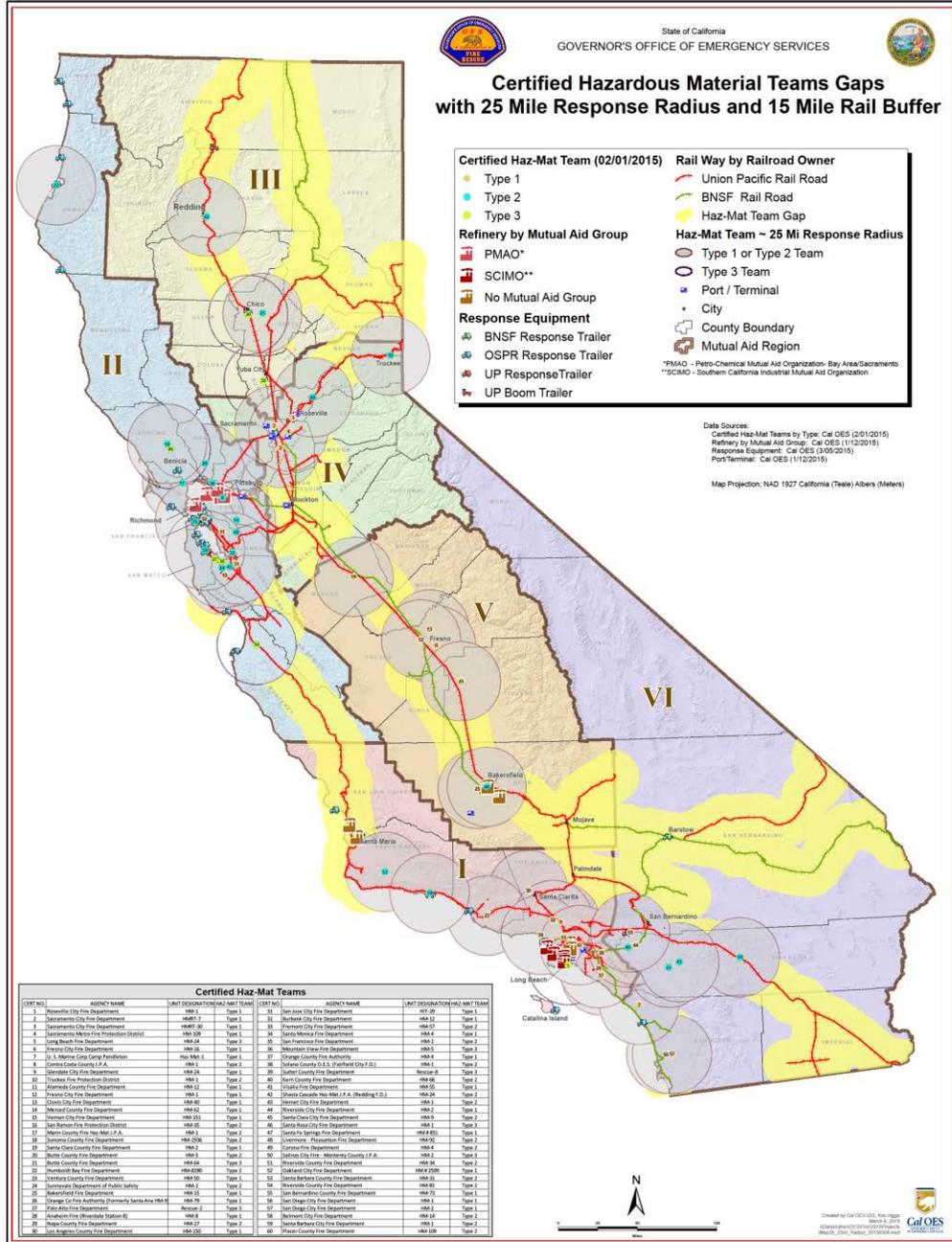


Updated Gap Analysis for Rail in California



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Hazardous Material Team and Response Resources Capabilities Updated Gap Analysis for Transport and Response of Hazardous Materials by Rail and Refineries in California

INTRODUCTION

The existence of hazardous materials is a fact of life. They are necessary to create the goods and resources that we use every day. Another fact of life, however, is that accidents and emergencies will occur, causing an immediate threat to life, property and/or the environment. History has shown that when accidents and emergencies involve hazardous materials, they are extremely complex to mitigate. This is because they often present multiple cascading impacts, requiring a coordinated and immediate response utilizing both public and private resources.

California faces many natural and man-made threats. As a result, we have perhaps one of the most robust emergency response systems in the world. Whether it is coordination with our local and state fire agencies, law enforcement, public health, emergency medical services, environmental health, or emergency managers, and/or in conjunction with our private sector partners, we all pitch in through a standardized emergency management and mutual aid system to make California as safe and secure as possible. While the current system is robust, it must be constantly reevaluated to find weaknesses so that California can be prepared for the worst case scenario.

As the population of California increases and our communities grow, the potential impacts of a catastrophic hazardous materials release presents new and complex challenges for our local and state responders and emergency managers. California must fully develop and maintain a reliable and capable emergency response system to effectively respond to and safely mitigate the impacts and damage to life, property, and the environment that can be caused by a release or spill of hazardous materials transported by rail.

The following updated Gap Analysis (Analysis) outlines existing hazardous material capabilities and emergency response resources operated by our local, state, federal, industrial, and tribal partners, and may be available to respond either directly or as part of a mutual aid request to an accident resulting in a major hazardous materials release. It also identifies gaps in adequate planning, training, and response capabilities.

This Analysis Assesses:

- Rail systems and transport of hazardous materials in correlation to critical infrastructure, environmentally sensitive areas, and areas of population density;
- Key Threat Zones;
- The location of existing public and private Hazardous Materials resources;
- Emergency response time challenges for acceptable areas of coverage;
- Gaps in required and reliable Hazardous Materials response capabilities; and

- Resource and training gaps which exist to ensure for a comprehensive, reliable and sustainable hazardous materials emergency response capability.

HAZARDOUS MATERIALS TEAMS (Certified) – Attachment #1

In California, several local municipalities have created specialized Hazardous Material Response Units (Haz-Mat Teams) with the primary responsibility for protecting their communities, public resources, the environment, and property in the event of accidents or releases involving hazardous materials. These Teams vary in capability level throughout the State, but are located primarily in the densely populated metropolitan areas.

In an effort to maximize the utility of these local Haz-Mat Teams for expansion and to ensure their availability for regional mutual aid response, the California Governor’s Office of Emergency Services (Cal OES), as a part of the Standardized Emergency Management System (SEMS), the National Incident Management System (NIMS) and the Statewide Fire, Rescue and Hazardous Materials Mutual Aid Plan, has taken the Haz-Mat Team concept one step further to create a Hazardous Materials Team Typing program to better identify and coordinate the response of these specialized resources.¹ Since 2004, the Fire & Rescue Branch of Cal OES, along with FIRESCOPE (Firefighting Resources of California Organized for Potential Emergencies), has been actively working on a strategic and tactical program of certifying response competency of Haz-Mat Teams in the State.

The focus of this program has been to ensure that Haz-Mat response teams can be coordinated and brought into the State Master Mutual Aid System, in accordance with accepted FIRESCOPE mutual aid and SEMS response standards. The scope ensures that there is a coordinated and reliable mechanism available for local, regional and State authorities to access, in the event of a major Haz-Mat incident requiring additional assistance when city and/or Operational Area (County) hazardous materials resources have been exhausted, or in the event that the situation is of such complexity and severity that it requires the immediate combination of multiple levels of specialized capabilities to safely mitigate it.

This program has four (4) significant objectives:

1. Standardized and Certified Training Requirements;
2. Development and sustainment of a standardized Hazardous Materials Equipment List – based on performance Typing standard;
3. Development of a Haz-Mat Team Typing concept – based on intervention/response capability; and
4. On-site inspections of the Teams – to assure for on-going compliance, certification and standardization.

To date, Cal OES has certified sixty (60) local Hazardous Materials Teams that have voluntarily entered the OES/FIRESCOPE Haz-Mat Team Typing Program. (*Attachment #1*). These 60 teams have also been identified on the attached Railroad Maps (*Maps #2, #3, #4*).

¹ Incident Command System 420-1 FIRESCOPE Typing Guideline

GAP ANALYSIS

Given the size of California, more Haz-Mat Teams are necessary to:

- Effectively and safely respond to and mitigate any catastrophic event resulting in a hazardous materials release; and
- Account for acceptable standards of response area coverage, given the size, diversity, and population of our State.

Any emergency response system is only as strong as its weakest link. The weakest link in our present system is where emergency response resources, training, and capabilities are limited or simply do not exist. These areas are considered to be our “gaps.” To better understand these gaps, this Analysis identifies key threat areas and locations where accidents could potentially occur. The focus areas of review included existing transportation corridors; highways, airways, ports, and rail systems. Specifically, this updated Analysis focuses exclusively on the rail routes in California, including associated refinery and final terminal locations.

This Analysis also reviews capabilities and enhancements developed and provided for by the industry and shippers of hazardous materials. These capability enhancements can and do assist in the response to an accident. These capabilities include: CHEMTREC² a 24/7 public service hotline for responders that obtains information on hazardous material types and characteristics provided by the American Chemistry Council (ACC); public education and awareness programs on rail safety such as Transportation Community Awareness and Emergency Response (TRANSCAER)³ which is a voluntary program focusing on assisting communities prepare for possible hazardous materials incidents; and tactical response resources that include contractors, equipment caches, and Petro-Chemical Mutual Aid Organizations (*Attachments #3 & #4*).

While these capabilities remain an important part of our response posture and when possible they are incorporated into existing response plans. However, these resources are insufficient to cover the gaps that currently exist. Additional public-private coordination and collaboration is necessary to maximize our statewide response capabilities and to fill the gaps.

RAIL ROUTES and THREAT ZONES

Trains transporting hazardous materials travel along fixed routes, moving up, down, and across the State every day. Locomotives pulling over a hundred tanker and/or boxcars carry various types of hazardous materials travel through some of the most rural and environmentally sensitive areas then travel through densely-populated areas. Some of these areas include: the Feather River Canyon and across the Donner Pass; through the Sacramento Basin and Central Valley into the Bay Area; across the Tehachapi Pass and

² www.chemtrec.com

³ www.transcaer.com

down into Bakersfield; along our southern coastline; and through the Inland Empire into the Los Angeles basin.

An existing gap that is of particular concern to this Analysis is the lack of qualified Haz-Mat Teams where trains travel through rural California. It is in these areas that the State must focus on enhancing its emergency hazardous materials response capabilities, including: response times, response equipment, responder training (both new and refresher), and the commitment of additional resources. Adding to this challenge, of the State's approximately 56,000 firefighters, roughly 32%, or nearly 14,000 are volunteers, many of whom are based in these rural areas of the State⁴. Equipping, training, and sustaining these resources are critical to a comprehensive hazardous materials response and recovery capability.

STATEWIDE REPORT ON OIL BY RAIL SAFETY IN CALIFORNIA – Attachment #2

An interagency working group of State Agencies, convened by the Governor's Office in June 2014, created a Statewide Report on Oil by Rail Safety in California with corresponding rail routes/high-hazard sites and refineries Map (*Attachment #1 Updated from the Report with refinery information*).

These documents identified areas along rail routes with potential high vulnerability, and identified locations of emergency response teams relative to vulnerabilities. This statewide report and map further focused on oil transport by rail, however the gaps identified also pertain to all hazardous materials being transported across California's railways.

RISK ASSESSMENT

As depicted in the attached map, there are numerous risks identified throughout the state from a potential major hazardous materials incident. In addition, significant gaps have been identified in reliable local (1st responder) emergency response capabilities.

Specifically, the assessment found the following:

- High-hazard areas for derailments are primarily located in the mountains, with at least one such site along every rail route into and/or through California. Some high-hazard areas are also located in more urban areas, such as in the San Bernardino-Riverside and San Luis Obispo regions. Overall, these high-hazard areas represent only an estimated 2% of track, yet these areas are where 18% of the derailments have occurred⁵. The high-hazard areas do not reflect the locations of other types of rail accidents (e.g., collisions). Therefore, while the highlighted areas are important, they are not the only sites where accidents may occur. In fact, 82% of derailments occurred in a wide range of other locations.

⁴ Cal OES Fire and Rescue Statewide Inventory Assessment 2015

⁵ "High-hazard areas" are areas that were identified in Decision 97-09-045 of the California Public Utilities Commission, and were identified either by a statistically significant high frequency of derailments, or by the existence of restrictive railroad operating rules to address unusually risky operating characteristics such as steep grade and sharp curves. There is considerable overlap between the two identification criteria.

- Areas of vulnerable natural resources are located throughout the State, including in urban areas. A rail accident almost anywhere in California would place waterways and sensitive ecosystems at risk. As a result, the high-hazard areas for derailments are generally located in areas with important natural resources and nearby critical waterway systems (e.g., Dunsmuir, the Feather River Canyon, and Donner Pass).
- Emergency Haz-Mat response teams in California generally have moderate to good coverage of urban areas, with the primary responsibility of responding to incidents within their respective jurisdictional boundaries. Given the limited nature of Haz-Mat resources and the challenge and cost of maintaining qualified Haz-Mat Teams, communities that do possess these resources do not typically participate in the larger State Mutual Aid System by dispatching their Haz-Mat Teams too far outside of their jurisdictional area.
- Further, there are limited or no Haz-Mat Teams located near the high-hazard areas in rural Northern California that meet response time criteria and/or operational standards. Some areas such as Yuba City and Monterey only contain “Type 3 Haz-mat” Teams. These units represent the lowest level of Typing Standards and are not equipped to perform a lead role during a major hazardous materials incident.
- Other populated areas near rail routes, including Stockton, San Luis Obispo, Santa Maria, and Barstow, contain only “Non-Certified Haz-Mat” teams. These local teams have not applied to be certified by the State as meeting FIRESCOPE Typing levels and standards for training and equipment.
- Population centers, schools, and hospitals are frequently located near rail lines in urban areas and in the Central Valley. A highly populated area is located near a major high-hazard area for derailments in the San Bernardino-Riverside area.
- Rail lines in California are located along earthquake faults in many areas, especially in urban areas in and around Los Angeles and the Bay Area. A major earthquake could damage tracks and bridges at the same time hazardous materials are being transported resulting in derailment and potential catastrophic release of hazardous materials. In addition, an earthquake with an epicenter in an urban area has a high potential of causing damage to rail systems beyond the immediate area of the marked faults.

THE GAP ANALYSIS IN TERMS OF TIME

Taking into account the 60 Typed and certified Haz-Mat Teams, the Analysis references two maps that depict emergency response standards of coverage utilizing a radius of 25 miles and 50 miles from High-hazard Areas. Each map represents a minimum level of response coverage within a certain time frame:

- 25 miles represents a one hour response time; and

- 50 miles represents a two hour response time

THE 25 MILE GAP ANALYSIS (Statewide) – Map #2

As depicted in Map #2 (25 Mile), there are a number of substantial gaps in Haz-Mat response capability along identified rail lines. Areas outlined in Map #2 that have been determined major High-hazard Areas by the California Public Utilities Commission include:

- Modoc, Lassen, and Plumas Counties (Two Major High-hazard Areas)
- Siskiyou and North Shasta Counties (One Major High-hazard Area)
- Central Tehama County
- Nevada and Placer Counties (Donner Summit) (One Major High-hazard Area)
- Monterey through San Luis Obispo County and the Northern Corner of Santa Barbara County (Has only a Type 3 Team and a Major High-hazard Area)
- San Joaquin and Stanislaus Counties
- South Central Madera County
- South Tulare to North Kern Counties
- Southeast Corner of Kern County (Mojave area) (One Major High-Hazard Area)
- Northeast Corner of Los Angeles County (Palmdale area)
- Almost all of San Bernardino County (Specifically Barstow area with One Major High-hazard Area)
- South Central Riverside to Imperial Counties

THE 50 MILE GAP ANALYSIS (Statewide) – Map #3

As depicted in Map #3 (50 Mile), fewer gaps exist in Haz-Mat response capability. Areas outlined in Map #3 that have been determined significant High-hazard Areas by the California Public Utilities Commission include:

- Modoc, Lassen, and parts of Plumas Counties (One Major High-hazard Area). The Truckee Haz-Mat Team is within 50 miles but has substantial geographical challenges and depending on the time of year, weather challenges that would significantly extend response times beyond the 2 hour window.
- Siskiyou County (One Major High-hazard Area)
- Monterey through Northern San Luis Obispo County (One Type 3 Team and One Major High-hazard Area)
- Southeast Corner of Kern County (Mojave area)
- The majority of San Bernardino County (Specifically Barstow area with One Major High-hazard Area)
- Imperial County

HAZARDOUS MATERIALS TEAMS (Non-Certified)

There also exist a number of Haz-Mat resources that for various reasons have not been certified, but have shown interest over the years in participating in and enhancing the State Typed response system. These Haz-Mat resources are not portrayed on any of the maps included in this Analysis, as they do not currently meet Typing standards, nor have they entered into the State program that Cal OES coordinates. As such, they cannot be counted on as a reliable and fully trained capability at this time. This is a gap that can be filled over time with increased training and financial support.

Non-certified, but interested Teams include the following:

- Madera County Fire (Madera County)
- Ontario City Fire (San Bernardino County)
- San Manuel Indian Fire Department (San Bernardino County)
- Stockton City Fire (San Joaquin County)
- Tracy City Fire (San Joaquin County)
- Chino Valley Fire (Los Angeles County)
- Torrance City Fire (Los Angeles County)
- Hanford Fire (Kings County)
- San Luis Obispo County (San Luis Obispo County)

Of the non-certified resources, Cal OES is working with three agencies that are building a capability toward providing coverage to identified gaps. These include the City of Stockton Fire/Haz-Mat Team, the City of Tracy City Fire/Haz-Mat Team and the San Luis Obispo County Haz-Mat Team. Properly trained and equipped, these teams would help fill identified gaps in the San Joaquin and San Luis Obispo County areas of the rail lines listed on Maps #1 and #2.

PRIVATE AND INDUSTRY RESOURCES - Attachments #3 & #4

There are other response capabilities and resources within California provided by private contractors and the petro-chemical and rail industries, outside of the Cal OES Haz-Mat Team Typing Program. These private industry resources, while not “Typed” by the State, can help fill gaps by augmenting first and regional responders within the designated critical one to two hour time frame. These resources are predominately in and around refineries and terminal locations, and can provide specialized resources and technical assistance during a major hazardous materials incident. However, the response resources are typically comprised of Fire Brigades and/or contractors, with other responsibilities, and emergency response is not their primary responsibility.

In addition, the dispatch, coordination and situational awareness of these resources as a component of the State coordinated mutual aid response system is yet to be fully developed. There exists an industry supported capability that may meet the needs of emergencies encountered by each respective industry and augment the government/public safety capability that is part of the State’s integrated standardized

emergency management and mutual aid system. The capabilities are mutually exclusive for the most part and one capability does not take the place nor does it fully fill the identified gaps of the other.

Public and private entities need to collaborate further in order to fully leverage joint training, equipment, exercises, and information sharing. This is necessary to build a reliable and actionable collective response system. This Analysis identifies the following private capabilities that exist and require further collaboration/coordination:

- Southern California Industrial Mutual Aid Organization (SCIMO)
- Petro-Chemical Mutual Aid Organization (PMAO)
- Burlington Northern Santa Fe (BNSF) Rail-way Response Trailers
- Union Pacific (UP) Railway Response Equipment

In addition, each refinery has some level of firefighting or fire brigade capability on-site and in most cases, has agreements with the local, adjacent municipal fire departments to provide on-site, or jurisdictional mutual aid, training, planning and exercises. However, not all refineries have an organized Fire Brigade or coordinated fire assistance system like those facilitated by Southern California Industrial Mutual Aid Organizations (SCIMO) and Petro-Chemical Mutual Aid Organization (PMAO) and discussed below.

SOUTHERN CALIFORNIA INDUSTRIAL MUTUAL AID ORGANIZATIONS (SCIMO) – Attachment #3

Southern California has one of the largest concentrations of refineries, petrochemical plants, heavy industry, and port operations on the West Coast. An existing public/private partnership is the Southern California Industrial Mutual Aid Organization (SCIMO). The SCIMO is a non-profit member-owned corporation combining firefighting, rescue, oil spill and hazardous material response capabilities of the refining, petrochemical, pipeline, aircraft manufacturing, and power generation industries in the Southern California area. The SCIMO has been providing cooperative assistance and expertise for all kinds of emergencies - both natural and man-made since 1970.

SCIMO members include industrial companies that work cooperatively with municipal fire departments and government agencies in the greater Los Angeles Area. SCIMO maintains a corps of highly trained personnel and a well-maintained pool of more than 70 pieces of specialized equipment, including high-volume foam pumpers, foam trucks, foam tenders, over 60,000 gallons of foam concentrate and specialized industrial rescue and hazardous materials vehicles. Additional SCIMO services include supplemental Incident Command Teams with personnel and Industrial Hygiene Support for community monitoring during industrial emergencies. Operations that are required at participating locations are jointly managed under the Unified Command System with local response agencies and SCIMO.

Response personnel from the various member companies and government agencies are trained at nationally recognized flammable liquid and industrial training centers such as Texas A&M University and the SCIMO participates in frequent drills.

PETRO-CHEMICAL MUTUAL AID ORGANIZATION (PMAO) – Northern California - Attachment #4

The Petro-Chemical Mutual Aid Organization (PMAO) is an emergency response cooperative of oil, chemical, and related companies in Northern California. The primary purpose of the PMAO is to provide assistance (material and equipment) to any member requiring aid during an emergency situation. In addition, the PMAO maintains a Mutual Aid Plan for member companies and discusses fire experiences, fire protection and fire prevention information at monthly meetings.

Members of the PMAO participate in the mutual aid planning process and must reserve personnel, material and equipment for their own protection before releases can be made to another member requiring aid. The allocation of mutual aid resources is subject to the decisions of each company's management. No member is obligated to provide the materials or equipment listed in the Mutual Aid Plan as part of a regional public response capability.

Each PMAO member company has identified the specific equipment that may be needed in mutual aid response in the case of a specific scenario involving one of their locations. Those items are defined and listed on the "Task Force" listings under each company's name in their manual. Additionally each company has listed equipment that can be resourced to mutual aid during a member incident. Those items are listed under each company's area in their manual.

The Petro-Chemical Mutual Aid Organization consists of the companies listed below:

- Chevron Products (Chevron Richmond Refinery)
- Valero (Benicia Refinery)
- Phillips 66 (San Francisco Refinery)
- Tesoro (Golden Eagle Refinery)
- Dow Chemical (Pittsburg Plant)
- NuStar LP Selby Terminal (Non-responding Member) (Selby Terminal)
- Solvay-Rhodia, Inc. (Non-responding Member) (Martinez Plant)
- Shell Oil Products U.S. (Shell Martinez Refinery)

BURLINGTON NORTHERN SANTA FE (BNSF) RAILWAY RESPONSE TRAILERS

Another existing resource is Burlington Northern Santa Fe (BNSF) Railway Response Trailers. BNSF Railway currently maintains two firefighting/foam trailers located in Richmond and Barstow. BNSF has also ordered a third for staging in Bakersfield, and has a fourth it can mobilize as needed from Klamath Falls, Oregon. BNSF fire trailers are also maintained to National Fire Protection Association (NFPA) standards and tested annually by a BNSF High Hazmat/Industrial Firefighting contractor who designed and built the trailers.

Each trailer has the following equipment to support an incident: 550 gallons 3% Alcohol Resistant-Aqueous Form Filming Foam (AR-AFFF), 1300' of fire hose (supply lines, cam-lock hoses, hand lines and nozzles), two 750 gpm pumps with deck gun and high-expansion foam nozzles, two 10,000 gallon

portable bladder tanks with various other fittings and support equipment that can operate in conjunction with any other fire apparatus.

BNSF Railway has indicated that they have a 150 mile response radius from their points of origin, are dispatched by BNSF Hazmat Managers and are transported primarily by one of their local contractors who BNSF has identified. BNSF Railway has worked with and invites local fire departments to an annual testing for resource identification, training, and familiarization.

UNION PACIFIC (UP) RAILWAY RESPONSE EQUIPMENT & MANAGEMENT GROUP

The Union Pacific (UP) railroad has assigned four (4) Hazardous Materials Managers and Special Agents to rail yards in Roseville, Long Beach, Mira Loma, and Bakersfield. These Managers coordinate the response of UP personnel and equipment following an accident. UP Haz-Mat equipment includes firefighting trailers consisting of Alcohol Resistant-Aqueous Form Filming Foam (AR-AFFF), Midland Capping Kits, Magnetic Patches, a 10,000 gallon portable water tank, and equipment to remediate all types of tank care valves and fittings. UP also maintains two boom trailers in California (Chico and Dunsmuir), and one in Reno, Nevada.

In addition, UP maintains the Hazardous Materials Management Group (HMM)⁶, consisting of experts in hazardous material transportation safety, securement, and response. This group's focus is the safety of all UP employees, the communities where UP operates trains, and their customers. Their mission includes Prevention, Preparedness, Response and Recovery.

Collectively, the above resources support the respective industries needs and can offer an enhancement to the response of a major hazardous materials incident. They represent a component of what is needed to develop and maintain a comprehensive reliable response system.

CAPABILITIES AND REFINERIES

Along with the 60 Cal OES certified Haz-Mat Teams and taking into account the identified supplemental Haz-Mat response capabilities provided by the SCIMO, PMAO, BNSF and UP, four additional maps were developed depicting a capabilities footprint in correlation to the State's refineries and terminal locations. This Analysis takes into account the primary location of these capabilities and focuses specifically near the refineries and interface of the railway terminals. These maps capture an emergency response radius of 25 miles around each of the refineries, or approximately a one hour response time.

BAY AREA REFINERY GAP ANALYSIS - Map #4

As depicted in Map #4 (Bay Area), there is generally adequate coverage and Haz-Mat response capability near and adjacent to refineries and terminals, with the one exception being the Port of Stockton. Cal OES is working with the City of Stockton to address this deficiency. The City of Stockton has been developing a Hazardous Materials Team that has not yet been certified with the Cal OES/FIRESCOPE Haz-Mat Team Typing Program. The Bay area has a total of eight (8) Types 1; twelve (12) Type 2; and three

⁶ www.up.com

(3) Type 3 State certified Haz-Mat Teams⁷. In addition, Bay Area refineries and adjacent communities can obtain support from the PMAO, BNSF, UP and industry fire brigades depending on circumstances.

SOUTHERN CALIFORNIA REFINERY GAP ANALYSIS - Map #5

As depicted in Map #5 (Southern California) there is very good coverage and Haz-Mat response capability near and adjacent to refineries and terminals. With a total of nine (9) Type 1 and one (1) Type 3 State certified Haz-Mat Teams, as well as the support from the SCIMO and fire brigades at the refineries, all within a 25 mile radius of the refineries and terminals.

In addition, two (2) OSPR Emergency Response Cache/Trailers have been identified that are supporting local agencies within the region.

KERN AND CENTRAL COAST REFINERY GAP ANALYSIS - Map #6

As depicted in Map #6 (Kern & Central Cost) there is fair coverage and Haz-Mat response capability near and adjacent to refineries and terminals in Kern County. These capabilities include: one (1) Type 1 and one (1) Type 2 certified Haz-Mat Teams within a 25 mile radius of the refineries and terminals.

However, the Central Coast refineries do not have the same level of Haz-Mat response capability with both registered Type 2 State certified Haz-Mat Teams being well outside of the 25 mile support radius. Therefore, without specialized or enhanced Haz-Mat capabilities along and adjacent to the Central Coast refineries, there remains a significant risk to public safety and the environment in the event of a hazardous materials incident.

OTHER RELEVANT RESOURCES

- Department of Fish and Wildlife, Office of Spill Prevention and Response (OSPR):

The Department of Fish and Wildlife, Office of Spill Prevention and Response (OSPR), provides limited grants to local fire departments, tribes, and port districts, located adjacent to marine waters (coastal) that have responsibility for initially responding to a hazardous materials incident impacting a waterway. The grant provides for the procurement of an equipment cache or trailer that can be pre-positioned (or pre-staged). These equipment caches or trailers are deployed by the grantee to help contain the spill and protect local resources in the area. Twenty (20) Emergency Response Cache/Trailers have been identified that are supporting local agencies within the State. OSPR is currently developing an Inland Response Equipment Grant program that will mirror the Marine Grant Program and provide equipment caches or trailers to local government entities statewide along inland state waterways.

- United States Coast Guard (USCG) and the United States Environmental Protection Agency (US EPA):

As a part of the federal government response capability, in California, the United States Coast Guard (USCG) has existing response resources to include a Federal On-Scene Coordinators (FOSC) for

⁷ Incident Command System 420-1 FIRESCOPE Typing Guideline

hazardous material releases along the coast, in navigable waterways and in all of the ports in California. The USCG also has Port Captains and the Pacific Strike Team located at Hamilton Field in the Bay area. The level and quantity of USCG resources vary but are extremely robust.

In addition, the United States Environmental Protection Agency (US EPA) has existing response resources to include a FOSCs and significant resources located in two locations throughout California. The US EPA has fifteen (15) FOSCs with two warehouses of equipment and resources at the ready in support of hazardous materials releases incident occurs.

These Federal Agencies are coordinated and work within the California Standardized Emergency Management System (SEMS) and the Unified Command structure during any hazardous materials emergency.

CONCLUSION

The transportation of hazardous materials through both California's rural and densely populated communities our refineries and processing plants is an important component of the State's economy. However, the potential for a derailment, accidental, or deliberate release or spill of these hazardous materials is a constant risk.

The State, working in collaboration with local, federal, and private sector partners, must plan and prepare for the worst case scenario situation to ensure for the utmost protection and preservation of life, property, and the environment. The protection of the population must remain the primary goal.

This updated Gap Analysis outlines a number of significant gaps and deficiencies in California's ability to reliably, effectively, and safely respond to and mitigate a catastrophic hazardous materials spill, release or fire along our vast rail system. These gaps must be addressed to build out a comprehensive and reliable hazardous materials response capability that can be sustained and ready to respond to and mitigate the cascading impacts of a derailment resulting in the catastrophic release of hazardous materials.

While varying levels of capability currently exist, that includes specialized mutual aid assets in the urban areas of the State; this system is not fully developed or reliable. For the most part, the ability to respond to a minor or moderate event in these urban areas exists and occurs regularly. The challenge for the State is building the ability to effectively respond to and mitigate a catastrophic event, such as the cases which recently occurred in Illinois, West Virginia and LeBec, Canada.

In addition, municipalities and jurisdictions not located within urban areas have limited access to comprehensive hazardous material emergency response capabilities in the event of even a moderate Haz-Mat incident, let alone a catastrophic scenario. This gap is particularly acute in the rural and remote portions of the State. These areas lack the necessary response equipment and specialized sustained training to support and maintain a multi-agency emergency Haz-Mat response. This is a significant gap that must be addressed in a coordinated manner that is consistent with the State Standardized Emergency Management System and FIRESCOPE Resource Typing Program.

Part of this challenge is supporting a large percentage of responders who are unpaid professionals, particularly in the rural communities. The State and local jurisdictions depend on these resources. These critical assets have a unique set of requirements that must be considered and accounted for in maintaining their ongoing skills, knowledge and abilities. Further, beyond our unpaid responders, there is a continuing need for enhancing and maintaining municipal fire, Haz-mat and emergency management responders with resources for sustained training, planning, coordination, exercises, and equipment.

Adequate support for training, planning, and exercising remains an overall challenge. Currently, the U.S Department of Transportation (DOT) through the Pipeline Hazardous Materials Safety Program provides California a small grant totaling \$1.7 million to support State and local jurisdictions, Haz-Mat responders, and Local Emergency Planning Committees (LEPC). This grant, while helpful for hazardous materials planning and training is inadequate to fully prepare and equip responders for the ever increasing threats presented by the transportation of hazardous materials by rail.

Partnerships and collaboration with industry will remain a cornerstone in building and enhancing a comprehensive response system. However, while rail and petro-chemical industry-based response resources and contractors (depending on where they are located in the State) have been developed, and to a degree, may be available to support a catastrophic event, they are limited and focused for utilization by “member-only” organizations or specific industries.

There is currently no system-wide access to resources that are controlled by industry. These resources currently are made available on an ad-hoc basis. Consistent and ongoing information sharing, situational awareness and coordination of rail shipments or status and/or optics on resource availability remains a significant issue. There also exist joint concerns on liability and other fiduciary responsibilities for emergency response and recovery authority. Lastly, there have been concerns regarding the impact of potential labor disputes that may arise and the effect this will have on the availability and reliability of industry resources. These concerns are exemplified by the current labor dispute and the ensuing strike and shutdown of the Tesoro Golden Eagle Oil Refinery in Martinez, California.

Nevertheless, much more can be done between public and private entities to build a more robust and reliable response system by leveraging joint training capabilities and assets. A gap that continues to exist is the availability of adequate training opportunities, the associated costs of maintaining fully capable response forces and funds to ensure for adequate local and regional planning.

The Association of American Railroads operates the Security and Emergency Response Training Center (SERTC)⁸, which provides innovative and training to firefighters and Haz-Mat responders at their site in Pueblo, Colorado. BSNF and UP have provided funding to allow a set number of emergency responders to attend the SERTC rail car training free of charge each year. Unfortunately, this training has a waiting list of over a year for emergency responders and BNSF & UP have reduced the numbers of attendees from 750 to 500.

⁸ www.sertc.org

At times, the rail industry also offers on-site training at local fire departments. These are positive efforts, however, given the size and complexity of California and the sheer number of responders requiring training to develop and maintain skills, other avenues for building scalable training capabilities within California is essential. This includes enhancing training offered through the California Specialized Training Institute (CSTI) and the Office of the State Fire Marshal (OSFM) as well as expanding training center infrastructure, support and classes in conjunction with regional fire training authorities.

While California has a very robust emergency response system in place to protect lives, property and the environment, additional work needs to occur to enhance the State's overall hazardous material emergency response capability. Cal OES looks forward to working with local, state, federal and private sector partners, the railroad, and petro-chemical industries to ensure California is fully prepared and capable of effectively responding to and mitigating the possibility of a catastrophic hazardous materials accident.

SUMMARY OF GAP FINDINGS:

- While some varying levels of Haz-Mat response capability currently exist and some assets are available through mutual aid, predominantly in the urban areas of the State, it is still not a consistent and fully reliable system for worst-case scenarios.
- Municipalities and jurisdictions not located within urban areas have limited access to comprehensive hazardous material emergency response capabilities in the event of a moderate Haz-Mat incident, let alone a catastrophic one.
- Rural areas have very limited resources and capabilities such as necessary response equipment and specialized sustained training to support and maintain a multi-agency emergency Haz-Mat response.
- High-hazard areas for derailments are primarily located in the mountains with some high-hazard areas in urban areas such as in the San Bernardino-Riverside and San Luis Obispo regions.
- High-hazard areas do not reflect the locations of other types of rail accidents such as collisions.
- Due to the limited nature of Haz-Mat response resources, and the cost of maintaining qualified Haz-Mat teams, communities that do maintain these resources do not typically participate in the larger State Mutual Aid System.
- There are limited or no Haz-Mat teams located near the high-hazard areas in rural Northern California that meet response time criteria and/or operational standards.
- Other populated areas near rail routes, such as Stockton, San Luis Obispo, Santa Maria and Barstow contain only "non-certified" Haz-Mat teams.
- There are nine (9) Haz-Mat teams that for various reasons have not been certified as they do not currently meet the FIRESCOPE typing standards or have entered into the State program that Cal-OES coordinates.
- While private sector resources may present a robust capability and can provide specialized resources and technical assistance, much of the capability is comprised of fire brigades or contractors with dual responsibilities, having emergency response as a secondary role.

- The coordination, situational awareness and dispatch of private sector resources as part of a State's coordinated mutual aid response system is yet to be fully developed.
- More work and collaboration between public and private entities is required to adjudicate and integrate levels of capability and to fully realize joint training, equipment, exercises, information sharing and experience to build a reliable and actionable collective response system that meets required standards and criteria.
- While refineries have some level of firefighting capability or have agreements with local municipal fire departments to provide on-site or jurisdictional mutual-aid, training, planning and exercises, not all refineries have an organized fire brigade or fire assistance program such as the Southern California Industrial Mutual Aid Organizations (SCIMO) and Petro-Chemical Mutual Aid Organization (PMAO).
- While members of PMAO participate in the mutual aid planning process, no member is obligated to provide materials or equipment listed in the mutual aid plan as part of a regional public response capability.
- There is currently no reliability for, or system-wide access to industry-based resources that are controlled by industry.
- The Transportation Community Awareness and Emergency Response (TRANSCAER) Program has limited capabilities on the west coast to support training needs and is scheduled out a year or more in advance.
- While BNSF and UP provide funding for first responders to attend the Security and Emergency Response Training Center (SERTC) operated by the Transportation Technology Center, Inc. (TTI- a subsidiary of the Association of American Railroads), there exists a waiting list of over a year and BNSF and UP have reduced the number of attendees from 750 to 500 emergency responders per year from around the country.
- Because Central Coast refineries do not have the same level of Haz-Mat response capability with Type 2 State certified hazmat teams, without specialized or enhanced Haz-Mat capabilities along and adjunct to Central Coast refineries, there remains a significant risk to public safety and the environment in the event of a hazardous materials incident.
- There are joint concerns on liability and other fiduciary responsibilities for emergency response and recovery authority.
- As recently experienced during the strike and shutdown of the Tesoro Golden Eagle Refinery in Martinez, California, labor disputes would impact on the availability and reliability of industry resources.
- \$1.7 million provided by PHMSA is inadequate to support emergency Haz-Mat response needs.

Attachment #1

State Certified Haz-Mat Teams

CERTIFIED CALIFORNIA HAZ-MAT TEAMS, BY TYPE (Items highlighted is new data since last update) – AS OF 2/26/15

	Request #	Insp. #	Pass #	AGENCY	Operational and Local Identifier	Region	Unit Designation	Attained	Zip Code
TYPE 1	14	13	32	Burbank City Fire	XLC-BRK	I	HM-12	2-16-11	91505
	10	10	9	Glendale City Fire	XLC-GLN	I	HM-24	2-26-08	91208
	26	25	15	Vernon City Fire	XLE-VER	I	HM-151	5-14-09	90058
	45	40	23	Ventura County Fire	XVE-VNC	I	HM-50	6-23-10	93010
	46	41	28	Anaheim Fire	XOR-ANA	I	HM-8	9-21-10	92807
	18	17	30	Los Angeles County Fire	XLB-LAC	I	HM-150	12-27-10	91351
	51	46	37	Orange Co Fire Authority	XOR-ORC	I	HM-4	8-15-11	92612
	49	44	26	Orange Co Fire Auth. (formerly Santa Ana hm-9)	XOR-ORC	I	HM-79	6-22-10	92705
	54	48	34	Santa Monica Fire	XLA-SMA	I	HM-4	4-5-11	90404
	55	58	47	Santa Fe Springs Fire	XLE-SFS	I	HM # 851	10-9-12	90670
	6	6	11	Alameda County Fire	XAL-ACF	II	HM-12	3-10-08	94546
	43	62	52	Oakland City Fire	XAL-OKL	II	HM # 2599	8-23-13	94607
	22	45	31	San Jose City Fire	XSC-SJS	II	HIT-29	2-9-11	95134
	24	23	19	Santa Clara County Fire	XSC-CNT	II	HM - 2	12-16-09	95014
	1	1	1	Roseville City Fire	XPL-RSV	IV	HM-1	10-26-06	95678
	2	2	2	Sacramento City Fire	XSA-SCR	IV	HMRT-7	12-27-06	95823
	3	3	3	Sacramento City Fire	XSA-SCR	IV	HMRT-30	12-28-06	95835
	4	4	4	Sacramento Metro F.P.D.	XSA-SAC	IV	HM-109	7-13-06	95608
	42	36	25up	Bakersfield Fire. Dept	XKE-BKF	V	HM-15	1-11-11	93314
	27	26	13	Clovis City Fire	XFR-CLV	V	HM-40	5-1-09	93611
	17	16	12	Fresno City Fire	XFR-FRN	V	HM-1	11-4-08	93703
	16	15	6	Fresno City Fire	XFR-FRN	V	HM-16	11-20-07	93722
	11	61	14up	Merced County F.D.	XMD-MRD	V	HM-62	3-13-13	95301
	32	30	41	Visalia Fire	XTU-VSA	V	HM-55	12-12-11	93291
	57	55	44u	Riverside City Fire	XRI-RIV	VI	HM-2	4-7-14	92503
	68	66	55	San Bernardino County Fire	XBO-BDC	VI	HM-74	4-7-14	92337
	9	69	56	San Diego City Fire	XSD-SND	VI	HM-1	5-30-14	92126
	48	70	57	San Diego City Fire	XSD-SND	VI	HM-2	5-30-14	92126
	15	14	7	U.S. Marine Corp Camp Pendleton	XSD-MCP	VI	HazMat 1	3-13-08	92055
	TYPE 1 TOTAL:								29
TYPE 2	66	65	53	Santa Barbara County	XSB-SBC	I	HM-31	10-7-13	93427
	59	67	59	Santa Barbara City	XSB-STB	I	HM-1	11-3-14	93101
	63	71	58	Belmont City Fire	XSM-BEL	II	HM-14	7-3-14	94002
	5	5	8	Contra Costa County JPA	XCC-CCH	II	HM-1	11-1-07	94553
	31	29	22	Humboldt Bay Fire Dept	XHU-EUR	II	HM-8190	4-21-10	95501
	41	35	33	Fremont City Fire	XAL-FRE	II	HM-57	4-4-11	94538
	53	51	48up	Livermore-Pleasanton	XAL-LAP	II	HM-92	10-16-12	94588
	33	31	17	Marin County Fire Haz-Mat JPA	XMR-MRN	II	HM-1	7-22-09	94945
	28	27	16	San Ramon Fire Prot. Dist	XCC-SRM	II	HM-35	6-19-09	94506
	8	8	18	Sonoma County Fire	XSN-SSR	II	HM-2936	11-02-09	95403
	25	24	24	Sunnyvale Dept. Public Safety	XSC-SNY	II	HM-2	6-1-10	94085
	35	32	29	Napa County Fire	XNA-NPA	II	HM-27	10-26-10	94558
	61	60	50	Salinas City Fire – Monterey County JPA	XMY-SLS	II	HM-2	1-7-14	93901
	44	39	35	San Francisco Fire	XSF-SFR	II	HM-1	4-5-11	94102
	50	45	38	Solano County O.E.S. (Fairfield City FD)	XSO-FRF	II	HM-1	8-24-11	94533
	23	52	45	Santa Clara City Fire	XSC-SNC	II	HM-9	6-19-12	95051
	36	33	20	Butte County Fire	XBU-BUT	III	HM-5	4-1-10	95928
	12	54	42	Shasta-Cascade HM JPA (Redding Fire)	XSH-SHS	III	HM-24	2-17-12	96002
	69	68	60	Placer Co. Fire (CDF)	XPL-PCF	IV	HM-10	2-1-15	95603
	13	12	10	Truckee Fire Prot. District	XTB-TRK	IV	HM-1	10-6-08	96161
	47	42	40	Kern County Fire	XKE-KRN	V	HM-66	11-2-11	93308
	60	59	49up	Corona City Fire	XRI-COR	VI	HM-4	4-5-13	92879
	56	57	43up	Hemet City Fire	XRI-HMT	VI	HM-1	6-5-12	92545
	64	63	51	Riverside County Fire	XRI-RRU	VI	HM-34	5-14-13	92596
	65	64	54	Riverside County Fire	XRI-RRU	VI	HM-81	10-15-13	92211
	TYPE 2 TOTAL:								25
TYPE 3	7	7	5	Long Beach Fire Dept.	XLFB-LOB	I	HM-24	2-26-08	90802
	20	49	36	Mt. View Fire	XSC-MTV	II	HM-5	5-13-11	94043
	21	20	27	Palo Alto Fire Dept.	XSC-PAF	II	Rescue 2	8-2-10	94304
	58	56	46	Santa Rosa City Fire	XSN-SRS	II	HM-1	7-2-12	95404
	37	34	21	Butte County Fire	XBU-BUT	III	HM-64	4-1-10	95966
	30	53	39	Sutter County Fire	XSU-STC	III	Rescue 8	9-2-11	95991
TYPE 3 TOTAL:								6	
TOTAL TEAMS PASSED INSPECTION:								60	
THESE TOTALS ARE ACTUAL – THEY WILL NOT JIVE WITH THE "QUICK-GLANCE" CHART TOTALS, as that chart includes counting and tabulating separately UP-GRADE INSPECTIONS, and FULL RE-INPSECTIONS.									

NOTES: + Santa Barbara City HM-1 attained Type 2, 11-3-14.
+ Effective 1-1-2015, Butte County Fire has reduced the type status of HM-64 from Type 2 to Type 3. Chart reflects this change, - Type 3 up to 6.
+ Placer County Fire (CDF) HM-10 attained Type 2, 2-1-15. With Santa Barbara HM, this brings Type 2 total to 25, and TOTAL is 60.



Haz-Mat by Rail - High Hazard Sites with Certified Hazardous Material Teams, Ports and Refineries

REGULATIONS GOVERNING RAILROAD OPERATIONS AT DEFINED SITES

Site No.	RR	Site Name	County	MP Begin	MP End	Total Length	Statistical / Operational
1	UP	Coast Subdivision (formerly SP Coast Line)	San Luis Obispo	235.0	249.0	14.0	S
3	UP	Yuma Subdivision (formerly Yuma Line)	San Bernardino / Riverside	535.0	545.0	10.0	S
4	UP	Yuma Subdivision (formerly Yuma Line)	Riverside	586.0	592.0	6.0	S
6	UP	Yuma Subdivision (formerly Yuma Line)	San Bernardino / Riverside	542.6	589.0	46.4	O
9	UP	Black Butte Subdivision (formerly Shasta Line, Black Butte District)	Siskiyou	322.1	332.6	10.5	S
10	UP	Black Butte Subdivision (formerly Shasta Line, Black Butte District)	Siskiyou	322.1	330.5	16.4	O
12	UP	Roseville Subdivision (formerly Roseville District)	Placer	150.0	160.0	10.0	S
16	UP	Mojave Subdivision (formerly Bakersfield Line)	Kern	335.0	359.9	24.9	S
19	UP	Mojave Subdivision (formerly Bakersfield Line)	San Bernardino	463.0	486.0	23.0	O
22	UP	Canyon Subdivision (formerly Feather River Division)	Butte	234.0	240.0	6.0	S
23	UP	Canyon Subdivision (formerly Feather River Division)	Plumas	253.0	282.0	29.0	S
25	UP	Canyon Subdivision (formerly Feather River Division)	Butte / Plumas	232.1	319.2	87.1	O
26	BNSF	Gateway Subdivision (formerly Bakerfield Line)	Plumas	178.0	188.0	10.0	S
27	UP	Cima Subdivision (formerly Bakerfield Line)	San Bernardino	236.5	254.6	18.1	O
28	BNSF	Cajon Subdivision (formerly Cajon)	San Bernardino	53.0	68.0	15.0	S
29	BNSF	Cajon Subdivision (formerly Cajon)	San Bernardino	81.0	81.5	0.5	O
30	BNSF	Cajon Subdivision (formerly Cajon)	San Bernardino	55.9	81.5	25.6	O
31	SDNR	San Diego Subdivision (formerly San Diego)	San Diego	249.0	253.0	4.0	S

IDENTIFICATION METHOD*
 Statistical: Hazard site identification denotes that the site possesses a statistically significant high derailment history at the site.
 Operational: Hazard site identification denotes that the site is Designated as grade restricted by the railroad and self-imposed operating restrictions govern movements at the site.

Certified Haz-Mat Team (02/01/2015)

- Type 1
- Type 2
- Type 3

Refinery by Mutual Aid Group

- PMAO*
- SCIMO**
- No Mutual Aid Group

Response Equipment

- BNSF Response Trailer
- OSPR Response Trailer
- UP Response Trailer
- UP Boom Trailer
- Port / Terminal
- * City

RR Owner - ID Method

- BNSF, Operational
- BNSF, Statistical Rail High Hazard Area
- UP, Statistical Rail High Hazard Area
- UP, Operational Rail High Hazard Area
- SDNR, Statistical Rail High Hazard Area

Railroad Owner

- UP
- BNSF
- County Boundary
- Mutual Aid Region



Certified Haz-Mat Teams

CERT. NO.	AGENCY NAME	UNIT DESIGNATION	HAZ-MAT TEAM	CERT. NO.	AGENCY NAME	UNIT DESIGNATION	HAZ-MAT TEAM
1	Roseville City Fire Department	HM-1	Type 1	31	San Jose City Fire Department	HM-29	Type 1
2	Sacramento City Fire Department	HMRT-7	Type 1	32	Burbank City Fire Department	HM-12	Type 1
3	Sacramento City Fire Department	HMRT-30	Type 1	33	Fremont City Fire Department	HM-57	Type 2
4	Sacramento Metro Fire Protection District	HM-109	Type 1	34	Santa Monica Fire Department	HM-4	Type 1
5	Long Beach Fire Department	HM-24	Type 3	35	San Francisco Fire Department	HM-1	Type 2
6	Fresno City Fire Department	HM-16	Type 1	36	Mountain View Fire Department	HM-5	Type 3
7	U. S. Marine Corp Camp Pendleton	Haz-Mat-1	Type 1	37	Orange County Fire Authority	HM-4	Type 1
8	Contra Costa County J.P.A.	HM-1	Type 2	38	Solano County O.E.S. (Fairfield City F.D.)	HM-1	Type 2
9	Glendale City Fire Department	HM-24	Type 1	39	Sutter County Fire Department	Rescue-8	Type 3
10	Truckee Fire Protection District	HM-1	Type 2	40	Kern County Fire Department	HM-66	Type 2
11	Alameda County Fire Department	HM-12	Type 1	41	Visalia Fire Department	HM-55	Type 1
12	Fresno City Fire Department	HM-1	Type 1	42	Shasta Cascade Haz-Mat J.P.A. (Redding F.D.)	HM-24	Type 2
13	Clovis City Fire Department	HM-40	Type 1	43	Hemet City Fire Department	HM-1	Type 2
14	Merced County Fire Department	HM-62	Type 1	44	Riverside City Fire Department	HM-2	Type 1
15	Vernon City Fire Department	HM-151	Type 1	45	Santa Clara City Fire Department	HM-9	Type 2
16	San Ramon Fire Protection District	HM-85	Type 2	46	Santa Rosa City Fire Department	HM-1	Type 3
17	Marin County Fire Haz-Mat J.P.A.	HM-1	Type 2	47	Santa Fe Springs Fire Department	HM# 851	Type 1
18	Sonoma County Fire Department	HM-2936	Type 2	48	Livermore - Pleasanton Fire Department	HM-92	Type 2
19	Santa Clara County Fire Department	HM-2	Type 1	49	Corona Fire Department	HM-4	Type 2
20	Butte County Fire Department	HM-5	Type 2	50	Salinas City Fire - Monterey County J.P.A.	HM-2	Type 3
21	Butte County Fire Department	HM-6	Type 3	51	Riverside County Fire Department	HM 34	Type 2
22	Humboldt Bay Fire Department	HM-8190	Type 2	52	Oakland City Fire Department	HM# 2599	Type 1
23	Ventura County Fire Department	HM-50	Type 1	53	Santa Barbara County Fire Department	HM-31	Type 2
24	Sunnyvale Department of Public Safety	HM-2	Type 2	54	Riverside County Fire Department	HM-81	Type 2
25	Bakersfield Fire Department	HM-15	Type 1	55	San Bernardino County Fire Department	HM-73	Type 1
26	Orange Co Fire Authority (Formerly Santa Ana HM-9)	HM-79	Type 1	56	San Diego City Fire Department	HM-1	Type 1
27	Palo Alto Fire Department	Rescue-2	Type 3	57	San Diego City Fire Department	HM-2	Type 1
28	Anaheim Fire (Riverside Station 8)	HM-8	Type 1	58	Belmont City Fire Department	HM-14	Type 2
29	Napa County Fire Department	HM-27	Type 2	59	Santa Barbara City Fire Department	HM-1	Type 2
30	Los Angeles County Fire Department	HM-150	Type 1	60	Placer County Fire Department	HM-109	Type 2

*PMAO - Petro-Chemical Mutual Aid Organization - Bay Area/Sacramento
 **SCIMO - Southern California Industrial Mutual Aid Organization

Data Sources:
 Local Safety Hazard Sites - (LSHS): California Public Utilities Commission (September 2014)
 Certified Haz-Mat Teams by Type: Cal OES (201/2015)
 Refinery by Mutual Aid Group: Cal OES (1/12/2015)
 Response Equipment: Cal OES (3/08/2015)
 Railways: Caltrans
 Hazardous Sections classified by RR owners and ID Methods: CPUC [Rev Appendix A (R.93-10-002 ALJ/PSW/hc)]



Created by Cal OES-GIS, Kris Higgs March 6, 2015

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Map Projection: NAD 1927 California (NAD) Albers (Meters)



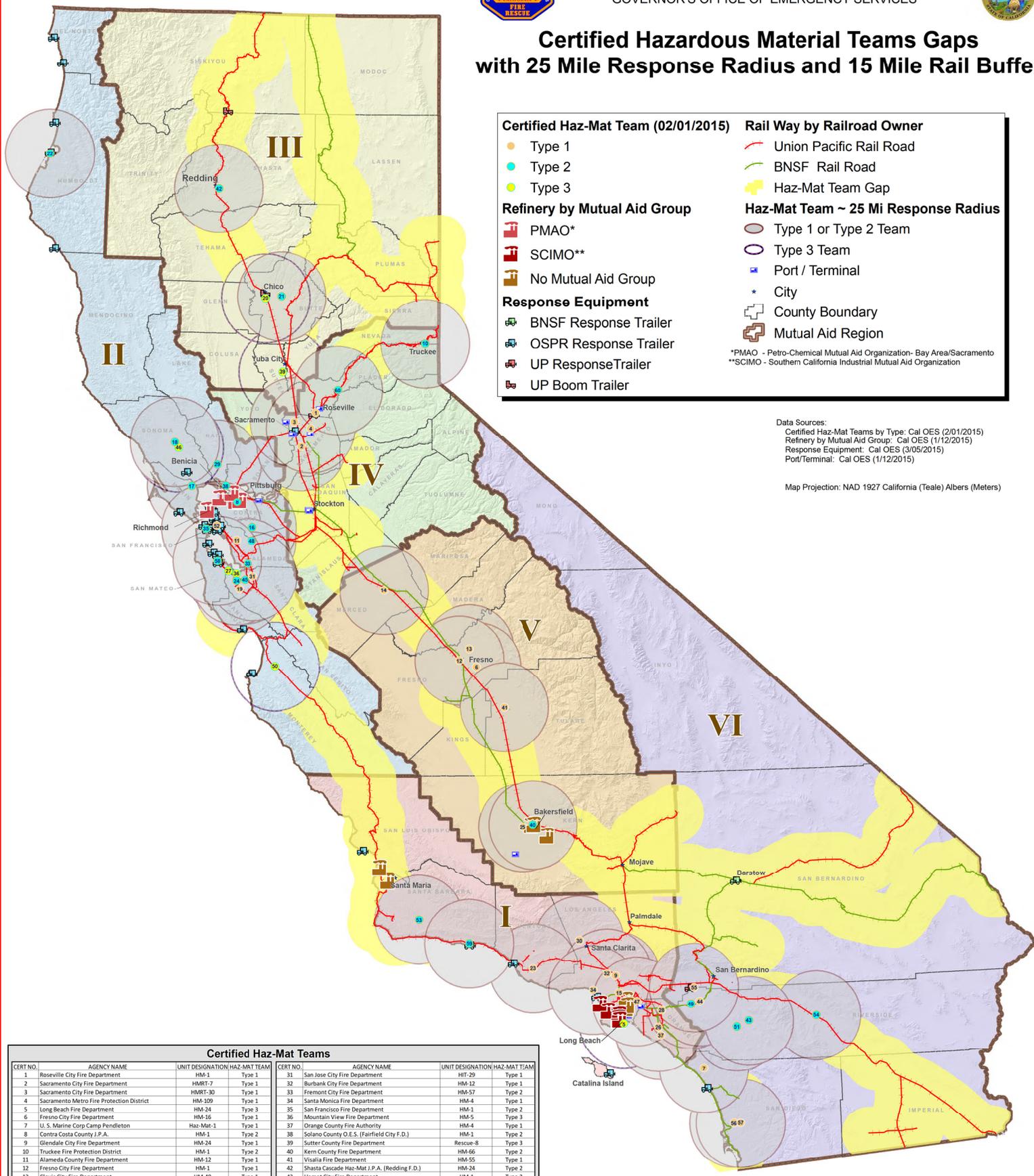
Map #2

Certified Haz-Mat Teams Gaps

25 Mile Response Radius



Certified Hazardous Material Teams Gaps with 25 Mile Response Radius and 15 Mile Rail Buffer



Certified Haz-Mat Team (02/01/2015)

- Type 1 (Orange circle)
- Type 2 (Blue circle)
- Type 3 (Yellow circle)

Refinery by Mutual Aid Group

- PMAO* (Red building icon)
- SCIMO** (Red building icon)
- No Mutual Aid Group (Brown building icon)

Response Equipment

- BNSF Response Trailer (Green truck icon)
- OSPR Response Trailer (Blue truck icon)
- UP Response Trailer (Red truck icon)
- UP Boom Trailer (Red truck icon)

Rail Way by Railroad Owner

- Union Pacific Rail Road (Red line)
- BNSF Rail Road (Green line)

Haz-Mat Team Gap (Yellow shaded area)

Haz-Mat Team ~ 25 Mi Response Radius

- Type 1 or Type 2 Team (Orange circle)
- Type 3 Team (Yellow circle)
- Port / Terminal (Blue square icon)
- City (Star icon)
- County Boundary (Dashed line)
- Mutual Aid Region (Dotted line)

*PMAO - Petro-Chemical Mutual Aid Organization- Bay Area/Sacramento
**SCIMO - Southern California Industrial Mutual Aid Organization

Data Sources:
Certified Haz-Mat Teams by Type: Cal OES (2/01/2015)
Refinery by Mutual Aid Group: Cal OES (1/12/2015)
Response Equipment: Cal OES (3/05/2015)
Port/Terminal: Cal OES (1/12/2015)

Map Projection: NAD 1927 California (Teale) Albers (Meters)

Certified Haz-Mat Teams

CERT NO.	AGENCY NAME	UNIT DESIGNATION	HAZ-MAT TEAM	CERT NO.	AGENCY NAME	UNIT DESIGNATION	HAZ-MAT TEAM
1	Roseville City Fire Department	HM-1	Type 1	31	San Jose City Fire Department	HM-29	Type 1
2	Sacramento City Fire Department	HMRT-7	Type 1	32	Burbank City Fire Department	HM-12	Type 1
3	Sacramento City Fire Department	HMRT-30	Type 1	33	Fremont City Fire Department	HM-57	Type 2
4	Sacramento Metro Fire Protection District	HM-109	Type 1	34	Santa Monica Fire Department	HM-4	Type 1
5	Long Beach Fire Department	HM-24	Type 3	35	San Francisco Fire Department	HM-1	Type 2
6	Fresno City Fire Department	HM-16	Type 1	36	Mountain View Fire Department	HM-5	Type 3
7	U. S. Marine Corp Camp Pendleton	Haz-Mat-1	Type 1	37	Orange County Fire Authority	HM-4	Type 1
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12	Fresno City Fire Department	HM-1	Type 1	42	Shasta Cascade Haz-Mat J.P.A. (Redding F.D.)	HM-24	Type 2
13	Clovis City Fire Department	HM-40	Type 1	43	Hemet City Fire Department	HM-1	Type 2
14	Merced County Fire Department	HM-62	Type 1	44	Riverside City Fire Department	HM-2	Type 1
15	Vernon City Fire Department	HM-151	Type 1	45	Santa Clara City Fire Department	HM-9	Type 2
16	San Ramon Fire Protection District	HM-85	Type 2	46	Santa Rosa City Fire Department	HM-1	Type 3
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18	Sonoma County Fire Department	HM-2936	Type 2	48	Livermore - Pleasanton Fire Department	HM-92	Type 2
19	Santa Clara County Fire Department	HM-2	Type 1	49	Corona Fire Department	HM-4	Type 2
20	Butte County Fire Department	HM-5	Type 2	50	Salinas City Fire - Monterey County J.P.A.	HM-2	Type 3
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30	Los Angeles County Fire Department	HM-150	Type 1	60	Placer County Fire Department	HM-109	Type 2



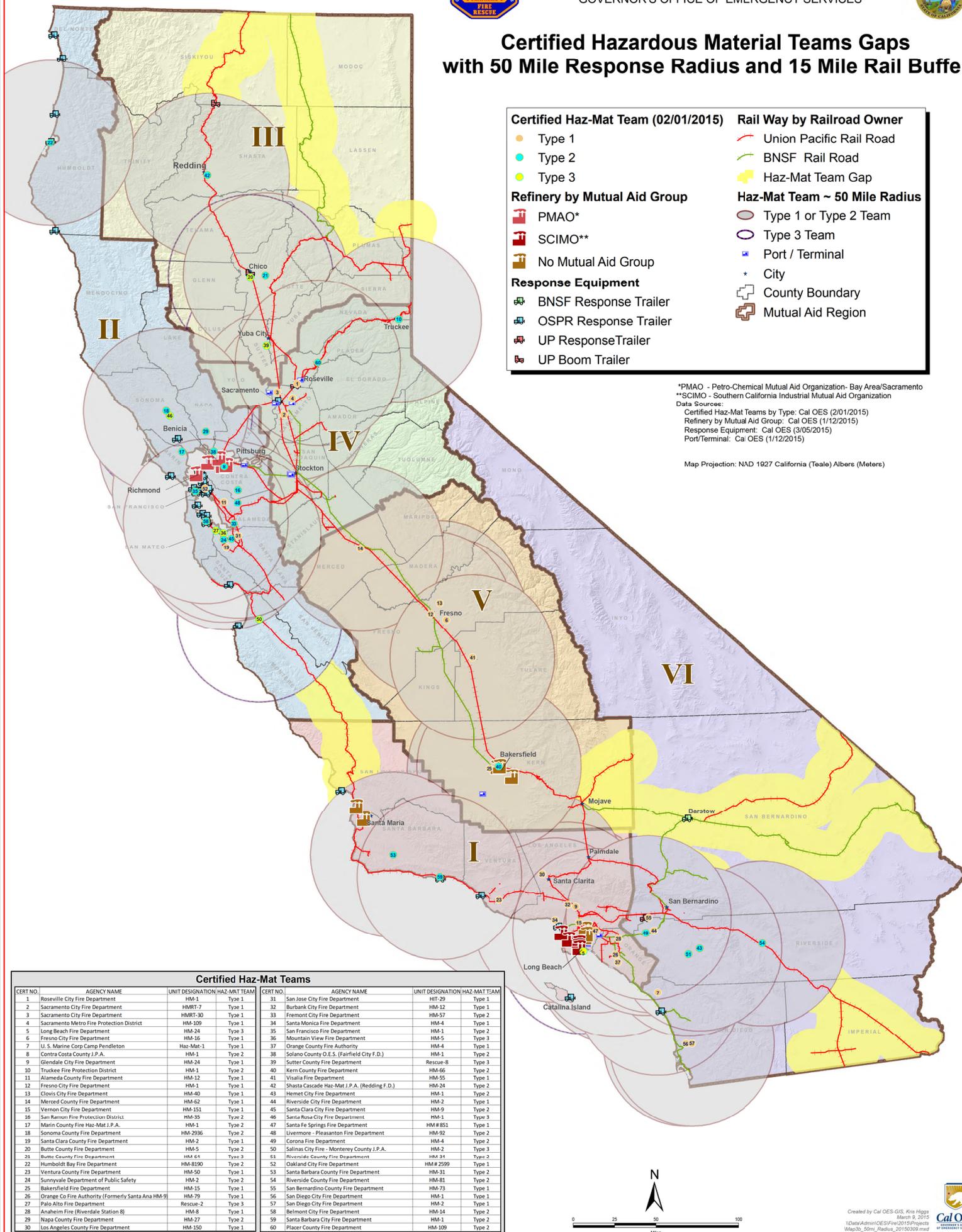
Map # 3

Certified Haz-Mat Teams Gaps

50 Mile Response Radius



Certified Hazardous Material Teams Gaps with 50 Mile Response Radius and 15 Mile Rail Buffer



Certified Haz-Mat Team (02/01/2015)

- Type 1 (Orange circle)
- Type 2 (Green circle)
- Type 3 (Yellow circle)

Refinery by Mutual Aid Group

- PMAO* (Red building icon)
- SCIMO** (Red building icon)
- No Mutual Aid Group (Brown building icon)

Response Equipment

- BNSF Response Trailer (Truck icon)
- OSPR Response Trailer (Truck icon)
- UP Response Trailer (Truck icon)
- UP Boom Trailer (Truck icon)

Rail Way by Railroad Owner

- Union Pacific Rail Road (Red line)
- BNSF Rail Road (Green line)

Haz-Mat Team Gap (Yellow shaded area)

Haz-Mat Team ~ 50 Mile Radius

- Type 1 or Type 2 Team (Large grey circle)
- Type 3 Team (Large yellow circle)
- Port / Terminal (Blue square icon)
- * City (Star icon)
- County Boundary (Thin grey line)
- Mutual Aid Region (Thick grey line)

*PMAO - Petro-Chemical Mutual Aid Organization-Bay Area/Sacramento
 **SCIMO - Southern California Industrial Mutual Aid Organization
 Data Source:
 Certified Haz-Mat Teams by Type: Cal OES (2/01/2015)
 Refinery by Mutual Aid Group: Cal OES (1/12/2015)
 Response Equipment: Cal OES (3/05/2015)
 Port/Terminal: Ca OES (1/12/2015)

Map Projection: NAD 1927 California (Teale) Albers (Meters)

Certified Haz-Mat Teams

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1	Roseville City Fire Department	HM-1	Type 1	31	San Jose City Fire Department	HM-29	Type 1
2	Sacramento City Fire Department	HMRT-7	Type 1	32	Burbank City Fire Department	HM-12	Type 1
3	Sacramento City Fire Department	HMRT-30	Type 1	33	Fremont City Fire Department	HM-57	Type 2
4	Sacramento Metro Fire Protection District	HM-109	Type 1	34	Santa Monica Fire Department	HM-4	Type 1
5	Long Beach Fire Department	HM-24	Type 3	35	San Francisco Fire Department	HM-1	Type 2
6	Fresno City Fire Department	HM-16	Type 1	36	Mountain View Fire Department	HM-5	Type 3
7	U. S. Marine Corp Camp Pendleton	Haz-Mat-1	Type 1	37	Orange County Fire Authority	HM-4	Type 1
8	Contra Costa County J.P.A.	HM-1	Type 2	38	Solano County O.E.S. (Fairfield City F.D.)	HM-1	Type 2
9	Glendale City Fire Department	HM-24	Type 1	39	Sutter County Fire Department	Rescue-8	Type 3
10	Truckee Fire Protection District	HM-1	Type 2	40	Kern County Fire Department	HM-66	Type 2
11	Alameda County Fire Department	HM-12	Type 1	41	Visalia Fire Department	HM-55	Type 1
12	Fresno City Fire Department	HM-1	Type 1	42	Shasta Cascade Haz-Mat J.P.A. (Redding F.D.)	HM-24	Type 2
13	Clovis City Fire Department	HM-40	Type 1	43	Hemet City Fire Department	HM-1	Type 2
14	Merced County Fire Department	HM-62	Type 1	44	Riverside City Fire Department	HM-2	Type 1
15	Vernon City Fire Department	HM-151	Type 1	45	Santa Clara City Fire Department	HM-9	Type 2
16	San Ramon Fire Protection District	HM-85	Type 2	46	Santa Rosa City Fire Department	HM-1	Type 3
17	Marin County Fire Haz-Mat J.P.A.	HM-1	Type 2	47	Santa Fe Springs Fire Department	HM# 851	Type 1
18	Sonoma County Fire Department	HM-2936	Type 2	48	Livermore - Pleasanton Fire Department	HM-92	Type 2
19	Santa Clara County Fire Department	HM-2	Type 1	49	Corona Fire Department	HM-4	Type 2
20	Butte County Fire Department	HM-5	Type 2	50	Salinas City Fire - Monterey County J.P.A.	HM-2	Type 3
21	Butte County Fire Department	HM-6	Type 3	51	Riverside County Fire Department	HM-34	Type 2
22	Humboldt Bay Fire Department	HM-8190	Type 2	52	Oakland City Fire Department	HM# 2599	Type 1
23	Ventura County Fire Department	HM-50	Type 1	53	Santa Barbara County Fire Department	HM-31	Type 2
24	Sunnyvale Department of Public Safety	HM-2	Type 2	54	Riverside County Fire Department	HM-81	Type 2
25	Bakersfield Fire Department	HM-15	Type 1	55	San Bernardino County Fire Department	HM-73	Type 1
26	Orange Co Fire Authority (Formerly Santa Ana HM-9)	HM-79	Type 1	56	San Diego City Fire Department	HM-1	Type 1
27	Palo Alto Fire Department	Rescue-2	Type 3	57	San Diego City Fire Department	HM-2	Type 1
28	Anaheim Fire (Riverside Station 8)	HM-8	Type 1	58	Belmont City Fire Department	HM-14	Type 2
29	Napa County Fire Department	HM-27	Type 2	59	Santa Barbara City Fire Department	HM-1	Type 2
30	Los Angeles County Fire Department	HM-150	Type 1	60	Placer County Fire Department	HM-109	Type 2

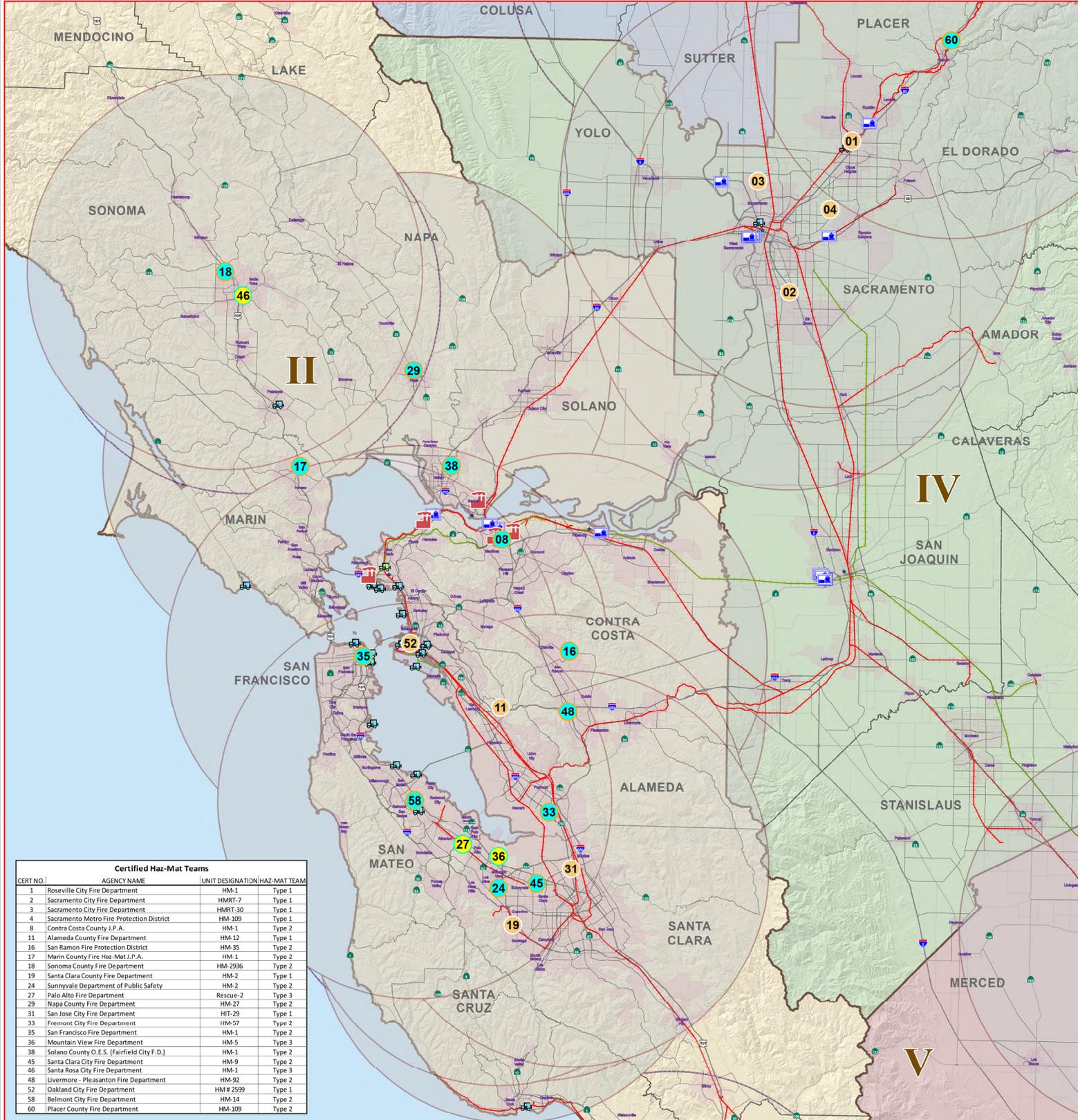
Map # 4

Certified Haz-Mat Teams

Refineries and Terminals – Bay Area



Certified Hazardous Material Teams with Refineries and Terminals Bay Area



Certified Haz-Mat Teams			
CERT NO.	AGENCY NAME	UNIT DESIGNATION	HAZ-MAT TEAM
1	Roseville City Fire Department	HM-1	Type 1
2	Sacramento City Fire Department	HMRT-7	Type 1
3	Sacramento City Fire Department	HMRT-30	Type 1
4	Sacramento Metro Fire Protection District	HM-109	Type 1
8	Contra Costa County J.P.A.	HM-1	Type 2
11	Alameda County Fire Department	HM-12	Type 1
16	San Ramon Fire Protection District	HM-35	Type 2
17	Marin County Fire Haz-Mat J.P.A.	HM-1	Type 2
18	Sonoma County Fire Department	HM-2936	Type 2
19	Santa Clara County Fire Department	HM-2	Type 1
24	Sunnyvale Department of Public Safety	HM-2	Type 2
27	Palo Alto Fire Department	Rescue-2	Type 3
29	Napa County Fire Department	HM-27	Type 2
31	San Jose City Fire Department	HIT-29	Type 1
33	Fremont City Fire Department	HM-57	Type 2
35	San Francisco Fire Department	HM-1	Type 2
36	Mountain View Fire Department	HM-5	Type 3
38	Solano County O.E.S. (Fairfield City F.D.)	HM-1	Type 2
45	Santa Clara City Fire Department	HM-9	Type 2
46	Santa Rosa City Fire Department	HM-1	Type 3
48	Livermore - Pleasanton Fire Department	HM-92	Type 2
52	Oakland City Fire Department	HM# 2599	Type 1
58	Belmont City Fire Department	HM-14	Type 2
60	Placer County Fire Department	HM-109	Type 2



<p>Certified Haz-Mat Team (02/01/2015)</p> <ul style="list-style-type: none"> ● Type 1 ● Type 2 ● Type 3 <p>Haz-Mat Team ~ 25 Mi Radius</p> <ul style="list-style-type: none"> Type 1 or Type 2 Team Type 3 Team 	<p>Refinery by Mutual Aid Group</p> <ul style="list-style-type: none"> PMAO* SCIMO** No Mutual Aid Group Port / Terminal <p><small>*PMAO - Petro-Chemical Mutual Aid Organization Bay Area/Sacramento **SCIMO - Southern California Industrial Mutual Aid Organization - Southern California</small></p>	<p>Response Equipment</p> <ul style="list-style-type: none"> BNSF Response Trailer OSPR Response Trailer UP Response Trailer UP Boom Trailer City Incorporated City 	<p>Transportation Network</p> <ul style="list-style-type: none"> Freeway Highway Primary Secondary Union Pacific Rail Road BNSF Rail Road
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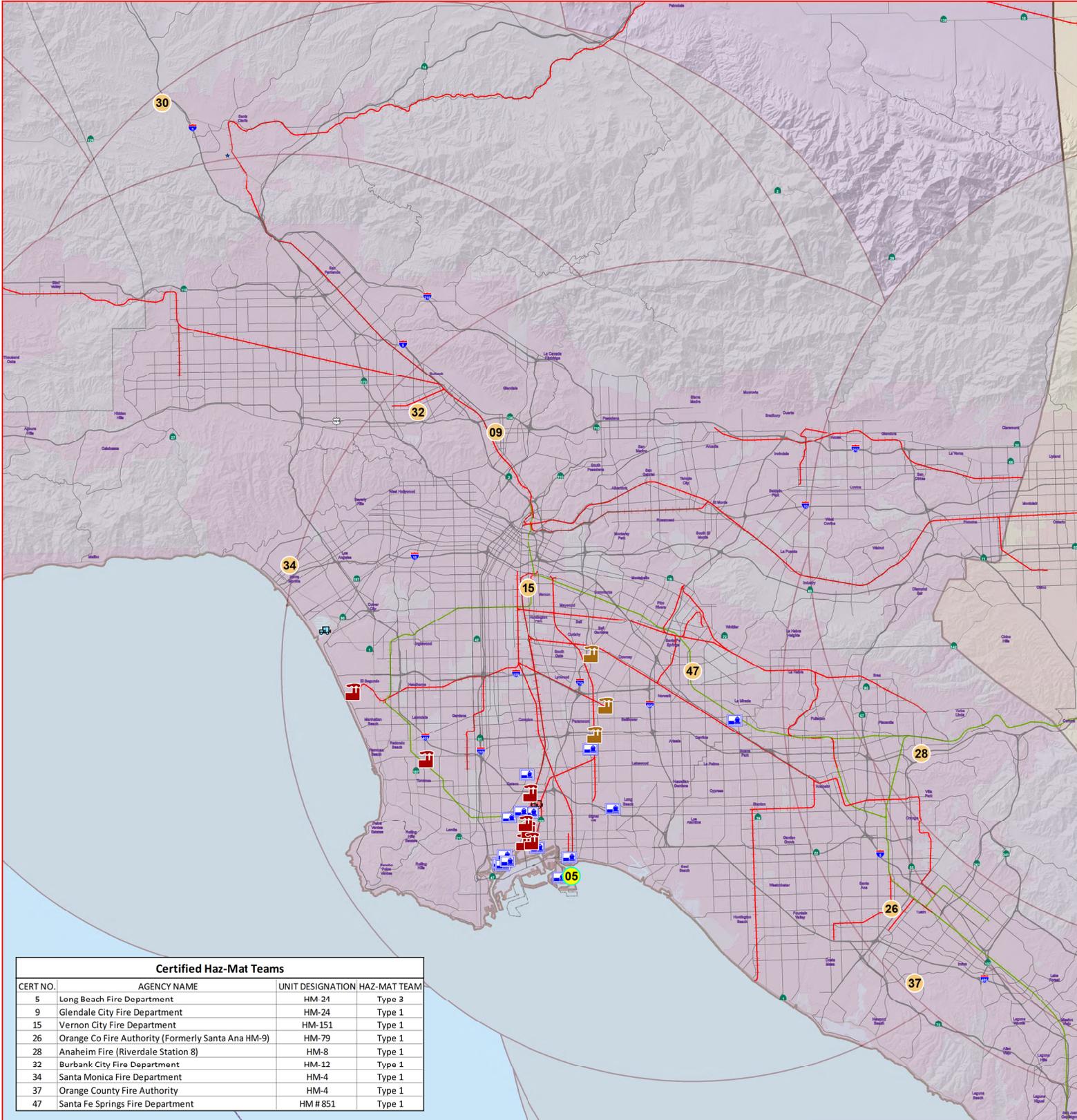
Map #5

Certified Haz-Mat Teams

Refineries and Terminals – Southern California



Certified Hazardous Material Teams with Refineries and Terminals Southern California



Certified Haz-Mat Teams			
CERT NO.	AGENCY NAME	UNIT DESIGNATION	HAZ-MAT TEAM
5	Long Beach Fire Department	HM-24	Type 3
9	Glendale City Fire Department	HM-24	Type 1
15	Vernon City Fire Department	HM-151	Type 1
26	Orange Co Fire Authority (Formerly Santa Ana HM-9)	HM-79	Type 1
28	Anaheim Fire (Riverdale Station 8)	HM-8	Type 1
32	Burbank City Fire Department	HM-12	Type 1
34	Santa Monica Fire Department	HM-4	Type 1
37	Orange County Fire Authority	HM-4	Type 1
47	Santa Fe Springs Fire Department	HM # 851	Type 1



<p>Certified Haz-Mat Team (02/01/2015)</p> <ul style="list-style-type: none"> ● Type 1 ● Type 2 ● Type 3 <p>Haz-Mat Team ~ 25 Mi Radius</p> <ul style="list-style-type: none"> Type 1 or Type 2 Team Type 3 Team 	<p>Refinery by Mutual Aid Group</p> <ul style="list-style-type: none"> PMAO* SCIMO** No Mutual Aid Group Port / Terminal <p><small>*PMAO - Petro-Chemical Mutual Aid Organization Bay Area/Sacramento **SCIMO - Southern California Industrial Mutual Aid Organization - Southern California</small></p>	<p>Response Equipment</p> <ul style="list-style-type: none"> BNSF Response Trailer OSPR Response Trailer UP Response Trailer UP Boom Trailer City <p>Incorporated City</p>	<p>Transportation Network</p> <ul style="list-style-type: none"> Freeway Highway Primary Union Pacific Rail Road BNSF Rail Road
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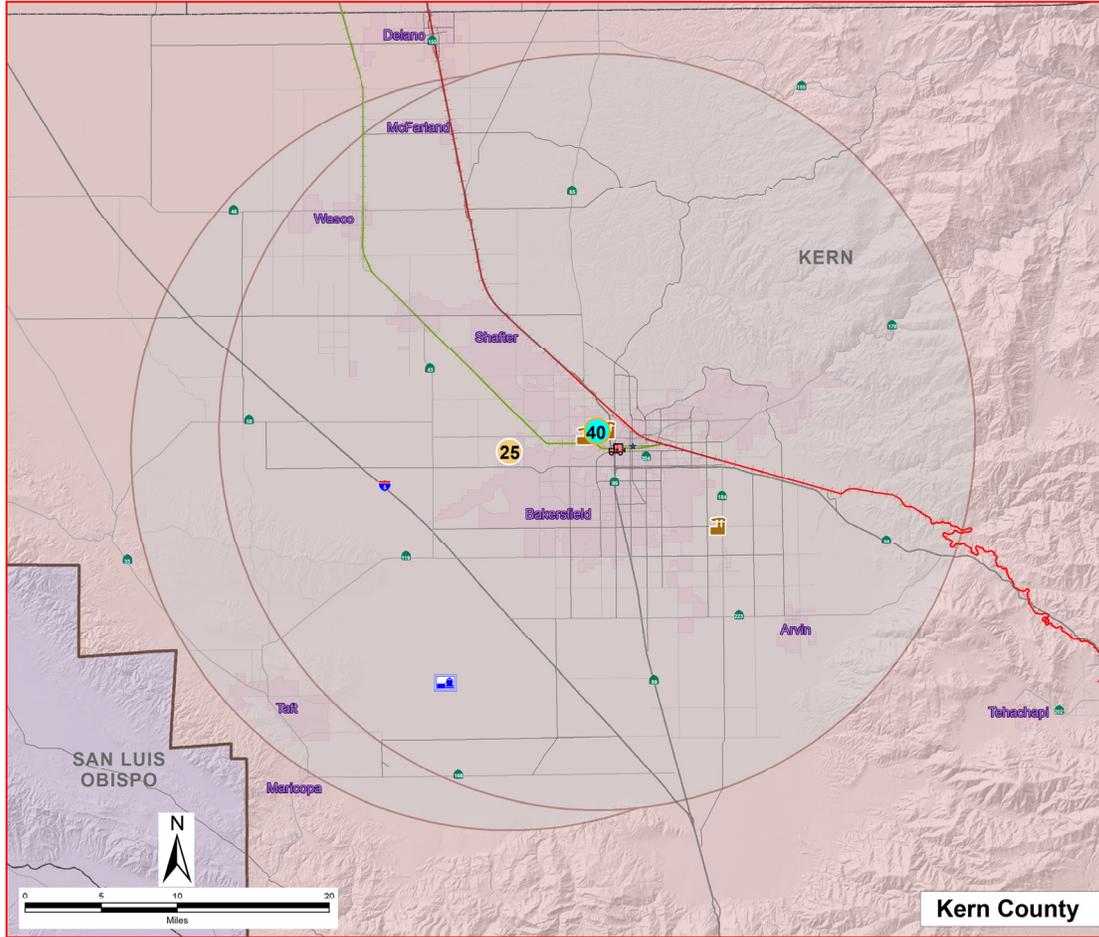
Map #6

Certified Haz-Mat Teams

Refineries and Terminals – Kern County
(Central Coast)



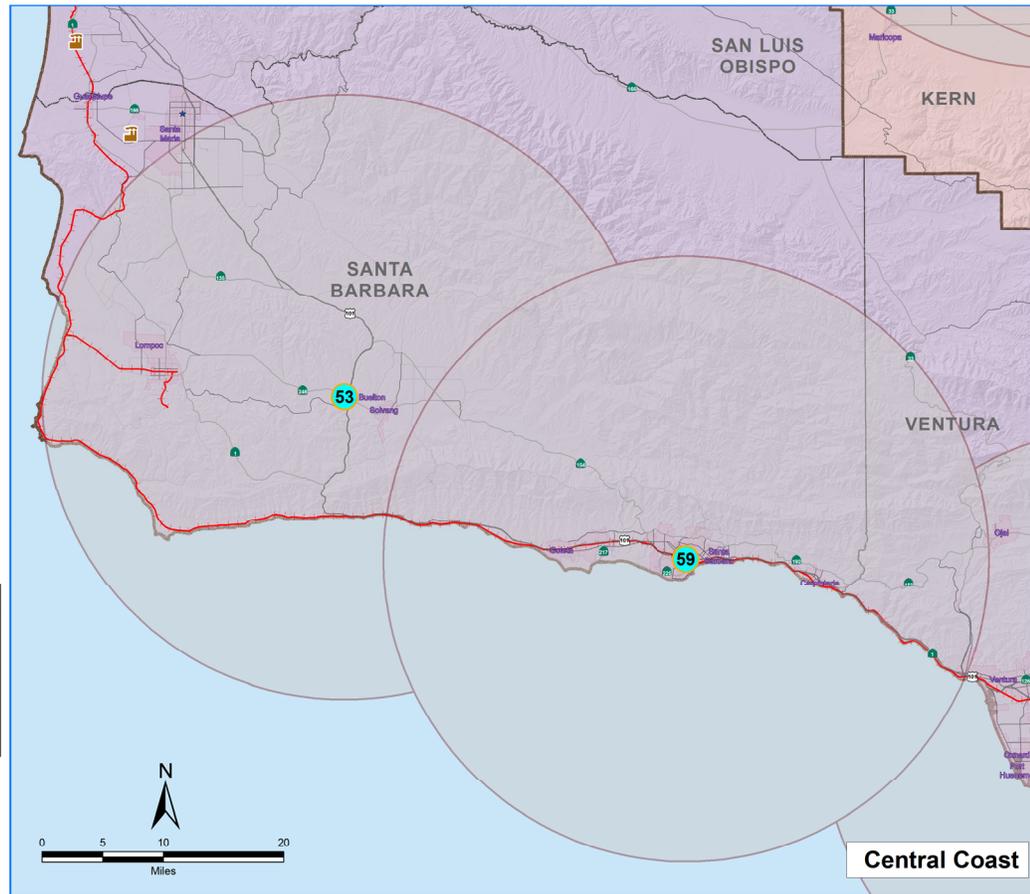
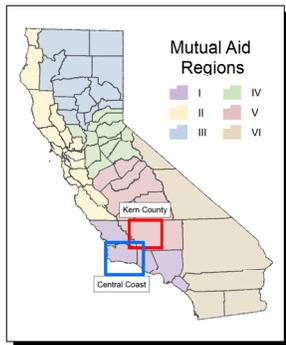
Certified Hazardous Material Teams with Refineries and Terminals Kern County ~ Central Coast



- Certified Haz-Mat Team (02/01/2015)**
- Type 1
 - Type 2
 - Type 3
- Haz-Mat Team ~ 25 Mi Radius**
- Type 1 or Type 2 Team
 - Type 3 Team
- Refinery by Mutual Aid Group**
- PMAO*
 - SCIMO**
 - No Mutual Aid Group
 - Port / Terminal
- Response Equipment**
- BNSF Response Trailer
 - OSPR Response Trailer
 - UP Response Trailer
 - UP Boom Trailer
 - City
 - Incorporated City Boundary
- Transportation Network**
- Freeway
 - Highway
 - Primary
 - Secondary
 - Union Pacific Rail Road
 - BNSF Rail Road

*PMAO - Petro-Chemical Mutual Aid Organization Bay Area/Sacramento
**SCIMO - Southern California Industrial Mutual Aid Organization - Southern California

Data Sources:
Certified HazMat Teams by Type: Cal OES (1/09/2010)
Refinery by Mutual Aid Group: Cal OES (1/12/2015)
Port/Terminal: Cal OES (1/12/2015)
Map Projection: NAD 1927 (Teale) Albers (Meters)



Certified Haz-Mat Teams			
BAKERSFIELD			
CERT NO.	AGENCY NAME	UNIT DESIGNATION	HAZ-MAT TEAM
25	Bakersfield Fire Department	HM-15	Type 1
40	Kern County Fire Department	HM-66	Type 2
CENTRAL COAST			
53	Santa Barbara County Fire Department	HM-31	Type 2
59	Santa Barbara City Fire Department	HM-1	Type 2

Attachment #2
Oil by Rail in California



Oil by Rail Safety in California

Preliminary Findings and Recommendations



A crude oil train travels across the Clear Creek Trestle in Plumas County, California and through the Feather River Canyon on June 5, 2014.

I. Introduction

California is on the cusp of dramatic changes in how oil is transported to the state. In 2012, about 70% of oil imported by California refineries came through marine terminals;¹ only one million barrels or 0.3% came by rail.² In 2013, crude oil imports by rail jumped 506% to 6.3 million barrels, or approximately 1% of total imports.³ Many experts, including the California Energy Commission, project that this number could increase by up to 150 million barrels, or 25% of total imports, by 2016. There currently are at least a half dozen planned infrastructure projects statewide that would facilitate greatly expanded oil by rail shipments, either refinery expansions and retrofits allowing for processing of more imported oil, such as from the Bakken shale formation in North Dakota, or expansion of rail terminal facilities.⁴ To date, most crude oil by rail has come from Canada and North Dakota.

These trends parallel what has been a sharp increase in oil by rail shipments nationally, especially in response to increases in production of oil from the Bakken shale formation. Oil from the Bakken is high-quality, light, sweet crude, making it more valuable and economically competitive than some of the other domestic crude oils. While moving oil by rail is more expensive than by pipeline (\$12/barrel of oil (bbl) versus \$6/bbl), it is faster and offers greater flexibility, enabling companies to take advantage of \$30/bbl price differentials across the United States. Industry is currently investing heavily in rail infrastructure and rail tank cars; Burlington Northern Santa Fe plans to invest \$400 million to expand rail capacity in North Dakota alone.⁵ Over the last several years, oil by rail in the United States has increased from 9,500 carloads in 2008 to 434,000 carloads in 2013.⁶ (A carload holds about 600 to 700 barrels, or between 25,000 to 30,000 gallons.)⁷

The federal government has primary authority over railroad safety. California, however, enforces federal requirements, as well as state specific rules, and state and local agencies have the lead in the areas of emergency planning, preparedness and response. States additionally can help ensure that federal and voluntary industry actions are adequate given the risks posed by oil by rail. In January 2014, the Governor's Office convened a Rail Safety Working Group to examine safety

¹ Office of Spill Prevention and Response, "OSPR Statewide Oil Program: Briefing to the Governor's Office," December 19, 2013.

² California Energy Commission, "Crude Imports by Rail (2012, 2013, 2014)," Energy Almanac, last modified May 2014, http://energyalmanac.ca.gov/petroleum/statistics/2013_crude_by_rail.html.

³ Ibid.

⁴ These include:

- Bakersfield – Plains All American (under construction): 90 cars per day
- Pittsburg – WesPac Energy Project (planned): 70 cars per day, construction could begin in early 2014 and would reach completion in about 18 months
- Benicia – Valero (planned): 100 cars per day, could be operational by the first quarter of 2015
- Bakersfield – Alon (planned): 200 cars per day
- Wilmington – Valero (planned): 85 cars per day
- Santa Maria – Phillips 66 (planned)

⁵ Burlington Northern Santa Fe, "BNSF 2014 Capital Spending Now in Full Swing: \$1 Billion Going to Northern Corridor States," May 1, 2014, <http://www.bnsf.com/media/news-releases/2014/may/2014-05-01a.html>.

⁶ Association of American Railroads, "Moving Crude Oil by Rail," December 2013, <https://www.aar.org/keyissues/Documents/Background-Papers/Crude-oil-by-rail.pdf>.

⁷ Association of American Railroads, "Just the Facts – Railroads Safely Move Hazardous Materials, Including Crude Oil," <https://www.aar.org/safety/Documents/Just%20the%20Facts%20on%20Hazardous%20Materials%20and%20Crude%20Oil%20Safety.pdf>.

concerns and recommend actions the state and others should take in response to this emerging risk.⁸ This report contains a summary of initial recommendations from the Working Group.

II. Scope of the Problem

A. Recent Accidents and Risks of Oil by Rail Transport

As oil by rail shipments have increased in recent years, there has been a dramatic increase in the number of incidents involving crude oil by rail. Nationally, rail incidents rose from several per year prior to 2010 to 155 in 2013, and 90 thus far in 2014.⁹ More crude oil by volume was spilled in rail incidents in 2013 than was spilled in the nearly four decades prior.¹⁰ California is experiencing similar trends, albeit on a smaller scale to date. Incidents involving oil by rail in California increased from 3 in 2011 to 25 in 2013; as of May, there have been 24 thus far in 2014.¹¹ Total petroleum spills by rail in California (crude oil and other) increased from 98 in 2010 to 182 in 2013.¹² Most reported incidents document a relatively small volume of oil released, but as detailed below, the potential for high-consequence incidents will increase as more oil is transported by rail.

Incidents involving crude oil from the Bakken shale formation have been particularly devastating – most notably, the tragic accident in July 2013 in Lac-Mégantic, Quebec, where 63 tank cars of crude oil exploded, killing 47 people.¹³



Lac-Mégantic, Quebec¹⁴

⁸ The Working Group includes representatives from the California Public Utilities Commission, California Office of Emergency Services, California Environmental Protection Agency, Department of Toxic Substances Control, California Energy Commission, California Natural Resources Agency, California Office of the State Fire Marshal, Department of Oil, Gas and Geothermal Resources, and Office of Spill Prevention and Response.

⁹ Pipeline and Hazardous Material Administration, “Incident Reports Database Search,” Office of Hazardous Materials Safety, June 2014, <https://hazmatonline.phmsa.dot.gov/IncidentReportsSearch/search.aspx>.

¹⁰ McClatchyDC, “More oil spilled from trains in 2013 than previous 4 decades, federal data show,” January 20, 2014, <http://www.mcclatchydc.com/2014/01/20/215143/more-oil-spilled-from-trains-in.html>.

¹¹ California Office of Emergency Services, “Historical HazMat Spill Notifications,” May 6, 2014, <http://www.calema.ca.gov/HazardousMaterials/Pages/Historical-HazMat-Spill-Notifications.aspx>.

¹² *Ibid.*

¹³ Congressional Research Service, “U.S. Rail Transportation of Crude Oil: Background and Issues for Congress,” May 5, 2014, <http://www.fas.org/sgp/crs/misc/R43390.pdf>.

¹⁴ The Atlantic, “Freight Train Derails and Explodes in Lac Mégantic, Quebec,” July 8, 2013, <http://www.theatlantic.com/infocus/2013/07/freight-train-derails-and-explodes-in-lac-megantic-quebec/100548/>.

In addition to Lac-Mégantic, there have been eight major accidents in 2013 and 2014 combined:¹⁵

- **October 19, 2013 – Gainford, Alberta:** No injuries, 100 people evacuated, 13 cars derailed (9 carrying liquefied petroleum gas and 4 carrying Canadian crude oil)
- **November 8, 2013 – Aliceville, Alabama:** No injuries, 30 cars carrying North Dakota crude oil derailed
- **December 30, 2013 – Casselton, North Dakota:** No injuries, 1,400 people evacuated, 34 cars derailed (20 carrying North Dakota crude oil)
- **January 7, 2014 – Plaster Rock, New Brunswick:** No injuries, 17 cars derailed (5 carrying Canadian crude oil)
- **January 20, 2014 – Philadelphia, Pennsylvania:** No injuries, 7 cars derailed (6 carrying Canadian crude oil)
- **February 13, 2014 – Vandergrift, Pennsylvania:** No injuries, 21 cars derailed (19 carrying Canadian crude oil)
- **April 30, 2014 – Lynchburg, Virginia:** No injuries, 15 cars carrying crude oil derailed
- **May 9, 2014 – LaSalle, Colorado:** No injuries, 6 cars carrying crude oil derailed¹⁶

The causes of these accidents vary and some are still being investigated, but they include track failures, inadequate rail car equipment, and human error (such as leaving cars unattended without proper braking systems). Federal safety experts believe many recent rail car failures are due to the rupture of tank cars containing a pressurized liquid above its boiling point, and are closely examining the potential unique risks posed by transporting oil from the Bakken shale formation. The concern is that the light, gasoline-like nature of the crude oil from Bakken (and other similar shale plays) is inherently more flammable than other crude oil and makes such rail car ruptures more likely, especially given existing tank car standards. Others posit that oil producers are not extracting enough propane (or other natural gas liquids) from Bakken, and similar crude oil, before transport, thereby exacerbating the risk of rupture.

The National Transportation Safety Board (NTSB) has also found numerous deficiencies in the regulation of rail safety. These include that crude oil transported by rail sometimes has been incorrectly characterized and labeled, and not transported with the level of protection mandated for the degree of hazard posed, inadequacies in route planning to avoid population centers and environmentally sensitive areas, and a need for auditing rail carriers to ensure adequate response plans are in place.¹⁷ In addition, a comprehensive recent report by New York found similar weaknesses in the existing regulatory scheme, including: outdated tank cars with insufficient placards, a lack of critical information about the characteristics of crude oil being transported, a

¹⁵ Congressional Research Service, "U.S. Rail Transportation of Crude Oil: Background and Issues for Congress," May 5, 2014, <http://www.fas.org/sgp/crs/misc/R43390.pdf>.

¹⁶ Huffington Post, "6 Cars Of Crude Oil Train Derail Near LaSalle, Colorado," May 10, 2014, http://www.huffingtonpost.com/2014/05/10/crude-oil-train-colorado_n_5298679.html.

¹⁷ National Transportation Safety Board, "Safety Recommendation R-14-1," January 23, 2014, <http://www.nts.gov/doclib/reclib/recletters/2014/R-14-001-003.pdf>.

lack of data about trends in the movement and volume of crude oil, and a need to expand and update federal environmental and contingency response plans.¹⁸

B. Oil by Rail Routes and Risks in California

In California, trains transporting crude oil are expected to travel via the Feather River or Donner Pass to the Bay Area, the Tehachapi Pass to Bakersfield, or into Los Angeles. As a result, they will travel through some of the state's most densely populated areas, as well as some of the most sensitive ecological areas, since rail lines frequently operate near or over rivers and other sensitive waterways in the state.

Agencies in the Working Group collaborated to identify and map areas along rail routes with potential high vulnerability, and to identify the locations of emergency response teams relative to the vulnerabilities.¹⁹ As seen in the attached map, there are serious risks throughout the state from oil by rail and significant gaps in local emergency response capabilities.

Specifically, the mapping exercise found the following:

- High hazard areas²⁰ for derailments are primarily located in the mountains, with at least one such site along every rail route into California. Some high hazard areas are also located in more urban areas, such as in the San Bernardino-Riverside and San Luis Obispo regions. Overall, high hazard areas represent an estimated 2% of track and 18% of the derailments that have occurred.²¹ This means that 82% of derailments have occurred in a wide range of other locations. The high hazard areas do not reflect the locations of other types of rail accidents (e.g., collisions). Therefore, while the highlighted areas are important, they are not the only sites where accidents may occur.
- Areas of vulnerable natural resources are located throughout the state, including in urban areas. A rail accident almost anywhere in California would place waterways and sensitive ecosystems at risk. The high hazard areas for derailments are generally located in areas with high natural resources vulnerability and nearby waterways (e.g., Dunsuir, the Feather River Canyon).
- Emergency hazardous material response teams ("hazmat") in California have generally good coverage of urban areas, but none are located near the high hazard areas in rural Northern California. Some areas such as Yuba City and Monterey only contain "Type III Hazmat" teams, units that are equipped to perform only in a support rather than lead role during a major chemical or oil incident.

¹⁸ State of New York, "Transporting Crude Oil in New York State: A Review of Incident Prevention and Response Capacity," April 30, 2014, <http://www.governor.ny.gov/assets/documents/CrudeOilReport.pdf>.

¹⁹ The map was prepared by OSPR, OES, CPUC, CalEPA, and the California Department of Technology.

²⁰ "High hazard areas" are areas that were identified in Decision 97-09-045 of the California Public Utilities Commission, and were identified either by a statistically significant high frequency of derailments, or by the existence of restrictive railroad operating rules to address unusually risky operating characteristics such as steep grade and sharp curves. There is considerable overlap between the two identification criteria.

²¹ For 2003 to 2013 in areas identified via the statistical method described in the preceding footnote.

Other populated areas near rail routes, such as Stockton, San Luis Obispo, Santa Maria, and Barstow, contain only “Non-Certified Hazmat” teams, which are local teams that have not applied to be certified by the state as meeting certain levels of training and equipment.²²

- Population centers, schools, and hospitals are frequently located near rail lines in urban areas and in the Central Valley. A highly populated area is located near a major high hazard area for derailments in the San Bernardino-Riverside area.
- Earthquake faults in California are located along rail lines in many areas, especially in urban areas in and around Los Angeles and the Bay Area. A major earthquake could damage tracks and bridges beyond the immediate area of the marked faults.

III. Government Actions to Date

A. Federal

Federal law governs most major aspects of rail transport, and preempts most state regulation. The principal agency responsible for promulgating and enforcing the safety of rail shipments of crude oil is Department of Transportation (DOT), and specifically within DOT: the Federal Railroad Administration (FRA) and the Pipeline and Hazardous Materials Safety Administration (PHMSA).

DOT has responded to the spate of accidents and increased volume of oil by rail with a series of increasingly stringent emergency orders and advisories.²³ Among the most important of the federal actions are the following:

- Requirements for proper testing, characterization, classification and designation of oil shipped by rail
- Investigation of how shippers and carriers are classifying crude oil
- Review of crew staffing levels and operating procedures
- Requirement for updated safety and security plans

²² Although Non-Certified Hazmat teams are not a part of the formal mutual aid system, they may be fully capable of responding to and mitigating an event.

²³ The actions include:

August 2013 - Operation Classification
August 2, 2013 - Joint FRA-PHMSA Safety Advisory 2013-06
August 7, 2013 - FRA Emergency Order 28
September 6, 2013 - PHMSA Advanced Notice Of Proposed Rulemaking (ANPRM): Rail Petitions and Recommendations to Improve the Safety of Railroad Tank Car Transportation
November 20, 2013 - Joint PHMSA-FRA Safety Advisory 2013-07
January 2, 2014 - PHMSA Safety Alert, Preliminary Guidance from Operation Classification
January 21, 2014 - NTSB Safety Recommendations to FRA and PHMSA
February 21, 2014 - 8-Part Agreement between DOT and the Association of American Railroads
February 25, 2014 - DOT Emergency Restriction/Prohibition Order
March 6, 2014 - DOT Amended and Restated Emergency Restriction/Prohibition Order
May 7, 2014 - DOT Emergency Restriction/Prohibition Order, FRA Safety Advisory 2014-01

- Restrictions on leaving trains unattended
- Requirement for advance notification to State Emergency Response Commissions of weekly shipments of significant volumes of Bakken crude oil by county

PHMSA also has initiated a rulemaking to consider revisions to the regulations governing the transportation of hazardous materials by rail. The changes under consideration include more stringent requirements for the tank cars most typically used to transport Bakken or other crude oil, DOT Specification 111 (DOT-111) tank cars. In addition, earlier this year DOT reached an agreement with the Association of American Railroads (AAR) under which industry agreed to eight voluntary safety measures, including: reduced speed for crude oil trains with older tank cars going through urban areas, analyses to determine the safest routes for crude oil trains, increased track inspections, enhanced braking systems, installation of wayside defective bearing detectors along tracks, better emergency response plans, improved emergency response training, and working with communities through which oil trains move to address community concerns. The voluntary measures go into effect between March and July 2014.

B. California

At the state level, the California Public Utilities Commission (CPUC) shares authority with the federal government to enforce federal rail safety requirements, and also has authority to enforce state safety rules. The CPUC has also been an active participant in federal rulemaking efforts, including through the FRA's Railroad Safety Advisory Committee.

Various state agencies engage in prevention, planning, emergency response, and cleanup activities applicable to oil by rail, including the Office of Emergency Services (OES), the Office of State Fire Marshal (OSFM), California Environmental Protection Agency (CalEPA), and the Office of Spill Prevention and Response (OSPR). These state agencies are all beginning to prepare for the heightened risks posed by oil by rail. Local agencies, including the local Certified Unified Program Agencies (CUPAs), also play critical roles in emergency preparedness and response, and have expressed growing concern about increased oil by rail transport.

Several aspects of the state's emergency response framework are currently being updated: The CalEPA Emergency Response Management Committee is revising the Hazardous Material and Oil Spill annex of the State Emergency Plan, OES is leading an effort to review and update the six Regional Plans for Hazardous Materials Emergency Response, and OES has also re-started meetings of the State Emergency Response Commission (SERC), the federally-mandated state coordinating body for hazardous materials release response planning.

IV. Recommendations

The Working Group's preliminary findings and recommendations are set forth below. In sum, while the federal actions taken to date are significant, they do not go far enough to address the risks of increased oil by rail transport. The state should press both the federal government and the railroad industry to take additional safety measures. Additionally, the state should strengthen its inspection and enforcement resources, remedy significant gaps in its emergency preparedness and response programs, and provide the public with an interactive map showing potential high risk areas from oil by rail traffic.

1. Increase the Number of California Public Utilities Commission Rail Inspectors

The CPUC is responsible for enforcing federal and state railroad safety requirements, including those governing railroad tracks, facilities, bridges, rail crossings, motive power and equipment, operating practices, and hazardous material shipping requirements.

The CPUC has only 52 total authorized positions in the Railroad Operations and Safety Branch to handle inspections, investigations, and risk assessment and analysis for railroad operations (freight and passenger), including inspections of rail cars and thousands of miles of rail track, bridges and railroad crossings in the state. This staffing level is seriously inadequate given current and projected numbers of oil shipments. With existing resources, the CPUC is often not able to meet its statutory mandate to inspect every mile of railroad annually. Increased transportation of oil by rail will mean more tank cars subject to inspection, increased tonnage and wear and tear on track and structures, and greater potential for hazardous spills with explosive potential, creating a corresponding greater need for resources.

The Legislature should approve the proposal in the Governor's Budget to add seven rail inspectors to the CPUC so that it can carry out additional inspections and enforcement actions related to tank cars, railroad lines, bridges, and hazardous material shipping requirements necessary to respond to increases in the transport of oil by rail.

2. Improve Emergency Preparedness and Response Programs

The state needs to strengthen all aspects of its emergency preparedness and response programs to deal with the threats posed by oil by rail – from preparedness and training in advance of any incidents to effective response and cleanup after an incident occurs. State and local agencies have important, complementary responsibilities in this area. OES is responsible for coordinating emergency response statewide, while local agencies typically are the first on the scene responding following an incident. These agencies handle initial emergency response and immediate actions to abate the hazard. In the event of an oil spill, OSPR manages the incident, including cleanup, natural resource protection, hazardous waste management, and cost recovery from responsible parties. As agencies update their programs, they should do so in a coordinated fashion that does not result in duplicative efforts or obligations on industry.

Specific recommendations in this area include the following:

a. Expand the Oil Spill Prevention & Response Program to Cover Inland Oil Spills

The State Office of Spill Prevention and Response (OSPR) has a program to prevent, prepare for, and clean up oil spills in waters off the California coast, funded by a per barrel oil fee of 6.5 cents on oil transported over marine water. OSPR, however, has no comparable fee structure or authority for preparedness activities for oil that is transported to or within California by rail or pipeline, even though it is designated in statute as the state Incident Commander for spills to inland waters of the state. Therefore OSPR has no program in place to prepare for

and respond to oil spills to inland rivers, streams, or other water bodies, despite the fact that rail lines frequently operate near sensitive waterways in the state.

The Legislature should fund the proposal in the Governor's Budget to extend the per barrel fee to cover all sources of crude oil sent to refineries in the state, and to provide OSPR with the regulatory authority and resources to establish an inland spill preparedness and response program. This will enable OSPR to expand its proven maritime oil spill program to inland areas. The program will: support existing prevention measures as appropriate, enhance preparedness for spills (including training and drills, cleanup contractor testing requirements, industry drills and exercises, geographic response and contingency planning, oiled wildlife rescue and multi-agency coordination), and allow OSPR to oversee responses to oil spills in order to maximize containment, protect and restore natural resources, and ensure effective cleanup. These activities should be closely coordinated with the work of state and local emergency response agencies, as described below.

b. Provide Additional Funding for Local Emergency Responders

According to a recent analysis conducted by OES, numerous local emergency response offices lack adequate resources to respond to oil by rail accidents. Many of these first responders are in rural areas, such as Plumas, Siskiyou, and Modoc counties, where some of the highest risk rail lines are and some of our state's most pristine natural resources are located. Additionally, many of these areas have little or no funding for firefighters and rely on volunteer firefighters. Specifically, 40% of the fire fighters in California are volunteer firefighters, with many fire departments entirely staffed by volunteer firefighters. These departments lack the necessary capacity to support a hazmat team to purchase or maintain necessary specialized vehicles and equipment, or to obtain training in the specialized areas of oil rail safety and flammable liquid, and their response time to a significant oil by rail accident could be hours. Moreover, these small departments cannot rely on the assistance of larger, certified departments because those departments could be engaged in an incident locally and would be unavailable.

The Legislature should authorize additional funding to establish regional hazardous materials response teams and otherwise remedy the gaps in local emergency response training, equipment, and planning capabilities needed to adequately prepare for oil by rail incidents.

c. Review & Update of Local, State and Federal Emergency Response Plans

The State of California has several local, state and federal emergency response plans for government agencies to respond to and minimize the impacts of potential hazardous material incidents. These are implemented through various local and regional agencies, including Local Emergency Planning Committees (LEPCs) and six Mutual Aid Regions.

OES is currently leading an effort to review and update the six Regional Plans for Hazardous Materials Emergency Response, with the goal of developing a more

standardized approach to local emergency planning. As part of this assessment and update, OES should incorporate elements for responding to crude oil by rail incidents. OES should also review local Area Plans – plans prepared by local agencies that serve as a blueprint for responding to hazardous materials releases – to determine if updates due to potential increases in oil by rail incidents are appropriate.

In addition, OES, CalEPA and OSPR should partner with US EPA Region 9 and the FRA to undertake a review of local, state and federal emergency response plans to ensure they address the risks associated with increased transportation of oil by rail in California.

d. Improve Emergency Response Capabilities

Emergency responders currently lack basic, critical information needed to help plan for and respond to oil by rail incidents, including what resources railroads can provide in the event of an accident, and how they would respond to potential worst case scenarios.

The recent voluntary agreement between AAR and DOT calls on the railroads to develop an inventory of emergency response resources available in case of a release of large amounts of crude oil along routes over which trains with 20 or more cars of crude oil operate. This inventory will include locations for the staging of emergency response equipment and, where appropriate, contacts for the notification of communities. When the inventory is completed, railroads will provide DOT with information on the deployment of the resources and make the information available upon request to appropriate emergency responders.

In light of this agreement, OES should request that railroads provide a complete inventory of their firefighting and spill recovery resources to the state. Effective response capability planning requires that the state has information in advance on the type of equipment available, strategic location of the resources, as well as the amount accessible. This inventory assessment should also indicate how resources are deployed, the trigger points for deployment, and the contact names and numbers for these resources to be made available to the local emergency responders.

In addition to these resource inventories, OES, in coordination with OSPR, should request that the railroads provide “Worst Case Scenario” plans for responding to a multi-car incident in any part of California.

For oil by rail, a Worst Case Scenario plan would likely involve a major train derailment in a highly populated part of the state with 10 or more tank cars breaching, burning, exploding, and spilling oil downhill, resulting in high loss of life and extensive damage to buildings and communities. An example like this should be used to test the emergency response plans of the county or region that could be affected, and reveal any gaps in the response plans.

With both an inventory of resources and Worst Case Scenario plans from the railroads, state and local emergency responders can effectively test response capabilities and update Regional Plans and local Area Plans.

e. Request Improved Guidance from United States Fire Administration on Resources Needed to Respond to Oil by Rail Incidents

While the International Association of Fire Chiefs has recently provided helpful direction on planning for the safe transport of crude oil by rail, there is a need for additional guidance. Currently, nationwide, response teams and firefighters are unsure of the best response techniques and quantities of resources necessary to respond to oil by rail accidents, especially in light of recent explosions. Lessons can be learned from previous accidents in both the United States and Canada.

OSFM should request that the United States Fire Administration promptly issue guidance on the resources required, including, but not limited to:

- i. Training based upon lessons learned during recent accidents across the United States to prepare firefighters for derailment, spill/leak, and fire risks. Training should highlight best practices from lessons learned from previous incidents and required resources for the hazard classification of this type of crude oil product.
- ii. Provide accessible training in multiple formats (web based, video, or instructor facilitated) that allows for each state's fire service training organization to deliver the training to meet specific needs.

f. Increase Emergency Response Training

California firefighters and first responders lack training in the specialized areas of oil rail safety and flammable liquid, as well as financial resources to attend out of state trainings. To maximize state training capabilities, the state has begun planning for a multi-agency West Coast Regional Training Center in Sacramento. OES and OSFM should seek partnerships with railroads and oil companies to help fund establishment of this center.

3. Request Improved Identifiers on Tank Placards for First Responders

Information about the flash point and vapor pressure of the specific type of crude oil in each tank car is of critical importance in the event of a derailment so that emergency responders can quickly determine what resources and equipment are needed to contain the incident. Currently, this information is on-board the train, but not captured visually on tank car placards. If first responders can quickly identify an incident involving Bakken, or similar crude, from a safe distance by using the visual information on the placard, decisions can be made on whether to attack the fire or spill, or take a more defensive posture and wait for additional resources.

As New York recently concluded in its report, the United Nations, which assigns unique hazardous materials identifiers on tank placards, should recommend new classifications based on crude oil characteristics to enable appropriate packaging and inform response personnel as

to the qualities of the crude oil and the State of California supports this recommendation. This would provide the immediate visual identification required.

Alternatively, if the United Nations does not assign a new classification for this category of crude oil, OES, in coordination with CPUC should recommend that DOT, at a minimum, require some kind of external visual identification on tank cars of Bakken and similar crude, to aid first responders nationwide.

4. Request Railroads to Provide Real-Time Shipment Information to Emergency Responders

As noted, DOT recently issued an order requiring railroads transporting more than 1 million gallons of crude oil from the Bakken shale formation to provide the State Emergency Response Commission (the Chair of the Commission is the Director of OES) with information on expected weekly shipments of crude oil, including number of trains, contents of crude oil, and routes over which material will be transported. Upon receipt, OES will share this data with local, regional, and state emergency response offices throughout the state. OES also will share this information with the public to the maximum extent permitted by DOT rules and other applicable law.

While advance weekly information about crude by rail shipments by county is vital, local and state emergency responders and regulators will also benefit by knowing in actual real-time what is sent into the state, in what quantities, and along which routes.

CPUC and OES should request that Class I railroads operating in California establish a system where emergency responders can securely log-in and access the daily location and status of rail cars and train consists (including hazmat carload detail for Bakken crude oil and other hazardous substances).

5. Request Railroads Provide More Information to Affected Communities

The increase in oil by rail activity has generated considerable interest and concern from communities in which rail facilities are located or rail lines pass through. Communities in particular want more information about what steps the railroads are taking to ensure safety. The CPUC and OES should request that the railroads should provide better outreach programs and more information to communities, including interactive websites and open community forums, and updates on additional voluntary safety advancements.

6. Develop and Post Interactive Oil by Rail Map

The state should develop and post on a public website an interactive map depicting areas along rail lines with potential high vulnerability. The maps include layers that represent the major rail lines in California, locations of earthquake faults near rail lines, natural resource vulnerabilities (water crossings and sensitive ecosystems), population vulnerabilities (populated areas, schools, daycare centers, and hospitals), and rail segments that have an historically high frequency of derailments. The location of certified emergency response hazmat teams should be included. State agencies should update the webpage as relevant, additional information becomes publicly available

7. Request DOT to Expedite Phase Out of Older, Riskier Tank Cars

Currently, as much as 82% of crude oil in the United States is shipped in older model DOT-111 tank cars.²⁴ There is growing evidence that such cars are inadequate to protect against vapor explosions of highly flammable crude such as that from the Bakken shale formation. The remaining 18% of tank cars are new or retrofitted as a result of recent voluntary industry action to increase safety. As noted above, PHMSA is currently considering regulatory changes that will address tank cars. On May 7, 2014, it issued Safety Advisory 2014-01 strongly urging the phase-out of the older DOT-111 tank cars—but it did not require this by any certain date. On April 23, 2014 Canada ordered that older tank cars be phased out by May 2017 and that the least crash-resistant DOT-111 tank cars be removed from dangerous goods service within 30 days.²⁵

The CPUC should request that DOT move expeditiously to finalize new and retrofitted tank car regulations that will result in a more rapid phase out of DOT 111 tank cars.

8. Accelerate Implementation of New Accident Prevention Technology

a. Positive Train Control

Positive Train Control (PTC) is an advanced technology that incorporates GPS tracking to automatically stop or slow trains prior to an accident. In particular, Positive Train Control is designed to prevent train-to-train collisions, derailments caused by excessive speed and unauthorized movement of trains onto sections of track where repairs are being made or as a result of a misaligned track switch. The Rail Safety Improvement Act of 2008 requires Class I railroads to install PTC on tracks that carry passengers or poison- or toxic-by-inhalation materials by the end of 2015.²⁶

The CPUC should request that the FRA identify routes that crude oil trains are expected to run on without PTC in California under current requirements and consider requiring the implementation of Positive Train Control on these routes.

b. Electronically-Controlled Pneumatic Brakes

Electronically controlled pneumatic (ECP) brakes instantly signal a brake application to all cars, whereas current pneumatic brakes rely on lowering the air pressure in the train air brake line that can be well over a mile long. This new braking technology provides faster application of brakes and reduces the chances of brake failure. Although each car in a train and the locomotive must be equipped with this technology, unit trains, which typically are used for oil by rail

²⁴ State of New York, “Transporting Crude Oil in New York State: A Review of Incident Prevention and Response Capacity,” April 30, 2014, <http://www.governor.ny.gov/assets/documents/CrudeOilReport.pdf>.

²⁵ Government of Canada, “Transport Canada takes action in response to TSB’s initial Lac-Mégantic recommendations,” News Release, April 23, 2014, <http://news.gc.ca/web/article-en.do?nid=841129>.

²⁶ Association of American Railroads, “Positive Train Control,” 2013, <https://www.aar.org/safety/Pages/Positive-Train-Control.aspx#.U5DxwHJdVHU>.

transport, are especially suited for this type of technology because all cars travel together and can operate efficiently under an overarching braking system.²⁷

Crude oil trains represent the ideal application of this new technology.²⁸ Unit train cars stay together for long periods of service, new cars are being built, cars are likely undergoing retrofit, and the benefit is magnified by the magnitude of the risk reduction that would be accomplished for these high risk trains.

The CPUC should request that the FRA require electronically-controlled brake technology on crude oil trains.

9. Update California Public Utilities Commission Incident Reporting Requirements

Current CPUC reporting requirements for incidents involving hazardous materials releases have been interpreted by the railroads in varying ways, resulting in some railroads failing to report incidents, or to be late in reporting such incidents.

To ensure adequate and timely reporting, the CPUC should clarify incident reporting requirements for the release of hazardous substances by rail.

10. Request Railroads Provide the State of California with Broader Accident and Injury Data

Under federal law, states are entitled to receive information about railroad accidents and injuries provided to the federal government. However, while individual accident reports are available through the FRA's website, the state does not have access to basic, broader data (that the FRA receives) needed to determine accident and injury rates and trends for railroads operating in California—so called “normalizing data.” This includes information such as the rate of accidents or injuries based on locomotive miles, passenger and freight train miles, number of passengers transported, and employee hours.

The CPUC should request that FRA provide state-specific normalizing data to enable state accident analysis, including trend analysis and risk assessment, to evaluate the risks presented by the transportation of oil by rail. (Notably, the railroads previously provided the state with this type of state-specific normalizing data for many years, but not more recently.)

11. Ensure Compliance with Industry Voluntary Agreement

As noted, earlier this year the railroad industry agreed with DOT to implement eight voluntary safety measures. While significant, these measures are only voluntary. To ensure that they are fully enforceable by federal and state authorities, DOT should codify the agreement into regulation. In the meantime, it is important for the state to monitor the agreement and ensure that the railroads comply with its provisions, as noted below. In addition, the agreement should be strengthened in several areas.

²⁷ Unit trains are freight trains carrying a single commodity that is bound for a single destination. Currently, unit trains carrying crude oil are generally between 70 to 100 cars long.

²⁸ Federal Railroad Administration (2006), Final Report, Booz Allen Hamilton.

- ***Increased Track Inspections*** – The voluntary agreement calls for additional internal rail and comprehensive track geometry inspections by the railroads.

The CPUC should monitor and publicly report the extent of railroad compliance with these inspection requirements on crude oil routes. In addition, to the extent consistent with its existing inspection mandates, the PUC should conduct at least one additional inspection of the crude oil routes each year.

- ***Braking Systems*** – The agreement requires better braking systems that will allow train crews to apply emergency brakes from both ends of the train in order to stop trains faster. This end-of-train braking technology has been required for many years on certain trains and railroad grades, but the voluntary agreement goes beyond this by requiring it on crude oil trains regardless of the existing criteria.

The CPUC should request that railroads document where the voluntary agreement adds this requirement, that is, where crude oil trains travel and the existing regulation does not apply. The CPUC should also request information on, and monitor, the extent to which the railroads have complied with this request and consider ways to enforce these voluntary braking applications.

- ***Use of Rail Traffic Routing Technology*** – The agreement calls for railroads to use a more sophisticated risk management tool that accounts for multiple risk factors in determining the safest and most secure rail routes for trains with 20 or more cars of crude oil.

The CPUC should ask the FRA to provide the analysis and results of the route analyses outlined above. This will enable the CPUC to better plan its inspection and risk prevention activities.

- ***Lower Speeds*** – The agreement provides for lower speed limits (no more than 40 miles per hour) for crude oil trains of more than 20 cars containing older tank cars in federally designated “high-threat-urban areas.”

This designation may omit areas of California where lower speed limits could reasonably enhance safety. The CPUC should complete a survey of speed limits on California railroads and determine whether there are additional areas where lower speed limits might be appropriate. If, after the survey, speed reductions in particular areas appear warranted, the CPUC should petition the FRA to consider additional speed restrictions.

In addition, the CPUC should develop a proposal for monitoring and enforcing the new speed limits outlined in the voluntary agreement.

- ***Increased Trackside Safety Technology*** – The agreement calls for railroads to employ wayside wheel bearing detectors every 40 miles along tracks with trains carrying 20 or more crude oil cars.

To ensure that optimal intervals are established for the defect, the CPUC should inventory wayside train inspection technology on crude oil shipment routes, and recommend additional actions, if necessary.

12. Ensure State Agencies Have Adequate Data

Multiple state agencies need timely and complete data to successfully evaluate and regulate the risks from oil by rail transport. This is highlighted throughout the recommendations in this report such as the need for real-time shipment information, and state-specific normalizing accident and injury data. Other data is critical for agencies such as the California Energy Commission and the Department of Oil and Gas and Geothermal Resources to analyze trends in petroleum demand and sources of oil and gas production,

State agencies currently are working to identify what data they have and where there may be potential data gaps, and should work with federal agencies and the rail industry to obtain the information needed to fill those data gaps.

State agencies should put in place or strengthen existing measures, to the extent that such measures are inadequate, to protect confidential business information and data that may impact national security.

V. Conclusion

Transportation of oil by rail has dramatically increased in recent years and will likely continue to increase in the future, both nationally and in California, because of the increased oil production from the Bakken shale and other oil fields. Current regulations and industry practices are not adequate given this recent boom. Minimizing the potentially serious risks of transporting oil by rail will require strengthened federal requirements, expedited tank car upgrades, and other proactive measures by industry. It will also require additional resources, planning and preparation, and coordination among local and state agencies.

This report represents interim recommendations of the interagency Rail Safety Working Group. The group will continue to meet and refine recommendations and actions in light of new information.

Appendix

Agency Glossary

CalEPA	California Environmental Protection Agency
CalTech	California Department of Technology
CEC	California Energy Commission
CNRA	California Natural Resources Agency
CPUC	California Public Utilities Commission
DOGGR	Department of Oil, Gas and Geothermal Resources
DTSC	Department of Toxic Substances Control
OES	California Office of Emergency Services
OSFM	Office of the State Fire Marshal
OSPR	Office of Spill Prevention and Response

Recommendations by Agency

Lead Agency (or Agencies)	Recommendation
OES, CPUC, OSPR, EPA, CTA	Develop and post on a public website an interactive map depicting areas along rail lines with potential high vulnerability
OES, CPUC, OSPR, EPA, CEC, DOGGR	Identify any data gaps state agencies have and work with federal agencies and railroad industry to address
State Legislature	Approve the proposal in the Governor's Budget to add seven rail inspectors to the CPUC
State Legislature	Approve the proposal in the Governor's Budget to extend the per barrel oil fee to establish an inland oil spill preparedness and response program
State Legislature	Approve funding to establish regional hazardous materials response teams and otherwise remedy the gaps in local emergency response programs needed to adequately prepare for oil by rail incidents

OSPR	Establish inland oil spill preparedness and response program, upon funding by Legislature
OES	Incorporate elements for responding to crude oil by rail incidents in the assessment and update of the six Regional Plans for Hazardous Materials Emergency Response
OES	Review local Area Plans to determine if updates due to increases in oil by rail incidents are appropriate
OES	Partner in coordination with CalEPA and OSPR with US EPA Region 9 and the FRA to undertake a review of local, state and federal emergency response plans
OES	Request that railroads provide a complete inventory of their firefighting and spill recovery resources (as outlined in the voluntary agreement) to the state
OES	Request (in coordination with OSPR) that the railroads provide “Worst Case Scenario” plans for responding to a multi-car incident in any part of California
OES	Recommend (in coordination with CPUC) that DOT require external visual identification on tank cars of Bakken and similar crude to aid first responders
OES	Request (in coordination with CPUC) that Class I railroads operating in California establish a system where emergency responders can securely log-in and access the daily location and status of rail cars and train consists
OES	Request (in coordination with CPUC) that the railroads provide better outreach programs and more information to communities
OSFM	Request that the United States Fire Administration promptly issue guidance on the resources required to respond to oil by rail accidents
OSFM	Seek partnerships (in coordination with OES) with railroads and oil companies to help fund establishment of a West Coast Regional Training Center
CPUC	Request that DOT move expeditiously to finalize new and retrofitted tank car regulations
CPUC	Request that the FRA identify routes that crude oil trains are expected to run on without PTC in California under current requirements and consider requiring the implementation of PTC on these routes
CPUC	Request that the FRA require electronically-controlled pneumatic brake technology on crude oil trains
CPUC	Clarify incident reporting requirements for the release of hazardous substances by rail

CPUC	Request that FRA provide California with normalized data to enable accident and injury analysis
CPUC	Monitor and publicly report the extent of railroad compliance with inspection requirements on crude oil
CPUC	Conduct at least one additional inspection of the crude oil routes each year, consistent with existing inspection requirements
CPUC	Request information on, and monitor, the extent to which the railroads have complied with the braking systems request (as outlined in the voluntary agreement)
CPUC	Ask the FRA to provide the results of the route analyses outlined in the voluntary agreement
CPUC	Complete a survey of speed limits on California railroads and determine whether there are additional areas where lower speed limits might be appropriate and if warranted, petition the FRA to consider additional restrictions
CPUC	Develop a proposal for monitoring and enforcing the new speed limits outlined in the voluntary agreement
CPUC	Inventory wayside train inspection technology on crude oil shipment routes



Crude By Rail Areas of Concern

Attachment #3

Southern California Industrial Mutual-Aid
Organization (SCIMO)



**Southern California Industrial
Mutual-aid Organization (SCIMO)**
Emergency Number (562) 394-7015

RESOURCE BINDER

Chevron El Segundo Refinery

ExxonMobil Torrance Refinery

Phillips 66 Los Angeles Refinery

Tesoro Carson Refinery

Tesoro Wilmington Refinery

THUMS Islands

Valero Wilmington Refining

Southern California Industrial Mutual-aid Organization (SCIMO)

SCIMO is a non-profit member owned corporation combining the fire-fighting, rescue, oil spill and hazardous material response capabilities for Refining, Petrochemical, Marine Terminals, and Aero Space Industries in Southern California. Since 1970, this organization has been providing cooperative assistance and expertise for all kinds of emergencies - both natural and man-made.



SCIMO members, include Refineries, Industrial Companies, Marine Terminals, Petrochemical, Aero Space, Municipal Fire Departments and Government Agencies working cooperatively in greater Los Angeles Area. SCIMO maintains a core of highly trained personnel and a well-maintained pool of more than 70 pieces of specialized equipment, including high-volume Foam Pumpers, Foam Trucks, Foam Tenders, and over 60,000 gallons of Class B AR AFFF Foam Concentrate and specialized industrial rescue and hazardous materials vehicles.

Additional, SCIMO services include supplementing Incident Command Teams with personnel and Industrial Hygiene Support for community monitoring during industrial emergencies. Operations are jointly controlled under the Unified Command System with local response agencies and SCIMO.

Response personnel from the various member companies and government agencies are trained at nationally recognized flammable liquid and industrial training centers such as Texas A&M University. Frequent drills help keep SCIMO response skills sharp.

Southern California has one of the largest concentrations of refineries, petrochemical plants heavy industry and port operations on the West Coast, SCIMO members recognize their responsibility to protect neighbors in the surrounding communities. SCIMO is here to provide world-class, rapid response assistance whenever emergencies occur.





**Southern California Industrial
Mutual-aid Organization (SCIMO)**
Emergency Number (562) 394-7015

EQUIPMENT LIST

- Chapter 1 - Chevron El Segundo Refinery
- Chapter 2 - ExxonMobil Torrance Refinery
- Chapter 3 - Phillips 66 Wilmington Refinery
- Chapter 4 - Tesoro Carson Refinery
- Chapter 5 - Tesoro Wilmington Refinery
- Chapter 6 - THUMS
- Chapter 7 - Valero Wilmington Refining
- Chapter 8 - Standard Operating Procedures
 - Dispatch Procedure
 - Resource Tracking T-Card
- Chapter 9 - Call Out List

COMPANY: **Chevron Fire Department**
El Segundo Refinery
324 w. El Segundo Blvd
El Segundo, CA 90245

Primary Staging Area
Fire Station (Gate 2)
El Segundo Blvd, between
Standard and Eucalyptus
(310) 615-5172 Dispatch



E-1 Engine with 3500 GPM Pump
Capabilities: 1000gal Universal Gold
1%/3% AR-AFFF foam
1000' of 5" Supply Hose
Personnel: 1 Captain & 1 Engineer



Spartan Engine with 2000 GPM Pump
Capabilities: 500 GAL. Universal Gold
1%/3% AR-AFFF foam & 500 GAL. Water
1000' of 5" Supply Hose
Personnel: 1 Captain & 1 Engineer



Pierce Aerial Truck with 3000 GPM
Capabilities: 200 gal Universal Gold
1%/3% AR-AFFF foam
100' Aerial ladder/basket with 2-2000
GPM monitors mounted on basket
500' of 5" hose
Personnel: 1 Captain & 1 Engineer



Hazardous Material/Rescue Vehicle
Capabilities: Level A-D Hazardous
Material, Confined Space/Technical
Rescue equipment
Personnel: 1 Captain & 1 Engineer



Hose Reel Truck

Capabilities: 1500' of 7 3/4" supply hose and 1500' of 5" supply hose, Honda 4,000 watt generator with electric start to power scene lighting
Personnel: 1 Captain & 1 Engineer



2 Foam Tenders

Capabilities: Each with 3000 gal. Universal Gold 1%/3% AR-AFFF foam with transfer pump
Personnel: 1 Captain & 1 Engineer



4000 GPM portable pump



Ambassador- 6000 GPM nozzle

	
<p align="center">COMMAND VEHICLE</p>	<p align="center">2 Quick Attack Squads Capabilities: 2000 GPM mounted monitor, with 300' of 5" hose Personnel: 1 Captain & 1 Engineer</p>
	
<p align="center">Quick Attack SQUAD Capabilities: 400 GAL. WATER, 15 GAL FOAM 18 HP PUMP, 200 FT HOSE REEL</p>	<p align="center">Utility Truck</p>

Emergency Contact:		
<u>Chevron's Dispatch Center</u>	<u>On-Shift Battalion Chief</u>	<u>Chevron's Fire Chief</u>
Office: (310) 615-5172	Office: (310) 615-5171	Michael Druschel
(310) 615-5342	(310) 615-4248	Office: (310) 615-3496
	Cell: (310) 345-8343	Cell: (310) 678-8724

COMPANY: **Exxon Mobil Fire Department**
3700 W. 190th St
Torrance, CA 90509
(310) 212-4700

Staging Area
Primary: Gate 4
3700 W. 190th St
Torrance, CA 90509
Thomas Guide- Pg



EMERGENCY CONTACT:

Fire Chief
Joe Alvarez
Office: (310) 212-2885
Cell: (310) 350-0112

Safety Supervisor
Dan Perazzo
Office: (310) 212-4430
Cell: (310) 446-2889

EQUIPMENT

Torrance Refinery



2000 GPM National Foam Pumper
Capabilities: 1000 gallons of ATC AFFF
500 feet of 5 inch hose
600 feet of 3 inch hose

Personnel Assignment 1 Officer 2 Fire Fighters



1500 GPM National Foam Pumper
Capabilities: 1000 gallons of ATC AFFF
500 feet of 5 inch hose
600 feet of 3 inch hose

Personnel Assignment 1 Officer 2 Fire Fighters



1250 gpm National Foam Pumper
Capabilities: 1000 gallons of ATC AFFF
56 foot Articulating Boom
400 feet of 3 inch hose.

Personnel Assignment 1 Officer 1 Fire Fighter



Hazardous Materials Spill / Leak response vehicle
Capabilities: Cell & Radio communications
Breathing Air compressor
Personnel Assignment: 1 officer 5 Fire Fighters



1 Portable Fire Monitor
Capabilities: 4000 GPM Foam Monitor, Trailer Mounted

Personnel Assignment 2 Fire Fighters



7each, Portable Fire Monitors
Capabilites: 1000 GPM Foam Monitors, Trailer Mounted

Personnel Assignment: 2 Fire Fighters



On-Scene Command Post
Capabilities: Cellular and radio communications

Personnel Assignment: 1 Fire Fighter

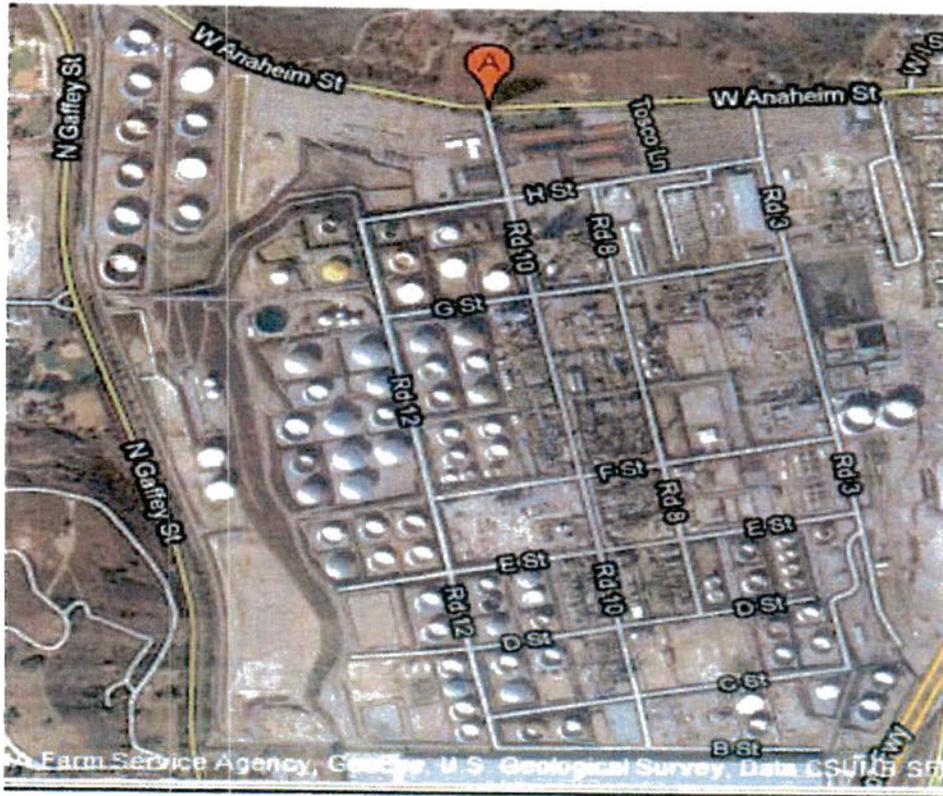


Foam Concentrate Tanker
Capabilities: 2800 gallons 3M AFFF ATC

Personnel Assignment 2 Fire Fighters

COMPANY: Phillips 66
Los Angeles Refinery
1660 W. Anaheim St.
Wilmington, CA 90744
(310) 952-6345 Security

Primary Staging Areas:
Wilmington Plant – Main Gate parking lot, Anaheim St. west of 110 freeway
Carson Plant – Main Gate, 1520 Sepulveda Blvd., between Alameda St. and Wilmington Ave.
Marine Terminal – Main Gate, Berth 149/151, Pier A Street, Wilmington



Emergency Contact:

Security Main Gate

Wilmington Refinery
Office: (310) 952-6345

Safety Director

Hal Day
Office: (310) 952-6049
Cell: (310) 420-1650

H&S and Emergency Response
Superintendent - Fire Chief

Al Cantu
Office: (310) 952-6343
Cell: (714) 398-9242

Assistant Chief

Robert Villela
Office: (310) 522-7960
Cell: (310) 982-0125

Equipment



Quick Attack I; two 1000 GPM nozzles, 280 Gal AFFF-ATC foam, 200 ft. of 5" hose with Storz fittings.
Personnel: 1-2 firefighters



Quick Attack II; 2,000 GPM hydro-chem nozzle, 200 ft. of 5" hose with Storz fittings. Doubles as Haz-Mat equipment vehicle.
Personnel: 1-2 firefighters



2,000, 4,000 or, 6,000 GPM Adjustable Foam Monitor. Feed by 3 each 5-inch Storz. Transported by flatbed tow-truck.
Personnel: 1-2 fire fighters



Four each Foam Tenders; two with 3,500 Gals. and two with 3,700 Gals. AFFF-ATC. Each have Dump Nozzle at rear of tank, Jet Ratio Controller kit with required hoses, and a 2,000 Gallon Porta-Tank.
Personnel: 1-2 firefighters



4000 gpm Pumpers, 2 each: Storz 5" discharge and 6" inlet fittings.
Personnel: 1-2 firefighters



Hose Reel Truck: 5,000 ft. of 5" hose
Personnel: 1-2 firefighters

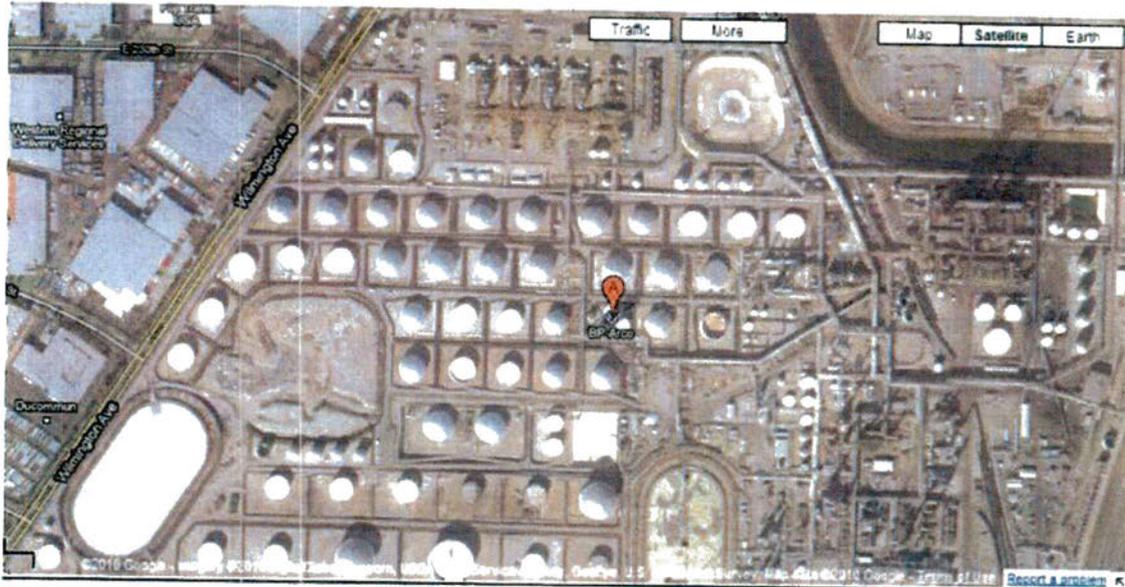


Tesoro Fire Department

LAR – Carson Operations
1801 E. Sepulveda Ave
Carson, CA 90749
(310) 816-8888

Staging Area

Primary: Gate 7
22600 S. Wilmington
Carson, CA 90745
Thomas Guide- Pg 794 G-1



Emergency Contact:

Security Operations Center
Tesoro Carson Business Unit
(310) 816-8888 - 24/7

Vicki Jansen – Fire Chief
Tesoro Los Angeles Refinery
Office: (310) 522-6222
Cell: (310) 872-9383

Mike Kulakowski – Fire & Safety
Manager
Tesoro LAR – Carson Operations
Office: (310) 847-3872
Cell: (714) 335-4712

EQUIPMENT

Tesoro Los Angeles Refinery- Carson Operations



Tesoro Carson E-1
2000 gpm National Foam Pumper
Capabilities: 1500 gallons National Gold
600 feet 5-inch hose
Personnel Assignment: 1 Officer, 4 Fire Fighters



Tesoro Carson T-1
1500 gpm National Foam Pumper
Capabilities: 1000 gallons National Gold
70 foot tele-squirt, 600 feet 5-inch hose
Personnel Assignment: 1 Officer, 4 Fire Fighters



3000 gpm Pierce Aerial Platform Pumper
Capabilities: 3,000 GPM
2 Monitors
800 gallons National Gold
100' Aerial Platform
Personnel Assignment: 1 Officer, 4 Fire Fighters



Tesoro Carson E-2
1500 gpm National Foam Pumper
Capabilities: 1000 gallons National Gold
600 feet 5-inch hose
Personnel Assignment: 1 Officer, 4 Fire Fighters



Tesoro Carson 3000 gpm Quick Attacks Quick Attack; 2 each
 Capabilities: 3,000 gpm William's Monitor
 400 feet 5-inch hose
 Personnel Assignment: 2 Fire Fighters



Tesoro Carson 1500 gpm Quick Attacks Quick Attack; 3 each
 Capabilities: 300 gallons National Gold
 1500 gpm William's Monitor, 500 feet 5-inch hose
 Personnel Assignment: 2 Fire Fighters



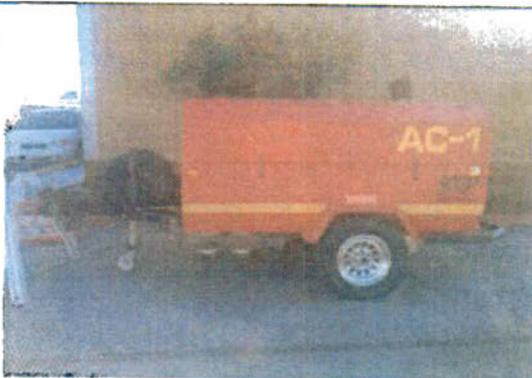
Portable Fire Monitor; 2 each
 Capabilities: 6000 gpm foam monitor, trailer mounted
 Personnel Assignment: 2 Fire Fighters



On-scene Command Post
 Capabilities: cell & radio communications
 Personnel Assignments: 1 Fire Fighter



Portable Fire Pump; 2 each
 Capabilities: 6000 gpm, trailer mounted
 Personnel Assignment: 1 Officer, 1 Fire Fighter



Breathing Air Compressor
 Capabilities: 6000 psi, trailer mounted
 Personnel Assignment: 1 Fire Fighter



Foam Tanker

Capabilities: 4000 gallons 3M FC-600F ATC AFFF
 Personnel Assignment: 2 Fire Fighter



Hose Tender

Capabilities: 2500 feet, 7 3/4 -inch, 2200 ft 5-inchr,
 assorted NST connections 4-inch to 6-inch, portable
 manifolds
 Personnel Assignment: 2 Fire Fighter



Fire Ground Support Unit

Capabilities: Hazardous Materials, Technical Rescue,
 Breathing Air, Mass Casualty, Emergency Lighting,
 Specialized PPE
 Personnel Assignment: 1 Officer, 1 Fire Fighter



Oil Spill Response Trailer; 2 each-

Capabilities: 500 feet 12-inch boom, sand bags, absorbent
 boom, boat with motor and skimmer unit.
 Personnel Assignment: 1 Officer, 3 Fire Fighters



Tesoro Fire Department
Los Angeles Refinery
2101 East Pacific Coast Highway
Wilmington, Ca 90744
(310) 522 6000 24hr#

Primary Staging Area
Main Gate Entrance
2101 East Pacific Coast Highway
Wilmington, Ca 90744



24 hour Emergency Contact:

Emergency Response Coordinator	Tesoro Fire Department
Fire Chief: Vicki Jansen	Captain: Eric Brown
Office: 310 522 6222	Office: 310 522 6376
Cell: 310 872 9383	Cell: 714 473 7584
Pager: 310 236 3625	Pager: 310 236 3856
Home: 562 498 8961	

OFFICE HOURS ARE BETWEEN 7am to 4pm Monday thru Friday

Equipment:



Tesoro Engine 6

3000 GPM Pump

1200 Gallons of Thunderstorm Foam

6000 GPM Fixed Remote Monitor

**Personnel Assignment: 1 Officer,
1 Engineer, 2 Firefighters**



Tesoro Truck 1

3000 GPM Pump

100 Foot Ariel Ladder with Platform

Two Fixed 1500 GPM Remote Monitors

300 Gallons of Thunderstorm Foam

**Personnel Assignment: 1 Officer,
1 Engineer, 2 Firefighters**



Quick Attack 1

1500 GPM Remote Monitor

300 Gallons Of Thunderstorm Foam

**Personnel Assignment: 1 Officer
1 Firefighter**



Quick Attack 2

1500 GPM Remote Monitor

300 Gallons Of Thunderstorm Foam

**Personnel Assignment: 1 Officer
1 Firefighter**



Foam Tender 1 w/ on-board pump
2500 Gallons of Thunderstorm Foam
Personnel Assignment: 1 Officer
1 Engineer



Ambassador Portable Monitor
Capabilities: 6000 GPM
Personnel Assignment: 1 Officer
2 Firefighters



Portable Fire Pump
Capabilities: 6000 GPM
Personnel Assignment: 1 Officer,
1 Engineer, 2 Firefighters



Portable Breathing Air Compressor
Capabilities: 1. Refilling SCBA bottles
2. Continuous breathing air line
Personnel Assignment: 1 Officer
1 Firefighter

Thums Long Beach Company

BUSINESS ADDRESS:

111 w. Ocean Blvd Suite 800
Long Beach, Ca 90802
(562) 624-3400

PRIMARY STAGING AREA:

Pier G Barge landing
1280 Pier G Ave.
Long Beach, Ca. 90802
*See attached map



EMERGENCY CONTACTS:

24 Hour Dispatch (562) 432-4774 / (562) 624-2452

John Kirby

HES Manager

Office: (562) 624-3331

Cell: (562) 900-0329

Pager: (562) 462-4285

Wayne Oliver

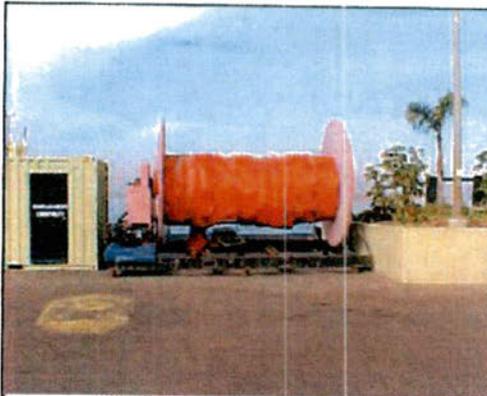
Safety Advisor

Office: (562) 624-3290

Cell: (562) 900-1560

Pager: (562) 628-3066

SPILL CONTAINMENT EQUIPMENT



3000' x 30" Expandi Boom w/16" curtain. Stored on rapid deployment reels



4300' Foam Filled Boom
assorted sizes 10" thru 27"



1200' Solid boom w/ 18" curtain



1000' x 8" in 10' sections 3M Absorbent Boom



Crew Boat "Ford" 63 Passenger w/2 500 hp motors
(Boom Deployment)



Crew Boat "Ranger" 63 Passenger w/2 500 hp motors
(Boom Deployment)



Tug Boat "Redondo" w/2-800 hp. motors (Equipment Transport)

Barge "Newport" 160' X 39" deck (Equipment Transport) 640 Ton Capacity



Tug Boat "Cabrillo" w/2 -800 hp motors (Equipment Transport)

Barge "Huntington" 160' X 39" deck (Equipment Transport) 640 Ton Capacity

FIRE EQUIPMENT



500 gals. Ansolite 3% AFFF in 5 gal. containers



4 - 350 gpm, 100 gal. reservoir portable foam units.



INTER-REFINERY MUTUAL AID ASSISTANCE
24/7 CONTACT: 562/437-3911 or Security 562/491-6675

<u>CONTACT PERSONNEL</u>	<u>BUSINESS #</u>	<u>PHONE #</u>
JOHN BRIONES (FIRE CHIEF)	(562) 495-5460	(562) 394-7015 cell
HERMAN PINTO (SAFETY MANAGER)	(562) 495-5457	(562) 394-7026 cell
JAMIE DUKE (Battalion Chief)	(562) 491-6652	(714) 209-5709 cell
MIGUEL GARCIA (Battalion Chief)	(562) 491-6933	(323) 399-1527 cell

RADIO FREQUENCIES

<u>VALERO CHANNEL</u>	<u>TRANSMIT</u>	<u>RECEIVE</u>	<u>DPL</u>	<u>USE</u>
Channel 1	469.7875	466.7875	565	Emergency
White Channel	154.28	154.28		Mutual Aid

REFINERY ADDRESS

2402 E. Anaheim St.
Wilmington, CA 90744
PH# 562-491-6795

MARINE TANK FARM

130 West "A" Street
Wilmington, CA 90744
PH# 310-835-4016

MARINE TERMINAL Berth 164

961 La Paloma Ave.
Wilmington, CA 90744
PH# 310-834-7254

ASPHALT PLANT

1651 Alameda
Wilmington, CA 90744
PH# 310-518-4000



Pierce Arrow XT: 3,500 gpm pump, 1,000 gallons
1x3% AR/AFFF Nation Gold Foam & 5,000 gpm
Nozzle
Personnel Assignment: 1 Officer, 1 Engineer, and
2 Firefighters



Squirt Snorkel Truck: 1,500 gpm pump w/
1,000 gpm Nozzle
Personnel Assignment: 1 Officer 1 Engineer



Foam Tender: 2,000 gallons of AFFF/ATC Foam
Personnel Assignment: 2 Firefighters



Hazardous Materials & Rescue Truck
Level A PPE for HF Acid Response and
Supporting Decon Equipment plus High
Angle/Confine Space Rescue Equipment.
Personnel Assignment: 2 Firefighters



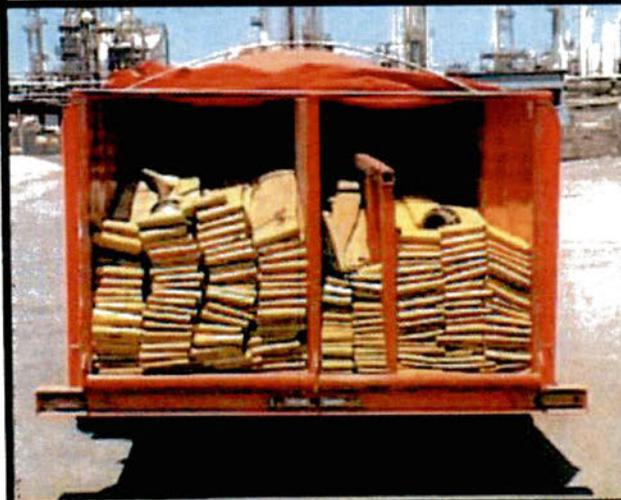
2,500 gpm Portable Trailer Mounted Pump:
With 5" Storz couplings and various fire fittings.

Personnel Assignment: 1 Engineer



2,000 gpm Trailer Mounted Hire Gun, 3 each:
With Self-educating Foam Nozzle and various fire fittings

Personnel Assignment: 2 Firefighters



Hose Trailer: 7.25" x 100' = 2,000 ft., 5" x 100'
2,000 ft and 3" x 50' = 1,000 feet

Personnel Assignment: 1 Firefighter



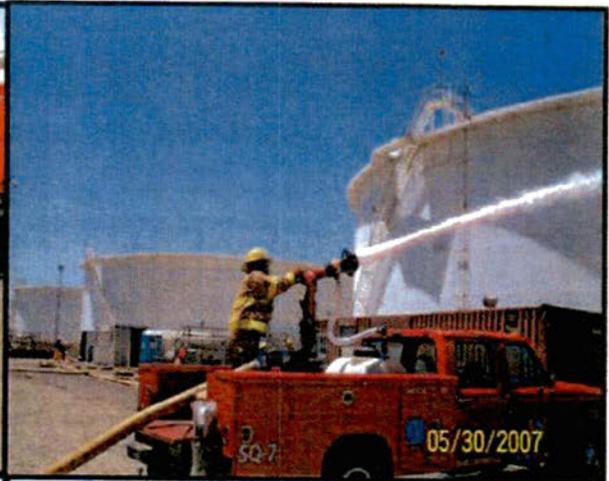
Foam Trailer: 500 gallons AFFF/ATC Foam,
1,250 gpm Self-Educting Nozzle

Personnel Assignment: 1 Firefighter



Trailer Mounted 4,500 PSI Air Compressor:

Personnel Assignment: 1 Fire Fighter



2,000 GPM Quick Attack Vehicle: w/ 100 gallons of AFFF/AR 1 x 3% Foam

Personnel Assignment: 2 Firefighters



AFFF/ATC Foam: 10 Totes
250 Gallon Totes, Will be transported via Flat Bed truck

Personnel Assignment: 2 Firefighters



Daspit Tool w/ Base Plate: 2 each
1,500 gpm Monitor with Self-Educting Nozzle

Personnel Assignment: 2 Firefighters

		Southern California Industrial Mutual-aid Organization SCIMO			
DATE	REV. #	DESCRIPTION	BY	REVIEW	APPROVED
11-04	2	DISPATCH PROCEDURE	TNH	JHB	03/11

- 1.0 In the event of an incident that requires resources from SCIMO, the requesting organization or agency shall dial the SCIMO Notification number. The SCIMO Notification number is:

(562) 394-7015
24/7 hr.

The caller requesting SCIMO assistance shall be prepared to provide the following message when the operator answers:

- 1.1 Give message clearly – This is **“Triple A”** Refinery/Terminal/Fire Department we are requesting assistance for a **Gasoline Tank Fire 150’ Dia.** (give brief description of incident) **the tank fire is fully involved and it is 90% full.**
- 1.2 Provide a location for **Staging Area with a street address, city and zip code.**
- 1.3 Provide a **call back number** for members to verify and confirm response request.

NOTE: Should the phone go into voice mail please, leave a message with the information listed above and wait 5 minutes before calling back.

- 2.0 Caller can also call individual company members, to request single resources. If this is the case, call the member and also the SCIMO Chairman under Valero Fire. The members are as follows:

BP Carson Fire	310-801-5296
Chevron Fire	310-678-8724
ConocoPhillips Fire	714-398-9242
Tesoro Fire	310-872-9383
ExxonMobil Fire	310-420-2921
Valero Fire	562-394-7015

- 3.0 As a back-up you may email message to 5623947015@vtext.com or enter this number into your smart phone and send a text message. You will be contacted via phone for verification and confirmation.

		Southern California Industrial Mutual-aid Organization SCIMO			
DATE	REV. #	DESCRIPTION	BY	REVIEW	APPROVED
11-04	2	DISPATCH PROCEDURE	TNH	JHB	03/11

4.0 Revision Log:

<i>Revision Date</i>	<i>Document Authorizer</i>	<i>Document Reviewer</i>	<i>Document Author</i>	<i>Revision Details</i>
Nov. 2002 Rev. #1	T. Henning		T. Henning	Initial Version
Mar. 2011 Rev. #2	Chairman	J. Briones	J. Briones	Revised SOP and added example of completed T-Card

		Southern California Industrial Mutual-aid Organization SCIMO			
DATE	REV. #	DESCRIPTION	BY	REVIEW	APPROVED
09/03	2	RESOURCE AND PERSONNEL TRACKING (T-Card)	TNH	JHB	01/11

- 1.0 When requested to respond to mutual aid emergencies SCIMO Resources and Personnel shall insure that each piece of apparatus and equipment upon reporting to the Staging Area have completed the SCIMO Resource T-Card for the equipment that they arrived in. The SCIMO Resource T-Cards shall be completed and a copy provided to the Staging Area Manager. The Resource T-card shall allow for tracking of SCIMO Resources and Personnel at the Responsible Party (RP) emergency site location.
- 2.0 The SCIMO Resource T-Card is a 3 copy form to assist in tracking resources and equipment. Copies shall be distributed as follows:
 - 2.1 BUFF Copy to Staging Area Manager, (CARD STOCK) FRONT side of card should already be filled out by the responding member; (see page 4 of 5)
 - 2.1.1 MEMBER COMPANY:
 - 2.1.2 UNIT ID:
 - 2.1.3 RESOURCE: (type of equipment) Foam Engine, Foam Tender, Portable Pump, etc...
 - 2.1.4 INCIDENT NAME:
 - 2.1.5 COMPONENTS: (capabilities & quantities) foam, pump size, hose size & amount, monitor size etc....
 - 2.1.6 PERSONNEL: name and rank of personnel assigned to equipment, etc...
 - 2.2 BUFF Copy BACK side of Card will be describes;
 - 2.2.1 MEMBER COMPANY:
 - 2.2.2 UNIT ID:
 - 2.2.3 ORDER/REQUEST NO: Responsible Party (RP)
 - 2.2.4 DATE/TIME CHECK IN:
 - 2.2.5 HOME BASE: location where they come from? (multiple locations)
 - 2.2.6 DEPARTURE POINT: where they came from?
 - 2.2.7 OTHER:
 - 2.2.8 ON MANIFEST:
 - 2.2.9 WEIGHT:
 - 2.2.10 OTHER:
 - 2.2.11 DATE/TIME ORDERED:
 - 2.2.12 DATE/TIME CONFIRMED:
 - 2.2.13 REMARKS: (include other qualifications)
 - 2.2.14 INCIDENT LOCATION:
 - 2.2.15 TIME:



**Southern California Industrial
Mutual-aid Organization
SCIMO**

DATE	REV. #	DESCRIPTION	BY	REVIEW	APPROVED
09/03	2	RESOURCE AND PERSONNEL TRACKING (T-Card)	TNH	JHB	01/11

2.2.16 STATUS:

2.2.17 NOTES:

- 2.3 YELLOW Copy stays in Apparatus
- 2.4 WHITE Copy to onsite SCIMO Specialist (copy for cost reimbursement)

3.0 The SCIMO Resource T-Card shall have the minimum information:

- 3.1 Member Company
- 3.2 Unit ID (E-1, T-1, etc.)
- 3.3 Resource Type: Foam Engine, Foam Tender, Portable Pump, etc...
- 3.4 Resource Capabilities: Amount of foam, monitor size, hose size and hose amount
- 3.5 Names and rank of personnel assigned to the equipment.



Southern California Industrial Mutual-aid Organization SCIMO

DATE	REV. #	DESCRIPTION	BY	REVIEW	APPROVED
09/03	2	RESOURCE AND PERSONNEL TRACKING (T-Card)	TNH	JHB	01/11

Southern California Industrial Mutual Aid Organization
Approved with amendments 1/11

MEMBER COMPANY: Valero UNIT ID: E1

RESOURCE

FOAM TENDER TYPE 1 COMMAND POST
 FOAM TENDER TYPE 2 COMMAND UNIT 2
 FOAM TRUCK TYPE 1 HOSE TENDER/MALIBU
 QUAD ATTACK PLUMBING/MONITOR
 WRECK TENDER SPECIALIZED UNIT
 FOAM TRUCK HAZARDOUS MATERIAL UNIT
 RESCUE TRUCK OIL SPILL TANKER
 PORTABLE PUMPS OTHER

INCIDENT ADDRESS: Valero

COMMENTS:

PUMP: 1" N. 2" 1/2
 PUMP SIZE: 1" N. 2" 1/2
 HOSE SIZE: 1" N. 2" 1/2
 HOSE LENGTH: 500' 100' 400'
 WORTHWHILE OPS: 200'
 INCIDENT TYPE: QUADRY MEDIUM JUMBO
 HAZARD LEVEL: L M H
 OIL SPILL TANKER APPROX: _____
 OIL SPILL TANKER SIZE: _____
 OTHER: _____

PERSONNEL

NAME (PRINT)	MARK (PRINT)
<u>Valero</u>	<u>E1</u>

BUFF TO STAGING AREA MANAGER (CARD STOCK)
 YELLOW KEEP IN AREA (BUCKET)
 WHITE TO STAGING SPECIAL OPS (EQUIPMENT COMP.)

**BUFF front to Staging
Area Manager (card stock)**

ID: 090 11-22-001 VER: 11

Valero E1

INCIDENT ADDRESS: 11/5/2011
13:30 PM
 INCIDENT TYPE: Valero Refinery Wilmington
 DEPARTMENT: Wilmington, CA

IN REQUEST: yes VESSEL: 54,559 FF
 OTHER: _____

DATE/TIME OFFERED: 11/5/2011
13:05 AM
 (PRINT NAME OF PERSON): Downey, CA 30 min

COMMENTS (INCLUDE ON ETC QUALIFICATIONS):
1000' hose available

STATION: 3A Loading Terminal TAG: 0215

STATUS: ASSIGNED ON TEST ON PUMP
 AVAILABLE ON BOARD ETC

**BUFF back to completed
by Staging Area Manager**



Southern California Industrial Mutual-aid Organization SCIMO

DATE	REV. #	DESCRIPTION	BY	REVIEW	APPROVED
09/03	2	RESOURCE AND PERSONNEL TRACKING (T-Card)	TNH	JHB	01/11

SCIMO **UNIT ID: E-1**

RESOURCES:

<input checked="" type="checkbox"/> FOAM ENGINE - TYPE 1	<input type="checkbox"/> COMMAND POST
<input type="checkbox"/> FOAM TENDER - TYPE 1	<input type="checkbox"/> COMMAND VEHICLE
<input type="checkbox"/> FOAM TRUCK - TYPE 1	<input type="checkbox"/> HOSE TENDER/TRAILER
<input type="checkbox"/> GARCIA ATTACK	<input type="checkbox"/> FOAM/WATER MONITOR
<input type="checkbox"/> HOSE TENDER	<input type="checkbox"/> BREAKING AIR UNIT
<input type="checkbox"/> FOAM TENDER	<input type="checkbox"/> HAZARDOUS MATERIAL UNIT
<input type="checkbox"/> RESCUE CRANE	<input type="checkbox"/> OIL SPILL TRAILER
<input type="checkbox"/> PORTABLE PUMPS	<input type="checkbox"/> OTHER

INCIDENT NAME: TANK FIRE

COMMENTS:

FOAM GALLONS: 1000 1000 1000

PUMP SIZE: 300 300 300

HOSE SIZE: 5" 5" 5"

HOSE AMOUNT: 600' 400' 400'

MONITOR/CANISTER GPM: 5000

RESCUE TYPE: HEAVY MEDIUM LIGHT

HAZMAT LEVEL: LEVEL A B C

OIL SPILL SOURCE AMOUNT: _____

OIL SPILL ROOM NO: _____

OTHER: _____

PERSONNEL:

NAME (PRINT):	NAME (PRINT):
<u>Tom Jones</u>	<u>Ed Smith</u>
<u>Ed Smith</u>	<u>Frank ...</u>

KEEP IN STORAGE AREA UNLESS CARD STICKS
YELLOW COPY IN APPARATUS
WHITE TO SCIMO SPECIALIST COPY TO APPROPRIATE DEPT.

SCIMO **UNIT ID: E-1**

RESOURCES:

<input checked="" type="checkbox"/> FOAM ENGINE - TYPE 1	<input type="checkbox"/> COMMAND POST
<input type="checkbox"/> FOAM TENDER - TYPE 1	<input type="checkbox"/> COMMAND VEHICLE
<input type="checkbox"/> FOAM TRUCK - TYPE 1	<input type="checkbox"/> HOSE TENDER/TRAILER
<input type="checkbox"/> GARCIA ATTACK	<input type="checkbox"/> FOAM/WATER MONITOR
<input type="checkbox"/> HOSE TENDER	<input type="checkbox"/> BREAKING AIR UNIT
<input type="checkbox"/> FOAM TENDER	<input type="checkbox"/> HAZARDOUS MATERIAL UNIT
<input type="checkbox"/> RESCUE TRUCK	<input type="checkbox"/> OIL SPILL TRAILER
<input type="checkbox"/> PORTABLE PUMPS	<input type="checkbox"/> OTHER

INCIDENT NAME: TANK FIRE

COMMENTS:

FOAM GALLONS: 1000 1000 1000

PUMP SIZE: 300 300 300

HOSE SIZE: 5" 5" 5"

HOSE AMOUNT: 600' 400' 400'

MONITOR/CANISTER GPM: 5000

RESCUE TYPE: HEAVY MEDIUM LIGHT

HAZMAT LEVEL: LEVEL A B C

OIL SPILL SOURCE AMOUNT: _____

OIL SPILL ROOM NO: _____

OTHER: _____

PERSONNEL:

NAME (PRINT):	NAME (PRINT):
<u>Tom Jones</u>	<u>Ed Smith</u>
<u>Ed Smith</u>	<u>Frank ...</u>

KEEP IN STORAGE AREA UNLESS CARD STICKS
YELLOW COPY IN APPARATUS
WHITE TO SCIMO SPECIALIST COPY TO APPROPRIATE DEPT.

WHITE to SCIMO Specialist
(cost reimbursement copy)

YELLOW Keep in Apparatus
or Equipment

		Southern California Industrial Mutual-aid Organization SCIMO			
DATE	REV. #	DESCRIPTION	BY	REVIEW	APPROVED
09/03	2	RESOURCE AND PERSONNEL TRACKING (T-Card)	TNH	JHB	01/11

4.0 Revision Log:

<i>Revision Date</i>	<i>Document Authorizer</i>	<i>Document Reviewer</i>	<i>Document Author</i>	<i>Revision Details</i>
Sept. 2003 Rev. #1	T. Henning		T. Henning	Initial Version
Jan. 2011 Rev. #2	Chairman	J. Briones	J. Briones	Revised SOP and added example of completed T-Card



2013 Southern California Industrial Mutual Aid Organization

S.C.I.M.O. Emergency Number: (562) 394-7015

General Members - August 2013

Company Name	Representative	Mailing Address	Office Number	Fax Numbers	Cell Phone Number	E-mail Address
CHEVRON	Michael Druschel	P.O. Box 97 El Segundo, CA. 90245	(310) 615-3496		(310) 678-8724	Michael.Druschel@chevron.com
CHEVRON PIPELINE COMPANY	Fernando De La Ossa	16301 Trojan Way La Mirada CA 90638	(714) 228-1516		(714) 984-5188	FDELAOSSA@chevron.com
PHILLIPS 66 WILMINGTON	Al Cantu Robert Villela Hal Day	1660 W Anaheim St. Wilmington, CA. 90744	(310) 952-6343 (310) 522-7960 (310) 952-6049		(714) 398-9242 (310) 982-0125 (310) 420-1650	al.cantu@conocophillips.com robert.villela@conocophillips.com harold.l.day@conocophillips.com
CONOCO PHILLIPS Pipelines & Terminals		3900 Kilroy Airport Way #210 Long Beach CA. 90806	(562) 290-1515	(562) 290-1582		
EXXON/MOBIL	Joe Alvarez Darrin Clark	3700 W. 190 th ST. Torrance, CA. 90504	(310) 212-2885 (310) 2124037	(310) 212-2937 "	(310) 350-0112	joe.l.alvarez@exxonmobil.com darrin.d.clark@exxonmobil.com
PLAINS ALL AMERICAN PIPELINE	Rick Taylor	5900 Cherry Ave. Long Beach, CA. 90805	(562) 728-2353		562-577-7007	rtaylor2@paalp.com
PLAINS ALL AMERICAN PIPELINE	Connie Lema Scott Fife	Carson Refinery 1801 E. Sepulveda Carson, CA 90749	(310) 847-5708 (310) 847-5704		(714) 493-2386 (714) 458-6905	connie.k.lema@tsocorp.com scott.fife@tsocorp.com
PLAINS ALL AMERICAN PIPELINE	Stephen Comley	1300 Pier "B" St Long Beach CA. 90813	(562) 499-2249	(562) 499-2300		
TESORO LAR	Vicki Jansen Eric Brown	2101 E. PCH Wilmington, CA. 90744	(310) 522-6222 (310) 522-6376	(310) 522-6484	(310) 872-9383 (714) 473-7584	vjansen@tsocorp.com eric.a.brown@tsocorp.com

THUMS	Wayne Oliver	P.O. Box 2900 Long Beach, CA 90801	(562) 624-3290	(562) 624-3224	(562) 900-1560	wayne_oliver@oxy.com
VALERO WILMINGTON	John Briones Jamie Duke Herman Pinto	2402 E. Anaheim St. Wilmington, CA. 90744	(562) 495-5460 (562) 491-6652 (562) 495-5457	(562) 491-6712 (562) 491-6712 (562) 491-6712	(562) 394-7015 (714) 209-5709 (562) 394-7026	john.briones@valero.com jamie.duke@valero.com herman.pinto@valero.com

Associate Members

Company Name	Representative	Mailing Address	Office Number	Fax Numbers	Cell Number	E-mail Address
Kinder Morgan-Lomita Rail Terminal		1345 Lomita Blvd Carson, CA 90749	(310) 728-0671 Main: 310.233.7600			
Kinder Morgan Energy Partners, L.P.	Tom Hosler	2000 E. Sepulveda Blvd Carson, CA 90810-1937	(310) 518-7727		(310) 930-3117	tom.hosler@kindermorgan.com
NuStar Energy Terminal	Joe Hufman	841 La Paloma Wilmington, CA 90744	310-816-1203		310-427-9785	joe.huffman@nustarenergy.com
Shell Terminal	Tony Fernandez	20945 So. Wilmington Carson, CA 90810	(310) 816-2318		(310) 628-2096	antonio.fernandez@shell.com
Vopak Terminals	Rich Sandell	401 Canal St Wilmington CA 90744	(310) 518-6415	(310) 743-3467		Richard_sandell@vopak.com

Municipal Fire Departments

Company Name	Representative	Mailing Address	Office Number	Fax Numbers	Cell Phone Number	E-mail Address
LA City FD Battalion #6	Battalion Chief's Graham Everett (A) Graham.Everett@lacity.org Ray Gomez (C)	400 Yacht St. Los Angeles, CA. 90744	(310) 548-7516 Same Same	(310) 548-2922 Same Same	(213) 359-5130 (213) 434-2428	Graham.Everett@lacity.org ErnestBobadilla@lacity.org ray.gomez@lacity.org
LA City FD Harbor Division 2	Assistant Chief Ralph Terrazas	1909 W. Slauson Ave Los Angeles, CA. 90047	(213) 216-7512			Ralph.Terrazas@lacity.org
LA County FD Division 1	Assistant Chief Tommeey Glenn Masacy	Division 1 Office 1650 W. 162 nd St Gardena, CA 90247	(310) 329-3315	(310) 217-8393		
LA County FD Battalion #7	Battalion Chief's Bob A. Cookus (A) Bob A. Recevat (B) Steve Cookus (C)	Battalion 7 Fire Station 10 1860 E. Del Amo Blvd Carson, CA 90749	(310) 687-2954 " " " "	(310) 687-2957	(949) 510-1962 (213) 718-7417	jvrosmant@fire.lacounty.gov brow.arta@fire.lacounty.gov steve.cookus@fire.lacounty.gov
Long Beach FD District 1	Battalion Chief's Steve Raganold David Segura Xavier Espino (B)	1417 Peterson Ave Long Beach, CA 90813	(562) 570-3001		(714) 251-0007 (562) 619-2594	Steve.Raganold@longbeach.gov david.segura@longbeach.gov xavier.espinosa@longbeach.gov
Long Beach Fire FD Training		2249 Argonne Avenue Long Beach CA 90815	(562) 570-3352	(562) 570-1335	(562) 619-1239	
City of Burbank Fire Department	Michael W. Davis Bob Trowbridge	311 East Orange Grove Ave. Burbank, CA 91502-1221	(818) 238-3480 (818) 238-3361	(818) 238-3480		mdavis@ci.burbank.ca.us Rtrowbridge@ci.burbank.ca.us
El Segundo Fire	James Carver Steve Tsumura		(310) 524-2239 (310) 524-2242			jcarver@elsegundo.org stsumura@elsegundo.org
Compton Fire	Anthony Adams	201 S. Acacia Ave Compton, CA 90220	(310) 605-6272			aadams@comptonfire.org
Torrance Fire Dept	Deputy Fire Chief Dave Dumais	1701 Crenshaw Blvd Torrance CA 90501-3312	(310) 781-7040	(310) 781-7030	(310) 678-0443	ddumais@torranceca.gov
California State Fire Marshall Pipeline Safety	Nhu-Dan Le		(562) 497-9100			Dan.le@fire.ca.gov

Foam / Fire Fighting Resources

Company Name	Representative	Mailing Address	Office Number	Fax Number	Cell Phone Number	E-mail Address
Kidde Fire Fighting (Emergency Foam)	Manny Tavares (24 Hour Red Alert)	150 Gordon Drive Exton, PA 19341	(610) 363-1400		(920) 202-0258	Manny.Tavares@kidde-fire.com
Williams Fire & Hazard	Bill Walton	P.O. Box 1359 Mauriceville, TX 77626	(510) 595-7801	(409) 745-4082		Billwalton1648@amsn.com
Resolve Marine Group	Keith Wilson	2550 Eisenhower Blvd. Suite #204 Port Everglades, FL 33316	(954) 764-8700	(954) 764-8724		kwilson@resolvetmarine.com



Attachment #4

Petro-Chemical Mutual Aid Organization
(PMAO)

PETRO-CHEMICAL MUTUAL AID ORGANIZATION (PMAO)



PMAO DISPATCH CENTERS

(510) 242-5555
Chevron Fire Department

(925) 432-5555
DOW Chemical Dispatch

Emergency Response Manual

Revised April 2013

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RECORD OF REVISION

DATE OF REVISION(S)	DESCRIPTION	AUTHORIZATION (PMAO CHAIRPERSON)
4/1/03	<ol style="list-style-type: none"> 1. Added Index and Revision Record to Manual. 2. Reorganized manual by Company name. 3. Added PMAO paging procedure to PMAO Emergency Response Section. 4. Updated Emergency Contacts section with company names, new email addresses for Shell Oil contacts, corrected Grey Clayton's title. 5. Added Tony Semenza's CAER office number. 6. Updated Tesoro Company Specific Data. 7. Updated address and phone number for CA Dept. of Forestry 8. Added zip code for CA Fish and Game 9. Updated address and phone number for State OES 10. Updated address and phone for CA Highway Patrol 11. Added 24/7 duty pager number for CCHS Hazmat 	Jim Ferris (Signature on File)
4/8/03	<ol style="list-style-type: none"> 1. Updated DOW Company Specific Date with information from Mark Ayers. (1,000 gpm Turbo Jet Nozzle on Foam Engine, 1,250 gpm TFT Nozzle on Engine, etc.) 	Jim Ferris (Signature on File)
7/28/03	<ol style="list-style-type: none"> 1. Corrected Greg Clayton's title in Contacts. 2. Updated Tesoro Task Force lists A, B, C, D and Company Specific Data. 3. Modified Tesoro supplied hose for foam aerial from 700 to 500 feet for other company task force lists that requested this equipment. 4. Updated Tesoro equipment in PMAO Equipment Summary. 	Jim Ferris (Signature on File)
10/3/03	<ol style="list-style-type: none"> 1. Updated all company and fire district task force lists and equipment summaries. Changed foam descriptions to percentages and updated requested equipment. 	Jim Ferris (Signature on File)
10/9/03	<ol style="list-style-type: none"> 1. Updated Coast Guard contact information to reflect MSO Command Center relocation to Yerba Buena Island. 	Jim Ferris (Signature on File)
10/16/03	<ol style="list-style-type: none"> 1. Updated Rhodia emergency contact number. 	Jim Ferris (Signature on File)
12/10/03	<ol style="list-style-type: none"> 1. Updated Chevron Foam Tender to 1% Foam. Pages 5,24,37,67,76,77,82,87,88 	Jim Ferris (Signature on File)
02/09/05	<ol style="list-style-type: none"> 1. Corrected Tesoro Contact Number All Task Force Sheets 2. Changed Tesoro Ladder, Engine and Tender to 1% Foam PG 73, 74, And Task Force Pages 29,30,31,32,38,40,46,50,57,58,59,64,77,78,79, 84,93 3. Added "Big Foot" Monitor To Valero Equipment List Page 81 4. Added "Ambassador" 6000 GPM Monitor to Tesoro Equipment List PG 74 5. Added PMAO Out of Area Response Worksheet PAGE 103 6. Corrected Chevron Tender to 1% Foam PG 32 	Todd Long (Signature on File)

RECORD OF REVISION cont.

DATE OF REVISION(S)	DESCRIPTION	AUTHORIZATION (PMAO CHAIRPERSON)
03/18/05	<ol style="list-style-type: none"> 1. Inserted 2 Additional Record of Revision Pages 7, 8. 2. Inserted Updated PMAO Member Agreement PG 9 3. Revised Task Force List for Sacramento – Stockton Terminals. PG 84 4. Added Directions to Kinder Morgan Rocklin PG 90 5. Added Directions to Sac Int'l Airport PG 89 6. Added Contact Information for Military Ocean Terminal Concord (MOTCO). PG 102 7. Added Contact Information for Federal Fire Department – Concord. PG 100 8. Added Shell TF “D” to Index. PG 3 9. Added Shore Terminal Martinez TF “A” to Index. PG 3 10. Deleted Duplicate Valero TF “A” on Index. PG 4 11. Added Contact Information for West Sacramento FD. PG 101 12. Added Contact Information for Stockton FD. PG 101 13. Added Contact Information for Sacramento City FD. PG 100 14. Added Contact Information for Sacramento Metro FD. PG 101 15. Added Contact Information for Sacramento International Airport Fire Department PG 101 16. Added Contact Information for Rocklin FD Pg. 100 	Todd Long (Signature on File)
1/05/07	<p>Note: Referenced page numbers are from 2005 version of manual prior to update.</p> <ol style="list-style-type: none"> 1. Renamed as Pacific Atlantic Terminals and relocated Pages 57-62 Shore Terminals Martinez Task Force Sheets, Company Specific Data, Directions to Facility and Directions to Staging. Renumbered PMAO Manual Pages. 2. Changed Facility Name from Shore Terminal Selby to Valero LP (Selby Terminal) 3. Page 13 Changed name in PMAO Membership Agreement from Shore Terminals to Valero LP (Selby Terminal) 4. Deleted Contact Information for Shore Terminals Martinez on Page 17. 5. Page 18 – Updated pager numbers for Gliatto and Clayton at Tesoro, added Blade Benson contact information. 6. Page 26 – Deleted 2000 GPM pump trailer from Chevron Company Specific Equipment List, Tesoro Task Force D page 72, and PMAO Equipment Summary Sheet pg. 96. 7. Page 73, 74 and 97 – Updated Tesoro’s Company specific equipment list. New nozzles on portable monitors. 8. Updated Chevron IH Contact with Peter Sarmicanic. Pages 33,42,52,72,80 	Greg Clayton (Signature on File)

RECORD OF REVISION cont.

DATE OF REVISION(S)	DESCRIPTION	AUTHORIZATION (PMAO CHAIRPERSON)
1/05/07	<ol style="list-style-type: none"> 1. Added 2 Additional record revision sheets 2. Updated Dow's Company Specific Data for new foam Engine. Page 43 and 94. Adjusted member company Task Force sheets related to change. 3. Added Dow directions to staging, pg. 45. 4. Page 17 Updated Shell Emergency Contacts 5. Changed designation of Shell Apparatus throughout manual. Engine 1 is 50 Ft Telesquirt, Engine 2 is 3500 GPM Foam Engine 6. Revised Tesoro Task Force listings to include Valero Truck 16 and Dow Engine 1 and Shell Foam Tender. 	Greg Clayton (Signature on File)
1/27/07	<ol style="list-style-type: none"> 1. Changed designation of Valero Engine 2 to Engine 16. 2. Replaced Valero Truck 1 with new Truck #16 throughout various task forces, in company specific equipment section, and PMAO Equip. Summary. 3. Updated all entries for Shell Apparatus on all pages for foam change from 3x6 to 1x3. 4. Added New 3000 gallon Foam Tender to Shell Company Specific Equipment list and PMAO Equipment Summary. 5. Revised Page 16 Emergency Contact list to include section with Member Company Emergency Phone Number. Designated personnel contact information at each facility as Facility Personnel Contact Information. 6. Added last major revision date section to manual cover page. 7. Added directions to facilities and staging areas at Dow, Tesoro, Rhodia, in pages following each company's task force listing. 8. Revised Contra Costa County Task Force page to more clearly designate area 9. Added a Solano and Marin County Task Force page to more clearly designate area and responsible County, 10. Updated ConocoPhillips non-emergency response personnel contact information 11. Added directions to ConocoPhillips facility and staging area. 12. Updated contact information for USCG in Agency Contact List 	Greg Clayton (Signature on File)
02/03/07	<ol style="list-style-type: none"> 1. Inserted electronic copy of map for Sacramento Arco and Shell Terminals 2. Inserted electronic copy of map for Sacramento Chevron and ConocoPhillips Terminals 3. Inserted Electronic copy of facility location map for Chevron Refinery, ConocoPhillips Refinery, DOW Chemical, Shell Refinery, Rhodia Chemical Plant, and Tesoro Refinery. 4. Inserted facility map for Tesoro Staging Location 5. Added electronic copy of Map for Valero Refinery and Valero LP Terminal Selby. Added Directions to facility and staging directions for Valero LP Terminals. 	Greg Clayton (Signature on File)

RECORD OF REVISION cont.

DATE OF REVISION(S)	DESCRIPTION	AUTHORIZATION (PMAO CHAIRPERSON)
02/10/07	<ol style="list-style-type: none"> 1) Separated Facility Emergency Contact numbers into Responding Company and Non-Responding Company categories. 2) Created a single emergency contact callout list for CCC CAER Industrial Hygiene Group (Page 19) 3) Deleted individual IH Task Force Lists under each member company. 	Greg Clayton (Signature on File)
02/15/07	<ol style="list-style-type: none"> 1) Inserted electronic copies of maps for Stockton Terminals 2) Inserted electronic copies of maps for Kinder Morgan Rocklin, and Sacramento Airport. 3) Deleted listing of Valero LP Selby Response Equipment. 4) Changed Name of on Stockton Terminal Contact list from Standard Trans. to Valero. 5) Deleted Company specific response equipment list from Pacific Atlantic Terminals 6) Deleted company specific response equipment list from Valero LP – Selby Terminal 7) Updated personnel contact names for Valero LP Selby Terminal. 8) Substituted Control room number for Valero LP emergency contact number on Emergency List. 9) Updated name and contact numbers for Pacific Atlantic Terminals personnel. 10) Added Tab Numbers to Index page 	Greg Clayton (Signature on File)
05/27/09	<p>General Update –</p> <ol style="list-style-type: none"> 1) Changed revision date on cover page 2) Changed name of Valero LP Terminals to Nustar throughout manual. Reorganized sections of manual to put NuStar in correct alphabetical order following name change. 3) Notated change of Company name for NuStar Selby Terminal in membership agreement. 4) Updated Non-emergency contact information for Chevron, Tesoro, Valero, NuStar 5) Reformatted CAER IH Group Mutual Aid contact list for increased clarity. Added second contact at Chevron. 6) Revised Chevron Task Force A-D Composition – replaced Tesoro Trailer 1 with Engine 1 7) Revised Chevron Equipment Listing 8) Corrected ConocoPhillips Task Force B equipment request from Dow Chemical. 9) Added Ambassador and (2) Screaming Eagle Monitors to ConocoPhillips equipment list 10) Deleted obsolete and inadequate task force lists for Pacific Atlantic Terminals due to lack of information on facility. 11) Updated Shell Equipment lists, and changed other task force lists to show 4000 gallons in foam tender. 12) Added Trailer 4 (5000 gpm pump) to Tesoro Available Equipment list 13) Added narrative of communications plan for Tesoro Incident to staging information page 14) Revised Valero Task Force C to include Tesoro Ambassador Monitor and delete Trailer 1. 	Mark J. Ayers (Signature on File)

RECORD OF REVISION cont.

DATE OF REVISION(S)	DESCRIPTION-	AUTHORIZATION (PMAO CHAIRPERSON)
5/27/09	15) Updated contact information for Sacramento Airport Fire Dept, Federal Fire Concord. 16) Added Listing for San Ramon Valley Fire Dept. 17) Updated Contact Address for West Sacramento Fire Department	Mark J. Ayers (Signature on File)
04/10/13	1) Responding member companies updated listings of equipment available for mutual aid. Removed out of commission equipment and added newly available equipment throughout company specific data sheets. 2) Responding member companies updated task force request sheets to reflect changes in equipment available and facility needs. These were updated to reflect any inventory changes on equipment included in task force as well. Numerous changes. 3) Changed company name to Phillips 66 for former ConocoPhillips refinery throughout manual. 4) Changed company name to Solvay for former Rhodia plant. 5) Re-ordered response manual entries to properly alphabetize new company names. 6) Updated Tesoro IH contact – Page 19 7) Updated Dow Fax Number 8) Updated email address for Phillips 66 personnel 9) Updated fax number for Dow 10) Updated contact information for Joe Bateman-Valero 11) Updated Chevron IH Contact to Safety On Call PG 19-22. 12) Deleted Tesoro Task Force C and D. Now have one process and one tank task force. 13) Consolidated Task Force pages A,C&D for Pacific Atlantic Terminal to one page due to lack of information. Previous task force listings were blank. 14) Added Facility Manager contact information for Robert Coulter at NuStar. 15) Corrected Fax number for NuStar throughout manual. 16) Entered new personnel contacts for Shell for Jim Flores and Joe Digue. 17) Revised Solano County Task Force to include a foam tender in addition to Engine and Aerial. 18) Added Directions to Staging for Valero 19) Deleted Phillips66 Previous Task Force A and C	Art O. Bertz (Signature on File)

RECORD OF REVISION cont.

DATE OF REVISION(S)	DESCRIPTION-	AUTHORIZATION (PMAO CHAIRPERSON)

RECORD OF REVISION cont.

DATE OF REVISION(S)	DESCRIPTION-	AUTHORIZATION (PMAO CHAIRPERSON)

PETRO-CHEMICAL MUTUAL AID ORGANIZATION
MEMBERSHIP AGREEMENT

Original Issue Date: Dec. 20, 1980
Revised: March 1999
Revised: February 2005

PETRO-CHEMICAL MUTUAL AID ORGANIZATION

The Petro-Chemical Mutual Aid Organization is an emergency response cooperative of oil, chemical and related companies. The primary purpose of the Organization is to provide assistance (material and equipment) to any member requiring aid during an emergency situation. In addition, the Organization maintains a Mutual Aid Plan and discusses fire experiences, fire protection and fire prevention information at monthly meetings.

Members participating in the Mutual Aid Plan must reserve personnel, material and equipment for its own protection before releases can be made to another member requiring aid. This matter is entirely judgment of management of each member. No member is obliged by its material and equipment listing in the Mutual Aid Plan.

The membership shall elect a Chair, Vice-Chair and Secretary from the members to serve for one year. The Chair shall appoint subcommittees as necessary to carry out the functions of the Organization. The Organization will meet on the fourth (4th) Wednesday of each month. Each member will host a monthly meeting.

The Chair or Vice-Chair in his absence, will chair each meeting. Members who have items they wish to discuss will contact the Chair to place it on the agenda. Minutes of each meeting will be approved by the Chair, and a copy distributed to each member.

CONDITIONS OF MEMBERSHIP

The Organization can fulfill its purpose of providing mutual aid only if the following minimum and basic conditions of membership are met by each member.

As a member of the Organization, each member agrees to:

1. Maintain trained personnel and/or equipment sufficient to control fires or emergencies of the type and magnitude which are likely to occur in its own facility.
2. Provide an emergency plan for activating its personnel and equipment within its own facility. As part of this emergency plan (or as supplement to this emergency plan) each member agrees to provide procedures and instructions to properly respond to calls for assistance from PMAO members. The emergency Plan should also include instructions for requesting and receiving aid.

3. Appoint a representative and one alternate representative to serve on the PMAO. At least one representative from each member will attend all meetings of the Organization. Failure to attend three successive meetings shall be grounds for being placed on probationary status.

Senior managers (or their management representatives) shall be invited to attend PMAO meetings periodically.

4. Provide current lists of equipment, materials and/or personnel which, under most circumstances, could be furnished to another member in an emergency. Each member also agrees to furnish lists of its responsible officials. Normally, the personnel supplied will be only to deliver and operate the equipment requested, but may be used in other Incident Command roles as directed by the Incident Commander. The member requesting assistance through PMAO will manage and direct the emergency response. Should additional personnel be provided through the PMAO, they will normally be limited in assignments to positions below the Operations, Planning, Logistics or Finance Section Chief in the Incident Command Response Organization.
5. Participate in all practice drills of the organization to the minimum extent of having one of its representative's respond to each drill. Monthly aid drills (in which equipment is moved) will be conducted quarterly. The responsibility for conducting quarterly drills will be decided at the beginning of each year by the member companies. A test of the PMAO paging system will be conducted weekly.
6. Arrange a procedure with law enforcement officials to permit responding Mutual Aid members and other required personnel through roadblocks. A responsible plant official may be assigned at roadblocks to assist law enforcement agencies if necessary.
7. Replace material and/or equipment used or damaged in the control of a fire or emergency situation in cash at current prices or in kind, provided the equipment and/or material was furnished by a PMAO member responding to a properly placed request for assistance.

8. (a) Each member who places a request for assistance agrees to defend, indemnify and hold harmless each member which responds from and against any and all loss, damage, injury, liability and claims-thereof for injury to or death of a person, including an employee of the requesting member or responding member, resulting from any member's performance of its obligations as a member of the PMAO. This indemnity shall apply whether or not one or more of the responding members was is claimed to be passively, concurrently, or actively negligent, regardless of the negligence of, and regardless of whether liability without fault is imposed or sought to be imposed on, one or more of the responding members. However, this indemnity shall not apply to any responding member seeking indemnity where the loss, damage, injury, liability or claim is the result of the gross negligence or willful misconduct of that responding member.
9. (b) Each member who participates in practice drills whether at PMAO member facilities or at other agreed upon sites, agrees to defend, indemnify, and save harmless the member organizing said training and all other participating members from and against any and all loss, damage, injury liability and claims thereof for injury to or death of a participating member's employee resulting from that member's participation in PMAO practice drills. However, this indemnity shall not apply to any member seeking indemnity where the loss, damage, or injury is the result of the gross negligence or willful misconduct of any participating or organizing members.
10. When a request for assistance is received from a non-PMAO member, they should be referred back to their appropriate fire district having jurisdiction.

LIST OF PMAO MEMBERS

The Petro-Chemical Mutual Aid Organization consists of the companies listed below:

Chevron Products

Valero

Phillips 66

Tesoro

Dow Chemical

NuStar LP Selby Terminal (Non-responding Member)

Solvay -Rhodia, Inc. (Non-responding Member)

Shell Oil Products U.S.

Note: Individual Agreement Signature Pages for each of the above-listed PMAO Member organizations are maintained by the PMAO secretary.

PROBATIONARY STATUS

Members may be placed on probationary status by action of the PMAO membership for failure to comply with the "Conditions of Membership." Placing a member on probationary status shall include the following steps:

1. A recommendation of probationary status by the officers or by a majority vote of members present at any general membership meeting.
2. A written notice of the consideration of probationary status, from the PMAO chair to the senior management of the member, outlining the reasons.
3. Including the consideration of probationary status for that member in the pre-published agenda for a general membership meeting.
4. After consideration of the reasons, approval by a majority of voting members present at that general membership meeting.

A continuing probationary status for more than one year is grounds for being dismissed from the PMAO.

When under probationary status, a member retains all normal membership privileges and responsibilities.

CONDITIONS UNDER WHICH ASSISTANCE WILL BE RENDERED

Assistance to any member will be available and rendered if a call or request is made (via telephone, radio or in person) by a responsible official of the member needing assistance.

Classification of Emergencies

1. Standby Alert

A fire or emergency which might be controlled with the member's available personnel and materials, but which has the potential of developing so that outside assistance is required.

2. Assistance Call (Members)

An emergency which is beyond the control of member's available personnel and material to the extent that specific assistance is required from members in the form of materials, equipment and/or personnel.

This call is issued in the form of a request for equipment, materials and/or personnel. This call should be placed to one of the two PMAO dispatcher centers (Chevron/Texaco and Dow).

3. All Clear

To be given by the member who issued one of the above calls, when the emergency no longer exists.

PMAO EMERGENCY RESPONSE PROCEDURES

Each PMAO member company has identified the specific equipment that could be needed in mutual aid response in the case of a specific scenario. Those items are defined and listed on the “Task Force” listings under each company’s name in this manual. Additionally each company has listed equipment that can be resourced to mutual aid during a member incident. Those items are listed under each company’s area in this manual.

TO REQUEST MUTUAL AID:

To secure equipment for a mutual aid response the following procedure will be followed:

1. Determine if a predetermined Task Force meets the response scenario.
2. If additional equipment is needed beyond the defined Task Force listing, define what equipment is needed and who has the equipment.
3. Call the appropriate dispatcher: **Chevron dispatch at (510) 242-5555**, or **Dow Chemical dispatch at (925) 432-5555**.
4. Provide adequate information to the appropriate dispatcher regarding your needs, task force, additional equipment, location, name of caller, etc.

MUTUAL AID RESPONSE:

When activation ALARM sounds on the dispatch pager:

A flashing icon will appear in the upper left corner of the screen. Press the button on the lower right corner to bring up the message. Use this button to read the entire message. Or use the “up” or “down” arrow to read the message line by line.

There are four types of messages:

1. A response to a “Fire”
2. A response to an “Emergency”
3. A response to a “Drill”
4. The weekly pager “Pager Test” at 10:15 a.m. every Tuesday

When activated, notify your appropriate authorized “person in-charge” that a PMAO dispatch has been activated. This message must be acknowledged within 10 minutes from dispatch.

Note: the dispatchers are instructed to either re-page or call you by phone if not acknowledged.

Look up the company listed in the dispatch page in your PMAO manual, and find the “Task Force Letter” being requested for the list of needed equipment.

If you have questions about these procedures or problems activating PMAO, call the Chevron Dispatch Center at (510) 242-5555 for assistance.

PMAO Member Company **Emergency** Contact Numbers

Responding Companies

Chevron Products (510) 242-5555
Chevron Richmond Refinery

Dow Chemical Company (925) 432-5555
Pittsburg Plant

PHILLIPS 66 Company (510) 245-4475
San Francisco Refinery

Shell Oil Products US (925) 313-3601
Shell Martinez Refinery

Tesoro Refining & Marketing Company (925) 372-3120
Golden Eagle Refinery

Valero Energy Corporation (707) 745-7562
Benicia Refinery

Non- Responding Companies

NuStar LP Terminal (510) 787-9785
Selby Terminal

Solvay (Rhodia) (925) 228-5530
Martinez Plant

Contra Costa County CAER Industrial Hygiene Group Mutual Aid Contact List

CHEVRON REFINERY General Industrial Hygiene Assistance

Task Force IH – 1 (default call-out, no equipment specified)

<u>SOURCE</u>	<u>CONTACT NUMBER</u>	<u>PERSON REQUESTED</u>
RODEO REFINERY	(510) 245-4535	LAURA CULLOM JIM FERRIS
DOW CHEMICAL	(925) 432-5555	SCOTT ETZEL
VALERO	(707) 745-7562 (707) 745-7793	DAVE MATTHEWS
SHELL REFINERY	(925) 313-3601	PAT OWENS
TESORO	(707) 567 5743	TOM JOHNSTON

CHEVRON REFINERY
841 Chevron Way, Richmond
Thomas Brothers Map Page; Contra Costa County, Page #588 D-7
EMERGENCY (510) 242-5555, BUSINESS (510) 242-4200

PHILLIPS66 RODEO REFINERY General Industrial Hygiene Assistance

Task Force IH – 1 (default call-out, no equipment specified)

<u>SOURCE</u>	<u>CONTACT NUMBER</u>	<u>PERSON REQUESTED</u>
CHEVRON REFINERY	(510) 242-4200	SAFETY ON CALL
DOW CHEMICAL	(925) 432-5555	SCOTT ETZEL
VALERO	(707) 745-7562 (707) 745-7793	DAVE MATTHEWS
SHELL REFINERY	(925) 313-3601	PAT OWENS
TESORO	(707) 567 5743	TOM JOHNSTON

PHILLIPS 66 RODEO REFINERY
1380 San Pablo Ave., Rodeo
Thomas Brothers Map Page; Contra Costa County, Page #549 J-6
EMERGENCY (510) 245-4535

Contra Costa County CAER Industrial Hygiene Group Mutual Aid Contact List

DOW CHEMICAL General Industrial Hygiene Assistance

Task Force IH – 1 (default call-out, no equipment specified)

<u>SOURCE</u>	<u>CONTACT NUMBER</u>	<u>PERSON REQUESTED</u>
VALERO	(707) 745-7562 (707) 745-7793	DAVE MATTHEWS
SHELL REFINERY	(925) 313-3601	PAT OWENS
RODEO REFINERY	(510) 245-4535	LAURA CULLOM JIM FERRIS
CHEVRON REFINERY	(510) 242-4200	SAFETY ON CALL
TESORO	(707) 567 5743	TOM JOHNSTON

DOW CHEMICAL
P.O BOX 1398, Pittsburg
Thomas Brothers Map Page; Contra Costa County, Page #574 H-3
EMERGENCY (925) 432-5555
Business (925) 432-5278, Fax (925) 432-5975

SHELL REFINERY General Industrial Hygiene Assistance

Task Force IH – 1 (default call-out, no equipment specified)

<u>SOURCE</u>	<u>CONTACT NUMBER</u>	<u>PERSON REQUESTED</u>
VALERO	(707) 745-7562 (707) 745-7793	DAVE MATTHEWS
DOW CHEMICAL	(925) 432-5555	SCOTT ETZEL
CHEVRON REFINERY	(510) 242-4200	SAFETY ON CALL
RODEO REFINERY	(510) 245-4535	LAURA CULLOM JIM FERRIS
TESORO	(707) 567 5743	TOM JOHNSTON

SHELL REFINERY
Marina Vista – Gate # 75, Martinez
Thomas Brothers Map Page; Contra Costa County, Page #571 F-2
EMERGENCY (925) 313-3601

Contra Costa County CAER Industrial Hygiene Group Mutual Aid Contact List

TESORO GOLDEN EAGLE REFINERY

General Industrial Hygiene Assistance

Task Force IH – 1 (default call-out, no equipment specified)

<u>SOURCE</u>	<u>CONTACT NUMBER</u>	<u>PERSON REQUESTED</u>
VALERO	(707) 745-7562 (707) 745-7793	DAVE MATTHEWS
SHELL REFINERY	(925) 313-3601	PAT OWENS
RODEO REFINERY	(510) 245-4535	LAURA CULLOM JIM FERRIS
CHEVRON REFINERY	(510) 242-4200	SAFETY ON CALL
DOW CHEMICAL	(925) 432-5555	SCOTT ETZEL

TESORO GOLDEN EAGLE REFINERY
150 Solano Way, Martinez
Thomas Brothers Map Page; Contra Costa County, Page #572 D-5
EMERGENCY (925) 372-3120 Fax (925) 372-3052

VALERO REFINERY

General Industrial Hygiene Assistance

Task Force IH – 1 (default call-out, no equipment specified)

<u>SOURCE</u>	<u>CONTACT NUMBER</u>	<u>PERSON REQUESTED</u>
RODEO REFINERY	(510) 245-4535	LAURA CULLOM JIM FERRIS
SHELL REFINERY	(925) 313-3601	PAT OWENS
DOW CHEMICAL	(925) 432-5555	SCOTT ETZEL
TESORO	(707) 567 5743	TOM JOHNSTON
CHEVRON REFINERY	(510) 242-4200	SAFETY ON CALL

VALERO REFINERY
3400 E. Second Street, Benicia
Thomas Brothers Map Page; Contra Costa County, Page #551 C-2
EMERGENCY (707) 745-7562 Fax (707) 745-7782

PMAO Member Company Personnel Contact Information

**(During Emergency use Member Company Emergency Contact Number from
Page 18 first)**

Chevron Products

Chevron Refinery
841 Chevron Way
Richmond, CA 94801

Mark M. Ayers
Fire Chief

Office: (510) 242-5000
Cell: (510) 812-0637
Fax: (510) 242-5853
E-mail: maay@chevron.com

Gregory A. Bosworth
Asst. Chief/Fire Marshal

Office: (510) 242-6001
Cell: (510) 715-2889
Fax: (510) 242-5686
E-mail: greg.bosworth@chevron.com

Dan Tydingco
Emergency Response Coordinator
Oil Spill Response

Office: (510) 242-6003
Cell: (707) 344-1697
Fax: (510) 242-5853
Email: jdty@chevron.com

Dow Chemical Company

P.O. Box 1398
Pittsburg, CA 94565

Chief: Mark J. Ayers

Office: (925) 432-5042
Pager: 1-800-461-6711
Cell: (925) 683-6005
Fax: (925) 432-5997
E-mail: mjayers@dow.com

**PMAO Member Company
Personnel Contact Information Continued**

NuStar LP Terminals - Selby

90 San Pablo Ave.
Crockett, CA 94525

Terminal Manager
Robert Coulter

Office: 510-787-1076 EXT3502
Cell: 702-332-3453
E-mail: rob.coulter@nustarenergy.com

PHILLIPS 66 Company

San Francisco Refinery
1380 San Pablo Ave.
Rodeo, CA 94572

Les Miller
Fire Chief

Office: (510) 245-4593
Pager: (510) 243-7196
Cell: (925) 766-2546
E-mail: les.w.miller@p66.com

Art Bertz
Emergency Response Coordinator

Office: (510) 245-4464
Pager: (510) 721-0802
Cell: (925) 766-0246
E-mail: art.o.bertz@p66.com

Solvay (Formerly Rhodia)

100 Mococo Rd.
Martinez, CA 94553

Darrel Hodge

Office: (925) 313-8225
Cell: (925) 586-8172
Fax: (925) 228-7673
E-mail: darrel.hodge@us.rhodia.com

Paul Gantt

Office (925) 313-8253
(925) 362-2265
E-mail: pgantt@usrhodia.com
Or pgantt@scm-safety.com

**PMAO Member Company
Personnel Contact Information Continued**

Shell Oil Products US

Shell Martinez Refinery
P.O. Box 711
Martinez, CA 94553

Jim Flores	Office:	(925) 313-3289
	Pager:	(510) 243-8574
	Cell:	(925) 200-7980
	Fax:	(925) 313-3076
	E-mail:	jim.flores@shell.com

Joe Digue	Office:	(925) 313-3741
	Pager:	(925) 313-3601
	Cell:	(707) 321-6737
	Fax:	(925) 313-3076
	E-mail:	joe.digue@shell.com

Tesoro Refining & Marketing Company

Golden Eagle Refinery
150 Solano Way
Martinez, CA 94553

Greg Clayton Manager, Emergency Response and Preparedness	Office:	(925) 370-3686
	Cell:	(925) 766-4771
	Pager:	(925) 688-6118
	Fax:	(925) 372-3052
	E-mail:	gregory.g.clayton@tsocorp.com

John Gliatto H&S Specialist - Emer. Resp. Training	Office:	(925) 335-3580
	Fax:	(925) 372-3052
	E-mail:	john.r.gliatto@tsocorp.com

Blade Benson H&S Specialist - Oil Spill Response	Office:	(925) 372-3042
	Pager:	(925) 688-6054
	Fax:	(925) 372-3052
	E-mail:	blade.benson@tsocorp.com

**PMAO Member Company
Personnel Contact Information Continued**

Valero Energy Corporation

Benicia Refinery
3400 East 2nd Street
Benicia, CA 94510

Joe Bateman
Fire Chief

Office: (707) 745-7829
Cell: (707) 816-9969
Fax: (707) 745-7671
E-mail: joseph.bateman@valero.com

Brian Fien
Battalion Chief

Office: 707 745 7241
Cell: 707 685 3858
E-mail : brian.fien@valero.com

CHEVRON REFINERY “A” Process Unit Fires

Task Force “A” (Firefighting Tactics)

SOURCE	ITEM	PUMP	LADDER	FOAM	HOSE
PHILLIPS 66 Refinery (510) 245-4475	Foam Tender	300		3,000 g. 1%	
Shell Refinery (925) 313-3601 Ask for Security Communication Center	Engine #3	3000		1000 g. 1%	700 ft. 5” Storz
Tesoro Golden Eagle (925) 372-3120	Engine #1	3,500		1,000 g. 1%	1,000 ft. 5” Storz
Valero Refinery (707) 745-7562	Truck #16	2,000	95’ Aerial	700 g. 3%	800 ft. 5” Storz
Dow Chemical (925) 432-5555	Engine #1	1,500		1,000 g. 3%	600 ft. 5” hose w/4½” NST thread
TOTALS:		10,000 gpm		5,000 g. 1% 1,700 g. 3%	3,100 ft.

841 Chevron Way, Richmond
Thomas Brothers Map Page: Contra Costa County, Page #588 D-7
EMERGENCY (510) 242-5555, Business (510) 242-4200

CHEVRON REFINERY “B” Process Unit Fires

Task Force “B” (Foam/Water Supply Tactics)

SOURCE	ITEM	PUMP	LADDER	FOAM	HOSE
PHILLIPS 66 Refinery (510) 245-4475	Foam Tender	300		3,000 g. 1%	
Shell Refinery (925) 313-3601 Ask for Security Communication Center	Engine #3	3000		1000 g. 1%	700 ft. 5” Storz
Tesoro Golden Eagle (925) 372-3120	Engine #1	3,500		1,000 g. 1%	1,000 ft. 5” Storz
Valero Refinery (707) 745-7562	Engine #16	2,000		1,000 g. 3%	1,000 ft. 5” Storz
Dow Chemical (925) 432-5555	Engine #1	1,500		1,000 g. 3%	600 ft. 5” hose w/4½” NST thread
Richmond Fire Dept. (510) 620-6901	(3) Type “1” Strike Teams, with 5” hose capabilities Dispatcher: Ask for “ <u>Immediate Need</u> ”				
TOTALS:		10,000 gpm		5,000 g. 1% 2,000 g. 3%	3,300 ft.

841 Chevron Way, Richmond
Thomas Brothers Map Page: Contra Costa County, Page #588 D-7
EMERGENCY (510) 242-5555, Business (510) 242-4200

CHEVRON REFINERY “C” Tank Fires (100-200 Feet)

Task Force “C”

SOURCE	ITEM	PUMP	LADDER	FOAM	HOSE
PHILLIPS 66 Refinery (510) 245-4475	Foam Tender	300		3,000 g. 1%	
Shell Refinery (925) 313-3601 Ask for Security Communication Center	Engine #3	3000		1000 g. 1%	700 ft. 5” Storz
Tesoro Golden Eagle (925) 372-3120	Engine #1	3,500		1,000 g. 1%	1,000 ft. 5” Storz
Valero Refinery (707) 745-7562	Truck #16	2,000	95’ Aerial	700 g. 3%	800 ft. 5” Storz
Dow Chemical (925) 432-5555	Engine #1	1,500		1,000 g. 3%	600 ft. 5” hose w/4½” NST thread
TOTALS:		10,000 gpm		5,000 g. 1% 1,700 g. 3%	3,100 ft.

841 Chevron Way, Richmond

Thomas Brothers Map Page: Contra Costa County, Page #588 D-7
EMERGENCY (510) 242-5555, Business (510) 242-4200

CHEVRON REFINERY “D” Tank Fires (210-250 feet)

Task Force “D”

SOURCE	ITEM	PUMP	LADDER	FOAM	HOSE
PHILLIPS 66 Refinery (510) 245-4475	Foam Tender	300		3,000 g. 1%	200 ft. 5” Storz
	Monitor Truck		2,000 gpm Hydro Chem Nozzle		
Shell Refinery (925) 313-3601 Ask for Security Communication Center	Engine #3	3,000		1,000 g. 1%	800 ft. 5” Storz
	Foam Tender			4000 g. 1%	
Tesoro Golden Eagle (925) 372-3120	Special Trailer #3	400		4,000 g. 3%	1,000 ft. 5” Storz
	Engine 1	3,500		1,000 g. 1%	
Valero Refinery (707) 745-7562	Six Gun		1,000-6,000	Hydro-Foam Monitor	
	Foam Tender	150		4,000 g. 3%	
	Big Sucker	5,000		Portable Pump Unit	
Dow Chemical (925) 432-5555	Engine #1	1,500		1,000 g. 3%	600 ft. 5” hose w/4½ NST thread
San Francisco Fire Dept. (415) 558-3400	Fire Boat “Guardian”	20,000			
Richmond Fire Dept. (510) 620-6901	(3) Type “1” Strike Teams all with 5” hose capabilities Dispatcher: Ask for “Immediate Need”				
TOTALS:		33,000 gpm		9,000 g. 1% 9,000 g. 3%	2,600 ft.

841 Chevron Way, Richmond

Thomas Brothers Map Page: Contra Costa County, Page #588 D-7
EMERGENCY (510) 242-5555, Business (510) 242-4200

CHEVRON REFINERY - COMPANY SPECIFIC DATA

841 Chevron Way, Richmond, CA.
Refinery Gate #31 Castro & Mill St

Thomas Brothers Map, Contra Costa County page #588 D-7

Hydrant Type: 2½ inch NST
4½ inch NST

Engine #60

Discharge capacity:	2,000 gpm
Foam:	500 gallons AFFF/ATC - 1%
Hose:	1,000 feet 5" with STORZ fittings 500 feet 2½" 700 feet 1¾"
Manpower:	(1) operator, (2) firefighters
Monitor:	(2) portable Akron Apollo with 1,000 gpm fog nozzle
Foam nozzles:	(2) JS-10
Hard suction:	6" NST
Nursing capabilities:	Can nurse to other units
Special equipment:	None

Foam Engine #60

Discharge capacity:	3,500 gpm
Foam:	1,200 g. AFFF/ATC - 3%
Hose:	1,600 ft. 5" with STORZ fittings 300 feet 3" 400 feet 1¾"
Manpower:	(1) operator, (2) firefighters
Monitor:	(2) portable Akron Apollo with 1,000 gpm fog nozzle (1) Portable Blitzfire
Foam nozzles:	(2) JS-10
Nursing capabilities:	Can nurse to other units
Special equipment:	None

Truck #60 Aerial/Foam Pumper

Discharge capacity:	2,000 gpm
Foam:	750 g. AFFF/ATC - 1%
Aerial Platform:	95 ft. with (2) automatic nozzles (1,500 gpm)
Hose:	900 ft. 5" hose with STORZ fittings
Manpower:	(2) operators
Monitors:	(1) portable Blitzfire 500 gpm.
Nursing capabilities:	Can nurse to other units
Special equipment:	SCBA fixed breathing air system
Rescue:	Stokes receiver on platform

Foam Tender*

Foam capacity: 3,000 gals. 1 x 3% AFFF/ATC in a detachable foam Pod
Foam Pod is transported by a Hook Lift Truck.
Nursing capabilities: Can nurse to other units using on-board pump.

Portable Pump*

Discharge capacity: 6,000 gpm pump mounted on a skid.
Skid is transported by a hook Lift truck.

* Note: Foam Tender Foam Pod and Portable Pump Skid are transported by same hook lift truck. Only one of these units will be dispatched for an Incident. May be possible to obtain second hook truck from City of Berkeley via Mutual Aid.

Monitor Unit #60

Discharge Capacity: 2,000 gpm "Williams" Hydro-Foam Nozzle with JRC proportioning
Hose: 500 ft. 5" hose with STORZ fittings

Monitor Trailer

Discharge Capacity: 2,000 gpm "Williams" Hydro-Foam nozzle with JRC proportioning

Hose Trailer

Hose: 5000 feet of 5" Storz coupled hose laid in (2) 2500 ft. beds.
Misc. adapters and 5" appliances

Hazardous Materials #60

Complete with Level "A" & "B" entry
Complete Decon equipment
Plug/patch material kits
16 SCBA units

Fire Boat:

32 Ft Munson with twin 350 HP Yamaha drives.
Discharge Capacity: 1000 gpm.
Monitor: 1000 gpm deck monitor
Auxiliary Discharge: Can Discharge to shore connection via 5" Storz fitting.

CHEVRON RICHMOND REFINERY DIRECTIONS TO FACILITY

Take west bound Hwy 4 toward Richmond

Merge on to Interstate 80 West toward Oakland / San Francisco

Proceed on Interstate 80 approximately 3.5 miles to Richmond Parkway / Fitzgerald Drive exit.

Take Richmond Parkway / Fitzgerald Drive exit toward I-580 / San Rafael

Turn Right onto Richmond Parkway

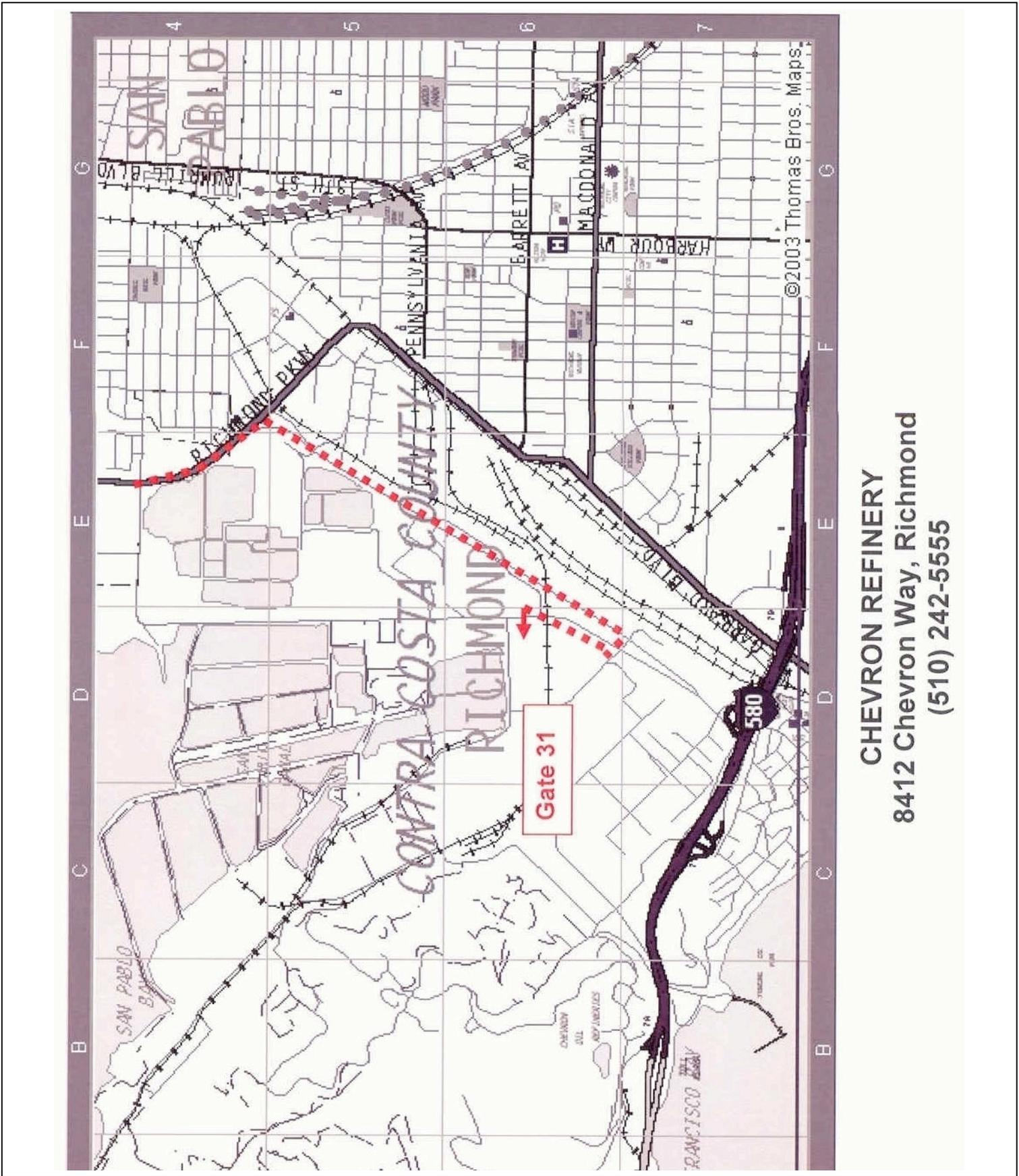
Continue on Richmond Parkway approximately 5 miles.

Take Castro Street exit from Richmond Parkway (veer right)

Proceed on Castro Street approximately 1.3 miles to Mills St. (Past General Chemical and Rail yard)

Turn right onto Mills Street.

Turn right on West Mills Street and proceed approximately one-quarter mile to Gate 31.



CHEVRON REFINERY
8412 Chevron Way, Richmond
(510) 242-5555

CHEVRON REFINERY – DIRECTIONS TO STAGING

Primary Staging for all responders will be at the CFD Fire Drill Grounds. Follow the direction to the facility via the instruction on page 32. Once inside 31 gate, proceed straight down Channel Street and take the first right. Take the next left into Ammonia Court. Please park in front of occupancies on the asphalt.



DOW CHEMICAL "A" Process Unit Fires

Task Force "A"

SOURCE	ITEM	PUMP	LADDER	FOAM	HOSE
Tesoro Golden Eagle (925) 372-3120	Foam Aerial	1,500	75' Aerial	1,000 g. 1%	500 ft. 5" Storz
Shell Refinery (925) 313-3601 Ask for Security Communication Center	Engine #2	3,000		1,000 g. 1%	700 ft. 5" Storz
Valero Refinery (707) 745-7562	Foam Tender	150		4,000 g. 3%	
PHILLIPS 66 Refinery (510) 245-4475	Engine #7	3,500		800 g. 1%	1,000 ft. 5" Storz
Chevron Refinery (510) 242-5555	Truck #60	2,000	95' Aerial	750 g. 1%	1000 ft. 5" Storz
TOTALS:		10,000 gpm		3,550 g. 1% 4,000 g. 3%	3,200 ft.

901 Loveridge Road, Pittsburg

Thomas Brothers Map Page; Contra Costa County, Page #574 H-3

EMERGENCY (925) 432-5555

BUSINESS (925) 432-5278 FAX (925) 432-5975

DOW CHEMICAL "B"

Process Unit Fires

Task Force "B"

SOURCE	ITEM	PUMP	LADDER	FOAM	HOSE
Tesoro Golden Eagle (925) 372-3120	Special Trailer #1	5,000		2,000 g. 3%	400 ft. 5" Storz
Valero Refinery (707) 745-7562	Truck #16	2,000	95' Aerial	700 g. 3%	800 ft. 5" Storz
Chevron Refinery (510) 242-5555	Foam Pod			3,000 g. 1%	
TOTALS:		7,000 gpm		2,500 g. 1% 2,700 g. 3%	1,200 ft.

901 Loveridge Road, Pittsburg

Thomas Brothers Map Page; Contra Costa County, Page #574 H-3

EMERGENCY (925) 432-5555

BUSINESS (925) 432-5278 FAX (925) 432-5975

DOW CHEMICAL "C" Tank Fires (Up to 200 Feet)

Task Force "C"

SOURCE	ITEM	PUMP	LADDER	FOAM	HOSE
Tesoro Golden Eagle (925) 372-3120	Foam Aerial	1,500	75' Aerial	1,000 g. 1%	500 ft. 5" Storz
Shell Refinery (925) 313-3601 Ask for Security Communication Center	Engine #2	3,000		1,000 g. 1%	700 ft. 5" Storz
Valero Refinery (707) 745-7562	Foam Tender	150		4,000 g. 3%	
Phillips66 Refinery (510) 245-4475	Engine #7	3,500		800 g. 1%	1,000 ft. 5" Storz
Chevron Refinery (510) 242-5555	Truck #60	2,000	95' Aerial	750 g. 1%	1000 ft. 5" Storz
TOTALS:		10,000 gpm		3,550 g. 1% 4,000 g. 3%	3,200 ft.

901 Loveridge Road, Pittsburg

Thomas Brothers Map Page; Contra Costa County, Page #574 H-3

EMERGENCY (925) 432-5555

BUSINESS (925) 432-5278 FAX (925) 432-5975

**DOW CHEMICAL “D”
Hazardous Materials Incidents
Task Force “D”**

SOURCE	SPECIAL ITEMS				
Chevron Refinery (510) 242-5555	HazMat 60 Level A Capabilities				
Tesoro Golden Eagle (925) 372-3091	30 g. 3M with Blue Box - Stabilizing Foam and Nozzle				

901 Loveridge Road, Pittsburg
Thomas Brothers Map Page; Contra Costa County, Page #574 H-3
EMERGENCY (925) 432-5555
BUSINESS (925) 432-5278 FAX (925) 432-5975

DOW CHEMICAL - COMPANY SPECIFIC DATA

P.O. Box 1398
901 Loveridge Road, Pittsburg, CA.

Thomas Brothers Map, Contra Costa County Page #574 H-3

Hydrant Type 2 ½ inch NST, and 4 ½ inch NST

Foam Engine

Discharge capacity:	1,500 gpm
Foam:	1,000 g. 3x6 AFFF/ARC
Hose:	1,200 ft. 2½" 400 ft. 1¾" 600 ft. 5" w/4½" NST
Manpower:	(1) operator
Monitor:	Stationary mounted with 1,000 gpm Turbo Jet Nozzle
Foam nozzles:	(2) JS-10
Hard suction:	(2) 6" NST x 10'
Nursing capabilities:	Can nurse to other units
Special equipment:	None

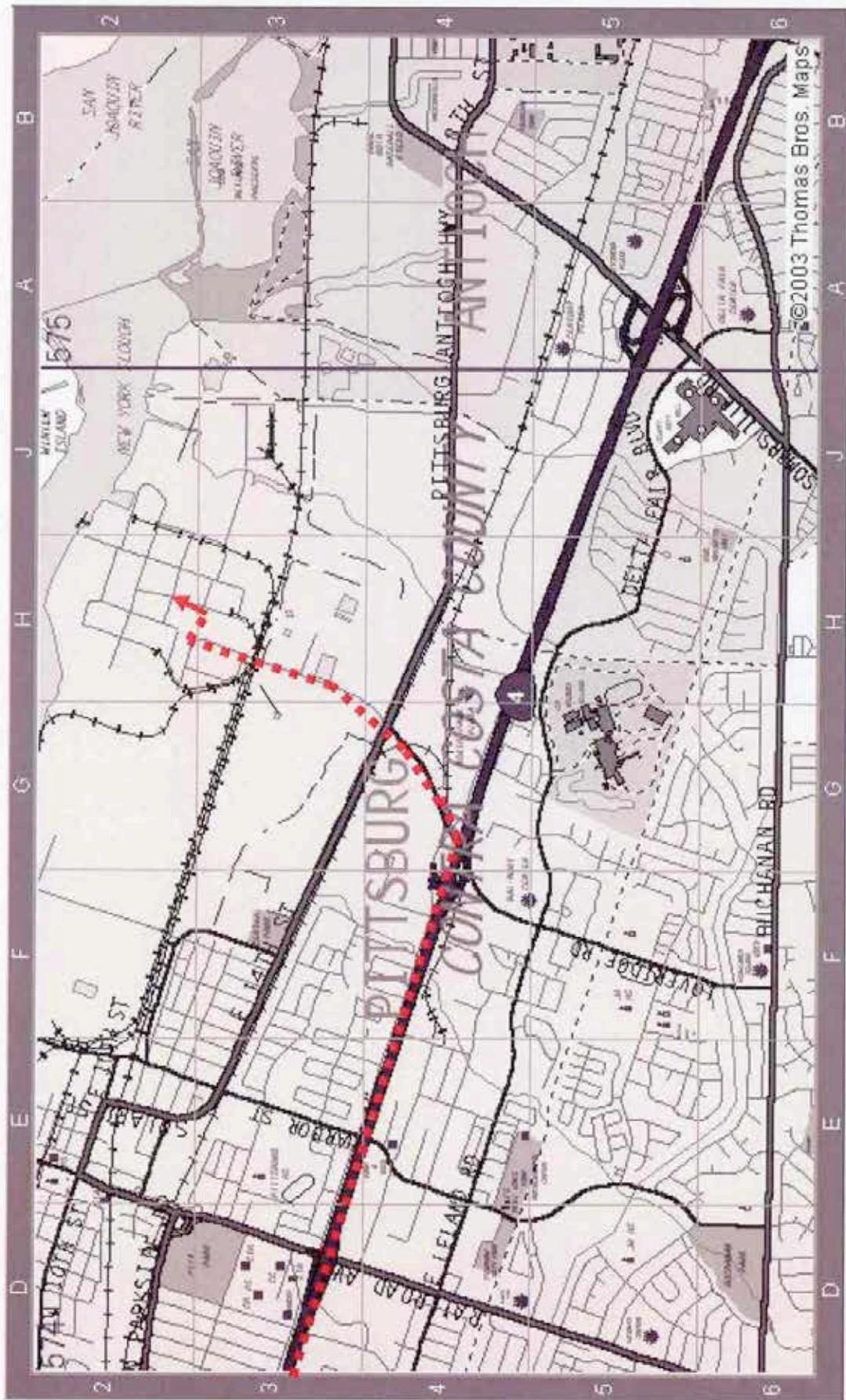
Engine

Discharge capacity:	1,250 gpm
Water tank:	750 g.
Hose:	800 ft. 2½" 600 ft. 5" 4½" NST
Manpower:	(1) Operator
Hard suction:	6" NST x 10'
Monitor:	Portable Akron Apollo w/1,000 gpm TFT Nozzle Portable 500 GPM Blitzfire Monitor

DOW CHEMICAL –DIRECTIONS TO FACILITY

**Take Hwy 4 east bound from Martinez / Concord area.
Proceed to Loveridge Road Exit.
Take Loveridge Road North.
Continue across BNSF railroad tracks (4 Sets).
Take first right after crossing railroad tracks into parking lot.
Parking area will be Primary Staging Area**

See Map Next Page



DOW CHEMICAL
901 Loveridge Road, Pittsburg
(925) 432-5555

DOW CHEMICAL –DIRECTIONS TO STAGING

Primary Staging:

Take Hwy 4 east bound from Martinez / Concord area.

Proceed to Loveridge Road Exit.

Take Loveridge Road North (Left).

Continue across BNSF railroad tracks (4 Sets).

Take first right after crossing railroad tracks into parking lot.

Parking area will be Primary Staging Area

Alternate Staging Areas

Alternate Staging - Arcy Lane Gate:

Take Hwy 4 East from Concord / Martinez Area

Take Loveridge Road Exit North (Left)

Continue on Loveridge to Pittsburg / Antioch Highway.

Turn Right on Pittsburg / Antioch Highway

Continue East on Pittsburg / Antioch Highway approximately 2 miles.

Turn Left onto Arcy Lane

Continue on Arcy Lane and cross BNSF Railroad Tracks

Enter Parking lot on left side for staging area.

Alternate Staging Area - 3rd St. Gate:

Take Hwy 4 East from Concord / Martinez Area

Take Railroad Ave. Exit North (Left)

Continue North on Railroad approximately 2 miles.

Turn Right on 3rd St.

Continue on 3rd St. to the end.

Staging Area will be in the USSPOSCO parking lot.

**NuStar – SELBY “A”
Process Unit Fires**

Task Force “A”

SOURCE	ITEM	PUMP	LADDER	FOAM	HOSE
PHILLIPS 66 Refinery (510) 245-4475	Engine #7	3,500		800 g. 1%	1000 ft. 5” Storz
Valero Refinery (707) 745-7562	Engine #16	2,000		1,000 g. 3%	1,000 ft. 5” Storz
TOTALS:		5,500 gpm		800 g. 1% 1000 g. 3%	2,000 ft.

**Nu Star is a non-responding company. PMAO Task Force
operates at request and direction of the Crockett /
Carquinez Fire District**

#90 San Pablo Avenue, Crockett

Thomas Brothers Map Page: Contra Costa County, Page #550 A-5

EMERGENCY (510) 787-9785, (510) 787-1076

FAX (510) 787-1205

NuStar – SELBY “C” Tank Fire (Up to 200 Feet)

Task Force “C”

SOURCE	ITEM	PUMP	LADDER	FOAM	HOSE
PHILLIPS 66 Refinery (510) 245-4475	Engine #7 Foam Tender	3,500		800 g. 1% 3,000 g. 1%	1000 ft. 5” Storz
Chevron Refinery (510) 242-5555	Truck #60 Monitor Unit #60 (2) 1000 gpm Hydro-foam nozzles	2,000	95’ Aerial	750 g. 1%	1000 ft. 5” Storz
Shell Refinery (925) 313-3601 Ask for Security Communication Center	Foam Tender			4000 g. 1%	
Tesoro Golden Eagle (925) 372-3120	Engine #1 Ambassador Monitor (1-6000 GPM)	3,500		1,000 g. 1%	1000 ft. 5” Storz
Valero Refinery (707) 745-7562	Truck #16	2,000	95’ Aerial	700 g. 1%	800 ft. 5” Storz
TOTALS:		11,000 gpm		10,250 g. 1%	3,700 ft.

**Nu Star is a non-responding company. PMAO Task Force
operates at request and direction of Crockett / Carquinez
Fire District**

#90 San Pablo Avenue, Crockett

Thomas Brothers Map Page: Contra Costa County, Page #550 A-5

EMERGENCY (510) 787-9785, (510) 787-1076

FAX (510) 787-1205

NuStar, SELBY – DIRECTIONS TO FACILITY

Traveling West on Interstate 80 from Vallejo, take Cummings Skyway off ramp.

Turn right on to Cummings Skyway.

Proceed down Cummings Skyway to stop light (dead end).

Turn left (West) onto San Pablo Ave.

Turn left at entrance to facility (bottom of the hill).

Traveling East on Interstate 80 from Richmond, take Cummings Skyway off ramp.

Turn left at stop light on to Cummings Skyway.

Go over the I-80 overpass; proceed down Cummings Skyway to stop light (dead end).

Turn left (West) onto San Pablo Ave.

Turn left at entrance to facility (bottom of the hill).

Traveling West on Highway 4 from Concord/Martinez, take Cummings

Skyway/Crockett-Vallejo Exit off ramp.

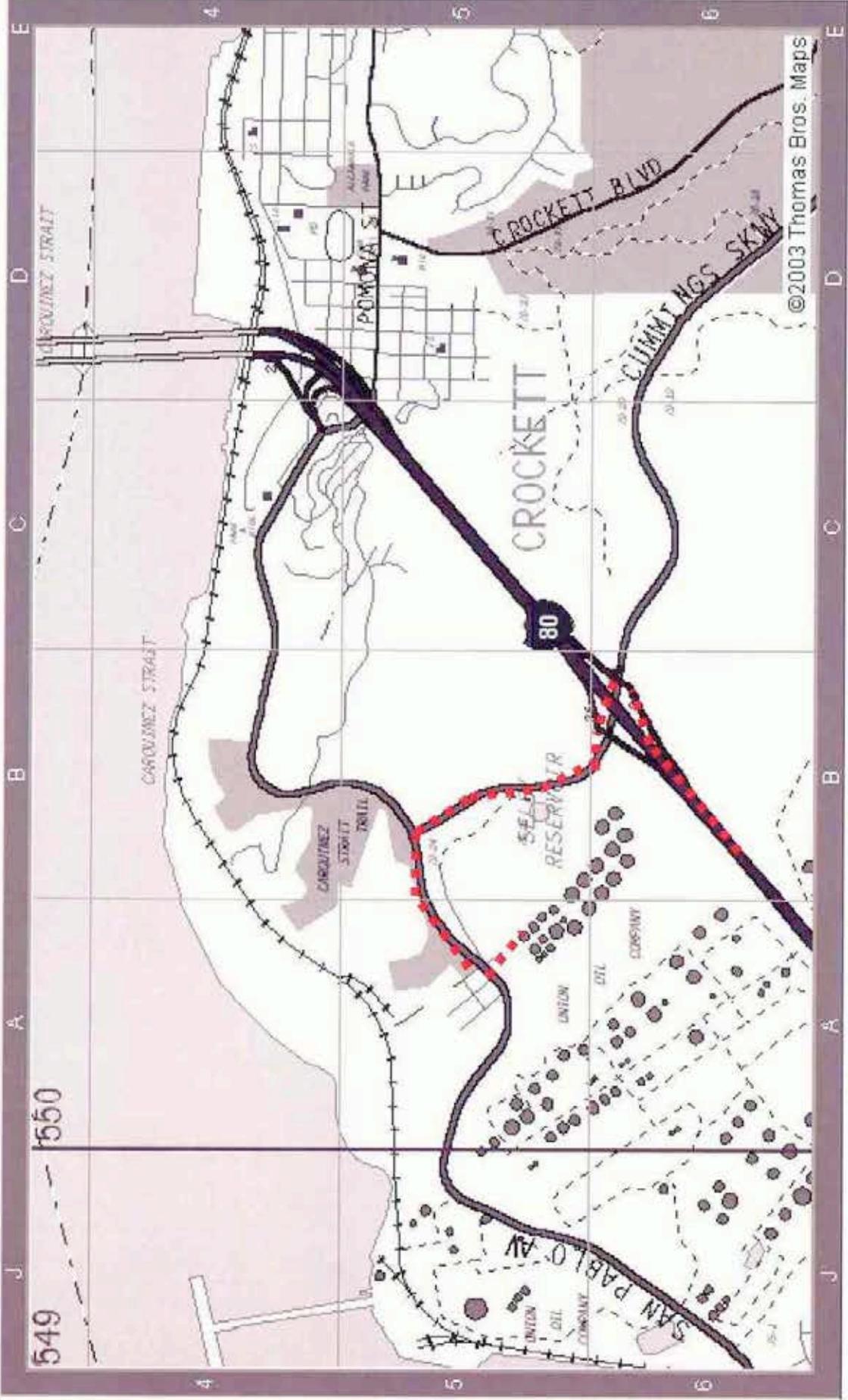
Merge right on to Cummings Skyway; proceed past Crockett on Cummings Skyway (approximately 4 miles to San Pablo).

Cross I-80 overpass, proceed down Cummings Skyway to stop light (dead end). Turn left onto San Pablo Ave.

Turn left at entrance to facility (bottom of the hill).

NOTE: Do not use MapQuest, Internet directions or GPS, as they will all tell you to turn *RIGHT* (East) on San Pablo and that is incorrect.

SEE MAP NEXT PAGE



VALERO LP TERMINAL - SELBY
 #90 San Pablo Avenue
 (510) 787-1076

NuStar, SELBY – DIRECTIONS TO STAGING

Staging will occur in paved area just inside facility gate.

Pacific Atlantic Terminals – MARTINEZ

**DELETED OBSOLETE TASK FORCE LISTINGS FOR PACIFIC ATLANTIC TERMINAL
DUE TO LACK OF INFORMATION.**

**UTILIZE OUT OF AREA RESPONSE WORKSHEET TO DETERMINE PMAO EQUIPMENT TO
SEND**

**Pacific Atlantic Terminals is a non-responding
company. PMAO Task Force operates at request and
direction of Contra Costa County Fire Protection
District**

2801 Waterfront Road, Martinez

Thomas Brothers Map Page: Contra Costa County, Page #571 J-1

EMERGENCY (925) 228-3227, (925) 229-3200

FAX (925) 228-5617

PACIFIC ATLANTIC TERMINALS, MARTINEZ – DIRECTIONS TO FACILITY

From Hwy 680, Northbound or Southbound, take the Marina Vista off-ramp.

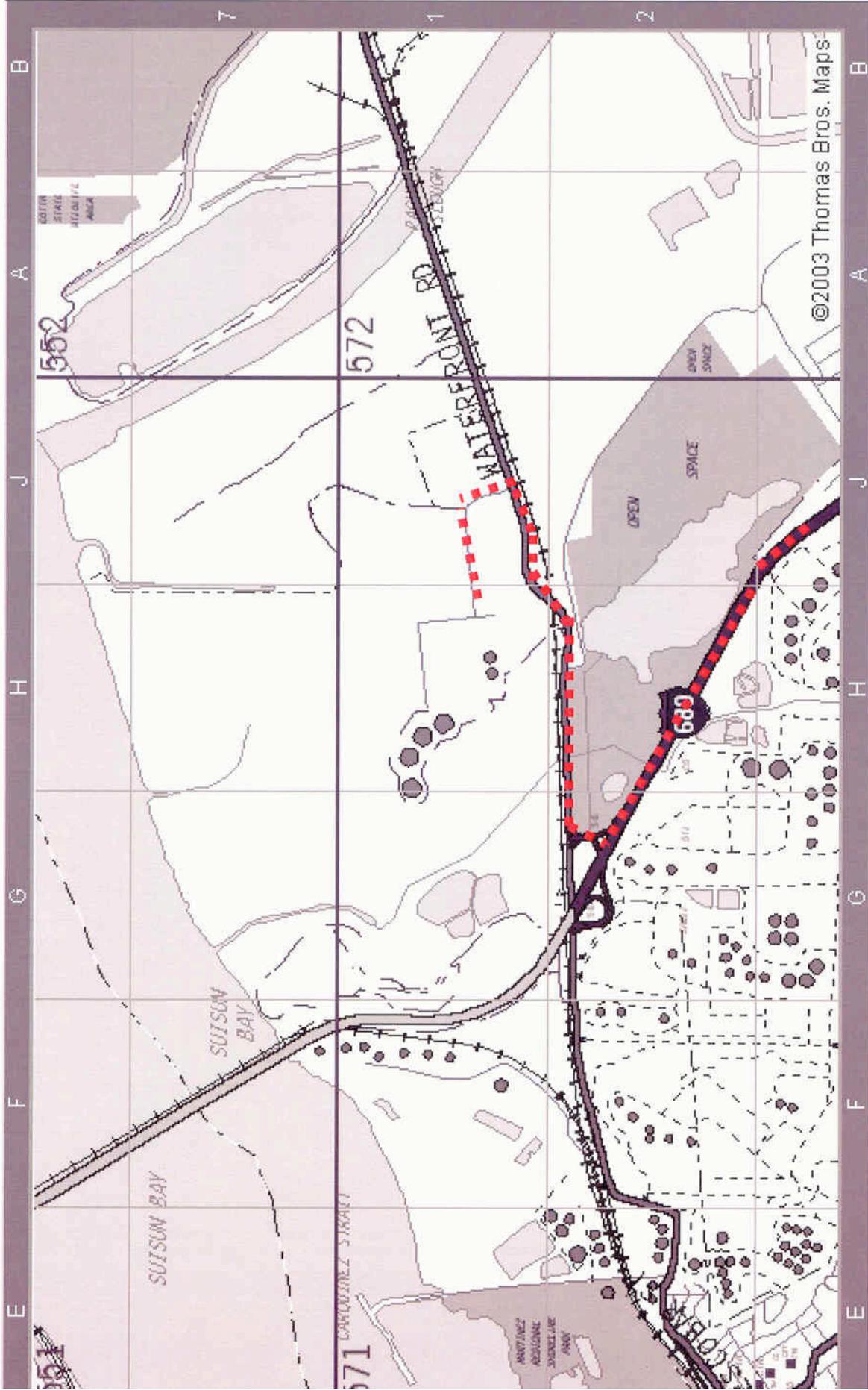
At the bottom of the off-ramp, turn right (East).

Proceed East on Marina Vista approximately 1.0 miles from the 680 overpass, (past Waterbird Way).

Turn left on to access road.

Reverse direction on access road and go west approximately two-tenths of a mile to the main gate.

See Map Next Page



PACIFIC ATLANTIC TERMINALS – MARTINEZ
 2801 Waterfront Road
 (925) 228-3227

PACIFIC ATLANTIC TERMINALS, MARTINEZ – DIRECTIONS TO STAGING

**Primary Staging will be in front of main gate.
If main gate area is not acceptable due to wind direction,
alternative staging area is Waterbird Way, just south of
intersection with Marina Vista.**

PHILLIPS 66 REFINERY "A"

Process Unit Fires

Task Force "A"

SOURCE	ITEM	PUMP	LADDER	FOAM	HOSE
Chevron Refinery (510) 242-5555	Truck #60 Monitor Unit #60	2,000	95' aerial (2) 1,000 gpm Hydro-Foam Nozzles	750 g. 1%	1000 ft. 5" Storz 500 ft. 5" Storz
Valero Refinery (707) 745-7562	Foam Tender	150		4,000 g. 3%	
Shell Refinery (925) 313-3601 Ask for Security Communication Center	Engine #2	3,000		1,000 g. 1%	700 ft. 5" Storz
Tesoro Golden Eagle (925) 372-3120	Engine #1	3,500		1,000 g. 1%	1,000 ft. 5" Storz
Dow Chemical (925) 432-5555	Engine 1	1,500		1,000 g. 3%	600 ft. 5" hose w/4½" NST thread
TOTALS:		10,000 gpm		2,750 g. 1% 5,000 g. 3%	3,800 ft.

1380 San Pablo Avenue, Rodeo

Thomas Brothers Map Page; Contra Costa County, Page #549 J-6
EMERGENCY (510) 245-4475

PHILLIPS 66 REFINERY "B"

Tank Fires

Task Force "B"

SOURCE	ITEM	PUMP	LADDER	FOAM	HOSE
Chevron Refinery (510) 242-5555	Truck #60	2000	95' Aerial	750 g 1%	1000 ft. 5" Storz
	Foam Pod			3,000 g. 1%	
Valero Refinery (707) 745-7562	Foam Tender	150		4,000 g. 3%	3,500 ft. 5" Storz
	5" Hose Trailer				
Shell Refinery (925) 313-3601 Ask for Security Communication Center	Engine #2	3,500		1,000 g. 1%	700 ft. 5" Storz
	Foam Tender			4,000 g 1%	
Tesoro Golden Eagle (925) 372-3120	Engine #1	3,500		1,000 g. 1%	1,000 ft. 5" Storz
	Special Trailer #1	5,000		2,000 g. 3%	400 ft. 5" Storz
Dow Chemical (925) 432-5555	Engine #1	1,500		1,000 g. 3%	600 ft. 5" hose w/4½ NST Thread
TOTALS:		15,500 gpm		9,750 g. 1% 7,000 g. 3%	7,200 ft.

1380 San Pablo Avenue, Rodeo

Thomas Brothers Map Page; Contra Costa County, Page #549 J-6

EMERGENCY (510) 245-4475

PHILLIPS 66 - COMPANY SPECIFIC DATA

1380 San Pablo Ave, Rodeo, CA.

Thomas Brothers Map, Contra Costa County Page #549 J-6

Hydrant Type 2½" and some 4½" NST

Engine 7

Rated capacity: 3,500 gpm
Foam tank: 800 gallons 1%
Hose: 1,000 ft. 5" Storz
Manpower: One operator & Firefighter to assist
Monitors: Williams 1x4000 automatic foam nozzle
Foam Nozzles:
Hard suction: No hard suction hose carried. Requires 6" NST
Nursing capabilities: Can nurse to other Thunderstorm 1% units
Special equipment: (9) Scott 4.5 SCBA and (6) spare cylinders

Foam Engine:

Rated capacity: 1,250 gpm
Foam tank: 1,000 gallons AFFF/ATC 3% - 6%
Hose: 550 ft. 5" Storz
600 ft. 3" (2½" NST couplings)
450 ft. 1¾" (1½" NST couplings)
Manpower: (1) Apparatus engineer (minimum; when possible a second Fire Brigade member will accompany the driver)
Monitors: (1) Portable monitor, (1) Deck Gun (detachable)
Foam Nozzles: (1) JS-10 for 1¾" attack hose
(1) 1000 gpm self-educting nozzle – deck gun
(2) PHB 30A – 300 gpm high backpressure nozzles
Hard suction: No hard suction hose carried; requires 6" NST
Nursing capabilities: Can nurse to other ATC units
Special equipment: (5) Scott 2.2 or 4.5 SCBA and (4) spare cylinders
(1) 24-inch extension; (1) 14-foot roof ladder

Foam Monitor Truck (SFR Truck #16 Pick-up)

Discharge capacity: 2,000 gpm Hydro-Chem nozzle*
*Unit can self-educt foam concentrate by using a Jet Ratio controller at 100 PSI inlet pressure. This nozzle can flow water and foam or add dry chemical from six 150# or four 350# wheeled dry Chem extinguishers. Nozzle is fixed gallonage at 2,000 gpm and fixed proportioning at 3% supplied by 5" hose.

Foam: Unit carries no concentrate; nozzle requires an AFFF type concentrate as it is a non-aspirating nozzle.

Hose: 200 ft. of 5" STORZ
150 ft. of 3" (2½" NST couplings)

Manpower: (1) Apparatus Engineer (minimum; when possible a second Fire Brigade member will accompany the driver)

NOTE: Request for additional Fire Brigade members would be handled on an individual basis as volunteer manpower permits.

Foam Tender

3,000 Gallons Thunderstorm 1% Foam

Monitors

- (1) 6000 gpm Williams 1x6 Ambassador Monitor
- (2) 1500 gpm Williams Screaming Eagle Portable Monitors

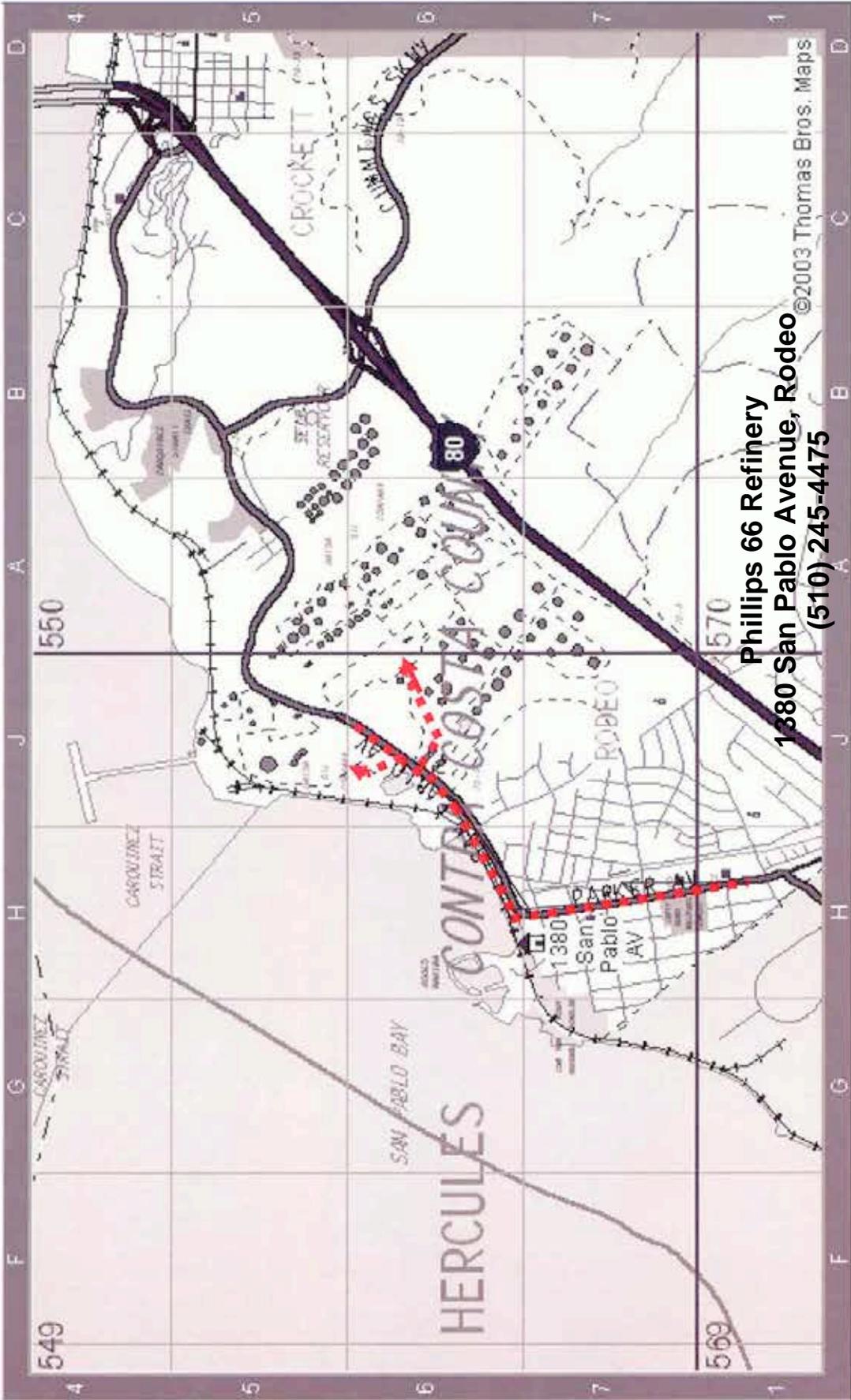
PHILLIPS 66 REFINERY – DIRECTIONS TO FACILITY

Traveling South on Interstate 80 from Vallejo, take Cummings Skyway off ramp.
Turn right on to Cummings Skyway.
Proceed down Cummings skyway to stop light.
Turn left onto San Pablo Ave.
Drive past NuStar terminal.

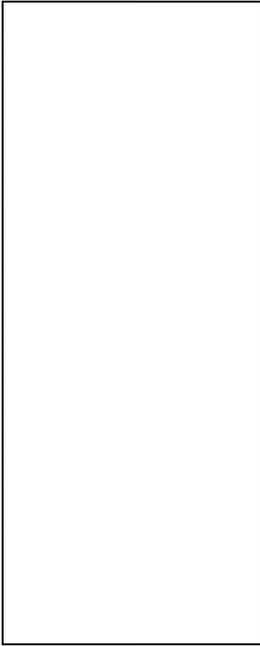
Traveling North on Interstate 80 from Richmond, take Willow Avenue off ramp.
At stop light turn right on to Willow Ave.
Proceed down Willow Ave, Willow Ave, will change to Parker Avenue.
Stay to right and proceed down Parker Ave. to Refinery Road.

Traveling West on Highway 4, take Cummings Skyway off ramp.
Turn right at stop sign.
Proceed past Crockett on Cummings Skyway.
Cross I-80 overpass, proceed down Cummings Skyway to stop light.
Turn left onto San Pablo Ave...
Drive past NuStar terminal.

SEE MAP NEXT PAGE



Phillips 66 Refinery
1380 San Pablo Avenue, Rodeo
(510) 245-4475



PHILLIPS 66 – DIRECTIONS TO STAGING

Mutual Aid Staging Area “A”

Driving south on San Pablo Ave. turn left at stoplight on Refinery road.

Make a left turn into the parking lot.

Driving north on San Pablo Ave. turn right at stoplight on Refinery road.

Make a left into the parking lot.

Mutual Aid Staging Area “B”

Driving south on San Pablo Ave. turn left just past the administration building.

Driving north on San Pablo Ave. turn right the first right past Refinery road.

Mutual Aid Staging Area “C”

Driving south on San Pablo Ave. turn right at stoplight on Refinery road.

Make a right turn into the parking lot.

Driving north on San Pablo Ave. turn left at stoplight on Refinery road.

Make a left into the parking lot.

SHELL REFINERY "A" Process Unit Fires

Task Force "A"

SOURCE	ITEM	PUMP	LADDER	FOAM	HOSE
Tesoro Golden Eagle (925) 372-3120	Engine #1	3,500		1,000 g. 1%	1,000 ft. 5" Storz
Valero Refinery (707) 745-7562	Truck #16	2,000	95' Aerial	700 g. 3%	800 ft. 5" Storz
PHILLIPS 66 Refinery (510) 245-4475	Engine #7	3,500		800 g. 1%	1,000 ft. 5" Storz
Chevron Refinery (510) 242-5555	Truck #60	2,000	95' Aerial	750 g. 1%	1000 ft. 5" Storz
Dow Chemical (925) 432-5555	Engine #1	1,500		1,000 g. 3%	600 ft. 5" hose w/4½ NST Thread
TOTALS:		12,500 gpm		2,550 g. 1% 1,700 g. 3%	4,400 ft.

Marina Vista – Gate #75, Martinez

Thomas Brothers Map Page: Contra Costa County, Page #571 F-2
EMERGENCY (925) 313-3601

**SHELL REFINERY “D”
Tank Fires (Up to 250 Feet)**

Task Force “D”

SOURCE	ITEM	PUMP	LADDER	FOAM	HOSE
Tesoro Golden Eagle (925) 372-3120	Special Trailer #1	5,000		2,000 g. 3%	400 ft. 5” Storz
Valero Refinery (707) 745-7562	Truck #16 Foam Tender	2,000 150	95’ Aerial	700 g. 3% 4,000 g. 3%	800 ft. 5” Storz
Chevron Refinery (510) 242-5555	Truck #60	2,000	95’ Aerial	750 g. 1%	1000 ft. 5” Storz
Phillips66 Refinery (510) 245-4475	Engine #7	3,500		800 g. 1%	1,000 ft. 5” Storz
TOTALS:		12,500 gpm		1,550 g. 1% 6,700 g. 3%	3,200 ft.

Marina Vista – Gate #75, Martinez

Thomas Brothers Map Page: Contra Costa County, Page #571 F-2
EMERGENCY (925) 313-3601

SHELL REFINERY - COMPANY SPECIFIC DATA

2000 Marina Vista Blvd. (Gate 75), Martinez, CA.

Thomas Brothers Map, Contra Costa County Page #571 F-2

Hydrant Type 2½" and 4" American La France

Engine #2

Pump capacity:	3,000 gpm
Foam:	1,000 g. National Foam 1x3%
Hose:	800 ft. 5" w/STORZ fittings 1,600 ft. 2½" 400 ft. 1½"
Manpower:	(2) operators
Hard suction:	6" NST (none carried)
Nursing capabilities:	Can nurse to other units
Special equipment:	2,000 gpm deck gun (1) Portable Akron Apollo 750 gpm fog monitor, (2) 2½" inlets (1) Portable 500 gpm Blitzfire monitor

NOTE: Will not be sent if Engine 3 is dispatched

Engine #3

Pump capacity:	3,000 gpm
Foam:	1,000 g. National Foam 1x3%
Hose:	700 ft. 5" w/STORZ fittings 1,500 ft. 2½" 400 ft. 1½"
Manpower:	(2) operators
Hard suction:	6" NST (none carried)
Nursing capabilities:	Can nurse to other units
Special equipment:	5,000 gpm deck gun (1) Portable Akron Apollo 750 gpm fog monitor, (2) 2½" (1) Portable 500 gpm Blitzfire monitor

NOTE: Will not be sent if Engine 2 is dispatched

Foam Tender

Foam:	4,000 g. National Foam 1x3%
Pump:	On board pump for foam transfer to other units.

Fast Attack Trucks 5 and 6

Dry Chem:	500 lbs. Purple K agent on Two Fast Attack Trucks
Deck Gun:	1000 gpm Akron Monitor
Portable monitors	500 gpm Blitzfire

Fast Attack Truck 7

Deck Gun:	2000 gpm monitor with dual 5" Storz inlets
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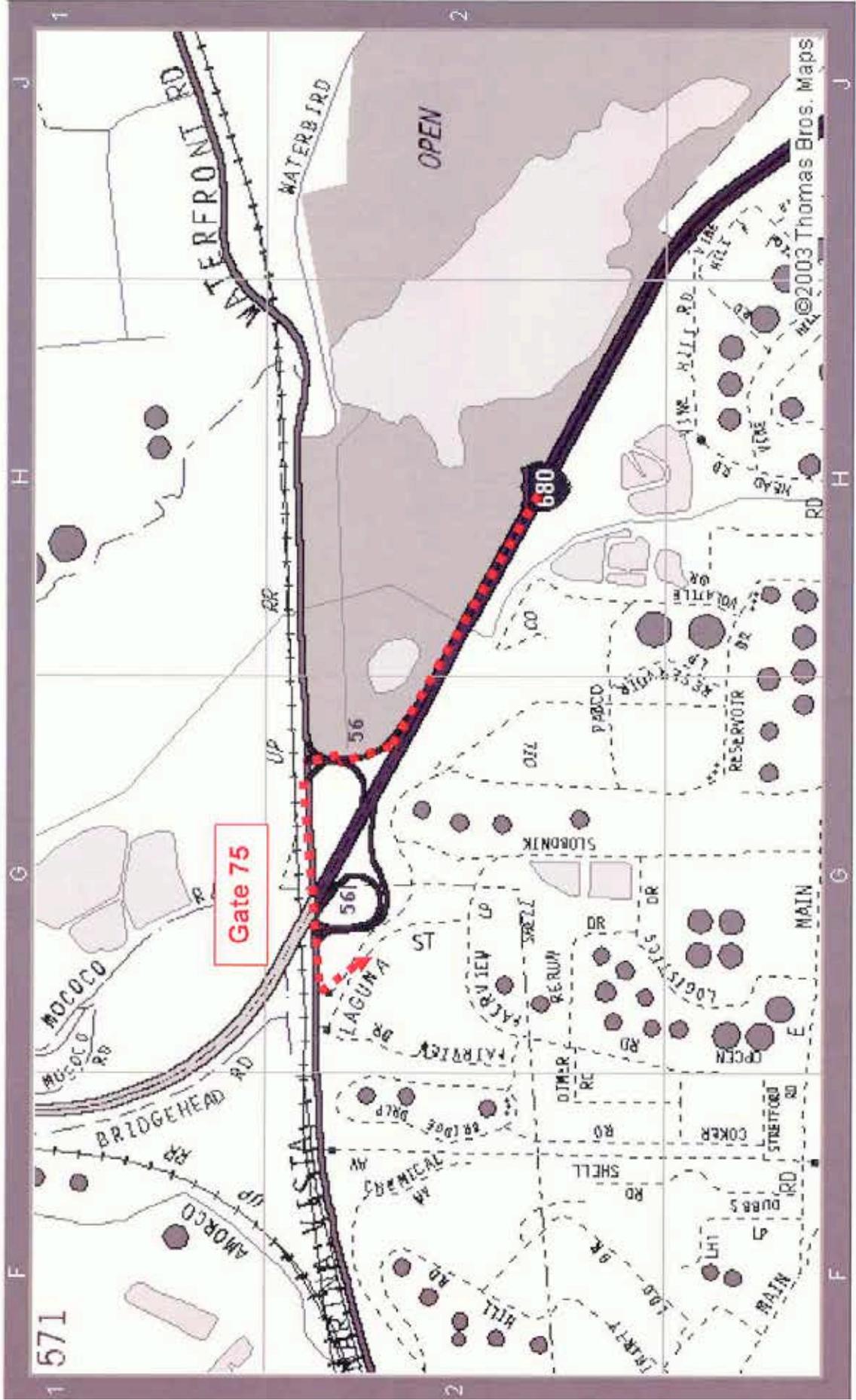
SHELL REFINERY – DIRECTIONS TO FACILITY

From Hwy 680, Northbound or Southbound, take the Marina Vista off-ramp.

At the bottom of the off-ramp, turn left (West).

Proceed west on Marina Vista approximately 0.15 miles from the 680 overpass, and turn left at Shell's Main Gate #75 (opposite Mococo Road).

See Map Next Page



SHELL REFINERY
 2000 Marina Vista Boulevard, Martinez
 (925) 313-3601

SHELL REFINERY – DIRECTIONS TO STAGING

Stage in the paved area just outside Gate 75. Directional signs are posted.

SOLVAY (RHODIA) “C” Tank Fires

Task Force “C”

SOURCE	ITEM	PUMP	LADDER	FOAM	HOSE
Chevron Refinery (510) 242-5555	HazMat Vehicle Level A Capabilities				
Valero Refinery (707) 745-7562	Engine #16	2,000		1,000 g. 3%	1,000 ft. 5” Storz
Shell Refinery (925) 313-3601 Ask for Security Communication Center	Engine #3 Quick Attack with 500 lb. Purple K	3000		1000 g. 1%	700 ft. 5” Storz
Tesoro Golden Eagle (925) 372-3120	Foam Aerial	1,500	75’ Aerial	1,000 g. 1%	500 ft. 5” Storz
TOTALS:		6,500 gpm		2,000 g. 1% 1,000 g. 3%	2,200 ft.

**SOLVAY is a non-responding company. PMAO Task
Force operates at request and direction of Contra
Costa County Fire Protection District**

100 Mococo Road, Martinez

Thomas Brothers Map Page: Contra Costa County, Page #571 G-1

EMERGENCY (925) 313-8240 or 313-8239

BUSINESS (925) 228-5530 FAX (925) 228-7636

**SOLVAY (RHODIA) “E”
Hazardous Materials Release
Task Force “E”**

SOURCE	ITEM	PUMP	LADDER	FOAM	HOSE
Chevron Refinery (510) 242-5555	HazMat 60 Level A Capabilities				
Shell Refinery (925) 313-3601 Ask for Security Communication Center	Engine #3	3000		1000 g. 1%	700 ft. 5" Storz
TOTALS:		3,000 gpm		1,000 g. 1%	700 ft.

**SOLVAY is a non-responding company. PMAO Task
Force operates at request and direction of Contra
Costa County Fire Protection District**

100 Mococo Road, Martinez
Thomas Brothers Map Page: Contra Costa County, Page #571 G-1
EMERGENCY (925) 313-8240 or 313-8239
BUSINESS (925) 228-5530 FAX (925) 228-7636

SOLVAY (RHODIA) – DIRECTIONS TO FACILITY

From I-680, exit at Marina Vista.

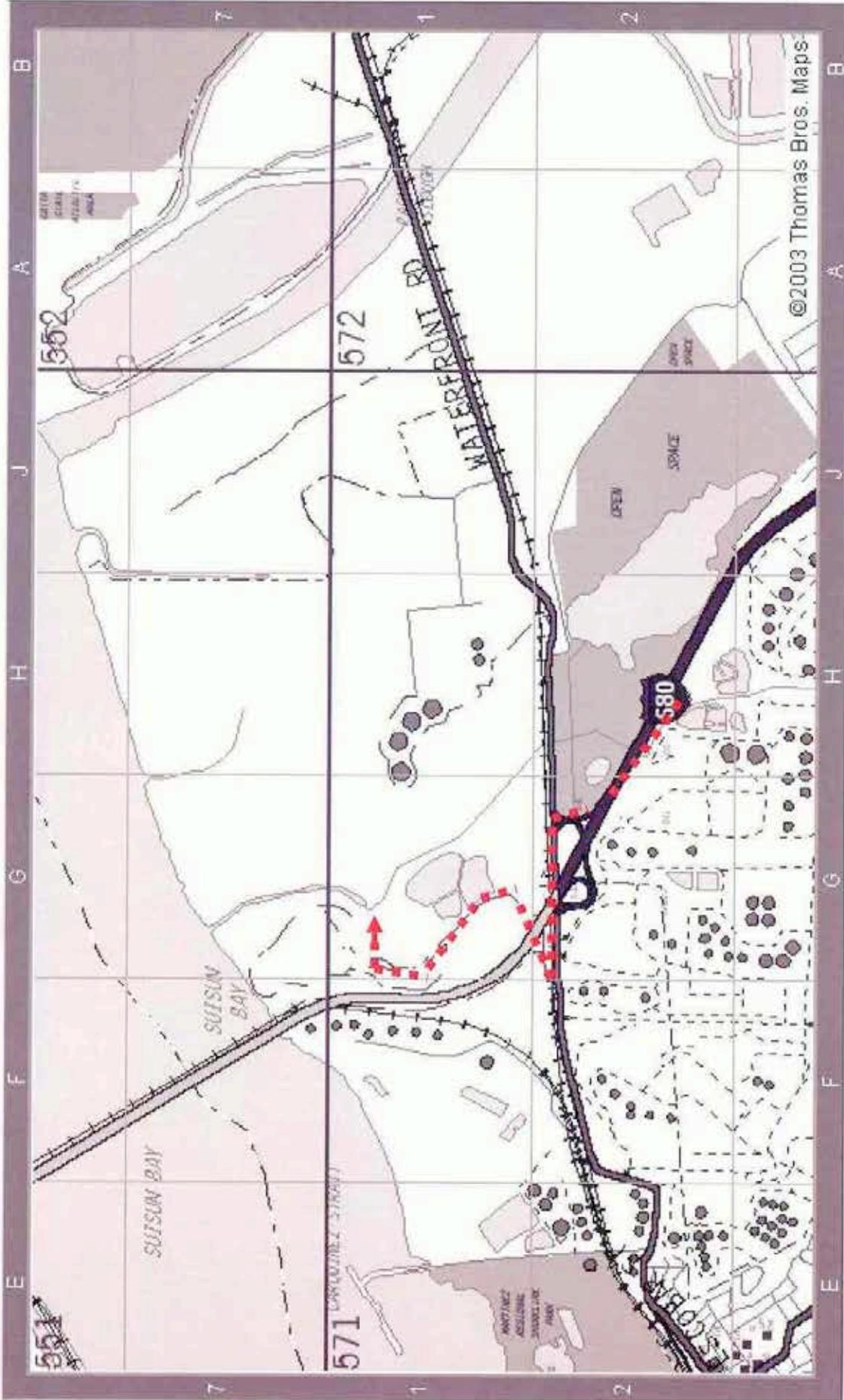
Proceed west at bottom of ramp towards town of Martinez.

Turn Right on Mococo Road (across from Shell Entrance).

Proceed to right on Mococo and take road to main gate (delivery).

Main gate has Knox box and remote control from Control Room.

See Map Next Page



RHODIA CHEMICAL PLANT
100 Mococo Road, Martinez
(925) 313-8240

SOLVAY (RHODIA) –DIRECTIONS TO STAGING

Staging area is located just inside main plant entrance, south of the Maintenance Building on the asphalt area.

TESORO GOLDEN EAGLE REFINERY "A"

Process Unit Fires

Task Force "A"

SOURCE	ITEM	PUMP	LADDER	FOAM	HOSE
Shell Refinery (925) 313-3601 Ask for Security Communication Center	Engine #3	3,000		1,000 g. 1%	800 ft. 5" Storz
	Foam Tender			4,000 g. 1%	
Valero Refinery (707) 745-7562	Truck #16	2,000	95' Aerial	700 g. 3%	800 ft. 5" Storz
	Foam Tender			4000 g. 3%	
Dow Chemical (925) 432-5555	Engine #1	1,500		1,000 g. 3%	600 ft. 5" hose w/4½" NST thread
PHILLIPS 66 Refinery (510) 245-4475	Engine #7	3,500		800 g. 1%	1,000 ft. 5" Storz
	Foam Tender	300		3,000 g. 1%	
Chevron Refinery (510) 242-5555	Truck #60	2,000	95' Aerial	750 g. 1%	1000 ft. 5" Storz
	Hose trailer				5000 ft. 5"
TOTALS:		12,000 gpm		9,550 g.1% 5,700 g. 3%	9,200 ft.

150 Solano Way, Martinez (Avon)

Thomas Brothers Map Page; Contra Costa County, Page #572 D-5
EMERGENCY (925) 372-3120, Fax (925) 372-3048

TESORO GOLDEN EAGLE REFINERY "B"

TANK FIRES

Task Force "B"

SOURCE	ITEM	PUMP	LADDER	FOAM	HOSE
Shell Refinery (925) 313-3601 Ask for Security Communication Center	Engine #3	3,000		1,000 g. 1%	800 ft. 5" Storz
	Foam Tender			4000 g. 1%	
Valero Refinery (707) 745-7562	5" Hose Trailer				3,500 ft. Storz
	6K Pump Trailer	6,000			
Dow Chemical (925) 432-5555	Engine #1	1,500		1,000 g. 3%	600 ft. 5" hose w/4½ NST thread
PHILLIPS 66 Refinery (510) 245-4475	Engine #7	3,500		800 g. 1%	1,000 ft. 5" Storz
	Foam Tender	300		3,000 g. 1%	
Chevron Refinery (510) 242-5555	Foam Pod			3000 g. 1%	5,000 ft. 5" Storz
	5" Hose Trailer				
TOTALS:		14,000 gpm		11,800 g. 1% 1,000 g. 3%	10, 900 ft.

150 Solano Way, Martinez (Avon)

Thomas Brothers Map Page; Contra Costa County, Page #572 D-5

EMERGENCY (925) 372-3120, Fax (925) 372-3048

TESORO GOLDEN EAGLE REFINERY - COMPANY SPECIFIC DATA

150 Solano Way, Martinez, Ca. 94553

Thomas Brothers Map: Contra Costa County Page #572 D-5

Hydrant Type: 2 ½", 4 ½", NST and 5" Storz.

Foam Aerial Truck: (T-1):

Discharge capacity: 1,500 gpm/1,000 gpm from ladder
Foam capacity: 1,000 gals. 1x 3% AFFF/ATC
Hose: 500 ft. of 5" Storz
1,000 ft. 3"(coupled 2 ½" NST)
400 ft. 1 ¾" (coupled 1 ½" NST)
Staffing: 2 Operators
Hard Suction: (none carried)
Nursing capabilities: Can nurse to other units
Special Equip: Various hose adapters
500-gpm automatic nozzle TFT Blitzfire Portable Monitor.
TFT Cross Fire portable monitor with 1,250 gpm automatic nozzle

Foam Engine: (E-1)

Discharge capacity: 3,500 gpm
Foam capacity: 1,000 gals. 1 x 3% AFFF/ATC
Hose: 1,000 ft. 5" Storz
1,000 ft. 3" (coupled 2 ½" NST)
400 ft. 1 ¾" (coupled 1 ½" NST)
Hard Suction: (4) 10 ft. x 5" Storz
Staffing: 2 Operators
Nursing capabilities: Can nurse to other units
Special equipment: 1,000-3,000 gpm Hydro-Foam deck gun
1250-gpm automatic nozzle TFT Crossfire portable monitor.
500-gpm automatic nozzle TFT Blitzfire Portable Monitor.

Foam Tender: (FT-1)

Foam capacity: 1,500 gals. 1 x 3% AFFF/ATC
Staffing: 2 Operators
Nursing capabilities: Can nurse to other units
Special equipment: Various interface pumping equipment, (2) 600 gallon drop tanks.

Special Trailer #1 (Super Pumper) 41 Ft Trailer*

Discharge capacity: 5,000 gpm
Foam capacity: 2,000 gals. 3 x 6% AFFF/ATC
Hose: 400 ft. 5" Storz
Hard Suction: (4) 5" x 20 ft. w/5" Storz Couplings & screens
(4) 5" x 10 ft. w/5" Storz Couplings
Staffing: 2 Operators
Nursing capabilities: Can gravity feed to other units
Special equipment: (2) 2000 gpm "Hired Gun" Deck Monitors
5" interface appliances

Special Trailer #2 (Foam Totes): 41 Ft Trailer*

Foam Capacity: 4,270 Gallons 3 x 6% AFFF/ATC in 14 totes. Totes are connected via common manifold.
Nursing Capabilities: 400 gpm Transfer Pump

Special Trailer #3 (Foam Totes & Hand Portable Monitors) 45 Ft Trailer*

Foam capacity: 4,000 Gallons 3 x 6% AFFF/ATC in 10 totes. Totes are connected via common manifold.
Nursing capabilities: 400 gpm foam transfer pump
Special Equip: (2) hand portable monitors with "Ranger 3" 1000- 3,000 gpm Hydro-Foam nozzles, associated fittings and JRC's

NOTE: Special Trailers 1, 2, &3 are drawn by the same tractor. If more than one of these trailers is requested, a delay may occur as a second tractor is prepared.

Special Trailer #4 (Pump on Small Trailer) 22 Ft Long Trailer

Discharge capacity: 5,000 gpm
Hard Suction: (8) 10 ft. sections w/ 5" Storz Couplings. Can provide suction screens on request.
Foam Proportioning Capable of around the pump foam proportioning up to 4000 gpm with 1% foam or 3000 gpm with 3% foam. Need external foam supply.
Staffing: 2 Operators

Hose Trailers:

BIG 5" Hose Trailer:

4000 Ft of 5" Storz hose in (8) 500 ft. beds. Can deploy up to 8 parallel lines.

3" Hose trailer

3,200 ft. 3" hose (coupled 2 ½" NST) flat laid in four 800 ft. beds. Can deploy up to 4 parallel lines. Good for foam lines to monitors.

Foam Wagons #1 & #2

750 Gallons of 1x3 AR-AFFF Foam each.

Can nurse to other units with Honda foam transfer pump @~ 50 gpm

Foam Wagon 1 also includes a 1000 gpm Hydrofoam deck gun, and a Williams around the pump Foam system to convert a standard engine to foam capability..

Additional Equipment:

Monitors:

- (1) Williams "Ambassador" 1000-6000 gpm Hydro-Foam / Hydro-Chem Trailer mounted monitor.
- (1) Williams "Ranger 3" 1,000-3,000 gpm Hydro-Foam Trailer mounted monitor.
- (1) Williams "Hired Gun" 2,000 gpm Hydro-Foam trailer monitor.
- (1) 4" "Daspit Tool" w/ 1,500 gpm automatic nozzle configured for tank rim mounting for seal fires.
- (1) Williams "Son of A Gun" 1000 gpm Hydrofoam / HydroChem small trailer monitor.
- (2) Williams "Wing Tank" Monitors – 1-3000 GPM Ranger 3 Nozzles on portable breakdown frames that can be disassembled and hand carried in to areas with limited access.

Foam proportioning support trailer:

- Trailer equipped for foam staging and JRC proportioning operation.
- Carries (4) 3000 gallon fol-da-tanks
- Ground tarps for tanks
- Tank foam fill adapter pipes
- 2" female cam-lock hard suction hoses with low level strainers
- (1) 30 gpm JRC with restriction valve for 10 gpm option
- (3) 60 gpm JRC's with restriction valve for 20 gpm option.

TESORO GOLDEN EAGLE REFINERY – DIRECTIONS TO FACILITY

From East Bound Hwy 4 (Chevron, ConocoPhillips, Shell, Valero)

**Take Hwy 4 East past Hwy 680
Take Solano Way Exit (First Exit past Hwy 680)
Turn Right (West) at the bottom of the off-ramp.
Proceed West to Solano Way and turn right at intersection.
Proceed North on Solano below Hwy 4 and continue straight through
intersection to South Gate.**

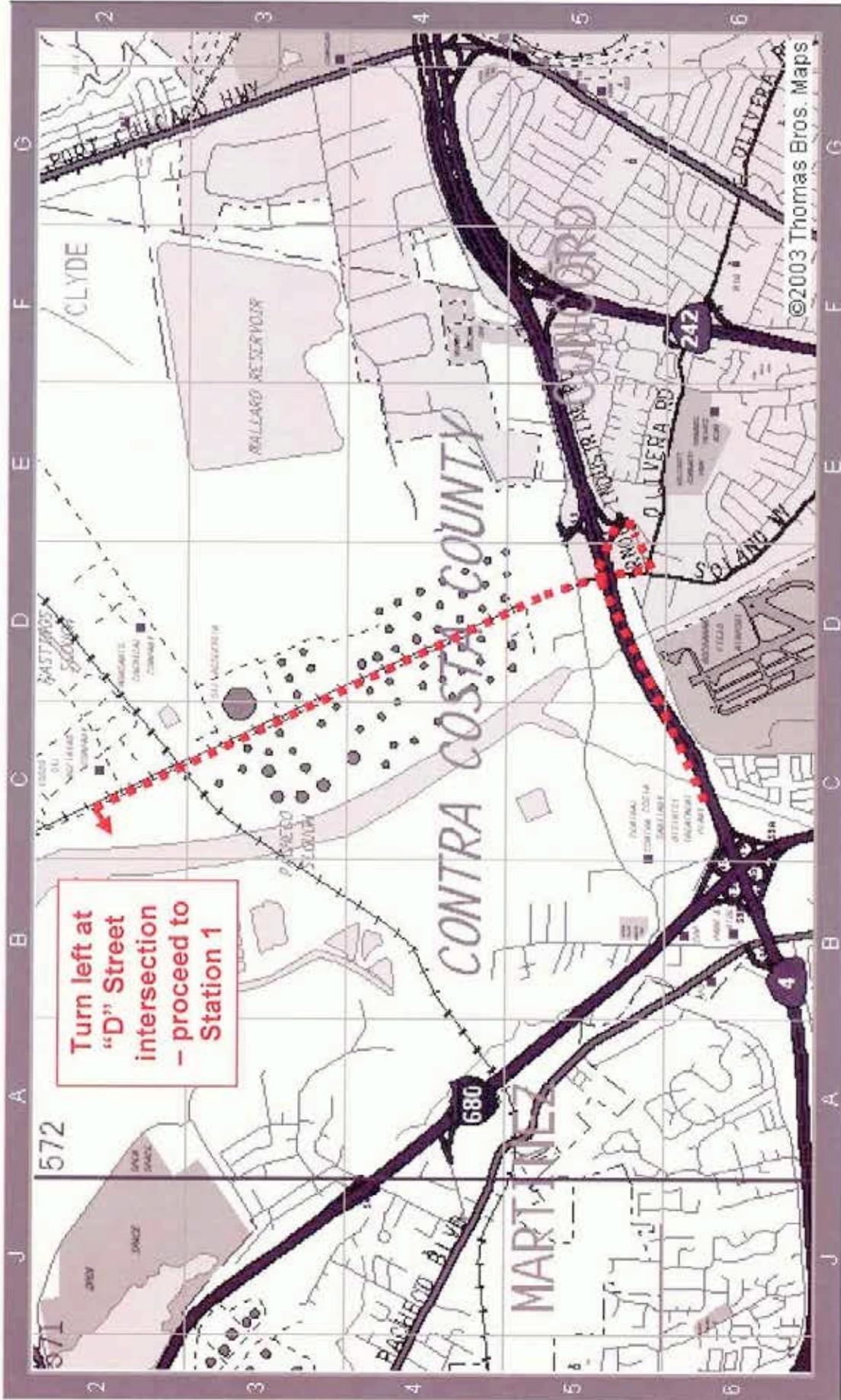
From West Bound Hwy 4 (Dow Chemical)

**Take Hwy 4 West Bound toward Martinez
Take Solano Way Exit
Turn Left (West) at the bottom of the off-ramp.
Proceed West on Arnold Industrial Way to Solano Way
Turn right at intersection of Solano Way and proceed to South Gate**

Alternative Entrance from Marina Vista (Shell, Valero, or if South Gate is Closed due to emergency)

**From Hwy 680, take Marina Vista Off-ramp
Turn right (East) on Marina Vista.
Marina Vista becomes Waterfront Road.
Continue East on Waterfront Road approximately 2 1/2 Miles.
Immediately past Pacheco Slough Bridge, you will enter North Gate.**

SEE MAP NEXT PAGE



Turn left at
 "D" Street
 intersection
 - proceed to
 Station 1

TESORO GOLDEN EAGLE REFINERY
 150 Solano Way, Martinez (Avon)
 (925) 372-3120

TESORO GOLDEN EAGLE REFINERY – DIRECTIONS TO STAGING

From South Gate: Proceed North on Solano Way Approximately 1 ½ miles. After crossing railroad bridge take second left turn at Storehouse gate. Proceed west (straight) from Storehouse gate and park in storehouse parking area or North of Station 1. Proceed to North East corner of Station 1 and Check-In

From North Gate: Proceed east to Solano Way (approximately 200 yards) Turn Right (South) on Solano and proceed approximately 8/10 of a mile. Turn Right (West) at Storehouse Gate and proceed toward Station 1. Park in storehouse parking area or North of Station 1. Proceed to North East corner of Station 1 and Check-In

Alternate Staging for Incident at Tesoro’s Amorco Wharf
Stage at Shell Refinery Gate 75 Location on Marina Vista, west of Hwy 680.

See Internal Map for Staging Location Next Page

Incident Communications Plan

Communications during incidents will be conducted on refinery trunked radio system. Responding Mutual Aid Companies will be assigned radios on an as needed basis (per apparatus) from refinery radio caches maintained at Fire Station and Spill Response Boat House in Tract 3. Channel Assignments will be as follows:

Command communications	H&S 1 Channel
Tactical communications and special operations	H&S 2 Channel
Command to EOC	H&S 1 Channel
Command to process operations supervision	Main Ops Channel
Command to process unit operators	Involved Unit Channel if not available through Planning Chief.

VALERO REFINERY “A” Process Unit Fires

Task Force “A”

SOURCE	ITEM	PUMP	LADDER	FOAM	HOSE
Shell Refinery (925) 313-3601 Ask for Security Communication Center	Engine #2	3,000		1,000 g. 3%	700 ft. 5” Storz
Tesoro Golden Eagle (925) 372-3120	Engine #1	3,500		1,000 g. 1%	1,000 ft. 5” Storz
Phillips66 Refinery (510) 245-4475	Engine #7	3,500		800 g. 1%	1,000 ft. 5” Storz
Chevron Refinery (510) 242-5555	Truck #60	2,000	95’ Aerial	750 g. 1%	1000 ft. 5” Storz
Dow Chemical (925) 432-5555	Engine #1	1,500		1,000 g. 3%	600 ft. 5” hose w/4½” NST thread
TOTALS:		13,500 gpm		2,550 g. 1% 2,000 g. 3%	4,300 ft.

3400 E. Second St., Benicia (Solano County)
Thomas Brothers Map Page: Contra Costa County, Page #572 D-5
EMERGENCY (707) 745-7562, BUSINESS (707) 745-7782

VALERO REFINERY “B” Tank Fires (Up to 150 Feet)

Task Force “B”

SOURCE	ITEM	PUMP	LADDER	FOAM	HOSE
Shell Refinery (925) 313-3601 Ask for Security Communication Center	Engine #2	3,000		1,000 g. 1%	700 ft. 5” Storz
Tesoro Golden Eagle (925) 372-3120	Engine #1	3,500		1,000 g. 1%	1,000 ft. 5” Storz
Phillips66 Refinery (510) 245-4475	Foam Tender	300		3,000 g. 1%	
Chevron Refinery (510) 242-5555	Hose Trailer				5000 ft. 5” Storz
Dow Chemical (925) 432-5555	Engine #1	1,500		1,000 g. 3%	600 ft. 5” hose w/4½” NST thread
TOTALS:		8,000 gpm		5,000 g. 1% 1,000 g. 3%	7,300 ft.

3400 E. Second St., Benicia (Solano County)
Thomas Brothers Map Page: Contra Costa County, Page #572 D-5
EMERGENCY (707) 745-7562, BUSINESS (707) 745-7782

VALERO REFINERY “C” Tank Fires (Up to 250 Feet)

Task Force “C”

SOURCE	ITEM	PUMP	LADDER	FOAM	HOSE
Shell Refinery (925) 313-3601 Ask for Security Communication Center	Foam Tender			4,000 g. 1%	
Tesoro Golden Eagle (925) 372-3120	Engine #1	3,500		1,000 g. 1%	1,000 ft. 5” Storz
PHILLIPS 66 Refinery (510) 245-4475	Ambassador Monitor 1x6				
Chevron Refinery (510) 242-5555	Hose Trailer				5000 Ft 5” Storz
Dow Chemical (925) 432-5555	Engine #1	1,500		1,000 g. 3%	600 ft. 5” hose w/4½” NST thread
TOTALS:		5,000 gpm		5,000 g. 1% 1,000 g. 3%	6,600 ft.

3400 E. Second St., Benicia (Solano County)

Thomas Brothers Map Page: Contra Costa County, Page #572 D-5

EMERGENCY (707) 745-7562, BUSINESS (707) 745-7782

VALERO REFINERY - COMPANY SPECIFIC DATA

3400 East Second Street, Benicia, CA

OR 610 Industrial Way, Benicia, CA

Thomas Bros. Map: Contra Costa County Page #551 C-2

Hydrant Type: 2½" NST & 4½" NST

Engine #16:

Discharge capacity:	2,000 gpm Foam Pumper, 1,000 g. 3x3 AFFF/ATC Foam Williams Balance Pressure System
Hose:	1,000 ft. 5" hose
Manpower:	(1) operator, (3) Firefighters

Truck #16:

Discharge capacity:	2,000 gpm pump with a 95 ft. aerial
Foam:	700 g. 1x3% AFFF/ATC Foam Hot Shot II Foam System
Hose:	800 ft. 5" hose
Manpower:	(2) Operators (2) Firefighters

Foam Tender:

Discharge capacity:	4,000 g. 3x3% AFFF/ATC Foam Concentrate Tender with 150 gpm pump
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"Big Sucker:"

Discharge capacity:	5,000 gpm diesel pump trailer, with drafting capabilities. (4) 5" discharges
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"6K Pump"

Discharge capacity:	6,000 gpm diesel pump trailer with drafting capabilities. (6) 5" Discharges
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"Six Gun:"

Discharge capacity:	1,000 to 6,000 gpm Hydro-foam Nozzle Trailer, with matching JRC's for foam.
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Hose Trailers:

- (1) 5" hose trailer with 3,500 ft. of 5" hose with Storz couplings
- (2) Portable hydrants with (4) 2½" outlets
- (1) 3" hose trailer with 1,600 ft. of 3" hose with 2½" couplings

VALERO REFINERY– DIRECTIONS TO STAGING

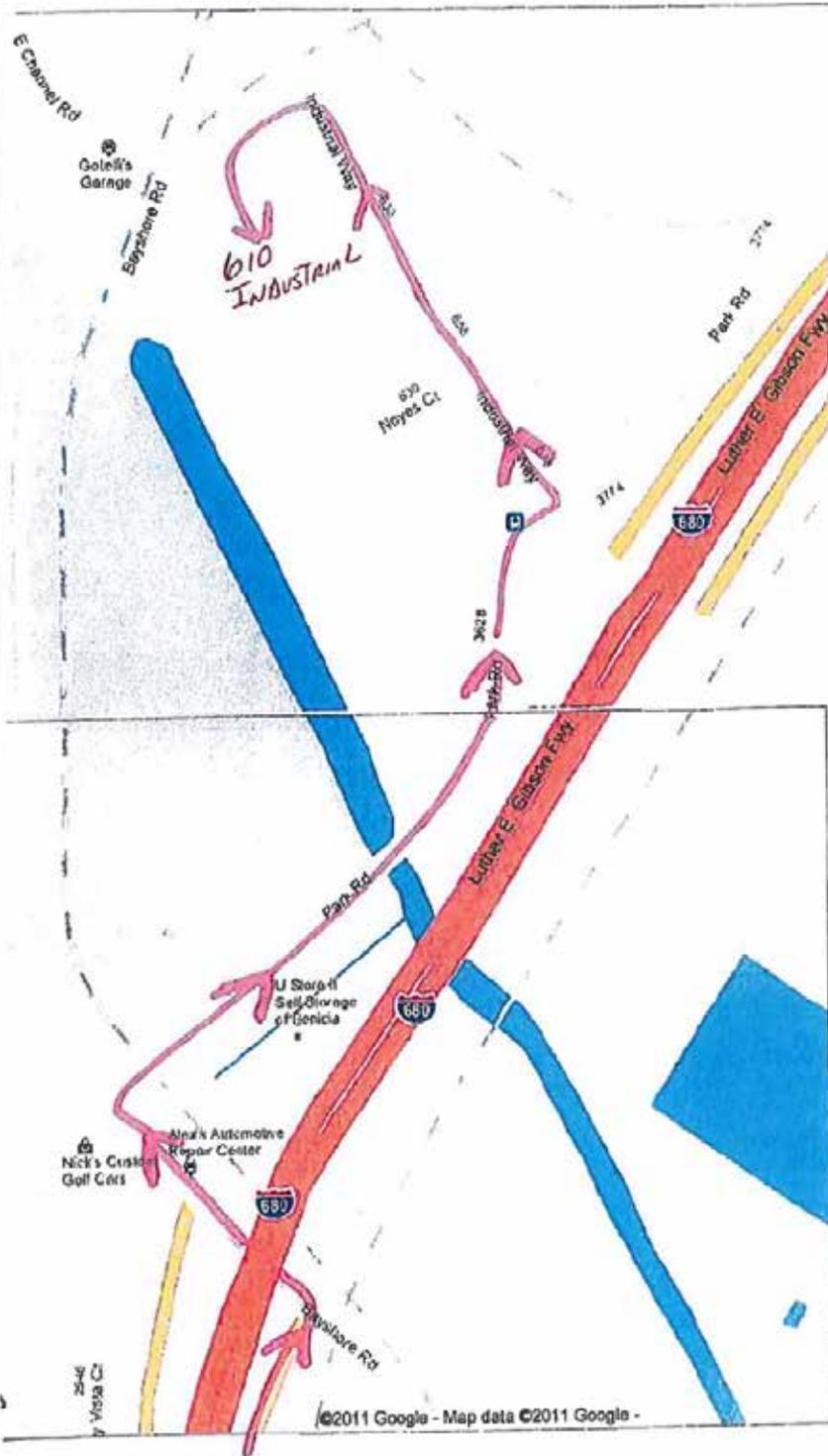
610 INDUSTRIAL WAY, BENICIA CA

Valero Benicia Staging Directions:

- I-680 North to Sacramento
- Travel over the Benicia Bridge
- Exit Bayshore Rd., (1st Solano County Exit after the Bridge)
- Turn left at the Stop sign on to Bayshore Rd
- Turn Right at the next Stop Sign on to Park Rd
- Turn Left at the next Stop sign on to Industrial Way
- Travel ~1/4 mile to the staging area on the left side of Industrial Way

Directions to Alternate Staging (Main Gate) :

From Hwy 680 North bound cross Benicia/ Martinez Bridge.
Merge toward left lanes to take Hwy 780 West toward Benicia / Vallejo.
Proceed West on Hwy 780 approximately 1.2 miles.
Take the E. Second St Exit (Exit 5) toward Central Benicia
Stay straight to go on to E 2nd St.
Proceed East on E 2nd St approximately 1.2 miles to main entrance to refinery.



Valero Refinery Staging	
•	I-680 North to Sacramento
•	Cross the Benicia bridge to Sac
•	Exit Bayshore (1 st exit in Solano County)
•	Turn left on to Bayshore at the stop sign
•	Turn Right at next Stop sign (Park Road)
•	Turn left at next Stop sign (Industrial Way)
•	Travel ~1/4 mile to Staging Area on left side on Industrial way
•	Staging Area address "610 Industrial Way"

SACRAMENTO – STOCKTON AREA TERMINALS TASK FORCE Tank Fire (Up to 140 Feet)

SOURCE	ITEM	PUMP	LADDER	FOAM	HOSE
Valero Refinery (707) 745-7562	Engine 16 w/ portable monitors	2000		1000 3x3	1000 ft. 5" Storz
Shell Refinery (925) 313-3601 Ask for Security Communication Center	(2) Quick Attack Dry Chem Trucks w/ 1000 gpm deck guns			500 # Dry Chem Each	
Tesoro Golden Eagle Refinery (925) 372-3120	Engine #1 Foam Trailer 3	3500		1,000 g. 1x3 4,000 g <u>3x6</u>	1000 ft. 5" Storz
PHILLIPS 66 Refinery (510) 245-4475	Engine #7 Foam Tender	3500		800 g 1x3 3000 g. 1x3	1000 ft. 5" Storz
Chevron Refinery (510) 242-5555	Foam Pod			3,000 g. 1x3	
Dow Chemical (925) 432-5555	Available on second alarm assignment				
TOTALS:		9,000		7800 g 1x3 5000 g 3x6	3000 Ft 5" Storz

Substitution Apparatus

Foam Engine – Shell Engine 2 3000 gpm, 1000 g 1x3. Note if Shell Deploys Foam Engine, they will only send 1 Quick Attack Dry Chemical Truck.

Foam Tender – Valero 4000 g 3x3

TERMINAL RESPONSE CONTACT INFORMATION

SACRAMENTO AREA

TERMINAL	ADDRESS	THOMAS GUIDE PAGE NUMBER	Local Fire Dept. Emerg. No.
Arco	1701 South River Road West Sacramento	296-J5	(916) 375-6474 West Sac FD
Shell	1509 South Road West Sacramento	296-J5	(916) 375-6474 West Sac FD
Chevron	2420 Front Street Sacramento	297-A5	(916) 433-1300 Sac City FD
PHILLIPS 66	76 Broadway Sacramento	297-A5	(916) 433-1300 Sac City FD
Kinder Morgan (Sacramento)	2901 Bradshaw Road Rancho Cordova	299-C5	(916) 566-4000? Sac Metro FD
Kinder Morgan (Rocklin)	6050 Pacific Street Rocklin	32-C27	(916) 625-5300 Rocklin FD
Sacramento Int'l Airport	6900 Airport Blvd. Sacramento CA 95837	Sac County Pg. 256	(916) 806-5323 Sac County Airport System Fire Division

STOCKTON AREA

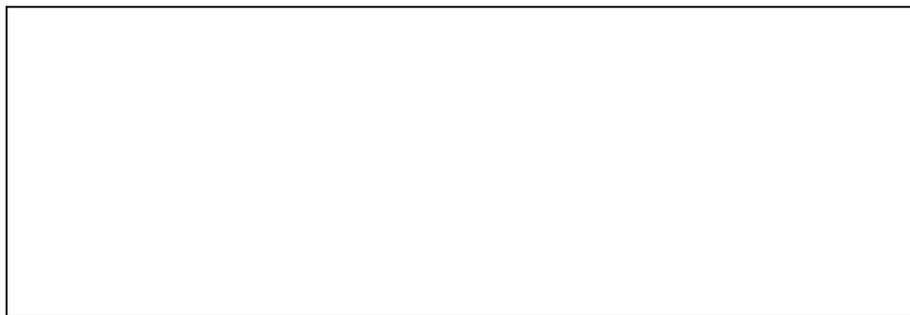
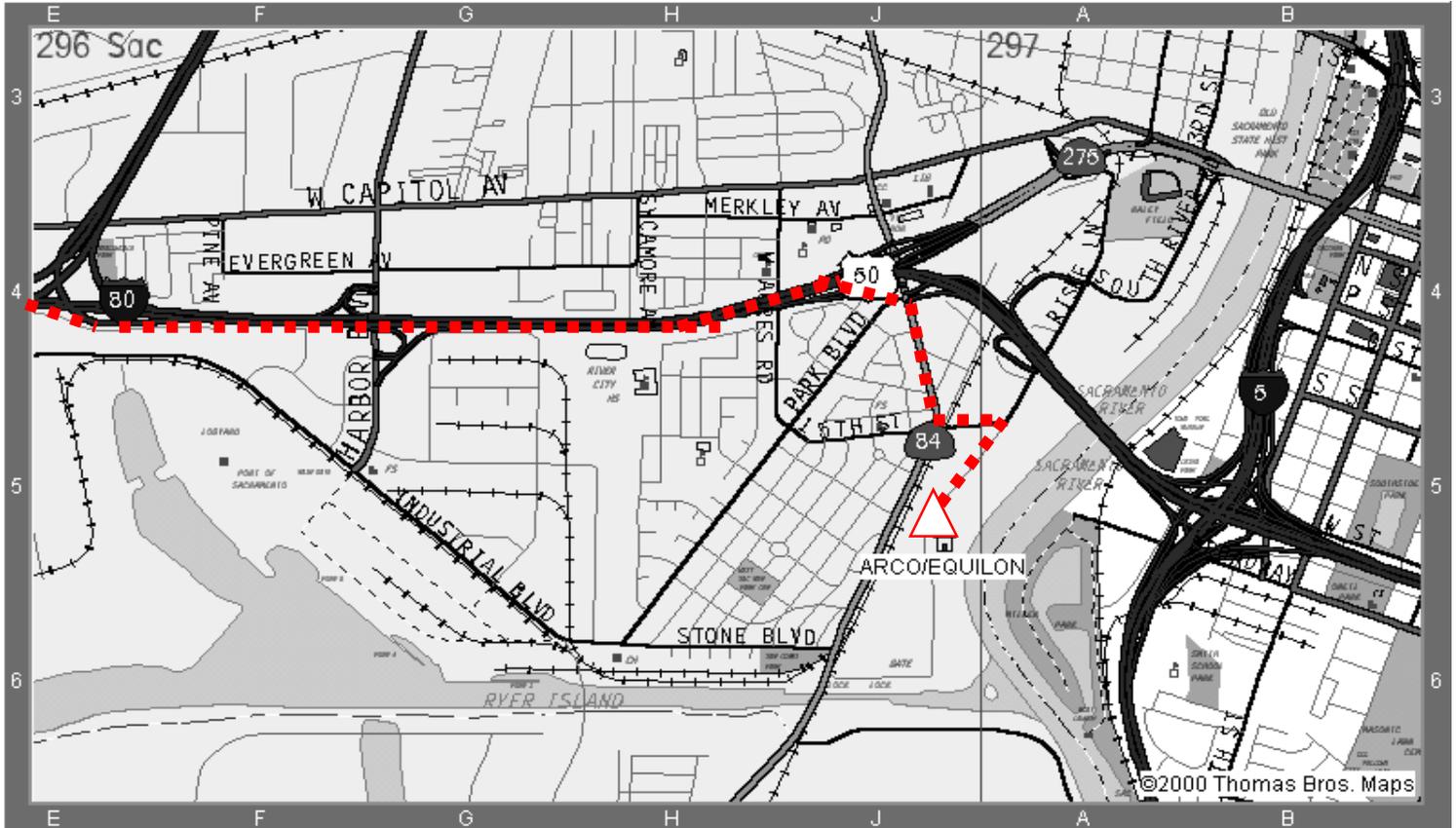
TERMINAL	ADDRESS	THOMAS GUIDE PAGE NUMBER	Local Fire Dept. Emerg. No.
Arco	2700 W. Washington	344 – B7	(209) 464-4648 Stockton FD
Kinder Morgan	2947 Navy Dr.	364 – B1	(209) 464-4648 Stockton FD
Shell	3515 Navy Dr.	343 – J6	(209) 464-4648 Stockton FD
Tesoro	3003 Navy Dr.	364 - B1	(209) 464-4648 Stockton FD
NuStar #1	2941 Navy Dr.	364 – B1	(209) 464-4648 Stockton FD
NuStar #2	3015 Navy Dr.	364 – B1	(209) 464-4648 Stockton FD
NuStar #3	3505 Navy Dr.	343 – J6	(209) 464-4648 Stockton FD

ARCO/SHELL – SACRAMENTO

Jefferson Exit

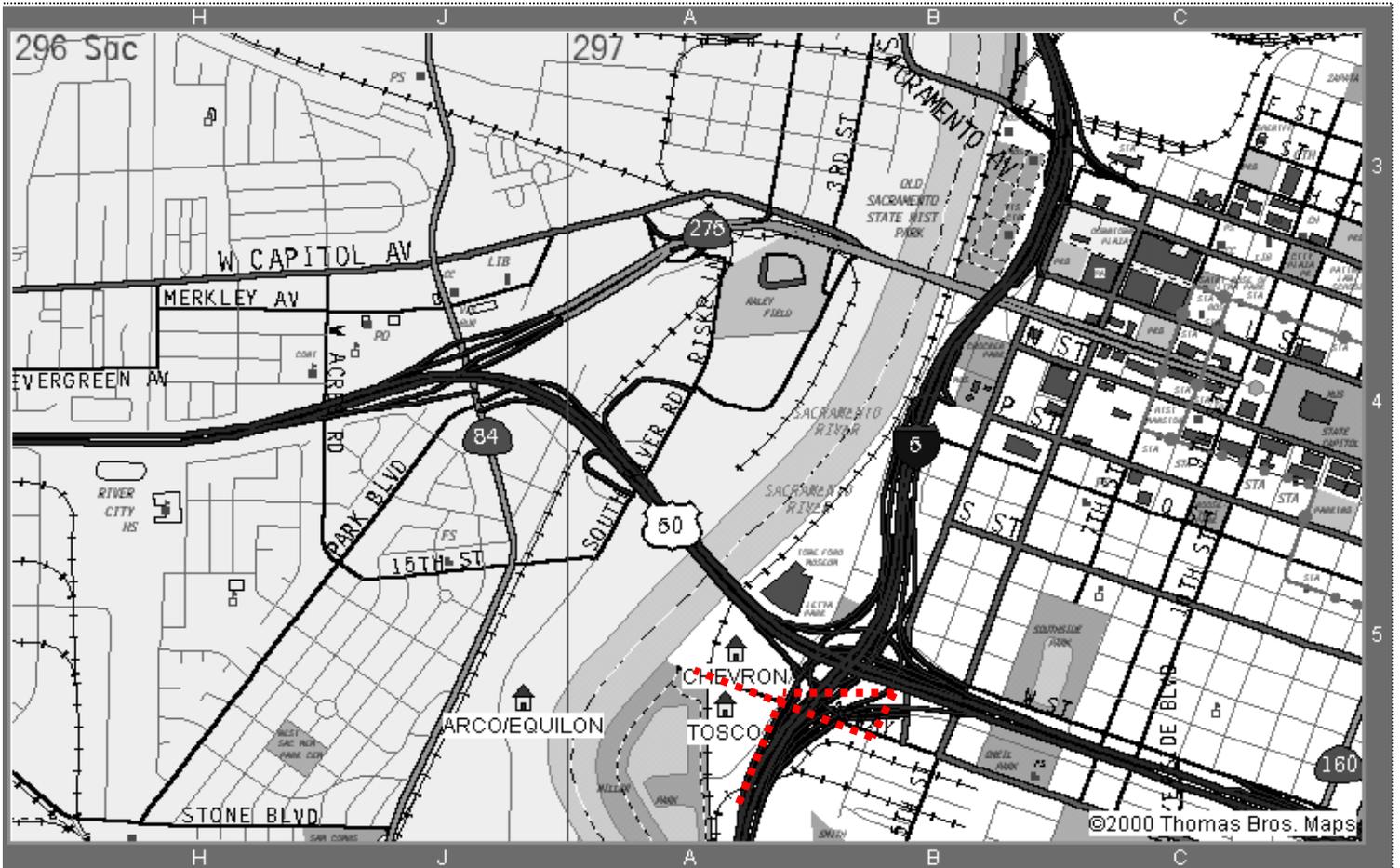
Right on Jefferson Boulevard, Left on 15th

Street DIRECTIONS TO ARCO/SHELL Right on South River Road SACRAMENTO REGION

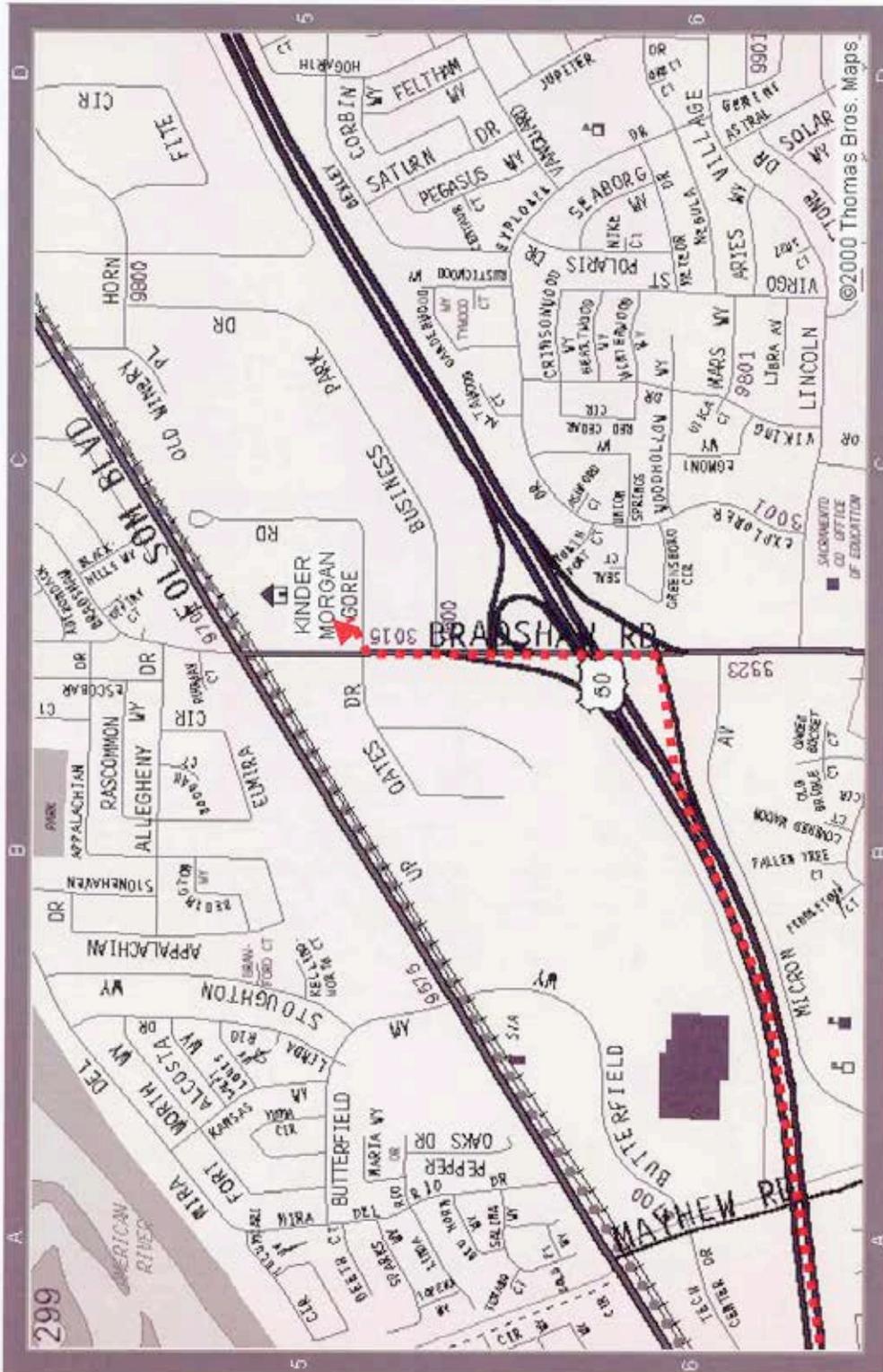


PHILLIPS 66 AND CHEVRON – WEST SACRAMENTO
5th Street Exit, Right on 5th Street, Right on Broadway
Left on Front Street to PHILLIPS 66
Right on Front Street to Chevron

DIRECTIONS TO PHILLIPS 66/CHEVRON SACRAMENTO REGION

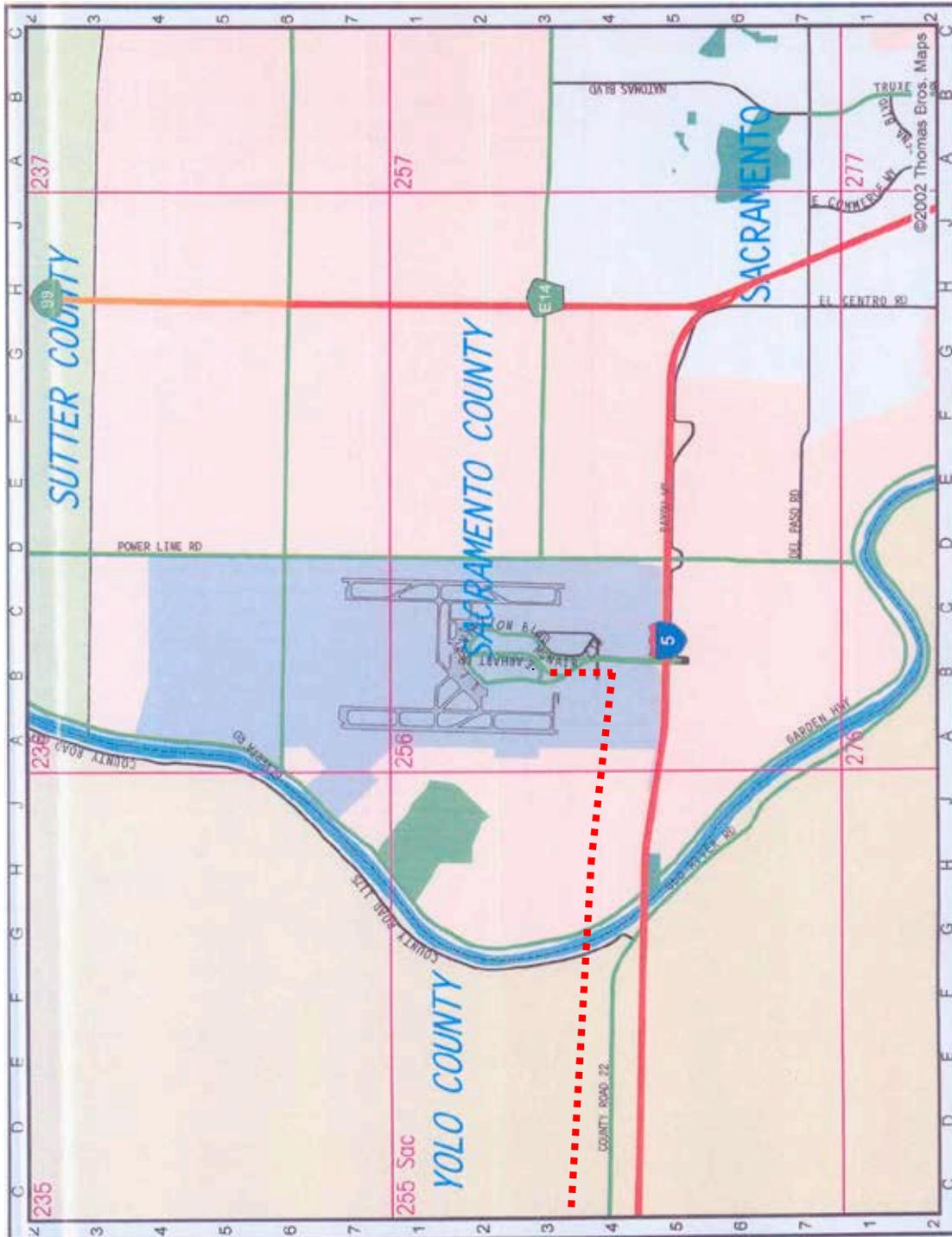


DIRECTIONS TO KINDER MORGAN SACRAMENTO REGION



KINDER MORGAN - SACRAMENTO
Bradshaw Exit – Left on Bradshaw

DIRECTIONS TO SACRAMENTO INTERNATIONAL AIRPORT



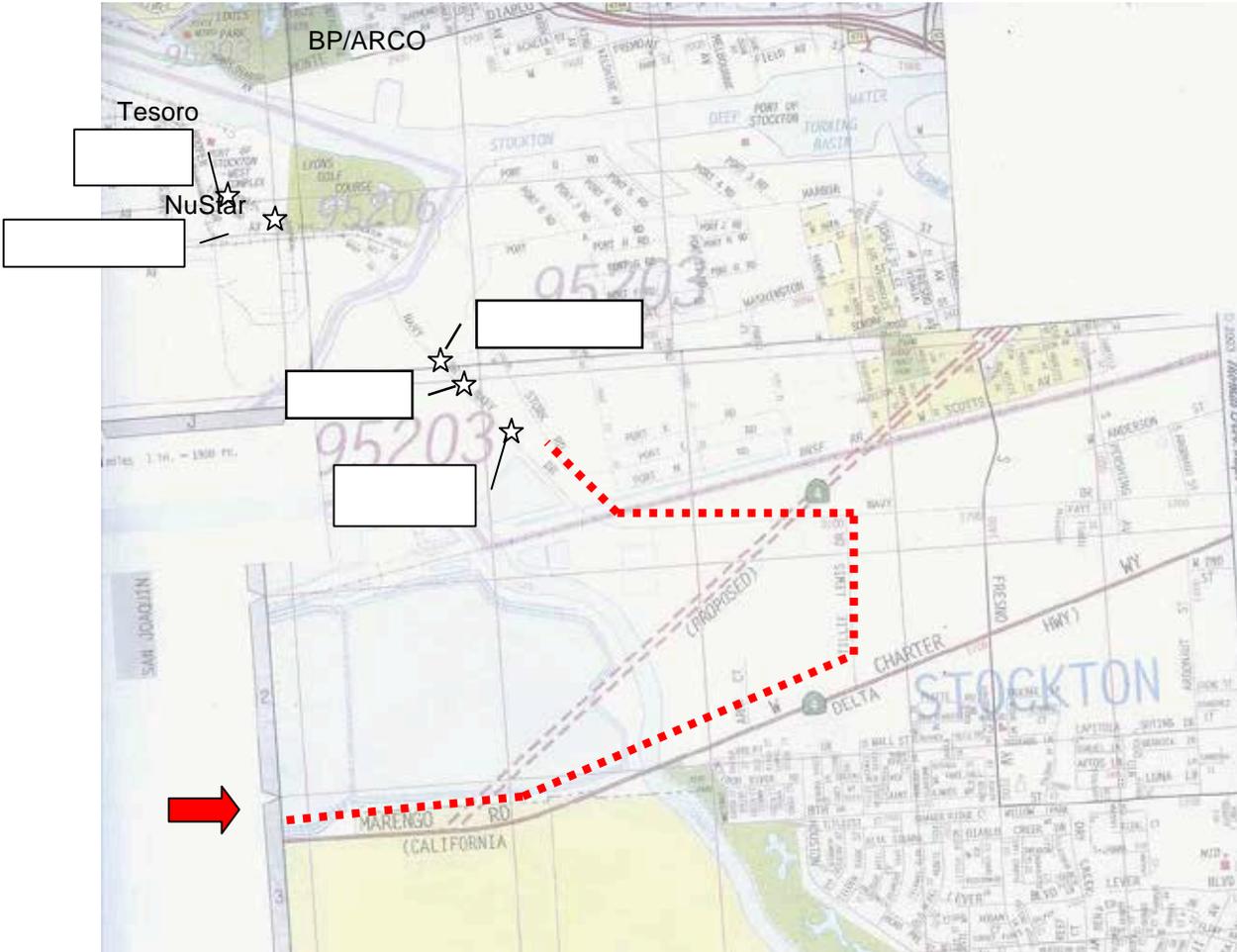
- I-80 E toward Sacramento.**
- Take 113 North Toward Woodland.**
- Take Main St. Exit toward Woodland**
- Turn right on E Main St.**
- Merge on to I-5 South to Airport. Turn Left on Airport Blvd.**

DIRECTIONS TO KINDER MORGAN - ROCKLIN



I-80 East past Sacramento and Roseville, toward Rocklin
Take Taylor Rd. Exit toward Rocklin
Turn slightly right onto Taylor
Taylor becomes Pacific (6050 Pacific Street, Rocklin)

DIRECTIONS TO STOCKTON TERMINALS



- Take Hwy 4 East bound from Martinez
- Exit on Lone Tree Way (in Antioch) Go right (south / east) ~ 5 Miles
- Turn right on HWY 4 Bypass
- Turn Left on Balfour Road
- Turn Right on Hwy 4 / Calif. Delta Hwy Go east ~ 24 miles
- Turn Left On Tillie Lewis Drive
- Turn Left on Navy Drive

Terminals are clustered nearby on or around Navy Drive

Contra Costa County Fire Protection District Mutual Aid Request

East Contra Costa County: Pittsburg, Antioch, Oakley areas

TASK FORCE “A”

Dow Chemical (925) 432-5555	Foam Engine #1 1,000 g. 3%
Tesoro Golden Eagle (925) 372-3120	Foam Aerial Truck 1,000 g. 1%
Valero Refinery (707) 745-7562	Foam Tender 4,000 g. 3%
Special move-up: Shell Refinery (925) 313-3601	Foam Engine to cover Dow Chemical fire station for facility coverage.

Central Contra Costa County: Martinez, Concord, Walnut Creek, San Ramon, Moraga

TASK FORCE “B”

Shell Refinery (925) 313-3601	Engine #2 1,000 g. 1%
Tesoro Golden Eagle (925) 372-3120	Foam Aerial Truck 1,000 g. 1%
Valero Refinery (707) 745-7562	Foam Tender 4,000 g. 3%

West Contra Costa County: Crockett, Pinole/Hercules, Richmond, Berkeley, Oakland

TASK FORCE “C”

PHILLIPS 66 Refinery (510) 245-4475	Foam Engine #7 800 g. 1%
Chevron Refinery (510) 242-5555	Foam Aerial Truck 60 750 g. 1%
Valero Refinery (707) 745-7562	Foam Tender 4,000 g. 3%

Contra Costa County Fire Dispatch: (925) 933-1313

Solano County Fire Mutual Aid Request

Solano County Mutual Aid: Benicia, Vallejo, Cordelia, Fairfield, Vacaville

TASK FORCE “D”

Valero Refinery (707) 745-7562	Foam Engine #16 1,000 g. 3%
Shell Refinery (925) 313-3601	Foam Tender 4000 g 1%
Tesoro Golden Eagle (925) 372-3120	Foam Aerial Truck 1,000 g. 1%

Solano County Dispatch: (707) 421- 7090

Marin County Fire Mutual Aid Request

TASK FORCE “E”

Chevron Refinery (510) 242-5555	Foam Pod 3,000 g. 1%
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Marin County Dispatch: (415) 479-2311

PETRO-CHEMICAL MUTUAL AID EQUIPMENT SUMMARY

CHEVRON REFINERY

Emergency (510) 242-5555

EQUIPMENT	PUMP	LADDER or NOZZLE	FOAM	SUPPLY HOSE
Engine #60	2,000 gpm		500 g. 1%	1,000 ft. 5" Storz
Foam Engine #60	3,500 gpm		1,200 g. 3%	1,000 ft. 5" Storz
Truck #60	2,000 gpm	95' extension	750 g. 1%	900 ft. 5" Storz
Foam Pod			3,000 g. 1%	
Hose Trailer				5,000 ft. 5" Storz
Monitor #60	(2) 1,000 gpm	Hydro-Foam Nozzles		500 ft. 5" Storz
Monitor Trailer	2,000 gpm	Hydro-Foam Nozzle		
HazMat #60	Level "A"/"B" Entry suits, Leak control kits, SCBA equipment, and Decon equipment.			

DOW CHEMICAL

Emergency (925) 432-5555

EQUIPMENT	PUMP	LADDER or NOZZLE	FOAM	SUPPLY HOSE
Engine #1	1,500 gpm		1,000 g. 3%	600 ft. 5" w/4½" NST
Engine #2	1,250 gpm		No foam	600 ft. 5" w/4½" NST

PHILLIPS 66 REFINERY Emergency (510) 245-4475

EQUIPMENT	PUMP	LADDER or NOZZLE	FOAM	SUPPLY HOSE
Foam Engine #7	3,500 gpm		800 g. 1%	1,000 ft. 5" Storz
Foam Engine	1,250 gpm		1,000 g. 3%	450 ft. 5" Storz
Foam Tender	300 gpm		3,000 g. 1%	
Monitor Truck P/U	2,000 gpm Hydro-Foam/Chem Nozzle			200 ft. 5" Storz
Ambassador Monitor	1-6000 gpm hydro foam nozzle			
(2) Screaming Eagle portable monitors	150-1500 gpm nozzles			

SHELL REFINERY

Emergency (925) 313-3601

EQUIPMENT	PUMP	LADDER or NOZZLE	FOAM	SUPPLY HOSE
Engine #2	3,000 gpm		1,000 g. 1% National Foam 1x3	800 ft. 5" Storz 1600 ft. 2½ "
Engine #3	3,000 gpm		1,000 g. 1% National Foam 1x3	800 ft. 5" Storz
Foam Tender			4000 g. 1% National Foam 1x3	
Two Quick Attack Units 500 lb. Purple K Extinguisher Unit, 1000GPM Deck Guns and 500 gpm Blitzfire monitors				

TESORO REFINERY

Emergency (925) 372-3120

EQUIPMENT	PUMP	LADDER or NOZZLE	FOAM	SUPPLY HOSE
Engine #1	3,500 gpm		1,000 g. 1%	1,000 ft. 5" Storz
Foam Aerial	1,500 gpm	75' Aerial	1,000 g. 1%	500 ft. 5" Storz
Special Trailer #1 41 Ft long trailer	5,000 gpm pump. Can Draft	(2) 2,000 gpm Hydrofoam monitors	2,000 g. 3%	400 ft. 5" Storz 80 ft. 5" draft Hose
Special Trailer #2 41 ft. long trailer	400 gpm transfer pump		4,270 g. 3%	
Special Trailer #3 45 Ft long trailer	400 gpm transfer pump		4,000 g. 3%	
Special Trailer #4 22 ft. long trailer	5000 gpm pump. Can Draft		N/A	(8)10' lengths 5" draft hose
Foam Tender	~300 gpm		1,500 g. 1%	
5" Hose Trailer				4000 ft. 5" Storz
3" Hose Trailer				3200 ft. 5" Storz
Ford Tractor	Tows Special Trailers 1,2,3			
Ambassador Monitor	1000 – 6000 GPM Trailer Mounted Monitor			
<p>***Note: Engine and Aerial will not be dispatched simultaneously</p> <p>***Note: Special Trailer #1 has (2) 2,000 gpm Hydro-Foam Deck Guns Special Trailer #3 has (2) 1-3,000 gpm hand portable Hydro-Foam Monitors</p>				

VALERO REFINERY

Emergency (707) 745-7562

EQUIPMENT	PUMP	LADDER or NOZZLE	FOAM	SUPPLY HOSE
Engine #16	2,000 gpm		1,000 g. 3%	1,000 ft. 5" Storz
Truck #16	2,000 gpm	95' aerial	700 g. 1%	800 ft. 5" Storz
Foam Tender	150 gpm		4,000 g. 3%	900 ft. 5" Storz
Big Sucker	5,000 gpm Portable Pump Unit			
6 K Pump	6000 gpm portable pump unit. (6) 5" Discharges			
5" Hose Trailer				3,500 ft. 5" Storz
3" Hose Trailer				1,300 ft. 2½" coupling
Six Gun	2,000-6,000 gpm Portable Monitor			

FIRE DEPARTMENTS

Benicia Fire Dept.
250 East "L" St.
Benicia, CA 94510

Emergency (707) 745-3412
Business: (707) 746-4275
Fax: (707) 745-4425

Contra Costa Fire Prot. Dist.
2010 Geary Rd.
Pleasant Hill, CA 94523

Emergency (925) 933-1313
Business (925) 930-5500
Fax (925) 930-5593

Crockett/Carquinez Fire Dist.
746 Loring Ave.
Crockett, CA 94525

Emergency (510) 787-1313
Business (510) 787-2717
Fax (510) 787-2723

Federal Fire Department Concord
410 Norman Ave.
Concord, California 94520

Emergency: (925) 246-3911
Business: (925) 246-4075
Fax: (925) 246-4073

Oakland Fire Dept.
1605 Martin Luther King St.
Oakland, CA 94612

Emergency (510) 444-1616
Business (510) 238-3856
Fax (510) 273-2284

Richmond Fire Dept.
330 25th St.
Richmond, CA 94804

Emergency (510) 620-6901
Business (510) 307-8031
Fax (510) 307-8048

Rocklin Fire Dept.
4060 Rocklin Rd
Rocklin, CA 95677

Emergency: (916) 632-4093 (for
Cell phone call in)
Business: (916) 625-5300
Fax: (916) 625-5303

Rodeo/Hercules Fire Dist.
1680 Refugio Valley Rd.
Hercules, CA 94525

Emergency (510) 724-1111
Business (510) 799-4561
Fax (510) 799-0395

Sacramento (City) Fire Dept
5770 Freeport Blvd.
Sacramento, CA 95822

Emergency (916) 228-3000
Business (916) 433-1300
Fax (916) 433-1629

Sacramento County Airport System
Aircraft Rescue Firefighting Division
Airport Address
6900 Airport Blvd
Sacramento CA 95837

Emergency Contact: Shift B/C.
Office (916) 874-0757
Cell (916) 224-8366
Info. Contact: Tim Anderson
Office (916) 874-0630
Cell (916) 806-5323
Fax (916) 874-0728

Sacramento Metro (County) Fire Dist.
2101 Hurley Way
Sacramento, CA 95825-3208

Emergency (916) 228-3000
Business (916) 566-4000
Fax (916) 566-4200

San Francisco Fire Dept.
260 Golden Gate Ave.
San Francisco, CA 94102

Emergency (415) 558-3268
Business (415) 558-3400
Fax (415) 558-3290

San Ramon Valley Fire Department
1500 Bollinger Canyon Road
San Ramon, CA 94583
Haz Mat Coordinator - Sean Grayson

Emergency (925) 838-6691
Business (925) 838-6640
Station 32 (925) 838-6632

Solano County Dispatch
530 Union Ave.
Fairfield, CA 94533

Emergency (707) 421-7090
Business (707) 421-7090
Fax (707) 421-7952

Stockton Fire Department
524 N. El Dorado St.
Stockton, CA 95206

Emergency (209) 464-4648
Business (209) 937-8801
Fax* (209) 463-6707
* Call before faxing

Vallejo Fire Dept.
1220 Marin St.
Vallejo, CA 94590

Emergency (707) 648-4587
Business (707) 648-4321
Fax (707) 648-5290

West Sacramento Fire Department
2040 Lake Washington Blvd.
West Sacramento, Ca 95691

Emergency 916-375-6474
Business 916-617-4600
Fax 916-371-5017

AGENCY CONTACTS

California Highway Patrol

1551 Benicia Rd.
Vallejo, CA 94590

Emergency & Business:

(707) 551-4100

*(select 1)

Fax (707) 551-4109

California E.M.A.

P.O. Box 419047
Rancho Cordova, CA 95741-9047
Hazmat Spill Notification

Emergency (916) 845-8911

Business (916) 845-8400

Fax (916) 845-8910

(800) 852-7550

California Dept. of Forestry

3650 Schriever Ave.
Mather, CA 95655

Emergency (916) 845-8683

Business (916) 845-8680

Fax (916) 845-8692

Contra Costa Health Services

4333 Pacheco Blvd.
Martinez, CA 94553

Emergency (925) 646-1112

Business (925) 646-2286

Fax (925) 646-2073

HazMat
(24/7)

On-call pager (925) 677-6700

Cal. Fish & Game Regional HQ

7329 Silverado Trail
Napa, CA 94558

Business (707) 944-5500

U.S. Coast Guard

Sector San Francisco Command Center (24/7)

(415) 399-3547

Incident Management

1 Yerba Buena Island

San Francisco, CA 94130

(415) 399-3543

Military Ocean Terminal Concord (MOTCO) Business

(925) 246-4103

834th Transportation Battalion

410 Norman Ave

Concord, Ca 94520

Miscellaneous Contact Information

For PMAO Manual Updates / Add Additional Information

Contact:

Greg Clayton
Tesoro Golden Eagle Refinery
150 Solano Way
Martinez, CA 94553

Phone: (925) 370-3686
Fax: (925) 372-3052
E-mail gregory.g.clayton@tsocorp.com

CCC CAER Group

Contact:

Anthony (Tony) J. Semenza
Executive Director
1330 Arnold Dr. Suite 246
P.O. Box 668
Martinez, CA 94553

Phone (home): (925) 372-0810
Phone (CAER): (925) 313-9296
Pager: (510) 620-7849
E-mail (CAER): ccc caer@pacbell.net
Email (home): AJSeme@aol.com

Salvation Army Canteen Unit

Contact:

Art Hillman
3950 Clayton Rd.
Clayton, CA 94517

Phone: (925) 254-0377
E-mail: Hillmart@attbi.com
24 hr. emergency call: (925) 930-3300

- For call out:
1. Where do we go?
 2. What do we need?
 3. How many people?
 4. Who is calling?
 5. What agency has the problem?
 6. Contact person at the scene?

PMAO
OUT OF AREA RESPONSE WORKSHEET
Incident Details

Incident Location: _____

Staging Location: _____

On-Scene Contact: _____

On-Scene Contact Phone Numbers: _____

On-Scene Radio Channels Staging: _____

Base: _____

PMAO Coordinating Contact: _____

Incident Description:

Tank Fire _____ Truck/Trailer Fire _____ Railcar Fire _____

Spill _____ Other Fire: _____ Marine Fire:(Barge, Ship, Wharf) _____

Type of Fire: _____ (Fully Involved Tank, Seal Fire, Dike Fire, Contained Spill, Uncontained Spill)

Associated Problems : _____ (Manifold or 3-dimensional fire, flowing leak, not able to isolate tank...)

Product Involved: _____ Number of Tanks: _____

Size of Tanks: Diameter: _____ Height: _____

Tank Type: Cone Roof, Open Top Floater, _____

Site Access Assessment: Good, Fair, Poor _____

On Scene Resources:

Local / Mutual Aid Apparatus:

Water Resources:

Available LDH: Quantity and Coupling type:

Available Foam Inventory: Quantity and Type

Preliminary Response Plan Required Resources

Foam Quantity and Type

Gallons 1%

Gallons 3%

Drop Tanks - Total Volume

Proportioning Systems

Foam Engines and Capacity

JRC's 1% or 3%

Balanced Pressure Trailers and Capacity

Self-Educting Nozzles

Around the Pump Foam Proportioners

LDH

Length in Feet, Coupling Type

Supply Pumps

Capacity

Coupling Type

Drafting Capable?

Application Devices

Total Volume Required

Range Required

Trailer Mounted or Portable

Apparatus Deck Guns or Elevated Nozzles

Monitor Trucks (pickup or similar)

Foam Wands

Daspit Tools

Hydrochem or Dry Chem Large Units – Quantity and Size