

12 Water Quality Sustainability

12.1 Salt Management

12.1.1 Salt Management Plan

In 2004, Zone 7 prepared a Salt Management Plan (SMP) to protect the long-term water quality of the Main Basin while expanding the area's use of recycled water. Recycled water is a critical part of the diverse water supply portfolio for the Livermore-Amador Valley. The SMP is a permit condition of the Master Water Recycling Permit, RWQCB Order No. 93-159, issued jointly to Zone 7, the City of Livermore, and the Dublin San Ramon Services District. The SMP was approved by the RWQCB in October 2004 and then incorporated into Zone 7's GWMP in 2005. The status of salt management has been updated in Zone 7's annual GWMP reports, copies of which are submitted to the RWQCB (to satisfy associated permit reporting requirements) and to DWR.

In February 2009, the State Water Board adopted a Recycled Water Policy (*State Water Board, Resolution No. 2009-0011*) which requires that Salt Nutrient Management Plans (SNMPs) be completed for all groundwater basins in California by May 2014. Although this requirement does not apply to basins where a salt management plan has already been approved by the RWQCB, Zone 7 updated its SMP analysis in 2013 and confirmed the validity of the adopted SMP strategies to reduce salt loading to the groundwater basin and mitigate future salt impacts from the planned recycled water use increases over the Main Basin. Zone 7 is also preparing a Nutrient Management Plan (NMP) as an addendum to its SMP to address nutrients in the groundwater basin (see *Section 12.2*). This effort is scheduled for completion in the 2015 WY.

12.1.2 Salt Management Strategy

The RWQCB has set the Basin Objective (BO) for TDS in the Main Basin at 500 mg/L, and 1,000 mg/L for the Fringe Basins (*California RWQCB, 2011*). The SMP identified several potential salt management strategies to achieve the Main Basin BO. The selected alternatives generally fall into three categories:

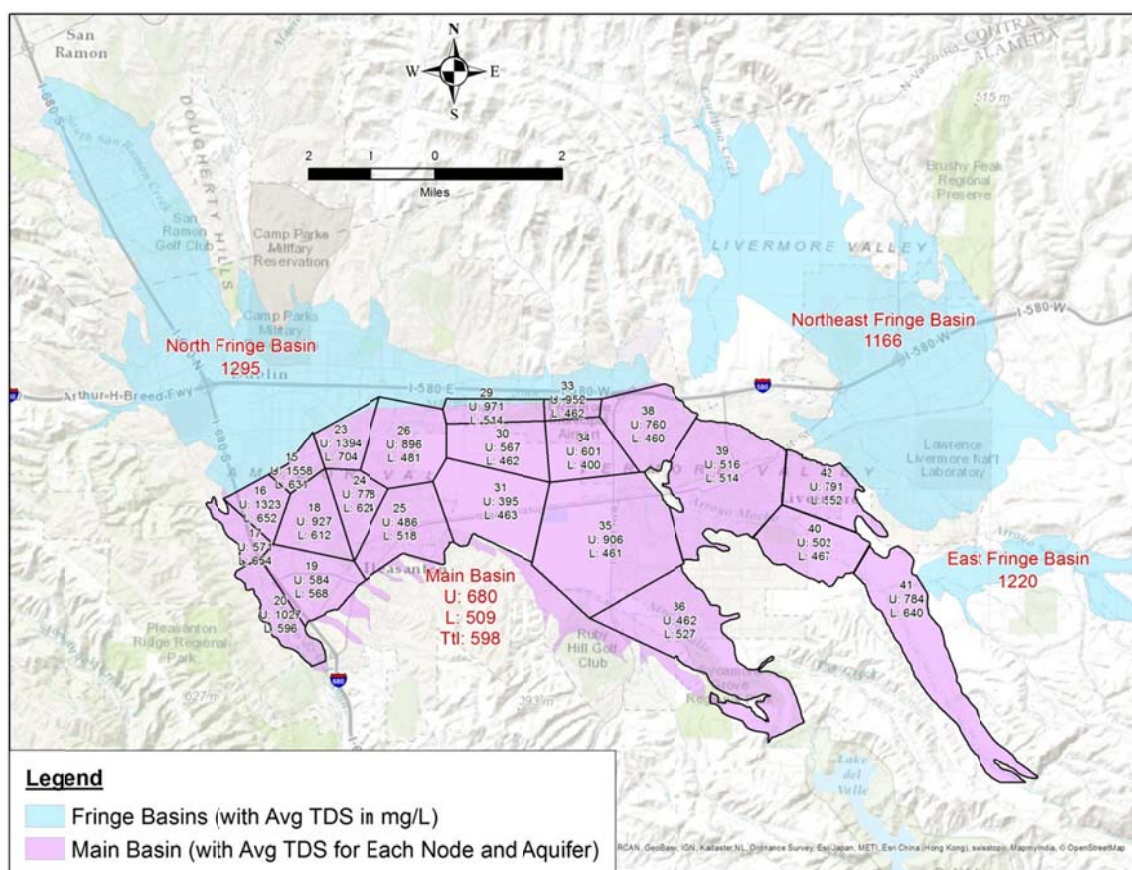
- Artificially recharging the Basin with low TDS imported water when available;
- Pumping and delivering additional groundwater to customers so more salts are exported as wastewater; and
- Operating groundwater demineralization facilities that export salts as part of the waste by-products (concentrate/brine).

This plan led to the construction of Zone 7's first demineralization facility, the MGDP, which was completed in July 2009. The MGDP is operated to remove salts from the groundwater basin while improving delivered drinking water quality. See *Section 12.1.5* for the results of this effort.

Zone 7's water supply operations use an adaptive management approach to select the combination of salt management strategies to be implemented in a given year. Multiple variables are balanced when making decisions, and priorities change from year to year; hence the need for a so-called adaptive or iterative management approach.

12.1.3 Average Salt Concentrations

Figure 12-A: Average TDS Concentrations by Node and Basin



Average salt concentrations (reported as TDS) in each fringe basin area and Main Basin node area are shown in *Figure 12-A* above. The total, average, volume-weighted TDS concentrations in the upper and lower aquifers of the Main Basin are 680 and 509 mg/L, respectively, whereas

the overall concentration of the Main Basin combined is 598 mg/L. Salt Loading Calculation Method

Zone 7's salt loading calculations take into account the addition and removal of minerals in the Main Basin by tracking or estimating the salt mass associated with the recharge and discharge components of the HI. In general, salts are added to or removed from the Main Basin by the following:

Figure 12-B: Main Basin Salt Loading Calculation Components

SALT ADDITION	SALT REMOVAL
• Natural stream recharge • Natural areal recharge • Artificial stream recharge • Subsurface groundwater inflow • Pipe leakage • Applied water (irrigation) recharge ○ Municipal ○ Groundwater ○ Recycled water	• Municipal pumping, including brine export from the MGD • Agricultural pumping • Mining area discharges and wet gravel export • Groundwater basin outflow

By assigning a TDS value for each HI component, the net salt load is then calculated for the water year. A negative value represents a net loss of salt mass from the basin, but may not result in a lowering of the basin wide calculated average TDS concentration if it is associated with a loss of storage.

Groundwater pumping removes salts from the Main Basin as solute in the produced groundwater. Some of this salt mass is then exported from the Main Basin in the municipal wastewater, MGD brine, and mining area discharges, and in the groundwater delivered to areas outside of the Main Basin (fringe basins). Other portions of the salt mass removed by Main Basin pumping are reapplied to the Main Basin as applied water recharge from irrigation, pipe leakage, subsurface groundwater inflow, and to a lesser degree, onsite wastewater discharges.

Evaporation of groundwater in the mining area ponds and evapotranspiration have the effect of concentrating salts in the Main Basin. As the water evaporates, the previously associated salts are left behind. The applied water components are calculated the same way with the salt mass being conserved in the aquifer recharging leachate. In contrast, rainfall recharge dilutes the Main Basin salt concentrations as it adds essentially salt-free water to the system. Artificial recharge with SWP water also tends to dilute the Main Basin salt concentrations, while adding some salt mass to the system. The amount depends on the salinity of the water being artificially recharged (varying seasonally and annually) and the amount recharged.

12.1.4 2014 Salt Loading

The weighted average TDS concentration of all the waters recharging the Main Basin's aquifers in the 2014 WY was 793 mg/L, whereas the average TDS of the extracted groundwater was 437 mg/L. However, because the groundwater outflow total was more than twice the inflow during the 2014 WY, the net Main Basin salt loading was calculated to be -2,370 tons of salt, of which approximately -1,047 tons were attributed to Zone 7's MGD operations (*Section 12.1.5*). By comparison, the salt loading for the Main Basin in the 2013 WY was -3,500 tons. The 2014 WY was the sixth consecutive water year that the net salt load was a negative value. The inflow/outflow water and salt loading calculations for the 2014 WY are summarized on *Figure 12-1*. Historical salt loading results from water years 1974 through 2014 are shown on *Figure 12-2*.

Although salt loading (in terms of mass) has been negative for the last six years, the corresponding calculated basin-wide average TDS concentration has risen 72 mg/L (from 704 mg/L to 776 mg/L) in the last three years (2012 WY through 2014 WY). This is because a large percentage of the salt removal was from an overall reduction in stored groundwater; and because the imported supplies that partially replenished the groundwater had higher than normal TDS concentrations due to drought-induced impacts to Bay-Delta water quality. *Figure 12-3* shows several graphs depicting the salt loading and its effect on the basin over time.

12.1.5 Groundwater Demineralization

Zone 7's MGD began operations in July 2009 to reduce salt build-up in the groundwater basin while improving delivered water quality to meet targets established in Zone 7's Water Quality Policy. The MGD is a reverse osmosis (RO) membrane-based treatment system producing product water with extremely low TDS. The demineralized water is blended with other groundwater (non-demineralized) or system water to achieve the desired overall delivered water TDS and hardness. The brine concentrate from the RO process is exported out of the watershed to San Francisco Bay by way of DSRSD to the regional wastewater export pipeline operated by LAVWMA. Additional salt removal facilities may be required to keep pace with the additional salt loading projected for the basin as the overlying communities approach build-out and the use of recycled water increases. Since its construction the demineralization plant has removed 13,153 tons of salt from the Valley (see *Figure 12-C* below).

Figure 12-C: Salts Removed by Zone 7's MGD Operations

Water Year	Brine Volume Exported from Valley (AF)	Average Brine TDS Concentration (mg/L)	Salt Mass Exported (Tons)	Salt Removed per AF of Brine Export (Tons/AF)
2009	192	3,059	798	4.11
2010	675	3,010	2,759	4.09
2011	429	3,445	2,006	4.68
2012	935	3,198	4,064	4.35
2013	518	3,522	2,479	4.79
2014	214	3,607	1,047	4.90
TOTAL	2,963	3,307	13,153	4.44

The RO process generally takes groundwater and separates it into 85% low-mineral product water and 15% high-mineral concentrate or brine. During droughts, use of the RO process is minimized so that losses of 15% are not experienced and 100% of the groundwater pumped is available to the system. To minimize groundwater loss from MGD operations in the 2014 WY, only 973 AF of the produced groundwater were routed through the demineralization plant's RO membranes. As a result, the RO process generated approximately 214 AF of wastewater (rejected brine), containing about 1,047 tons of salt, which was exported from the Main Basin through the LAVWMA pipeline. The discharge volumes and salt concentrations of the exported brine were monitored by DSRSD and reported to Zone 7 staff periodically throughout the year.

12.2 Nutrient Management

12.2.1 Nutrient Management Strategy

Zone 7 tracks nutrient concentrations in groundwater annually as part of its routine groundwater quality monitoring program. The primary nutrient of concern in the Main Basin is nitrate (Section 6), which has a BMO of 45 mg/L (measured as Nitrate [as NO₃]) for both the Main and Fringe Basins (*California RWQCB, 2011*). The MCL for nitrate in drinking water is also 45 mg/L.

Historically, nutrient loading became less of an issue for the Livermore Valley Groundwater Basin when the LAVWMA pipeline was constructed and put into operation in 1979, exporting treated municipal sewer effluent from the valley. Prior to that, the nutrient-rich municipal effluent was applied to the ground at several different locations over the Main Basin. Also, over time, much of the historic concentrated animal and fertilized agriculture operations that contributed to the historic nutrient loading have given way to the lower nutrient loading vineyard operations.

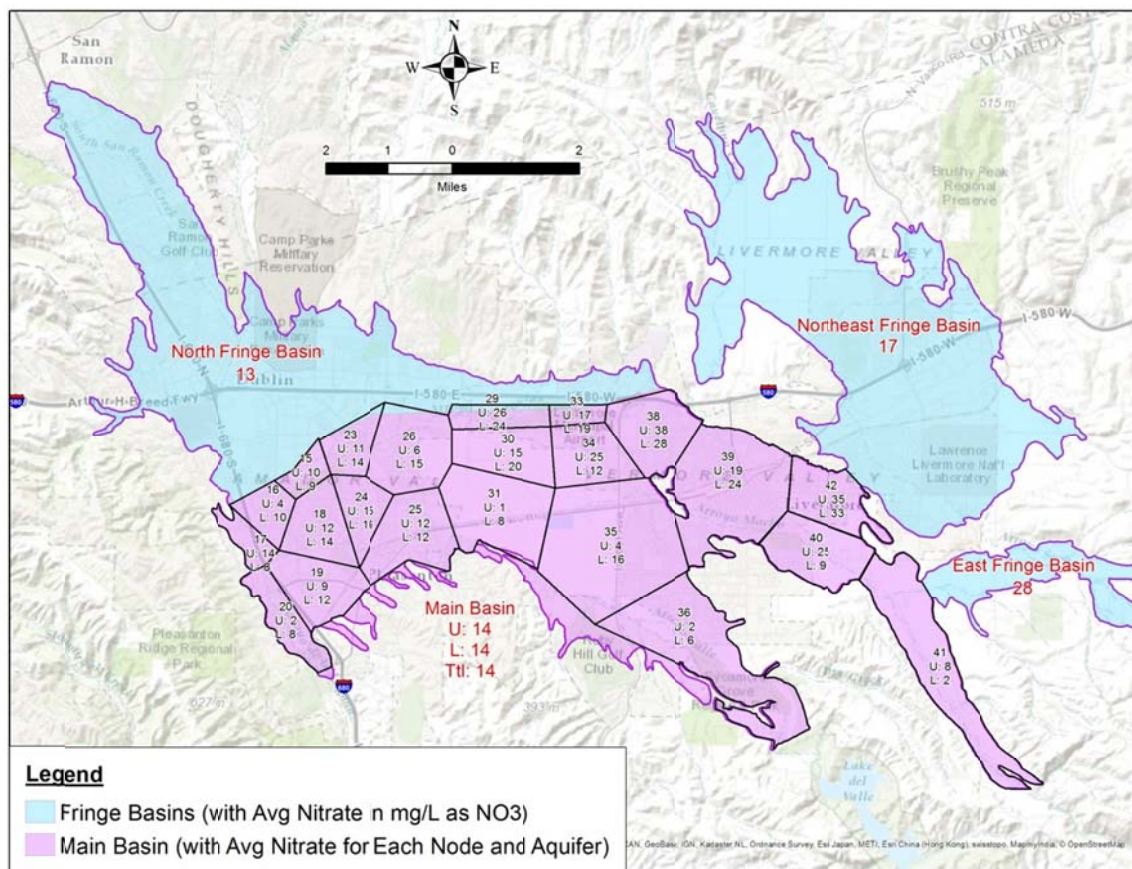
In the 1980's, Zone 7 adopted a series of septic tank use policies along with its Wastewater Management Plan (*Zone 7, 1982*) to further limit nutrient loading from onsite wastewater disposal in the watershed. Among the septic tank policies was one that limited salt and nutrient loading from new development using septic tanks to be no greater than the equivalent of one rural residence on 5 acres. Later, in 1985, the Zone 7 Board of Directors voted to prohibit any new commercial or industrial use of septic tanks unless it was shown to be no greater than the residential use limit (1 rural residential equivalence/5 acre).

In the 2014 WY, Zone 7 continued work on developing a NMP that assesses the current and projected future nutrient loading to the groundwater basin, including loading from planned recycled water use, and addresses the few high nitrate areas-of-concern that exist in localized area. In general, the NMP will most likely call for the continued use of "best management practices (BMPs)" to minimize nutrient loading from such facilities as horse boarding facilities, vineyards, irrigated turf and landscapes and wineries. For the high nitrate areas-of-concern, Zone 7 is working with the RWQCB, Alameda County Environmental Health (ACEH), Alameda County Community Development Agency (ACCD) and other stakeholders to develop a strategy that further limits additional wastewater loading to the areas-of-concern. The NMP is scheduled to be adopted by summer 2015.

12.2.2 Average Nitrate Concentration

Average nitrate concentration (measured as NO_3) in each node, aquifer, and the Main Basin is shown in *Figure 12-D* below. In the Main Basin, the total average nitrate concentration for both the upper and lower aquifers and for the overall Main Basin is 14 mg/L. In the Fringe Basins, concentrations range from 13 to 28 mg/L. All concentrations are well below the BMO of 45 mg/L; however, there are certain hotspots where the nitrate concentration does exceed the BMO (shown in *Figure 6-5* and described in detail in *Section 6*).

Figure 12-D: Average Nitrate Concentrations by Node and Basin



12.2.3 Nutrient Loading

Total nitrate loading will be assessed in the forthcoming NMP. The draft version of the NMP that was circulated to the Zone 7 Board and the public at the end of the 2014 WY considered the nitrogen loading from horse boarding facilities, vineyards, irrigated and fertilized turf and landscapes, and onsite disposal of domestic and winery wastewater. Total nitrogen (mass) loading was used in the draft NMP to quantify nutrient loading because of its predisposition to become nitrate in the subsurface, and its practicability to be measured or estimated in its sources. However, unlike the conservative nature of TDS, nitrate can be assimilated through plant uptake and natural denitrification processes in the soil that reduce the mass of this nutrient during its transport. The nitrogen losses assumed for the NMP assessment are shown in *Figure 12-E* below along with the active nutrient loading sources assumed to be significant for the groundwater basin.

Figure 12-E: Sources and Losses of Nitrogen in Groundwater

NITROGEN SOURCES	NITROGEN LOSSES
Manure (Horse Boarding, Cattle)	Denitrification
Wastewater (Winery)	Soil texture (absorption)
Septic (Domestic and Commercial)	Plant Use
Irrigation (Turf and Agriculture)	Groundwater Pumping
Fertilizers	Mining Export
Nitrate in Source Water	

12.3 Groundwater Model

Zone 7 maintains a numerical groundwater model (described in detail in *Section 11.4*) of the basin for predicting the consequences of a proposed groundwater basin management action. In addition to modeling for groundwater flow (*Section 11.4*), the model has also been used to evaluate and simulate salt loading impacts and the siting effects of a second Zone 7 groundwater demineralization plant planned for construction in the future. One of the primary goals of updating the Zone 7 groundwater model (see *Section 11.4.1*) is to recalibrate it using current and historic TDS concentrations so that there will be more confidence in the results of future model runs conducted to evaluate TDS impacts and mitigation feasibilities.

12.4 Septic Tank Management

Although ACEH issues permits for the operation, installation, alteration, and repair of onsite wastewater treatment systems in Alameda County, AECH requires special Zone 7 approval for the following types of septic system projects located within the Upper Alameda Creek Watershed:

- New septic systems constructed partially or fully for a commercial or industrial use;
- Conversion or expansion of existing septic systems to a commercial or industrial use; or
- New residential septic systems that discharge greater than one rural residential equivalence (RRE) of wastewater per five acres (i.e., greater than an annual average of 320 gallons/day/5 acres).

In 1982, the Zone 7 Board of Directors adopted the “Wastewater Management Plan for the Unsewered, Unincorporated Area of Alameda Creek Watershed Above Niles (WWMP)” and its recommended policies (*Resolution No. 1037*). A separate policy was established in 1985 that prohibits the use of septic tanks for new developments zoned for commercial or industrial uses (*Resolution No. 1165*). This prohibition can be waived by the Zone 7 Board if “...it can be

satisfactorily demonstrated to the Board that the wastewater loading will be no more than the loading from an equivalent rural residential unit (on a five-acre lot) and said septic tank(s) will be in compliance with all other conditions and provisions.”

The Zone 7 Board did not approve any new commercial septic tank applications during the 2014 WY.

In July 2014, the RWQCB issued Waste Discharge Requirements (WDRs) for The Wine Group’s (TWG’s) Concannon Winery facility expansion project, which began in 2011 and continued through the first half of 2014. The WDRs included provisions for the interim use of Onsite Wastewater Treatment Systems (OWTS) for the Concannon Winery facility, but limits the WDR authorization to two years from the July 2014 adoption date. After that date, the Concannon Winery must cease its discharge of nitrogen to groundwater by completing a connection to the municipal sanitary sewer or by initiating implementation of alternative compliance actions. In a letter written to the RWQCB, Zone 7 supported the WDRs, the limited duration, and requested to be included as a recipient of the annual monitoring reports required by the WDRs.

12.5 Well Ordinance Program

The construction, repair, reconstruction, destruction or abandonment of wells within Zone 7’s service area (Eastern Alameda County) is currently regulated by *Alameda County General Ordinance Code, Chapter 6.88*. Zone 7 administers the associated well permit program within its service area including within the three incorporated cities: Dublin, Livermore, and Pleasanton. As a result, any planned new well construction, soil-boring construction, or well destruction must be permitted by Zone 7 before the work is started. Additionally, all unused or abandoned wells must be properly destroyed; or, if there are plans to use the well in the future, a signed statement of future intent must be filed at Zone 7.

A copy of the current Zone 7 drilling permit application is available for download from the Zone 7 website. Zone 7 should receive permit applications at least five days prior to beginning any drilling. Well construction and destruction permit requirements are determined on a case-by-case basis, but generally follow DWR’s *California Well Standards (Bulletins 74-81 and 74-90)*. This program allows Zone 7 to protect the groundwater basin from any negative impacts that would be threatened by poorly-constructed wells. During the 2014 WY, Zone 7 issued 181 drilling permits; 23 more than in the 2013 WY, as new development returned to its pre-2009 level. The following is the breakdown of the types of permits issued during the 2014 WY and their quantities:

- 88 for drilling associated with geotechnical investigations;
- 34 for drilling associated with contamination investigations, monitoring and clean-ups;

- 29 for the destruction of existing wells;
- 22 for new water supply wells;
- 4 for general groundwater monitoring; and
- 4 for cathodic protection wells.

The number of permits issued for water supply wells in the 2014 WY did not show a marked increase from the 2013 WY (18) as might be expected due to the drought conditions. The 22 permits issued in the 2014 WY are also comparable to the pre-2009 average (about 25).

About 40% of the permitted well work was physically inspected by Zone 7 permit compliance staff. The other work was allowed to proceed with self-monitoring and reporting efforts. No fees were charged for Zone 7 permits in the 2014 WY.

At the end of the 2014 WY, Zone 7 was working with Alameda County Public Works Agency to amend the County's Well Ordinance to: 1) be more compliant with the State standards, 2) clarify Zone 7's role and authority for well permitting, 3) provide for additional protection of groundwater quality by incorporating local hydrogeologic considerations into the regulations, and 4) designate Zone 7 as the administrative authority to regulate well construction work within the Zone 7 service area. Completion of the Well Ordinance amendment is anticipated for the 2015 WY.

12.6 Toxic Site Surveillance Program

12.6.1 Program Description

Zone 7 documents and tracks polluted sites across the groundwater basin that pose a potential threat to drinking water and interfaces with lead agencies to ensure the Main Basin is protected. Information is gathered from state, county, and local agencies, as well as from Zone 7's well permitting program and the SWRCB's GeoTracker website, and compiled in a geographic information systems (GIS) database. This tracking program is designated the "Toxic Sites Surveillance (TSS) Program."

Each site in Zone 7's TSS Program has been assigned a Zone 7 number, which corresponds to a file number containing reports or other information about the site. In addition, all sites are reviewed and given a priority designation (high, moderate, or low) based on the threat they pose to groundwater. For example, a site is designated as high priority if contamination at the site is present in groundwater at concentrations greater than the MCL and a water supply well is within 2,000 ft down-gradient of the site, or it is shown that drinking water or surface water will likely be impacted by the contamination at the site. High Priority sites are typically located in the Main Basin where Zone 7 and their retailer's wells are located. However, if another type of supply well (domestic, industrial, agricultural, etc.) located outside of the Main Basin is impacted or

threatened the same criteria would apply. *Figure 12-4* of this report describes the Zone 7 case priority numbering system.

12.6.1.1 Primary Contaminants

In general, the TSS Program has found two types of contamination threatening groundwater in the Livermore Valley Groundwater Basin:

- **Petroleum-based fuel products** - including total petroleum hydrocarbon as gasoline (TPHg), TPH as diesel (TPHd), benzene, toluene, ethylbenzene, xylene (collectively known as BTEX), and fuel oxygenates, such as methyl tertiary-butyl ether (MTBE) and tertiary-butyl alcohol (TBA). California has assigned clean-up standards (*Title 22, California Code of Regulations*) for the BTEX compounds and fuel oxygenates. However, a clean-up standard for total petroleum (TPHg or TPHd) has not officially been established.
- **Industrial chemical contaminants** – including the chlorinated solvents tetrachlorethylene (PCE), trichloroethylene (TCE), and their degradation by-products, such as vinyl chloride (VC) and dichloroethene (DCE). PCE is common in the dry cleaning business, and TCE is commonly used as a degreaser for electronics and automotive industries. Both PCE and TCE have an established MCL of 5 micrograms per liter (µg/L) (*California Code of Regulations, Title 17, Section 64444*).

12.6.1.2 Underground Storage Tank Cleanup Program

In November 2012, the SWRCB approved the *Plan for Implementation of Low-Threat Underground Storage Tank Case Closure Policy and Additional Program Improvements*. As part of this plan, the SWRCB began reviewing all underground storage tank (UST) cases for possible closure, resulting in a significant increase in case closure requests and considerations. Proposed case closures have been submitted for several cases that are classified as “High Priority” by Zone 7. Summaries of sites closed in the 2014 WY and sites pending closure by the RWQCB are provided below in *Sections 12.6.2.1* and *12.6.2.2*, respectively.

The *Low-Threat Underground Storage Tank Case Closure Policy* (LTCP) provides criteria for five scenarios where UST cases may be considered a low-threat and be closed. The criteria are outlined in *Figure 12-F* below and the entire LTCP document is available on the SWRCB website (http://www.waterboards.ca.gov/ust/lt_cls_plcy.shtml).

Figure 12-F: Low-Threat UST Case Closure Policy Criteria

LTCP GROUNDWATER SPECIFIC CRITERIA				
SITE DATA	Scenario 1 Criteria (ppb)	Scenario 2 Criteria (ppb)	Scenario 3 Criteria (ppb)	Scenario 4 Criteria (ppb)
Plume Length	< 100 feet	<250 feet	<250 feet	<1,000
Free Product	No free product	No free product	Removed maximum extent practicable	No free product
Plume stable or decreasing	Stable or decreasing	Stable or decreasing	Stable or decreasing for minimum of 5 years	Stable or decreasing
Distance to Nearest Water Supply Well	>250 feet	>1,000	>1,000	>1,000
Distance to Nearest Surface Water and Direction	>250 feet	>1,000	>1,000	>1,000
Property Owner Willing to Accept Land Use Restriction?	Not applicable	Not applicable	Yes	Not applicable
GROUNDWATER CONCENTRATIONS				
Constituent	LTCP Scenario 1 Criteria (ppb)	LTCP Scenario 2 Criteria (ppb)	LTCP Scenario 3 Criteria (ppb)	LTCP Scenario 4 Criteria (ppb)
Benzene	No Criteria	3,000	No Criteria	1,000
MTBE	No Criteria	1,000	No Criteria	1,000
Scenario 5: If the Site does not meet scenarios 1 through 4, a case can be considered for closure if a determination been made that under current and reasonably expected future scenarios, the contaminant plume poses a low threat to human health and safety and to the environment and that water quality objectives will be achieved within a reasonable time frame.				

12.6.2 Summary for 2014

In the 2014 WY, Zone 7 Water Agency tracked the progress of 53 active sites where contamination has been detected in groundwater or is threatening groundwater. Thirteen of these active sites have a contaminant plume which is within 2,000 feet of a municipal water supply well and are therefore classified as “High Priority” cases due to their impact or threat of impact on potable groundwater supplies. Zone 7’s database also contains 259 other contamination cases that have been either “Closed” or classified as “No Action Required” because they have been sufficiently cleaned up and/or they pose minimal threat to drinking water supplies.

No new cases were added to the Zone 7 database in the 2014 WY. Eleven cases have closure requests that were still being considered at the end of the 2014 WY. Thirteen cases were closed in the 2014 WY, however, seven of these case closures were included in the Toxic Site Surveillance 2013 Annual Report in May 2014 (available on Zone 7's website http://www.zone7water.com/images/pdf_docs/groundwater/2013_tss_report.pdf). The six which were not included in that report will be described in more detail below. Moving forward, the TSS program will be tracked annually based on water year and the status will be reported in future GWMP annual reports.

The locations of all the toxic sites are shown on the included maps; Livermore (*Figure 12-5*), Pleasanton and Sunol (*Figure 12-6*), and Dublin (*Figure 12-7*). The maps also show each toxic site's proximity to the Valley's municipal water wells. *Figure 12-8* contains a summary for each of the 53 active sites including the case status, its priority, and which agency is responsible for providing oversight on the case. It also identifies the contaminants of concern for each case and provides brief notes regarding the case.

12.6.2.1 Case Closures

The following Toxic Sites were granted "Case Closed" status since the last TSS Annual Report update, May 2014. Generally, the contamination at these sites was characterized, remediated and monitored sufficiently to demonstrate that they no longer pose a risk to human health and the environment. Zone 7 Staff concurred with the lead agency's decision to close these cases.

- Site 73: Waste Management, Livermore. Case was closed April 15, 2014. Residual amounts of benzene and TPH remain in localized groundwater onsite. Case closure is granted for current commercial land use only. If land use changes, case will have to be reevaluated. This site is outside the main groundwater basin.
- Site 96: Bay Counties Petroleum, Dublin. The case was closed on May 20, 2014 without the need for further clean up or deed restrictions. Some diesel-range organics remain in groundwater. The future use of the site is restricted to commercial because a vapor study wasn't conducted to prove the site conditions acceptable for residential use. If a use other than commercial is proposed, then ACEH needs to be notified and the case reevaluated.
- Site 99: Arco, #6113, Livermore. Case closure was granted on April 8, 2014 under Scenario 5 of the LTCP. The site is within 150 feet of the Arroyo Mocho. However, it was shown that the contamination was not a threat to the Arroyo Mocho. This site is greater than 2,000 feet from any supply well and was shown not to be a threat to Arroyo Mocho water quality.
- Site 128: Laidlaw Transport, Livermore. After CWS supply well CWS-17 was destroyed in 2013, and CWS verified they would not replace it at the same location, ACEH approved the responsible party's (RP's) closure request under the State's LTCP. The RP

properly destroyed all the monitoring wells on site and submitted a report to ACEH. A case closure letter was issued on April 29, 2014.

- Site 157: Arco #6041, Dublin. No opposition was given for the Potential Case Closure. The monitoring wells were properly destroyed. This site is outside of the main groundwater basin. A case closure letter was issued on June 3, 2014.
- Site 306: City of Dublin Civic Center, Dublin. The case was closed under Scenario 5 of the LTCP. The site is outside of the main groundwater basin. A case closure letter was issued on September 9, 2014.

12.6.2.2 Sites Pending Closure Review

“Case Closure” was requested by representatives for the following Toxic Sites. At the end of the 2014 WY, the Lead Agencies were still considering the requests, but may ask for additional information before making their decision. Cases approved for closure by ACEH must be reviewed and accepted by RWQCB before they are officially closed.

- Site 22: Former Texaco/Chevron #21-1253, Livermore. RP has requested closure under LTCP Scenario 3. The plume is less than 250 feet long and is greater than 1,000 feet from a surface water body or groundwater well. The contamination remaining onsite may require land use to be restricted to commercial/industrial.
- Site 23: South Hop Shell #13-5784, 3790 Hopyard Road, Pleasanton. ACEH has reviewed the case for closure under the LTCP. This case is designated high priority because it is within 2,000 feet of the Hopyard wellfield. The Arroyo Mocho is also downgradient from the site. Active remediation has been conducted at the site and TPH and MTBE concentrations have been significantly reduced. However, elevated TBA concentrations remain in groundwater in one monitoring well downgradient of the site. Staff has worked closely with ACEH to ensure the Hopyard wellfield and arroyo are protected to the extent possible under the State Board’s Policy. More details for this site are provided in *Section 12.6.2.3: High Priority Sites – Pleasanton*.
- Site 62: B&C Mini Mart (Desert Petroleum), Livermore. The RP completed the additional groundwater sampling that ACEH directed them to do as a result of Zone 7’s comments on the proposed case closure. The groundwater sampling supports the RP’s assertion of plume stability, therefore the case qualifies for closure under the LTCP. The RP will destroy the monitoring wells. Staff is looking into taking over one of the monitoring wells (that does not have residual contamination) for use in the Zone 7 groundwater monitoring network. More details for this site are provided in *Section 12.6.2.3: High Priority Sites – Livermore*.

- Site 111: Arco, #00771, Livermore. The RP submitted a closure request under Scenario 5 of the LTCP. ACEH has reviewed the fuel leak case file and agrees that no further action related to the underground storage tank fuel release is required at this time. No comments were received on the proposed case closure. Pending ACEH and RWQCB approval the monitoring wells will be destroyed. More details on this site are provided in *Section 12.6.2.3: High Priority Sites – Livermore*.
- Site 116: Rich's Chevron Service, 7007 San Ramon Road, Dublin. ACEH agreed to case closure after the results of the soil vapor survey were submitted. ACEH issued an Invitation to Comment – Potential Case Closure letter on December 19, 2013 and comments closed on February 19, 2014. This site is in an unused fringe basin and meets the LTCP case closure criteria so Zone 7 staff does not object to its closure.
- Site 195: Unocal, #7176, 7850 Amador Valley Boulevard, Dublin. ACEH issued an Invitation to Comment - Potential Case Closure. No public comments were received by the January 19, 2014 deadline. This site is in an unused portion of a fringe basin and meets the LTCP case closure criteria so Zone 7 staff does not object to its closure. Closure is pending monitoring well destructions.
- Site 254: Mission Valley Rock & Asphalt, 7999 Athenour Way, Sunol. Case has been approved for closure with the requirements of a deed restriction and a site management plan to be in place to protect workers and visitors from the contamination that remains on site. This site is in the Sunol Groundwater Basin but not near any domestic supply wells so Zone 7 staff does not object to its closure.
- Site 284: Former Crow Canyon Dry Cleaner, Dublin. The RP has requested closure based on the success of the active remediation to reduce the contamination at the source, and because the vapor measurements are below Environmental Screening Levels (ESLs). Vapor contamination is the main concern at the site; PCE and TCE have been detected below the MCL in groundwater. This site is in an unused portion of a fringe basin and meets the LTCP case closure criteria so Zone 7 staff does not object to its closure.
- Site 285: Chevron Sunol Pipeline, Sunol. The RP requested closure under the LTCP. ACEH had expressed concerns about future use of the groundwater. SFPUC confirmed that groundwater use at the site is not anticipated and the current leasee is prohibited from installing any groundwater wells without SFPUC and Zone 7 approval. ACEH is moving forward with case closure which will include conditions for future development or construction projects. The site is in the Sunol Groundwater Basin but not near any domestic supply wells so Zone 7 staff does not object to its closure.
- Site 290: Kinder Morgan Pipeline Leak, Iron Horse Trail, Dublin. A case closure request was submitted to RWQCB by the RP. This site is in an unused fringe basin and is classified as low priority. RWQCB review is pending but has indicated that it won't

support case closure because they feel that additional investigation and monitoring are necessary to confirm that the contamination at the site has been addressed.

- Site 309: 7-Eleven #32266, Livermore. The RP submitted a request for closure claiming the site meets the Scenario 2 criteria in the LTCP. The site was classified as moderate priority because there are no municipal supply wells within 2,000 feet of the site. ACEH didn't receive any objections so closure will proceed when all of the monitoring wells are properly destroyed.

12.6.2.3 High Priority Site Updates

The following are summaries of the "High Priority" Toxic Sites organized by the city in which they are located. Zone 7's case priority code is provided along with the most recent activities for each site.

Livermore

SITE 62: B&C Mini Mart (Desert Petroleum)

Priority: 1C3 (closure review pending)

ACEH supported the RP's request for closure and issued an Invitation to Comment-Potential Case Closure letter in November 2013. During the public comment period Zone 7 staff objected to the case closure due to insufficient evidence of plume stability. As a result, ACEH directed the RP to collect additional groundwater samples to address Zone 7's concerns. The groundwater samples supported the RP's claims that the plume was stable and less than the maximum length allowed for closure. ACEH has approved closure of the site and will issue a letter after all the monitoring wells at the site are properly destroyed. Staff is considering taking over one of the monitoring wells that does not have residual contamination for use as a Mocho II Subbasin monitoring point in Zone 7's groundwater monitoring program.

SITE 84: Arrow Rentals

Priority: 1A2

The SWRCB evaluated the case for closure in September 2014. The case did not meet the low-threat closure criteria for groundwater due to the presence of high benzene concentrations in groundwater and the plume extent not being fully defined. The dual-phase extraction and air sparging systems that were restarted in March 2011 continue to operate. In addition, ACEH approved a "*Plume Delineation Work Plan*," which includes the installation of two downgradient monitoring wells and one monitoring and extraction well in the source area. A Well Installation Report and the 2nd Semi-annual 2014 Groundwater Monitoring and Remedial Systems Operations Report are due by February 15, 2015.

SITE 111: Arco #00771

Priority: 1C3 (closure review pending)

In 2013, ACEH denied a request for closure by the RP under the LTCP. In 2014, after additional investigation, the RP submitted a revised Site Conceptual Model that showed that the closest CWS well would not be impacted by the remaining contamination at the site. ACEH reviewed the new information and agrees that no further action related to the underground storage tank fuel release is required at this time. No objections were received during the public comment period for the proposed case closure. The case has been approved for closure by ACEH and RWQCB and a closure letter will be issued after the monitoring wells have been properly decommissioned.

SITE 115: Livermore Arcade/Miller's Outpost Shopping Centers (LASC/MOSC)**Priority: 1A2**

The RP submitted a Revised Final Remedial Action Plan (RAP) for RWQCB approval. Zone 7 submitted comments to the RWQCB requesting the RP provide a detailed contingency plan to ensure the protection of the downgradient supply wells. RWQCB has not finalized the revised Site Cleanup Order or their review of the RAP. In the meantime, the RP conducted the Data Gap Investigation identified in the RAP. The RP requested to continue Enhanced In-Situ Bioremediation Treatment for groundwater remediation and has updated their monitoring plan to evaluate its effectiveness. The RP has also submitted a contingency plan in case: 1) dissolved metals are detected in the downgradient CWS well; 2) degradation of PCE and its daughter products stall; and/or 3) chlorinated volatile organic compound (CVOC) concentrations increase above vapor intrusion concerns. Semi-annual groundwater sampling is continuing while the RAP is being considered and implemented.

SITE 191: Former Beacon, #3604**Priority: 1A2**

The RP obtained approval from ACEH for an expanded in-situ chemical oxidation (ISCO) pilot test. The test was started in May 2013. Based on the results of the pilot test, the RP received approval from ACEH to continue with ISCO, but due to the low groundwater levels, ACEH recommends also restarting the soil vapor extraction treatment system. Groundwater monitoring and quarterly status reports will continue.

SITE 226: Livermore Gas & Mini Mart**Priority: 1A2**

The RP conducted ISCO remediation at the site during the second quarter of 2013. As a result, the petroleum hydrocarbon concentrations have been significantly reduced. However, TBA concentrations remain elevated in some wells. Because TBA concentrations are still elevated (up to 29,000 parts per billion [ppb]) in several wells, ACEH has required TBA to be added to the analysis for all future groundwater sampling events. ACEH agreed to allow the RP not to have to collect groundwater samples during the third quarter of 2014 if the majority of "A" zone wells remain dry. Next monitoring report is due January 24, 2015.

SITE 238: All Rents**Priority: 1A2**

Now that Potential Responsible Parties (PRP) have been identified, Zone 7 staff is urging the RWQCB to open this site as a formal case and direct corrective action. The RWQCB attributes its inactivity on this case to resource constraints. Zone 7 is considering sharing the burden of determining the potential PRP(s)'s current mailing addresses to expedite the process of opening this case.

SITE 259: Mills Square Park**Priority: 1A2**

The RP performed sulfate applications to the site in September and October 2013. ACEH approved a work plan for the removal of near-surface soils at the park. The exact depth of the soil removal will be determined by the final grading plans. The grading plans were finalized and the revised work plan should be submitted in early 2015. Groundwater monitoring is required to continue at the site quarterly in order to evaluate the effectiveness of the sulfate applications.

Pleasanton**SITE 23: South Hop Shell****Priority: 1C3 (closure review pending)**

The RP has predicted that the groundwater concentrations will all reach water quality objectives by 2021 with the exception of one well. The TBA in well S-6 is predicted to reach water quality objectives by 2053. The RP conducted a special sampling event on seven select wells for MTBE and TBA to confirm the trend in MTBE concentrations. ACEH reviewed the case and along with the RWQCB has determined that this site fits LTCP Scenario 5. Zone 7 has discussed the case with ACEH and has accepted the proposed case closure. The RP accommodated Zone 7's request to collect a groundwater sample for general water quality analysis prior to well destruction.

SITE 60: Former Steve's Exxon, #7-3399**Priority: 1A2**

The SWRCB had started the closure process for this site over objections by ACEH who was overseeing the case. During the public comment period, ACEH, Zone 7, and the RWQCB submitted comment letters supporting continued monitoring at the site due to its proximity to Pleasanton and Zone 7 supply wells. Based on the information provided to them, including the potential for putting Pleasanton's Well No. 7 back online for additional supply capacity during the drought, the SWRCB decided against case closure at this time and has given directive power back to ACEH.

During the 2014 WY, a significant portion of the wells were dry or had insufficient water to sample. ACEH had requested that all groundwater samples be analyzed for volatile organic compounds (VOCs). PCE was detected in one well at 0.6 µg/L presumably from the adjacent Hopyard Cleaners site (Site 245). The samples were non-detect for fuel components. The RP will try to sample again in the first and second quarter of 2015.

SITE 242: Alameda County Fairgrounds**Priority: 1A1**

Zone 7 is continuing its effort trying to convince the RWQCB to open this case as an official Spills, Leaks, Investigations, and Clean-ups (SLIC) case. In 2012, staff applied for a DWR Local Groundwater Assistance grant to fund a Zone 7 effort to identify potential sources of the PCE contamination detected in the Fairgrounds supply well. The project was not selected for a grant, but staff will continue to look for other opportunities to fund this project.

SITE 245: Hopyard Cleaners**Priority 1A2**

The RWQCB has been discussing case closure options with the RP following five years of active remediation at the site. The RP conducted an air and soil vapor investigation to evaluate potential vapor intrusion hazards within the building. The RWQCB has reviewed the case and feels it is ready for closure. Staff has worked closely with the RWQCB to determine if the remaining contamination in groundwater is a threat to the existing water supply wells. The remediation appears to have significantly reduced the PCE concentrations in groundwater. The RWQCB has satisfied Zone 7's concerns about potential data gaps and the potential for PCE concentrations to rebound. Staff does not oppose closure at this time, based on the RWQCB responses coupled with the information that the City supply well located across the street from the site is going to be destroyed in the near future.

Sunol**SITE 250: Sunol Tree Gas Station****Priority 1A1**

The results of the ozone sparging showed that the contaminant concentrations have been reduced. TPHg is now only detected in one well that is over 500 feet downgradient from the source area (PZ-2b). TPHg was not detected in any of the transect wells located between the source area and PZ-2b. This detection may be the result of a separate release. MTBE and TBA levels are decreasing and are close to their ESLs in the wells just upgradient from the T-Bear Ranch supply well. This case does not qualify for closure under the LTCP because there is no public water system serving the area. However, the RP has requested closure under SWRCB *Resolution 92-49 (Policies and Procedures for Investigation and Cleanup and Abatement of Discharges under Water Code 13304)*. RWQCB has not yet responded to the request.

Dublin

Although several sites in Dublin have elevated levels of MTBE (i.e., >10,000 ppb) and one has elevated levels of TCE (Site 137, Busick Gearing), none are classified as High Priority because they are not near drinking water supply wells.

12.6.2.4 Other Special Sites

The following sites are not listed as high priority sites for the endangerment of the Livermore-Amador Valley Municipal Supply; however, these sites have a high profile due to media attention, recent activities, and/or local involvement. They are not considered to be high risk to drinking water because they either are in non-municipal supply areas of the groundwater basin and/or have undergone extensive remediation.

SITE 1: Lawrence Livermore National Laboratory (LLNL)

Priority 3A1

LLNL is a multipurpose research facility owned by the U.S. Department of Energy (DOE) and run by a management team which includes Bechtel National, University of California, Babcock and Wilcox, Washington Division of URS Corporation, and Battelle. Prior to its current use, the site was a Naval Air Station where aircraft maintenance was performed. The site was added to the National Priorities List in 1984 and Superfund activities began at that time to address westward migrating VOCs present in the groundwater. An annual environmental report is produced by LLNL to update monitoring and remedial activities that are continuing at the site. Copies of this report and other environmental publications can be accessed via the Web at www-envirinfo.llnl.gov.

SITE 5: Sandia National Laboratory (SNL)

Priority 3A3

SNL consists of two sites of concern that are monitored on a regular basis: Navy Landfill and Fuel Oil Spill Site. Both sites are outside of the Main Basin but within the area covered by Zone 7's GWMP. SNL currently samples seven groundwater monitoring wells. An annual environmental report is produced by SNL to provide a summary of environmental management performance and compliance efforts at its facilities. The current and past reports can be accessed at www.sandia.gov/news/publications/environmental/index.html.

SITE 11: Intel Fabrication Plant 3

Priority 2A3

Intel owned and operated a semiconductor manufacturing plant at this location from 1972 to 1995. The VOC contamination present in groundwater beneath the site is thought to have originated from a sump in the concrete floor of a basement storage area. Various active remediation events have taken place at the site in multiple zones of the aquifer.

The extent of the plume has been defined. Monitored natural attenuation was selected as the final remedial alternative for cleanup at the site as specified in RWQCB *Order No. R2-2002-0053*. However, in September 2012, the RP voluntarily installed a Groundwater Extraction and Treatment System using one well at the site to help expedite the groundwater cleanup. The VOC concentrations appear to have decreased as a result of this additional remediation effort. A deed restriction has been drafted to prohibit the use of groundwater until the MCLs are met. It also

restricts the site use to industrial/commercial. The RP has submitted a work plan for additional characterization at the site to continue working toward case closure.

SITE 137: Busick Gearing**Priority 2A3**

This site at 6341 Scarlett Court in Dublin consists of three buildings located within a light industrial/commercial area. The site was originally occupied by a metal fabrication company and then by a company that manufactured printed circuit boards. Various VOCs leaked from a sump, used to collect excess fluids, into the underlying soil, and then migrated to groundwater. Contaminated soil in the sump area was over-excavated in an effort to remove the source; however, groundwater sampling data indicates that TCE exceeding 200 ppb has extended southward underneath Interstate 580 and into Pleasanton. Several investigations have been conducted at the site to try to define the extent of contamination but the plume still needs characterization both laterally and vertically. However, it is believed that the contamination has not reached the Main Basin. Consequently, the Case Priority remains at “moderate.”

A Supplemental Remedial Investigation Work Plan was submitted to the RWQCB in March 2014. This work plan includes additional soil and groundwater sampling in the source area, as well as an investigation into possible off-site sources that could be contributing to the contamination beneath the site.

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**FIGURE 12-1
MAIN BASIN SALT LOADING CALCULATIONS
2014 WATER YEAR**

INFLOW COMPONENTS	SURFACE WATER		% Recharged	RECHARGED WATER			SALT LOAD (Tons per TAF of Rch)
	Volume Applied (AF)	TDS Conc (mg/L)		Volume Recharged (AF)	TDS Conc (mg/L)	Salt Load (Tons)	
NATURAL STREAM RECHARGE	8,970	549	12%	1,059	549	835	790
Arroyo Valle	2,689	217	16%	429	217	171	400
Flood releases recharge	0	320	0%	0	320	0	0
Natural inflow (above AVNL)	81	585	69%	56	585	45	800
Natural inflow (below AVNL)	2,608	250	14%	373	250	127	340
Arroyo Mocho	862	1,050	14%	121	1,050	173	1,430
Arroyo Las Positas	5,419	710	9%	509	710	491	960
ARROYO VALLE PRIOR RIGHTS	272	270	0%	0	270	0	0
ARTIFICIAL STREAM RECHARGE	5,228	285	73%	3,832	285	1,485	390
Arroyo Valle	2,016	270	46%	930	270	341	370
Arroyo Mocho	3,098	290	92%	2,844	290	1,120	390
Arroyo Las Positas	114	310	51%	58	310	24	410
INJECTION WELL RECHARGE	-	-	-	0	0	0	0
RAINFALL RECHARGE	15,251	0	8%	1,169	0	0	0
LEAKAGE	-	-	-	1,100	500	747	680
APPLIED WATER RECHARGE	10,880	411	18%	1,988	2,249	6,075	3,060
Urban - Municipal	8,021	389	20%	1,568	1,991	4,240	2,700
Urban - Recycled Water	1,048	547	21%	220	2,599	778	3,530
Agricultural - Municipal (SBA)	1,005	329	6%	56	5,905	449	8,020
Agricultural - Groundwater	242	592	8%	20	7,346	195	10,000
Golf Courses - Groundwater	199	524	26%	52	2,028	142	2,760
Golf Courses - Recycled Water	365	547	20%	73	2,733	271	3,710
SUBSURFACE BASIN INFLOW				1,000	1,350	1,834	1,830
TOTAL INFLOW				10,148	793	10,976	1,080

OUTFLOW COMPONENTS	WATER EXTRACTED			SALT REMOVED (Tons/TAF of Export)
	Volume Removed (AF)	TDS Conc (mg/L)	Salt Removed (Tons)	
MUNICIPAL PUMPAGE	16,633	532	12,029	720
	8,753			0
	8,753			0
Zone 7 Wells - Hop, Stone, COL	4,524	430	2,641	580
HOP 6	1,552	563	1,187	760
HOP 9	277	453	170	610
COL 1	392	432	230	590
COL 2	707	366	351	500
STONERIDGE_1	1,594	324	701	440
Zone 7 Wells - Mocho	4,230	663	3,812	900
MOCHO 1	1,292	640	1,124	870
MOCHO 2	1,169	591	938	800
MOCHO 3	805	768	840	1,040
MOCHO 4	962	695	908	940
Demin Salts Exported from Valley (subset of Zone 7 - Mocho)	214	3,607	1,047	4,900
Other	7,880	521	5,576	710
AGRICULTURAL PUMPAGE (all salt is reapplied)	636	592	511	800
MINING USE	5,198	114	806	160
Stream Export	850	383	442	520
Evaporation	3,648	0	0	0
Processing Losses	700	383	364	520
GROUNDWATER BASIN OVERFLOW	0	770	0	0
TOTAL OUTFLOW	22,466	437	13,346	590

NET RECHARGE IN 2014 WY (acre-feet)	-12,318	
NET SALT LOADING IN 2014 WY (tons)		-2,370



FIGURE 12-2
HISTORICAL SALT LOADING (in tons)
1974 TO 2014 WATER YEARS

SALT INFLOW COMPONENTS	YEAR	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995
NATURAL STREAM RECHARGE		3,210	3,464	874	581	4,638	1,723	2,706	1,513	4,803	7,657	5,286	3,058	4,941	2,852	2,610	2,782	2,480	3,356	3,665	5,743	2,544	4,376
Total Arroyo Valle		1,018	1,041	391	315	957	707	777	579	1,048	1,433	936	375	779	232	372	187	206	575	743	1,083	300	1,034
Flood releases recharge		100	344	0	0	216	0	128	0	271	624	20	0	415	0	0	0	0	98	0	528	0	472
Non Flood Natural Inflow		918	697	391	315	741	707	649	579	777	809	916	375	364	232	372	187	206	477	743	555	300	562
Arroyo Mocho		1,717	2,043	293	76	3,206	636	1,358	478	2,614	4,626	2,508	932	2,269	458	490	440	233	1,023	814	2,174	995	1,580
Arroyo Las Positas		475	380	190	190	475	380	571	456	1,141	1,598	1,842	1,751	1,893	2,162	1,748	2,155	2,041	1,758	2,108	2,486	1,249	1,762
AV PRIOR RIGHTS		361	418	31	0	494	267	386	251	502	381	236	328	286	283	325	356	125	290	151	276	321	306
ARTIFICIAL STREAM RECHARGE		986	2,201	1,914	2,289	3,286	3,699	2,897	3,238	1,617	184	0	0	0	0	525	1,585	1,809	1,590	410	1,953	2,795	1,026
Arroyo Valle		293	1,174	509	883	1,427	1,599	1,234	1,719	663	0	0	0	0	0	0	51	132	36	185	385	293	49
Arroyo Mocho		340	497	875	876	1,350	1,570	1,432	1,394	894	184	0	0	0	0	525	1,534	1,677	1,554	225	1,568	2,502	977
Arroyo Las Positas		353	530	530	530	509	530	231	125	60	0	0	0	0	0	0	0	0	0	0	0	0	0
INJECTION WELL RECHARGE		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
RAINFALL RECHARGE		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
LEAKAGE		38	43	51	59	68	79	90	102	115	129	142	156	171	185	200	215	229	245	261	277	294	312
APPLIED WATER RECHARGE		7,670	7,218	9,123	10,675	8,352	8,304	7,175	5,507	4,709	4,723	5,046	5,938	6,632	5,558	6,834	6,015	6,541	6,918	5,793	5,109	4,989	3,323
Urban - Municipal		3,359	3,508	3,457	4,607	3,858	3,434	3,115	3,035	3,076	3,064	3,183	3,592	4,100	3,810	4,791	4,498	4,850	6,023	4,884	4,370	4,221	2,700
Urban - Recycled Water		1,815	1,930	2,232	1,937	1,928	2,119	1,966	400	322	375	410	413	386	316	402	334	339	162	368	363	392	352
Agricultural - Municipal (SBA)		202	304	437	890	485	331	416	519	427	332	438	512	718	434	598	367	445	370	311	234	246	183
Agricultural - Groundwater		2,294	1,476	2,997	3,241	2,081	2,420	1,678	1,553	884	952	1,015	1,421	1,428	998	1,043	816	907	363	230	142	130	88
Golf Courses - Groundwater		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Golf Courses - Recycled Water		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Others		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SUBSURFACE BASIN INFLOW		2,038	2,038	2,058	3,648	2,506	2,017	1,325	1,284	1,284	876	1,325	1,528	1,508	1,569	1,875	2,364	2,568	3,423	3,199	2,710	2,221	2,017
		14,303	15,382	14,051	17,252	19,344	16,089	14,579	11,895	13,030	13,950	12,035	11,008	13,538	10,447	12,369	13,317	13,752	15,822	13,479	16,068	13,164	11,360

OUTFLOW COMPONENTS	YEAR	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995
MUNICIPAL PUMPAGE		-7,217	-6,577	-5,074	-4,382	-4,579	-5,351	-4,458	-4,700	-4,748	-5,410	-5,525	-5,752	-6,465	-5,537	-6,662	-6,918	-7,166	-11,272	-8,858	-6,017	-3,870	-2,667
Zone 7 Wells - Hop, Stone, COL		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-57	-442	-1,981	-1,308	-866	-103	-90
Zone 7 Wells - Mocho		-3,303	-2,057	-842	-201	-506	-532	-26	0	0	-17	-227	-863	-869	-326	-1,425	-2,082	-1,683	-3,313	-2,111	-609	-24	-125
Demin Salts Exported from Valley		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Pumpage		-3,914	-4,520	-4,232	-4,181	-4,073	-4,819	-4,432	-4,700	-4,748	-5,393	-5,298	-4,889	-5,595	-5,211	-5,237	-4,779	-5,042	-5,978	-5,439	-4,542	-3,743	-2,453
AGRICULTURAL PUMPAGE		-2,289	-1,476	-2,997	-3,241	-2,081	-2,420	-1,678	-1,553	-844	-912	-1,015	-1,378	-1,428	-998	-1,043	-776	-868	-363	-236	-142	-130	-88
Ag SFWD		-306	0	-40	-198	-164	-238	-107	-328	-98	-373	-70	-295	-406	-450	-348	-239	-275	-127	-6	0	0	0
Ag Concannon		-4	-10	-13	-13	-13	-46	-160	-72	0	0	-45	0	-45	-18	-42	0	0	-7	0	0	0	0
Ag Calculated		-1,979	-1,466	-2,943	-3,030	-1,903	-2,136	-1,411	-1,154	-747	-539	-901	-1,083	-977	-530	-653	-537	-594	-229	-230	-142	-130	-88
MINING USE		-1,126	-1,725	-802	-668	-869	-1,603	-2,508	-4,372	-4,161	-7,834	-2,857	-2,814	-6,011	-839	-2,301	-1,728	-918	-970	-1,007	-2,134	-4,928	-6,883
Stream Export		-745	-1,345	-422	-287	-489	-1,223	-2,127	-3,992	-3,781	-7,454	-2,476	-2,433	-5,535	-364	-1,825	-1,253	-443	-495	-532	-1,658	-4,453	-6,408
Evaporation		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Processing Losses		-380	-380	-380	-380	-380	-380	-380	-380	-380	-380	-380	-380	-475	-475	-475	-475	-475	-475	-475	-475	-475	-475
GROUNDWATER BASIN OVERFLOW		0	0	0	0	0	-173	-612	-635	-2,494	-3,418	-2,587	-1,386	-693	-693	-462	-122	0	0	0	0	0	-226
		-10,632	-9,778	-8,873	-8,291	-7,529	-9,547	-9,256	-11,260	-12,247	-17,574	-11,984	-11,330	-14,597	-8,067	-10,468	-9,544	-8,952	-12,605	-10,101	-8,293	-8,928	-9,864

NET SALT INFLOW (Tons)	3,671	5,604	5,178	8,961	11,815	6,542	5,323	635	783	-3,624	51	-322	-1,059	2,380	1,901	3,773	4,800	3,217	3,378	7,775	4,236	1,496
CUMULATIVE SALT INFLOW (Tons)*	3,671	9,275	14,453	23,414	35,229	41,771	47,094	47,729	48,512	44,888	44,939	44,617	43,558	45,938	47,839	51,612	56,412	59,629	63,007	70,782	75,018	76,514

TDS Concentration Calculations	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995
Net Basin Recharge (AF)		-452	5,535	-4,280	-5,917	11,983	6,440	8,154	-473	11,653	9,258	-4,133	-9,647	-1,602	-7,817	-9,011	-4,873	-5,438	-8,384	-6,486	15,190	746	13,194
Basin Storage (Hi Method)(AF)	212,000	211,548	217,083	212,803	206,886	218,869	225,309	233,463	232,990	244,643	253,901	249,768	240,121	238,519	230,702	221,691	216,818	211,380	202,996	196,510	211,700	212,446	225,640
Total Salt in Main Basin (tons)	129,598	133,269	138,873	144,051	153,012	164,827	171,369	176,692	177,327	178,110	174,486	174,537	174,215	173,156	175,536	177,437	181,210	186,010	189,227	192,605	200,380	204,616	206,112
Main Basin TDS Concentration (mg/L)	450	464	471	498	544	554	560	557	560	536	506	514	534	534	560	589	615	648	686	721	697	709	672
Cumulative Increase in TDS Conc (mg/L)**		14	21	48	94	104	110	107	110	86	56	64	84	84	110	139	165	198	236	271	247	259	222

* Basinwide salt buildup since 1973

** Basinwide TDS concentration increase relative to 1973 value of 450 mg/L



FIGURE 12-2
HISTORICAL SALT LOADING (in tons)
1974 TO 2014 WATER YEARS

SALT INFLOW COMPONENTS	YEAR	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	AVG	TOTAL
NATURAL STREAM RECHARGE		4,331	4,639	5,704	3,727	3,409	3,666	3,278	7,097	3,105	5,796	4,962	1,995	3,292	3,631	4,039	4,044	1,167	1,643	835	3,542	145,222
Total Arroyo Valle		400	1,450	1,661	1,361	956	1,823	1,399	2,833	1,081	3,652	2,274	493	1,781	1,902	2,318	983	192	289	171	1,027	42,107
Flood releases recharge		336	183	524	0	55	0	193	302	0	731	0	0	327	0	1,383	150	0	0	0	180	7,400
Non Flood Natural Inflow		64	1,267	1,137	1,361	901	1,823	1,206	2,531	1,081	2,921	2,274	493	1,454	1,902	935	833	192	289	171	847	34,707
Arroyo Mocho		2,627	1,741	2,292	996	857	575	886	2,996	838	1,241	1,813	531	504	456	826	2,697	451	826	173	1,324	54,289
Arroyo Las Positas		1,304	1,448	1,751	1,370	1,596	1,268	993	1,268	1,186	903	875	971	1,007	1,273	895	364	524	528	491	1,191	48,826
AV PRIOR RIGHTS		87	93	188	149	175	224	399	416	383	80	524	219	100	407	0	384	196	409	0	264	10,807
ARTIFICIAL STREAM RECHARGE		491	1,325	500	1,352	2,276	1,351	3,503	2,811	2,480	1,949	1,266	1,359	727	1,248	1,690	882	2,851	2,519	1,485	1,611	66,069
Arroyo Valle		31	472	107	321	242	501	647	399	476	619	330	782	727	686	635	167	1,178	573	341	485	19,866
Arroyo Mocho		460	853	393	1,031	2,034	839	2,855	2,412	2,004	1,300	914	577	0	562	1,055	698	1,649	1,943	1,120	1,041	42,673
Arroyo Las Positas		0	0	0	0	0	11	1	0	0	30	22	0	0	0	0	17	24	3	24	86	3,530
INJECTION WELL RECHARGE		0	0	0	497	498	0	0	0	0	0	0	0	0	0	0	0	0	0	0	24	995
RAINFALL RECHARGE		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
LEAKAGE		330	349	368	389	409	431	453	476	500	525	550	576	602	629	657	684	712	519	747	326	13,367
APPLIED WATER RECHARGE		4,071	4,887	4,367	3,479	4,314	5,074	5,606	4,618	5,090	4,824	3,223	5,157	6,258	6,152	5,079	4,295	6,074	8,158	6,075	5,828	238,953
Urban - Municipal		3,207	3,927	3,744	2,841	3,489	4,217	4,559	3,884	4,217	4,142	2,501	4,337	5,208	5,060	3,975	3,107	4,625	6,457	4,240	3,982	163,272
Urban - Recycled Water		460	385	274	40	83	79	136	44	60	40	107	96	30	202	327	542	588	291	778	581	23,823
Agricultural - Municipal (SBA)		274	420	280	241	302	308	378	294	300	293	249	230	474	416	323	240	414	945	449	391	16,029
Agricultural - Groundwater		130	155	69	34	54	49	53	54	57	42	42	42	46	45	45	50	57	27	195	717	29,403
Golf Courses - Groundwater		0	0	0	102	123	137	147	139	140	154	84	163	188	172	160	113	131	184	142	56	2,279
Golf Courses - Recycled Water		0	0	0	221	263	284	333	203	316	153	240	289	312	257	249	243	259	254	271	101	4,147
Others		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SUBSURFACE BASIN INFLOW		1,875	1,386	1,651	1,528	1,846	1,970	1,970	1,970	1,970	2,513	2,309	2,174	2,214	2,106	1,997	2,024	2,092	448	1,834	1,982	81,258
		11,185	12,679	12,778	11,121	12,927	12,716	15,209	17,388	13,528	15,687	12,834	11,480	13,193	14,173	13,462	12,313	13,092	13,696	10,976	13,577	556,671

OUTFLOW COMPONENTS	YEAR	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	AVERAGE	TOTAL
MUNICIPAL PUMPAGE		-3,877	-5,197	-6,510	-6,108	-8,561	-10,617	-12,103	-11,156	-12,488	-10,091	-5,573	-8,441	-9,279	-14,626	-12,613	-9,873	-16,765	-12,781	-12,028	-10,613	-287,557
Zone 7 Wells - Hop, Stone, COL		-757	-275	-517	-2,368	-2,553	-4,018	-3,732	-3,420	-4,266	-1,993	-1,398	-1,357	-3,226	-3,969	-1,294	-1,207	-2,795	-3,605	-2,641	-2,703	-43,254
Zone 7 Wells - Mocho		-767	-682	-397	-167	-783	-1,745	-3,322	-2,271	-3,762	-3,003	-1,170	-1,976	-1,402	-5,448	-6,563	-4,040	-8,204	-3,997	-3,812	-3,200	-51,202
Demin Salts Exported from Valley		0	0	0	0	0	0	0	0	0	0	0	0	0	-798	-2,759	-2,006	-4,064	-2,479	-1,047	-321	-13,153
Other Pumpage		-2,353	-4,240	-5,596	-3,572	-5,224	-4,855	-5,049	-5,465	-4,459	-5,196	-3,005	-5,107	-4,651	-5,208	-4,756	-4,625	-5,766	-5,179	-5,576	-4,710	-193,101
AGRICULTURAL PUMPAGE		-130	-155	-47	-46	-188	-182	-94	-73	-79	-80	-46	-43	-68	-68	-73	-68	-77	-393	-511	-741	-30,379
Ag SFWD		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-99	-4,068
Ag Concannon		0	0	0	0	-114	-115	-20	0	-1	0	0	0	0	0	0	0	0	0	0	-18	-738
Ag Calculated		-130	-155	-47	-46	-74	-67	-74	-73	-78	-80	-46	-43	-68	-68	-73	-68	-77	-393	-511	-624	-25,573
MINING USE		-7,507	-9,983	-9,588	-8,642	-5,792	-4,520	-475	-276	-438	-454	-658	-584	-714	-1,341	-1,428	-2,756	-3,064	-3,042	-806	-3,023	-123,937
Stream Export		-7,041	-9,460	-9,084	-8,081	-5,316	-4,006	-111	0	-84	-94	-218	-274	-305	-913	-1,057	-2,368	-2,665	-2,655	-442	-2,534	-103,914
Evaporation		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Processing Losses		-466	-523	-504	-561	-475	-514	-364	-276	-354	-360	-440	-310	-409	-428	-371	-388	-399	-387	-364	-420	-17,203
GROUNDWATER BASIN OVERFLOW		-968	-960	-998	-482	-175	0	0	0	0	0	0	-738	-1,080	-171	0	0	0	0	0	-465	-19,073
		-12,482	-16,295	-17,143	-15,278	-14,716	-15,319	-12,672	-11,505	-13,005	-10,625	-6,277	-9,806	-11,141	-16,206	-14,114	-12,697	-19,906	-16,216	-13,345	-11,914	-488,468

NET SALT INFLOW (Tons)	-1,297	-3,616	-4,365	-4,157	-1,789	-2,603	2,537	5,883	523	5,062	6,557	1,674	2,052	-2,033	-652	-384	-6,814	-2,520	-2,369	1,663	68,203
CUMULATIVE SALT INFLOW (Tons)*	75,217	71,601	67,236	63,079	61,290	58,687	61,224	67,107	67,630	72,692	79,249	80,923	82,975	80,942	80,290	79,906	73,092	70,572	68,203		

TDS Concentration Calculations	1973	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Net Basin Recharge (AF)		2,015	-1,242	2,015	-4,750	-3,806	-11,876	518	8,953	-4,828	11,797	7,742	-5,886	-4,724	-6,870	2,087	2,237	-11,938	-7,167	-12,318
Basin Storage (HI Method)(AF)	212,000	227,655	226,413	228,428	223,678	219,872	207,996	208,514	217,467	212,639	224,436	232,178	226,292	221,568	214,698	216,785	219,022	207,084	199,917	187,599
Total Salt in Main Basin (tons)	129,598	204,815	201,199	196,834	192,677	190,888	188,285	190,822	196,705	197,228	202,290	208,847	210,521	212,573	210,540	209,888	209,504	202,690	200,170	197,801
Main Basin TDS Concentration (mg/L)	450	662	654	634	634	639	666	674	666	683	663	662	685	706	722	713	704	721	737	776
Cumulative Increase in TDS Conc (mg/L)**		212	204	184	184	189	216	224	216	233	213	212	235	256	272	263	254	271	287	326

* Basinwide salt buildup since 1973

** Basinwide TDS concentration increase relative to 1973 value of 450 mg/L



FIGURE 12-3
GRAPHS OF SALT LOADING AND CONCENTRATIONS
1974 TO 2014 WATER YEARS

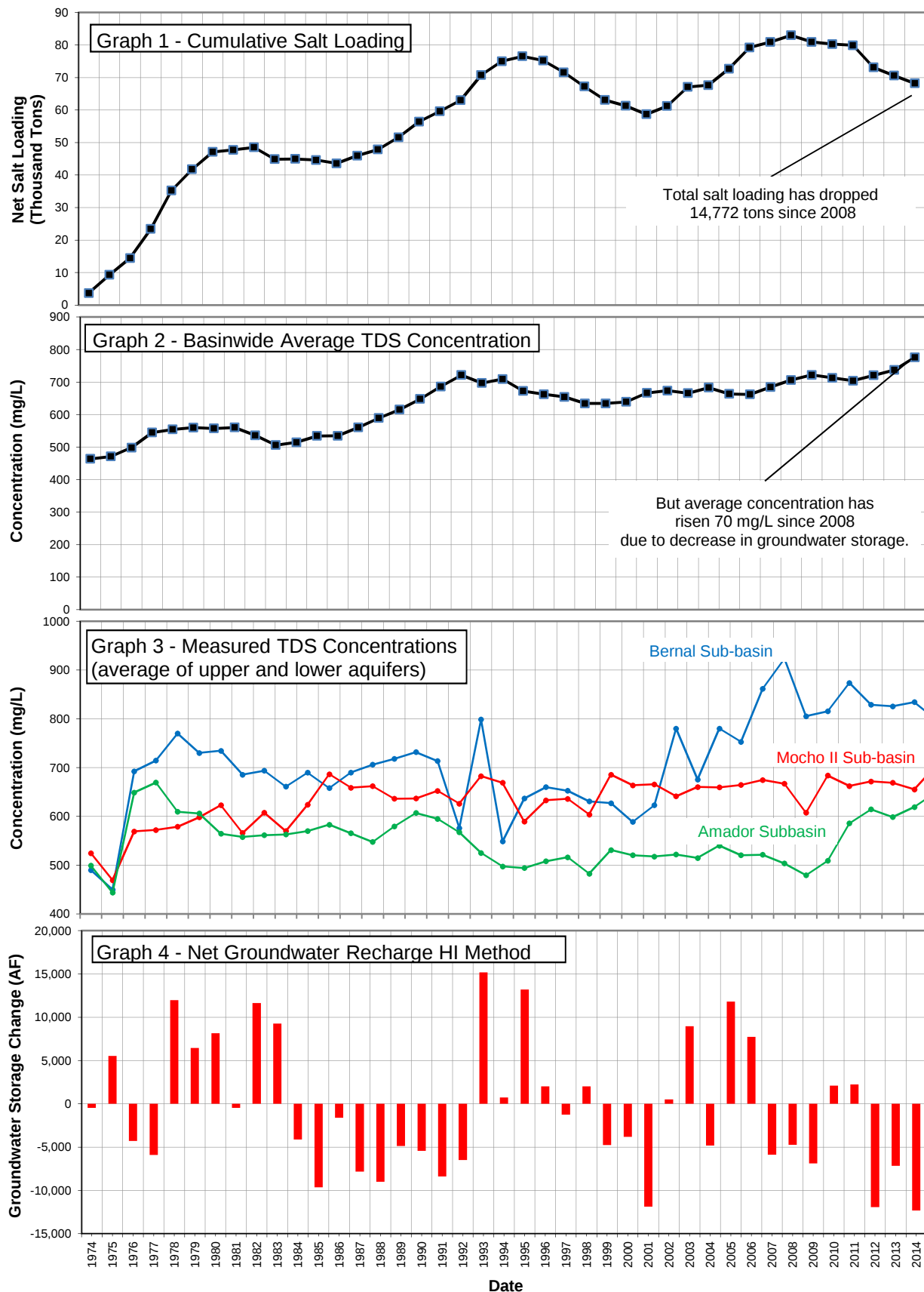




FIGURE 12-4 TOXIC SITES SURVEILLANCE CASE PRIORITY SYSTEM

Priority 1 — High Priority Sites

- A. Current Drinking Water Source — Impacted or Likely Impacted Through Future Migration
 - 1. Currently used municipal or domestic well impacted (i.e., drinking water wells where MCLs are exceeded)
 - 2. Currently used municipal or domestic well threatened (e.g., release site within 2000 ft of currently used well and/or possible vertical conduit exists to deep zone if deep zone currently used as drinking water source for the threatened well.
 - 3. Currently used identified regional “sole source aquifer” impacted (i.e., MCLs exceeded at any aquifer point)
 - 4. Other currently used municipal or domestic aquifer impacted
 - 5. Currently used aquifer threatened by future migration (i.e., lateral pollutant transport or vertical movement through conduit)
- B. Known Health/Safety/Environmental Impacts Requiring Prompt Action
 - 1. Vapors at explosive levels in confined space (i.e., sewers or basements)
 - 2. Vapors detected above human health safe levels at/near human receptors
 - 3. Free product in soil/groundwater
 - 4. SW/Aquatic/Environment impacted (sheen or habitat covered)
 - 5. Soil quality levels exceed human health safe levels and exposure likely given existing site conditions
- C. Administrative or Enforcement Need Requires Prompt Action
 - 1. 2004 Funding available through “letter of commitment”
 - 2. Enforcement action follow-up is necessary
 - 3. Closure request received from RP
 - 4. Public/RP/Political concerns require expeditious efforts

Priority 2 — Moderate Priority Sites

- A. Water Resource Other than Currently Used Drinking Water Is or May Be Impacted
 - 1. Existing beneficial use (other than municipal or domestic drinking water) impacted (e.g., agriculture, cooling water)
 - 2. Potential or Known source of drinking water (defined by SWRCB Policy 88-63) significantly impacted with high probability of future use determined
 - 3. Existing beneficial use threatened (requires pollutant migration study and re-prioritize)
 - 4. Soil contamination currently exists (requires additional investigation of GW/SW and/or soil to review threat and re-prioritize)
- B. Other Health/Safety/Environmental Impacts Exists or Is Unknown (Requires Additional Investigation (GW/SW), and/or Health or Ecological Risk Assessment)
 - 1. Potential vapors at explosive levels in confined space
 - 2. Potential vapors above human health safe levels with receptors
 - 3. Potential free product at site
 - 4. Potential for migration to aquatic habitats or surface water
 - 5. Potential human exposure to soil above safe level
- C. Closure request being evaluated



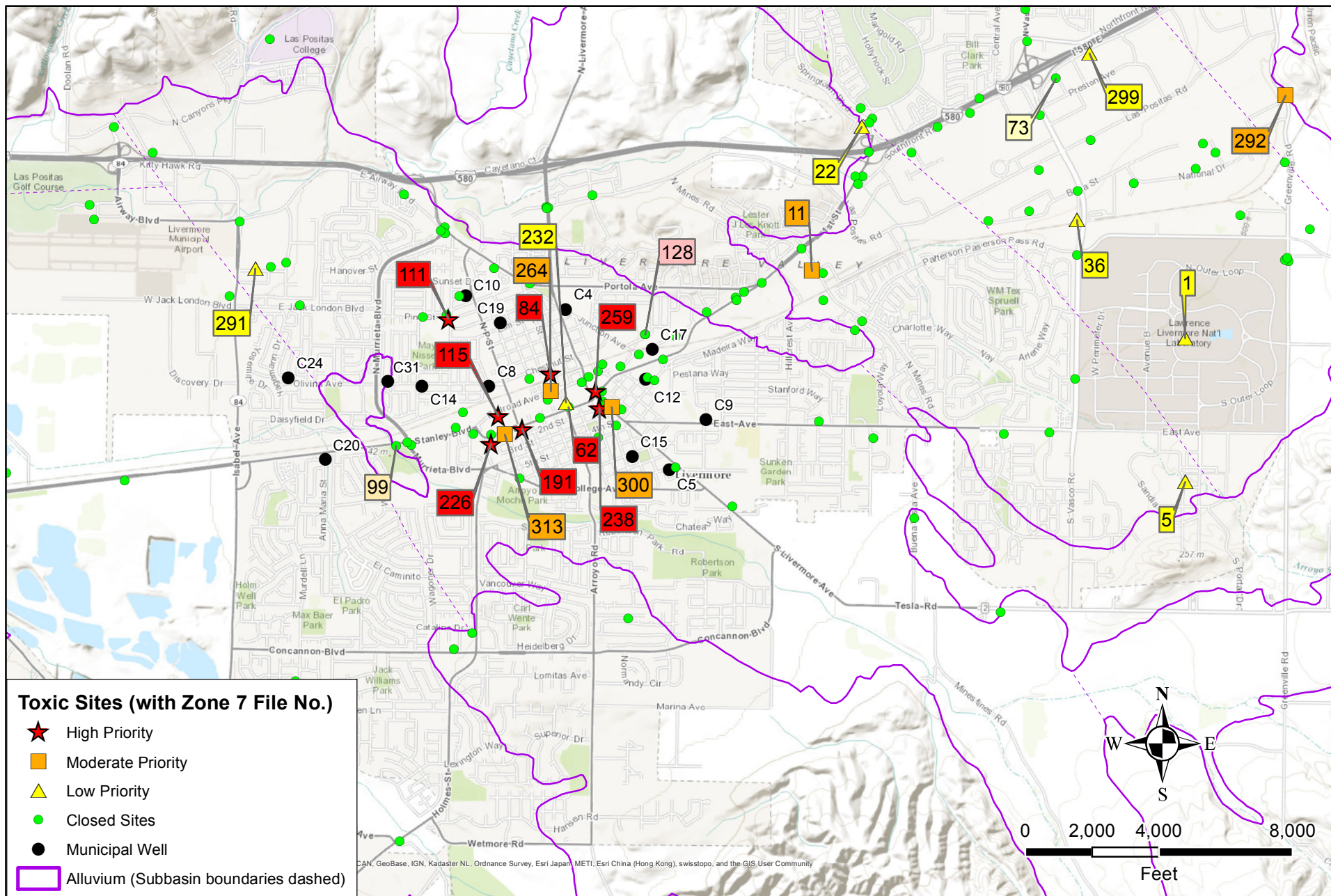
FIGURE 12-4 TOXIC SITES SURVEILLANCE CASE PRIORITY SYSTEM

Priority 3 — Low Priority Sites

- A. Minor or No Potential Water Resource Impact Exists
 - 1. No designated beneficial uses of the water which is impacted
 - 2. Potential or Known source of drinking water (defined by SWRCB Policy 88-63) with limited or minor impacts
 - 3. Potential or Known source of drinking water (defined by SWRCB Policy 88-63) impacted where low probability of future use is determined
- B. Low Potential Health/Safety/Environmental Impact Exists After Investigation and, if necessary, a Health or Ecological Risk Assessment Completed and Accepted by Lead Agency
 - 1. Soil only cases with residual contaminated soil left in place (with or without follow-up verification monitoring)
 - 2. Soil only cases where full cleanup to background levels is achieved
- C. Slated for Closure

Notes:

A “0” is used to represent a closed site.



ZONE 7 WATER AGENCY
100 North Canyons Parkway,
Livermore, CA

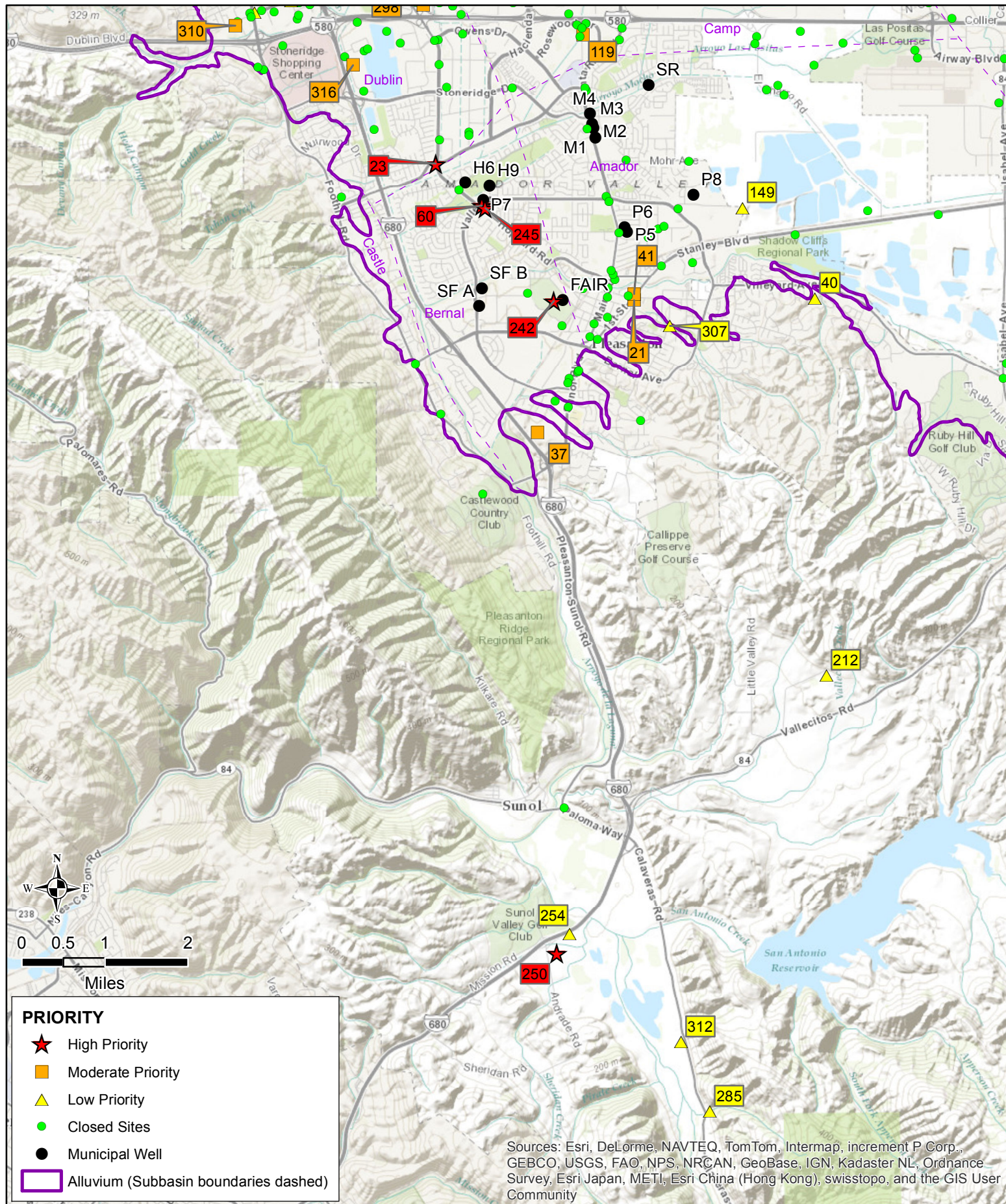
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Scale: 1" = 4,000'

REVIEWED: MK

Date: 4/30/2015

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ZONE 7 WATER AGENCY
100 North Canyons Parkway,
Livermore, CA

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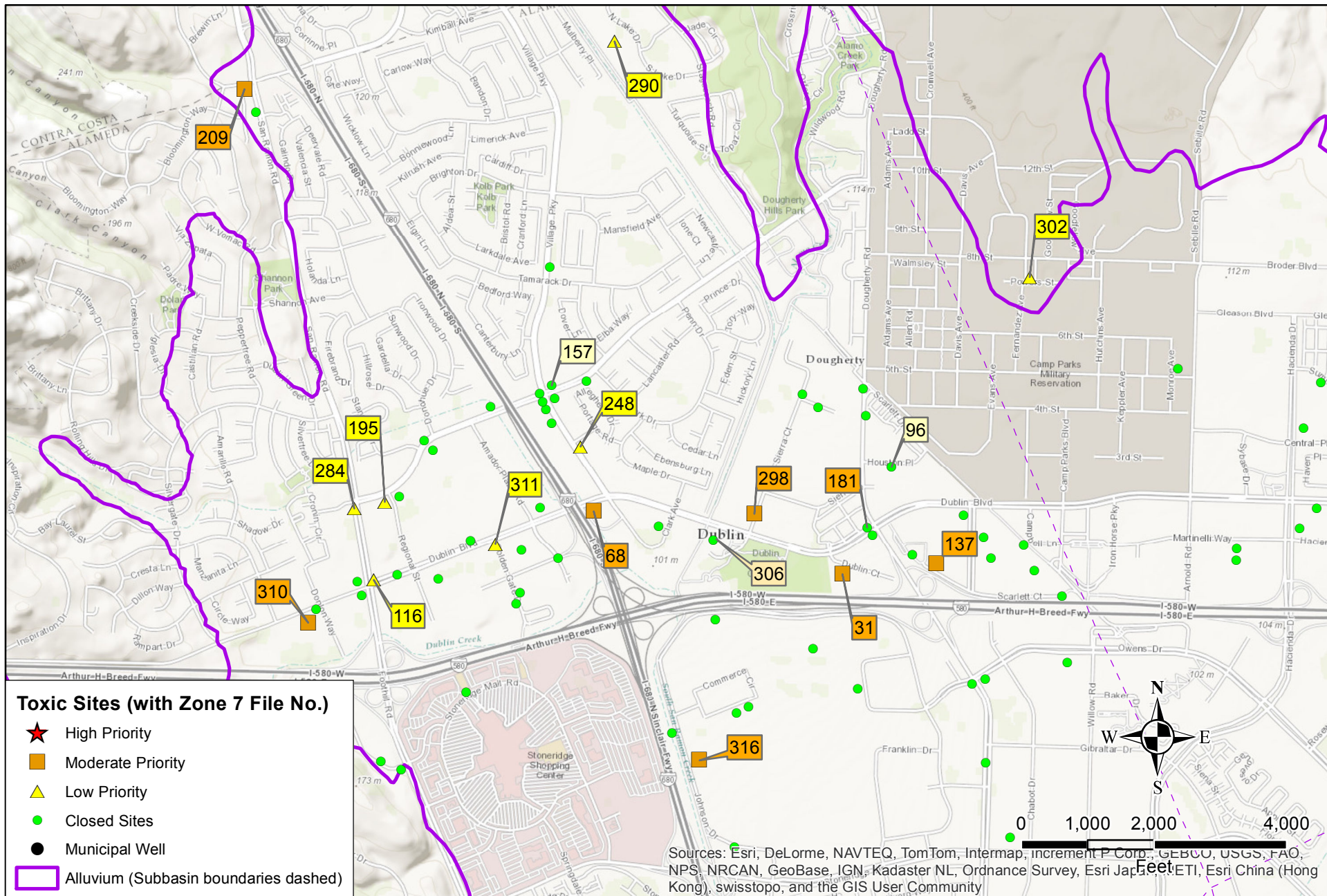
Scale: 1" = 1.5 miles

REVIEWED: MK

Date: Apr 30, 2015

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Figure 12-6
Toxic Site Surveillance
Pleasanton and Sunol Area Sites
with Zone 7 Case ID



ZONE 7 WATER AGENCY
100 North Canyons Parkway,
Livermore, CA

DRAWN: CD/CW

Scale: 1" = 2,000'

REVIEWED: MK

Date: 4/30/2015

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Figure 12-7
Toxic Site Surveillance
Dublin Area Sites with Zone 7 Case ID
(North of Main Basin)



**FIGURE 12-8
TOXIC SITES SURVEILLANCE - ACTIVE SITES SUMMARY
2014 WATER YEAR**

<i>Z7 ID</i>	<i>OWNER</i>	<i>SITE NAME</i>	<i>ADDRESS</i>	<i>CITY</i>	<i>PRIORITY</i>	<i>STATUS</i>	<i>LEAD AGENCY</i>	<i>NOTES</i>
1	Lawrence Livermore National Laboratory	Lawrence Livermore Lab	7000 East ave Livermore	Livermore	3A3	7	ACEH	3/9/15- In 2013, approximately 43 kilograms (kg) of volatile organic compounds (VOCs) from ground water and 27 kg of VOCs from soil vapor were removed from the site. In 2013, VOC concentrations declined or remained stable. During 3rd quarter 2014 LLNL pumped 66,240 Kgal of groundwater and extracted 11,348 Kcf of vapor. This resulted in 8.4 kg of VOCs removed from groundwater and 5.4 kg removed from soil vapor. The 2014 annual report is not yet available. https://www-envirinfo.llnl.gov/siteAnnualReports.php
					<i>CHEMICAL</i>	<i>CONCENTRATION ug/L</i>		
					TCE	1,000		
5	Sandia National Laboratory	Sandia National Labs	7011 East Avenue	Livermore	3A3	8	RWQCB	3/10/15 - PCE = ND; Carbontetrachloride = 1.9 ppb and Trichlormethane = 0.67 ppb at Landfill. TPHd was not detected in any of the wells at the Fuel Site. Http://www.sandia.gov/news/publications/environmental/index.html
					<i>CHEMICAL</i>	<i>CONCENTRATION ug/L</i>		
					TPHd	ND		
					NO3	23		
					CCL4	1.9		
					CR(IV)	0.0061		

<i>Z7 ID</i>	<i>OWNER</i>	<i>SITE NAME</i>	<i>ADDRESS</i>	<i>CITY</i>	<i>PRIORITY</i>	<i>STATUS</i>	<i>LEAD AGENCY</i>	<i>NOTES</i>
11	Intel	Intel Livermore Fabrication Plant 3	250 North Mines Road	Livermore	2A3	8	RWQCB	3/12/15-RP continues to work toward closure of the case. The approved remediation is natural attenuation but the RP has added extra remediation to try to expedite clean up and closure. The RP submitted a workplan for additional site characterization of the groundwater offsite in the three identified groundwater zones using CPT and Hydropunch.
					<i>CHEMICAL</i>	<i>CONCENTRATION ug/L</i>		
					TCE	200		
					1,2-DCE	180		
					VC	47		
					PCE	13		
21	Shell Oil	First Street Shell	4212 First Street	Pleasanton	2A3	7	ACEH	1/23/15 - Additional air sparging and dual-phase extraction remediation was conducted at the site. The RP feels the site meets the LTCP criteria for case closure. ACEH agreed that the groundwater monitoring could be modified but feels the semi-annual sampling should continue for now.
					<i>CHEMICAL</i>	<i>CONCENTRATION ug/L</i>		
					TPHg	2600		
					MTBE	2600		
					BENZ	59		
22	Chevron Environmental Management	Former Texaco/Chevron #21-1253	930 Springtown Boulevard	Livermore	3C	8	ACEH	1/7/15 - Case was closed under LTCP Scenario 3. Plume is less than 250 and is greater than 1,000 feet from a surface water body or groundwater well. Contamination remains onsite that requires land use to be restricted to commercial/industrial. If the land use changes ACEH must be notified and the case will be reassessed.
					<i>CHEMICAL</i>	<i>CONCENTRATION ug/L</i>		
					TPHg	14,000		
					BENZ	650		
					MTBE	NA		

Z7 ID	OWNER	SITE NAME	ADDRESS	CITY	PRIORITY	STATUS	LEAD AGENCY	NOTES
23	Shell Oil (Equilon)	South Hop Shell #13-5784	3790 Hopyard Road	Pleasanton	1C3	8	ACEH	1/20/15 - The RP has predicted that the groundwater concentrations will all reach WQOs by 2021 with the exception of one well. The TBA in well S-6 is predicted to reach WQOs by 2053. The RP conducted a special sampling event on seven select wells for MTBE and TBA to confirm the trend in MTBE concentrations. The ACEH reviewed the case and along with the RWQCB has determined that this site fits LTCP groundwater scenario 5. Staff has discussed the case with ACEH and has accepted the proposed case closure. Staff requested groundwater sampling for general water quality prior to well destruction. RP obliged.
					CHEMICAL	CONCENTRATION ug/L		
					TPHg	770		
					MTBE	9.5		
					TBA	1,200		
					BENZ	4.4		
31	Ozzie Davis Pontiac Toyota	Dublin Toyota Pontiac	6450 Dublin Court	Dublin	2A4	7	ACEH	2/24/15 - RP submitted the Second Semi-Annual 2013 Groundwater Monitoring Report but has not yet completed the SCM which will evaluate the case for low-threat closure. The First Semi-Annual 2014 Groundwater Monitoring Report was due August 11, 2014 and the Site Conceptual Model and Low-threat Case Closure Evaluation was due August 21, 2014.
					CHEMICAL	CONCENTRATION ug/L		
					TPHg	350		
					MTBE	1,000		
					BENZ	7.4		
					TBA	740		
33	Republic Services (Formerly Browning-Ferris Industries)	Vasco Road Landfill	4001 North Vasco Road	Livermore	3	5	RWQCB	3/13/15 - Annual 2014 Water Quality Self Monitoring Report on file. Some increasing trends in TDS. No VOCs detected above MCLs. Most not detected above reporting limits. This case is an ongoing self-monitoring operating landfill. There was a toxic case at the same address that was closed in 1997.
					CHEMICAL	CONCENTRATION ug/L		
					TDS	4,600		
					TPH	NA		

Z7 ID	OWNER	SITE NAME	ADDRESS	CITY	PRIORITY	STATUS	LEAD AGENCY	NOTES
36	Richmond Lox/ Salinas Reinforcement	Salinas Reinforcing Inc.	355 South Vasco Road	Livermore	3A3	5C	RWQCB	3/16/15 - A Deeper Groundwater Investigation was conducted in 2014. Funding is running low. RP feels there are additional upgradient off-site unidentified sources that are responsible for the deeper contamination. The RP recommends focusing remaining funds on remediation of deeper contamination, completeing vapor intrusion eval, sampling only select wells and including the results in remediation reports eliminating the separate status reports. RWQCB comments pending.
					CHEMICAL	CONCENTRATION ug/L		
					TCE	940		
					TPHg	NA		
					BENZ	NA		
37	Applied Biosystems (formerly Kaiser Aluminum & Chemical)	Applied Biosystems	6001 (formerly 6177) Sunol Boulevard	Pleasanton	2A2	8	DTSC	2/25/14 - 5 year remedial action review report submitted by the RP showed the remediation activities are working. The RP recommended annual sampling be reduced to sampling every 5 years. DTSC approved the recommendations. An annual certification for site compliance was submitted Jan 2014. Former LUFTcase #T0600191128 was closed 7/13/2009. This case involved a diesel fuel tank spill.
					CHEMICAL	CONCENTRATION ug/L		
					PCE	22		
					TCE	0.59		
					1,1-DCE	9.8		
40	Pleasanton Garbage Service	Old Pleasanton Landfill	2512 Vineyard Avenue and Pietronave Lane	Pleasanton	3	ReO	RWQCB	3/6/ - 2014 Semi-Annual Discharge Monitoring Report on file. Groundwater quality appears to be in line with past levels.

<i>Z7 ID</i>	<i>OWNER</i>	<i>SITE NAME</i>	<i>ADDRESS</i>	<i>CITY</i>	<i>PRIORITY</i>	<i>STATUS</i>	<i>LEAD AGENCY</i>	<i>NOTES</i>
41	Unocal (Tosco), #7376	First Pleas Unocal, #7376	4191 First Street	Pleasanton	2A3	7	RWQCB	3/6/15-The RWQCB rejected the RP's request for closure. The case does not meet the LTCP criteria. The plume is greater than 250 feet in length, the max dissolved concentration of MTBE exceeds 1,000 mg/L, and the Arroyo del Valle is within 300 feet of the defined plume boundary.
					<i>CHEMICAL</i>	<i>CONCENTRATION ug/L</i>		
					MTBE	3,100		
					BENZ	1,500		
					TPHg	10,000		
60	Exxon	former Steve's Exxon, #7-3399	2991 Hopyard Road	Pleasanton	1A2	7	ACEH	3/6/15 - A significant portion of the wells are dry or have insufficient water to sample. ACEH had requested that all groundwater samples be analyzed for VOCs. PCE was detected in one well at 0.6 ug/L. The samples were non-detect for fuel components. The RP recommends trying to sample again in the first and second quarter of 2015.
					<i>CHEMICAL</i>	<i>CONCENTRATION ug/L</i>		
					MTBE	230		
					TPHg	210		
					BENZ	8.9		
62	Balagi Angle	Desert Petroleum/B&C Mini Mart/ B&C Mini Mart	2008 First Street	Livermore	1C3	8	ACEH	3/6/15 - The RP completed the additional sampling that ACEH requested based on Zone 7's comments on the case closure. The sampling supports the plume stability and the case qualifies for closure under the LTCP. The RP will destroy the monitoring wells. Staff is looking at taking over one of the monitoring wells for use in the Zone 7 groundwater monitoring network.
					<i>CHEMICAL</i>	<i>CONCENTRATION ug/L</i>		
					MTBE	41		
					BENZ	28		
					TPHg	720		

Z7 ID	OWNER	SITE NAME	ADDRESS	CITY	PRIORITY	STATUS	LEAD AGENCY	NOTES
68	Chevron	Chevron, #9-2582 (Dublin Auto Wash)	7240 Dublin Boulevard	Dublin	2B3	7	ACEH	2/10/15-ACEH approved the workplan for additional investigation to complete SCM and evaluate for closure. The work includes grab groundwater samples. The Site Assessment Report is due March 5, 2015.
				CHEMICAL		CONCENTRATION ug/L		
				MTBE		<450		
				BENZ		430		
				TPHg		5,700		
84	Livermore Redevelopment Agency	Arrow Rentals	187 North L Street	Livermore	1A2	7	ACEH	10/8/14- ACEH approved a "Plume Delineation Work Plan," which includes the installation of two downgradient monitoring wells and one monitoring and extraction well in the source area. A Well Installation Report and the 2nd Semi-annual 2014 Groundwater Monitoring and Remedial Systems Operations Report are due by February 15, 2015. The SWRCB evaluated the case for closure in Sept 2014. The case did not meet the low-threat closure criteria for groundwater due to high benzene concentrations and the plume extent is not fully defined. The DPE and air sparging systems continue to operate. 3/9/15-Report still pending in GeoTracker.
				CHEMICAL		CONCENTRATION ug/L		
				TPHg		25,000		
				TPHd		NA		
				MTBE		84		
				BENZ		5,900		
111	Arco	Arco, #00771	899 Rincon Avenue	Livermore	1C3	8	ACEH	10/16/14-Case was closed under Scenario 2 of the LTCP. Case closure was granted for current commercial land use. The site needs to be reevaluated prior to any land use changes.
				CHEMICAL		CONCENTRATION ug/L		
				MTBE		170		
				BENZ		490		
				TPHg		4200		

Z7 ID	OWNER	SITE NAME	ADDRESS	CITY	PRIORITY	STATUS	LEAD AGENCY	NOTES
115	LASC/MOSC (Livermore Arcade)	Livermore Arcade (Miller's Outpost)		Livermore	1A2	5R	RWQCB	3/16/15 - RP submitted a Revised Final RAP. Zone 7 submitted a comment letter to the RWQCB. RWQCB is still finalizing the revised Site Cleanup Order and review of the RAP. The RP conducted the Data Gap Investigation. The RP requested to continue EISB Treatment and has an updated monitoring plan to evaluate its effectiveness. The RP has submitted a contingency plan for if dissolved metal is detected in the downgradient CWS well, for if degradation of PCE and its daughter products stall, and for if CVOC concentrations increase above vapor intrusion concerns.
					CHEMICAL	CONCENTRATION ug/L		
					PCE	120		
					TCE	13		
					cis-1,2-DCE	42		
					Vinyl Chloride	130		
116	Chevron	Rich's Chevron Service	7007 San Ramon Road	Dublin	3C	8	ACEH	3/9/15-ACEH didn't receive comments on case closure. Closure will proceed after proper destruction of all monitoring wells. Well decommissioning report is due by January 15, 2015. This site is outside the main groundwater basin.
					CHEMICAL	CONCENTRATION ug/L		
					MTBE	<10		
					BENZ	480		
					TPHg	21,000		
119	East Bay BMW	BMW	3830 Old Santa Rita Road	Pleasanton	2	3B	RWQCB	3/24/14 - The case is showing inactive in GeoTracker. In December 2013 a path to closure plan was developed. The impediments to Low-Threat Closure at this point are: 1) no site conceptual model developed; 2) soil and groundwater have not been tested for MTBE; 3) groundwater has not been investigated enough to show that the plume is stable and decreasing; and 4) vapor intrusion to indoor air has not been investigated.
					CHEMICAL	CONCENTRATION ug/L		
					TPH			

<i>Z7 ID</i>	<i>OWNER</i>	<i>SITE NAME</i>	<i>ADDRESS</i>	<i>CITY</i>	<i>PRIORITY</i>	<i>STATUS</i>	<i>LEAD AGENCY</i>	<i>NOTES</i>
137	Busick Air Conditioning	Busick Gearing Properties	6341 Scarlett Court	Dublin	2A3	5C	RWQCB	3/9/15 - A supplemental remedial investigation workplan was submitted to the RWQCB in March 2014. The proposed investigation includes collecting soil and GW samples at the source area and an investigation into off-site sources that could be contributing to the contamination. RWQCB provided comments in August 2014 but a revised workplan or investigation report has not been submitted to GeoTracker.
					<i>CHEMICAL</i>	<i>CONCENTRATION ug/L</i>		
					TCE	5,200		
					PCE	120		
149	Kaiser Sand and Gravel	Hanson Aggregates	3000 Busch Road	Pleasanton	3A1	5R	ACEH	1/22/15 - Work on the closure plan is still ongoing. Because of the expanded scope of work and the continuing field activities, the RP requested an extension to April 18, 2014 for the technical reports. No further progress has been made at the site. ACEH has sent two letters requesting funds for oversight and has not received payment.
					<i>CHEMICAL</i>	<i>CONCENTRATION ug/L</i>		
					BENZ	ND		
					TPHd	50		
191	Ultramar/Tesoro No. 67076	Former Beacon, #3604	1619 First Street	Livermore	1A2	7	ACEH	3/9/15-ACEH agreed with RP recommendation to continue groundwater monitoring and ISCO pilot test. All outstanding reports need to be uploaded to GeoTracker and quarterly status reports will continue.
					<i>CHEMICAL</i>	<i>CONCENTRATION ug/L</i>		
					TPHg	12,000		
					MTBE	200		
					BENZ	1,400		
					TBA	100		

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195	Unocal (Tosco)	Unocal, #7176	7850 Amador Valley Boulevard	Dublin	3C	8	ACEH	10/3/14 - ACEH approved case closure request. No comments were received during the public comment period. All monitoring wells were properly destroyed. This site is outside of the main groundwater basin.
					CHEMICAL	CONCENTRATION ug/L		
					TPHd	760		
					TPHg	2,400		
					MTBE	<5		
					BENZ	<0.50		
209	Shell Oil	SHELL #13-5244	8999 San Ramon Rd.	Dublin	2A	5C	ACEH	10/16/14 - A well survey and groundwater modeling report identified two downgradient supply wells (one domestic supply well 2,000 feet downgradient and one irrigation well 2,700 feet downgradient). The groundwater modeling indicates that the MTBE from the deeper zone will not reach these downgradient wells. Semi-annual monitoring is continuing. MTBE was detected at 150 ug/L in the deepest downgradient monitoring well during the August 2014 groundwater sampling event. ACEH has asked for a plume deliniation to help move the site toward closure.
					CHEMICAL	CONCENTRATION ug/L		
					TPHd	150		
					TPHg	780		
					TBA	67		
					MTBE	180		
212	GE Nuclear Energy	Vallecitos Nuclear Center	6705 Vallecitos Road	Sunol	3	ongoing	RWQCB	3/9/15 - Third Quarter 2014 Report indicated elevated nitrate and TDS concentrations detected in select wells. The report concludes that these levels are still close to background levels based on the results from samples collected from an upgradient well designated as a background well.
					CHEMICAL	CONCENTRATION ug/L		
					RAD			
					TDS	1,200		
					Nitrate	70		

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226	Manwel Shuwyahat	Livermore Gas and Minimart	160 Holmes Street	Livermore	1A2	7	ACEH	1/26/15 - ACEH concurred with the RP's recommendation to not collect groundwater samples during the third quarter of 2014 if the majority of "A" zone wells remain dry. TBA concentrations are still elevated (up to 29,000 ppb) in several wells following the 2011 and 2013 ISCO injections. ACEH has required TBA to be added to the analysis for all future groundwater samples. Next monitoring report is due January 24, 2015.
					<i>CHEMICAL</i>	<i>CONCENTRATION ug/L</i>		
					TPHd	480		
					BENZ	4.6		
					MTBE	8800		
					TBA	37,000		
					TPHg	820		
232	Bordoni Ranch LLC and Green Valley Corporation Tenancy in Common	Groth Brothers Chevrolet	59 South L Street	Livermore	3A1	8	RWQCB	3/9/15 - RWQCB prepared an Annual Estimate for Site Cleanup Program Cost Recovery Oversight for the case and estimates \$3,000 in oversight costs for FY 14/15. Several USTs obtained case closure. T0600101656 case is closed as of 11/5/2009 with oil and grease remaining in soil up to 1,100 ppm. Remaining environmental issues are being tracked as SL0600147081
					<i>CHEMICAL</i>	<i>CONCENTRATION ug/L</i>		
					BENZ	3,100		
					MTBE	1,200		
					TPHg	61,000		
					PCE	38		
238	All Rents	All Rents	2247 Second St	Livermore	1A2	5C	UNK	Former onsite dry cleaners identified, Permit # 20034, RWQCB informed of site
					<i>CHEMICAL</i>	<i>CONCENTRATION ug/L</i>		
					1,2-DCE	14		
					TCE	250		
					PCE	430		

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242	Alameda County Fairgrounds	Fairground Main Well (3S/1E 20B 2)	4501 Pleasanton Avenue	Pleasanton	1A1	1		RWQCB informed of site. Not yet a formal case. LGA grant proposal submitted to DWR by Zone 7. If funded, the grant project would continue investigations into potential responsible parties, as well as, conduct soil gas surveys and collect groundwater samples to help delineate PCE contamination.
					CHEMICAL	CONCENTRATION ug/L		
					PCE	16		
245	Ms. Clare Leung	Hopyard Cleaners	2771 Hopyard Road	Pleasanton	1A2	7	RWQCB	3/5/15 - The RWQCB is evaluating the case for closure. Staff is working with the RWQCB to ensure that groundwater resources in the area are protected. The latest round of remediation has shown that CVOC concentrations have been significantly reduced.
					CHEMICAL	CONCENTRATION ug/L		
					cis-1,2-DCE	556		
					TCE	91.2		
					PCE	72.6		
					Vinyl Chloride	198		
248	Mr. Roger Woodward/Mr. Kewal Singh	Corwood Carwash	6973 Village Parkway	Dublin	3A2	8	ACEH	3/9/15 - ACEH sent a letter to the RP asking to meet with them to discuss potential closure under the new LTCP. No additional information is available in GeoTracker.
					CHEMICAL	CONCENTRATION ug/L		
					BENZ	310		
					MTBE	1800		

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250	Murray Kelsoe	Sunol Tree Gas	3004 Andrade Road	Sunol	1A1	7	ACEH	3/9/14 - ACEH transferred the case to the RWQCB on 5/31/12. GeoTracker shows the new caseworker as Martin Mosonge. A TPHg detection that is isolated and away from the Sunol Tree Gas may indicate a separate source. The case doesn't qualify for closure under the LTCP because there isn't a public water supply. However, the RP plans to request a case closure review.
					CHEMICAL	CONCENTRATION ug/L		
					TBA	150		
					TPHg	420		
					MTBE	47		
254	Mission Valley Rock & Asphalt	Mission Valley Rock & Asphalt	7999 Athenour Way	Sunol	3C	8	ACEH	10/15/14 - Case has been approved for closure with a deed restriction and a site management plan in place to protect workers and visitors from the contamination that remains on site. A well decommissioning report is due 5/28/14.
					CHEMICAL	CONCENTRATION ug/L		
					TPHd	54,000		
					TPHg	6,800		
					BENZ	38		
					MTBE	160		
259	City of Livermore	CHEVRON #30-7233 /Mills Square Park/Performing Arts Theater	2259 First Street	Livermore	1A2	5R	ACEH	3/9/15 - ACEH conditionally approved the "Work Plan for Near-Surface Soil Removal and Surface Mitigation." The final soil removal depths will be determined later based on the proposed final grade of the site after redevelopment. RP has been continuing with Semi-Annual monitoring but hasn't submitted additional workplans or reports to GeoTracker.
					CHEMICAL	CONCENTRATION ug/L		
					TPHg	2,700		
					BENZ	26		
					TPHd	1,600		

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264	Livermore Redevelopment Agency/Signature Properties	Railroad Ave-Livermore Site	1934 - 1950 Railroad Avenue at North L Street	Livermore	2A4	1	ACEH	3/24/14 - Case inactive since 2005. ACEH transferred case to Reg Board but no case file in GeoTracker.
				<i>CHEMICAL</i>		<i>CONCENTRATION ug/L</i>		
				MTBE		280		
				BENZ		130		
				TPHg		1,200		
				PCE		30		
284	Gabriel Chiu	Former Crow Canyon Dry Cleaner	7272 or 7242 San Ramon Road	Dublin	3C	8	ACEH	3/9/15 - The RP has requested closure based on work that was completed at the request of ACEH. Closure request is under review.
				<i>CHEMICAL</i>		<i>CONCENTRATION ug/L</i>		
				TCE		3		
				PCE		22		
285	Chevron	Chevron Sunol Pipeline	2793 Calaveras Road	Sunol	3C	8	ACEH	1/16/2015 -SFPUC confirmed that groundwater use at the site is not anticipated and the current leasee is prohibited from installing any groundwater wells without SFPUC and Zone 7 approval. ACEH is moving forward with case closure which will include conditions for future development or construction projects. It was determined that the residual contamination doesn't pose a risk to human health and the environment in its current use of open space and agricultural land.
				<i>CHEMICAL</i>		<i>CONCENTRATION ug/L</i>		
				TPHg		2,300		

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290	Kinder-Morgan Energy Partners, L.P.	Dublin-Iron Horse Trail Release	Iron Horse Trail	Dublin	3C	8	RWQCB	3/9/15-RP has requested case closure based on the Low-Threat Case Closure criteria adopted by the SWRCB. RWQCB has indicated it does not support closure request but is working on a response.
					CHEMICAL	CONCENTRATION ug/L		
					TPHg	4,700		
					Benzene	350		
					MTBE	ND		
291	Country Club Cleaners	Perciva/Metro Valley Cleaners	224 Rickenbacker Circle	Livermore	3A2	7	ACEH	2/9/15 - Low concentrations of PCE have been detected in groundwater beneath the site. However, new soil vapor sampling has detected PCE and TCE significantly above ESLs in soil vapor at the site. ACEH has requested that a work plan for additional soil vapor investigation consistent with DTSC guidelines be submitted by 12/8/14. The work plan has not been submitted to GeoTracker.
					CHEMICAL	CONCENTRATION ug/L		
					PCE	4.9		
292	CW Roen	Former K&S Heavy Equipment	495 Greenville Rd.	Livermore	2A4	3A	ACEH	LPFD transferred to ACEH. Soil Contamination
					CHEMICAL	CONCENTRATION ug/L		

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298	Chevron	Former Chevron Records Facility	6400 Sierra Ct	Dublin	2B4	5R	RWQCB	3/9/15 - RWQCB conditionally approved the Feasibility Study/Remedial Action Plan submitted by the RP. The Report documenting the work outlined in the FS/RAP is due June 5, 2015.
					CHEMICAL	CONCENTRATION ug/L		
					TCE	69		
299	TDW Construction	Nica Metals	101 Greenville Rd	Livermore	3A2	3A	ACEH	5/10/10 - Site is non-compliant. Soil removal and implementation of site assessment was due May 2010. ACEH evaluating options.
					CHEMICAL	CONCENTRATION ug/L		
					GRO	unknown		
300	Atlantic Richfield Company	ARCO #0498	286 South Livermore Ave	Livermore	2A4	5C	ACEH	2/6/15-Third Quarter sampling round in 2014 only half of the monitoring wells had sufficient water to be sampled. RP feels the case may qualify for Low Threat Closure. After the next round of sampling the RP will update the SCM to make it easier to evaluate the case for closure. ACEH agreed with the sampling of the wells in first quarter 2015 and updating the SCM. Report is due April 30, 2015.
					CHEMICAL	CONCENTRATION ug/L		
					TPHg	810		
					BENZ	390		
					MTBE	94		

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302	Federal Corrections Institution Dublin	FCI Dublin	5701 8th St	Dublin	3A1	3B	ACEH	3/24/14 - In 2010 ACEH responded to the Site Investigation Report that further investigation is needed to determine groundwater gradient and extent of contamination. Quarterly monitoring was required. The RP submitted a case closure request in Oct 2010. The case is still open and ACEH has not agreed to closure.
					<i>CHEMICAL</i>	<i>CONCENTRATION ug/L</i>		
					TPHd	680,000		
307	City of Pleasanton Public Works	City of Pleasanton Theater Parking Lot	0 Kottinger Drive	Pleasanton	3B1	5C	ACEH	1/16/13 - Soil only case. Supplementary investigation was conducted in 7/2009. Site was hydroseeded on 10/15/2010.
					<i>CHEMICAL</i>	<i>CONCENTRATION ug/L</i>		
					TPHg			
					TPHmo			
309	7-Eleven Inc	7-Eleven #32266	1339 Vasco Road	Livermore	2C	8	ACEH	1/20/15-Case closure approved. ACEH will close case once a well destruction report is submitted. The well destruction report is due February 8, 2015.
					<i>CHEMICAL</i>	<i>CONCENTRATION ug/L</i>		
					TPHg	ND		
					BENZ	ND		
					TBA	17		
					MTBE	1000		

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310	City of Dublin	Associated Gasoline City of Dublin	11759 Dublin Blvd	Dublin	2A4	1	ACEH	3/25/14 - ACEH issued a directive letter on 1/23/13 requiring additional soil and groundwater sampling in order to case closure. No further updates are available on the GeoTracker or ACEH websites.
					<i>CHEMICAL</i>	<i>CONCENTRATION ug/L</i>		
					TPHg			
311	Crown Chevrolet	Crown Chevrolet Cadillac Isuzu	7544 Dublin Blvd	Dublin	3A1	5R	ACEH	3/9/15 -Several monitoring wells and soild vapor wells are being destroyed in order to avoid damage during redevelopment. New monitoring wells will be installed after construction to continue groundwater monitoring. A permeable reactive barrier workplan has been submitted to the ACEH. ACEH approved the existing facility demolition plans with comments.
					<i>CHEMICAL</i>	<i>CONCENTRATION ug/L</i>		
					TPHg	4,900		
					TPHd	6,200		
					TPHmo	64		
					PCE	170		
					TCE	43		
312	Cemex	Cemex Sunol	6527 Calaveras Road	Sunol	3A1	1	ACEH	3/21/14 - CEMEX responded to ACEH's letter asking for funds to cover oversight. They said the spill was contained and cleaned up immediately after release the same day ACEH was notified. A report was filed within two days. They don't feel there is cause to open a case for investigation/remediation.

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313	Good Year Tire and Rubber Company	Just Tires	1485 First Street	Livermore	2A4	1	ACEH	3/6/14 - The ACEH approved a "Groundwater Investigation Work Plan" which included 3 grab groundwater samples to assess any potential impact to groundwater beneath the site. During the site investigation 3 borings were advanced and soil samples were collected from a moist zone but the borings weren't advanced to groundwater so no water sampels were collected. ACEH is requiring the work be redone to include 3 groundwater grab samples. Report was due 6/14/13. No reports have been uploaded to GeoTracker.
315	BJP ROF Jordan Ranch, LLC; Ravi Nandwana	Jordan Ranch	4233 Fallon Road	Dublin	3A3	7	ACEH	1/20/15 - RP is moving toward closure. There are still some outstanding items including the implementation of a required "Stockpile Reuse Plan and Reporting" dated December 9, 2014. If the RP completes all required work on schedule, ACEH could approve case close as early as February 2015.
					<i>CHEMICAL</i>	<i>CONCENTRATION ug/L</i>		
					TPHg	19,000		
					BENZ	110		
					MTBE	33		
316	Johnson Drive Holdings I, LLC/Clorox Products Manufacturing	Former Clorox Site	7200 - 7208 Johnson Drive	Pleasanton	2B4	5C	RWQCB	3/5/15 - The RWQCB approved the submitted work plan and is requiring the RP to submit a report by July 1, 2015 that includes the results of the screening of all exposed and excavated subsurface infrastructures during demolition, soil sampling, initial soil vapor sampling, indoor air sampling, surface water sampling, and groundwater monitoring results. Additionally, the Technical Report must include proposals or recommendations for additional investigation, a feasibility study, and remedial actions.
					<i>CHEMICAL</i>	<i>CONCENTRATION ug/L</i>		
					TCE	446		
					Freon 113	1,6000		

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Z7 ID - corresponds to file number in TSS database and the location on site maps

OWNER - responsible party for the contamination investigation/cleanup

SITE NAME - indicates a site name if different from owner

PRIORITY - the first number of the priority code indicates whether the case is high priority (1), moderate priority (2), or low priority (3).

STATUS - the status code is based on the RWQCB ranking of the progress of a case (see below)

NOTES - highlights, current activities, or concerns at a site.

CONCENTRATION ug/L - the most recent concentration in groundwater in micrograms per liter (parts per billion)

CHEMICAL - the chemicals of concern at the site.

BENZ - benzene

CCl4 - carbon tetrachloride

Cr(VI) - hexavalent chromium

1,2-DCE - 1,2-dichloromethene

DRO - diesel range organics

GRO - gasoline range organics

MTBE - methyl tertiary-butyl ether

NO3 - nitrate

PCE - tetrachloroethene

TBA - tertiary-butyl alcohol

TCE - trichloroethene

TOLU - toluene

TPHd - total petroleum hydrocarbons diesel

TPHg - total petroleum hydrocarbons gasoline

TPHmo - total petroleum hydrocarbons motoroil

VC - vinyl chloride

XYL - xylenes

CASE STATUS CODES:

1 - Leak Confirmed

3A - Preliminary Site Assessment Workplan Submitted

3B - Preliminary Site Assessment Underway

5C - Pollution Characterization Underway

5R Remediation Workplan (Corrective Action Plan) Submitted

7 - Remediation Underway

8 - Post Remediation Monitoring Begun

CL - Case Closure

NR - Further investigation not required

ReO - Reopened