazard Categories	Hazardous Components (For mixture only): Component Name	% Wt	EHS	CAS No.
	Nickel Strike Tank C-6	**Gallons**	**500**	**500**	500		- Acute Health	Nickel Chloride	1 %		7791-20-0
	CAS No	State: Liquid	Storage Container: Aboveground Tank, Tank Inside Building		Pressue: Ambient	Waste Code	- Chronic health	Hydrogen Chloride	1 %		7647-01-0
Corrosive, Irritant, Sensitizer		Type: Mixture	Days on Site: 365		Temperature: Ambient			Water	98 %		7732-18-5

Hazardous Materials And Wastes Inventory Matrix Report

CERS Business/Org. **GLOBAL PLATING INC**
Facility Name **GLOBAL PLATING INC**
44620 S GRIMMER BLVD, FREMONT 94538

Chemical Location **Tank D-1**

CERS ID **10153337**
Facility ID
Status **Submitted** on 11/3/2014 1:04 PM

DOT Code/Fire Haz. Class	Common Name	Unit	Quantities: Max. Daily	Quantities: Largest Cont.	Quantities: Avg. Daily	Annual Waste Amount	Federal Hazard Categories	Hazardous Components (For mixture only): Component Name	% Wt	EHS	CAS No.
DOT: 9 - Misc. Hazardous Materials Irritant	**Aluminum Cleaner Tank D-1** CAS No	**Gallons** State: Liquid Type: Mixture	**325** Storage Container: Aboveground Tank, Tank Inside Building Days on Site: 365	**325**	325 Pressue: Ambient Temperature: > Ambient	Waste Code	- Acute Health	Tetra Sodium Borate Salts Water	5 % 95 %		1303-96-4 7732-18-5

Hazardous Materials And Wastes Inventory Matrix Report

CERS Business/Org. **GLOBAL PLATING INC**
Facility Name **GLOBAL PLATING INC**
44620 S GRIMMER BLVD, FREMONT 94538

Chemical Location **Tank D-10**

CERS ID **10153337**
Facility ID
Status **Submitted** on 11/3/2014 1:04 PM

DOT Code/Fire Haz. Class	Common Name	Unit	Quantities: Max. Daily	Quantities: Largest Cont.	Quantities: Avg. Daily	Annual Waste Amount	Federal Hazard Categories	Hazardous Components (For mixture only): Component Name	% Wt	EHS	CAS No.
DOT: 8 - Corrosives (Liquids and Solids) Corrosive, Oxidizing, Class 1, Toxic	**Nitric Acid Tank D-10** CAS No	**Gallons** State: Liquid Type: Mixture	**160** Storage Container: Aboveground Tank, Tank Inside Building Days on Site: 365	**160**	160 Pressue: Ambient Temperature: Ambient	Waste Code	- Reactive - Acute Health - Chronic health	Nitric Acid Water	35 % 65 %		7697-37-2 7732-18-5

Hazardous Materials And Wastes Inventory Matrix Report

CERS Business/Org. **GLOBAL PLATING INC**
Facility Name **GLOBAL PLATING INC**
44620 S GRIMMER BLVD, FREMONT 94538

Chemical Location **Tank D-12**

CERS ID **10153337**
Facility ID
Status **Submitted** on 11/3/2014 1:04 PM

DOT Code/Fire Haz. Class	Common Name	Unit	Quantities: Max. Daily	Quantities: Largest Cont.	Quantities: Avg. Daily	Annual Waste Amount	Federal Hazard Categories	Hazardous Components (For mixture only): Component Name	% Wt	EHS	CAS No.
DOT: 8 - Corrosives (Liquids and Solids) Corrosive, Other Health Hazard	**Zincate Tank D-12** CAS No	**Gallons** State: Liquid Type: Mixture	**325** Storage Container: Aboveground Tank, Tank Inside Building Days on Site: 365	**325**	325 Pressue: Ambient Temperature: Ambient	Waste Code	- Acute Health	Sodium Hydroxide Zinc Water	9 % 2 % 89 %		1310-73-2 7440-66-6 7732-18-5

Hazardous Materials And Wastes Inventory Matrix Report

CERS Business/Org. **GLOBAL PLATING INC**
Facility Name **GLOBAL PLATING INC**
44620 S GRIMMER BLVD, FREMONT 94538

Chemical Location **Tank D-13A**

CERS ID **10153337**
Facility ID
Status **Submitted** on 11/3/2014 1:04 PM

DOT Code/Fire Haz. Class	Common Name	Unit	Quantities: Max. Daily	Quantities: Largest Cont.	Quantities: Avg. Daily	Annual Waste Amount	Federal Hazard Categories	Hazardous Components (For mixture only): Component Name	% Wt	EHS	CAS No.
DOT: 8 - Corrosives (Liquids and Solids) Corrosive, Oxidizing, Class 1, Toxic	**Nitric Acid Tank D-13A** CAS No	**Gallons** State: Liquid Type: Mixture	**5** Storage Container: Aboveground Tank, Tank Inside Building, Plastic/Non-metalic Drum Days on Site: 365	**5**	5 Pressue: Ambient Temperature: Ambient	Waste Code	- Reactive - Acute Health - Chronic health	Nitric Acid Water	15 % 85 %		7697-37-2 7732-18-5

Hazardous Materials And Wastes Inventory Matrix Report

CERS Business/Org. **GLOBAL PLATING INC**
Facility Name **GLOBAL PLATING INC**
44620 S GRIMMER BLVD, FREMONT 94538

Chemical Location **Tank D-13B**

CERS ID **10153337**
Facility ID
Status **Submitted** on 11/3/2014 1:04 PM

DOT Code/Fire Haz. Class	Common Name	Unit	Quantities: Max. Daily	Quantities: Largest Cont.	Quantities: Avg. Daily	Annual Waste Amount	Federal Hazard Categories	Hazardous Components (For mixture only): Component Name	% Wt	EHS	CAS No.
DOT: 8 - Corrosives (Liquids and Solids) Toxic, Corrosive, Water Reactive, Class 1	**H.F. Tank D-13A** CAS No 7664-39-3	**Gallons** State Liquid Type Mixture	**5** Storage Container Aboveground Tank, Tank Inside Building, Plastic/Non-metalic Drum Days on Site: 365	**5**	5 Pressue Ambient Temperature Ambient	Waste Code	- Reactive - Acute Health - Chronic health	Hydrogen Fluoride Water	20 % 80 %		7664-39-3 7732-18-5

Hazardous Materials And Wastes Inventory Matrix Report

CERS Business/Org. **GLOBAL PLATING INC**
Facility Name **GLOBAL PLATING INC**
44620 S GRIMMER BLVD, FREMONT 94538

Chemical Location **Tank D-13C**

CERS ID **10153337**
Facility ID
Status **Submitted** on 11/3/2014 1:04 PM

DOT Code/Fire Haz. Class	Common Name	Unit	Quantities: Max. Daily	Quantities: Largest Cont.	Quantities: Avg. Daily	Annual Waste Amount	Federal Hazard Categories	Hazardous Components (For mixture only): Component Name	% Wt	EHS	CAS No.
DOT: 8 - Corrosives (Liquids and Solids) Corrosive, Oxidizing, Class 1, Toxic	**Nitric Acid Tank D-13C** CAS No	**Gallons** State: Liquid Type: Mixture	**5** Storage Container: Aboveground Tank, Tank Inside Building, Plastic/Non-metalic Drum Days on Site: 365	**5**	5 Pressue: Ambient Temperature: Ambient	Waste Code	- Reactive - Acute Health - Chronic health	Nitric Acid Water	15 % 85 %		7697-37-2 7732-18-5

Hazardous Materials And Wastes Inventory Matrix Report

CERS Business/Org. **GLOBAL PLATING INC**
Facility Name **GLOBAL PLATING INC**
44620 S GRIMMER BLVD, FREMONT 94538

Chemical Location **Tank D-14**

CERS ID **10153337**
Facility ID
Status **Submitted** on 11/3/2014 1:04 PM

DOT Code/Fire Haz. Class	Common Name	Unit	Quantities: Max. Daily	Quantities: Largest Cont.	Quantities: Avg. Daily	Annual Waste Amount	Federal Hazard Categories	Hazardous Components (For mixture only): Component Name	% Wt	EHS	CAS No.
DOT: 8 - Corrosives (Liquids and Solids) Corrosive, Irritant, Toxic	**Acid Copper Bath Tank D-14** CAS No	**Gallons** State: Liquid Type: Mixture	**400** Storage Container: Aboveground Tank, Tank Inside Building Days on Site: 365	**400**	400 Pressue: Ambient Temperature: > Ambient	Waste Code	- Acute Health - Chronic health	Copper Sulfate Sulfuric Acid Water	20 %		7758-98-7 7664-93-9 7732-18-5

Hazardous Materials And Wastes Inventory Matrix Report

CERS Business/Org.	**GLOBAL PLATING INC**	Chemical Location	CERS ID **10153337**
Facility Name	**GLOBAL PLATING INC**	**Tank D-16**	Facility ID
	44620 S GRIMMER BLVD, FREMONT 94538		Status **Submitted** on 11/3/2014 1:04 PM

DOT Code/Fire Haz. Class	Common Name	Unit	Quantities Max. Daily	Largest Cont.	Avg. Daily	Annual Waste Amount	Federal Hazard Categories	Hazardous Components (For mixture only) Component Name	% Wt	EHS	CAS No.
DOT: 9 - Misc. Hazardous Materials Carcinogen, Irritant, Sensitizer	**Bright Nickel Bath Tank D-16** CAS No	**Gallons** State: Liquid Type: Mixture	**800** Storage Container: Aboveground Tank, Tank Inside Building Days on Site: 365	**800**	800 Pressue: Ambient Temperature: > Ambient	Waste Code	- Acute Health - Chronic health	Nickel Sulfate Nickel Chloride Boric Acid Water	18 % 3 % 4 % 75 %		7786-02-0 7791-20-0 10043-35-3 7732-18-5

Hazardous Materials And Wastes Inventory Matrix Report

CERS Business/Org. **GLOBAL PLATING INC**
Facility Name **GLOBAL PLATING INC**
44620 S GRIMMER BLVD, FREMONT 94538

Chemical Location **Tank D-4**

CERS ID **10153337**
Facility ID
Status **Submitted** on 11/3/2014 1:04 PM

DOT Code/Fire Haz. Class	Common Name	Unit	Quantities: Max. Daily	Quantities: Largest Cont.	Quantities: Avg. Daily	Annual Waste Amount	Federal Hazard Categories	Hazardous Components (For mixture only): Component Name	% Wt	EHS	CAS No.
DOT: 8 - Corrosives (Liquids and Solids) Corrosive, Other Health Hazard	**Aluminum Etch Tank D-4** CAS No	**Gallons** State: Liquid Type: Mixture	**325** Storage Container: Aboveground Tank, Tank Inside Building Days on Site: 365	**325**	325 Pressue: Ambient Temperature: > Ambient	Waste Code		Sodium Hydroxide Water	5 % 95 %		1310-73-2 7732-18-5

Hazardous Materials And Wastes Inventory Matrix Report

CERS Business/Org. **GLOBAL PLATING INC**
Facility Name **GLOBAL PLATING INC**
44620 S GRIMMER BLVD, FREMONT 94538

Chemical Location **Tank D-6**

CERS ID **10153337**
Facility ID
Status **Submitted** on 11/3/2014 1:04 PM

DOT Code/Fire Haz. Class	Common Name	Unit	Quantities: Max. Daily	Quantities: Largest Cont.	Quantities: Avg. Daily	Annual Waste Amount	Federal Hazard Categories	Hazardous Components (For mixture only): Component Name	% Wt	EHS	CAS No.
DOT: 8 - Corrosives (Liquids and Solids) Corrosive, Other Health Hazard	**Hydrochloric Acid Tank D-6** CAS No	**Gallons** State: Liquid Type: Mixture	**85** Storage Container: Aboveground Tank, Tank Inside Building Days on Site: 365	**85**	85 Pressue Temperature	Waste Code	- Acute Health - Chronic health	Hydrogen Chloride Water	15 % 85 %		7647-01-0 7732-18-5

Hazardous Materials And Wastes Inventory Matrix Report

CERS Business/Org. **GLOBAL PLATING INC**
Facility Name **GLOBAL PLATING INC**
44620 S GRIMMER BLVD, FREMONT 94538

Chemical Location **Tank D-8**

CERS ID **10153337**
Facility ID
Status **Submitted** on 11/3/2014 1:04 PM

DOT Code/Fire Haz. Class	Common Name	Unit	Quantities: Max. Daily	Quantities: Largest Cont.	Quantities: Avg. Daily	Annual Waste Amount	Federal Hazard Categories	Hazardous Components (For mixture only): Component Name	% Wt	EHS	CAS No.
DOT: 8 - Corrosives (Liquids and Solids) Corrosive, Oxidizing, Class 1, Toxic	**Nitric Acid Tank D-8** CAS No	**Gallons** State: Liquid Type: Mixture	**325** Storage Container: Aboveground Tank, Tank Inside Building Days on Site: 365	**325**	325 Pressue: Ambient Temperature: Ambient	Waste Code	- Reactive - Acute Health - Chronic health	Nitric Acid Water	35 % 65 %		7697-37-2 7732-18-5

Hazardous Materials And Wastes Inventory Matrix Report

CERS Business/Org. **GLOBAL PLATING INC**
Facility Name **GLOBAL PLATING INC**
44620 S GRIMMER BLVD, FREMONT 94538

Chemical Location **Tank D-9**

CERS ID **10153337**
Facility ID
Status **Submitted** on 11/3/2014 1:04 PM

DOT Code/Fire Haz. Class	Common Name	Unit	Quantities: Max. Daily	Quantities: Largest Cont.	Quantities: Avg. Daily	Annual Waste Amount	Federal Hazard Categories	Hazardous Components (For mixture only): Component Name	% Wt	EHS	CAS No.
DOT: 8 - Corrosives (Liquids and Solids) Corrosive, Oxidizing, Class 1, Toxic	**Nitric Acid Tank D-9** CAS No	**Gallons** State: Liquid Type: Mixture	**160** Storage Container: Aboveground Tank, Tank Inside Building Days on Site: 365	**160**	160 Pressue: Ambient Temperature: Ambient	Waste Code	- Reactive - Acute Health - Chronic health	Nitric Acid Water	35 % 65 %		7697-37-2 7732-18-5

Hazardous Materials And Wastes Inventory Matrix Report

CERS Business/Org. **GLOBAL PLATING INC**
Facility Name **GLOBAL PLATING INC**
44620 S GRIMMER BLVD, FREMONT 94538

Chemical Location **Tank E-10**

CERS ID **10153337**
Facility ID
Status **Submitted** on 11/3/2014 1:04 PM

DOT Code/Fire Haz. Class	Common Name	Unit	Quantities: Max. Daily	Quantities: Largest Cont.	Quantities: Avg. Daily	Annual Waste Amount	Federal Hazard Categories	Hazardous Components (For mixture only): Component Name	% Wt	EHS	CAS No.
DOT: 6.1 - Toxic Substances	**Silver Strike Bath Tank E-10**	**Gallons**	**116**	**116**	116		- Acute Health	Potassium Ag Cyanide	1 %		506-61-6
Highly Toxic, Corrosive, Sensitizer, Irritant	CAS No	State: Liquid	Storage Container: Aboveground Tank, Tank Inside Building		Pressue: Ambient	Waste Code	- Chronic health	Potassium Cyanide	10 %		151-50-8
		Type: Mixture	Days on Site: 365		Temperature: Ambient			Potassium Carbonate	2 %		584-08-7
								Silver Metallic	2 %		7440-22-4
								Water	85 %		7732-18-5

Hazardous Materials And Wastes Inventory Matrix Report

CERS Business/Org.	**GLOBAL PLATING INC**	Chemical Location	CERS ID **10153337**
Facility Name	**GLOBAL PLATING INC**	**Tank E-11**	Facility ID
	44620 S GRIMMER BLVD, FREMONT 94538		Status **Submitted** on 11/3/2014 1:04 PM

DOT Code/Fire Haz. Class	Common Name	Unit	Quantities: Max. Daily	Quantities: Largest Cont.	Quantities: Avg. Daily	Annual Waste Amount	Federal Hazard Categories	Hazardous Components (For mixture only): Component Name	% Wt	EHS	CAS No.
DOT: 6.1 - Toxic Substances	**Silver Tank #1 Tank E-11**	**Gallons**	**150**	**150**	150		- Acute Health	Potassium Ag Cyanide	4 %		506-61-6
Highly Toxic, Corrosive, Sensitizer, Irritant	CAS No	State: Liquid	Storage Container: Aboveground Tank, Tank Inside Building		Pressue: Ambient	Waste Code	- Chronic health	Potassium Cyanide	12 %		151-50-8
		Type: Mixture	Days on Site: 365		Temperature: Ambient			Potassium Carbonate	2 %		584-08-7
								Silver Metallic	20 %		7440-22-4
								Water	63 %		7732-18-5

Hazardous Materials And Wastes Inventory Matrix Report

CERS Business/Org. **GLOBAL PLATING INC**
Facility Name **GLOBAL PLATING INC**
44620 S GRIMMER BLVD, FREMONT 94538

Chemical Location **Tank E-13**

CERS ID **10153337**
Facility ID
Status **Submitted** on 11/3/2014 1:04 PM

DOT Code/Fire Haz. Class	Common Name	Unit	Quantities: Max. Daily	Quantities: Largest Cont.	Quantities: Avg. Daily	Annual Waste Amount	Federal Hazard Categories	Hazardous Components (For mixture only): Component Name	% Wt	EHS	CAS No.
DOT: 6.1 - Toxic Substances Highly Toxic, Corrosive, Sensitizer, Irritant	**Silver Tank #2 Tank E-13** CAS No	**Gallons** State: Liquid Type: Mixture	**192** Storage Container: Aboveground Tank, Tank Inside Building Days on Site: 365	**192**	192 Pressue: Ambient Temperature: Ambient	Waste Code	- Acute Health - Chronic health	Potassium Ag Cyanide Potassium Cyanide Potassium Carbonate Silver Metallic Water	4 % 12 % 2 % 20 % 63 %		506-61-6 151-50-8 584-08-7 7440-22-4 7732-18-5

Hazardous Materials And Wastes Inventory Matrix Report

CERS Business/Org. **GLOBAL PLATING INC**
Facility Name **GLOBAL PLATING INC**
44620 S GRIMMER BLVD, FREMONT 94538

Chemical Location **Tank E-2**

CERS ID **10153337**
Facility ID
Status **Submitted** on 11/3/2014 1:04 PM

DOT Code/Fire Haz. Class	Common Name	Unit	Quantities: Max. Daily	Quantities: Largest Cont.	Quantities: Avg. Daily	Annual Waste Amount	Federal Hazard Categories	Hazardous Components (For mixture only): Component Name	% Wt	EHS	CAS No.
DOT: 8 - Corrosives (Liquids and Solids) Corrosive, Irritant	**Tin Bath Tank E-2** CAS No	**Gallons** State: Liquid Type: Mixture	**400** Storage Container: Aboveground Tank, Tank Inside Building Days on Site: 365	**400**	400 Pressue: Ambient Temperature: Ambient	Waste Code	- Acute Health - Chronic health	Sulfuric Acid Tin Water	11 % 2 % 87 %		7664-93-9 7440-31-5 7732-18-5

Hazardous Materials And Wastes Inventory Matrix Report

CERS Business/Org. **GLOBAL PLATING INC**
Facility Name **GLOBAL PLATING INC**
44620 S GRIMMER BLVD, FREMONT 94538

Chemical Location **Tank E-4**

CERS ID **10153337**
Facility ID
Status **Submitted** on 11/3/2014 1:04 PM

DOT Code/Fire Haz. Class	Common Name	Unit	Quantities: Max. Daily	Quantities: Largest Cont.	Quantities: Avg. Daily	Annual Waste Amount	Federal Hazard Categories	Hazardous Components (For mixture only): Component Name	% Wt	EHS	CAS No.
DOT: 9 - Misc. Hazardous Materials Carcinogen, Irritant, Sensitizer	**Sulfamate Nickel Bath Tank E-4** CAS No 7786-02-0	**Gallons** State Liquid Type Mixture	**400** Storage Container Aboveground Tank, Tank Inside Building Days on Site: 365	**400**	400 Pressue Ambient Temperature > Ambient	Waste Code	- Acute Health - Chronic health	Nickel Sulfate Water	45 % 55 %		7786-02-0 7732-18-5

Hazardous Materials And Wastes Inventory Matrix Report

CERS Business/Org.	**GLOBAL PLATING INC**	Chemical Location	CERS ID **10153337**
Facility Name	**GLOBAL PLATING INC**	**Tank E-7**	Facility ID
	44620 S GRIMMER BLVD, FREMONT 94538		Status **Submitted** on 11/3/2014 1:04 PM

DOT Code/Fire Haz. Class	Common Name	Unit	Quantities: Max. Daily	Quantities: Largest Cont.	Quantities: Avg. Daily	Annual Waste Amount	Federal Hazard Categories	Hazardous Components (For mixture only): Component Name	% Wt	EHS	CAS No.
DOT: 6.1 - Toxic Substances	**Cyanide Copper Bath Tank E-7**	**Gallons**	**300**	**300**	300		- Acute Health	Copper Cyanide	4 %		544-92-3
	CAS No	State: Liquid	Storage Container: Aboveground Tank, Tank Inside Building		Pressue: Ambient	Waste Code	- Chronic health	Potassium Cyanide	7 %		151-50-8
Toxic, Corrosive		Type: Mixture	Days on Site: 365		Temperature: > Ambient			Potassium Carbonate	3 %		584-08-7
								Water	86 %		7732-18-5

Hazardous Materials And Wastes Inventory Matrix Report

CERS Business/Org. **GLOBAL PLATING INC**
Facility Name **GLOBAL PLATING INC**
44620 S GRIMMER BLVD, FREMONT 94538

Chemical Location **Tank G-3**

CERS ID **10153337**
Facility ID
Status **Submitted** on 11/3/2014 1:04 PM

DOT Code/Fire Haz. Class	Common Name	Unit	Quantities: Max. Daily	Largest Cont.	Avg. Daily	Annual Waste Amount	Federal Hazard Categories	Hazardous Components (For mixture only): Component Name	% Wt	EHS	CAS No.
DOT: 6.1 - Toxic Substances Toxic	**Gold Drag Out Tank G-3** CAS No	**Gallons** State: Liquid Type: Mixture	**19** Storage Container: Aboveground Tank, Tank Inside Building Days on Site: 365	**19**	19 Pressue: Ambient Temperature: Ambient	Waste Code	- Acute Health	Water Potassium Aurocyanide	100 % 0 %		7732-18-5 13967-50-5

Hazardous Materials And Wastes Inventory Matrix Report

CERS Business/Org. **GLOBAL PLATING INC**
Facility Name **GLOBAL PLATING INC**
44620 S GRIMMER BLVD, FREMONT 94538

Chemical Location **Tank G-4**

CERS ID **10153337**
Facility ID
Status **Submitted** on 11/3/2014 1:04 PM

DOT Code/Fire Haz. Class	Common Name	Unit	Quantities: Max. Daily	Quantities: Largest Cont.	Quantities: Avg. Daily	Annual Waste Amount	Federal Hazard Categories	Hazardous Components (For mixture only): Component Name	% Wt	EHS	CAS No.
DOT: 6.1 - Toxic Substances Toxic	**Gold Type II Tank G-4** CAS No 13967-50-5	**Gallons** State Liquid Type Mixture	**19** Storage Container Aboveground Tank, Tank Inside Building Days on Site: 365	**19** Pressue Ambient Temperature > Ambient	19 Waste Code 711		- Acute Health	Potassium Aurocyanide Cobalt Complex Water	0 % 0 % 99 %		13967-50-5 67924-23-6 7732-18-5

Hazardous Materials And Wastes Inventory Matrix Report

CERS Business/Org. **GLOBAL PLATING INC**
Facility Name **GLOBAL PLATING INC**
44620 S GRIMMER BLVD, FREMONT 94538

Chemical Location **Tank H-1**

CERS ID **10153337**
Facility ID
Status **Submitted** on 11/3/2014 1:04 PM

DOT Code/Fire Haz. Class	Common Name	Unit	Quantities: Max. Daily	Largest Cont.	Avg. Daily	Annual Waste Amount	Federal Hazard Categories	Hazardous Components (For mixture only): Component Name	% Wt	EHS	CAS No.
DOT: 8 - Corrosives (Liquids and Solids) Corrosive, Oxidizing, Class 1, Toxic	**Nitric Acid Tank H-1** CAS No	**Gallons**	**200**	**200**	200		- Reactive - Acute Health - Chronic health	Nitric Acid Water	35 % 65 %		7697-37-2 7732-18-5

State: Liquid
Type: Mixture
Storage Container: Aboveground Tank, Tank Inside Building
Days on Site: 365
Pressue: Ambient
Temperature: Ambient
Waste Code:

Hazardous Materials And Wastes Inventory Matrix Report

CERS Business/Org. **GLOBAL PLATING INC**
Facility Name **GLOBAL PLATING INC**
44620 S GRIMMER BLVD, FREMONT 94538

Chemical Location **Tank H-4**

CERS ID **10153337**
Facility ID
Status **Submitted** on 11/3/2014 1:04 PM

DOT Code/Fire Haz. Class	Common Name	Unit	Quantities: Max. Daily	Quantities: Largest Cont.	Quantities: Avg. Daily	Annual Waste Amount	Federal Hazard Categories	Hazardous Components (For mixture only): Component Name	% Wt	EHS	CAS No.
DOT: 8 - Corrosives (Liquids and Solids) Corrosive, Water Reactive, Class 1	**Reverse Strip Tank H-4** CAS No	**Gallons** State: Liquid Type: Mixture	**400** Storage Container: Aboveground Tank, Tank Inside Building Days on Site: 365	**400**	400 Pressue: Ambient Temperature: Ambient	Waste Code: 791	- Reactive - Acute Health - Chronic health	Sulfuric Acid Water Copper (II) Sulfate Trace	60 % 40 % 0 %		7664-93-9 7732-18-5 7758-98-7

Hazardous Materials And Wastes Inventory Matrix Report

CERS Business/Org. **GLOBAL PLATING INC**
Facility Name **GLOBAL PLATING INC**
44620 S GRIMMER BLVD, FREMONT 94538

Chemical Location **Tank H-6**

CERS ID **10153337**
Facility ID
Status **Submitted** on 11/3/2014 1:04 PM

DOT Code/Fire Haz. Class	Common Name	Unit	Quantities: Max. Daily	Quantities: Largest Cont.	Quantities: Avg. Daily	Annual Waste Amount	Federal Hazard Categories	Hazardous Components (For mixture only): Component Name	% Wt	EHS	CAS No.
DOT: 8 - Corrosives (Liquids and Solids) Corrosive, Toxic	**Electropolish Tank H-6** CAS No	**Gallons** State: Liquid Type: Mixture	**800** Storage Container: Aboveground Tank, Tank Inside Building Days on Site: 365	**800**	800 Pressue: Ambient Temperature: > Ambient	Waste Code	- Acute Health - Chronic health	Sulfuric Acid <20% Phosphoric Acid <66% Water	20 % 40 % 40 %		7664-93-9 7664-38-2 7732-18-5

Hazardous Materials And Wastes Inventory Matrix Report

CERS Business/Org. **GLOBAL PLATING INC** | Chemical Location | CERS ID **10153337**

Facility Name **GLOBAL PLATING INC** | **Waste Treatment B** | Facility ID

44620 S GRIMMER BLVD, FREMONT 94538 | Status **Submitted** on 11/3/2014 1:04 PM

DOT Code/Fire Haz. Class	Common Name	Unit	Quantities: Max. Daily	Largest Cont.	Avg. Daily	Annual Waste Amount	Federal Hazard Categories	Hazardous Components (For mixture only): Component Name	% Wt	EHS	CAS No.
DOT: 8 - Corrosives (Liquids and Solids)	**Acid Dump Tank** CAS No	**Gallons** State: Liquid Type: Waste	**2500** Storage Container: Aboveground Tank, Tank Inside Building Days on Site: 365	**2500**	1000 Pressue: Ambient Temperature: Ambient	Waste Code: 792	- Reactive - Acute Health - Chronic health	Sulfuric Acid <50% Nitric Acid <10% Hydrochloric Acid <10% Acetic Acid <5% Heavy Metals <1	50 % 10 % 10 % 5 % 1 %		7664-93-9 7697-37-2 7647-01-0 64-19-7 N/A
DOT: 9 - Misc. Hazardous Materials	**Ammonia Strip Tank** CAS No: N/A	**Gallons** State: Liquid Type: Waste	**500** Storage Container: Aboveground Tank, Tank Inside Building Days on Site: 365	**500**	250 Pressue: Temperature: Ambient	Waste Code: 726	- Acute Health - Chronic health	Nickel <15%	15 %		N/A
DOT: 9 - Misc. Hazardous Materials	**Caustic Dump Tank** CAS No	**Gallons** State: Liquid Type: Waste	**2500** Storage Container: Aboveground Tank, Tank Inside Building Days on Site: 365	**2500**	1000 Pressue: Ambient Temperature: Ambient	Waste Code: 132	- Acute Health - Chronic health	Sodium Hydroxide <50% Heavy Metals <1%	50 % 1 %		1310-73-2 N/A
DOT: 9 - Misc. Hazardous Materials	**Chrome Reduction Tank** CAS No	**Gallons** State: Liquid Type: Waste	**2500** Storage Container: Aboveground Tank, Tank Inside Building Days on Site: 365	**2500**	2000 Pressue: Ambient Temperature: Ambient	Waste Code: 723	- Acute Health - Chronic health	Sulfuric Acid <10% Chromium <1%	10 % 1 %		7664-93-9 N/A
DOT: 9 - Misc. Hazardous Materials	**Concentration Tank** CAS No: N/A	**Gallons** State: Liquid Type: Waste	**1250** Storage Container: Aboveground Tank, Tank Inside Building Days on Site: 365	**1250**	1000 Pressue: Ambient Temperature: Ambient	Waste Code: 132	- Acute Health - Chronic health	Precipitated Heavy Metals >5%	5 %		N/A
DOT: 9 - Misc. Hazardous Materials	**Dried Sludge** CAS No: N/A	**Pounds** State: Solid Type: Waste	**7500** Storage Container: Bag Days on Site: 365	**1500**	3000 Pressue: Ambient Temperature: Ambient	Waste Code: 171	- Acute Health - Chronic health	Heavy Metals <75%	75 %		N/A
DOT: 9 - Misc. Hazardous Materials	**Metal Hydroxide Sludge** CAS No: N/A	**Pounds** State: Solid Type: Waste	**3000** Storage Container: Tote Bin Days on Site: 365	**1500**	1500 Pressue: Temperature: Ambient	Waste Code: 171	- Acute Health - Chronic health	Heavy Metals <35%	35 %		N/A

Hazardous Materials And Wastes Inventory Matrix Report

CERS Business/Org. **GLOBAL PLATING INC**
Facility Name **GLOBAL PLATING INC**
44620 S GRIMMER BLVD, FREMONT 94538

Chemical Location **Waste Treatment B**

CERS ID **10153337**
Facility ID
Status **Submitted** on 11/3/2014 1:04 PM

DOT Code/Fire Haz. Class	Common Name	Unit	Quantities: Max. Daily	Largest Cont.	Avg. Daily	Annual Waste Amount	Federal Hazard Categories	Hazardous Components (For mixture only): Component Name	% Wt	EHS	CAS No.
DOT: 9 - Misc. Hazardous Materials	**Mix Tank** CAS No N/A	**Gallons** State Liquid Type Waste	**1090** Storage Container Aboveground Tank, Tank Inside Building Days on Site: 365	**1090**	1090 Pressue Ambient Temperature Ambient	Waste Code 132	- Acute Health - Chronic health	Heavy Metals <1%			N/A
DOT: 9 - Misc. Hazardous Materials	**Precipitation Tank** CAS No N/A	**Gallons** State Liquid Type Waste	**3650** Storage Container Aboveground Tank, Tank Inside Building Days on Site: 365	**3650**	3000 Pressue Ambient Temperature Ambient	Waste Code 132	- Acute Health - Chronic health	Precipitated Heavy Metals <3%	3 %		N/A
DOT: 9 - Misc. Hazardous Materials	**Sludge Tank** CAS No N/A	**Gallons** State Liquid Type Waste	**1090** Storage Container Aboveground Tank, Tank Inside Building Days on Site: 365	**1090**	1000 Pressue Temperature Ambient	Waste Code 132	- Acute Health - Chronic health	Precipitated Heavy Metals <10%	10 %		N/A

Hazardous Materials And Wastes Inventory Matrix Report

CERS Business/Org. **Quality Transport Inc**
Facility Name **Quality Transport Inc**
45051 Industrial Dr. , Fremont 94538

Chemical Location **Shop**

CERS ID **10168899**
Facility ID **C90550232**
Status **Submitted** on 2/16/2014 3:07 PM

DOT Code/Fire Haz. Class	Common Name	Unit	Quantities: Max. Daily	Quantities: Largest Cont.	Quantities: Avg. Daily	Annual Waste Amount	Federal Hazard Categories	Hazardous Components (For mixture only): Component Name	% Wt	EHS	CAS No.
DOT: 3 - Flammable and Combustible Liquids Flammable Liquid, Class I-C	**Diesel Fuel** CAS No 68476-34-6	**Gallons** State Liquid Type Mixture	**120** Storage Container Carboy Days on Site: 365	**20**	60 Pressue Ambient Temperature Ambient	Waste Code	- Fire	Fuels, diesel	1 %		68476-34-6
DOT: 3 - Flammable and Combustible Liquids Flammable Liquid, Class I-B	**Motor Oil / Water mixture** CAS No 64742-65-0	**Gallons** State Liquid Type Mixture	**300** Storage Container Tote Bin Days on Site: 365	**300**	150 Pressue Ambient Temperature Ambient	Waste Code	- Fire	Petroleum distillates, solvent dewaxed heavy parafinnic Water	1 % 0 %		64742-65-0 7732-18-5

Appendix B

Refined Risk Modeling Assumptions and ALOHA Files

Table B-1
Valley Oak Partners, LLC - Hazardous Materials Risk Assessment
Facilities from Warm Springs BART Study and Refined Modeling

Site ID	Facility Name	Address	Material	Storage Location	Threat Type	Cal ARP End Point	"Initial Study" Modeling Results	2015 HMIS Quantity	Release Scenario		Distance to Endpoint (feet)				Comments
							Distance to Endpoint (feet)	Largest Container Quantity (Updated)	WCRS	ARS	WCRS	WCRS Model Endpoint	ARS	ARS Model Endpoint	
1	7UP Bottling Co.	2875 Prune Ave	Liquid Propane	Warehouse E (Outside Storage)	Blast Overpressure	1 PSI	537	900 gal	Entire Contents (4,430 pounds) released over 10-minutes.	Release during transfer at rate of 20-gallons per minute for 10 minutes (98 pounds).	537 [1,3] 0 [2]	1 PSI	174 [1] 0 [2]	1 PSI	Due to storage tank location at Warehouse E of facility, a WCRS does not affect the development site
2	Glacier Ice Company	43960 Fremont Blvd	Ammonia (Anhydrous)	Refrigeration System	Toxic Endpoint	0.14 mg/l	7,920	15,000 lbs	Entire Contents (14,200 pounds) released over 10-minutes.	Hose Length (35 pounds) released over 1 minute	7,920 [3]	0.14 mg/l	363	300 ppm (IDLH)	WCRS based on Facility RMP. ARS not provided in Facility RMP. For this analysis, ARS is based on a release from an uncoupled hose during delivery. In consideration of RMP and PSM requirements, routine inspections, and operating history, ARS was determined to be a more appropriate scenario for quantitative analysis.
3	Global Plating	44620 S. Grimmer Blvd.	HCN Gas	Inside Building	Toxic Endpoint	0.011 mg/l	2,112	Contains 209 pounds of KCN capable of producing 86 pounds of HCN	8.6 pounds per minute x enclosure factor of 0.55 equals release rate of 4.7 pounds per minute over 10-minutes.	Release of 15 pounds of HCN from spill of KCN over a period of 10-minutes. Ignores building enclosure factor.	2,112 [3]	0.011 mg/l	528 [3]	0.011 mg/l	WCRS and ARS based on Facility RMP. Largest tank of Potassium Cyanide was tank no. E11 with 209 lbs in the silver plating bath / Enclosure factor of 0.55 used for WCRS, while no enclosure factor was used for the ARS. Both WCRS and ARS require reaction of KCN with excess acid. Given the presence of existing secondary containment surrounding Tank E11 and segregation from acid sources, conditions of the WCRS are considered to be unrealistic. In consideration of RMP program elements, routine inspections, and operating history, the ARS was determined to be a more appropriate scenario for quantitative evaluation as the conditions that could lead to this type of release are considered more likely to occur.
4	Hayward Quartz	1500 Corporate Way	Liquid Hydrogen	AA Hydrogen Tank	Blast Overpressure	1 PSI	2,169	9,000 gal	Entire Contents (5,332 pounds) released over 10-minutes.	Release during transfer at rate of 20-gallons per minute for 10 minutes (120 pounds).	2,169 [1] 1,491 [2]	1 PSI	156 [1] 81 [2]	1 PSI	WCRS performed in Initial Study and threat zone did not cross property boundary. ARS evaluated to provide additional information on a more likely release scenario.
5	Snoboy	44355 Old Warm Springs Blvd	Methanol	Rail Yard	Thermal Radiation	5 KW/M2	396	31,250 gal	Entire Contents (31,250 gallons) released to containment trench. 23,233 pounds burned over 60-minutes.	Not Analyzed	51 [4]	5 KW/M2	NA	NA	WCRS modified from Initial Study to reflect a containment basin which extends along the entire west (380 ft) boundary and north boundary (600 ft). The ditch is about 5 ft wide on the west and 10 ft wide on the north. The depth appears to be at least 2 feet. The modeling distance assumes the spilled xylene fills the entire west portion of the ditch and centerpoint at the mid-point location.
				Rail Yard	Toxic Endpoint	NA	NA	31,250 gal	Entire Contents (31,250 gallons) released to containment trench. 1,297 pounds volatilizes and is released over 60-minutes	Not Analyzed	57 [4]	6000 ppm (IDLH)	NA	NA	

Table B-1
Valley Oak Partners, LLC - Hazardous Materials Risk Assessment
Facilities from Warm Springs BART Study and Refined Modeling

Site ID	Facility Name	Address	Material	Storage Location	Threat Type	Cal ARP End Point	"Initial Study" Modeling Results	2015 HMIS Quantity	Release Scenario		Distance to Endpoint (feet)				Comments
							Distance to Endpoint (feet)	Largest Container Quantity (Updated)	WCRS	ARS	WCRS	WCRS Model Endpoint	ARS	ARS Model Endpoint	
5	Snoboy	44355 Old Warm Springs Blvd	Mixed Xylene	Rail Yard	Toxic Endpoint	NA	NA	26,500 gal	Entire Contents (21,650 gallons) released to containment trench. 220 Pounds volatilizes and is released over 60-minutes	Not Analyzed	72 [4]	900 ppm (IDLH)	NA	NA	Mixture of Xylene, Ethyl benzene, and hexane. WCRS modified from Initial Study to reflect a containment basin which extends along the entire west (380 ft) boundary and north boundary (600 ft). The ditch is about 5 ft wide on the west and 10 ft wide on the north. The depth appears to be at least 2 feet. The modeling distance assumes the spilled xylene fills the entire west portion of the ditch and centerpoint at the mid-point location.
					Thermal Radiaton	5 KW/M2			Entire Contents (21,650 gallons) released to containment trench. 105,575 pounds burned over 60-minutes	Not Analyzed	150 [4]	5 KW/M2	NA	NA	
6	West Coast Quartz	1000 Corporate Way	Liquid Hydrogen	Area A - Hydrogen Tank Pad	Blast Overpressure	1 PSI	2,232	1,500 gal	Entire contents (889 pounds) released over 10 minutes	Release during transfer at rate of 20-gallons per minute for 10 minutes (120 pounds).	852 [1] 402 [2]	1 PSI	156 [1] 81 [2]	1 PSI	Size of hydrogen storage tank is decreased as compared to Initial Study. WCRS revised to reflect reduced quantity stored. ARS developed for release during transfer event.
7	Western Digital	44100 Osgood Rd	Silane gas	Silane Gas and Generator Pad	Blast Overpressure	1 PSI	NA	Zero (Not listed in 2014 HMBP)	Entire contents (6 ft^3 or 5.4 pounds) released over 10 minutes.	Not Analyzed	0	1 PSI	NA	NA	Initial Study modeling indicates that WCRS threat zone did not cross property boundary. Current (2014) HMBP does not list silane as stored or used onsite.
8	Western Digital	44200 Osgood Rd	Chlorine gas	Fab--Chase14A (B1.25)	Toxic Endpoint	0.0087 mg/l	2,856	88 * 0.55 (enclosure factor) = 48.4 lbs	88 pounds x 0.55 enclosure factor equals 48.4 pounds released over 10-minutes	Release Parameters same as WCRS. Wind speed and stability modified to ARS defaults.	1,452 [5]	10 ppm (IDLH)	735	10 ppm (IDLH)	Site-specific modifications include adjustment for enclosure factor and IDLH toxic endpoint for both WCRS and ARS scenarios.
9	Tesla	45500 Fremont Blvd	Natural Gas (Methane)	NA	Blast Overpressure	1 PSI	783	NA	Release of gas from a 6-inch diameter pipe at 164.7 psia for 60-minutes. Releases 34,434 pounds over 60-minutes with external detonation 10-minutes after release.	Release parameters as WCRS except for detonation by flame or spark	783 [1]	1 PSI	0 [2]	1 PSI	WCRS assumes detonation explosion following a pipeline release. ARS assumes vapor cloud explosion ignited by spark or flame and is the more appropriate model to utilize for the blast overpressure analysis. All other release parameters for ARS are consistent with the WCRS.
					Thermal Radiation (Jet Fire)	5 KW/M2	NA	NA		Release parameters as WCRS except that ARS assumes instantaneous ignition and jet fire.	NA	NA	81	5 KW/M2	ARS involves a jet fire which occurs following release. Thermal radiation endpoint evaluated.

Table B-1
Valley Oak Partners, LLC - Hazardous Materials Risk Assessment
Facilities from Warm Springs BART Study and Refined Modeling

Site ID	Facility Name	Address	Material	Storage Location	Threat Type	Cal ARP End Point	"Initial Study" Modeling Results	2015 HMIS Quantity	Release Scenario		Distance to Endpoint (feet)				Comments
							Distance to Endpoint (feet)	Largest Container Quantity (Updated)	WCRS	ARS	WCRS	WCRS Model Endpoint	ARS	ARS Model Endpoint	
10	CPL / Kinder Morgan Pipeline	NA	Mixed Liquid Products - Assumed Pentane for WCRS	NA	Blast Overpressure	1 PSI	858	NA	Release of petroleum (modeled as pentane) at average rate of 1,210 pounds/minute with external detonation 10-minutes after release.	Release parameters as WCRS except for detonation by flame or spark	870 [1]	1 PSI	0 [2]	1 PSI	WCRS assumes detonation (Blast Overpressure) following pipeline release. ARS assumes pool fire from liquid released from pipeline. Modeling performed based on pentane as a surrogate. If analysis were performed based for a heavier distillate fraction (using octane, nonane or dodecane as a surrogate), the offsite consequence would be further reduced.
					Thermal Radiation (Pool Fire)	5 KW/M2	NA			As WCRS, except that pool fire ignites 10-minutes after release.	NA	NA	459	5 KW/M2	ARS involves a pool fire which occurs following release. Thermal radiation endpoint evaluated.
11	PG&E Pipeline	NA	Natural Gas (Methane)	NA	Blast Overpressure	1 PSI	783	NA	Release of gas from a 6-inch diameter pipe at 164.7 psia for 60-minutes. Releases 34,434 pounds over 60-minutes. External source of detonation.	Release parameters as WCRS except for detonation by flame or spark	783 [1]	1 PSI	0 [2]	1 PSI	WCRS assumes detonation explosion following a pipeline release. ARS assumes vapor cloud explosion ignited by spark or flame and is the more appropriate model to utilize for the blast overpressure analysis. All other release parameters for ARS are consistent with the WCRS.
					Thermal Radiation (Jet Fire)	5 KW/M2	NA	NA		Release parameters as WCRS except for the assumption of instantaneous ignition and jet fire.	NA	NA	81	5 KW/M2	ARS involves a jet fire which occurs following release. Thermal radiation endpoint evaluated.

Notes and Definitions:

"Initial Study" - Hazardous Materials User Study, Warm Springs Bart Station Area, Fremont, California. February 4, 2013.

"Toxic Endpoint" is defined as that point where serious injuries from short term exposures to the regulated substance will no longer occur
The "IDLH" limit represents the concentration of a chemical in the air to which healthy adult workers could be exposed (if their respirators fail) without suffering permanent or escape-impairing health effects.

[1] - Threat endpoint for blast overpressure based on an a Detonation Explosion. This type of explosion is rare and represents a worst-case accidental explosion.
[2] - Threat endpoint for blast overpressure based on an accidental explosion triggered by common ignition sources (e.g., sparks, flame, heat, and static electricity). Explosions triggered by spark or flame are more typical and represent the most likely type of triggering event.
[3] - Threat endpoint based on modeling from Initial Study
[4] - WCRS developed for Site-Specific study. Accounts for facility-specific mitigation measures that were not considered in the Initial Study.
[5] - Modified WCRS to account for building enclosure factor and increase in quantity of chlorine stored per 2014 HMBP. Evaluation does not account for reduction in release potential afforded by containment and mitigation measures which may be present, but could not be documented.

NA - Not Applicable or Not Analyzed

ALOHA Modeling Results

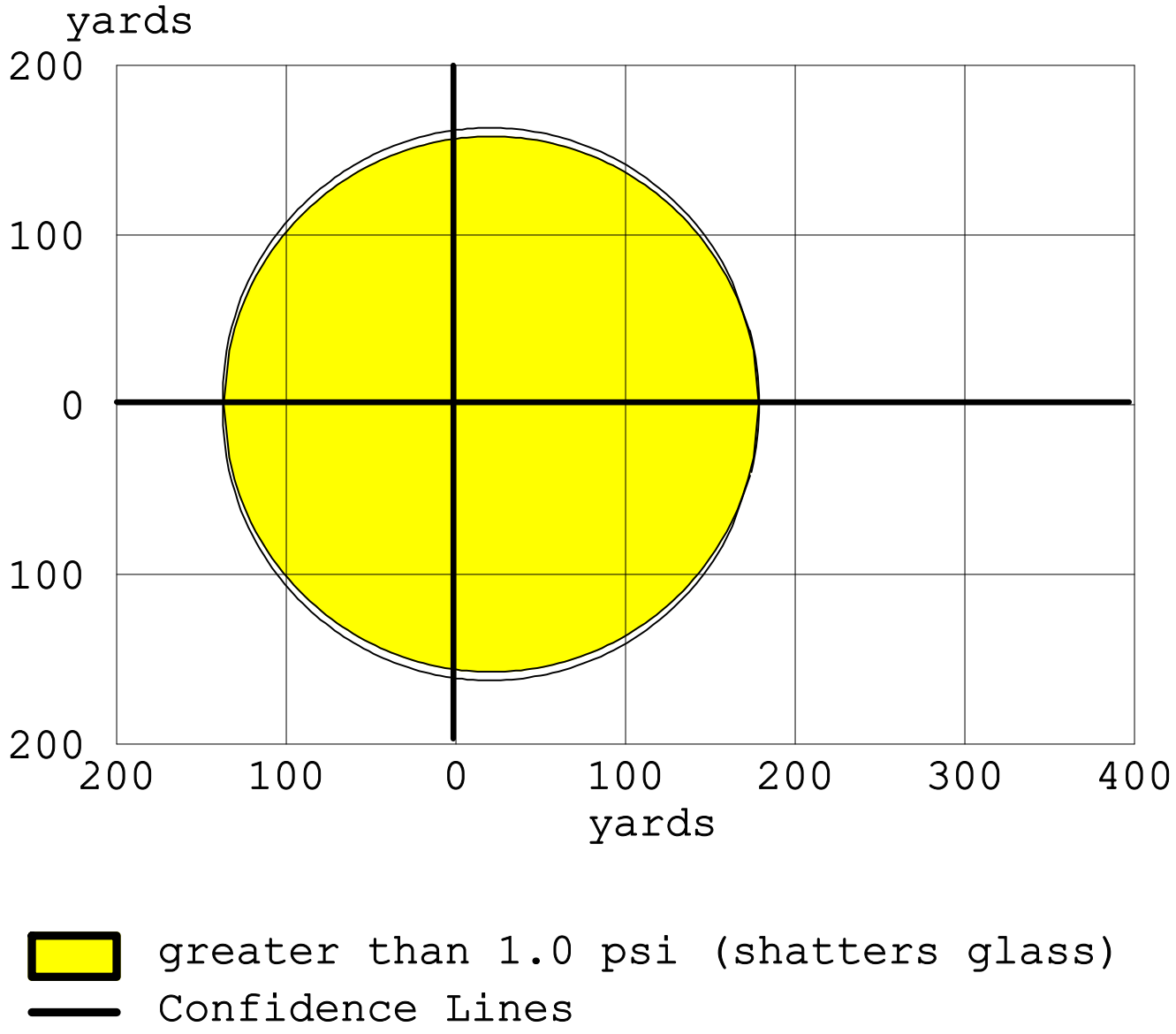
Site ID 1
7 UP Bottling Co.
Liquid Propane

```
 SITE DATA:7UP Propane External Detonation- WCRS
   Location: FREMONT, CALIFORNIA
   Building Air Exchanges Per Hour: 0.44 (unsheltered single storied)
   Time: February 8, 2012  1549 hours PST (user specified)

 CHEMICAL DATA:
   Chemical Name: PROPANE                  Molecular Weight: 44.10 g/mol
   AEGL-1 (60 min): 5500 ppm   AEGL-2 (60 min): 17000 ppm   AEGL-3 (60 min):
33000 ppm
   IDLH: 2100 ppm     LEL: 21000 ppm      UEL: 95000 ppm
   Ambient Boiling Point: -43.7° F
   Vapor Pressure at Ambient Temperature: greater than 1 atm
   Ambient Saturation Concentration: 1,000,000 ppm or 100.0%

 ATMOSPHERIC DATA: (MANUAL INPUT OF DATA)
   Wind: 1.5 meters/second from W at 2 meters
   Ground Roughness: urban or forest       Cloud Cover: 5 tenths
   Air Temperature: 25° C
   Stability Class: F (user override)
   No Inversion Height                     Relative Humidity: 50%

 SOURCE STRENGTH:
   Direct Source: 443 pounds/min           Source Height: 0
   Release Duration: 10 minutes
   Release Rate: 443 pounds/min
   Total Amount Released: 4,430 pounds
   Note: This chemical may flash boil and/or result in two phase flow.

 THREAT ZONE:
   Threat Modeled: Overpressure (blast force) from vapor cloud explosion
   Type of Ignition: ignited by detonation
   Model Run: Heavy Gas
   Yellow: 179 yards --- (1.0 psi = shatters glass)
```

Overpressure (Blast Force) Threat Zone

ALOHA® 5.4.2

```
Time: February 8, 2012  1549 hours PST (user specified)

Chemical Name: PROPANE

Wind: 1.5 meters/second from W at 2 meters

THREAT ZONE:
  Threat Modeled: Overpressure (blast force) from vapor cloud explosion
  Type of Ignition: ignited by detonation
  Model Run: Heavy Gas
  Yellow: 179 yards --- (1.0 psi = shatters glass)
```

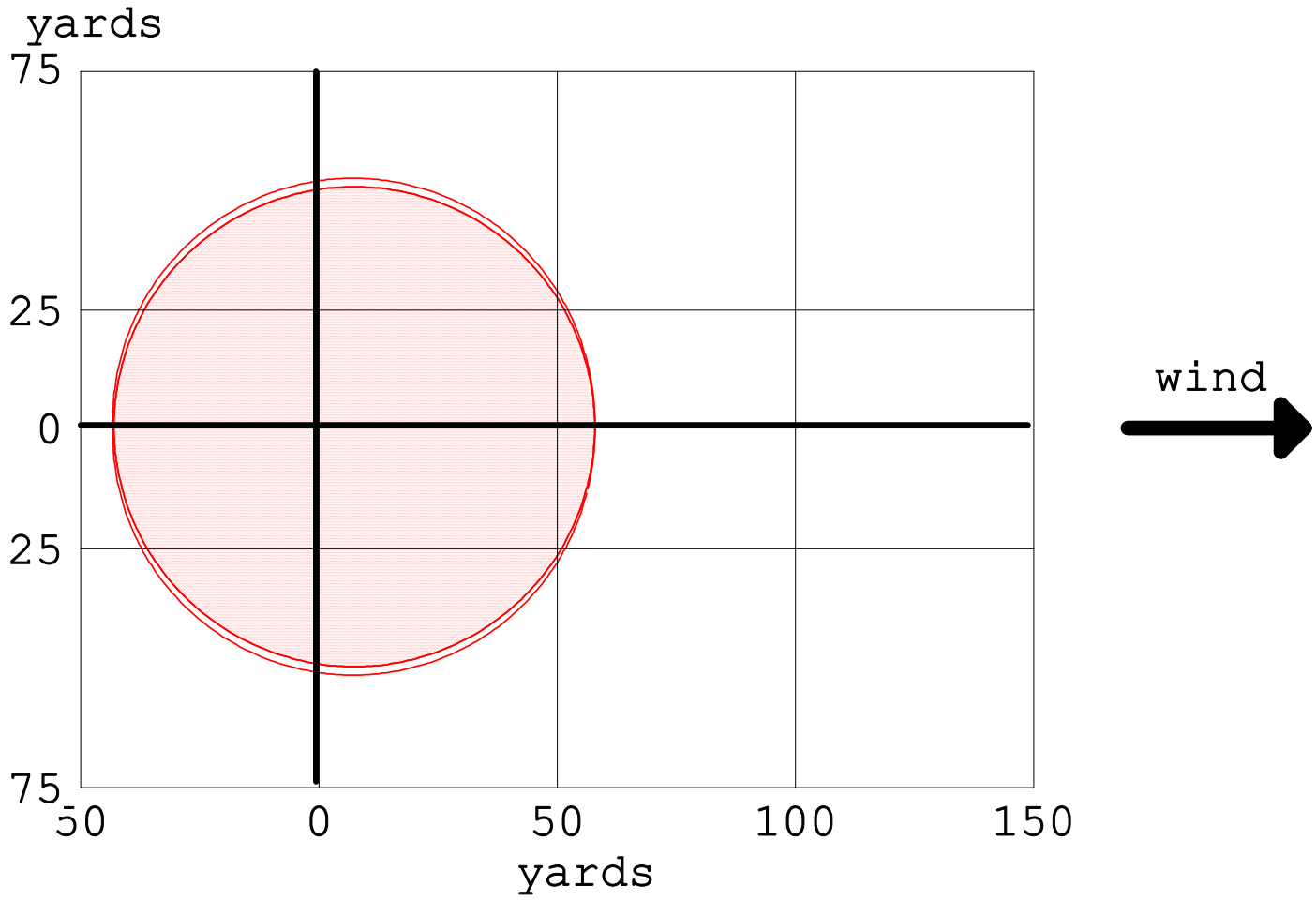


```
 SITE DATA:7UP Propane External Detonation- ARS
   Location: FREMONT, CALIFORNIA
   Building Air Exchanges Per Hour: 0.44 (user specified)
   Time: February 9, 2012  1534 hours PST (user specified)

 CHEMICAL DATA:
   Chemical Name: PROPANE                  Molecular Weight: 44.10 g/mol
   AEGL-1 (60 min): 5500 ppm   AEGL-2 (60 min): 17000 ppm   AEGL-3 (60 min):
33000 ppm
   IDLH: 2100 ppm     LEL: 21000 ppm       UEL: 95000 ppm
   Ambient Boiling Point: -43.7° F
   Vapor Pressure at Ambient Temperature: greater than 1 atm
   Ambient Saturation Concentration: 1,000,000 ppm or 100.0%

 ATMOSPHERIC DATA: (MANUAL INPUT OF DATA)
   Wind: 3.0 meters/second from W at 3 meters
   Ground Roughness: urban or forest       Cloud Cover: 5 tenths
   Air Temperature: 25° C                  Stability Class: D
   No Inversion Height                     Relative Humidity: 50%

 SOURCE STRENGTH:
   Direct Source: 9.8 pounds/min           Source Height: 0
   Release Duration: 10 minutes
   Release Rate: 9.8 pounds/min
   Total Amount Released: 98.0 pounds
   Note: This chemical may flash boil and/or result in two phase flow.

 THREAT ZONE:
   Threat Modeled: Overpressure (blast force) from vapor cloud explosion
   Time of Ignition: 10 minutes after release begins
   Type of Ignition: ignited by detonation
   Model Run: Heavy Gas
   Explosive mass at time of ignition: 4.29 pounds
   Red   : 58 yards --- (1.0 psi = shatters glass)
```

Overpressure (Blast Force) Threat Zone

ALOHA® 5.4.4

```
Time: February 9, 2012  1534 hours PST (user specified)

Chemical Name: PROPANE

Wind: 3.0 meters/second from W at 3 meters

THREAT ZONE:
  Threat Modeled: Overpressure (blast force) from vapor cloud explosion
  Time of Ignition: 10 minutes after release begins
  Type of Ignition: ignited by detonation
  Model Run: Heavy Gas
  Explosive mass at time of ignition: 4.29 pounds
  Red    : 58 yards --- (1.0 psi = shatters glass)
```



greater than 1.0 psi (shatters glass)

wind direction confidence lines

```
 SITE DATA:7UP Propane Spark or Flame - WCRS
   Location: FREMONT, CALIFORNIA
   Building Air Exchanges Per Hour: 0.44 (user specified)
   Time: February 9, 2012  1534 hours PST (user specified)

 CHEMICAL DATA:
   Chemical Name: PROPANE                  Molecular Weight: 44.10 g/mol
   AEGL-1 (60 min): 5500 ppm   AEGL-2 (60 min): 17000 ppm   AEGL-3 (60 min):
33000 ppm
   IDLH: 2100 ppm     LEL: 21000 ppm       UEL: 95000 ppm
   Ambient Boiling Point: -43.7° F
   Vapor Pressure at Ambient Temperature: greater than 1 atm
   Ambient Saturation Concentration: 1,000,000 ppm or 100.0%

 ATMOSPHERIC DATA: (MANUAL INPUT OF DATA)
   Wind: 1.5 meters/second from W at 2 meters
   Ground Roughness: urban or forest       Cloud Cover: 5 tenths
   Air Temperature: 25° C
   Stability Class: F (user override)
   No Inversion Height                     Relative Humidity: 50%

 SOURCE STRENGTH:
   Direct Source: 443 pounds/min           Source Height: 0
   Release Duration: 10 minutes
   Release Rate: 443 pounds/min
   Total Amount Released: 4,430 pounds
   Note: This chemical may flash boil and/or result in two phase flow.

 THREAT ZONE:
   Threat Modeled: Overpressure (blast force) from vapor cloud explosion
   Type of Ignition: ignited by spark or flame
   Level of Congestion: uncongested
   Model Run: Heavy Gas
   Yellow: LOC was never exceeded --- (1.0 psi = shatters glass)
```

```
 SITE DATA:7UP Propane Spark or Flame - ARS
   Location: FREMONT, CALIFORNIA
   Building Air Exchanges Per Hour: 0.44 (user specified)
   Time: February 9, 2012  1534 hours PST (user specified)

 CHEMICAL DATA:
   Chemical Name: PROPANE                  Molecular Weight: 44.10 g/mol
   AEGL-1 (60 min): 5500 ppm   AEGL-2 (60 min): 17000 ppm   AEGL-3 (60 min):
33000 ppm
   IDLH: 2100 ppm     LEL: 21000 ppm      UEL: 95000 ppm
   Ambient Boiling Point: -43.7° F
   Vapor Pressure at Ambient Temperature: greater than 1 atm
   Ambient Saturation Concentration: 1,000,000 ppm or 100.0%

 ATMOSPHERIC DATA: (MANUAL INPUT OF DATA)
   Wind: 3.0 meters/second from W at 3 meters
   Ground Roughness: urban or forest       Cloud Cover: 5 tenths
   Air Temperature: 25° C                  Stability Class: D
   No Inversion Height                     Relative Humidity: 50%

 SOURCE STRENGTH:
   Direct Source: 9.8 pounds/min           Source Height: 0
   Release Duration: 10 minutes
   Release Rate: 9.8 pounds/min
   Total Amount Released: 98.0 pounds
   Note: This chemical may flash boil and/or result in two phase flow.

 THREAT ZONE:
   Threat Modeled: Overpressure (blast force) from vapor cloud explosion
   Type of Ignition: ignited by spark or flame
   Level of Congestion: uncongested
   Model Run: Heavy Gas
   Yellow: LOC was never exceeded --- (1.0 psi = shatters glass)
```

ALOHA Modeling Results

Site ID 2
Glacier Ice Company
Ammonia (anhydrous)

RMP Report for Fremont Ice Packaging Facility

Section 1. Registration Information

1.1 Source Identification: **Facility ID:** 5 There were no reportable accidents in the last 5 years.

a. Facility Name: Fremont Ice Packaging Facility

b. Parent Company #1 Name: Arctic Glacier Inc.

c. Parent Company #2 Name:

1.2 EPA Facility Identifier: 1000 0017 7211

1.3 Other EPA Systems Facility ID:

1.4 Dun and Bradstreet Numbers (DUNS):

a. Facility DUNS: 063551873

b. Parent Company #1 DUNS:

c. Parent Company #2 DUNS:

1.5 Facility Location Address:

a. Street 1: 43960 Fremont Blvd.

b. Street 2:

c. City: Fremont **d. State:** CA **e. Zip:** 94538 -

f. County: Alameda

Facility Latitude and Longitude:

g. Lat. (dd.dddddd): 37.511556 **h. Long. (ddd.dddddd):** -121.949944

i. Lat/Long Method: I4 Interpolation - Digital map source (TIGER)

j. Lat/Long Description: PU Process Unit

k. Horizontal accuracy measure (m): 20

l. Horizontal Reference Datum Code: 002 North American Datum of 1983

m. Source Map Scale Number:

1.6 Owner or Operator:

a. Name: Glacier Ice Co. Inc.

b. Phone: (510) 656-2230

Mailing address:

c. Street 1: 43960 Fremont Blvd. **d. Street 2:**

e. City: Fremont **f. State:** CA **g. Zip:** 94538 -

d. Street2:	Suite H		
e. City:	Roseville		
f. State:	CA	**g. ZIP:**	95661 -

Section 1.17 Process(es)

a. Process ID: 5 **Program Level** 3 Ammonia refrigeration

b. NAICS Code

312113 Ice Manufacturing

c. Process Chemicals

c.1 Process Chemical (ID / Name)	c.2 CAS Nr.	c.3 Qty (lbs.)
5 Ammonia (anhydrous)	7664-41-7	14,200

Section 2. Toxics: Worst Case

Toxics: Worst Case ID 4

2.1 a. Chemical Name: Ammonia (anhydrous)

b. Percent Weight of Chemical (if in a mixture):

2.2 Physical State: Gas Liquified by Pressure

2.3 Model used: EPA's RMP*Comp(TM)

2.4 Scenario: Liquid spill & Vaporization

2.5 Quantity released: 14,200 **lbs**

2.6 Release rate: 1,420.0 **lbs/min**

2.7 Release duration: 10.0 **mins**

2.8 Wind speed: 1.5 **m/sec**

2.9 Atmospheric Stability Class: F

2.10 Topography: Urban

2.11 Distance to Endpoint: 1.50 mi

2.12 Estimated Residential population within distance to endpoint: 16,700

2.13 Public receptors within distance to endpoint:

a. Schools:	Yes	**d. Prisons/Correction facilities:**	No
b. Residences:	Yes	**e. Recreation areas:**	Yes
c. Hospitals:	No	**f. Major commercial, office or, industrial areas:**	Yes

Glacier Ice – Alternative Release Scenario

Glacier Ice did not have an alternative release scenario available in its RMP. For the purposes of this study, TRC assumed a scenario where liquefied ammonia under pressure is released after the hose uncouples during a delivery. During an interview with CALAMCO's Environmental Health & Safety Manager, Craig A. Hinchman, on 6/5/2014 it was determined that all ammonia deliveries are completed using "Smart-Hoses" which are designed to break away in a manner that isolates both the delivery and receiving tank. TRC assumed Glacier Ice ammonia deliveries are provided using this technology. Typical delivery tanks are equipped with excess flow valves such that if the hose came uncoupled the increase in flow would cause the valve at the tank to close automatically. Thus, the amount of ammonia released would be equal to the amount in the hose. Typical hose length and diameter was given during the interview.

Hose Length: 16ft
Hose Diameter: 3in.
Ammonia Temperature: 40°F
Ammonia Pressure: 140 psig
Ammonia Density (6 lb/gal – CAMEO Chemicals)
Mass of Ammonia Released:

$$16\ ft * \pi \left(\frac{\frac{3}{2} in.}{12\ in. \frac{1}{ft}} \right)^2 \frac{7.48\ gal}{ft^3} \left(\frac{6\ lb}{gal} \right) = 35\ \ lbs\ \ Ammonia\ \ Released$$

Time of Release: 1 minutes (Assumed)

```
SITE DATA:Glacier Ice Ammonia - ARS
  Location: FREMONT, CALIFORNIA
  Building Air Exchanges Per Hour: 0.50 (sheltered single storied)
  Time: March 27, 2015  1841 hours PDT (user specified)

CHEMICAL DATA:
  Chemical Name: AMMONIA                  Molecular Weight: 17.03 g/mol
  AEGL-1 (60 min): 30 ppm   AEGL-2 (60 min): 160 ppm   AEGL-3 (60 min): 1100 ppm
  IDLH: 300 ppm      LEL: 150000 ppm      UEL: 280000 ppm
  Ambient Boiling Point: -28.2° F
  Vapor Pressure at Ambient Temperature: greater than 1 atm
  Ambient Saturation Concentration: 1,000,000 ppm or 100.0%

ATMOSPHERIC DATA: (MANUAL INPUT OF DATA)
  Wind: 3.0 meters/second from ESE at 3 meters
  Ground Roughness: urban or forest       Cloud Cover: 5 tenths
  Air Temperature: 25° C                  Stability Class: D
  No Inversion Height                     Relative Humidity: 50%

SOURCE STRENGTH:
  Direct Source: 35 pounds/min            Source Height: 0
  Release Duration: 1 minute
  Release Rate: 0.583 pounds/sec
  Total Amount Released: 35.0 pounds
  Note: This chemical may flash boil and/or result in two phase flow.
     Use both dispersion modules to investigate its potential behavior.

THREAT ZONE:
  Model Run: Gaussian
  Red   : 149 yards --- (0.14 mg/liter)
  Orange: 121 yards --- (300 ppm = IDLH)
```

Toxic Threat Zone

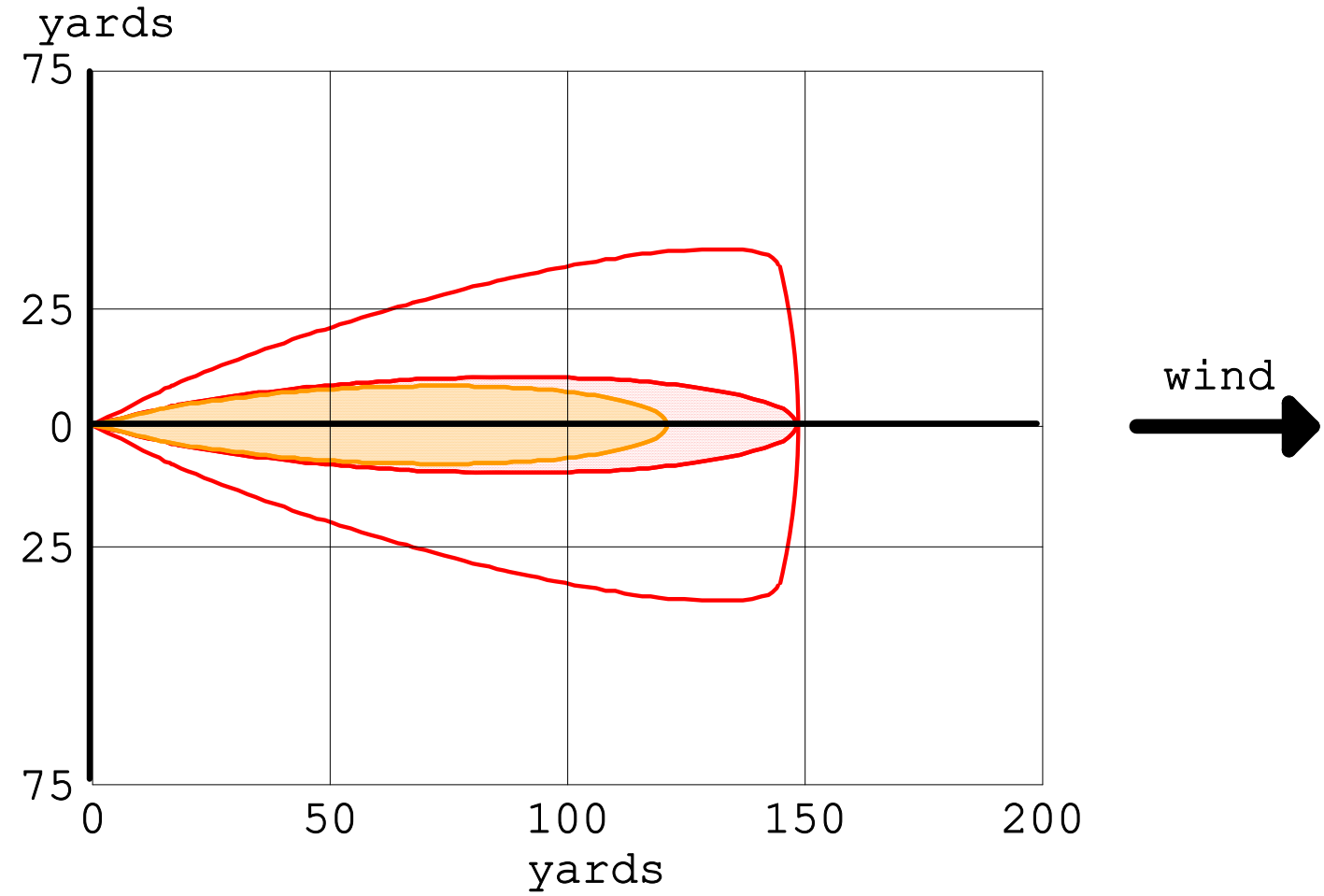
ALOHA® 5.4.4

Time: March 27, 2015 1841 hours PDT (user specified)

Chemical Name: AMMONIA

Wind: 3.0 meters/second from ESE at 3 meters

THREAT ZONE:
  Model Run: Gaussian
  Red   : 149 yards --- (0.14 mg/liter)
  Orange: 121 yards --- (300 ppm = IDLH)



greater than 0.14 mg/liter

greater than 300 ppm (IDLH)

wind direction confidence lines

ALOHA Modeling Results

Site ID 3
Global Plating
HCN Gas

(WCRS and ARS from Facility RMP)

Rcd by FFD (AB)
3/15/07 JS
As noted on envelop

RISK MANAGEMENT PLAN

MARCH 2007

Global Plating, Inc.
44620 Grimmer Boulevard
Fremont, California 94538

Prepared By
Chemical Solutions, Inc.
4120 Cross Road
Livermore, CA 94550
Tel: (925) 606-8000
Fax: (925) 606-8018
Website: http://www.chems.com

3.6 DETERMINATION OF OFFSITE RECEPTORS

Summaries of the Offsite Consequence Analyses for each of the regulated substances are shown in Exhibits 7A and 7B.

EXHIBIT 7A
OFFSITE CONSEQUENCE ANALYSIS RESULTS SUMMARY
NITRIC ACID PROCESS

Release Scenario	Released Outside (lbs)	Release Duration (min)	Toxic Endpoint (mg/L)	Distance	
				Miles	Feet
Worst-Case (WCRS)	13.3	10	0.026	0.3	1,584
Alternative (ARS)	0.5	10	0.026	0.1	528

EXHIBIT 7B
OFFSITE CONSEQUENCE ANALYSIS RESULTS SUMMARY
POTASSIUM CYANIDE PROCESS (HCN GAS)

Release Scenario	Released Outside (lbs)	Release Duration (min)	Toxic Endpoint (mg/L)	Distance	
				Miles	Feet
Worst-Case (WCRS)	47	10	0.011	0.4	2,112
Alternative (ARS)	15	10	0.011	0.1	528

ALOHA Modeling Results

Site ID 4
Hayward Quartz
Liquid Hydrogen

```
SITE DATA:Hayward Quartz Hydrogen Detonation- WCRS
  Location: FREMONT, CALIFORNIA
  Building Air Exchanges Per Hour: 0.31 (sheltered single storied)
  Time: February 9, 2012  1534 hours PST (using computer's clock)

CHEMICAL DATA:
  Chemical Name: HYDROGEN                 Molecular Weight: 2.02 g/mol
  PAC-1: 65000 ppm   PAC-2: 230000 ppm    PAC-3: 400000 ppm
  LEL: 40000 ppm     UEL: 750000 ppm
  Ambient Boiling Point: -423.0° F
  Vapor Pressure at Ambient Temperature: greater than 1 atm
  Ambient Saturation Concentration: 1,000,000 ppm or 100.0%

ATMOSPHERIC DATA: (MANUAL INPUT OF DATA)
  Wind: 1.5 meters/second from W at 3 meters
  Ground Roughness: urban or forest       Cloud Cover: 5 tenths
  Air Temperature: 25° C
  Stability Class: F (user override)
  No Inversion Height                     Relative Humidity: 50%

SOURCE STRENGTH:
  Direct Source: 533.2 pounds/min         Source Height: 0
  Release Duration: 10 minutes
  Release Rate: 533 pounds/min
  Total Amount Released: 5,332 pounds
  Note: This chemical may flash boil and/or result in two phase flow.
     Use both dispersion modules to investigate its potential behavior.

THREAT ZONE:
  Threat Modeled: Overpressure (blast force) from vapor cloud explosion
  Time of Ignition: 10 minutes after release begins
  Type of Ignition: ignited by detonation
  Model Run: Gaussian
  Explosive mass at time of ignition: 1,494 pounds
  Yellow: 723 yards --- (1.0 psi = shatters glass)
```

Overpressure (Blast Force) Threat Zone

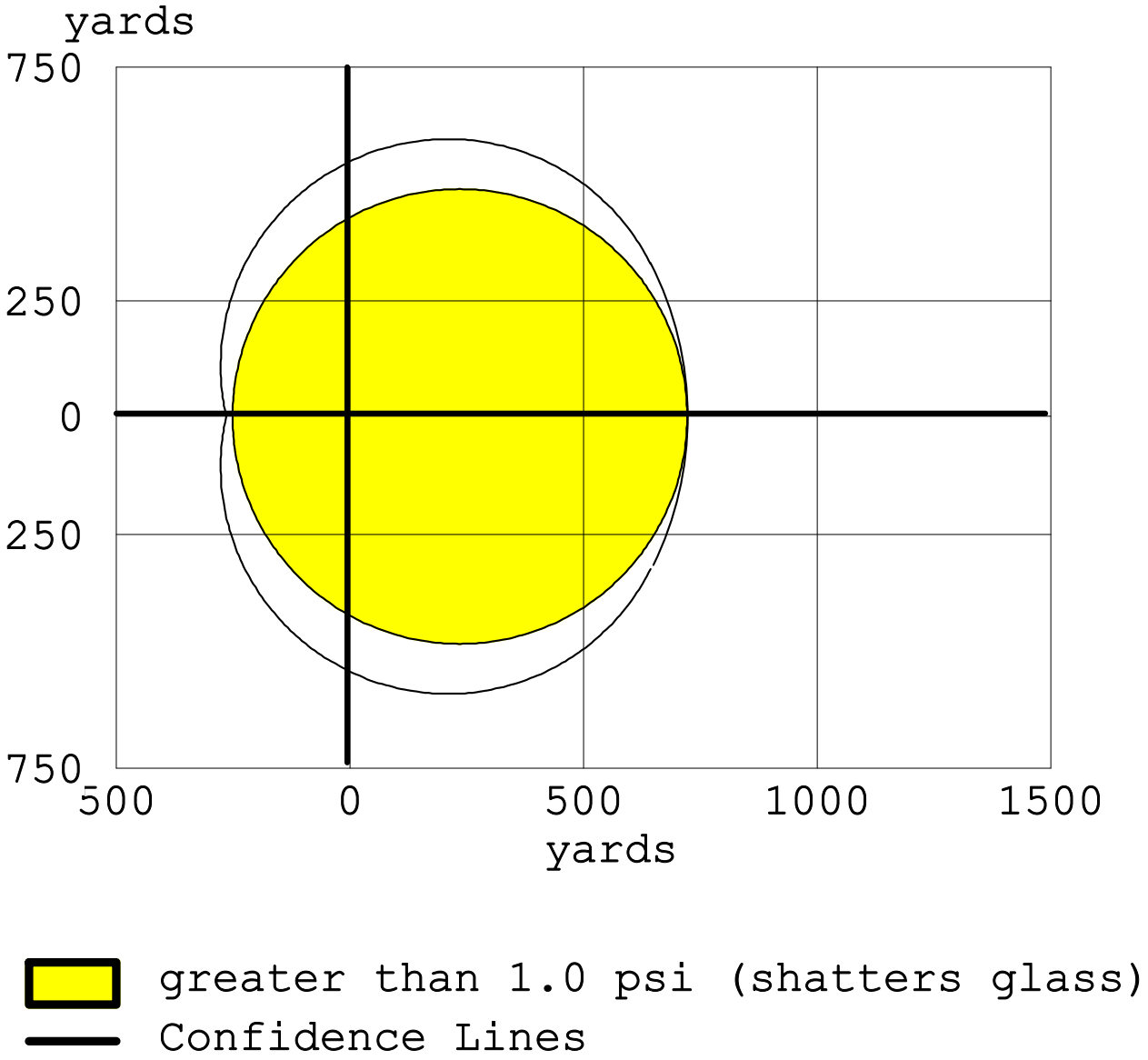
ALOHA® 5.4.2

Time: February 9, 2012 1534 hours PST (using computer's clock)

Chemical Name: HYDROGEN

Wind: 1.5 meters/second from W at 3 meters

THREAT ZONE:
  Threat Modeled: Overpressure (blast force) from vapor cloud explosion
  Time of Ignition: 10 minutes after release begins
  Type of Ignition: ignited by detonation
  Model Run: Gaussian
  Explosive mass at time of ignition: 1,494 pounds
  Yellow: 723 yards --- (1.0 psi = shatters glass)



```
SITE DATA:Hawyward Quartz Hydrogen Spark or Flame - WCRS
  Location: FREMONT, CALIFORNIA
  Building Air Exchanges Per Hour: 0.31 (sheltered single storied)
  Time: February 9, 2012  1534 hours PST (user specified)

CHEMICAL DATA:
  Chemical Name: HYDROGEN                 Molecular Weight: 2.02 g/mol
  PAC-1: 65000 ppm   PAC-2: 230000 ppm    PAC-3: 400000 ppm
  LEL: 40000 ppm     UEL: 750000 ppm
  Ambient Boiling Point: -423.0° F
  Vapor Pressure at Ambient Temperature: greater than 1 atm
  Ambient Saturation Concentration: 1,000,000 ppm or 100.0%

ATMOSPHERIC DATA: (MANUAL INPUT OF DATA)
  Wind: 1.5 meters/second from W at 3 meters
  Ground Roughness: urban or forest       Cloud Cover: 5 tenths
  Air Temperature: 25° C
  Stability Class: F (user override)
  No Inversion Height                     Relative Humidity: 50%

SOURCE STRENGTH:
  Direct Source: 533 pounds/min           Source Height: 0
  Release Duration: 10 minutes
  Release Rate: 533 pounds/min
  Total Amount Released: 5,330 pounds
  Note: This chemical may flash boil and/or result in two phase flow.
     Use both dispersion modules to investigate its potential behavior.

THREAT ZONE:
  Threat Modeled: Overpressure (blast force) from vapor cloud explosion
  Type of Ignition: ignited by spark or flame
  Level of Congestion: uncongested
  Model Run: Gaussian
  Yellow: 497 yards --- (1.0 psi = shatters glass)
```

```
 SITE DATA:Snoboy Methanol Thermal Endpoint - WCRS
   Location: FREMONT, CALIFORNIA
   Building Air Exchanges Per Hour: 0.31 (sheltered single storied)
   Time: December 8, 2014  1003 hours PST (user specified)

 CHEMICAL DATA:
   Chemical Name: METHANOL                 Molecular Weight: 32.04 g/mol
   AEGL-1 (60 min): 530 ppm   AEGL-2 (60 min): 2100 ppm   AEGL-3 (60 min): 7200
ppm
   IDLH: 6000 ppm     LEL: 71800 ppm      UEL: 365000 ppm
   Ambient Boiling Point: 148.5° F
   Vapor Pressure at Ambient Temperature: 0.17 atm
   Ambient Saturation Concentration: 166,208 ppm or 16.6%

 ATMOSPHERIC DATA: (MANUAL INPUT OF DATA)
   Wind: 1.5 meters/second from ESE at 3 meters
   Ground Roughness: urban or forest      Cloud Cover: 5 tenths
   Air Temperature: 25° C
   Stability Class: F (user override)
   No Inversion Height                    Relative Humidity: 50%

 SOURCE STRENGTH:
   Burning Puddle / Pool Fire
   Puddle Area: 1900 square feet          Puddle Volume: 31250 gallons
   Initial Puddle Temperature: Air temperature
   Flame Length: 10 yards
   Burn Duration: ALOHA limited the duration to 1 hour
   Burn Rate: 387 pounds/min
   Total Amount Burned: 23,233 pounds

 THREAT ZONE:
   Threat Modeled: Thermal radiation from pool fire
   Red    : 17 yards --- (5.0 kW/(sq m) = 2nd degree burns within 60 sec)
   Orange: 27 yards --- (2.0 kW/(sq m) = pain within 60 sec)
```

Thermal Radiation Threat Zone

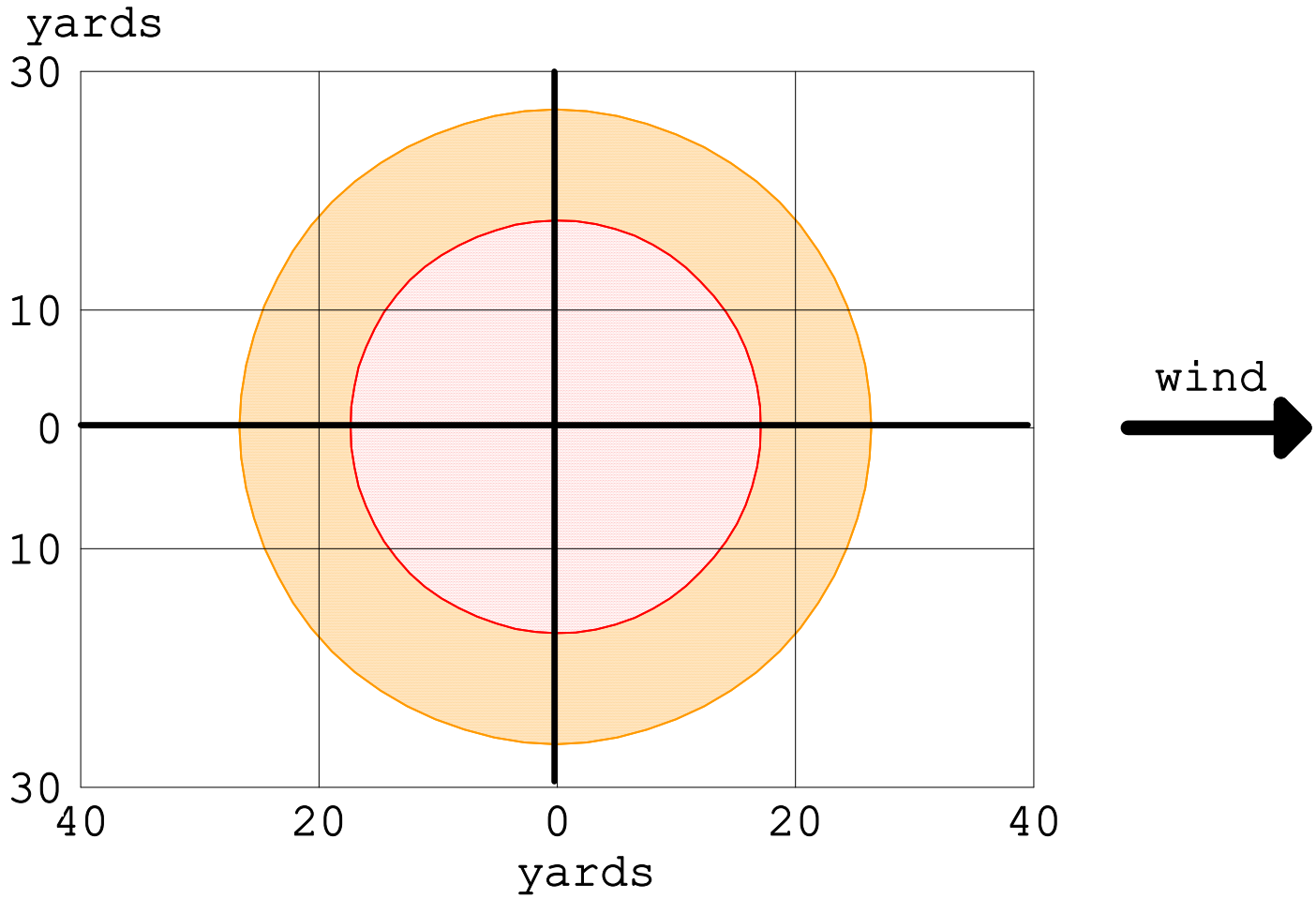
ALOHA® 5.4.4

Time: December 8, 2014 1003 hours PST (user specified)

Chemical Name: METHANOL

Wind: 1.5 meters/second from ESE at 3 meters

THREAT ZONE:
  Threat Modeled: Thermal radiation from pool fire
  Red   : 17 yards --- (5.0 kW/(sq m) = 2nd degree burns within 60 sec)
  Orange: 27 yards --- (2.0 kW/(sq m) = pain within 60 sec)



greater than 5.0 kW/(sq m) (2nd degree burns with

greater than 2.0 kW/(sq m) (pain within 60 sec)

```
SITE DATA:Hayward Quartz Hydrogen Detonation - ARS
  Location: FREMONT, CALIFORNIA
  Building Air Exchanges Per Hour: 0.50 (sheltered single storied)
  Time: February 9, 2012  1534 hours PST (user specified)

CHEMICAL DATA:
  Chemical Name: HYDROGEN                 Molecular Weight: 2.02 g/mol
  PAC-1: 65000 ppm   PAC-2: 230000 ppm    PAC-3: 400000 ppm
  LEL: 40000 ppm     UEL: 750000 ppm
  Ambient Boiling Point: -423.0° F
  Vapor Pressure at Ambient Temperature: greater than 1 atm
  Ambient Saturation Concentration: 1,000,000 ppm or 100.0%

ATMOSPHERIC DATA: (MANUAL INPUT OF DATA)
  Wind: 3 meters/second from W at 3 meters
  Ground Roughness: urban or forest       Cloud Cover: 5 tenths
  Air Temperature: 25° C                  Stability Class: D
  No Inversion Height                     Relative Humidity: 50%

SOURCE STRENGTH:
  Direct Source: 12 pounds/min            Source Height: 0
  Release Duration: 10 minutes
  Release Rate: 12 pounds/min
  Total Amount Released: 120 pounds
  Note: This chemical may flash boil and/or result in two phase flow.
     Use both dispersion modules to investigate its potential behavior.

THREAT ZONE:
  Threat Modeled: Overpressure (blast force) from vapor cloud explosion
  Time of Ignition: 10 minutes after release begins
  Type of Ignition: ignited by detonation
  Model Run: Gaussian
  Explosive mass at time of ignition: 0.83 pounds
  Yellow: 52 yards --- (1.0 psi = shatters glass)
```

Overpressure (Blast Force) Threat Zone

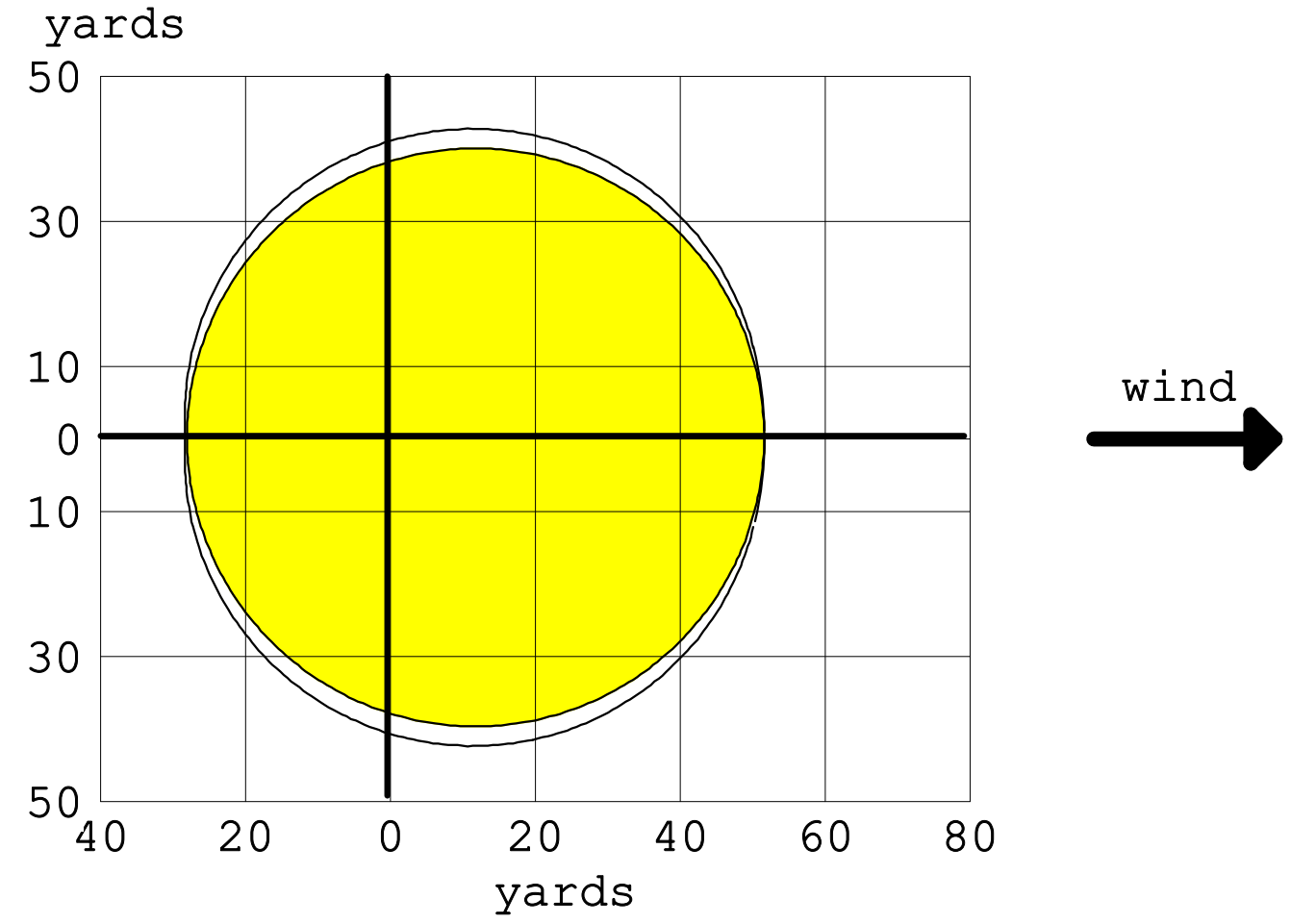
ALOHA® 5.4.4

Time: February 9, 2012 1534 hours PST (user specified)

Chemical Name: HYDROGEN

Wind: 3 meters/second from W at 3 meters

THREAT ZONE:
  Threat Modeled: Overpressure (blast force) from vapor cloud explosion
  Time of Ignition: 10 minutes after release begins
  Type of Ignition: ignited by detonation
  Model Run: Gaussian
  Explosive mass at time of ignition: 0.83 pounds
  Yellow: 52 yards --- (1.0 psi = shatters glass)



greater than 1.0 psi (shatters glass)

wind direction confidence lines

```
SITE DATA:Hayward Quartz Hydrogen Spark or Flame - ARS
  Location: FREMONT, CALIFORNIA
  Building Air Exchanges Per Hour: 0.50 (sheltered single storied)
  Time: February 9, 2012  1534 hours PST (user specified)

CHEMICAL DATA:
  Chemical Name: HYDROGEN                 Molecular Weight: 2.02 g/mol
  PAC-1: 65000 ppm   PAC-2: 230000 ppm    PAC-3: 400000 ppm
  LEL: 40000 ppm     UEL: 750000 ppm
  Ambient Boiling Point: -423.0° F
  Vapor Pressure at Ambient Temperature: greater than 1 atm
  Ambient Saturation Concentration: 1,000,000 ppm or 100.0%

ATMOSPHERIC DATA: (MANUAL INPUT OF DATA)
  Wind: 3 meters/second from W at 3 meters
  Ground Roughness: urban or forest       Cloud Cover: 5 tenths
  Air Temperature: 25° C                  Stability Class: D
  No Inversion Height                     Relative Humidity: 50%

SOURCE STRENGTH:
  Direct Source: 12 pounds/min            Source Height: 0
  Release Duration: 10 minutes
  Release Rate: 12 pounds/min
  Total Amount Released: 120 pounds
  Note: This chemical may flash boil and/or result in two phase flow.
     Use both dispersion modules to investigate its potential behavior.

THREAT ZONE:
  Threat Modeled: Overpressure (blast force) from vapor cloud explosion
  Type of Ignition: ignited by spark or flame
  Level of Congestion: uncongested
  Model Run: Gaussian
  Yellow: 27 yards --- (1.0 psi = shatters glass)
```

ALOHA Modeling Results

Site ID 5
Snoboy
Methanol

```
 SITE DATA:Snoboy Methanol Toxic Endpoint - WCRS
   Location: FREMONT, CALIFORNIA
   Building Air Exchanges Per Hour: 0.31 (sheltered single storied)
   Time: March 27, 2015  1841 hours PDT (user specified)

 CHEMICAL DATA:
   Chemical Name: METHANOL                 Molecular Weight: 32.04 g/mol
   AEGL-1 (60 min): 530 ppm   AEGL-2 (60 min): 2100 ppm   AEGL-3 (60 min): 7200
ppm
   IDLH: 6000 ppm     LEL: 71800 ppm      UEL: 365000 ppm
   Ambient Boiling Point: 148.5° F
   Vapor Pressure at Ambient Temperature: 0.17 atm
   Ambient Saturation Concentration: 166,352 ppm or 16.6%

 ATMOSPHERIC DATA: (MANUAL INPUT OF DATA)
   Wind: 1.5 meters/second from ESE at 3 meters
   Ground Roughness: urban or forest      Cloud Cover: 5 tenths
   Air Temperature: 25° C
   Stability Class: F (user override)
   No Inversion Height                    Relative Humidity: 50%

 SOURCE STRENGTH:
   Evaporating Puddle (Note: chemical is flammable)
   Puddle Area: 1900 square feet          Puddle Volume: 31250 gallons
   Ground Type: Concrete                  Ground Temperature: 25° C
   Initial Puddle Temperature: Ground temperature
   Release Duration: ALOHA limited the duration to 1 hour
   Max Average Sustained Release Rate: 22.9 pounds/min
      (averaged over a minute or more)
   Total Amount Released: 1,297 pounds

 THREAT ZONE:
   Model Run: Gaussian
   Red   : 19 yards --- (6000 ppm = IDLH)
   Note: Threat zone was not drawn because effects of near-field patchiness
      make dispersion predictions less reliable for short distances.
```

Time: March 27, 2015 1841 hours PDT (user specified)

Chemical Name: METHANOL

Wind: 1.5 meters/second from ESE at 3 meters

THREAT ZONE:
Model Run: Gaussian
Red : 19 yards --- (6000 ppm = IDLH)
Note: Threat zone was not drawn because effects of near-field patchiness
make dispersion predictions less reliable for short distances.

Model Run: Gaussian
Red : 19 yards --- (6000 ppm = IDLH)
Note: Threat zone was not drawn because effects o
make dispersion predictions less reliable for s

```
 SITE DATA:Snoboy Methanol Thermal Endpoint - WCRS
   Location: FREMONT, CALIFORNIA
   Building Air Exchanges Per Hour: 0.31 (sheltered single storied)
   Time: December 8, 2014  1003 hours PST (user specified)

 CHEMICAL DATA:
   Chemical Name: METHANOL                 Molecular Weight: 32.04 g/mol
   AEGL-1 (60 min): 530 ppm   AEGL-2 (60 min): 2100 ppm   AEGL-3 (60 min): 7200
ppm
   IDLH: 6000 ppm     LEL: 71800 ppm      UEL: 365000 ppm
   Ambient Boiling Point: 148.5° F
   Vapor Pressure at Ambient Temperature: 0.17 atm
   Ambient Saturation Concentration: 166,208 ppm or 16.6%

 ATMOSPHERIC DATA: (MANUAL INPUT OF DATA)
   Wind: 1.5 meters/second from ESE at 3 meters
   Ground Roughness: urban or forest      Cloud Cover: 5 tenths
   Air Temperature: 25° C
   Stability Class: F (user override)
   No Inversion Height                    Relative Humidity: 50%

 SOURCE STRENGTH:
   Burning Puddle / Pool Fire
   Puddle Area: 1900 square feet          Puddle Volume: 31250 gallons
   Initial Puddle Temperature: Air temperature
   Flame Length: 10 yards
   Burn Duration: ALOHA limited the duration to 1 hour
   Burn Rate: 387 pounds/min
   Total Amount Burned: 23,233 pounds

 THREAT ZONE:
   Threat Modeled: Thermal radiation from pool fire
   Red    : 17 yards --- (5.0 kW/(sq m) = 2nd degree burns within 60 sec)
   Orange: 27 yards --- (2.0 kW/(sq m) = pain within 60 sec)
```

Thermal Radiation Threat Zone

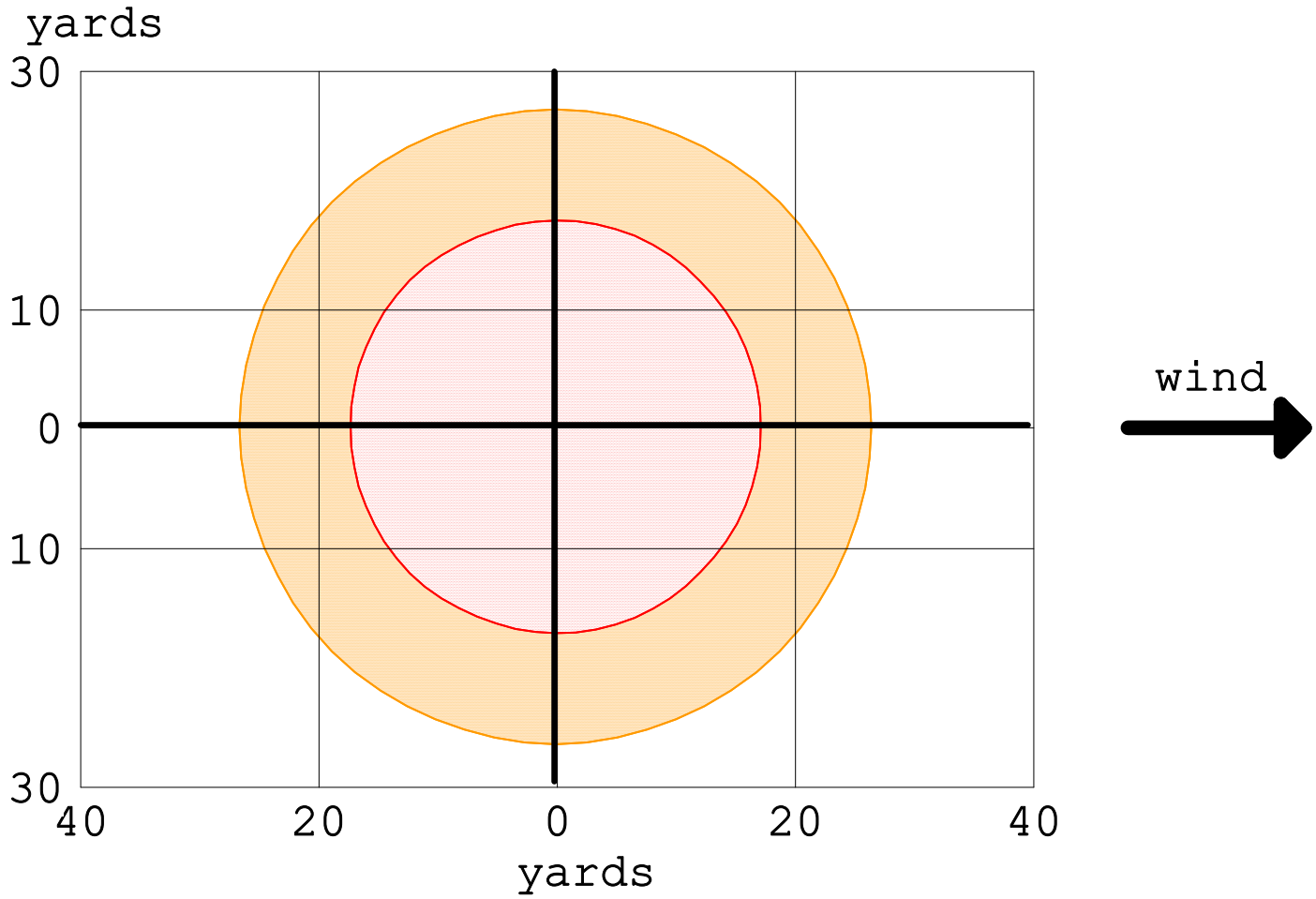
ALOHA® 5.4.4

Time: December 8, 2014 1003 hours PST (user specified)

Chemical Name: METHANOL

Wind: 1.5 meters/second from ESE at 3 meters

THREAT ZONE:
  Threat Modeled: Thermal radiation from pool fire
  Red   : 17 yards --- (5.0 kW/(sq m) = 2nd degree burns within 60 sec)
  Orange: 27 yards --- (2.0 kW/(sq m) = pain within 60 sec)



greater than 5.0 kW/(sq m) (2nd degree burns with

greater than 2.0 kW/(sq m) (pain within 60 sec)

ALOHA Modeling Results

Site ID 5
Snoboy
Mixed Xylenes

```
SITE DATA:Snoboy Xylenes Thermal Endpoint - WCRS
  Location: FREMONT, CALIFORNIA
  Building Air Exchanges Per Hour: 0.32 (sheltered single storied)
  Time: March 27, 2015  1841 hours PDT (user specified)

CHEMICAL DATA:
  Chemical Name: M-XYLENE                 Molecular Weight: 106.17 g/mol
  PAC-1: 150 ppm      PAC-2: 200 ppm      PAC-3: 1000 ppm
  IDLH: 900 ppm       LEL: 11000 ppm      UEL: 64000 ppm
  Ambient Boiling Point: 282.2° F
  Vapor Pressure at Ambient Temperature: 0.011 atm
  Ambient Saturation Concentration: 11,073 ppm or 1.11%

ATMOSPHERIC DATA: (MANUAL INPUT OF DATA)
  Wind: 1.5 meters/second from ESE at 3 meters
  Ground Roughness: open country          Cloud Cover: 5 tenths
  Air Temperature: 25° C
  Stability Class: F (user override)
  No Inversion Height                     Relative Humidity: 50%

SOURCE STRENGTH:
  Burning Puddle / Pool Fire
  Puddle Area: 1900 square feet           Puddle Volume: 26500 gallons
  Initial Puddle Temperature: Air temperature
  Flame Length: 27 yards
  Burn Duration: ALOHA limited the duration to 1 hour
  Burn Rate: 1,780 pounds/min
  Total Amount Burned: 106,575 pounds

THREAT ZONE:
  Threat Modeled: Thermal radiation from pool fire
  Red    : 34 yards --- (10.0 kW/(sq m) = potentially lethal within 60 sec)
  Orange: 50 yards --- (5.0 kW/(sq m) = 2nd degree burns within 60 sec)
  Yellow: 79 yards --- (2.0 kW/(sq m) = pain within 60 sec)
```

Thermal Radiation Threat Zone

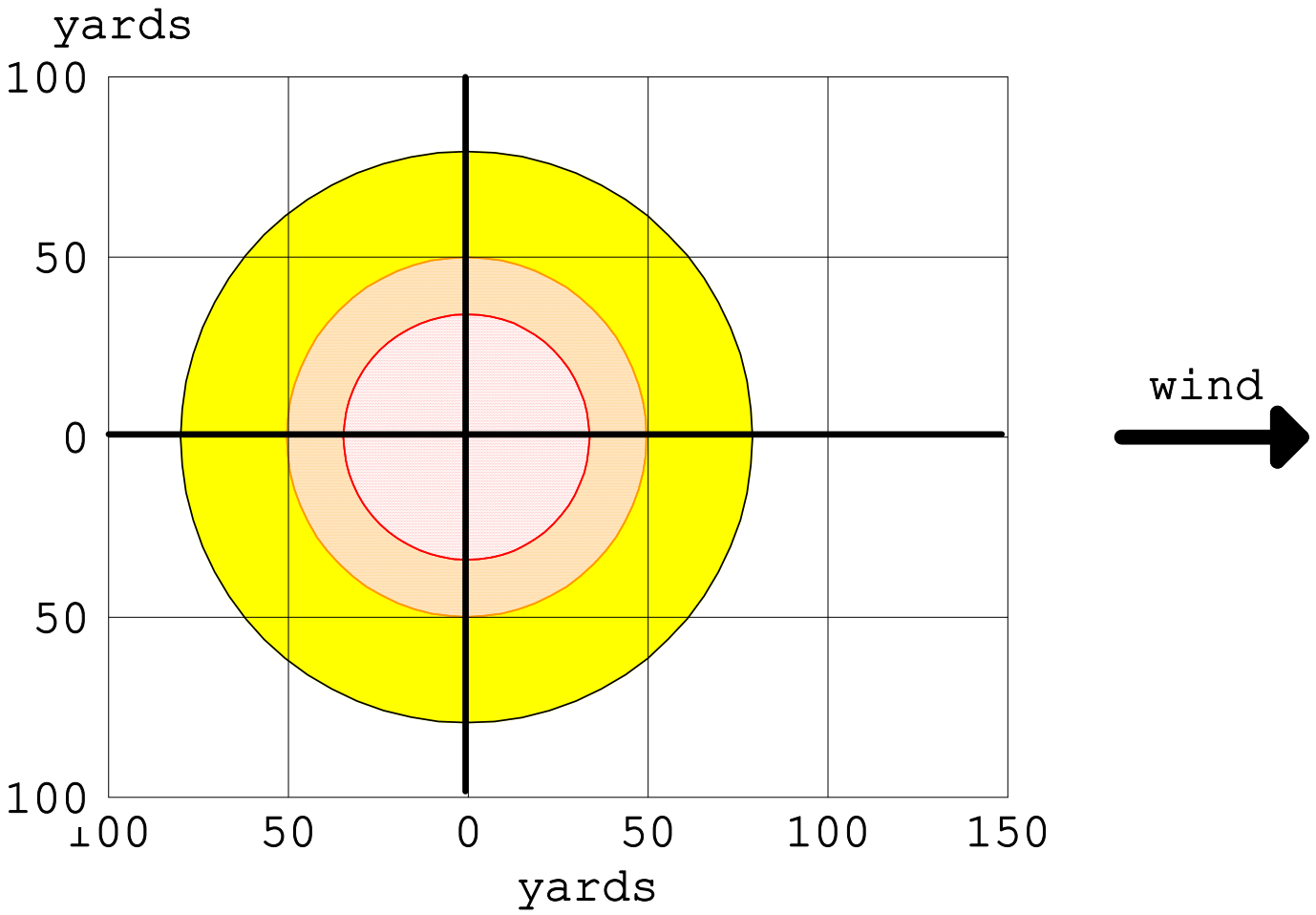
ALOHA® 5.4.4

Time: March 27, 2015 1841 hours PDT (user specified)

Chemical Name: M-XYLENE

Wind: 1.5 meters/second from ESE at 3 meters

THREAT ZONE:
  Threat Modeled: Thermal radiation from pool fire
  Red   : 34 yards --- (10.0 kW/(sq m) = potentially lethal within 60 sec)
  Orange: 50 yards --- (5.0 kW/(sq m) = 2nd degree burns within 60 sec)
  Yellow: 79 yards --- (2.0 kW/(sq m) = pain within 60 sec)

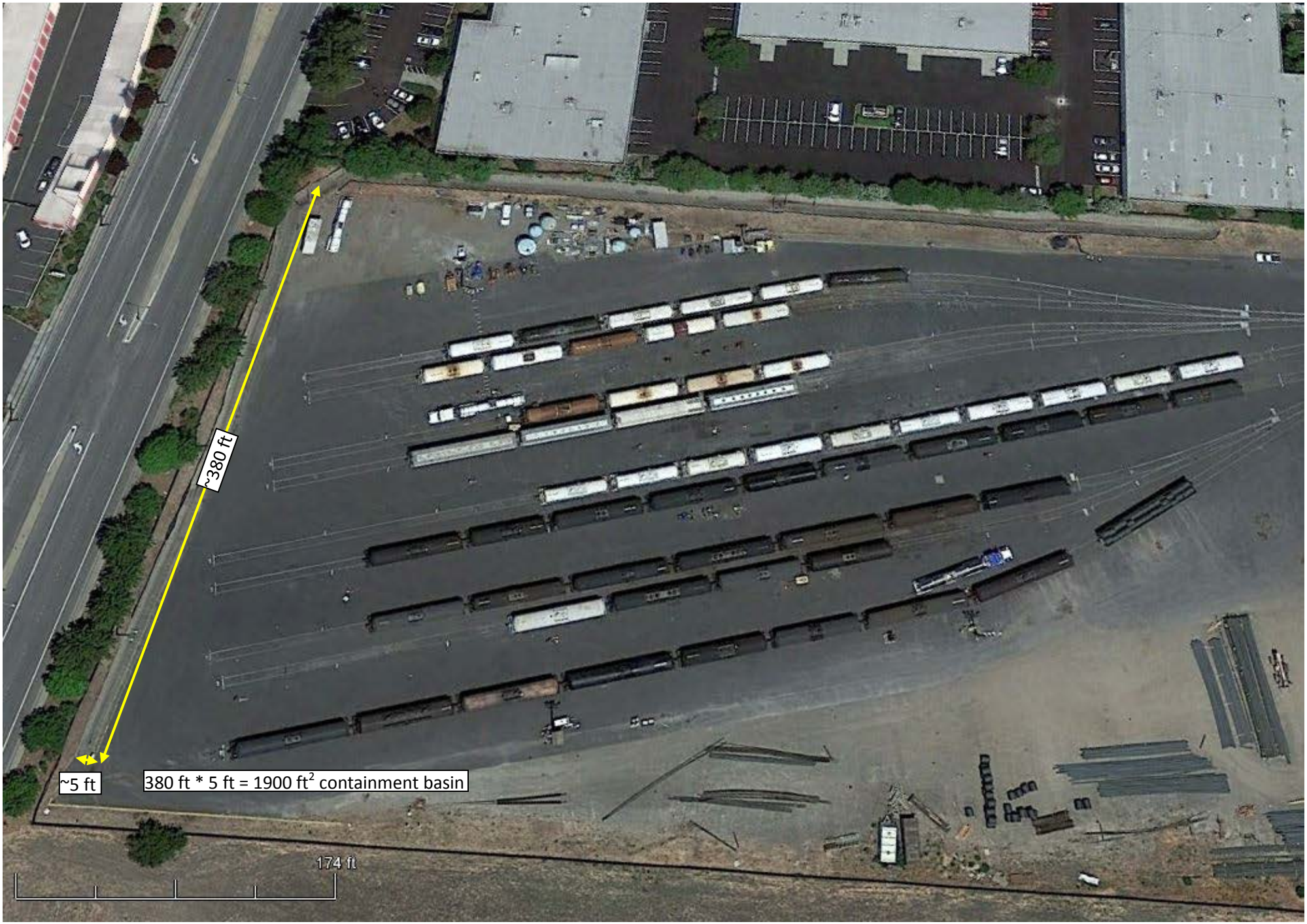


greater than 10.0 kW/(sq m) (potentially lethal w

greater than 5.0 kW/(sq m) (2nd degree burns with

greater than 2.0 kW/(sq m) (pain within 60 sec)

```
SITE DATA:Snoboy Xylenes Toxic Endpoint - WCRS
  Location: FREMONT, CALIFORNIA
  Building Air Exchanges Per Hour: 0.32 (sheltered single storied)
  Time: March 27, 2015  1841 hours PDT (user specified)

CHEMICAL DATA:
  Chemical Name: M-XYLENE                 Molecular Weight: 106.17 g/mol
  PAC-1: 150 ppm      PAC-2: 200 ppm      PAC-3: 1000 ppm
  IDLH: 900 ppm       LEL: 11000 ppm      UEL: 64000 ppm
  Ambient Boiling Point: 282.2° F
  Vapor Pressure at Ambient Temperature: 0.011 atm
  Ambient Saturation Concentration: 11,073 ppm or 1.11%

ATMOSPHERIC DATA: (MANUAL INPUT OF DATA)
  Wind: 1.5 meters/second from ESE at 3 meters
  Ground Roughness: open country          Cloud Cover: 5 tenths
  Air Temperature: 25° C
  Stability Class: F (user override)
  No Inversion Height                     Relative Humidity: 50%

SOURCE STRENGTH:
  Evaporating Puddle (Note: chemical is flammable)
  Puddle Area: 1900 square feet           Puddle Volume: 26500 gallons
  Ground Type: Concrete                   Ground Temperature: 25° C
  Initial Puddle Temperature: Air temperature
  Release Duration: ALOHA limited the duration to 1 hour
  Max Average Sustained Release Rate: 3.7 pounds/min
     (averaged over a minute or more)
  Total Amount Released: 220 pounds

THREAT ZONE:
  Model Run: Gaussian
  Red   : 24 yards --- (900 ppm = IDLH)
  Note: Threat zone was not drawn because effects of near-field patchiness
     make dispersion predictions less reliable for short distances.
  Orange: 64 yards --- (200 ppm = PAC-2)
  Yellow: 85 yards --- (150 ppm = PAC-1)
```


~380 ft
~5 ft
380 ft * 5 ft = 1900 ft^2 containment basin
174 ft

ALOHA Modeling Results

Site ID 6
West Coast Quartz
Liquid Hydrogen

```
SITE DATA:West Coast Quartz Hydrogen Detonation - WCRS
  Location: FREMONT, CALIFORNIA
  Building Air Exchanges Per Hour: 0.31 (sheltered single storied)
  Time: February 9, 2012  1534 hours PST (user specified)

CHEMICAL DATA:
  Chemical Name: HYDROGEN                 Molecular Weight: 2.02 g/mol
  PAC-1: 65000 ppm   PAC-2: 230000 ppm    PAC-3: 400000 ppm
  LEL: 40000 ppm     UEL: 750000 ppm
  Ambient Boiling Point: -423.0° F
  Vapor Pressure at Ambient Temperature: greater than 1 atm
  Ambient Saturation Concentration: 1,000,000 ppm or 100.0%

ATMOSPHERIC DATA: (MANUAL INPUT OF DATA)
  Wind: 1.5 meters/second from W at 3 meters
  Ground Roughness: urban or forest       Cloud Cover: 5 tenths
  Air Temperature: 25° C
  Stability Class: F (user override)
  No Inversion Height                     Relative Humidity: 50%

SOURCE STRENGTH:
  Direct Source: 88.9 pounds/min          Source Height: 0
  Release Duration: 10 minutes
  Release Rate: 88.9 pounds/min
  Total Amount Released: 889 pounds
  Note: This chemical may flash boil and/or result in two phase flow.
     Use both dispersion modules to investigate its potential behavior.

THREAT ZONE:
  Threat Modeled: Overpressure (blast force) from vapor cloud explosion
  Time of Ignition: 10 minutes after release begins
  Type of Ignition: ignited by detonation
  Model Run: Gaussian
  Explosive mass at time of ignition: 94.1 pounds
  Yellow: 284 yards --- (1.0 psi = shatters glass)
```

Overpressure (Blast Force) Threat Zone

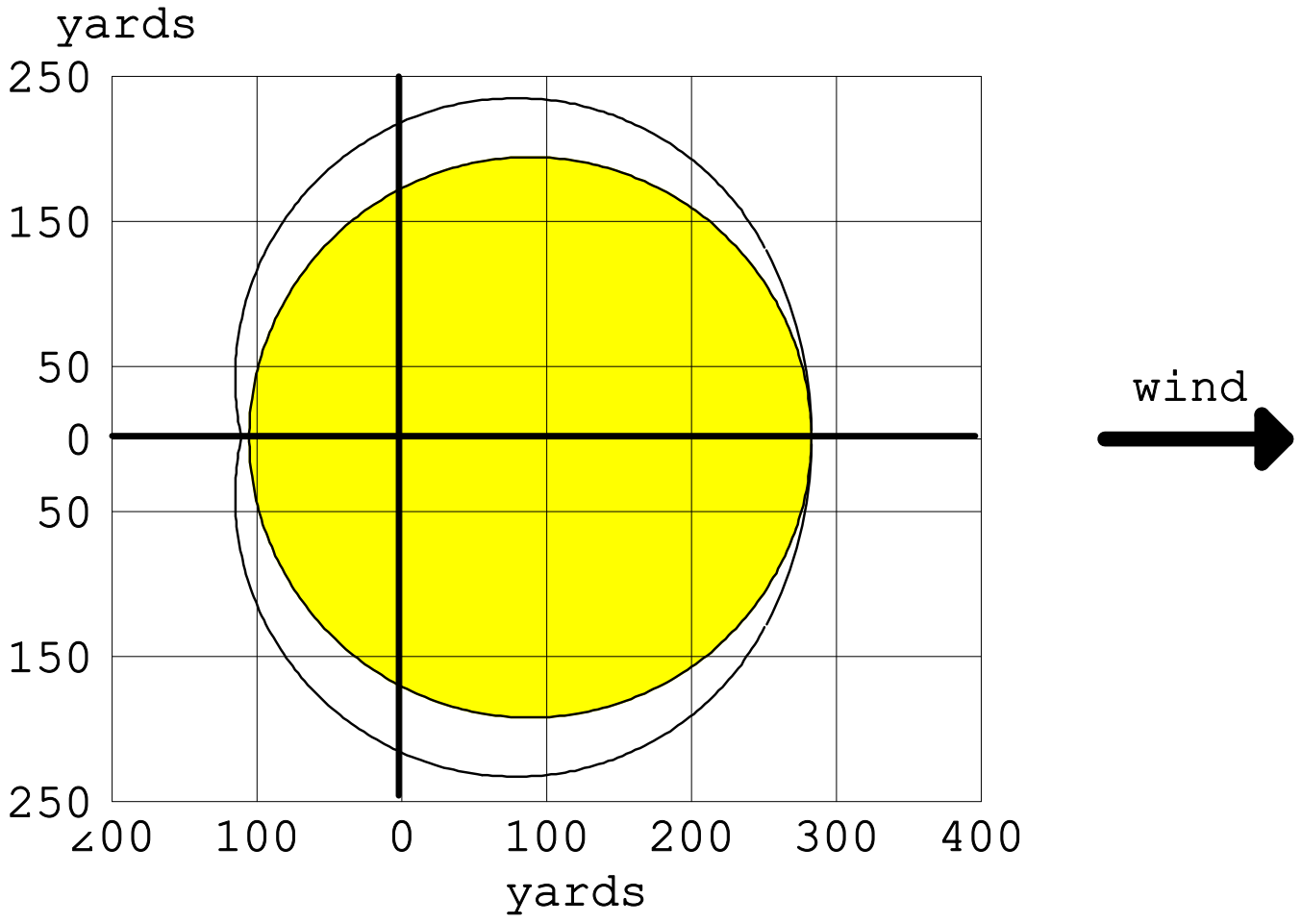
ALOHA® 5.4.4

Time: February 9, 2012 1534 hours PST (user specified)

Chemical Name: HYDROGEN

Wind: 1.5 meters/second from W at 3 meters

THREAT ZONE:
  Threat Modeled: Overpressure (blast force) from vapor cloud explosion
  Time of Ignition: 10 minutes after release begins
  Type of Ignition: ignited by detonation
  Model Run: Gaussian
  Explosive mass at time of ignition: 94.1 pounds
  Yellow: 284 yards --- (1.0 psi = shatters glass)



greater than 1.0 psi (shatters glass)

wind direction confidence lines

```
SITE DATA:West Coast Quart Hydrogen Spark or Flame - WCRS
  Location: FREMONT, CALIFORNIA
  Building Air Exchanges Per Hour: 0.31 (sheltered single storied)
  Time: February 9, 2012  1534 hours PST (user specified)

CHEMICAL DATA:
  Chemical Name: HYDROGEN                 Molecular Weight: 2.02 g/mol
  PAC-1: 65000 ppm   PAC-2: 230000 ppm    PAC-3: 400000 ppm
  LEL: 40000 ppm     UEL: 750000 ppm
  Ambient Boiling Point: -423.0° F
  Vapor Pressure at Ambient Temperature: greater than 1 atm
  Ambient Saturation Concentration: 1,000,000 ppm or 100.0%

ATMOSPHERIC DATA: (MANUAL INPUT OF DATA)
  Wind: 1.5 meters/second from W at 3 meters
  Ground Roughness: urban or forest       Cloud Cover: 5 tenths
  Air Temperature: 25° C
  Stability Class: F (user override)
  No Inversion Height                     Relative Humidity: 50%

SOURCE STRENGTH:
  Direct Source: 88.9 pounds/min          Source Height: 0
  Release Duration: 10 minutes
  Release Rate: 88.9 pounds/min
  Total Amount Released: 889 pounds
  Note: This chemical may flash boil and/or result in two phase flow.
     Use both dispersion modules to investigate its potential behavior.

THREAT ZONE:
  Threat Modeled: Overpressure (blast force) from vapor cloud explosion
  Time of Ignition: 10 minutes after release begins
  Type of Ignition: ignited by spark or flame
  Level of Congestion: uncongested
  Model Run: Gaussian
  Explosive mass at time of ignition: 94.1 pounds
  Yellow: 134 yards --- (1.0 psi = shatters glass)
```

```
SITE DATA:West Coast Quartz Hydrogen Detonation - ARS
  Location: FREMONT, CALIFORNIA
  Building Air Exchanges Per Hour: 0.50 (sheltered single storied)
  Time: February 9, 2012  1534 hours PST (user specified)

CHEMICAL DATA:
  Chemical Name: HYDROGEN                 Molecular Weight: 2.02 g/mol
  PAC-1: 65000 ppm   PAC-2: 230000 ppm    PAC-3: 400000 ppm
  LEL: 40000 ppm     UEL: 750000 ppm
  Ambient Boiling Point: -423.0° F
  Vapor Pressure at Ambient Temperature: greater than 1 atm
  Ambient Saturation Concentration: 1,000,000 ppm or 100.0%

ATMOSPHERIC DATA: (MANUAL INPUT OF DATA)
  Wind: 3.0 meters/second from W at 3 meters
  Ground Roughness: urban or forest       Cloud Cover: 5 tenths
  Air Temperature: 25° C                  Stability Class: D
  No Inversion Height                     Relative Humidity: 50%

SOURCE STRENGTH:
  Direct Source: 12 pounds/min            Source Height: 0
  Release Duration: 10 minutes
  Release Rate: 12 pounds/min
  Total Amount Released: 120 pounds
  Note: This chemical may flash boil and/or result in two phase flow.
     Use both dispersion modules to investigate its potential behavior.

THREAT ZONE:
  Threat Modeled: Overpressure (blast force) from vapor cloud explosion
  Time of Ignition: 10 minutes after release begins
  Type of Ignition: ignited by detonation
  Model Run: Gaussian
  Explosive mass at time of ignition: 0.83 pounds
  Yellow: 52 yards --- (1.0 psi = shatters glass)
```

Overpressure (Blast Force) Threat Zone

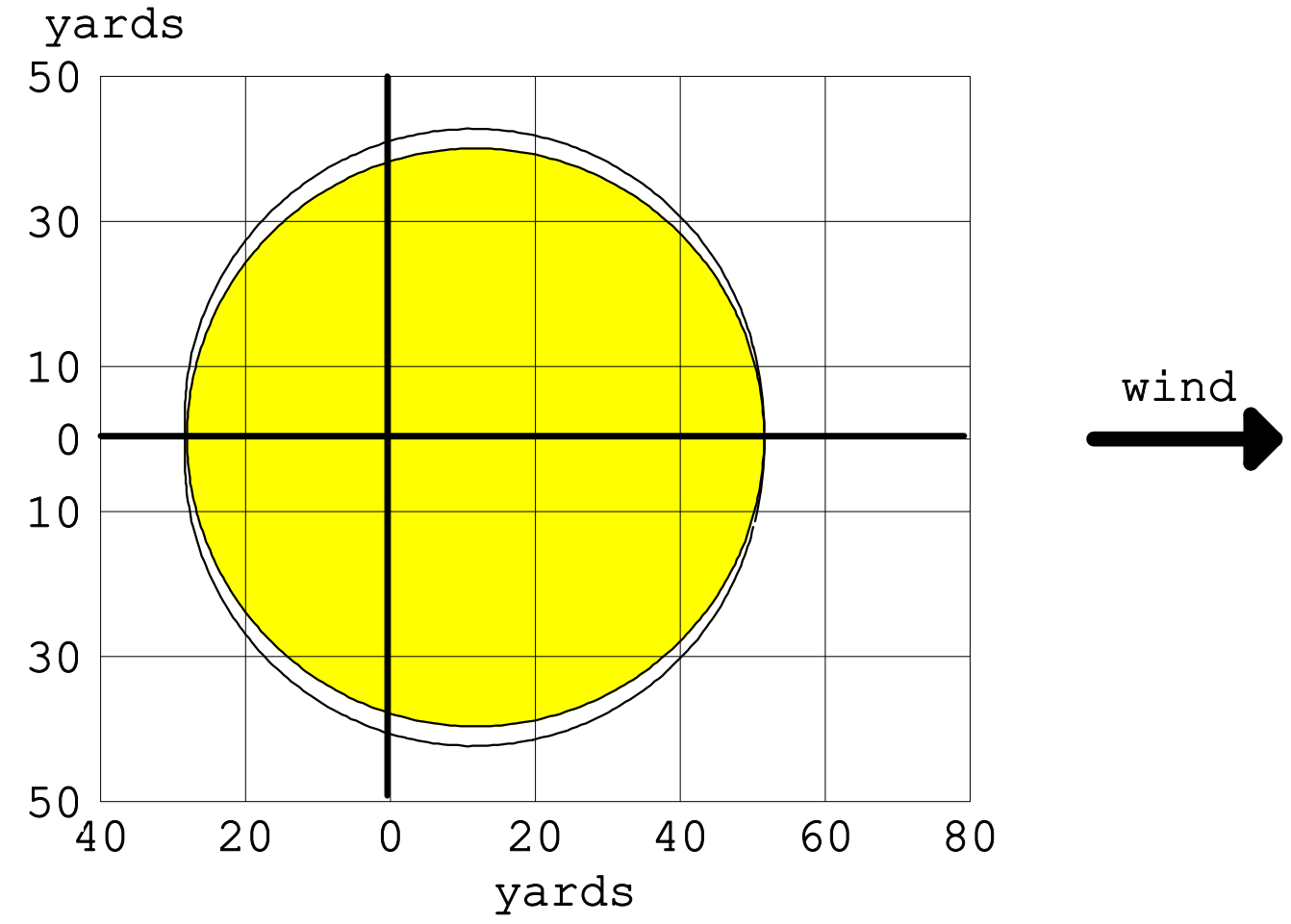
ALOHA® 5.4.4

Time: February 9, 2012 1534 hours PST (user specified)

Chemical Name: HYDROGEN

Wind: 3.0 meters/second from W at 3 meters

THREAT ZONE:
  Threat Modeled: Overpressure (blast force) from vapor cloud explosion
  Time of Ignition: 10 minutes after release begins
  Type of Ignition: ignited by detonation
  Model Run: Gaussian
  Explosive mass at time of ignition: 0.83 pounds
  Yellow: 52 yards --- (1.0 psi = shatters glass)



greater than 1.0 psi (shatters glass)

wind direction confidence lines

```
SITE DATA:West Coast Quartz Hydrogen Spark or Flame - ARS
  Location: FREMONT, CALIFORNIA
  Building Air Exchanges Per Hour: 0.50 (sheltered single storied)
  Time: February 9, 2012  1534 hours PST (user specified)

CHEMICAL DATA:
  Chemical Name: HYDROGEN                 Molecular Weight: 2.02 g/mol
  PAC-1: 65000 ppm   PAC-2: 230000 ppm    PAC-3: 400000 ppm
  LEL: 40000 ppm     UEL: 750000 ppm
  Ambient Boiling Point: -423.0° F
  Vapor Pressure at Ambient Temperature: greater than 1 atm
  Ambient Saturation Concentration: 1,000,000 ppm or 100.0%

ATMOSPHERIC DATA: (MANUAL INPUT OF DATA)
  Wind: 3.0 meters/second from W at 3 meters
  Ground Roughness: urban or forest       Cloud Cover: 5 tenths
  Air Temperature: 25° C                  Stability Class: D
  No Inversion Height                     Relative Humidity: 50%

SOURCE STRENGTH:
  Direct Source: 12 pounds/min            Source Height: 0
  Release Duration: 10 minutes
  Release Rate: 12 pounds/min
  Total Amount Released: 120 pounds
  Note: This chemical may flash boil and/or result in two phase flow.
     Use both dispersion modules to investigate its potential behavior.

THREAT ZONE:
  Threat Modeled: Overpressure (blast force) from vapor cloud explosion
  Type of Ignition: ignited by spark or flame
  Level of Congestion: uncongested
  Model Run: Gaussian
  Yellow: 27 yards --- (1.0 psi = shatters glass)
```

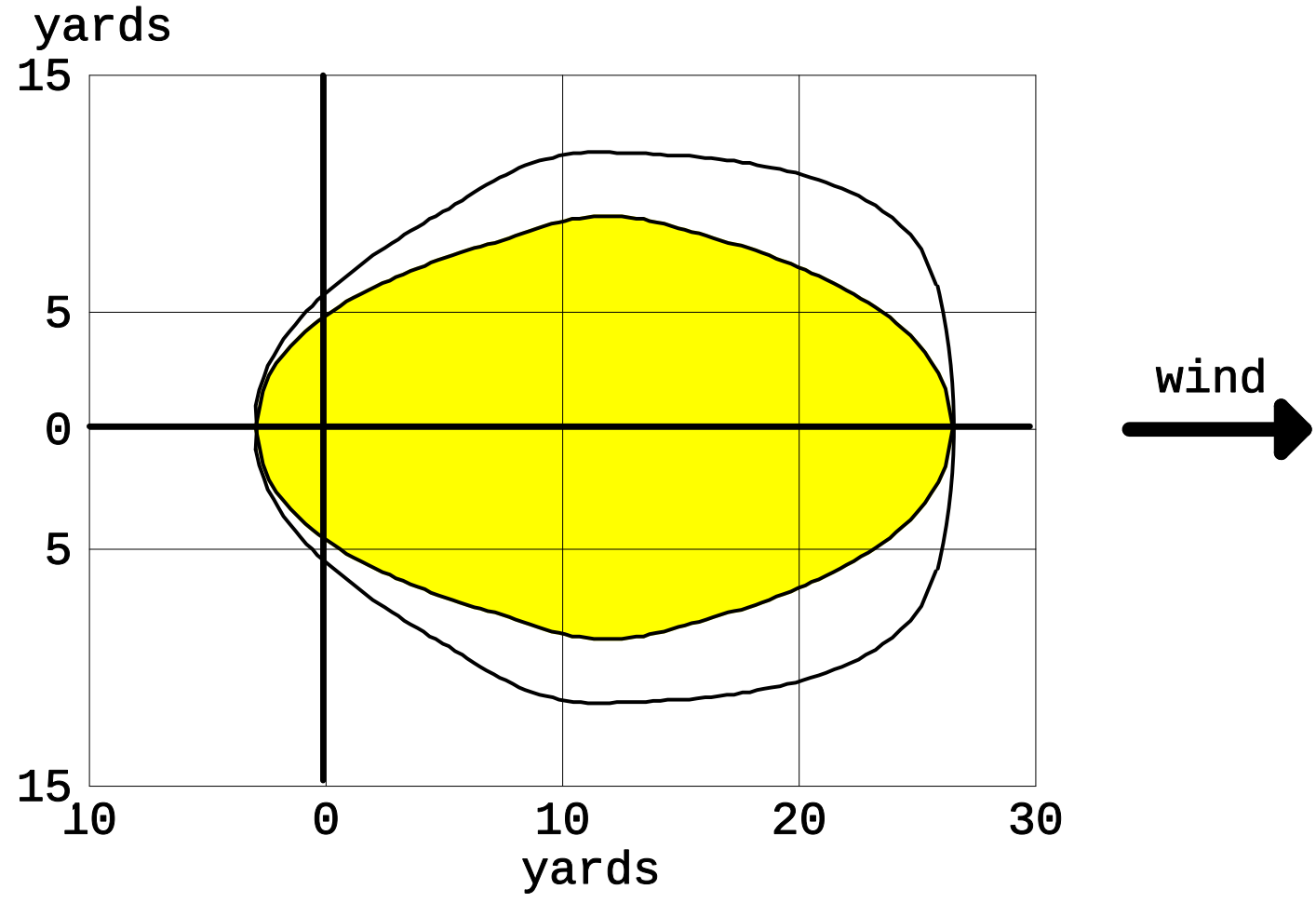
Overpressure (Blast Force) Threat Zone ALOHA® 5.4.4

Time: February 9, 2012 1534 hours PST (user specified)

Chemical Name: HYDROGEN

Wind: 3.0 meters/second from W at 3 meters

THREAT ZONE:
Threat Modeled: Overpressure (blast force) from vapor cloud explosion
Type of Ignition: ignited by spark or flame
Level of Congestion: uncongested
Model Run: Gaussian
Yellow: 27 yards --- (1.0 psi = shatters glass)



greater than 1.0 psi (shatters glass)

wind direction confidence lines

ALOHA Modeling Results

Site ID 7
Western Digital
Silane Gas

Text Summary

ALOHA® 5.4.2

```
SITE DATA:Western Digital Silane - WCRS
  Location: FREMONT, CALIFORNIA
  Building Air Exchanges Per Hour: 0.26 (unsheltered single storied)
  Time: February 14, 2012  1039 hours PST (using computer's clock)

CHEMICAL DATA:
  Warning: SILANE can spontaneously ignite when exposed to air and can
  react with water and/or water vapor.  ALOHA cannot accurately predict the
  air hazard if a reaction occurs.
  Chemical Name: SILANE                    Molecular Weight: 32.12 g/mol
  AEGL-1 (60 min): 100 ppm   AEGL-2 (60 min): 130 ppm   AEGL-3 (60 min): 270 ppm
  Ambient Boiling Point: -169.9° F
  Vapor Pressure at Ambient Temperature: greater than 1 atm
  Ambient Saturation Concentration: 1,000,000 ppm or 100.0%

ATMOSPHERIC DATA: (MANUAL INPUT OF DATA)
  Wind: 1.5 miles/hour from W at 3 meters
  Ground Roughness: urban or forest      Cloud Cover: 5 tenths
  Air Temperature: 25° C
  Stability Class: F (user override)
  No Inversion Height                    Relative Humidity: 50%

SOURCE STRENGTH:
  Direct Source: 6 cubic feet/min        Source Height: 0
  Source State: Gas
  Source Temperature: 0° C
  Source Pressure: equal to ambient
  Release Duration: 10 minutes
  Release Rate: 0.54 pounds/min
  Total Amount Released: 5.40 pounds
```

Reference Table 13
Distance to Overpressure of 1.0 psi for Vapor Cloud Explosions of 500 - 2,000,000 Pounds of Regulated Flammable Substances
Based on TNT Equivalent Method, 10 Percent Yield Factor

Quantity in Cloud (pounds)		500	2,000	5,000	10,000	20,000	50,000	100,000	200,000	500,000	1,000,000	2,000,000
CAS No.	**Chemical Name**	**Distance (Miles) to 1 psi Overpressure**										
75-07-0	Acetaldehyde	0.05	0.08	0.1	0.1	0.2	0.2	0.3	0.4	0.5	0.7	0.8
74-86-2	Acetylene	0.07	0.1	0.1	0.2	0.2	0.3	0.4	0.5	0.7	0.8	1.0
598-73-2	Bromotrifluoroethylene	0.02	0.04	0.05	0.06	0.08	0.1	0.1	0.2	0.2	0.3	0.4
106-99-0	1,3-Butadiene	0.06	0.1	0.1	0.2	0.2	0.3	0.4	0.5	0.6	0.8	1.0
106-97-8	Butane	0.06	0.1	0.1	0.2	0.2	0.3	0.4	0.5	0.6	0.8	1.0
25167-67-3	Butene	0.06	0.1	0.1	0.2	0.2	0.3	0.4	0.5	0.6	0.8	1.0
590-18-1	2-Butene-cis	0.06	0.1	0.1	0.2	0.2	0.3	0.4	0.5	0.6	0.8	1.0
624-64-6	2-Butene-trans	0.06	0.1	0.1	0.2	0.2	0.3	0.4	0.5	0.6	0.8	1.0
106-98-9	1-Butene	0.06	0.1	0.1	0.2	0.2	0.3	0.4	0.5	0.6	0.8	1.0
107-01-7	2-Butene	0.06	0.1	0.1	0.2	0.2	0.3	0.4	0.5	0.6	0.8	1.0
463-58-1	Carbon oxysulfide	0.04	0.06	0.08	0.1	0.1	0.2	0.2	0.3	0.4	0.5	0.6
7791-21-1	Chlorine monoxide	0.02	0.03	0.04	0.05	0.06	0.08	0.1	0.1	0.2	0.2	0.3
590-21-6	1-Chloropropylene	0.05	0.08	0.1	0.1	0.2	0.2	0.3	0.4	0.5	0.6	0.8
557-98-2	2-Chloropropylene	0.05	0.08	0.1	0.1	0.2	0.2	0.3	0.4	0.5	0.6	0.8
460-19-5	Cyanogen	0.05	0.08	0.1	0.1	0.2	0.2	0.3	0.4	0.5	0.6	0.8
75-19-4	Cyclopropane	0.06	0.1	0.1	0.2	0.2	0.3	0.4	0.5	0.6	0.8	1.0
4109-96-0	Dichlorosilane	0.04	0.06	0.08	0.1	0.1	0.2	0.2	0.3	0.4	0.5	0.6
75-37-6	Difluoroethane	0.04	0.06	0.09	0.1	0.1	0.2	0.2	0.3	0.4	0.5	0.6
124-40-3	Dimethylamine	0.06	0.09	0.1	0.2	0.2	0.3	0.3	0.4	0.6	0.7	0.9
463-82-1	2,2-Dimethylpropane	0.06	0.1	0.1	0.2	0.2	0.3	0.4	0.5	0.6	0.8	1.0
74-84-0	Ethane	0.06	0.1	0.1	0.2	0.2	0.3	0.4	0.5	0.6	0.8	1.0
107-00-6	Ethyl acetylene	0.06	0.1	0.1	0.2	0.2	0.3	0.4	0.5	0.6	0.8	1.0
75-04-7	Ethylamine	0.06	0.09	0.1	0.2	0.2	0.3	0.3	0.4	0.6	0.7	0.9

Reference Table 13 (continued)

Quantity in Cloud (pounds)		500	2,000	5,000	10,000	20,000	50,000	100,000	200,000	500,000	1,000,000	2,000,000
CAS No.	Chemical Name	Distance (Miles) to 1 psi Overpressure										
75-00-3	Ethyl chloride	0.05	0.08	0.1	0.1	0.2	0.2	0.3	0.4	0.5	0.6	0.8
74-85-1	Ethylene	0.06	0.1	0.1	0.2	0.2	0.3	0.4	0.5	0.7	0.8	1.0
60-29-7	Ethyl ether	0.06	0.09	0.1	0.2	0.2	0.3	0.3	0.4	0.6	0.7	0.9
75-08-1	Ethyl mercaptan	0.05	0.09	0.1	0.2	0.2	0.2	0.3	0.4	0.5	0.7	0.9
109-95-5	Ethyl nitrite	0.05	0.07	0.1	0.1	0.2	0.2	0.3	0.3	0.5	0.6	0.7
1333-74-0	Hydrogen	0.09	0.1	0.2	0.2	0.3	0.4	0.5	0.6	0.9	1.1	1.4
75-28-5	Isobutane	0.06	0.1	0.1	0.2	0.2	0.3	0.4	0.5	0.6	0.8	1.0
78-78-4	Isopentane	0.06	0.1	0.1	0.2	0.2	0.3	0.4	0.5	0.6	0.8	1.0
78-79-5	Isoprene	0.06	0.1	0.1	0.2	0.2	0.3	0.4	0.5	0.6	0.8	1.0
75-31-0	Isopropylamine	0.06	0.09	0.1	0.2	0.2	0.3	0.3	0.4	0.6	0.7	0.9
75-29-6	Isopropyl chloride	0.05	0.08	0.1	0.1	0.2	0.2	0.3	0.4	0.5	0.6	0.8
74-82-8	Methane	0.07	0.1	0.1	0.2	0.2	0.3	0.4	0.5	0.7	0.8	1.0
74-89-5	Methylamine	0.06	0.09	0.1	0.2	0.2	0.3	0.3	0.4	0.6	0.7	0.9
563-45-1	3-Methyl-1-butene	0.06	0.1	0.1	0.2	0.2	0.3	0.4	0.5	0.6	0.8	1.0
563-46-2	2-Methyl-1-butene	0.06	0.1	0.1	0.2	0.2	0.3	0.4	0.5	0.6	0.8	1.0
115-10-6	Methyl ether	0.05	0.09	0.1	0.1	0.2	0.3	0.3	0.4	0.5	0.7	0.9
107-31-3	Methyl formate	0.04	0.07	0.1	0.1	0.2	0.2	0.3	0.3	0.4	0.6	0.7
115-11-7	2-Methylpropene	0.06	0.1	0.1	0.2	0.2	0.3	0.4	0.5	0.6	0.8	1.0
504-60-9	1,3-Pentadiene	0.06	0.1	0.1	0.2	0.2	0.3	0.4	0.5	0.6	0.8	1.0
109-66-0	Pentane	0.06	0.1	0.1	0.2	0.2	0.3	0.4	0.5	0.6	0.8	1.0
109-67-1	1-Pentene	0.06	0.1	0.1	0.2	0.2	0.3	0.4	0.5	0.6	0.8	1.0
646-04-8	2-Pentene, (E)-	0.06	0.1	0.1	0.2	0.2	0.3	0.4	0.5	0.6	0.8	1.0
627-20-3	2-Pentene, (Z)-	0.06	0.1	0.1	0.2	0.2	0.3	0.4	0.5	0.6	0.8	1.0
463-49-0	Propadiene	0.06	0.1	0.1	0.2	0.2	0.3	0.4	0.5	0.6	0.8	1.0

Reference Table 13 (continued)

Quantity in Cloud (pounds)		500	2,000	5,000	10,000	20,000	50,000	100,000	200,000	500,000	1,000,000	2,000,000
CAS No.	Chemical Name	Distance (Miles) to 1 psi Overpressure										
74-98-6	Propane	0.06	0.1	0.1	0.2	0.2	0.3	0.4	0.5	0.6	0.8	1.0
115-07-1	Propylene	0.06	0.1	0.1	0.2	0.2	0.3	0.4	0.5	0.6	0.8	1.0
74-99-7	Propyne	0.06	0.1	0.1	0.2	0.2	0.3	0.4	0.5	0.6	0.8	1.0
7803-62-5	Silane	0.06	0.1	0.1	0.2	0.2	0.3	0.4	0.5	0.6	0.8	1.0
116-14-3	Tetrafluoroethylene	0.02	0.03	0.04	0.05	0.07	0.09	0.1	0.1	0.2	0.2	0.3
75-76-3	Tetramethylsilane	0.06	0.1	0.1	0.2	0.2	0.3	0.4	0.5	0.6	0.8	1.0
10025-78-2	Trichlorosilane	0.03	0.04	0.06	0.08	0.1	0.1	0.2	0.2	0.3	0.4	0.4
79-38-9	Trifluorochloroethylene	0.02	0.03	0.05	0.06	0.07	0.1	0.1	0.2	0.2	0.3	0.3
75-50-3	Trimethylamine	0.06	0.1	0.1	0.2	0.2	0.3	0.4	0.4	0.6	0.8	1.0
689-97-4	Vinyl acetylene	0.06	0.1	0.1	0.2	0.2	0.3	0.4	0.5	0.6	0.8	1.0
75-01-4	Vinyl chloride	0.05	0.08	0.1	0.1	0.2	0.2	0.3	0.4	0.5	0.6	0.8
109-92-2	Vinyl ethyl ether	0.06	0.09	0.1	0.2	0.2	0.3	0.3	0.4	0.6	0.7	0.9
75-02-5	Vinyl fluoride	0.02	0.04	0.05	0.06	0.08	0.1	0.1	0.2	0.2	0.3	0.4
75-35-4	Vinylidene chloride	0.04	0.06	0.08	0.1	0.1	0.2	0.2	0.3	0.4	0.5	0.6
75-38-7	Vinylidene fluoride	0.04	0.06	0.09	0.1	0.1	0.2	0.2	0.3	0.4	0.5	0.6
107-25-5	Vinyl methyl ether	0.06	0.09	0.1	0.2	0.2	0.3	0.3	0.4	0.6	0.7	0.9

ALOHA Modeling Results

Site ID 8
Western Digital
Chlorine Gas

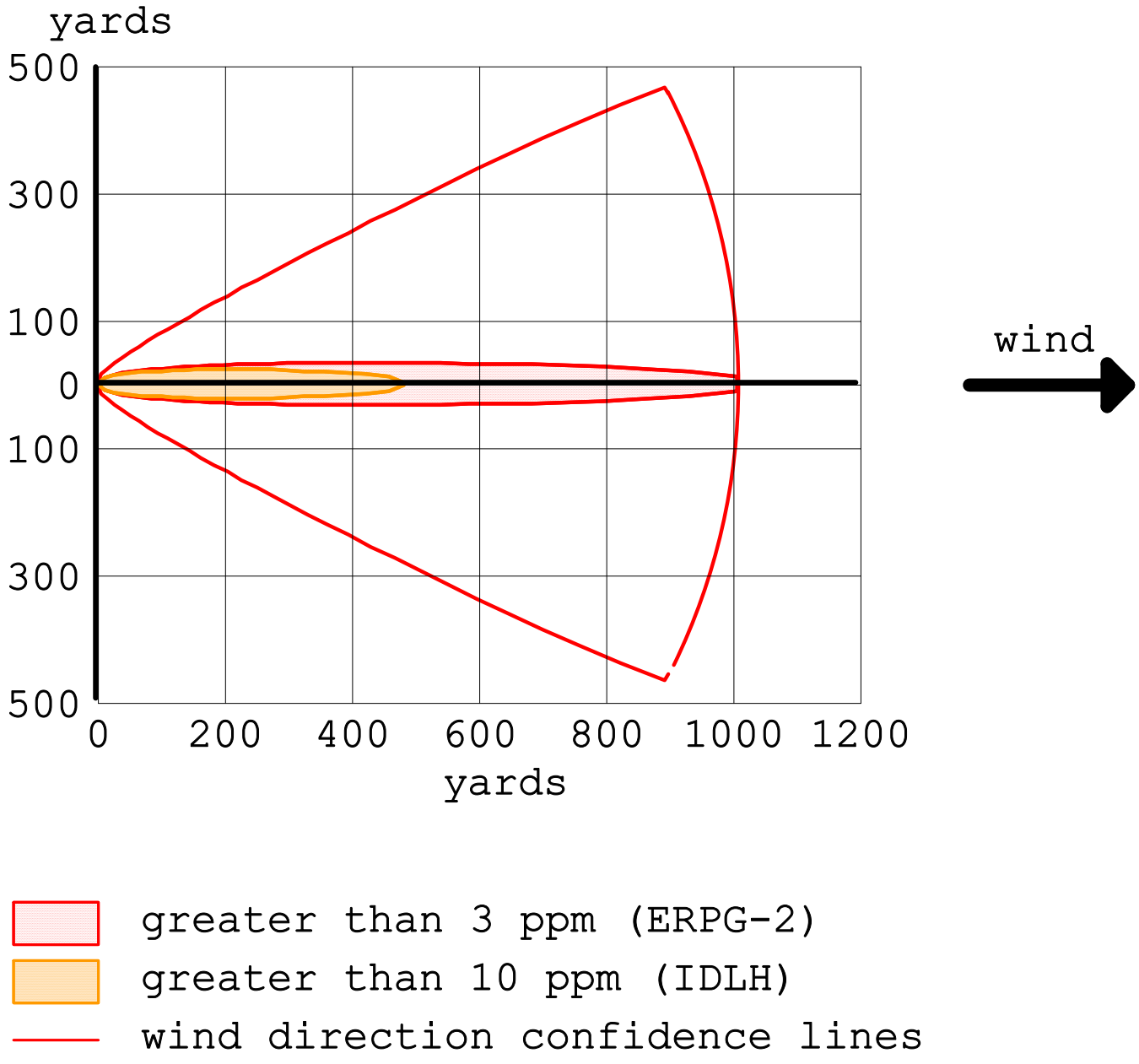
```
SITE DATA:Western Digital Chlorine - WCRS
  Location: FREMONT, CALIFORNIA
  Building Air Exchanges Per Hour: 0.25 (user specified)
  Time: March 27, 2015  1841 hours PDT (using computer's clock)

CHEMICAL DATA:
  Chemical Name: CHLORINE                 Molecular Weight: 70.91 g/mol
  AEGL-1 (60 min): 0.5 ppm   AEGL-2 (60 min): 2 ppm   AEGL-3 (60 min): 20 ppm
  IDLH: 10 ppm
  Ambient Boiling Point: -29.3° F
  Vapor Pressure at Ambient Temperature: greater than 1 atm
  Ambient Saturation Concentration: 1,000,000 ppm or 100.0%

ATMOSPHERIC DATA: (MANUAL INPUT OF DATA)
  Wind: 1.5 meters/second from ESE at 3 meters
  Ground Roughness: urban or forest      Cloud Cover: 5 tenths
  Air Temperature: 25° C
  Stability Class: F (user override)
  No Inversion Height                    Relative Humidity: 50%

SOURCE STRENGTH:
  Direct Source: 4.84 pounds/min         Source Height: 0
  Release Duration: 10 minutes
  Release Rate: 4.84 pounds/min
  Total Amount Released: 48.4 pounds
  Note: This chemical may flash boil and/or result in two phase flow.

THREAT ZONE:
  Model Run: Heavy Gas
  Red   : 1009 yards --- (3 ppm = ERPG-2)
  Orange: 484 yards --- (10 ppm = IDLH)
```

Time: March 27, 2015 1841 hours PDT (using computer's clock)

Chemical Name: CHLORINE

Wind: 1.5 meters/second from ESE at 3 meters

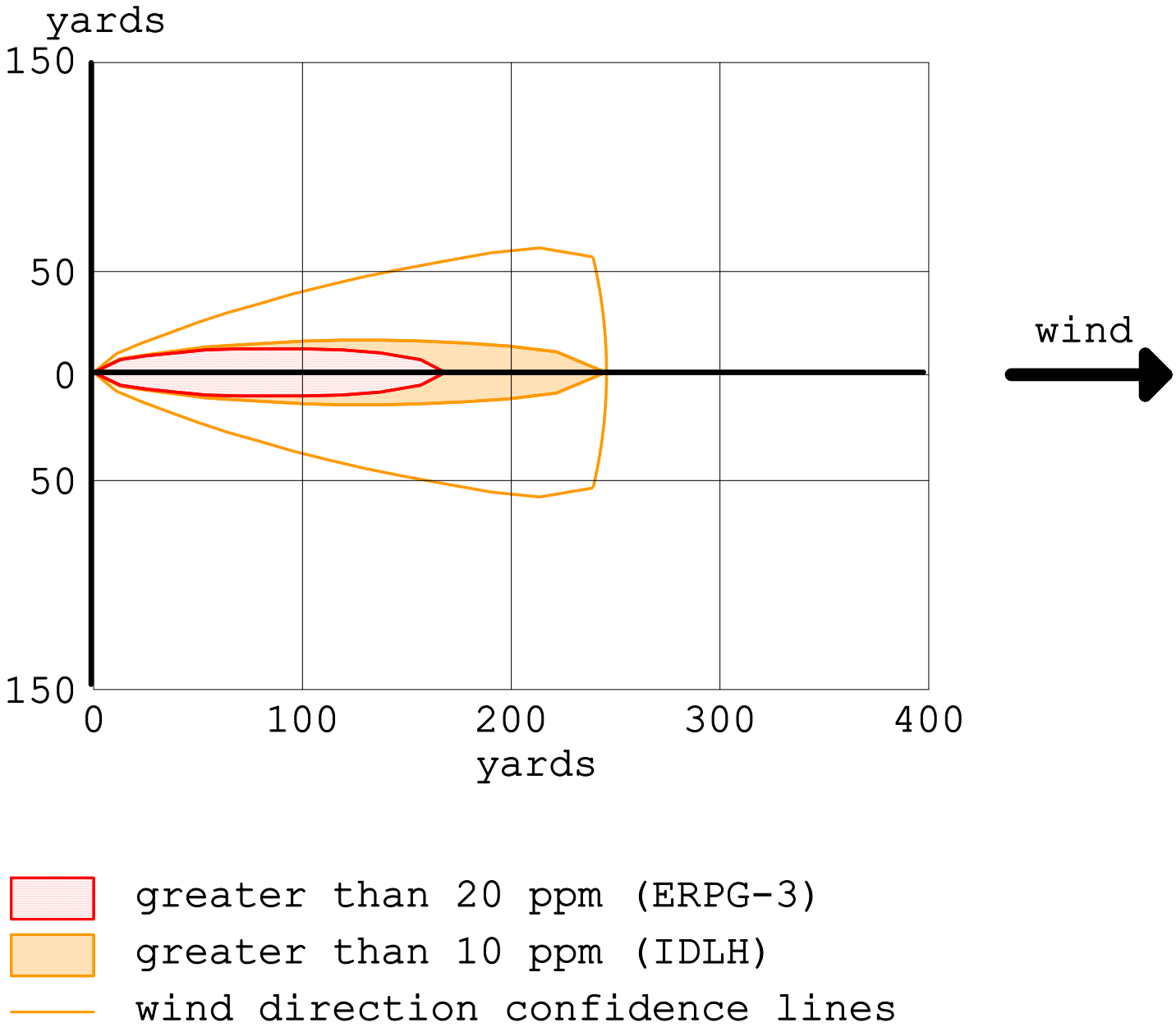
THREAT ZONE:
Model Run: Heavy Gas
Red : 1009 yards --- (3 ppm = ERPG-2)
Orange: 484 yards --- (10 ppm = IDLH)



```
SITE DATA:Western Digital Chlorine - ARS
  Location: FREMONT, CALIFORNIA
  Building Air Exchanges Per Hour: 0.25 (user specified)
  Time: March 27, 2015  1841 hours PDT (user specified)

CHEMICAL DATA:
  Chemical Name: CHLORINE                 Molecular Weight: 70.91 g/mol
  AEGL-1 (60 min): 0.5 ppm   AEGL-2 (60 min): 2 ppm   AEGL-3 (60 min): 20 ppm
  IDLH: 10 ppm
  Ambient Boiling Point: -29.3° F
  Vapor Pressure at Ambient Temperature: greater than 1 atm
  Ambient Saturation Concentration: 1,000,000 ppm or 100.0%

ATMOSPHERIC DATA: (MANUAL INPUT OF DATA)
  Wind: 3.0 meters/second from ESE at 3 meters
  Ground Roughness: urban or forest      Cloud Cover: 5 tenths
  Air Temperature: 25° C                 Stability Class: D
  No Inversion Height                    Relative Humidity: 50%

SOURCE STRENGTH:
  Direct Source: 4.84 pounds/min         Source Height: 0
  Release Duration: 10 minutes
  Release Rate: 4.84 pounds/min
  Total Amount Released: 48.4 pounds
  Note: This chemical may flash boil and/or result in two phase flow.

THREAT ZONE:
  Model Run: Heavy Gas
  Red   : 465 yards --- (3 ppm = ERPG-2)
  Orange: 245 yards --- (10 ppm = IDLH)
```

Toxic Threat Zone **ALOHA® 5.4.4**

```
Time: March 27, 2015  1841 hours PDT (user specified)

Chemical Name: CHLORINE

Wind: 3.0 meters/second from ESE at 3 meters

THREAT ZONE:
  Model Run: Heavy Gas
  Red    : 168 yards --- (20 ppm = ERPG-3)
  Orange: 245 yards --- (10 ppm = IDLH)
```



ALOHA Modeling Results

Site ID 9
Tesla
Natural Gas (Methane)

```
SITE DATA:PG&E/Tesla Natural Gas Vapor Cloud ExternalDetonation- WCRS
  Location: FREMONT, CALIFORNIA
  Building Air Exchanges Per Hour: 0.44 (unsheltered single storied)
  Time: February 8, 2012  1549 hours PST (user specified)

CHEMICAL DATA:
  Chemical Name: METHANE                  Molecular Weight: 16.04 g/mol
  PAC-1: 3000 ppm    PAC-2: 5000 ppm      PAC-3: 200000 ppm
  LEL: 50000 ppm     UEL: 150000 ppm
  Ambient Boiling Point: -258.7° F
  Vapor Pressure at Ambient Temperature: greater than 1 atm
  Ambient Saturation Concentration: 1,000,000 ppm or 100.0%

ATMOSPHERIC DATA: (MANUAL INPUT OF DATA)
  Wind: 1.5 meters/second from W at 2 meters
  Ground Roughness: urban or forest       Cloud Cover: 5 tenths
  Air Temperature: 25° C
  Stability Class: F (user override)
  No Inversion Height                     Relative Humidity: 50%

SOURCE STRENGTH:
  Flammable gas escaping from pipe (not burning)
  Pipe Diameter: 6 inches                 Pipe Length: 4000 feet
  Unbroken end of the pipe is connected to an infinite source
  Pipe Roughness: smooth                  Hole Area: 28.3 sq in
  Pipe Press: 164.7 psia                  Pipe Temperature: 25° C
  Release Duration: ALOHA limited the duration to 1 hour
  Max Average Sustained Release Rate: 629 pounds/min
     (averaged over a minute or more)
  Total Amount Released: 34,434 pounds

THREAT ZONE:
  Threat Modeled: Overpressure (blast force) from vapor cloud explosion
  Time of Ignition: 15 minutes after release begins
  Type of Ignition: ignited by detonation
  Model Run: Gaussian
  Explosive mass at time of ignition: 185 pounds
  Yellow: 261 yards --- (1.0 psi = shatters glass)
```

Overpressure (Blast Force) Threat Zone

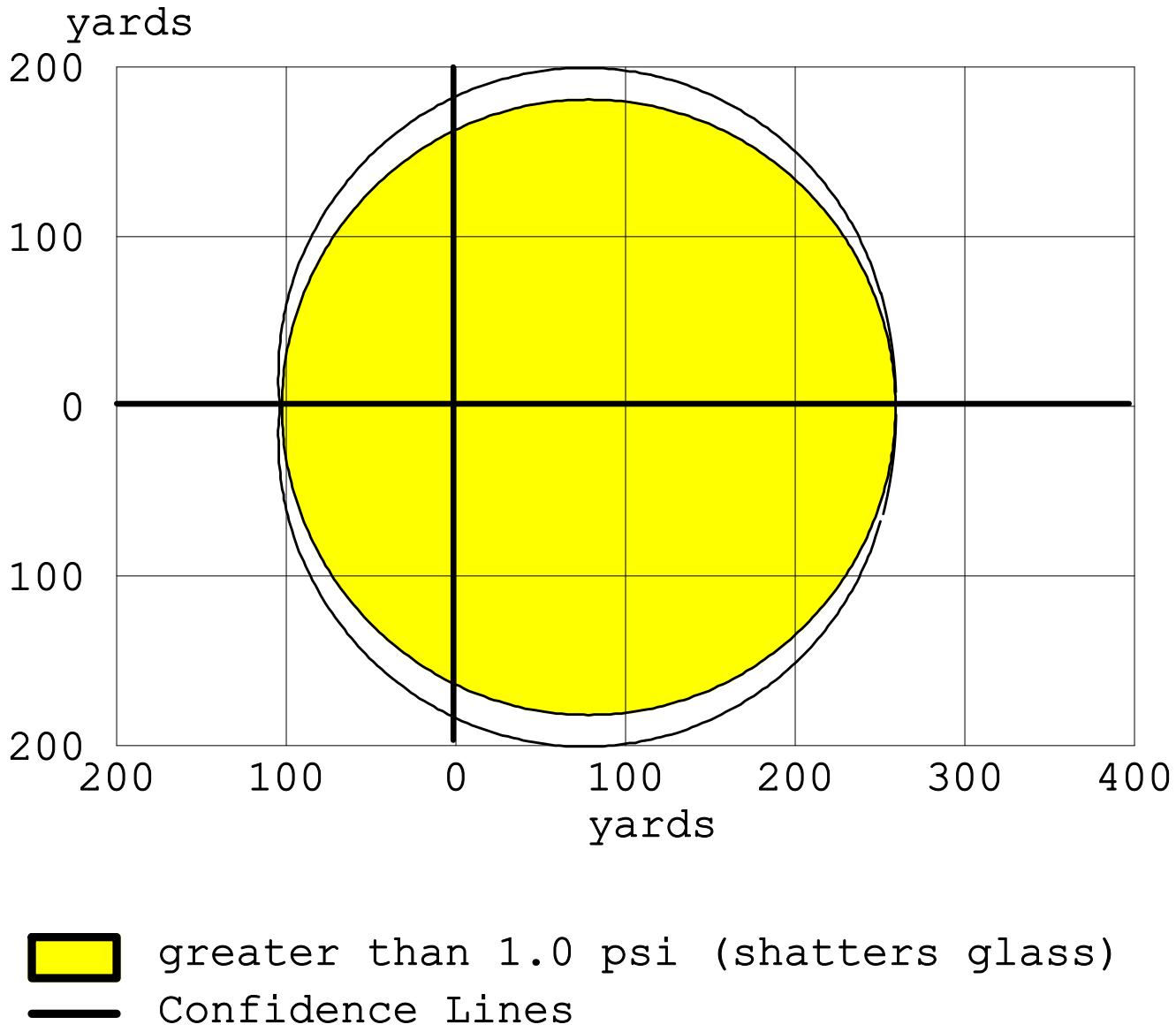
ALOHA® 5.4.2

Time: February 8, 2012 1549 hours PST (user specified)

Chemical Name: METHANE

Wind: 1.5 meters/second from W at 2 meters

THREAT ZONE:
  Threat Modeled: Overpressure (blast force) from vapor cloud explosion
  Time of Ignition: 15 minutes after release begins
  Type of Ignition: ignited by detonation
  Model Run: Gaussian
  Explosive mass at time of ignition: 185 pounds
  Yellow: 261 yards --- (1.0 psi = shatters glass)



```
SITE DATA:Natural Gas Pipeline Vapor Cloud Explosion from Spark/Flame ARS
  Location: FREMONT, CALIFORNIA
  Building Air Exchanges Per Hour: 0.31 (sheltered single storied)
  Time: February 9, 2012  1534 hours PST (user specified)

CHEMICAL DATA:
  Chemical Name: METHANE                  Molecular Weight: 16.04 g/mol
  PAC-1: 2900 ppm    PAC-2: 2900 ppm      PAC-3: 17000 ppm
  LEL: 50000 ppm     UEL: 150000 ppm
  Ambient Boiling Point: -258.7° F
  Vapor Pressure at Ambient Temperature: greater than 1 atm
  Ambient Saturation Concentration: 1,000,000 ppm or 100.0%

ATMOSPHERIC DATA: (MANUAL INPUT OF DATA)
  Wind: 1.5 meters/second from W at 3 meters
  Ground Roughness: urban or forest       Cloud Cover: 5 tenths
  Air Temperature: 25° C
  Stability Class: F (user override)
  No Inversion Height                     Relative Humidity: 50%

SOURCE STRENGTH:
  Flammable gas escaping from pipe (not burning)
  Pipe Diameter: 6 inches                 Pipe Length: 4000 feet
  Unbroken end of the pipe is connected to an infinite source
  Pipe Roughness: smooth                  Hole Area: 28.3 sq in
  Pipe Press: 164.7 psia                  Pipe Temperature: 25° C
  Release Duration: ALOHA limited the duration to 1 hour
  Max Average Sustained Release Rate: 629 pounds/min
     (averaged over a minute or more)
  Total Amount Released: 34,433 pounds

THREAT ZONE:
  Threat Modeled: Overpressure (blast force) from vapor cloud explosion
  Type of Ignition: ignited by spark or flame
  Level of Congestion: uncongested
  Model Run: Gaussian
  Red   : LOC was never exceeded --- (1.0 psi = shatters glass)
```

Overpressure (Blast Force) Threat Zone

ALOHA® 5.4.4

```
Time: February 9, 2012  1534 hours PST (user specified)

Chemical Name: METHANE

Wind: 1.5 meters/second from W at 3 meters

THREAT ZONE:
  Threat Modeled: Overpressure (blast force) from vapor cloud explosion
  Type of Ignition: ignited by spark or flame
  Level of Congestion: uncongested
  Model Run: Gaussian
  Red   : LOC was never exceeded --- (1.0 psi = shatters glass)
```

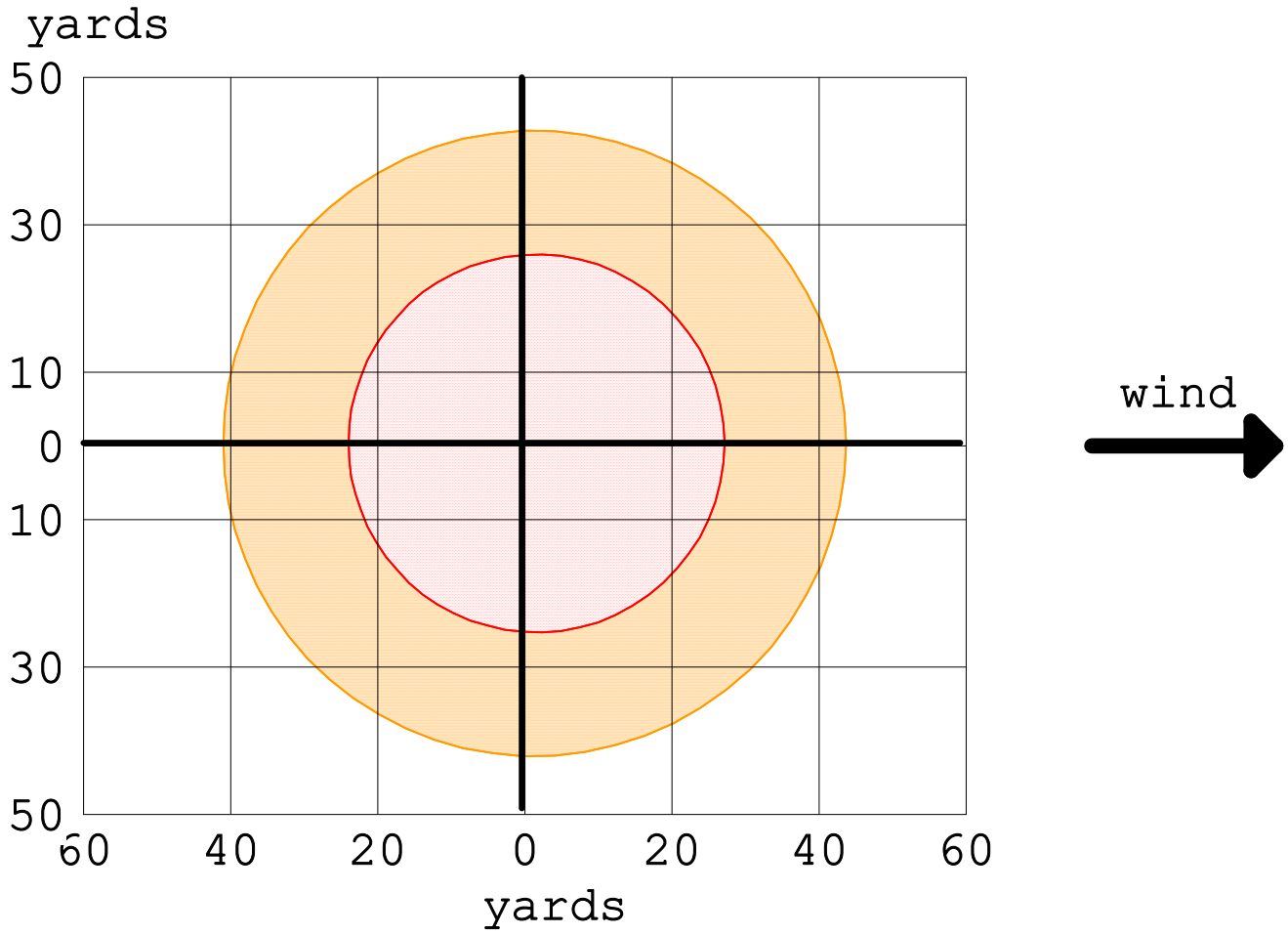
Threat Modeled: Overpressure (blast force) from va
Type of Ignition: ignited by spark or flame
Level of Congestion: uncongested
Model Run: Gaussian
Red   : LOC was never exceeded --- (1.0 psi = shat

```
SITE DATA:Natural Gas Pipeline Jet Fire - ARS
  Location: FREMONT, CALIFORNIA
  Building Air Exchanges Per Hour: 0.31 (sheltered single storied)
  Time: February 9, 2012  1534 hours PST (user specified)

CHEMICAL DATA:
  Chemical Name: METHANE                  Molecular Weight: 16.04 g/mol
  PAC-1: 2900 ppm    PAC-2: 2900 ppm      PAC-3: 17000 ppm
  LEL: 50000 ppm     UEL: 150000 ppm
  Ambient Boiling Point: -258.7° F
  Vapor Pressure at Ambient Temperature: greater than 1 atm
  Ambient Saturation Concentration: 1,000,000 ppm or 100.0%

ATMOSPHERIC DATA: (MANUAL INPUT OF DATA)
  Wind: 1.5 meters/second from W at 3 meters
  Ground Roughness: urban or forest       Cloud Cover: 5 tenths
  Air Temperature: 25° C
  Stability Class: F (user override)
  No Inversion Height                     Relative Humidity: 50%

SOURCE STRENGTH:
  Flammable gas is burning as it escapes from pipe
  Pipe Diameter: 6 inches                 Pipe Length: 4000 feet
  Unbroken end of the pipe is connected to an infinite source
  Pipe Roughness: smooth                  Hole Area: 28.3 sq in
  Pipe Press: 164.7 psia                  Pipe Temperature: 25° C
  Max Flame Length: 14 yards
  Burn Duration: ALOHA limited the duration to 1 hour
  Max Burn Rate: 4,240 pounds/min
  Total Amount Burned: 34,433 pounds

THREAT ZONE:
  Threat Modeled: Thermal radiation from jet fire
  Red    : 27 yards --- (5.0 kW/(sq m) = 2nd degree burns within 60 sec)
  Orange: 44 yards --- (2.0 kW/(sq m) = pain within 60 sec)
```

Thermal Radiation Threat Zone

ALOHA® 5.4.4

```
Time: February 9, 2012  1534 hours PST (user specified)

Chemical Name: METHANE

Wind: 1.5 meters/second from W at 3 meters

THREAT ZONE:
  Threat Modeled: Thermal radiation from jet fire
  Red    : 27 yards --- (5.0 kW/(sq m) = 2nd degree burns within 60 sec)
  Orange: 44 yards --- (2.0 kW/(sq m) = pain within 60 sec)
```



greater than 5.0 kW/(sq m) (2nd degree burns with

greater than 2.0 kW/(sq m) (pain within 60 sec)

ALOHA Modeling Results

Site ID 10
CPL/Kinder Morgan Pipeline
Mixed Liquid Petroleum Products

```
SITE DATA: Petroleum Pipeline Vapor Cloud Explosion External Detonation WCRS
  Location: FREMONT, CALIFORNIA
  Building Air Exchanges Per Hour: 0.31 (sheltered single storied)
  Time: December 8, 2014  1003 hours PST (user specified)

CHEMICAL DATA:
  Chemical Name: N-PENTANE                Molecular Weight: 72.15 g/mol
  PAC-1: 120 ppm     PAC-2: 610 ppm       PAC-3: 15000 ppm
  IDLH: 1500 ppm     LEL: 14000 ppm       UEL: 78000 ppm
  Ambient Boiling Point: 96.9° F
  Vapor Pressure at Ambient Temperature: 0.68 atm
  Ambient Saturation Concentration: 675,659 ppm or 67.6%

ATMOSPHERIC DATA: (MANUAL INPUT OF DATA)
  Wind: 1.5 meters/second from ESE at 3 meters
  Ground Roughness: urban or forest       Cloud Cover: 5 tenths
  Air Temperature: 77° F
  Stability Class: F (user override)
  Inversion Height: 10 feet               Relative Humidity: 50%

SOURCE STRENGTH:
  Evaporating Puddle (Note: chemical is flammable)
  Puddle Area: 1037.5 square meters
  Average Puddle Depth: 1 centimeters
  Ground Type: Default soil               Ground Temperature: 77° F
  Initial Puddle Temperature: Ground temperature
  Release Duration: 18 minutes
  Max Average Sustained Release Rate: 1,230 pounds/min
     (averaged over a minute or more)
  Total Amount Released: 14,221 pounds

THREAT ZONE:
  Threat Modeled: Overpressure (blast force) from vapor cloud explosion
  Time of Ignition: 10 minutes after release begins
  Type of Ignition: ignited by detonation
  Model Run: Heavy Gas
  Explosive mass at time of ignition: 548 pounds
  Red   : 290 yards --- (1.0 psi = shatters glass)
```

Overpressure (Blast Force) Threat Zone

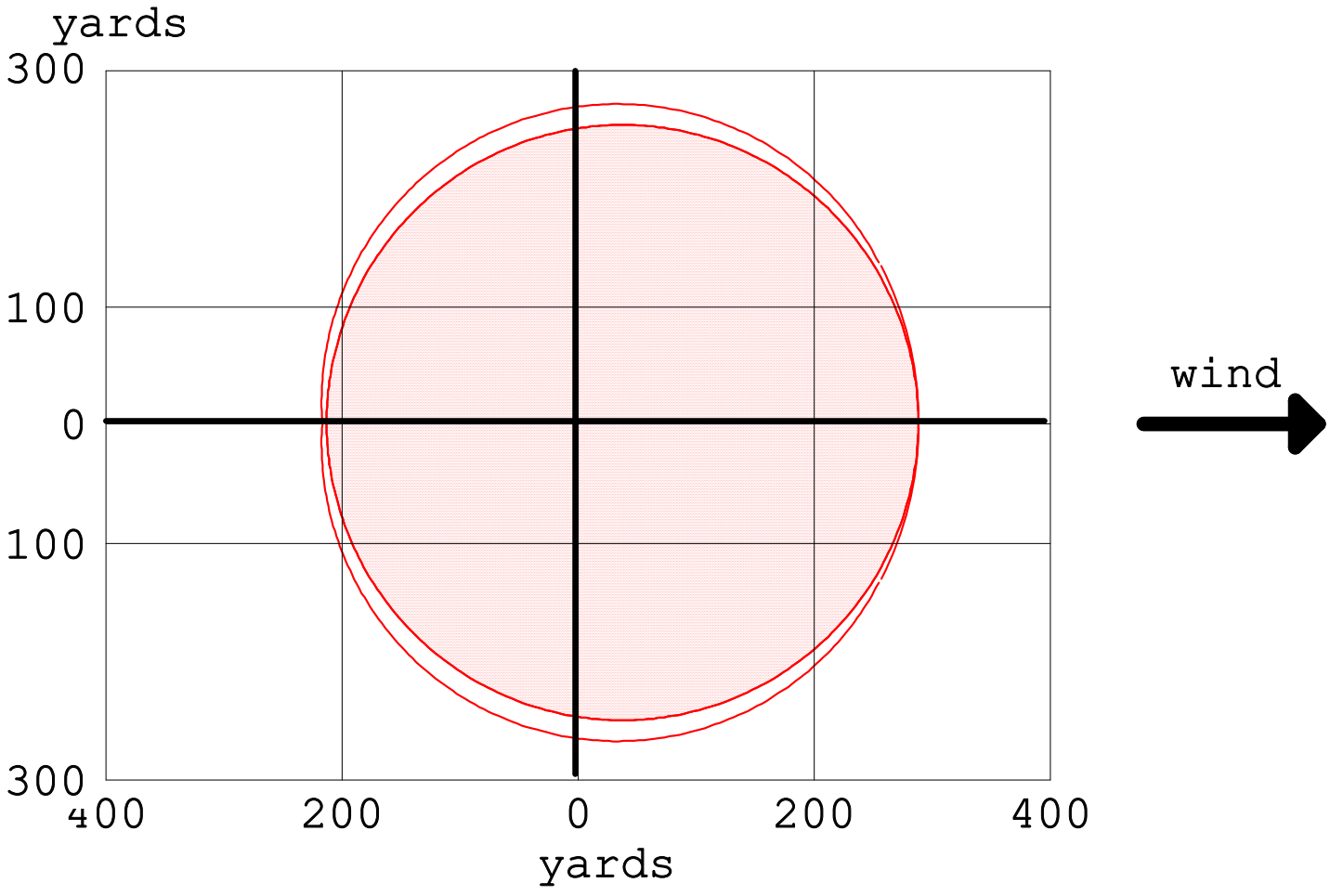
ALOHA® 5.4.4

Time: December 8, 2014 1003 hours PST (user specified)

Chemical Name: N-PENTANE

Wind: 1.5 meters/second from ESE at 3 meters

THREAT ZONE:
  Threat Modeled: Overpressure (blast force) from vapor cloud explosion
  Time of Ignition: 10 minutes after release begins
  Type of Ignition: ignited by detonation
  Model Run: Heavy Gas
  Explosive mass at time of ignition: 548 pounds
  Red   : 290 yards --- (1.0 psi = shatters glass)



greater than 1.0 psi (shatters glass)

wind direction confidence lines

```
SITE DATA:Petroleum Pipeline Vapor Cloud Explosion Spark/Flame ARS
  Location: FREMONT, CALIFORNIA
  Building Air Exchanges Per Hour: 0.31 (sheltered single storied)
  Time: December 8, 2014  1003 hours PST (user specified)

CHEMICAL DATA:
  Chemical Name: N-PENTANE                Molecular Weight: 72.15 g/mol
  PAC-1: 120 ppm     PAC-2: 610 ppm       PAC-3: 15000 ppm
  IDLH: 1500 ppm     LEL: 14000 ppm       UEL: 78000 ppm
  Ambient Boiling Point: 96.9° F
  Vapor Pressure at Ambient Temperature: 0.68 atm
  Ambient Saturation Concentration: 675,659 ppm or 67.6%

ATMOSPHERIC DATA: (MANUAL INPUT OF DATA)
  Wind: 1.5 meters/second from ESE at 3 meters
  Ground Roughness: urban or forest       Cloud Cover: 5 tenths
  Air Temperature: 77° F
  Stability Class: F (user override)
  Inversion Height: 10 feet               Relative Humidity: 50%

SOURCE STRENGTH:
  Evaporating Puddle (Note: chemical is flammable)
  Puddle Area: 1037.5 square meters
  Average Puddle Depth: 1 centimeters
  Ground Type: Default soil               Ground Temperature: 77° F
  Initial Puddle Temperature: Ground temperature
  Release Duration: 18 minutes
  Max Average Sustained Release Rate: 1,230 pounds/min
     (averaged over a minute or more)
  Total Amount Released: 14,221 pounds

THREAT ZONE:
  Threat Modeled: Overpressure (blast force) from vapor cloud explosion
  Time of Ignition: 10 minutes after release begins
  Type of Ignition: ignited by spark or flame
  Level of Congestion: uncongested
  Model Run: Heavy Gas
  Explosive mass at time of ignition: 548 pounds
  Red   : LOC was never exceeded --- (1.0 psi = shatters glass)
```

Overpressure (Blast Force) Threat Zone

ALOHA® 5.4.4

```
Time: December 8, 2014  1003 hours PST (user specified)

Chemical Name: N-PENTANE

Wind: 1.5 meters/second from ESE at 3 meters

THREAT ZONE:
  Threat Modeled: Overpressure (blast force) from vapor cloud explosion
  Time of Ignition: 10 minutes after release begins
  Type of Ignition: ignited by spark or flame
  Level of Congestion: uncongested
  Model Run: Heavy Gas
  Explosive mass at time of ignition: 548 pounds
  Red   : LOC was never exceeded --- (1.0 psi = shatters glass)
```


Threat Modeled: Overpressure (blast force) from va
Time of Ignition: 10 minutes after release begins
Type of Ignition: ignited by spark or flame
Level of Congestion: uncongested
Model Run: Heavy Gas
Explosive mass at time of ignition: 548 pounds
Red   : LOC was never exceeded --- (1.0 psi = shat

```
SITE DATA:Petroleum Pipeline Pool Fire - ARS
  Location: FREMONT, CALIFORNIA
  Building Air Exchanges Per Hour: 0.25 (sheltered single storied)
  Time: December 8, 2014  1003 hours PST (user specified)

CHEMICAL DATA:
  Chemical Name: N-PENTANE                Molecular Weight: 72.15 g/mol
  PAC-1: 120 ppm     PAC-2: 610 ppm       PAC-3: 15000 ppm
  IDLH: 1500 ppm     LEL: 14000 ppm       UEL: 78000 ppm
  Ambient Boiling Point: 96.9° F
  Vapor Pressure at Ambient Temperature: 0.68 atm
  Ambient Saturation Concentration: 675,659 ppm or 67.6%

ATMOSPHERIC DATA: (MANUAL INPUT OF DATA)
  Wind: 1.5 miles/hour from ESE at 3 meters
  Ground Roughness: urban or forest       Cloud Cover: 5 tenths
  Air Temperature: 25° C
  Stability Class: F (user override)
  No Inversion Height                     Relative Humidity: 50%

SOURCE STRENGTH:
  Burning Puddle / Pool Fire
  Puddle Area: 1037.5 square meters
  Average Puddle Depth: 1 centimeters
  Initial Puddle Temperature: 77° F
  Flame Length: 65 yards                  Burn Duration: 53 seconds
  Burn Rate: 269 pounds/sec
  Total Amount Burned: 14,221 pounds

THREAT ZONE:
  Threat Modeled: Thermal radiation from pool fire
  Red   : 153 yards --- (5.0 kW/(sq m) = 2nd degree burns within 60 sec)
  Orange: 240 yards --- (2.0 kW/(sq m) = pain within 60 sec)
```

Thermal Radiation Threat Zone

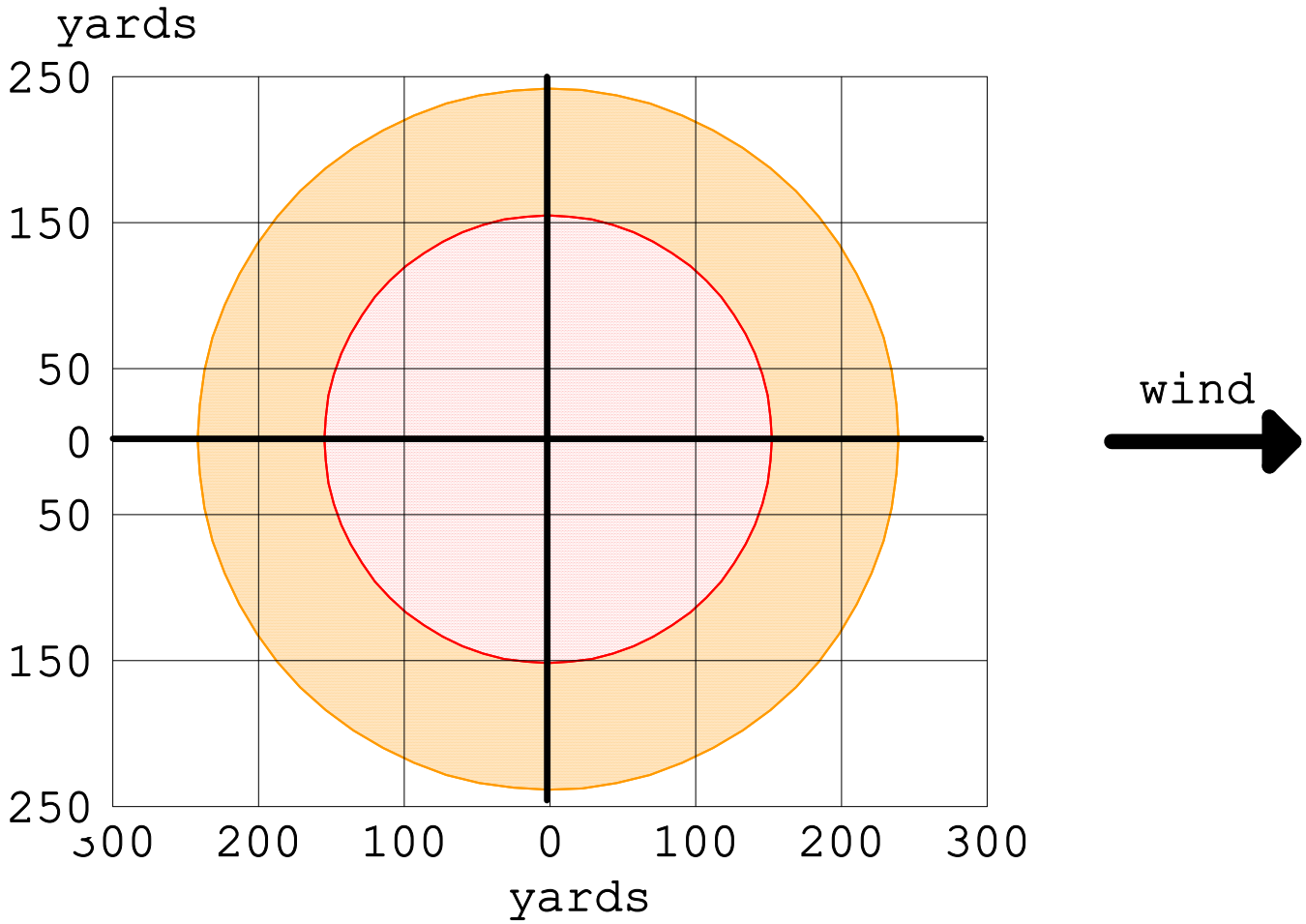
ALOHA® 5.4.4

Time: December 8, 2014 1003 hours PST (user specified)

Chemical Name: N-PENTANE

Wind: 1.5 miles/hour from ESE at 3 meters

THREAT ZONE:
  Threat Modeled: Thermal radiation from pool fire
  Red   : 153 yards --- (5.0 kW/(sq m) = 2nd degree burns within 60 sec)
  Orange: 240 yards --- (2.0 kW/(sq m) = pain within 60 sec)



greater than 5.0 kW/(sq m) (2nd degree burns with

greater than 2.0 kW/(sq m) (pain within 60 sec)

ALOHA Modeling Results

Site ID 11
PG&E Pipeline
Natural Gas (Methane)

```
SITE DATA:PG&E/Tesla Natural Gas Vapor Cloud ExternalDetonation- WCRS
  Location: FREMONT, CALIFORNIA
  Building Air Exchanges Per Hour: 0.44 (unsheltered single storied)
  Time: February 8, 2012  1549 hours PST (user specified)

CHEMICAL DATA:
  Chemical Name: METHANE                  Molecular Weight: 16.04 g/mol
  PAC-1: 3000 ppm    PAC-2: 5000 ppm      PAC-3: 200000 ppm
  LEL: 50000 ppm     UEL: 150000 ppm
  Ambient Boiling Point: -258.7° F
  Vapor Pressure at Ambient Temperature: greater than 1 atm
  Ambient Saturation Concentration: 1,000,000 ppm or 100.0%

ATMOSPHERIC DATA: (MANUAL INPUT OF DATA)
  Wind: 1.5 meters/second from W at 2 meters
  Ground Roughness: urban or forest       Cloud Cover: 5 tenths
  Air Temperature: 25° C
  Stability Class: F (user override)
  No Inversion Height                     Relative Humidity: 50%

SOURCE STRENGTH:
  Flammable gas escaping from pipe (not burning)
  Pipe Diameter: 6 inches                 Pipe Length: 4000 feet
  Unbroken end of the pipe is connected to an infinite source
  Pipe Roughness: smooth                  Hole Area: 28.3 sq in
  Pipe Press: 164.7 psia                  Pipe Temperature: 25° C
  Release Duration: ALOHA limited the duration to 1 hour
  Max Average Sustained Release Rate: 629 pounds/min
     (averaged over a minute or more)
  Total Amount Released: 34,434 pounds

THREAT ZONE:
  Threat Modeled: Overpressure (blast force) from vapor cloud explosion
  Time of Ignition: 15 minutes after release begins
  Type of Ignition: ignited by detonation
  Model Run: Gaussian
  Explosive mass at time of ignition: 185 pounds
  Yellow: 261 yards --- (1.0 psi = shatters glass)
```

Overpressure (Blast Force) Threat Zone

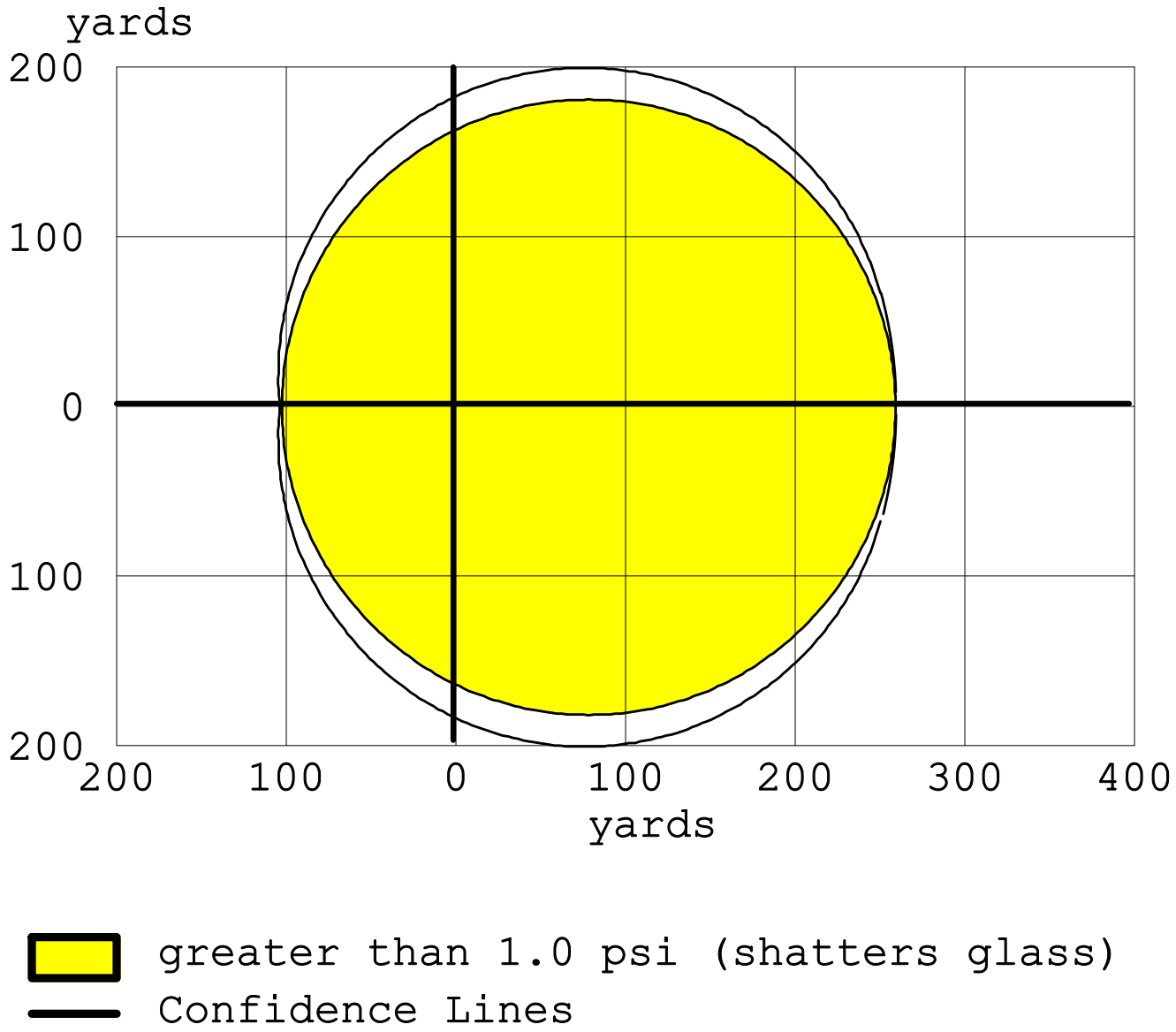
ALOHA® 5.4.2

Time: February 8, 2012 1549 hours PST (user specified)

Chemical Name: METHANE

Wind: 1.5 meters/second from W at 2 meters

THREAT ZONE:
  Threat Modeled: Overpressure (blast force) from vapor cloud explosion
  Time of Ignition: 15 minutes after release begins
  Type of Ignition: ignited by detonation
  Model Run: Gaussian
  Explosive mass at time of ignition: 185 pounds
  Yellow: 261 yards --- (1.0 psi = shatters glass)



```
SITE DATA:Natural Gas Pipeline Vapor Cloud Explosion from Spark/Flame ARS
  Location: FREMONT, CALIFORNIA
  Building Air Exchanges Per Hour: 0.31 (sheltered single storied)
  Time: February 9, 2012  1534 hours PST (user specified)

CHEMICAL DATA:
  Chemical Name: METHANE                  Molecular Weight: 16.04 g/mol
  PAC-1: 2900 ppm    PAC-2: 2900 ppm      PAC-3: 17000 ppm
  LEL: 50000 ppm     UEL: 150000 ppm
  Ambient Boiling Point: -258.7° F
  Vapor Pressure at Ambient Temperature: greater than 1 atm
  Ambient Saturation Concentration: 1,000,000 ppm or 100.0%

ATMOSPHERIC DATA: (MANUAL INPUT OF DATA)
  Wind: 1.5 meters/second from W at 3 meters
  Ground Roughness: urban or forest       Cloud Cover: 5 tenths
  Air Temperature: 25° C
  Stability Class: F (user override)
  No Inversion Height                     Relative Humidity: 50%

SOURCE STRENGTH:
  Flammable gas escaping from pipe (not burning)
  Pipe Diameter: 6 inches                 Pipe Length: 4000 feet
  Unbroken end of the pipe is connected to an infinite source
  Pipe Roughness: smooth                  Hole Area: 28.3 sq in
  Pipe Press: 164.7 psia                  Pipe Temperature: 25° C
  Release Duration: ALOHA limited the duration to 1 hour
  Max Average Sustained Release Rate: 629 pounds/min
     (averaged over a minute or more)
  Total Amount Released: 34,433 pounds

THREAT ZONE:
  Threat Modeled: Overpressure (blast force) from vapor cloud explosion
  Type of Ignition: ignited by spark or flame
  Level of Congestion: uncongested
  Model Run: Gaussian
  Red   : LOC was never exceeded --- (1.0 psi = shatters glass)
```

Overpressure (Blast Force) Threat Zone

ALOHA® 5.4.4

```
Time: February 9, 2012  1534 hours PST (user specified)

Chemical Name: METHANE

Wind: 1.5 meters/second from W at 3 meters

THREAT ZONE:
  Threat Modeled: Overpressure (blast force) from vapor cloud explosion
  Type of Ignition: ignited by spark or flame
  Level of Congestion: uncongested
  Model Run: Gaussian
  Red   : LOC was never exceeded --- (1.0 psi = shatters glass)
```

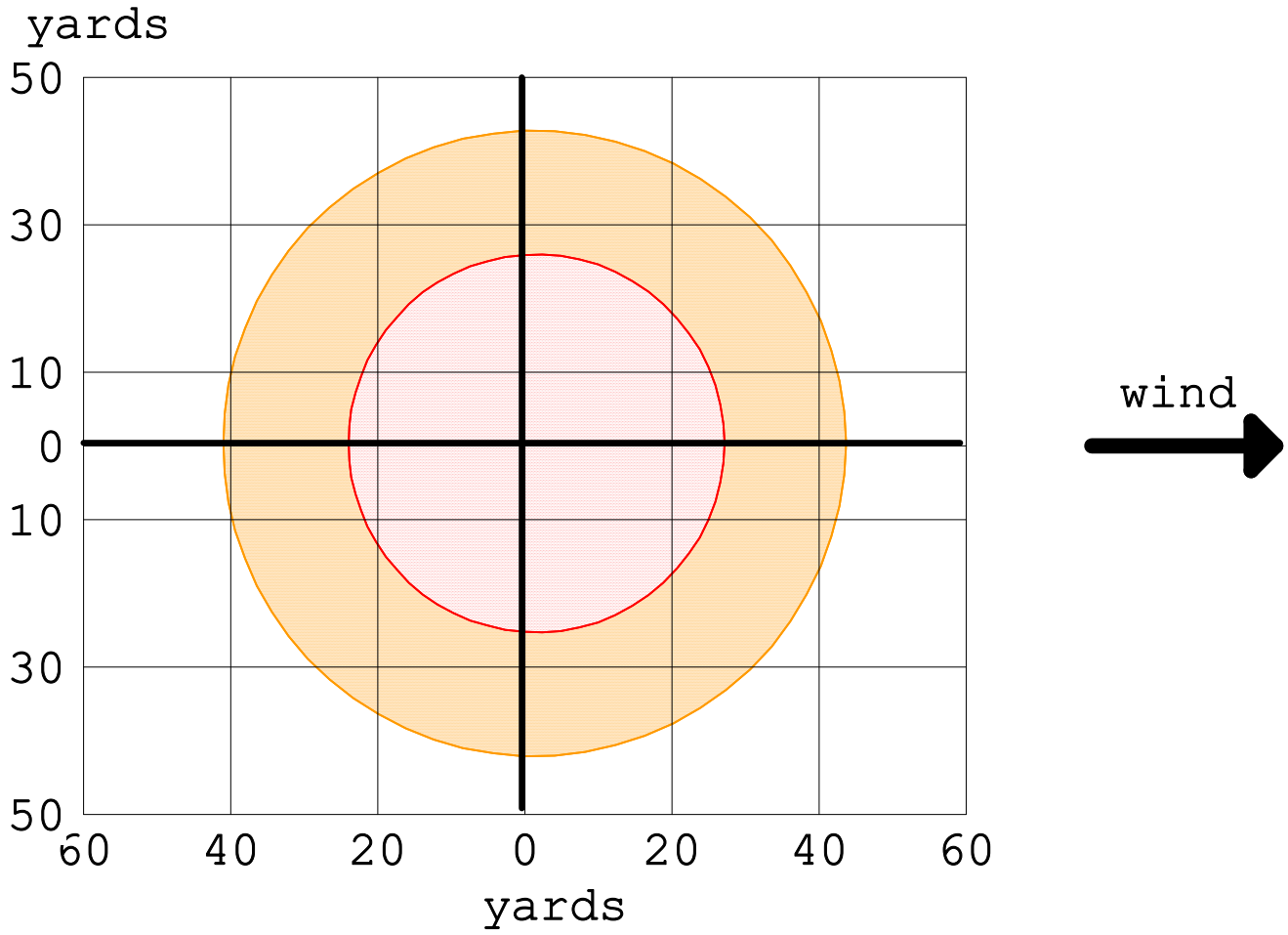
Threat Modeled: Overpressure (blast force) from va
Type of Ignition: ignited by spark or flame
Level of Congestion: uncongested
Model Run: Gaussian
Red   : LOC was never exceeded --- (1.0 psi = shat

```
SITE DATA:Natural Gas Pipeline Jet Fire - ARS
  Location: FREMONT, CALIFORNIA
  Building Air Exchanges Per Hour: 0.31 (sheltered single storied)
  Time: February 9, 2012  1534 hours PST (user specified)

CHEMICAL DATA:
  Chemical Name: METHANE                  Molecular Weight: 16.04 g/mol
  PAC-1: 2900 ppm    PAC-2: 2900 ppm      PAC-3: 17000 ppm
  LEL: 50000 ppm     UEL: 150000 ppm
  Ambient Boiling Point: -258.7° F
  Vapor Pressure at Ambient Temperature: greater than 1 atm
  Ambient Saturation Concentration: 1,000,000 ppm or 100.0%

ATMOSPHERIC DATA: (MANUAL INPUT OF DATA)
  Wind: 1.5 meters/second from W at 3 meters
  Ground Roughness: urban or forest       Cloud Cover: 5 tenths
  Air Temperature: 25° C
  Stability Class: F (user override)
  No Inversion Height                     Relative Humidity: 50%

SOURCE STRENGTH:
  Flammable gas is burning as it escapes from pipe
  Pipe Diameter: 6 inches                 Pipe Length: 4000 feet
  Unbroken end of the pipe is connected to an infinite source
  Pipe Roughness: smooth                  Hole Area: 28.3 sq in
  Pipe Press: 164.7 psia                  Pipe Temperature: 25° C
  Max Flame Length: 14 yards
  Burn Duration: ALOHA limited the duration to 1 hour
  Max Burn Rate: 4,240 pounds/min
  Total Amount Burned: 34,433 pounds

THREAT ZONE:
  Threat Modeled: Thermal radiation from jet fire
  Red    : 27 yards --- (5.0 kW/(sq m) = 2nd degree burns within 60 sec)
  Orange: 44 yards --- (2.0 kW/(sq m) = pain within 60 sec)
```

Thermal Radiation Threat Zone

ALOHA® 5.4.4

```
Time: February 9, 2012  1534 hours PST (user specified)

Chemical Name: METHANE

Wind: 1.5 meters/second from W at 3 meters

THREAT ZONE:
  Threat Modeled: Thermal radiation from jet fire
  Red    : 27 yards --- (5.0 kW/(sq m) = 2nd degree burns within 60 sec)
  Orange: 44 yards --- (2.0 kW/(sq m) = pain within 60 sec)
```



greater than 5.0 kW/(sq m) (2nd degree burns with

greater than 2.0 kW/(sq m) (pain within 60 sec)

Appendix C

Correspondence

One Concord Center
2300 Clayton Road, Suite 610
Concord, CA 94520

925.688.1200 PHONE
925.688.0388 FAX

www.TRCsolutions.com

Attn: Angeles Barraza
Fremont Fire Administration
3300 Capitol, Ave.
Fremont, California 94538
CC: JSwardenski@fremont.gov

December 12, 2014

Subject: Public Records Review Request

Dear Ms. Barraza,

TRC Solutions, Inc. has been retained to conduct a Site-Specific Hazardous Material Risk Analysis for a site in the Warm Springs Bart/South Fremont Community Plan. We would like to review the latest Risk Management Plans for the following facilities:

Address	Facility Name
1. Global Plating	44620 S. Grimmer Blvd.
2. Glacier Ice, Co	43960 Fremont Blvd

TRC understands that these plans are made available to the CUPA however are not typically part of CERS submittals. TRC is available to review the files at the CUPA offices. Please provide the requested files to EFitz@trcsolutions.comif CERS versions are available. If you have any questions, don't hesitate to give me a call at 925-768-7138.

Sincerely,

Eric Fitz

Eric Fitz, P.E.
Senior Staff Engineer

From:	Angeles Barraza
To:	Fitz, Eric
Cc:	Jay Swardenski
Subject:	RE: Follow Up Records Request
Date:	Thursday, December 18, 2014 8:35:30 AM

HI Eric,

I apologize for the late response, but I was out ill the last couple of days. I spoke to our staff, and they confirmed that we have not received updated RMP's. These businesses are in the process of updating them, but haven't finalized the updates. Our offices will be open until December 23rd. Would you like to review the existing records?

-----Original Message-----
From: Fitz, Eric [mailto:EFitz@trcsolutions.com]
Sent: Wednesday, December 17, 2014 11:37 AM
To: Angeles Barraza
Cc: Jay Swardenski
Subject: RE: Follow Up Records Request

Hi Angeles,

Were you able to find any updated documents? I will be on vacation from the 18th through 29th, and would like to see the documents the week of the 29th if possible. Thanks and have a very Happy Holiday!

Best,

Eric Fitz, P.E.
Senior Staff Environmental Engineer

One Concord Ctr., 2300 Clayton Rd Ste 610, Concord, CA 94520
T: 925.688.2479 | F: 925.688.0388 | C: 925.768.7138 Follow us on LinkedIn or Twitter | www.trcsolutions.com

-----Original Message-----
From: Fitz, Eric
Sent: Monday, December 15, 2014 10:53 AM
To: 'Angeles Barraza'
Cc: Jay Swardenski
Subject: RE: Follow Up Records Request

Hi Angeles,

I reviewed RMP's for these facilities in 2012. The RMP's available were certified

November, 2006 for Glacier Ice &
March, 2007 for Global Plating

I believe both of these facilities are subject to 5 year update requirements so there should be new versions on file for each facility.

Thanks,

Eric Fitz, P.E.
Senior Staff Environmental Engineer

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www.trcsolutions.com

-----Original Message-----
From: Angeles Barraza [mailto:ABarraza@fremont.gov]
Sent: Monday, December 15, 2014 10:47 AM
To: Fitz, Eric
Cc: Jay Swardenski
Subject: RE: Follow Up Records Request

Hi Eric,

I will research these documents, and confirm availability.

-----Original Message-----
From: Fitz, Eric [mailto:EFitz@trcsolutions.com]
Sent: Friday, December 12, 2014 12:07 PM
To: Angeles Barraza
Cc: Jay Swardenski
Subject: Follow Up Records Request

Hi Angeles,

I would like to review Risk Management Plans for the following two facilities (formal request attached):

1. Global Plating at 44620 S. Grimmer Blvd.
2. Glacier Ice, Co at 43960 Fremont Blvd

I know these are usually not in the CERS submittals. Would you be able to pull these from the HMBP files so I could review them at the CUPA? If it is possible to review these Tuesday next week, that would be amazing!

Thanks,

Eric Fitz, P.E.
Senior Staff Environmental Engineer

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T: 925.688.2479 | F: 925.688.0388 | C: 925.768.7138 Follow us on LinkedIn or Twitter |
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One Concord Center
2300 Clayton Road, Suite 610
Concord, CA 94520

925.688.1200 PHONE
925.688.0388 FAX

www.TRCsolutions.com

Attn: Angeles Barraza
Fremont Fire Administration
3300 Capitol, Ave.
Fremont, California 94538
CC: JSwardenski@fremont.gov
DFirth@calepa.ca.gov

November 21, 2014

Subject: Public Records Review Request

Dear Ms. Barraza,

TRC Solutions, Inc. has been retained to conduct a Site-Specific Hazardous Material Risk Analysis for a site in the Warm Springs Bart/South Fremont Community Plan. Part of the scope of work includes reviewing public records and specifically up to date Hazardous Material Inventory Statements for facilities within the Study Area. Per phone conversation with Dan Firth, CERS Coordinator with the CalEPA, inventory statements can be downloaded from CERS in Microsoft Excel template and provided via email. Could you please download and provide the latest Business Activities (PDF), Business Owner/Operator Identification (PDF), and Hazardous Material Inventory (Excel) for the following facilities:

Address	Facility Name
44533 S Grimmer Blvd	Melrose Metal Products
45051 Fremont Blvd	Quality Transport & Truck Rail Handling
4240 Business Center Dr.	Balkan MFG.
44530 S Grimmer BLVD	Bay Polymer Corporation
4201 Business Center Dr.	CHA Industries

Please provide the requested files to EFitz@trcsolutions.com. If you have any questions, don't hesitate to give me a call at 925-768-7138.

Sincerely,

Eric Fitz, P.E.
Senior Staff Engineer

One Concord Center
2300 Clayton Road, Suite 610
Concord, CA 94520

925.688.1200 PHONE
925.688.0388 FAX

www.TRCsolutions.com

Attn: Angeles Barraza
Fremont Fire Administration
3300 Capitol, Ave.
Fremont, California 94538
CC: JSwardenski@fremont.gov
DFirth@calepa.ca.gov

November 14, 2014

Subject: Public Records Review Request

Dear Ms. Barraza,

TRC Solutions, Inc. has been retained to conduct a Site-Specific Hazardous Material Risk Analysis for a site in the Warm Springs Bart/South Fremont Community Plan. Part of the scope of work includes reviewing public records and specifically up to date Hazardous Material Inventory Statements for facilities within the Study Area. Per phone conversation with Dan Firth, CERS Coordinator with the CalEPA, inventory statements can be downloaded from CERS in Microsoft Excel template and provided via email. Could you please download and provide the latest Business Activities (PDF), Business Owner/Operator Identification (PDF), and Hazardous Material Inventory (Excel) for the following facilities:

Facility	Address
1. Global Plating	44620 S. Grimmer Blvd.
2. Hayward Quartz Tech	1500 Corporate Way
3. Hayward Quartz Tech	1700 Corporate Way
4. West Coast Quartz Corp.	1000 Corporate Way
5. Western Digital	44200 Osgood Rd.
6. Western Digital	44100 Osgood Rd.
7. Truck Rail Facility	44355 Old Warm Springs Blvd.
8. Glacier Ice, Co	43960 Fremont Blvd
9. 7UP Bottling CO	2875 Prune Ave

Please provide the requested files to EFitz@trcsolutions.com. If you have any questions, don't hesitate to give me a call at 925-768-7138.

Sincerely,

Eric Fitz

Eric Fitz, P.E.
Senior Staff Engineer

COATES FIELD SERVICE, INC.
1233 ALPINE ROAD, #214
WALNUT CREEK, CALIFORNIA 94596
TEL 925.935.5101 FAX 925.935.8367

Jeremy Gross Tel. 925.753.2003
jgpf@chevron.com

January 26, 2012

TRC
Attn: Eric Fitz
One Concord Center
2300 Clayton Rd. Ste 610
Concord, CA 94520

REQUEST FOR INFORMATION
TRC Hazards Assessment in Fremont
CHEVRON BAPL MILEPOST 90.2

Dear Mr. Fitz:

Thank you for giving us the opportunity to answer your questions. Chevron has received you Email dated January 25, 2012 requesting certain information regarding Chevron's buried pipeline that parallels the BART/ VTA railroad in the vicinity of the proposed "BART Warm Springs Station." **Chevron Pipe Line Company (CPL) is currently in a heightened security status involving our facilities; therefore please understand that we are restricted in the information we are allowing to be released pertaining to our pipelines and facilities.** Chevron has reviewed your Questionnaire for a Pipeline located in vicinity of the proposed senior community and offers the following answers.

- **Diameter** – 8-inch
- **Pipe Material (smooth/rough) –** Welded Steel
- **Flow Rate –** Company Confidential
- **Depth –** Typically buried 36-48 inches
- **Fuel Types –** Petroleum Products
- **Break Valve locations –** Company Confidential
- **Whether or not automatic shut offs are used for these break valve locations –** Company Confidential
- **Pipeline Age –** Pipeline installed in the 1960's, relocated in area of concern end of 2011

COATES

COATES FIELD SERVICE, INC.
1233 ALPINE ROAD, #214
WALNUT CREEK, CALIFORNIA 94596
TEL 925.935.5101 FAX 925.935.8367

Jeremy Gross Tel. 925.753.2003
jgpf@chevron.com

Additional information that may be useful for your study:

With regard to operating pressures, cathodic protection, inspection frequency and public information programs, and location of shutoff valves please be advised that Chevron Pipe Line Company's pipelines are governed by the Office of Pipeline Safety (OPS), which is part of the Research and Special Programs Administration, U.S. Department of Transportation (DOT) which regulates natural gas and hazardous liquid pipelines (interstate/ intrastate). In California, the California State Fire Marshal office (CSFM) is a division of the Department of Forestry which has been certified by the OPS to carry out the duties under 49 CFR 195 et seq. (hazardous liquid pipeline safety laws). The OPS regulates the interstate natural gas pipelines in California under 49 CFR 192 et seq. (natural gas pipeline safety laws).

Please note that it is the Law to notify Underground Service Alert (USA) at 800-227-2600 **at least** 48 hours prior to any excavation work.

Thank you again for allowing Chevron to answer your questions. Feel free to give me a call at (925) 753-2003 should you need further assistance.

Respectfully,

JEREMY GROSS
CONTRACT CONFLICT INQUIRY REP.

COATES

Fitz, Eric

From: Randall, Stephanie <Stephanie_Randall@kindermorgan.com>
Sent: Tuesday, February 14, 2012 8:39 AM
To: Fitz, Eric
Cc: Hanak, Michael; Quinn, Don
Subject: Hazardous Risk Assm't -City of Fremont, CA
Attachments: LS-16 CC-SJ 10in-092.pdf

Dear Mr. Fitz,

This is in reply to your letter dated January 25, 2012, concerning the above referenced location in the City of Fremont, California.

Attached is a copy of drawing line section 16, sheet 92 that respectively depicts the general alignment of Kinder Morgan's (KM) 10-inch products pipeline in the vicinity of the referenced location. The pipeline is actively used for transportation of refined petroleum products.

Operation and maintenance of the pipelines are performed in accordance with the Code of Federal Regulations (Title 49, Part 195, Subpart F – Operation and Maintenance) and the California Pipeline Safety Act.

SFPP/Kinder Morgan does not have active environmental remediation on or adjacent to the property in question. Please consult the ASTM Standard for Environmental Site Assessments: Phase I Environmental Site Assessment Process to determine whether a high pressure refined petroleum pipeline should be considered a recognized environmental condition.

Sincerely,

Mike Hanak
Director - EHS

Ownership
Tract
Owner
Footage

2230+10	16-20-9 SOUTHERN PACIFIC COMPANY 869'	2233+21	16-20-10 CITY OF FREMONT 20'	2234+41	16-20-11 SOUTHERN PACIFIC COMPANY 926'	2241+50	16-20-11 SOUTHERN PACIFIC COMPANY 1,424'	2255+74	16-20-12 CITY OF FREMONT 79'	2256+53	16-20-13 SOUTHERN PACIFIC COMPANY 447'	2256+60

County, State

ALAMEDA COUNTY, CA

P.I.
Stations
&
Angles

2236+98 PI 41° RT
2237+23 PI 41° LT
2239+46 PI 45° LT
2239+71 PI 45° RT
EQUATION
BK 2239+77.12 AH
EQ 2239+60.40

Sheet Notes

Ties to property corners, road, railroad, waterway & foreign line xings, other notes

2231+44 TIE RT 27° TO SPRR TRACK
2231+44 TIE RT 5° TO TELE POLE
2232+21 PROPERTY LINE
2232+21 TIE RT 28° TO SPRR TRACK
2232+31 EDGE OF PAVEMENT
2232+31 36" CSC (UNDER)
2232+31 C/L PRUNE AVE
2232+31 SEGMENT 16-20D-1
2232+31 16-20D-2
2232+41 PROPERTY LINE
2232+41 TIE RT 27° TO SPRR TRACK
2232+41 EDGE OF PAVEMENT
2233+22 TELE POLE E/14
2234+31 BEGIN CONCRETE CAP
2234+94 TELE POLE 1/18
2235+11 END CONCRETE CAP
2238+41 C/L GRIMMER AVE
2239+65 C/L 1" VENT
2240+20 TELE POLE 1/21
2241+67 TIE LT 2° TO SPRR ROW LINE
2241+87 TIE RT 28° TO SPRR TRACK
2241+87 TIE RT 5° TO TELE POLE 1/22
2242+43 BEGIN CONCRETE CAP
2242+68 END CONCRETE CAP
2242+80 C/L ROAD
2243+67 TELE POLE 1/23
2245+40 TELE POLE
2245+61 4" PIPELINE (OVER)
2246+79 TIE RT 28° TO SPRR MP 35
2247+09 TIE RT 28° TO SPRR TRACK
2247+09 TIE RT 5° TO TELE POLE 1/25
2247+94 SPRR SIGNALS 350 & 351
2248+85 TELE POLE 1/6
2250+74 TIE RT 28° TO SPRR TRACK
2250+74 TIE RT 5° TO TELE POLE
2252+49 TELE POLE
2254+16 TELE POLE
2255+20 (18) 4" PIPELINES IN 4 IN CONDUIT (OVER)
2255+20 3" CONDUIT (OVER)
2255+39 TIE RT 2° TO TELE POLE
2255+74 EDGE OF PAVEMENT
2255+74 PROPERTY LINE
2255+79 BEGIN 16" CASING
2256+19 C/L WARM SPRINGS BLVD
2256+19 END 16-20D-2
2256+53 EDGE OF PAVEMENT
2256+53 PROPERTY LINE

Pipe Schematic

2231+89 RECTIFIER 16-8 FCSR 4875206
2231+97 BEGIN 16" CASING
2232+63 END CASING
2234+31 BEGIN CONCRETE CAP
2235+11 END CONCRETE CAP
2236+68 1" VENT
2236+98 SB 45° RT 10D
2237+23 SB 45° LT 10D
2239+46 SB 45° LT 10D
2239+71 SB 45° RT 10D
EQ BK 2239+77.12 AH
2239+60.40
2239+65 1" VENT
2242+43 BEGIN CONCRETE CAP
2242+68 END CONCRETE CAP
2250+46 BEGIN TYPE A SLEEVE
2255+21 BEGIN 16" CASING

Pipe Material
Diameter
Wall
SMYS
Install Date

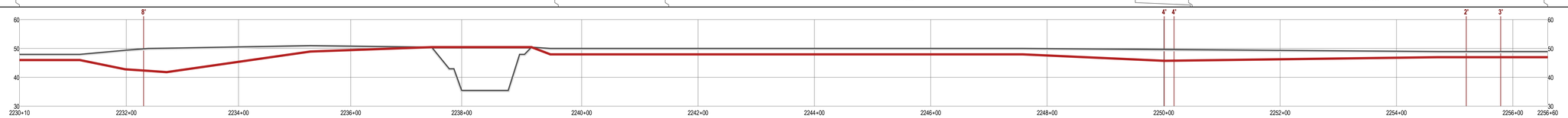
2230+10	10.75"OD 0.188" WT X-52 1/1/1965	2236+90	10.75"OD 0.250" WT X-42 1/1/1965	2239+77	10.75"OD 0.188" WT X-52 1/1/1965	2241+50	10.75"OD 0.188" WT X-52 1/1/1965	2256+60

External Coating
Material
Type
Install Date

2230+10	SOMASTIC SOMASTIC	2239+77	SOMASTIC SOMASTIC	2241+50	SOMASTIC SOMASTIC 1/1/1965	2250+46	POLYPROPYLENE POLYKEN 930-35 7/1/2005	2250+49	SOMASTIC SOMASTIC 1/1/1965	2256+60

Depth of Cover
[US Feet]

Profile
Top of Ground
Top of Pipe



Summary

BEGIN E.S.	END E.S.

Revision

BEGIN E.S.	END E.S.	DATE	DESCRIPTION
2230+10	2256+60	09/09/10	INITIAL RELEASE OF PODS GIS LS-16 CC-SJ 10" ALIGNMENT MAPS

Legend

- CALCULATED MILEPOST
- AERIAL MARKER
- RAILROAD MILEPOST
- STATION EQUATION
- T2S, R5E, SEC.3 — TOWNSHIP-RANGE-SECTION / or GRANT NAME
- PIPE BEND
- BRANCH CONNECT
- STOPPLE-T
- TEE
- VALVE
- CHECK VALVE
- LAUNCHER
- RECEIVER
- REDUCER
- TAP
- SLEEVE
- CASING VENT PIPE
- CASING
- CONCRETE OVERCOAT
- CATHODIC TEST STATION
- GROUND BED
- RECTIFIER
- ANODE
- BOND
- RIVER WEIGHTS
- CONCRETE SLAB
- FLANGE
- KM PIPELINE
- OTHER KM PIPELINES
- SECTION
- COUNTY LINE
- STATE LINE
- WATER CROSSING
- RAILROAD
- RIGHT OF WAY
- FOREIGN LINE CROSSING
- ROAD CROSSING

Flow Direction

FLOW

KINDER MORGAN

System	SFPP NORTH
Sub System	CC-SJ
Line	LS-16; CONCORD - SAN JOSE 10"
Route	LS-16; CONCORD - SAN JOSE 10"
District	SAN JOSE / BRISBANE
Scale	1 " equals 100 ' (0, 50, 100, 200 Feet)
Line #	485016CCSJ
Sheet #	092
Generate Date	06/09/2011

Pacific Gas and Electric Company®

Jim Monninger
Principal-Strategic Planner
Customer Energy Solutions

350 Salem Street
Chico, CA 95928

February 3, 2012

TRC Attn Eric Fitz
2300 Clayton Road Ste 610
Concord, CA 94520

RE: Pacific Gas and Electric Company's Natural Gas System

Dear Eric:

Thank you for contacting PG&E with regards to concerns you have about our natural gas system. We take every customer concern seriously and review their concerns thoroughly. The following are responses to the questions that you raised concerning PG&E's natural gas system near specified locations below in Fremont:

Inquiry: During a site reconnaissance I observed a PG&E buried fuel facilities flag and a picture is attached. Could you explain to me what this is? Does it indicate a pipeline or something else? Could you provide me with operating parameters if it is a pipeline -- such as diameter, pressure, flow rate, and break valve location. If it's something else, such as a tank, could you provide me with size, pressure, and tank material?

Response: State law requires that any person planning an excavation, even as simple as planting a tree or digging a fence post, is required to call the California one-call system, known as Underground Service Alert at least two business days in advance. All utilities that operate underground systems (e.g., water, telephone, electric, gas, cable TV, pressurized sewer lines) are then required to mark the approximate location of those facilities with a surface marking. Where the utility lines are located under streets or sidewalk, the markings are usually applied with powder paints on the pavement. Where the facilities traverse landscaped areas or fields, PG&E uses these flags to mark the location of underground facilities. In this case, the flag denotes the location of a 3-inch steel gas main operating at normal distribution pressure (see description for location 4 below). This gas main is part of the networked distribution system that serves this neighborhood. As noted in our past response, PG&E does not provide flow rates to the public and while there are valves in this distribution system, we cannot identify the location of these valves pursuant to federal anti-terrorism laws adopted in 2002 following the 9/11 disaster.

Inquiry: Also, attached is a screen shot from the National Pipeline Mapping System which shows a blue PG&E pipeline spurring into the old NUMMI plant on Fremont Boulevard (labeled with a 1). According to NPMS the system name for this pipe is GCUST5900 and the operator ID is 15007. It is of note that the NPMS map indicates this pipeline dead ends well before the point I noticed a flag, which was at the end of Lopes Ct. Please explain.

Response: The GCUST5900 gas pipeline is a service line dedicated to the old NUMMI plant and does dead end as shown on the map. This line is not connected to the gas distribution main marked by the flag at the end of Lopes Ct. The 3-inch gas distribution main in Lopes Court continues southeasterly, under the railroad tracks, and proceeds down Warm Springs Court. This gas main connects to a 3-inch gas main in Warm Springs Blvd. This Warm Springs Blvd. main extends north and ends just north of Reliance Way.

Inquiry: Please provide the following pipeline characteristics for the pipelines located near the 3 numbered locations on the attached map and at the end of Lopes Ct noted by a star:

Location 1, 2, 3, Star
Line _____:

-Pipeline Diameter -
-Maximum Operating Pressure –
-Pipe Material -
-Above/Below Ground -

Response:

Location 1,
Line GCUST5900
-Pipeline Diameter - 6-inch
-Maximum Operating Pressure – 150 psig
-Pipe Material - steel
-Above/Below Ground - below ground

Location 2
Line No line number - distribution
-Pipeline Diameter - 4-inch
-Maximum Operating Pressure – 60 psig
-Pipe Material - steel
-Above/Below Ground - below ground

Location 3
Line No line number - distribution
-Pipeline Diameter - 4-inch
-Maximum Operating Pressure – 60 psig
-Pipe Material - steel
-Above/Below Ground - below ground

Page Three: Pacific Gas and Electric Company's Natural Gas System

Location Star
Line No line number - distribution
-Pipeline Diameter - 3-inch
-Maximum Operating Pressure – 60 psig
-Pipe Material - steel;
-Above/Below Ground - below ground

Please note that if you ever smell natural gas, see downed power lines, or suspect another emergency situation, leave the area immediately and then call 9-1-1 and PG&E at 1-800-743-5000. If you observe any suspicious activity near a natural gas pipeline, please contact your local law enforcement agency.

One additional important safety issue concerns ground excavation. Unplanned excavations are a leading cause of pipeline accidents. If you are planning to do any digging, you must call Underground Service Alert (USA) by dialing 8-1-1 at least two working days in advance of any work. USA provides a free service for marking underground utilities prior to digging.

I also want to let you know that PG&E is taking comprehensive steps to make our gas transmission pipelines safer, in consultation with other industry experts. We have a multiyear program to upgrade and modernize our pipelines, invest in more automated or remote-controlled shutoff valves, develop next-generation inspection technologies, and enhance our public safety partnerships.

To find out more about our comprehensive safety and monitoring program, visit www.pge.com/pipelinesafety, or if you have any additional questions, or concerns about PG&E's natural gas delivery system, please contact PG&E's Hotline for Gas Transmission Pipeline Information at 1-888-743-7431.

We value you as our customer and look forward to serving you in the future.

Sincerely,

Jim Monninger
Principal-Strategic Planner
Customer Energy Solutions
Pacific Gas & Electric

From: Doug Rich
To: Fitz, Eric; Wolf, Doug
Subject: Fwd: Truck Rail-Handling Questions
Date: Tuesday, December 23, 2014 5:55:51 PM

Some answers

Begin forwarded message:

From: Lee Schorno <lschorno@qatp-trh.com>
Date: December 23, 2014 at 5:50:15 PM PST
To: 'Steve Fisher' <steve@valleyoakpartners.com>
Cc: Doug Rich <doug@valleyoakpartners.com>
Subject: RE: Truck Rail-Handling Questions

Steve & Doug,

I will try and answer your questions below in Green. Let me know if you have further questions.

Merry Christmas!

TRUCK-RAIL HANDLING, INC.

Lee Schorno
President

45051 Industrial Drive
Fremont, CA 94538
510-657-4267 x-103
Fax 510-354-3941
Cell 510-377-4045
www.qatp-trh.com

From: Steve Fisher [mailto:steve@valleyoakpartners.com]
Sent: Tuesday, December 23, 2014 2:50 PM
To: Lee Schorno
Cc: Doug Rich
Subject: Fwd: Truck Rail-Handling Questions

Lee,

Thank you for your time and below are the questions Doug is looking for to complete the analysis. Please also elaborate as much as you can about the current containment system already in place.

Thanks again and Happy Holiday!

Steve

Steve Fisher | Partner
Valley Oak Partners, LLC
734 The Alameda | San Jose, CA 95126
T 408.282.0991 | F 408.282.9797 | C 408.768.9570
steve@valleyoakpartners.com | http://www.valleyoakpartners.com

Begin forwarded message:

From: Doug Rich <doug@valleyoakpartners.com>
Subject: Truck Rail-Handling Questions
Date: December 9, 2014 4:00:20 PM PST
To: Steve Fisher <steve@valleyoakpartners.com>

Steve -

We are progressing with our Hazardous Materials Risk Assessment. Some additional information from Truck Rail-Handling, Inc. is needed to complete the analysis and determine any potential impacts:

1) In the Annual Inventory Update to the City of Fremont/Fremont Fire Dept, the company lists the material "Mixed Xylene," but does not list the components of the "mix" or the percentage solution of each component. This additional information would be extremely helpful. The Mixed Xylene can be anywhere from 60 to 95% Xylene, 2-35% Ethylbenzene & 1-4% Hexane. It has a flash point that is in the mid 80 degree range depending upon the mix of products. Not sure what shows up on your report from the city as far as inventories go, but we can have between 0 and 2 rail cars of this product on hand. As of late we have had none of this product on site, but that will eventually change again. Some of these products sound worse than they are. In all reality pumping gasoline at a gas station is very similar to what we are doing in some ways.

2) For the operations and handling of both Methanol (misspelled on City Form) and xylene, are there any current passive or active mitigation systems or containment systems in use that would help mitigate or reduce the results of a spill? In essence, our baseline analysis right now has to assume a worst-case release scenario where the entire tank (assumed 31,250 gallons) is spilled at 1cm deep. With only 1cm deep, this results in a rather large dispersion area. Information regarding any systems in place that would either: (i) reduce the amount of liquid that could potentially be spilt (automatic shut-off valves, etc), or (ii) provide containment that would reduce the area of dispersion in a spill scenario (berms, curbs, containment systems, etc) would be very helpful – the facility has a huge concrete containment ditch to the West and North of the property about 10' inside of the fence line. The ditch is visible on Google Maps. All of the pavement and drains around the rail cars all flow to the containment ditch and there is a valve in the NW corner of the property that is left closed to keep anything reaching the Bay. The valve is opened to release rain water after rainfall. Link to Map to see the containment ditch: https://maps.google.com/maps?q=Old+Warm+Springs+Blvd,+Fremont,+CA&hl=en&ll=37.505649,-121.947432&spn=0.003244,0.004737&sll=38.61687,-95.625&sspn=36.477126,77.607422&oq=old+war&t=h&hnear=Old+Warm+Springs+Blvd,+Fremont,+California+94538&z=18

3) Also, I'm guessing that transfer of materials is gravity fed through a valve/connection at the bottom of the tanker, but if by chance the connection was on the side or some other higher connection point (where the tanker wouldn't necessarily empty its entire payload in a spill scenario) that would be useful as well. There are several ways that we unload products from rail cars. The products or railcars sometimes dictate how the products are unloaded and other times we may have options. It may be easier to discuss on the phone than to type out all of the scenario's. We do try to limit the possibility of spills by handling the products without pumps as much as possible. Eliminating the pumps allows TRH to transfer products with fewer connections and without a pump full of product after the transfer to or from the truck.

Thanks

Doug Rich
Valley Oak Partners, LLC
734 The Alameda | San Jose, CA 95126
T 408.282.0995 | F 408.282.9797 | C 925.570.4593
doug@valleyoakpartners.com | http://www.valleyoakpartners.com

Appendix D

Mitigation Measures from Initial Study

1.0 MITIGATION

Mitigation measures can be used to lessen the severity of off-site consequences during a hazardous material release. These are identified in Section 6.1. Section 6.2 also introduces measures to reduce the probability and consequences of pipeline releases. In addition to mitigation, a site specific emergency response plan, coordinated with local emergency responders, should be prepared for sites within the range of off-site consequences.

1.1 Mitigation Measures for Stationary Source Hazards

The following mitigation measures are those that are recommended as feasible actions that can be considered during future residential or commercial development site design and review to mitigate risks posed by hazards found in the Study Area. These measures only include those which are within the control of the City of Fremont, not those that are in the control of the owners and/or operators of the hazards (i.e., toxic gas deluge systems, pipeline emergency shut-off valves, secondary spill containment).

1. Setback Distance

The most basic measure that can be used to mitigate risk from any hazardous material release or ignition event is to put space between the sensitive receptors and the hazard source. In doing so, the transfer distance and time is greater which, in most cases, dissipates or dilutes the risk. For example, increasing the setback distance could:

- Allow more time for a toxic gas plume to dilute to lower the concentration prior to exposure to the site receptors.
- Lower the radiant heat impacts to the site from a fuel spill pool fire by allowing the heat to dissipate.
- Mitigate risks from a vapor cloud explosion over pressurization by allowing the force of the pressure barrier to dissipate.

Depending upon the development plan within the Study Area and the availability of space, increasing the setback distance may not be feasible. An alternate mitigation of a physical barrier may be possible, or the use of a decreased setback distance in conjunction with a physical barrier.

2. Blast Walls

Blast walls could be effective in mitigating risks posed by spill mobility, thermal radiation, and vapor cloud explosion over pressurization. Blast walls could also provide a secondary benefit of mitigating heavier than air toxic gas releases however should not be installed for this sole purpose. Blast walls are typically designed and constructed with reinforced concrete masonry. Depending on the risks, design specifications will vary (e.g. dimensions, construction materials, strength, and durability). The blast wall can be designed with further reinforcements to withstand high blast forces.

A blast wall would serve as a barrier from risks posed by a fuel spill pool fire. The wall would physically limit the mobility of a pool to a future site within the Study Area and serve as barrier against dangerous thermal radiative flux.

Placing blast walls between proposed development areas and existing pipelines could help mitigate thermal radiation and explosion overpressure risks posed by a pipeline release. Blast walls constructed along the northeastern portion of the lot east of Old Warm Springs Boulevard and south of Tavis Place could reduce the risks to future developments on that lot occurring from a propane release and overpressure threat from the 7UP Bottling Company. Additionally, a blast wall positioned along the north side of Corporate Way could help mitigate against overpressure risks resulting from a liquid hydrogen release at either the West Coast Quartz or Hayward Quartz businesses.

A blast wall could also provide an added benefit to mitigate risks posed by a heavier than air toxic gas release. A gas that is heavier than air (i.e., chlorine) will tend to stay low to the ground. Because of this, blast walls positioned close to the point of the release may be effective in increasing upwind dilution of a concentrated heavier than air gas. Following sufficient mixing of a gas with air, the density of the gas would begin to resemble that of air, and a wall would no longer provide mitigation. The blast wall mitigation measure should only be considered an added value to other alternatives due to the highly variable components of these toxic gas release scenarios. A blast wall would not provide mitigation against lighter than air gases.

3. Earthen Berms

Earthen berms can primarily be used to divert the flow of a release away from a sensitive receptor site. An earthen berm, in conjunction with a setback, could be a viable strategy for mitigating thermal radiation risks from a fuel spill pool fire. If a flammable liquid spill could breach the property boundary and an ignition source was present, this scenario could result in fire on a site. An earthen berm could prevent spreading of the pool towards a site. Additional setback from the berm could minimize thermal radiative flux impacts and render non-significant risk to potential sensitive receptors.

Earthen berms are typically used for low height applications due to design criteria and special footprint requirements. An earthen berm could potentially mitigate the effects of over pressurization from a vapor cloud explosion; however, this may not be a feasible mitigation option due to space restrictions. Typically, vertical reinforced concrete masonry blast walls are employed for use against over pressurization risk.

4. Building Orientation

Impacts from vapor cloud explosion over pressurization could be mitigated by orientating future building structures to minimize the exposed surface area within line of sight of a hazard. This measure will dissipate some of the shock wave energy away from the building façades and effectively reduce the physical damage to the buildings and their occupants. Orienting a building with its corner facing the potential blast source is a good example of how to reduce the directly exposed building surface area. Another example would be to install a blast wall and tier the face of the building behind the wall, facing the potential blast source, such that the trajectory of the over pressurization shock wave that breaches the top of the wall does not directly impact the upper floors of a building.

Strategic building orientation could be applied to structures in the proposed development area, located near a pipeline or other identified overpressure source, so as to reduce structural damage in the event of an explosion. In addition to the Chevron Pipeline Company and PG&E pipelines, key areas include the proposed development location southwest of the 7UP Bottling Company and the proposed development area adjacent to West Coast Quartz and Hayward Quartz, just south of Corporate Way.

5. Building Ventilation System Shutdown

Shutting down the building ventilation system may help protect occupants from exposure to a toxic gas release. The building has to be designed such that the exchange between indoor and outside air are minimized. This would require sealed air tight windows and mechanically controlled air exchange that might not be practical for residential units. The ventilation system also has to be designed with either an automated or manual shutdown feature. A manual shutdown would be a less expensive design, but it requires the knowledge that the release has occurred because someone in the building needs to trigger it. An automated design would employ contaminant sensors at the building air intakes that would trigger a shutdown of the outside air intakes when preset air contaminant levels of concern are detected. As part of the shutdown system, persons in and around such buildings could be instructed to "shelter-in-place" (SIP). SIP refers to keeping building occupants indoors, closing doors and windows, and shutting off ventilation fans and dampers to minimize the entrainment of chemicals from outdoors into buildings.

A study exploring the effectiveness of SIP in urban commercial districts concluded that SIP procedures were effective provided that ventilation systems were off; however, any delay in turning off ventilation systems was shown to greatly reduce SIP effectiveness. Modeling results indicated that in buildings where mechanical ventilation was maintained throughout the toxic gas release event SIP was only modestly effective, reducing casualties by an estimated 6% as opposed to the predicted 78% reduction when mechanical ventilation systems were shut off (Wanyu et al., 2008).

Portions of the proposed development fall within the toxic endpoint range of chemicals stored at various nearby locations such as chlorine, ammonia, hydrocyanic acid, and nitric acid. Buildings located within the WCRS toxic endpoint range of these sources could employ building ventilation shutdown symptoms to mitigate occupant's exposure to harmful concentrations of toxic gasses in the event of a release scenario. Urban density multi-family housing type construction with centralized controls and building management may lend themselves to feasibly incorporating this mitigation strategy.

6. Building Materials

Building construction is essentially the last line of defense against the potential hazards for the occupants inside. The building materials can be upgraded and catered to defend against perceived hazards. The part of the construction most vulnerable to vapor cloud over pressurization is the windows. Windows in the direct line of an over pressurization hazard could be upgraded to tempered blast-resistant models that are designed to withstand blast force. This could protect individuals from hazards posed by flying glass from a shattered window pane. Using fire-resistant building materials also lowers risks posed to the occupants by reducing the likelihood of a fire, or slowing the propagation of the fire, through the building (allowing more time for evacuation).

In areas of the proposed development where buildings could be exposed to overpressure from a vapor cloud explosion or high levels of thermal radiation (e.g. structures near pipelines, Truck-Rail Handling Inc., West Coast Quartz, Hayward Quartz, and 7UP Bottling Company), incorporating tempered windows and enhanced fire ratings into structural designs could reduce the risks posed by these hazards.

For structures in areas that fall within the toxic endpoint range of chlorine, ammonia, hydrocyanic acid, and nitric acid, airflow exchange through the building envelope could be minimized through HVAC design and building material selection. Opting for construction types such as concrete panels versus wood-frame designs would increase the effectiveness of SIP procedures (Wanyu et al., 2008).

1.2 Mitigation and Management Measures for Pipelines

In 2004, a hazardous liquid pipeline carrying high pressure premium gasoline ruptured and instantaneously ignited causing an explosion and fire in a residentially zoned area of Walnut Creek, Ca. A nearby two-story residential structure on the other side of a sound wall caught fire. No residents were harmed. The event cause was manmade and preventable. A similar pipeline(s) passes through the Study Area. It is important that during any future construction (i.e. excavation) in the vicinity of these pipelines good communication exists between the contractor, fire department, and pipeline operators. Otherwise these pipelines remain inherently safe provided proper maintenance and operational oversight are diligent.

The historical release event described above, the 2010 San Bruno, California natural gas pipeline explosion, and the WCRSs modeled in this report, show that there is a definite potential for severe off-site consequences in the event of a pipeline release and explosion. Mitigation is an important consideration to lessen the probability and severity of these consequences. Many mitigation measures are the responsibility of the pipeline operators. At the very least, pipeline operators must comply with state and federal regulations. The California Office of the State Fire Marshall (SFM) and the California Public Utilities Commission (CPUC) regulate hazardous liquid pipelines and natural gas pipelines in the State of California, respectively. Pipeline operators claim to exceed the safety requirements of the regulations.

Siting sensitive receptors in the vicinity of existing pipeline right of ways is not unprecedented. In fact, the CPL and KMEP hazardous liquid pipelines pass near and through residential areas just north of the Study Area. There are not regulations or firmly established standards written for the siting of residential receptors in the vicinity of pipelines, however the CDE has established a protocol for the siting of Schools. Namely, the California Education Code Section 17213 specifies that a school district may not acquire land for a school site that contains an aboveground or underground hazardous liquid or gas pipeline. Also, per CCR Title 5, Section 14010(h), “the [school] site shall not be located near an above ground water or fuel storage tank or within 1,500 feet of the easement of an aboveground or underground pipeline that can pose a safety hazard as determined by a risk analysis study, conducted by a competent professional.”

This risk assessment found that the pipelines located in the Study Area could pose hazards to future sensitive receptors in the event of a WCRS. Although pipeline operators must adhere to state and federal regulations, it may be in one’s best interest to consider the following measures which can reduce the probability of a pipeline release or the severity of consequences should a release and explosion occur.

1.2.1 Measures to Reduce the Probability of a Pipeline Release

By requesting operators to do the following, the probability of a pipeline release would decrease.

1. Conduct More Frequent and Rigorous Safety Testing

Pipeline operators can perform tests to test pipeline integrity. Hydro testing will show that pipelines can withstand certain pressures while robotic “smart pig” testing can give operators more detailed

information. By increasing the frequency of pipeline testing, the probability that a weakness in the pipeline integrity will go undetected decreases.

2. Install Better Signage

Installing more visible pipeline signs, reducing the distances between signs, and making sure the location is accurate will reduce the risk of accidental rupture during excavation activities. Improper line locating by a pipeline operator was found during an investigation of a release from the pipeline explosion in 2004.

3. Provide Right of Way Encroachment Protection

By protecting pipeline right of ways from unauthorized entrants (i.e. trespassers), the risk of an intended or accidental pipeline release is mitigated.

4. Reduce Operating Pressure

Requesting pipeline operators to reduce pipeline operating pressure reduces the risk that a rupture or leak would occur from over pressurization. The severity of consequences following a release decrease as operating pressure decreases.

1.2.2 Measures to Reduce the Severity of Consequences of a Pipeline Release

The mitigation measures presented in Section 6.1 should be considered to lessen the severity of consequences during a pipeline release. There are also some further mitigating measures presented below that could apply to pipelines (and other stationary source hazards):

1. Site Design

For land uses that correspond with high concentrations of people participating in outdoor activities (such as parks or schools) it may be advisable to site buildings (if any) closer to the pipeline than the empty spaces when feasible. Properly designed buildings could temporarily provide people with fire and heat protection from pipeline fires. If this is not feasible, designs should be considered such that the lowest concentrations of people would be located near the pipeline.

2. Eliminate Ignition Sources

Sources of ignition (i.e.electrical equipment, boilers, water heaters, etc.) should be located away from pipelines such that in the event of a release the probability of a fire or vapor cloud explosion decreases. It is advisable for electrical equipment located in proximity to the pipelines to be rated for use in hazardous or explosive atmospheres.

3. Installing Leak Monitoring and Alarm Systems

Leak monitoring systems and alarm systems should be used to notify sensitive receptors of a hazardous pipeline release. An alarm could allow sensitive receptors more time to evacuate prior to a pool fire or detonation. Leak monitoring systems could be tied in to a building ventilation shutdown, such as introduced in section 6.1, in order to help minimize gas or vapors from entering buildings.

4. Installing Automatic Shut-Off Valves

Shut-off valves can stop the flow of liquid or gas through sections of pipeline. Automatic shut-off valves would activate following an indication of a leak or rupture, such as an unsuspected drop in pressure. By strategically locating automatic shut-off valves adjacent to a site of interest, the volume of a pipeline spill could be significantly reduced and thus mitigate the severity of consequences.