



EXECUTIVE OFFICER’S REPORT
December 1, 2022 – December 31, 2022

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1. Personnel Report – *Sandra Lopez*

New Hires – none

Promotions

- Abby Cazier, Senior Water Resource Control Engineer, Leviathan Mine Unit, South Lake Tahoe. This position will supervise the unit containing Leviathan Mine and Cannabis programmatic technical staff by establishing priorities, work plans, hiring technical staff, and collaborating with state and local agencies.

Vacancies

- Water Resource Control Engineer, Wastewater & Agricultural Unit, Victorville. This position provides regulatory oversight of projects involving discharges to groundwater or surface waters and projects intended to restore and/or enhance water quality in the Waste Discharge Requirements (WDRs), National Pollutant Discharge Elimination System (NPDES), and Site Cleanup Programs.
- Engineering Geologist, Wastewater & Agricultural Unit, Victorville. This is a new position authorized under SB 1215 (Hertzberg) legislation passed in 2018. The incumbent will work with economically disadvantaged communities that have onsite wastewater treatment systems (OWTS, or septic systems) that could be

connected to a sewer system if they are within three miles of a system. The incumbent will also work with other small rural communities in need of upgrading their wastewater treatment systems.

- Environmental Scientist, Land Disposal Unit, Victorville. This position will provide regulatory oversight of dredge and fill permitting and compliance of Caltrans projects regionwide.
- Engineering Geologist, Land Disposal Unit, Victorville. This position will oversee waste discharges to land and site investigation/cleanup at various types of regulated and unregulated facilities including landfills, mines, composting facilities, cement plants, and site clean up sites.
- Office Technician (Typing), Victorville. This position will assist in proofreading and editing staff documents, engage with staff and the public at the front office desk, provide support to technical and administrative staff, ensure documents comply with accessibility standards, and provide administrative support at regional board meetings held throughout the region.
- Office Technician (Typing), South Lake Tahoe. This position will assist in proofreading and editing staff documents, engage with staff and the public at the front office desk, provide support to technical and administrative staff, ensure documents comply with accessibility standards, and provide administrative support at regional board meetings held throughout the region.
- Water Resource Control Engineer, Cannabis Unit, South Lake Tahoe. This position provides regulatory oversight of cannabis cultivation projects under the statewide Cannabis General order.
- Water Resource Control Engineer, Regulatory and Enforcement Unit, South Lake Tahoe. This position will backfill a vacancy within the North Basin Regulatory Unit.
- Senior Water Resource Control Engineer, Forestry/Dredge & Fill Unit, South Lake Tahoe. This position will perform Senior level activities and provide engineering expertise associated with managing the activities of the Forestry/Dredge & Fill Unit. The incumbent will supervise and direct the work of five professional technical staff, oversee staff development, perform recruitment of new staff, conduct performance evaluations, and track program budgets, as well as a variety of other duties.
- Engineering Geologist, Forestry/Dredge & Fill Unit, South Lake Tahoe. This position will provide geologic and hydrogeologic expertise for the Forestry Dredge and Fill Unit. The incumbent will evaluate and regulate the impacts of logging operations and other forest practices on the quality and beneficial uses of water. They will also review and regulate proposed projects that may affect water quality of waters of the state to ensure compliance with the requirements of the Water Quality Control Plan for the Lahontan Region (Basin Plan), Porter-Cologne

Water Quality Control Act, the Federal Clean Water Act (CWA), and the California Environmental Quality Act (CEQA).

- Engineering Geologist, Cleanup/Site Investigation & Enforcement Unit, South Lake Tahoe. This position will oversee/direct site investigation and cleanup activities at various sites, such as underground storage tank sites, dry cleaner sites, mines, landfills, and Department of Defense sites.
- Environmental Scientist, Planning & Assessment Unit, South Lake Tahoe. This position will work on Basin Plan amendments, help assess waters as part of the Integrated Report, and work to develop TMDLs or alternative restoration plans.
- Scientific Aid, Regulatory & Enforcement Unit, South Lake Tahoe. This position supports staff primarily through review of submitted self-monitoring reports, along with other special projects.
- Scientific Aid, Forestry/Dredge & Fill and Non-Point Source Units, South Lake Tahoe. This position will evaluate water quality data and assess compliance with water quality orders and permits associated with grazing, restoration, timber, and forestry activities.

Departures

- Douglas Cushman, Senior Water Resource Control Engineer, South Lake Tahoe

2. Update on Regional Tetrachloroethylene (PCE) Groundwater Contamination in South “Y” Area of South Lake Tahoe, December 2022 – *Brian Grey*

The purpose of this article is to provide an update on the Site Cleanup Subaccount Program (SCAP) South Y Regional Tetrachloroethylene (PCE) Plume Investigation (Regional PCE Plume Investigation) activities and Lahontan Water Board staff's enforcement efforts that have occurred since the last Executive Officer's Report (EO Report) update from January 2022. SCAP Regional PCE Plume Investigation contract tasks, first implemented in July 2018, have largely been completed and have generated data to support the issuance of a new proposed Cleanup and Abatement Order (CAO) for the Lake Tahoe Laundry Works (LTLW) site.

The new proposed CAO for Lake Tahoe Laundry Works requires further investigation and cleanup and abatement of the regional PCE plume which extends from the South Y area to the Tahoe Keys. In addition, proposed CAOs have been issued to the Former Norma's Cleaners and Big O Tires sites to follow-up on previous directives requiring further evaluation of past discharges and potential contribution to the regional PCE plume. Lahontan Water Board staff have received public comments on the three proposed CAOs and are in the process of preparing response to comment documents prior to finalizing the proposed CAOs.

Regional PCE Plume Investigation

Regional PCE Plume Investigation contract tasks are almost concluded. A summary of completed work in 2022 and anticipated tasks for the 2023 field season is provided below. Figure 2.1 (at the end of this article) shows groundwater investigation locations from 2019 and 2020; the figure showing soil gas investigation locations from 2022 has not been finalized and is not included in this EO Report. The Regional PCE Plume Investigation contract included 4.6 million dollars to aid with the investigation and mitigation of the regional PCE plume with a contract term extending from July 2018 to July 2023. The Regional PCE Plume Investigation activities are being performed by the State Water Resources Control Board's contractor, AECOM, and AECOM's subcontractors with oversight from Lahontan Water Board staff. The SCAP Regional PCE Plume Investigation activities completed during 2022 included the following:

- Soil Gas Investigation: Installed and sampled 25 passive soil gas samplers to evaluate potential threats to human health via the vapor intrusion to indoor air pathway in areas where the highest shallow groundwater contaminant concentrations were reported during the 2019 and 2020 field investigation. Preparing to distribute the *Soil Gas Investigation Summary Report, August 2022: South "Y" PCE Plume* to stakeholders and interested parties.
- Semi-annual sentry well sampling: Collected groundwater samples from the nine newly installed sentry wells in 2021 utilizing SCAP funds (see Figure 2.2 at the end of this article). Distributed the *August 2022 Semi-annual Sentry Well Groundwater Monitoring Report, Event 2: South "Y" PCE* to stakeholders and interested parties.
- Non-municipal well sampling: Conducted groundwater sampling of seven domestic and small community supply wells where property owners allowed site access. Distributed the *October 2022 Non-Municipal Water Supply Well Sampling Summary Report, July 2022: South "Y" PCE Plume* to stakeholders and interested parties.
- Vertical Conduit Inventory and Destruction: Finalized vertical conduit inventory and in the process of developing a vertical conduit destruction workplan, including the criteria to be used to identify and prioritize potential vertical conduits for destruction, using remaining SCAP grant funds.
- Reporting: Finalized and distributed the *June 2022 Regional Plume Characterization Summary Report: South "Y" PCE Plume 2019-2020 Field Season* report to stakeholders and interested parties. The report provided a summary of the data collection activities and results, including discrete depth groundwater sampling, for the 2019 and 2020 field investigation.

The anticipated SCAP field tasks that will be completed during the 2023 field season include:

- Vertical Conduit Destruction: Properly destroy priority municipal, private, and small-community water supply wells that have been identified as a vertical conduit(s) (e.g., responsible for the vertical migration of PCE in groundwater

impacting deeper water-bearing unit[s]). Inactive wells, including monitoring wells installed for site-specific investigations, which have not been properly destroyed are included in the evaluation.

Lahontan Water Board Enforcement Efforts

Lahontan Water Board staff issued three proposed CAOs related to PCE discharges for public comment. The proposed CAOs were issued to the LTLW, Former Norma's Cleaners, and Big O Tires sites on June 16, 2022. All three sites have been investigating chlorinated hydrocarbon discharges since the early 2000s and are located within the regional PCE plume footprint. The Former's Norma's Cleaners case was previously closed in 2008 and was reopened in 2019.

Lake Tahoe Laundry Works

In 2017, the Lahontan Water Board issued a CAO to the LTLW site which required delineation of the lateral and vertical extent of contamination originating from the site. At this time, data were not available to evaluate the full extent of contamination originating from the site and if the contamination reported at the site was connected to contamination being reported in down-gradient receptors (i.e., municipal supply wells). Since issuance of the 2017 CAO, groundwater quality data collected by LTLW dischargers and by AECOM (i.e., during the Regional PCE Plume Investigation), showed the regional PCE plume originates at the site and extends without interruption to the affected receptors. Based on this updated information, the new proposed CAO issued to LTLW requires further investigation and cleanup and abatement of the regional PCE plume.

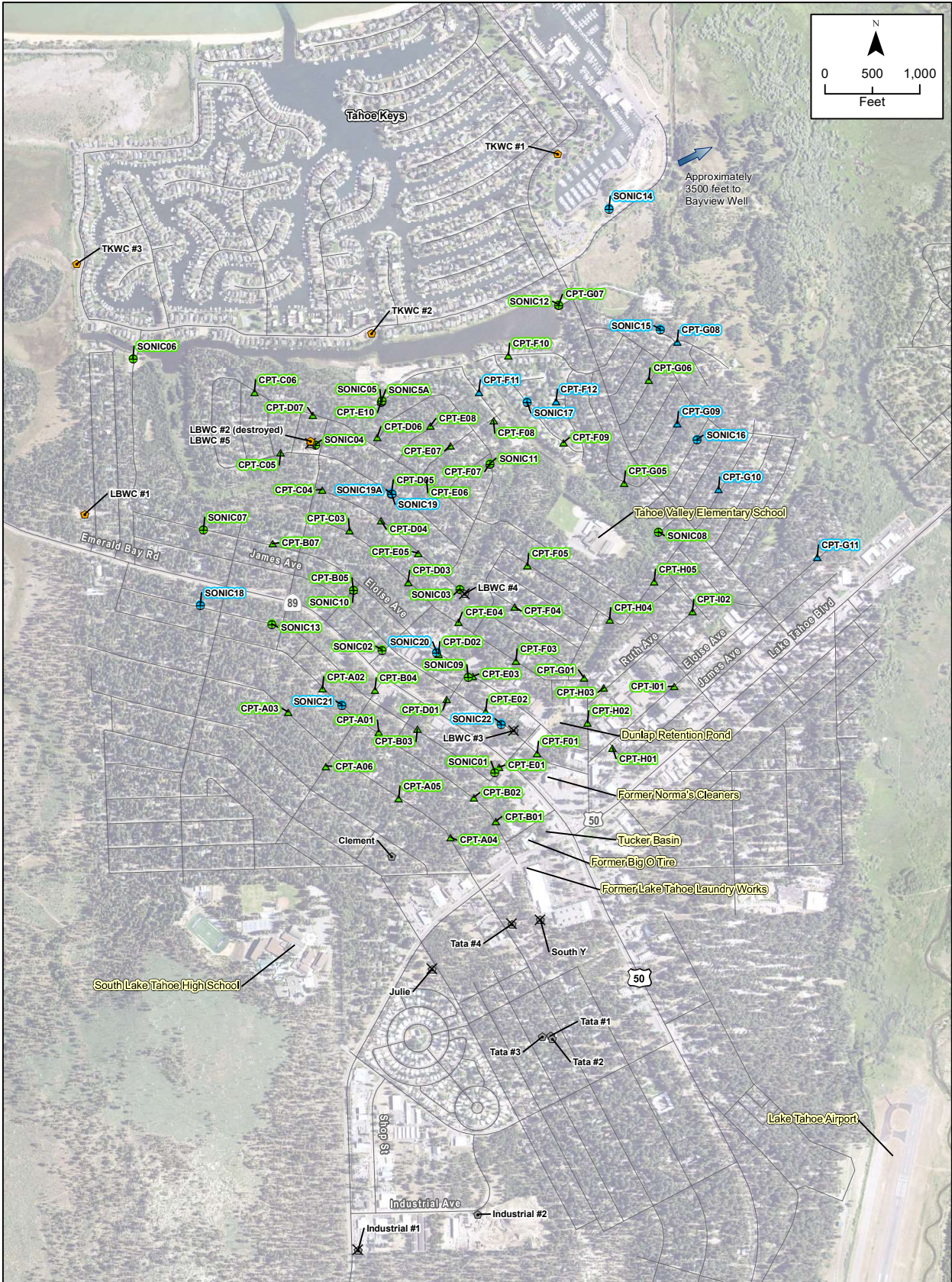
Big O Tires and Former Norma's Cleaners

In 2019, Lahontan Water Board issued Water Code section 13267 orders to both sites, which required additional investigation to resolve identified data gaps from past investigations. At this time, available data indicated unauthorized discharges had occurred at each respective site, but the extent of contamination had never been delineated. Since issuance of the 2019 orders, both sites have performed an initial passive soil gas investigation which showed PCE contamination remains at both sites, but neither site has implemented any subsequent soil, soil gas, or groundwater investigations to delineate the extent of contamination as required. Lahontan Water Board staff is currently considering pursuing Administrative Civil Liability Complaints regarding violations of the 2019 13267 orders at both sites and is considering public comments received on the proposed CAOs. The proposed CAOs follow up on 2019 13267 order requirements and require the lateral and vertical extent of contamination originating from the sites and evaluation of potential contribution to the regional PCE plume. The Proposed CAOs are similar to the 2017 CAO issued to LTLW in that they require delineation of contamination originating from the sites in order to evaluate the sites' potential contribution to the regional PCE plume.

Additional Information

Additional information on the Regional PCE Plume Investigation activities and Lahontan Water Board staff' site-specific enforcement efforts can be found on GeoTracker using the following links:

- South Y Regional Contamination
https://geotracker.waterboards.ca.gov/profile_report?global_id=T10000007984.
- Lake Tahoe Laundry Works
https://geotracker.waterboards.ca.gov/profile_report.asp?global_id=SL0601754315
- Big O Tires
https://geotracker.waterboards.ca.gov/profile_report.asp?global_id=SL0601729739
- Former Norma's Cleaners
https://geotracker.waterboards.ca.gov/profile_report.asp?global_id=SL0601790916



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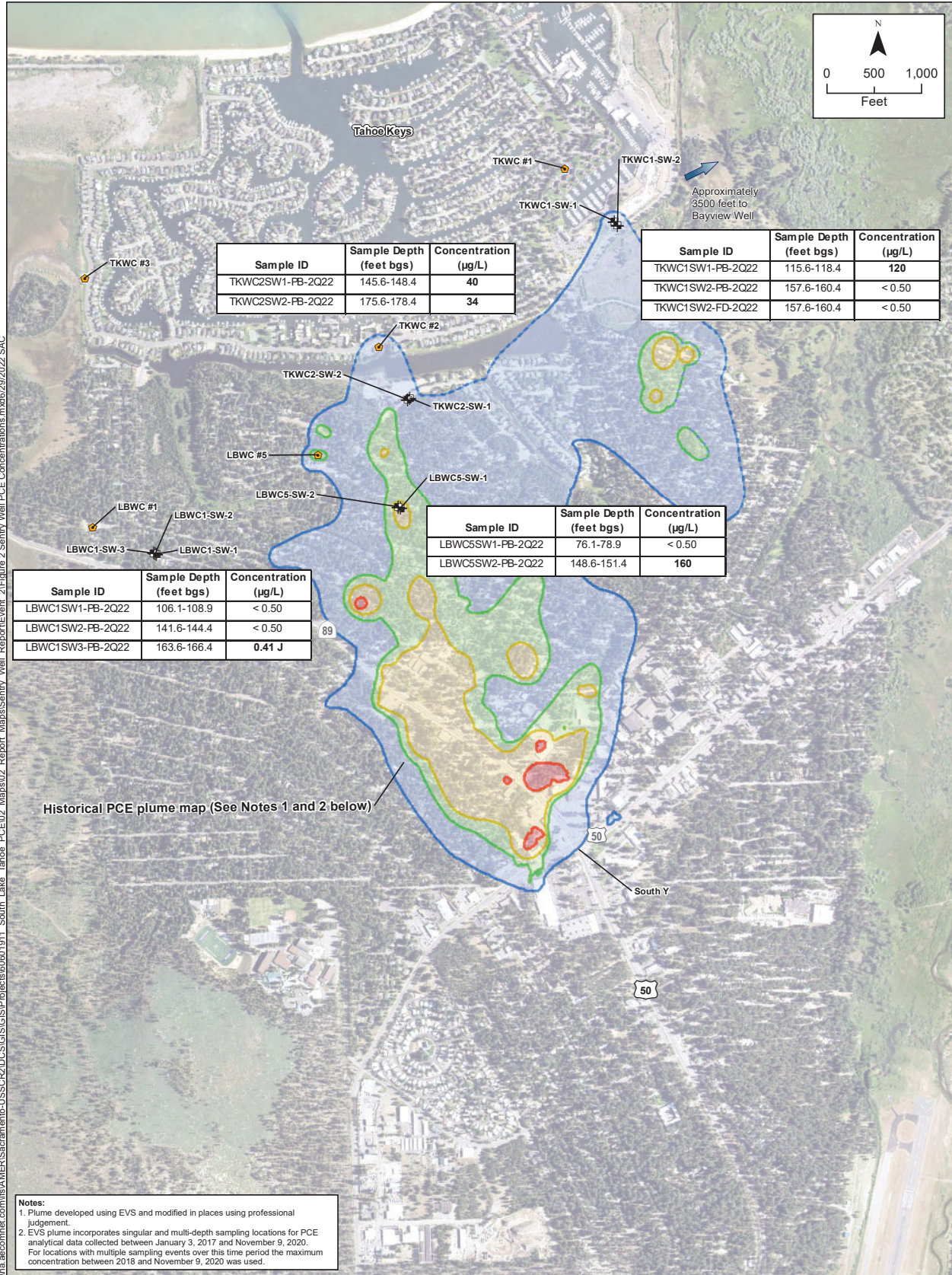


Location Type
 ▲ AECOM 2019 CPT Location
 ● AECOM 2019 Sonic Location
 ▲ AECOM 2020 CPT Location
 ● AECOM 2020 Sonic Location
 ● Active Municipal Supply Well
 ○ Inactive Municipal Supply Well
 ✕ Destroyed Municipal Supply Well

Abbreviations:
 CA = California
 CPT = cone penetration test
 LBWC = Lukins Brothers Water Company Inc.
 TKWC = Tahoe Keys Water Company
Note:
 1. Well status current as of date on figure.

Figure 1
AECOM's 2019/2020 Field
Investigation Sampling Locations

South "Y" PCE Plume
 South Lake Tahoe, CA



| Sample ID | Sample Depth (feet bgs) | Concentration (µg/L) |
|------------------|-------------------------|----------------------|
| TKWC2SW1-FB-2Q22 | 145.6-148.4 | 40 |
| TKWC2SW2-FB-2Q22 | 175.6-178.4 | 34 |

| Sample ID | Sample Depth (feet bgs) | Concentration (µg/L) |
|------------------|-------------------------|----------------------|
| TKWC1SW1-PB-2Q22 | 115.6-118.4 | 120 |
| TKWC1SW2-PB-2Q22 | 157.6-160.4 | < 0.50 |
| TKWC1SW2-FD-2Q22 | 157.6-160.4 | < 0.50 |

| Sample ID | Sample Depth (feet bgs) | Concentration (µg/L) |
|------------------|-------------------------|----------------------|
| LBWC5SW1-PB-2Q22 | 76.1-78.9 | < 0.50 |
| LBWC5SW2-PB-2Q22 | 148.6-151.4 | 160 |

| Sample ID | Sample Depth (feet bgs) | Concentration (µg/L) |
|------------------|-------------------------|----------------------|
| LBWC1SW1-PB-2Q22 | 106.1-108.9 | < 0.50 |
| LBWC1SW2-PB-2Q22 | 141.6-144.4 | < 0.50 |
| LBWC1SW3-PB-2Q22 | 163.6-166.4 | 0.41 J |

Notes:
 1. Plume developed using EVS and modified in places using professional judgement.
 2. EVS plume incorporates singular and multi-depth sampling locations for PCE analytical data collected between January 3, 2017 and November 9, 2020. For locations with multiple sampling events over this time period the maximum concentration between 2018 and November 9, 2020 was used.



Location Type
 Sentry Well Locations
 Active Municipal Supply Well
PCE Concentration Contours (dashed where inferred)
 5 - 50 µg/L
 50 - 100 µg/L
 100 - 500 µg/L
 >500 µg/L

Abbreviations:
 > = greater than
 < = less than
 µg/L = micrograms per liter
 # = number
 bgs = below ground surface
 CA = California
 EVS = Earth Volumetric Studio™
 ID = identification
 J = estimated value
 LBWC = Lukins Brothers Water Company Inc.
 PCE = tetrachloroethene
 TKWC = Tahoe Keys Water Company

Figure 2
Sentry Well PCE Concentrations
April 2022 Semi-Annual
Groundwater Sampling (Event 2)
 South "Y" PCE Plume
 South Lake Tahoe, CA

3. Monopine Update – *Brian Judge and Melissa Thaw*

Monopine Background

The Tahoe Regional Planning Agency (TRPA) issues permits that authorize the construction of cell phone towers, including monopines, which are cell phone towers camouflaged to look like pine trees. There are approximately 15 monopines within the Lake Tahoe Watershed including Nevada and California. If the location of the proposed tower is visible from a TRPA defined scenic corridor, or they have to make community character findings, the permit will require the cell phone tower to blend with the surrounding environment. TRPA is required to make Special Use Findings, specifically so that the project, to which the use pertains, will not change the character of the neighborhood. Constructing the cell tower to look like the surrounding forest is the method chosen in most instances by cell tower projects in the Tahoe Basin. The tower is often constructed using Polyvinyl Chloride (PVC) plastic to mimic bark, branches, and pine needles (faux needles).

Public Comment to Water Board about proposed Ski Run monopine

In the spring of 2022, the Lahontan Water Board received public comments voicing concerns that plastic branches and needles from monopines shed over time and may impact water quality. A group of citizens spoke at the May 2022 Lahontan Water Board meeting emphasizing the concern and highlighted possible negative impacts caused by monopine shedding.

A new monopine on Ski Run Boulevard was approved by TRPA in October 2021. TRPA set conditions to mitigate potential impacts from shedding faux needles. In summary, the permittee is required to use the best technology available to prevent shedding, keep the surrounding site clean of shed and dislodged faux needle material, inspect the surrounding area twice a year, and pay TRPA to conduct inspections twice per year. The condition to inspect twice per year continues for twenty years after passing final inspection.

Both the City of South Lake Tahoe and TRPA have recently been sued by Ski Run Monopine opponents for approving the project.

Inspections in coordination with TRPA

In response to the concerns received, Water Board staff coordinated with TRPA staff to inspect five monopine sites on the California side of the Tahoe Basin in July 2022. All five towers inspected exhibited a similar amount of shedding with most faux needles and branches observed within 50 feet of each tower. At each site, staff did not observe any branch pieces or individual needles in adjacent roadways, gutters, or public stormwater systems. No direct discharges to, or clear paths to, surface waters were observed.

Requests for Report of Waste Discharge (ROWD) to six separate monopine sites

In September 2022, pursuant to Section 13260 of the Water Code, the Water Board sent a Request for Report of Waste Discharge (ROWD) to property owners of six separate monopine sites. The ROWD requires a complete characterization of the materials used for the faux needle materials and any potential discharges. To date, we have received three formal responses and are anticipating receipt of the other three in the near future. One response was deemed complete and two incompletes, with follow-up letters sent to request additional information.

Science and Adaptive Management

The study of microplastics in our environment is an emerging field. In 2022, UC Davis concluded research on microplastic in Lake Tahoe and their Final Report (release is imminent) will provide more information on movement and types of microplastic in Lake Tahoe. Preliminary findings conclude that the majority of particles collected from the surface of the lake were identified as polypropylene (41%), polyethylene (39%), and polyesters (15%). Water was sampled for microplastics from depths of 0 meters (surface), 15 meters, 30 meters, 50 meters, 250 meters and 450 meters. PVC was identified only at depths of 50 and 450 meters.

Tahoe Water Suppliers Association has been engaged with other agencies, educational institutions, businesses, and UC Davis to reduce sources of plastic pollution, implement education and outreach programs, and support research into microplastic. Efforts to reduce plastic pollution are focused on eliminating litter and single use plastic and include efforts by the City of South Lake Tahoe (CSLT) to ban single-use plastic water bottles as approved at the CSLT's Council meeting on October 4, 2022. Actions that will evaluate microplastics include the State Water Board's implementation of a pilot program to monitor microplastic in drinking water in order to develop and refine methods and training protocols for future microplastic monitoring. North Tahoe Public Utility District will be participating in the State Board's pilot monitoring program. Additionally, the Water Board is planning to dedicate a portion of its discretionary contract funding to support research focused on the extent, magnitude, composition, and potential sources of microplastics found in Lake Tahoe and select tributary streams.

Conclusion

Monopine faux needles and branches are usually made of PVC plastic which has been shown to be durable and to not easily degrade. Though current scientific studies of Lake Tahoe and other water bodies find many types of plastic present in surface water, PVC has not been detected as a dominant microplastic material.

If monopine faux needle and branch waste makes its way to roadways, the Lake Tahoe National Pollutant Discharge Elimination System Municipal Storm Water Permit requires stormwater treatment of particles less than 16 microns, which would catch that monopine waste before reaching Lake Tahoe. The newly adopted Tahoe Municipal

Stormwater Permit includes new Trash Provisions that require the municipalities to capture trash greater than 5 millimeters diameter.

The Water Board will continue to review the ROWDs and latest scientific studies on microplastics to determine whether further action is needed.

4. Mojave Basin One Water Concept and Legislative Update from MWA TAC – *Anna Garcia*

The purpose of this article is to provide the Lahontan Water Board with information presented at the Mojave Water Agency (MWA) Technical Advisory Committee (TAC) meeting on December 15, 2022. Items covered at the MWA TAC meeting included a Mojave Basin One Water Concept, a Legislative Update, and presentations by staff from the United States Geological Survey (USGS) on the Lucerne Valley Groundwater Basin of Region 7.

Victor Valley Wastewater Reclamation Authority (VWVRA) General Manager, Darron Poulsen, provided a presentation on the Mojave Basin One Water Concept, which supports management of stormwater, groundwater, surface water, recycled water, and imported water together to successfully obtain grant funding and provide a greater impact for the basin. Efforts to address VWVRA plant operation issues caused by rising groundwater, primarily attributable to VWVRA discharge, led Mr. Poulsen to reach out to the City of Victorville, Town of Apple Valley, City of Hesperia, San Bernardino County, and MWA to collaborate on ways to create more yield and benefit for the Mojave Basin. One potential project described included transferring recycled water from VWVRA and the City of Victorville, via MWA's underutilized Mojave River Pipeline, to the area of Barstow currently experiencing significant water level declines. Another potential project described consisted of VWVRA working in partnership with the federal government to build a treatment facility to address existing volatile organic compound (VOC) plumes and PFAS associated with the former George Air Force Base. VWVRA is also collaborating with MWA to consider the development of an optimum basin management plan. Mr. Adnan Anabtawi, MWA Assistant General Manager, noted that the Mojave Basin One Water Concept could be considered through the Mojave Integrated Regional Water Management Planning process that will kick-off in early 2023.

Yvonne Cox, MWA Director of Organizational Development, provided a presentation on the Legislative Priority Policy (LPP) being developed to support the MWA's mission and Strategic Plan. The LPP will focus on supporting legislation for seven key priorities: drought, water management and reliability, imported water supply, disadvantaged communities, conservation, water quality, and development. Several of the priorities support local supply and operations, groundwater storage, and the State Water Project. Also highlighted are financial support and technical assistance for disadvantaged communities, small water systems, and communities with water quality issues. The priorities also include support for legislation that minimizes cost impacts of new or expanded regulations and alternate affordable mitigation pathways for development that requires removal of Joshua Trees. MWA is currently receiving input for the LPP from

stakeholders including the MWA Executive TAC, state and federal advocates, and the business community.

USGS staff provided presentations on recently completed studies of the [hydrogeology](#) and [groundwater quality](#) of the Lucerne Valley Groundwater Basin, located in Region 7. The studies documented water level declines of up to 135 feet and the loss of over 460,000-acre feet of groundwater from the basin between 1942 and 2016. Groundwater was primarily used for irrigated agriculture. Water quality samples, collected to examine subsurface transport of applied treated wastewater, were not conclusive and indicated that discharge from the Big Bear Area Regional Wastewater Agency (BBARWA) facility, located in the Lucerne Valley basin, likely remains confined to the upper aquifer.

Other business was also discussed. The next MWA TAC meeting is scheduled for February 2, 2023.

5. PFAS Remediation Within the Fire Protection Water Distribution System at Air Force Plant 42, Palmdale, Los Angeles County – Todd Battey

Air Force Plant 42 (AFP42) was originally built in the early 1930s and then established as an emergency landing strip by the Civil Aeronautics Administration in 1935. In 1940, it was activated by the U.S. Army Air Corps and was known as Palmdale Army Airfield. The Army Air Corps used the base as an emergency landing strip and for bomber support training during WW II. Following World War II and a series of expansions and ownership changes, the facility became known as Air Force Plant 42. Currently, the facility is a government-owned, contractor-operated facility used primarily for production engineering, final assembly, and flight testing of high-performance aircraft by commercial aerospace companies, while the facilities themselves are owned by the U.S. Air Force. The facility infrastructure includes a fire protection water distribution system (FPWDS), which includes over 28 miles of conveyance piping, two 1-million-gallon ASTs, and two fire protection water production wells.

Per- and polyfluoralkyl substances (PFAS) have been detected in the water from the FPWDS in the northern portion of AFP42 where Plant Sites 1 (Boeing), 2 (Lockheed Martin), 3 and 4 (Northrop Grumman Corporation) are located (Figure 5.1, labeled 'Figure 4' inside the map). PFOS and PFOA impacts to the fire protection water are apparently the result of backflow prevention failures of aqueous film forming foam (AFFF) storage. The malfunctioning backflow devices have been replaced to prevent further AFFF leakage into the system. Numerous spills of PFAS-impacted fire protection water, up to 2-million gallons each, have leaked from the aging FPWDS, which led the Air Force to develop a strategy to remediate the water within the FPWDS. The remediation strategy consists of isolating individual components of the system (e.g., a water main, a lateral line, or an above-ground storage tank), using hose to create a loop, and pumping the water through activated carbon vessels and back into the loop. The treatment equipment is shown in Photo 5.1.

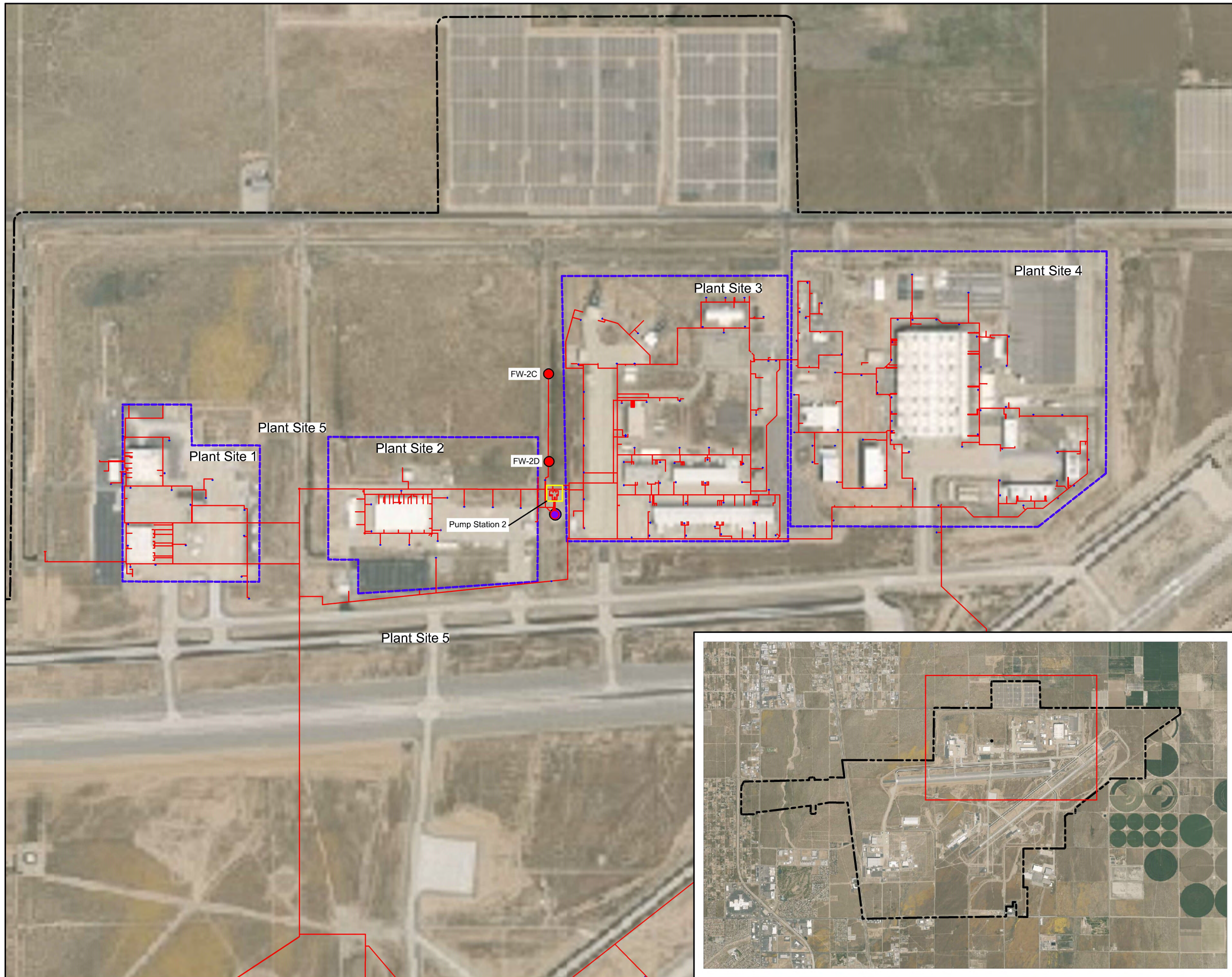
Treatment of water for PFAS using granular activated carbon vessels is being used to remove PFAS from the fire suppression system. Remediation of the water in the

FPWDS began December 19, 2022, and is expected to continue until December 2023, progressing from water mains to laterals and then one plant site to another. Process and confirmation sampling from the remediation system sampling ports is being conducted to ensure that the remediated water has met the remediation goals of 40 ppt for PFOS, PFOA, and PFOS+PFOA. These goals were specified in a revised memorandum (Assistant Secretary of the Defense, September 2021) that updated Department of Defense screening levels for these constituents based on tap water Regional Screening Levels (RSLs) that were calculated using the USEPA's online RSL calculator. Other earlier reference criteria for these PFAS include the following:

- Lifetime Health Advisory of 70 ppt for PFOS, PFOA, and PFOS+PFOA (USEPA, 2016);
- Drinking water notification levels (NLs) of 13 and 14 ppt for PFOS and PFOA, respectively (SWRCB Division of Drinking Water, 2018); and
- Lower NLs of 6.5 and 5.1 ppt for PFOS and PFOA, respectively (SWRCB Division of Drinking Water, 2019).

Water Board staff have recommended the Air Force consider the recent spills from the FPWDS as new PFAS sites in the ongoing AFFF investigations that are following the CERCLA process to address these release areas in a consistent manner.

See below for Figure 5.1 – Map showing the various plants located at Air Force Plant 42, Palmdale, CA and associated fire protection water distribution systems.



- Legend**
- Air Force Plant 42 Boundary
 - - - Plant Site Boundary
 - Fire Protection Water Distribution System
 - Fire hydrant
 - 1 million gallon aboveground storage tank (AST)
 - Fire Protection Well
 - Pump Station

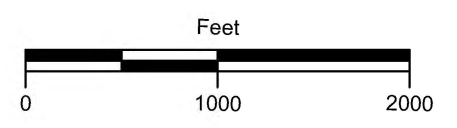
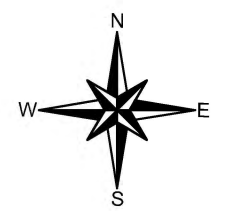


Figure 4
 North Campus Fire Protection Water
 Distribution System Layout
 Air Force Plant 42
 Palmdale, California

PFAS Remediation within the Fire
 Protection Water Distribution System



Date: 12/6/2021
 File: Figure 4



Photo 5.1 – Hose leading to black pump (center), treatment cannisters (bright red on left), and to equalization tanks (light red on right).