

CHARACTERIZATION REPORT

**Mount Diablo Mercury Mine
2430 Morgan Territory Road
Contra Costa County, California**

01-SUN-050

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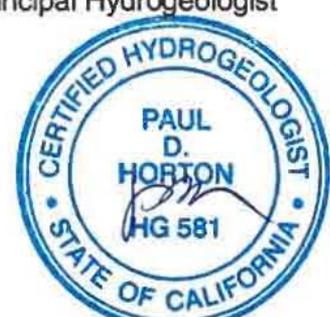


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1.0 INTRODUCTION

The Source Group, Inc. (SGI) has conducted a characterization of conditions at the former Mount Diablo Mercury Mine in Contra Costa County, California (the Site, Figure 1-1) on behalf of Sunoco Inc. (Sunoco). This characterization was conducted in order to satisfy, in part, the requirements of the California Regional Water Quality Control Board (CRWQCB) in their Revised Technical Reporting Order R5-2009-0869 (Rev. Order) of December 30, 2009.

This Characterization Report (Report) provides details (including the results) of the work conducted by SGI on behalf of Sunoco that included a comprehensive review of existing site data and conditions, field surveys, and two surface water sampling events across the Mine Site and the Dunn Creek drainage.

The Report presents a complete discussion of current site conditions, field sampling and analyses, a discussion of data gaps and future work, and is organized into the following sections:

- Section 2.0 Site Background;
- Section 3.0 Field Investigation and Sampling;
- Section 4.0 Investigation Results;
- Section 5.0 Investigation Summary and Conclusions; and
- Section 6.0 Data Gaps and Future Work.

A list of references is provided in Section 7.0.

2.0 SITE BACKGROUND

2.1 Location and Current Use

The former Mount Diablo Mercury Mine (Mine or Site) is located in an unincorporated area of Contra Costa County, California at the northeastern base of Mount Diablo. The Mine and the historic working areas of the Mine are generally described as the 80 acres of land on the southwest quadrant of the intersection of Marsh Creek Road and Morgan Territory Road as shown on Figure 1-1. The Mine is adjoined to the south and west by lands of Mount Diablo State Park and to the north and east by Marsh Creek Road and Morgan Territory Road.

We understand the Mine has been closed since around 1969. Most assay and process equipment have been removed from the Site. The Site still retains some abandoned wood structures that were part of the facility operations (Figure 2-1, aerial photograph of Mine). The Site is situated at an elevation of approximately 700 to 1100 feet above mean sea level (msl). Currently the property is used by Site owners Jack & Carolyn Wessman and their lessees for residential purposes and cattle ranching.

2.2 Ownership and Operational History

The first shaft on what became the Mount Diablo Mine Site was sunk by a Mr. Welch in about 1863. Mr. Welch encountered ore at 37 feet below ground where “both cinnabar and native mercury could be obtained by panning the soil removed”. After a short period of commercial production between 1875 and 1877, the Mine was relatively idle until 1930 when Mr. Vic Blomberg organized the Mt. Diablo Quicksilver Co., Ltd. (Mt. Diablo Quicksilver), which operated the Mine between 1930 until 1936 producing an estimated 739 flasks of mercury. Mt. Diablo Quicksilver then leased the property to the Bradley Mining Company (Bradley) from 1936 to 1951, during which time Bradley conducted surface and underground mining and produced over 10,000 flasks of mercury. At the end of Bradley’s operations, the underground mine workings consisted of four levels in a steeply dipping shear zone. The Bradley workings were accessed by a main shaft and had a drain or “adit” tunnel that exited to the surface on the 165 foot level (the 165 foot Adit; Pampeyan, 1963).

The Bradley Mining Company operated the Mine for a period of fifteen years generating a total of 78,188 cubic yards of milled tailings and 24,815 cubic yards of waste rock from the mine tunnels (Ross 1958). The material generated by Bradley Mining Company represents 97.3 percent of all material generated as documented in the attached Table 2-1. In addition to the materials generated from the Mercury Mine, Bradley Mining Company also operated a rock quarry to the west of the Mine. Waste rock generated from the Quarry operation is reported to have been placed in the Area called the “Waste Dump” on maps produced by the California Division of Mines

and Geology (Pampeyan, 1963). As a result of the mining and milling conducted by the Bradley Mining Company, records indicate that all or nearly all of the currently existing waste and tailings piles at the Mine can be attributed to generation by the Bradley Mining company as their configuration matches the mapped site conditions as documented by Site mapping conducted in 1953 by the California Division of Mines and Geology (Pampeyan, 1963). Figure 2-2 provides a map depicting the locations of the tailings and waste rock piles on the site as generated by the Bradley Mining Company. Field confirmed locations of Mercury mine tailings and waste rock are depicted in blue hatched outline and can be readily discerned as bare looking areas on the aerial photographs. The waste dump that received Quarry waste rock is north (northern waste dump) and is circled in a dashed green outline. The northern waste dump area is physically different from the other Bradley waste areas as it has an extensive tree cover as can be seen on Figure 2-2.

Following the period of extensive Bradley Mining Company operations, Mt. Diablo Quicksilver next leased the Mine to Ronnie B. Smith and partners (Smith, et al.) in 1951. Using surface (open pit) mining methods, Smith, et. al. produced an estimated 125 flasks of mercury in a rotary furnace. In 1953, the United States Defense Minerals Exploration Agency (DMEA) granted Smith, et al. a loan to explore the deeper parts of the shear zone. With DMEA's grant money, and under the DMEA's supervision, Smith, et. al. constructed a 300-foot-deep shaft (historically referred to as the DMEA Shaft) during the period from August 15, 1953 to January 16, 1954. After completing the DMEA Shaft, Smith, et. al. turned southeast with a 77-foot-long crosscut in dry shale, in the direction of the shear zone mined by Bradley. At the surface, Smith, et. al. constructed dump tracks to the north and across the road (away from the pre-existing Bradley waste piles at the southeast portion of the Site) to an "unlimited location" (Schuette, 1954), presumably on the north facing slope in the Dunn Creek Watershed, where a large waste rock dump is located, as mapped by Pampeyan (1963). Smith, et. al. assigned their lease and DMEA contract to J. L. Jonas and J. E. Johnson in January 1954. Jonas and Johnson extended the lateral drift to 120 feet, but stopped after encountering water and gas. The DMEA Shaft and workings flooded on February 18, 1954 and, subsequently, Jonas and Johnson abandoned the project.

Cordero Mining Company (Cordero) acquired a lease for the Mine Site from Mt. Diablo Quicksilver dated November 1, 1954 and in January 1955 began reconditioning the DMEA Shaft. Cordero replaced failed lagging, mucked out and dewatered the DMEA Shaft bypassing the Jonas and Johnson lateral tunnel, and drove a series of crosscut and drift tunnels a total of 790 feet from the DMEA Shaft to the shear zone. Intense rain storms during December 1955 increased the normal flow of mine water beyond pumping capacity and resulted in re-flooding of the DMEA/Cordero mine workings (Pampeyan and Sheahan, 1957), at which point Cordero suspended operations. The total period of active mining operations by Cordero at the Mine are documented to be just 12 months.

Following the work by Cordero, the Mine remained idle until March 1956, when the Cordero lease was transferred to Nevada Scheelite, Inc., which began dewatering with a 500 gallon per minute (gpm) pump. Nevada Scheelite apparently operated an unidentified portion of the Mine Site from

1956 to 1958. Downstream ranchers objected to Nevada Scheelite's discharge of acid mine waters to the creek and the operation was suspended. Nevada Scheelite relinquished its lease after developing an unknown tonnage of ore from the open pit. The disposition of materials generated by Nevada Scheelite is not documented, but can be inferred based on site surveys to either supplement or slightly expand tailings and waste rock piles created by Bradley Mining Company.

In June 1958, a State Water Pollution Control Board (WPCB) inspection report states the Mine was leased to John E. Johnson and that he was operating it, but he apparently died later that year and the Mine again ceased operation. Subsequent operations on an unidentified portion of the Mine Site were conducted by Welty and Randall Mining Co. from approximately 1965 to 1969. They apparently re-worked mine tailings at the Mine Site, under a lease from Victoria Resources Company (Victoria Resources), which purchased the Mine from Mt. Diablo Quicksilver in May 1962. On or about December 9, 1969, Guadalupe Mining Co. (Guadalupe) purchased the Mine from Victoria Resources. It is unclear whether any operations were conducted by Guadalupe. In June 1974, the current owners, Jack and Carolyn Wessman and the Wessman Family Trust purchased the Mine Site from Guadalupe. In 1977, the Wessmans sold the portion of the Mine Site containing the settlement pond to Ellen and Frank Meyer, but subsequently repurchased it in 1989.

2.3 Cordero Work Areas

The Cordero lease area within the Mine Site is graphically presented on Figure 2-2 (Aerial Photograph) and on Figure 2-3 which is overlain on the map of mining produced by the California Division of Mines and Geology (CDMG) in 1963. The lease area excludes a significant portion of the easterly areas of Bradley Mining Company's exposed waste rock, the spring outflow area emanating from the 165' Level Adit from which Bradley operated and the current waste and settlement pond below the Mine adjacent to Morgan Territory Road.

Cordero conducted its underground mining efforts from the pre-existing DMEA Shaft (Pampeyan and Sheahan, 1957). The area of this shaft and the interpreted potential surface work area (no surface mining was conducted, however) is highlighted on Figure 2-3. Additional documentation indicates that Cordero conducted water handling and treatment operations extending from the DMEA Shaft to a location 1,350 feet to the west within the lease area (Sheahan, 1956 and WPCB, 1955a).

The areas depicted on Figure 2-3 showing the DMEA Shaft and the waste rock dump area, and the water disposal area west of the DMEA Shaft, are the only documented potential Cordero work areas and represent the extent of known operations by Cordero.

2.4 Cordero Mining Activity

Cordero mining activity consisted of repairing lagging, and mucking out and de-watering of the existing DMEA Shaft, beginning in January 1955, followed by driving a new crosscut and drifts from the DMEA Shaft on the 360 foot level (360 Level). Cordero's workings totaled 790 feet and extended south from the existing DMEA Shaft (Pampeyan and Sheahan, 1957).

The DMEA/Cordero tunnel system was mapped by investigators for the DMEA as documented in the Report of Examination by Field Team Region II, Final Report, and dated January 30, 1957 (Pampeyan and Sheahan, 1957). Figure 2-4 depicts the Cordero mine tunnels in plan view and their relationship to the DMEA Shaft and the originally flooded DMEA crosscut that was abandoned by Jonas and Johnson. Figure 2-5 shows the same plan view of the Cordero tunnel system and includes the Plan view of the entire pre-Cordero tunnel system located to the south. A cross section produced by the DMEA demonstrates the pre-Cordero tunnel system as presented on Figure 2-6. The Cordero tunnels were advanced at the 360 Level, below the extensive Bradley underground mine workings depicted on Figure 2-6, but were ultimately connected to the bottom of Bradley's Main Winze shaft via a 15 foot raise (Sheahan, 1956). The Figure 2-7 plan view outlines of the pre-Cordero and the Cordero workings are transposed on a current aerial photograph for perspective with the current condition of the Mine.

2.4.1 Cordero Materials Disposition

The tunnels advanced by Cordero on the 360 Level totaled 790 feet as documented by Pampeyan and Sheahan (1957). The total volume of waste rock generated by Cordero during its 12 months of operation is calculated using a 20-percent (%) bulking factor to be approximately 1,228 cubic yards (Table 2-1). Near the end of Cordero's operational period, Cordero encountered small zones of low- grade ore. Cordero stockpiled that ore for sampling and assay. The DMEA field team inspected the Mine and sampled the Cordero ore stockpile. The total ore generated by Cordero was estimated to be between 100 to 200 tons of ore with a grade of 3 to 10 pounds of mercury per ton (Pampeyan and Sheahan, 1957). This tonnage of ore translates to approximately 50 to 100 cubic yards of ore material.

The calculated total ore and waste rock generated by all documented mining activities prior to and including Cordero is calculated to be approximately 105,848 cubic yards as noted and referenced on Table 2-1. Based on these material calculations, waste rock and ore generated by the Cordero activities represents less than 1.2% of the estimated total volume of mined material at the entire Mine Site.

The final disposition of the Cordero mined ore and waste rock was ascertained through a review of "before and after" maps of the Mine created by Pampeyan for the CDMG in 1954 and 1963, and a review of aerial photographs before and after the Cordero operational period. Pampeyan (1963) prepared maps of the underground mine workings, waste rock dumps and general mine

information. Figure 2-8 illustrates the proposed location of the DMEA Shaft. In 1956/57, following mining by the DMEA and Cordero, Pampeyan updated this map as published in the document "CDMG, Special Report 80, Plate 3" dated 1963. The updated map is shown as Figure 2-3. A comparison of the maps shows the location of the DMEA Shaft and the addition of waste rock adjacent to the DMEA Shaft that did not exist on the 1954 map as demonstrated on Figure 2-9. The map clearly shows that material generated by DMEA and Smith, et al. during the sinking of the DMEA Shaft was located immediately adjacent to the DMEA Shaft. Site inspections in 2008 confirmed that the pile of waste rock adjacent to the DMEA Shaft on the 1956 map no longer exists (Figures 2-3 and 2-9). Based on interviews with the current property owner Jack Wessman, he stated that he used the waste rock adjacent to the DMEA Shaft to re-fill the DMEA Shaft.

Additionally, the Pampeyan 1963 map depicts a large "waste dump" located to the north of the DMEA Shaft (Figure 2-3). This waste rock dump is clearly seen in an aerial photograph from 1952, indicating that it appeared active at that time as shown on Figure 2-10. Dump tracks were extended north and across the road to an "unspecified location" (Schuette, 1954) by Smith, et al., presumably on the north-facing slope in the Dunn Creek Watershed where the large waste rock dump is mapped by Pampeyan (1963). Review of an aerial photograph from 1957 (Figure 2-11) also confirms the location of the large waste dump to the north of the DMEA Shaft, although the clarity of this photograph does not allow determination of changes as compared to the 1952 photo. The large waste dump north of the DMEA Shaft was inspected in 2008. The waste dump is on a steep slope and contains approximately 1.3 acres of large blocks of rock 2 to 10 feet in diameter that are now densely covered with vegetation. The condition of the waste dump in 2008 can be seen on the aerial photo presented as Figure 2-2.

In summary, maps and aerial photos combined with anecdotal information from the current property owner indicate that material generated by Cordero in 1955 was hoisted out of the DMEA Shaft and placed adjacent to the Shaft in a waste pile that has subsequently been placed back into the Shaft. Additionally, most or all of any remaining waste rock, if any, generated by Cordero was likely disposed of in the large waste rock dump located immediately north of the DMEA Shaft via the rail tracks installed by Smith, et al. in 1954 expressly for this purpose (Schuette, 1954).

2.5 Previous Investigations

The potential for contamination of Marsh Creek has long been of concern, resulting in considerable sampling of Marsh Creek, Dunn Creek, Horse Creek, pond effluent, etc., over the past 50+ years (WPCB Document Log). Sampling events have been conducted by the following entities or persons:

- CRWQCB and its predecessor, the WPCB, as part of inspection visits to the Mine that have occurred since the late 1930's;
- J.L. Iovenitti, Weiss Associates, and J. Wessman, as part of *Mount Diablo Mine Surface Impoundment Technical Report* dated June 30, 1989; and

- Prof. Darell G. Slotton, U.C. Davis, as part of the Marsh Creek Watershed Mercury Assessment Project conducted in March 1996, July 1997, and June 1998.

These previous investigations are summarized in the following sections.

2.5.1 State Water Pollution Control Board / California Regional Water Quality Control Board Investigations

Since the late 1930's, the CRWQCB and its predecessor, the WPCB, conducted inspection visits to the Mine. During these inspections, surface water grab samples were collected under varying conditions (ranging from high runoff periods, to periods of little or no runoff). The surface water samples were collected from the following sampling locations:

- Dunn Creek (at various locations);
- Horse Creek (upstream of pond outlet);
- Perkins Creek (above the confluence with Marsh Creek);
- Curry Creek (above the confluence with Marsh Creek);
- Marsh Creek (at various locations);
- Drainage from Mine/Tailings on Wessman Property;
- Drainage from ponded area, north of tailings;
- Springs on State Park Land;
- Alkali Spring below and east of pond/dam;
- Mine pond;
- Zuur well;
- Prison Farm well; and
- Marsh Creek Springs Resort well.

These samples were analyzed for general water quality parameters and metals. A summary of these water sample results has been compiled into an Excel table format and is included as Appendix A.

2.5.2 J.L. Iovenitti, Weiss Associates, and J. Wessman *Mount Diablo Mine Surface Impoundment Technical Report*

In 1989, a technical report was prepared as part of the application to qualify for an exemption authorized by the Amendment to the Toxic Pits Cleanup Act of 1984 (Iovenitti, 1989). This investigation focused on characterizing the surface impoundment located at the Mine. This report evaluated the geohydrochemical setting of the surface impoundment, the source of contaminants in the surface impoundment, and waste control alternatives and preliminary cost estimates for

these alternatives. This report characterized the contaminants in the surface impoundment based on historical data. From 1953 through 1988, eleven water samples were collected from the surface impoundment. The surface water samples were analyzed for general water quality parameters and metals. The results indicated that the metals concentrations detected in the water within the surface impoundment exceeded the primary drinking water standards. As summarized in the table in Appendix A of this report, in April and May of 1989, nine surface water samples were collected by J.L. Iovenitti, a consulting geoscientist in Pleasant Hill, California. These surface water samples were collected from Dunn Creek (various locations), Ore House Spring, the creek above the Northern Pond, the Northern Pond, and the surface impoundment (two locations).

2.5.3 Prof. Darell G. Slotton, Marsh Creek Watershed Mercury Assessment Project

A three year study (1995, 1996, and 1997) of the Marsh Creek Watershed was conducted by Contra Costa County to comprehensively determine the sources of mercury in the Marsh Creek Watershed, both natural and anthropogenic. These studies were also used to document mercury concentrations in indicator species, surface water, and sediment to evaluate mercury bioavailability within the Marsh Creek Watershed. These studies were designed to characterize baseline conditions of the Marsh Creek Watershed and to evaluate the relative effectiveness of potential future remedial actions at the Mount Diablo Mine.

The results of the 1995 study are summarized in a March 1996 report titled "Marsh Creek Watershed 1995 Mercury Assessment Project – Final Report" prepared by Darell G. Slotton, Shaun M. Ayers, and John E. Reuter (Slotton, et. al, 1996). The 1995 study evaluated all aspects of mercury loading within the Marsh Creek Watershed. As part of this Mercury Assessment Project, sampling was conducted at the Mine area, including the Lower Pond, the spring on State Park property, the spring emanating from the tailings pile, and other locations upstream in Dunn Creek and downstream along Marsh Creek. The chemical results of the Slotton et. al. 1996 study in the Mine area are summarized in Table 2-2.

The results of the 1996 study are summarized in a July 1997, report titled "Marsh Creek Watershed Mercury Assessment Project – Second Year (1996) Baseline Data Report" prepared by Darell G. Slotton, Shaun M. Ayers, and John E. Reuter (Slotton, et. al, 1997). In this second year of a three-year baseline study, the 1996 study focused on evaluating mercury availability in indicator species and sediment within stream sites and the Marsh Creek Reservoir. 175 individual and composite samples of invertebrates, sediment, and young fish from 13 stream sites and the Marsh Creek Reservoir were collected for this study (Slotton, et. al., 1997).

The results of the 1997 study are summarized in a June 1998 report titled "Marsh Creek Watershed Mercury Assessment Project – Third Year (1997) Baseline Data Report with 3-Year Review of Selected Data" prepared by Darell G. Slotton, Shaun M. Ayers, and John E. Reuter (Slotton, et. al, 1998). In this final year of a three year baseline study, similar to the 1996 study, the study focused on evaluating mercury availability in indicator species and sediments within stream

sites and the Marsh Creek Reservoir. 137 individual and composite samples of invertebrates, sediment, and young fish from 12 stream sites and the Marsh Creek Reservoir were collected for this study (Slotton et. al., 1998).

Based on the results of the 3-year study and extensive sampling of the entire Marsh Creek Watershed, the Slotton report concluded that the Mount Diablo Mercury Mine, and specifically the exposed tailings and waste rock (Bradley Mining Company's waste) above the existing pond was the dominant source of mercury in the watershed. Sampling of Dunn Creek above the Lower Ponds indicated minimal sourcing of mercury was occurring from the watershed immediately above the Lower Pond.

2.6 Previous Remedial Actions

Since the operations of Cordero in 1955, multiple operators and property owners have been involved in actions that have modified some of the physical features of the general Mine area. Most notably, the current property owner, Jack Wessman, over the period of his ownership since 1974, has conducted work in an effort to minimize the impact of exposed mine waste material to surface water runoff. This work has included earth moving at the Mine involving the importation of a large quantity of fill material (reported by Jack Wessman to be on the order of 50,000 cubic yards) and the movement and grading of this fill material around the Mine Site to cap Mine waste.

Based on discussions with Jack Wessman conducted during Site inspections in 2008, this work has specifically included: 1) infilling and capping of the original collapsed mine workings located to the north of the DMEA Shaft and Cordero work area, 2) filling of the DMEA Shaft and filling and capping of waste rock below the shaft toward the furnace, 3) filling and capping of a small pond located west of the DMEA Shaft, 4) grading of waste rock and tailings piles located to the east of and overlying the mine workings as part of surface drainage control actions, 5) re-configuring, enhancing and maintaining impoundments around the lower waste ponds, and 6) installing drains and drainage pipe for the purpose of redirecting surface rainfall runoff in the upper Mine area around the exposed tailings and waste rock into Dunn Creek directly bypassing flow through the Lower Pond.

Current surface drainage for the upper Mine areas, including the Cordero operations around the DMEA Shaft area, is captured and routed around the exposed tailings and waste rock and around the Lower Pond emptying directly into Dunn Creek at a location up-gradient of the Lower Pond.

In response to an Order from the United State environmental Protection Agency, work at the Site was conducted by Sunoco in 2008/2009 involving the emergency stabilization of the southeastern wall of the Lower Pond's impoundment dam to prevent continued storm flow erosion of the impoundment. This work was documented in the SGI report titled "Final Summary Report For Removal Action to Stabilize The Impoundment Berm, January 28, 2009".

3.0 FIELD INVESTIGATION AND SAMPLING

3.1 Objective

Work conducted by SGI on behalf of Sunoco has included research, acquisition, review and analysis of existing published information and data related to the former Mine and attendant water quality impacts, field surveys of the Mine conducted over a period of two years, property owner interviews, and two surface water sampling events at the Mine Site. This work, and the additional work proposed to be conducted in this Report, provides a basis for Sunoco to comply with the CRWQCB requirement to investigate both the nature and extent of mining waste at the Mine Site and the nature of attendant impacts as requested by the CRWQCB in its Revised Technical Reporting Order R5-2009-0869 (Rev. Order) of December 30, 2009.

The research conducted has uncovered more than 50 years of chemical monitoring data and two previous investigations as discussed in Section 2.6. Based on the results of this long history of data collection and analysis, and upon our initial research, analysis and field surveys, we have reached the following conclusions relevant to implementation of potential remedial actions to control the primary sources of mercury loading from the Mine Site to Marsh Creek and environs:

- The majority (93% of loading from the Mine area calculated by Slotton, 1995) of mercury loading to Marsh Creek is derived from surface water runoff moving over the exposed Bradley Mining Company-generated tailings along the eastern edge of the Mine;
- Generation of methyl mercury within existing pond sediments appears insignificant; and
- Remedial actions focused on the Bradley Mining Company tailings would result in a 93% (Slotton 1995) reduction in mine waste related impacts to Marsh Creek.

The surface water sampling events conducted in April and May of 2010 were focused on the objective of more fully establishing the credibility of these initial conclusions. The following sections detail the work conducted and the results of this work.

3.2 Field Surveys

Over the last two years, SGI on behalf of Sunoco has conducted numerous field surveys of the Mine Site, including two rounds of surface water sampling in 2010. Initial field surveys of the Mine Site focused on visual analysis of current conditions and how they relate to the extensive body of historical documentation that exists for the Site such as United States Geological Survey (USGS) mine and topographic mapping surveys, geologic maps, corporate documentation of mining activities, and regulatory agency assessment documentation. Using the historical topographic and mining survey maps, the geographic coordinates of current Site features that exist on the historical maps were identified using a hand-held GPS-device. These coordinates allowed for the geo-referencing of Site features found on historical maps that are no longer in existence, such as mine

shafts, adits and buildings. Several Site visits included interviews with the land owner, who has owned the property since 1974 and has made extensive modifications to the former mine features in an effort to improve safety and to channel surface water drainage. This knowledge of the Site has aided in the location of historical Site features within the current landscape.

An additional goal of these initial field surveys was to ascertain the current condition of the Bradley Mining Company tailings piles, the condition of the retention ponds, and the current state of surface water runoff from the Mine Site. The tailings piles were visually mapped as to type and compared with historical documentation including the extent, stability and the current state of vegetative cover. Based on visual surveys during both winter storm conditions and late summer conditions, and on input from the land owner of his modifications to the Site, the state of surface water drainage from the various mine features was mapped.

3.3 Surface Water Sampling

On April 12 and again on May 27, 2010, SGI collected surface water samples from a variety of locations around the former Mine. The aim of the collection and analysis of the surface water samples was to identify and quantify sources of mercury and other chemicals in runoff water in order to satisfy the requirements of the Mining Waste Characterization Work Plan requested by the CRWQCB in their Revised Technical Reporting Order R5-2009-0869 (Rev. Order) of December 30, 2009.

A total of twenty-three surface water samples were collected at the following sixteen locations during the two sampling events:

- Bradley Tailing Piles (four locations, SW-01, SW-02, SW-03, and SW-15);
- Springs (three locations, including the Adit Spring (SW-01, SW-15), Mount Diablo State Park Spring [Park Spring, SW-04] and the Ore House Spring [SW-14]);
- Runoff water between the Bradley Tailings Piles and the Lower Pond (SW-05);
- Storm Water Retention Ponds (three locations, including the Upper Pond [SW-06], the Middle Pond [SW-10], and the Lower Pond [SW-09]);
- Dunn Creek (three locations, including downstream of the Lower Pond [SW-07], between the Middle Pond and My Creek [SW-08], and upstream of My Creek [SW-16]); and
- My Creek (three locations, including upstream, within and downstream of the Northern Waste Dump [SW-12, SW-11, and SW-13, respectively]).

Upstream surface water sampling locations SW-12 and SW-16 were considered background locations. The surface water sampling locations are presented on Figure 3-1.

3.3.1 Sample Collection Procedures

Samples were collected in clean laboratory supplied containers by allowing flowing surface water to enter into the container. In some cases (generally resulting from a lack of access), a clean glass jar was used to initially capture the water sample, which was then subsequently decanted into the appropriate container. If water was observed emerging from the wet area, the sample was collected as close to the origin as possible. Field parameters including temperature, dissolved oxygen, and conductivity were measured with equipment pre-calibrated, according to the manufacturer's instructions. Each sample collected was placed on ice and transported to California-certified Accutest Laboratory located in San Jose, California. Chain-of-custody procedures were followed at all times. Chain-of-custody documentation is included with the laboratory reports in Appendix C.

3.3.2 Equipment Decontamination

No reusable sampling equipment was employed during the collection of the samples. Following the collection of each sample, all sampling equipment, such as gloves, was properly disposed of and not reused for any subsequent sample collection.

3.3.3 Laboratory Analysis

In addition to field parameters, the surface water samples were analyzed for the following parameters:

- Total Mercury;
- Dissolved Mercury;
- Methyl Mercury;
- pH;
- Alkalinity (Bicarbonate, Carbonate and total);
- Dissolved Organic Carbon;
- Specific Conductivity;
- Total Dissolved Solids;
- Hardness (as CaCO₃);
- Turbidity;
- Dissolved Silica;
- Cations -B, K, Fe, Mn, Mg, Ca, Na, Si.;
- Anions - Cl, F, SO₄, Br, NO₃, Zn, As.; and
- Remaining Priority Pollutant Metals- Sb, Be, Cd, Cr, Cu, Pb, Ni, Se, Ag, Tl.

4.0 INVESTIGATION RESULTS

4.1 Field Survey Results

Field surveys were conducted over a period of two years. These surveys included inspection of waste materials and tailings piles, assessment of general material types, inspections of springs, inspections of ponds, inspections of historic mine features that remain, and inspections of remedial actions conducted by Site owner Jack Wessman. These inspections also included observing and mapping of surface water flow patterns during and after storm events over the course of two winters.

4.1.1 Materials Mapping

Figure 4-1 presents a Site aerial photo depicting mine waste and features mapped at the Site. Features noted include areas capped by Jack Wessman, areas of exposed mine waste rock, areas of well-sorted processed mine tailings (Calcine), areas of general waste dumping including waste rock generated by a rock quarry that was located west of the Mine Site and operated by Bradley Mining Company, and the locations of the three surface water collection ponds.

Figure 4-2 includes these same material features with an overlay of historic mine features depicting mine tunnels and waste piles mapped by the USGS (Pampeyan, 1963). Photographs of these different materials and features at the Site are included in Appendix B.

An example of a capped area is depicted on photograph B-1 in Appendix B showing the capped area located at the top area of the Bradley tailings piles and waste rock. Photograph B-2 depicts the capped area overlying the historic collapsed main mine workings area. These caps are composed of clean-imported fill and reported by Jack Wessman to range in thickness from 10 to 20 feet.

Materials mapped in the northern waste dump include two main types. Near the DMEA shaft location at the central southern boundary of the northern waste dump, a relatively small area of materials was identified as indicated on Figure 4-1 to consist of material similar to non-ore related waste rock seen in other parts of the Mine. The majority of material in the remainder of the northern waste dump appears to be composed of large boulder-sized waste rock derived from a former Bradley Mining Corporation quarry operation. The location of the quarry is to the west of the Mine area.

Bradley waste rock and tailings present in the eastern portion of the Mine Site remain exposed above the location of the Lower Pond, and due to their chemistry, are devoid of vegetation. These materials are noted based on historic and current sampling data to be acid-generating materials

(Figure 4-2). Field observations of the exposed waste rock in these areas confirm the presence of sulfate-type waste rock material consistent with the ability to generate acidic surface water runoff.

Fully processed ore rock (tailings) is a well sorted granular material called Calcine and is also mapped on Figures 4-1 and 4-2. At this Mine, the Calcine is reddish in color and the exposed piles of Calcine are devoid of vegetation. The amount of Calcine present in this area appears to be significantly less than that which was produced by the Bradley Mining Company based on the volume of mercury produced. As a result, it can be assumed that additional Calcine like material may be incorporated within other waste rock/tailings at the Mine Site.

4.1.2 Surface Flow Mapping

Surface flow assessment was focused on identifying areas of surface water runoff into the three ponds located to the east of all the Mine working areas. Based on the field surveys, an interpreted surface drainage map was developed as presented on Figure 4-3. Three main areas of surface flow drainage are highlighted on Figure 4-3. These include uncontrolled surface runoff over exposed Bradley tailings that moves directly into the Lower Pond (depicted in red on Figure 4-3), surface flow moving from potential Cordero work areas at the Mine (depicted in yellow on Figure 4-3), and surface flow from the remaining mine workings area (depicted in green on Figure 4-3). Remedial efforts conducted by Jack Wessman included the capping of areas in the old mine workings and on top of the Bradley tailings piles. As part of this capping work by Wessman, surface drainage controls were installed that capture water from the upper workings area to redirect it around the exposed acid generating Bradley tailings. This captured flow is directed into the Upper Pond which then flows into the Middle Pond, and hence flows directly into Dunn Creek (photograph B-3 in Appendix B).

Surface flow over the northern waste dump and the northern part of the former potential Cordero work areas drains to the north into My Creek which then empties into Dunn creek above the location of the three ponds as shown on Figure 4-3. This flow moves through the Wessman-created pond that straddles My Creek in the area below the northern waste dump.

Surface flow moving over the exposed Bradley tailings piles moves directly into the Lower Pond. When this pond fills, water moves out of the overflow ditch located on the southwest corner. This flow then combines with flow emanating from the Park Spring and moves into Dunn Creek below the pond impoundment. Inspections and observations of the Lower Pond indicate that seepage of pond water through the toe of the impoundment represents a likely steady flow of water derived from Bradley mine waste material into Dunn Creek.

4.1.3 Spring Flows

Three springs have been identified historically and inspected as part of the field survey. These include the Park Spring, the Adit spring, and the Ore House spring. The Park Spring (photograph

B-4 in Appendix B) is located on the southern perimeter of the Mine working area as depicted on Figure 4-3. The Park Spring is perennially flowing as observed during our surveys and corroborated by property owner Jack Wessman. The Park Spring flows into what has been called Horse Creek, then moves directly adjacent and below the impoundment of the Lower Pond, entering Dunn Creek below the Lower Pond. Some surface flow runoff from the extreme southern area of the Bradley tailings piles comingles with the Park Spring water in the area just above the Lower Pond during rain events. The only known measurement of flow rate for the Park Spring was conducted by Slotton (1995) and was measured at 0.32 cubic feet per second (cfs) in late March of 1995 following an extensive period of storms (Slotton, 1995). As a result of the timing of measurement by Slotton, this flow rate likely can be considered on the high side of the range for spring base flow from this location.

The Adit spring location coincides generally with the location of the former 165 foot level Adit which was the only lateral entrance to the historic underground mine workings of Bradley Mining Company (Figure 2-3). This coincident location was confirmed based on geo-referencing of Site features based on the USGS mine and topographic mapping survey (Pampeyan, 1963). The Adit spring is perennially flowing as observed during our surveys and corroborated by property owner Jack Wessman over his period of ownership since 1974. Between our April and May 2010 sampling events, the first emanation point of what is interpreted as the Adit spring moved down-slope. Thus, sampling locations for the Adit spring plot at different locations for the April data (SW-01) and the May data (SW-15). The SW-01 location plots very near the geo-referenced location of the former 165 foot level Adit that is currently buried beneath waste rock and tailings. The SW-15 location plots immediately downgradient of this location where the emanation point has been previously noted in summer conditions during these field surveys. The higher emanation point for the SW-1 sample location is interpreted to be a result of higher saturation conditions within the waste rock and tailings as a result of extensive storms and total precipitation prior to the April sampling event.

Flow from the Adit spring flows directly down-gradient over Bradley Mining Company tailings piles and enters the Lower Pond on its southeast bank as sheet flow. As this flow approaches the area to the south of the Lower Pond, it passes over/through material mapped by the USGS as travertine deposit (calcium carbonate) as can be seen on the excerpted USGS map presented as Figure 2-3. The location of this travertine deposit below the current emanation point of the Adit spring indicates that a spring has been located here historically prior to mining of the ore body.

The only known measurement of flow rate for the Adit spring was conducted by Slotton (1995) and was measured at 0.03 cfs in late March of 1995 following an extensive period of storms (Slotton, 1995). As a result of the timing of measurement by Slotton, this flow rate can also likely can be considered on the high side of the range for spring base flow from this location. Evaluation of flow from the Adit spring in summer and late fall based on field observation estimates conducted by SGI are on the order of 5 to 10 gallons per minute (0.011- 0.022 cfs).

The Ore House spring is located near the historic mine Furnace Plant and can be seen in photograph B-5 in appendix B. The Ore House spring is a low flow spring and was not observed to have enough flow during the May sampling event to cause notable overland flow from the spring's emanation point. Flow from this spring currently moves into a drainage ditch and would be channeled with other surface water in the area that ultimately flows into the Upper Pond. The only known measurement of flow rate for the Ore House spring was made by Slotton (1995) and was measured at 0.01 cfs in late March of 1995 following an extensive period of storms (Slotton, 1995). As a result of the timing of measurement by Slotton, this flow rate can likely be considered on the high side of the range for spring base flow at this location.

4.1.4 Pond Histories and Flow

During the period of mining activities, aerial photographs indicate that the Lower Pond and the Middle Pond were historically merged as one pond (Figure 2-10). Remedial actions conducted by Jack Wessman to re-direct storm water around mine waste included a re-configuration of the Lower Pond as discussed in Section 2.7. As a result of this work, storm water surface flow from the upper mine workings that would normally mix with the water in the Lower Pond is routed around the Lower Pond to Dunn creek as indicated on Figure 4-3 (Photograph B-6 in appendix B demonstrates this flow bypass).

4.2 Development of Surface Water Sampling Locations

Sixteen surface water sampling locations were identified to collect data for one of six categories of surface water quality at the Mine Site, including:

- Background Water Quality;
- Spring Water Quality;
- Pond Water Quality;
- Northern Waste Dump Area Runoff Water Quality;
- Bradley Mine Waste Runoff Water Quality; and
- Downstream Water Quality.

Two sampling locations were identified which would be representative of background water quality (i.e., from areas unaffected by current or former operations at the Mine Site). One of the points was on My Creek while the other was on Dunn Creek. Both of these locations sampled water directly from the respective creeks upgradient of historical operations at the Mine Site. The My Creek sample location was identified as SW-12 while the Dunn Creek sample location was identified as SW-16. Table 4-1 provides a surface water sample key correlating sample names with locations. Figure 3-1 depicts all SGI surface water sample locations noted in Table 4-1.

Photographs that depict various surface water sampling locations and mine waste are included in Appendix B.

As discussed above, there are three known springs within the Mine Site, the surface water emanations from which are derived from a groundwater source. It is unknown if the groundwater sources of the springs are related to or otherwise connected to former mining operations (such as underground workings). The first two springs sampled were the Park Spring, located to the south of the Bradley tailings piles, and the Ore House Spring, located adjacent to the former Mine furnace plant building. These spring sample locations are identified as SW-04 and SW-14, respectively. The Adit Spring is the third location, which is interpreted to be spring water derived from where the now buried 165 foot Adit formerly day-lighted. The two sample locations from this area are SW-01 and SW-15.

All three main ponds on the Mine Site were sampled. The largest pond on the Mine Site is the Lower Pond. Most of the surface water runoff from the Mine Site, including those from the Bradley tailings piles, is funneled into this pond. The Lower Pond drains directly into Dunn Creek. The Middle Pond is located just to the north of the Lower Pond and receives overflow water from the Upper Pond. The middle pond drains directly into Dunn Creek. Storm water has been channeled from the upper mine workings area into the Upper Pond via the installation of an assortment of culverts and drainage piping. Each pond was sampled near its overflow outlet point, with the Upper Pond identified as SW-06, the Middle Pond identified as SW-10 and the Lower Pond identified as SW-09 (Figure 3-1).

The northern waste dump area is on a north facing slope which drains into My Creek. Water quality samples were collected at two points along My Creek, including sampling locations SW-11 and SW-13.

Bradley Mining Company waste runoff water quality was sampled from three points on or downgradient from the Bradley tailings piles. Sampling locations SW-02 and SW-03 collected surface water runoff from the upper reaches of the Bradley tailings and the middle of the Bradley tailings, respectively. Sample location SW-05 captures runoff water from the Bradley tailings just prior to entering the Lower Pond.

The downstream water quality sample location was designed to test surface water downgradient of potential significant surface water inputs. Sample location SW-08 is on Dunn Creek downgradient from the contribution from My Creek though still upgradient from the Middle and Lower Ponds. This point was sampled as it should intercept water quality inputs from known Cordero working areas while still upgradient from Bradley work area inputs. Sample location SW-07 is on Dunn Creek downgradient from the contribution from both the Lower Pond and the Mount Diablo State Park Spring. This sample location was designed to determine surface water quality of the combined outflow from all Mine Site sources.

4.3 Surface Water Sampling Results

The April 12 sampling event experienced different environmental conditions relative to the May 27 sampling event. The day of the April sampling event and the day leading up to it combined to produce approximately 1.5 inches of rainfall. Significant quantities of surface water runoff had resulted in outflow from all three ponds and Dunn Creek overflowing its banks. The majority of the flow downstream of the ponds came from the overflowing Dunn Creek.

The day of the May 27 sampling event and the two days leading up to it combined to produce only approximately 0.5 inches of rainfall. There was no outflow from any of the ponds and Dunn Creek was well within its established banks. The volume of surface water runoff was minimal in comparison to the April event with adequate overland flow sampling locations being less abundant.

The results of the sampling allowed for the characterization of each surface water collection location both chemically by analyzing concentrations and ratios of certain cations and anions, and as a source for mercury loading by comparing concentrations.

Table 4-1 provides a sample location key to correlate sample names with sample locations. All of the water quality data collected by SGI in 2010 is summarized on Table 4-2. Complete laboratory reports for both sampling events are included as Appendix C. Figure 4-4 depicts the surface water sampling locations with mercury (including total and dissolved) and methyl mercury sampling results posted for ease of review.

No detectable concentrations of mercury were found in any of the samples from My Creek (SW-11, SW-12, and SW-13) or in the Dunn Creek background sample (SW-16). The Dunn Creek sample below the My Creek drainage (SW-08) had a detectable concentration of total mercury in the April sample, but none in the May sample. All three of the ponds had detectable concentrations of mercury, though the concentrations in the Lower Pond were distinctly higher than those in the Middle Pond and the Upper Pond. The Park Spring and the Ore House Spring samples both contained low but detectable concentrations of mercury. Two samples were collected near the Adit Spring location, with the one higher in elevation (SW-01) showing low mercury concentrations (similar to the other springs) while the lower elevation sample location (SW-15) shows significantly elevated concentrations. The highest concentrations of mercury in surface water samples were found in those from the Bradley tailings piles (SW-02, 03), with sample location SW-03 being the highest on the Mine Site.

During the April and May 2010 sampling events methyl mercury was detected at all sample locations including background locations (Table 4-2). The total/dissolved mercury and methyl mercury concentrations were elevated in areas directly downstream of mine waste areas (Adit Spring, Ponds, Mine Water Runoff). Based on field data collected at the Mine in May 2010 (Table 4-3), dissolved oxygen ranged from 6.0 to 9.5 milligrams per liter (mg/L). My Creek runoff samples were collected freefalling from a pipe or weir within a running creek, which resulted in high

dissolved oxygen levels of 16 to 18.7 mg/L. Although these moderate dissolved oxygen levels do not suggest a significant anoxic environment, the detection of methyl mercury in all the surface water samples indicates limited biomethylation is occurring at the Mine.

The methyl mercury concentrations detected in the mine waste areas (Adit Spring, Ponds, Mine Water Runoff) were above the CRWQCB – San Francisco Bay water quality criteria for methyl mercury in freshwater of 3 nanograms per liter (ng/L; CRWQCB, 2008a). Water quality criteria for methyl mercury was not available in the CRWQCB Central Valley compilation of water quality goals (CRWQCB, 2008b) or USEPA National Recommended Water Quality Criteria (USEPA, 2009). Methyl mercury concentrations did not exceed the water quality criteria at any other sampling locations, including background samples. Statistical analysis of the methyl mercury data for all of the surface water data with the exception of the two background sample locations was conducted to determine the 95-percent upper confidence limit of the mean (95UCL), using a USEPA software package called ProUCL Version 4.00.04. ProUCL and USEPA (2009b) guidance make recommendations for estimating 95UCLs and were developed as tools to support risk assessment. Based on this analysis, the 95UCL for methyl mercury sampled is 2.8 ng/L, which is less than the applicable water quality criteria. The ProUCL output spreadsheet that summarizes this statistical analysis is presented in Appendix D.

Although methyl mercury concentrations immediately downstream of mine waste areas were elevated, methyl mercury was detected at 0.736 and 1.47 ng/L (below water quality criteria) in the furthest downstream sample (SW-07). Once mercury is converted to methyl mercury it is readily absorbed by biota in aquatic ecosystems and concentrates in tissue of fish and other aquatic organisms. Based on the 1995 Slotton study, no benthic invertebrate bioindicators or fish were sampled in the surface water sample locations at or near the Mine because of insufficient concentrations of organisms. In the Slotton studies, aquatic organisms were only collected from areas further downstream from the Mine. The data collected in 2010 indicate that methyl mercury concentrations immediately downstream of the Mine (SW-07) are below water quality criteria and suggest that without the introduction of other sources of mercury, methyl mercury concentrations would continue to decrease further downgradient due to dilution. Consequently, in areas downstream of the Mine Site where there is enough surface water to support aquatic organisms, the methyl mercury concentrations are below water quality criteria.

General water quality parameter data detailed in Table 4-2 were analyzed to evaluate total water quality signatures relevant to the variable locations of the samples. Through the use of Piper and Durov diagrams (Figure 4-5 and Figure 4-6), a graphical representation of the chemical signature of each water sample is plotted relative to the entire set of water samples. In each case, the water chemistry results plotted on the center shape (a diamond in the case of the Piper diagram and a square in the case of the Durov diagram) is a matrix transformation of the ternary graph (the triangle shapes in both diagrams) of select anions (SO_4 , Cl , and HCO_3) and the ternary graph of select cations (Ca , Mg , and Na^+K). On both diagrams (Figure 4-5 and Figure 4-6), there are

distinct groupings of sample locations suggesting that the waters from the sixteen sampling locations fall into four primary groups as follows:

- Mine Waste Source Water, surface flow water that has come into contact with mining waste;
- Altered Mine Waste Water, a chemical alteration of mine waste source water after having flowed over travertine deposits;
- Park Spring Water, surface flow water with Park Spring as its source; and
- Background Water, surface flow water that has not contacted mine tailings at the Site.

Focusing on the Piper diagram on Figure 4-5, background water quality is characterized by the highest concentrations of both calcium and bicarbonate. The Park Spring water has a balance of cations and anions, thus plotting in the middle of the Piper diagram. The mine waste water is nearly devoid of bicarbonate and has lower concentrations of calcium than the background or Park Spring water. The altered mine waste water is differentiated by a higher concentration of sodium, potassium and chloride (salts).

A Stiff diagram is a graphical representation of the major ion composition of a water sample. A polygonal shape is created from three parallel horizontal axes extending on either side of a vertical axis. They show the relative ratios of cations (plotted on the left hand side) and anions (plotted on the right hand side) plotted in milliequivalents per liter. These diagrams are useful in making rapid visual comparisons between water samples. Stiff diagrams were created for each of the twenty-three collected samples analyzed and are found in Appendix E. For each of the four characteristic water types identified on the Piper diagram, a characteristic Stiff diagram was selected and displayed on Figure 4-7. For the background sample, the Stiff diagram shows a high ratio of bicarbonate relative to chloride and sulfate, and elevated calcium and magnesium relative to sodium, resulting in an amorphous shape. The Park Spring sample indicates a unique water quality signature in the Stiff diagram with a near balance of both cations and anions, though slightly more bicarbonate and slightly less calcium. Water that has been modified by contact with Mine waste shows a low ratio of sodium and chloride relative to magnesium and especially sulfate, and contains no bicarbonate, with the entire picture looking almost like a boot with the toe pointing to the right (SW-3). Additionally altered mine waste water is similar to the mine waste water above but with a higher ratio of sodium and chloride (SW-5). The boot shape is less pronounced and, in some cases, almost takes on the appearance of two triangles joined at the center of the diagram (Figure 4-7). The following sections provide additional discussion regarding data relevant to the various water types identified based on the water quality signatures discussed above.

4.3.1 Background Water Quality

The Stiff diagrams for the SW-12 and SW-16 samples define the characteristic amorphous shape of the background samples Stiff diagrams as shown on Figure 4-7. In both cases, no mercury was

detected in either sample and pH levels were similar (7.75 in Dunn Creek and 8.20 in My Creek). However, methyl mercury was an order of magnitude higher in Dunn Creek relative to My Creek.

4.3.2 Spring Water Quality

The water quality of the three springs varies in water type. The Park Spring (SW-04) shows a unique signature as demonstrated in its Stiff diagram (Figure 4-7). However, samples from the Ore House Spring (SW-14) and the Adit Spring (SW-01) exhibit boot shaped Stiff diagrams characteristic of mine waste source water (Appendix E). The pH of the three locations is different ranging from the acidic Adit Spring (pH of 3.95) to the nearly neutral Park Spring (pH of 7.69). Mercury concentrations from all three springs were relatively low with the Ore House Spring, the Adit Spring, and the Park Spring showing total concentrations of 1.3, 2.2 and 0.45 micrograms per liter ($\mu\text{g/L}$), respectively.

Sample SW-15 is also considered to be an Adit Spring sample, though it was collected approximately 50-feet downgradient of the SW-01 Adit Spring sample described above. However, the water chemistry and mercury concentrations found in SW-15 are significantly different from those of the SW-01 sample. The SW-15 Stiff diagram resembles that of altered mine waste water. Additionally, the concentration of mercury in SW-15 is 107 $\mu\text{g/L}$ which is significantly higher than that found in SW-01. This leads to the conclusion that the SW-15 water sample may have originated in the Adit Spring, but it was significantly altered by the tailings prior to collection and analysis.

4.3.3 Pond Water Quality

The chemistry of the Upper Pond (SW-06) and the Middle Pond (SW-10) show boot shaped Stiff diagrams (Appendix E) characteristic of mining waste source water. Both contain elevated concentrations of mercury ranging between 18 and 32 $\mu\text{g/L}$ (Table 4-2). However, the sample from the Middle Pond (SW-10) collected in May shows the Stiff diagram with an amorphous shape typical of background water quality, and contained only 0.21 $\mu\text{g/L}$ of mercury. This suggests that, in the absence of significant amounts of surface runoff, the Middle Pond may receive a significant subterranean inflow of water from Dunn Creek altering the chemistry to near that of the Creek water and diluting the mercury.

The chemistry of the Lower Pond is distinct from that of the Upper and Middle Ponds. The Stiff diagram for the Lower Pond indicates a character that is consistent with that of altered mine waste water and the mercury content ranges from between 88 and 94 $\mu\text{g/L}$. The Lower Pond is also acidic (pH of 4.5) when compared to the adjacent Middle Pond, which has a nearly neutral pH. This data is consistent with the fact that the Lower Pond receives direct runoff from the Bradley waste rock and tailings piles to the east, and receives direct flow originating from the Adit spring.

The difference in chemistry and of mercury content between the Lower Pond compared to both the Middle and Upper Ponds suggests different histories (and potentially different sources) of the water in each with the Lower Pond clearly receiving altered mine waste water from the Bradley tailings piles. This is consistent with the recent surface water drainage modifications completed by the current landowner. Surface water runoff from the upper part of the Mine Site (the working area) and from the land above the Mine Site has been directed into the Upper Pond by means of drains and culverts. With the exception of the small area of un-capped Calcine piles, this channeled surface water does not have the opportunity to have significant interaction with uncapped mining waste piles, and thus has a different chemical signature and mercury content relative to the water found in the Lower Pond.

4.3.4 Northern Waste Dump Area Water Quality

The two Northern Waste Dump Area samples, SW-11 and SW-13, exhibit amorphous shaped Stiff diagrams characteristic of background water samples (Figure 4-7). The characterization of these samples as comparable to background water quality is supported by the lack of detected mercury in both samples and the nearly neutral pH readings. These data for the SW-11 and SW-13 samples (Table 4-2) suggest that the Northern Waste Dump is not a significant source of mining waste impacts to surface water.

4.3.5 Mine Waste Runoff Water Quality

Samples of runoff collected from the Bradley tailings piles, SW-02 and SW-03 (Appendix E), demonstrate the characteristic shaped Stiff diagrams indicative of water that has been modified by contact with mining waste, which we have designated as mining waste source water (Figure 4-7). Both samples exhibit high mercury concentrations of 179 and 74 µg/L, respectively for SW-02 and SW-03. Additionally, both exhibit acidic pH ranging from 2.23 to 3.13 indicative of contact with exposed mine waste of acid generating potential.

Sample SW-05 was taken from surface water runoff from the Bradley tailings piles just before it enters the Lower Pond directly down-gradient of the Adit spring source emanation. Thus, the water has had a significant run down the slope from the tailings including travel over the travertine coated rocks located just east of the Lower Pond. This trip through the tailings and over the travertine area has altered the water chemistry, which is reflected in its Stiff diagram which is characteristic of altered mine waste water (Figure 4-8). Additionally, the buffering capacity of the travertine (calcium carbonate deposit) has had the effect of raising the pH of the water from the acidic levels found in SW-02 and SW-03 to nearly neutral. Mercury concentrations are less in sample SW-05 relative to SW-02 and SW-03 suggesting that low mercury water from the Adit Spring might be diluting the runoff water from the Bradley tailings.

4.3.6 Downstream Water Quality

The samples from Dunn Creek located downstream of the confluence with My Creek but upstream of the ponds (SW-08) has a Stiff diagram that is characteristic of background water. The pH at this location is nearly neutral and mercury content ranged from 0.6 µg/L to non-detect.

The samples from Dunn Creek (SW-07) located downstream of the Lower Pond and downstream of the confluence with the water from the Park Spring exhibit two different characteristic Stiff diagram shapes (Figure 4-7). The Stiff diagram for the April data showed a background water sample signature reflective of the large flow volumes in Dunn Creek (which had background water chemistry) resulting from the high amount of recent rain (1.5 inches in less than 2 days). This high flow of background quality runoff overwhelmed all of the other chemical signatures that contributed to the outflow to Dunn Creek in April. The Stiff diagram for the May sample data showed signature more indicative of a higher content of water sourced from the Park Spring. This is reflective of the greatly reduced flows in Dunn Creek and that of all the combined outflows down Dunn Creek from the Mine Site, the Park Spring water was the most abundant, thus, dominating the chemical signal. Data from both sampling events showed that pH was nearly neutral and that mercury ranged from 0.74 to 0.64 µg/L.

4.4 Water Quality Criteria Evaluation

The analytical results of the surface water samples collected during the April and May events were also compared to water quality criteria developed for bodies of fresh water by the California CRWQCB (2008) and the US Environmental Protection Agency (2009). Freshwater water quality criteria values exist for many of the tested constituents including mercury (total and dissolved), methyl mercury, pH, and an assortment of water quality parameters and metals. Additionally, there are an alternate set of criteria related to human health for the consumption of water and organism and for the consumption of organisms only. These water quality criteria are found on Table 4-2 along with the analytical results from the April and May 2010 sampling events. The table has been coded to identify the analytical results that exceed one or more of the water quality criteria.

The criteria for mercury is 0.91 µg/L, which was exceeded by samples obtained from the Ore House Spring (SW-14), the Adit Spring (SW-01 and SW-15), all three ponds (SW-06, SW-09, and SW-10), and runoff from the mining waste tailings piles (SW-02, SW-03 and SW-05). The water quality criteria for consumption related to human health were much lower than the analytical method used was able to resolve (i.e. analytical results for total mercury less than 0.20 µg/L was not resolved, while the human health consumption criteria was 0.05 for water plus organism and 0.051 for organism only). The criteria and sample exceedances for methyl mercury was discussed in Section 4.3.

The criteria for arsenic in freshwater is 250 µg/L, which was exceeded by samples from the Adit Spring (SW-15) and from runoff from the mine tailings (SW-03). It is likely that there is naturally

occurring arsenic in the local rocks, and that the pulverized tailings have exacerbated their release into the environment. The water quality criteria for consumption related to human health were much lower than the analytical method used was able to resolve (i.e. analytical results for arsenic less than 10 µg/L was not resolved, while the human health consumption criteria was 0.018 for water plus organism and 0.14 for organism only).

Freshwater water quality criteria additionally exist for tested constituents including pH, alkalinity, total dissolved solids, cadmium, chloride, chromium, iron, lead, nickel, selenium, and zinc. With the possible exceptions of cadmium, lead, and selenium (based on their elevated detection limit thresholds relative to the water quality criteria), all of these constituents exceeded their water quality criteria for one or more samples collected during the April and May sampling events. As the downstream sample (SW-07) represents the combined runoff from the Mine Site, the only freshwater water quality criteria exceeded from this location include alkalinity, total dissolved solids, iron, nickel, and potentially cadmium, lead and selenium. None of the downstream samples exceeded the criteria for mercury, methyl mercury or arsenic.

4.5 Comparison to Historical Data

The sampling results from April and May of 2010 painted a coherent picture of the current state of the surface water flow, the four chemically distinct types of surface water, and of the sources of mercury from the Mine Site. The CRWQCB has been collecting historical water quality data dating back to 1939 from the Mine Site and the surrounding area. In 1995, Slotton collected a round of surface water chemical and flow data from the Mine Site and published his results including mercury loading calculations. The availability of the CRWQCB and the Slotton data allows for the comparison of historic Mine Site conditions to those based on the 2010 data set.

4.5.1 Historic Pond and Other Data

An extensive set of surface water data for the Mine Site and surrounding area, collected by the CRWQCB and other unidentified parties was compiled by Weiss and Wessman (J.L. Iovenitti, Weiss Associates, and J. Wessman, 1989) and can be found in its entirety summarized in Table form in Appendix A. Also included in Appendix A are sample keys indicating the locations of samples detailed in the Table 4-1. Matching historical sample location descriptions with current sampling locations allows for the comparison of the two sets of data. Table 4-4 show historic surface water total mercury and pH results and their dates of collection matched with the best approximate current sampling location equivalent (Figure 4-4). Six sampling locations were identified at which historical data could be compared to the current data set. These locations included:

- The Ore House Spring (SW-14);
- Surface water runoff from tailings above the Lower Pond (SW-05);

- Dunn Creek downstream of the Lower Pond (SW-07);
- Dunn Creek upstream of the Lower Pond (SW-08);
- The Lower Pond outlet to Dunn Creek (SW-09); and
- Park Spring uphill from the mine tailings (SW-04).

Table 4-5 shows the comparison of mercury results between the historical data and the data collected by SGI. Historically, concentrations of mercury have ranged higher than what was collected in 2010. Significant fluctuations in mercury concentrations were found in the data from Dunn Creek (SW-07) which ranged from 4 µg/L in 1978 to 72 µg/L in 1975, and from the Lower Pond Outlet (SW-09) which ranged from 1.8 µg/L in 1978 to 152 µg/L in 1984. However, the consistency lies in the fact that the highest historic concentrations of mercury have been found emanating from mine tailings runoff water.

Figure 4-8 shows the visual comparison of water chemistry results via the use of Stiff diagrams between the historical data and the SGI collected data. In some cases, there is a significant difference between the water chemistry. These differences could indicate that there have been historical changes in drainage or alterations to the chemistry of the springs. However, it is most likely due to differences in sampling locations and runoff conditions during sampling events.

4.5.2 Slotton Data

A three year study of the Marsh Creek Watershed was conducted by Contra Costa County to comprehensively determine the sources of mercury in the Marsh Creek Watershed, both natural and anthropogenic. The results of the 1995 study are summarized in a March 1996, report titled "Marsh Creek Watershed 1995 Mercury Assessment Project – Final Report" prepared by Darell G. Slotton, Shaun M. Ayers, and John E. Reuter (Slotton et. al, 1996). The Slotton report analyzed select water chemistry, sediment loading and flow at eighteen different locations within the Marsh Creek Watershed, with eight of them within the Mine Site itself. Based on the analysis of the data collected, Slotton came to the following conclusions:

- The Lower Pond is not acting to "settle out" a significant portion, if any, of the aqueous mercury flowing into it from the mine tailings;
- Dunn Creek, below the Mine Site, contributes the vast majority of mercury to the downstream reaches of Marsh Creek;
- The great majority of the Dunn Creek mercury load derives specifically from the tailings piles;
- The sampling of Dunn Creek above the ponds indicated minimal sourcing of mercury; and
- The major mitigation focus should be directed toward source reduction from the tailings piles themselves, with subsequent containment of the remaining mercury fraction being a secondary consideration.

Table 2-2 summarizes the data collected by Slotton in the Mine area. Table 4-5 compares the Slotton mercury data with the SGI collected mercury data at the six contemporaneous sampling locations outlined in Section 4.5.1. The comparison between the two datasets show reasonable agreement in mercury concentrations by location. Though source water chemistry comparisons are not possible, the very reasonable agreement between SGI mercury data and that of Slotton adds support to his conclusions.

5.0 INVESTIGATION SUMMARY AND CONCLUSIONS

The exhaustive review of historical data (including scientific studies, corporate records and regulatory reports), the georeferencing of historical features with the current physical disposition of the Mine Site, the physical mapping of site features such as tailings piles and surface water drainage, and the collection of surface water samples, including the comparison to historical data set, combine to paint a detailed physical picture of current Mine Site conditions. With the exception of some specific data requirements, the collection of which is outlined in the following Section 6.0, all the necessary information needed to formulate a presumptive remedial design and for the preparation of a Remedial Action Plan for the Mine Site is available.

Both historical documentation and surface water analytical data collected in 2010 support the conclusion that the majority (93% based on Slotton, 1995 Calculations) of the mercury mass loading from the Mine Tailings into the Marsh Creek Watershed originates via runoff over and through Bradley Mining Company operation derived waste rock and tailings piles that flows into the Lower Pond and then into Dunn Creek. The primary path from the mining waste is through overland flow into nearby creeks which subsequently leads into the greater Marsh Creek Watershed. The works of Slotton (Slotton, 1995) and of SGI's surface water sampling in 2010 have quantified the concentrations of mercury and other chemical constituents emanating from the various Mine Site features via overland water flow. The water from My Creek, along with the Dunn Creek water above the retention ponds, have no detectable mercury concentrations and have a chemical signature distinct from the water that had come in contact with the Bradley tailings piles. My Creek collects drainage water from the Northern Waste Dump, an area where potentially some of waste rock from Cordero operations has been deposited. The lack of detectable mercury concentrations in My Creek supports the assertion that Cordero operations in that area did not produce waste rock with significant quantities of mercury ore.

6.0 DATA GAPS AND FUTURE WORK

Information collected over the last fifty years at and around the Mine allow for development of a presumptive remedy. Based on the investigation work conducted to date, the following data gaps are indicated that should be filled prior to development of a RAWP and Preliminary Design:

- A topographic survey of the Site that represents the current land configuration;
- The character of water believed to be discharging from the Adit prior to encountering waste rock, tailings or atmosphere;
- The character and potential flow pathway of water present in the DMEA/Cordero workings; and
- Confirmation surface water sampling is needed for some sampling points that, due to variable rainfall and runoff conditions, have only been sampled once in the past.

Collection of data and information to fill these data gaps will allow for development of a RAWP and Preliminary Design for the Mine. The following sections detail the work proposed to address these data gaps.

6.1 Additional Characterization

Additional characterization planned by Sunoco includes the following additional work elements that will fill the data gaps identified above allowing development of a RAWP and Preliminary Design Document. These include:

- A detailed topographic survey of the Mine Site;
- Sampling of mine waters present in the Adit prior to mixing with the atmosphere or mine waste via installation of a monitoring well;
- Sampling of mine waters present in the former Cordero tunnels via installation of a monitoring well;
- Measuring and evaluation of gradients between Cordero mine tunnels and the Adit water via transducer monitoring of installed monitoring wells; and
- Confirmation surface water sampling when conditions allow.

The following sections provide detailed descriptions of these scope items to be conducted by Sunoco.

6.1.1 Topographic Survey

A topographic map of the Mine Site with a two-foot contour resolution will be prepared by an aerial mapping service. Significant features such as buildings, mine workings, and other property features will also be surveyed. This map will be used to aid in determining surface slope angles

and volumes of the existing tailings piles. Additionally, the topographic map will be used to confirm the georeferenced historical site features with their current locations, which will be used in the placement of two groundwater wells, and should optimize the chances for intercepting mine features at depth.

6.1.2 Confirmation Surface Water Sampling

Two confirmation surface water sampling events will be conducted between now and the first winter rains of 2010. Initial sample collection activities will be limited to the ponds and the flowing springs and creeks as practical. Additional surface water sampling events will occur during the winter of 2010-2011 following the first significant rainfall event, and will include sampling from all sixteen sampling locations as is practical based on field conditions. These sampling events will be used to confirm the data collected in April and May of 2010, and to quantify surface water runoff from the Mine Site during different times of the year, including the end of the dry season and first runoff at the beginning of the winter rainy season. The surface water samples will be collected and analyzed in an identical fashion to the samples collected in April and May of 2010 as described in Section 3.0 of this report.

6.1.3 Monitoring Wells

6.1.3.1 Adit Sampling

The Adit Spring has been so named as it has been postulated that the source of the water is from the Bradley Mining Company underground mine workings 165-foot Adit that extends more than 300-feet from the main underground complex to its outlet on the hill slope above the Lower Pond. This Adit opening has long been covered by mine tailings, but still serves as a conduit for water in the Mine to surface and then free flow into the Lower Pond.

It is proposed to install a well that will intersect the buried Adit at depth in order to obtain a representative water sample of Adit water prior to its interaction with mine waste and the atmosphere. Additionally, the well will be used to install a pressure transducer to monitor water levels/flow through the Adit. Ideally, this well will extend through to the floor of the Adit and into a sump which would allow for the collection of water samples via a small submersible pump. The exact placement of the well will be aided by the topographic survey data described in Section 6.1.1.

6.1.3.2 DMEA/Cordero Tunnel Sampling

Cordero only operated at the 360 Level of the underground mine workings, which are currently presumed to be flooded. Collecting a water sample from the 360-foot workings could help identify the quality of the water that is sourced from this level of the Mine. This data could then be compared to the data collected from the 165-foot Adit to determine the relative contribution of

mercury loading from the 360 Level, if any, emanating from the Adit Spring (it is presumed that the Cordero workings at the 360 Level are connected to the Bradley underground workings via a sloped tunnel called the 'Main Winze'). The well would be placed near the original DMEA Shaft (the entrance to the 360-foot underground workings level) to maximize the opportunity to intersect one of the former 360 Level tunnels. Once the well is complete, it will be equipped with a pressure transducer to monitor water levels and a submersible pump for the collection of groundwater samples. The exact placement of the well will be aided by the topographic survey data described in Section 6.1.1.

6.2 Development of Remedial Action Work Plan and Preliminary Remedial Design

Based on the results presented in this report, combined with data collected as outlined in Section 6.1 above, Sunoco will develop a Remedial Action Workplan and Preliminary Design Document compliant with the conditions in CRWQCB Order R5-2009-0869. This document will be of sufficient depth and detail to allow competent development of remedial action costs, and allow eventual preparation of detailed implementation plans for the parties eventually conducting the work.

Scope elements to be included are as follows:

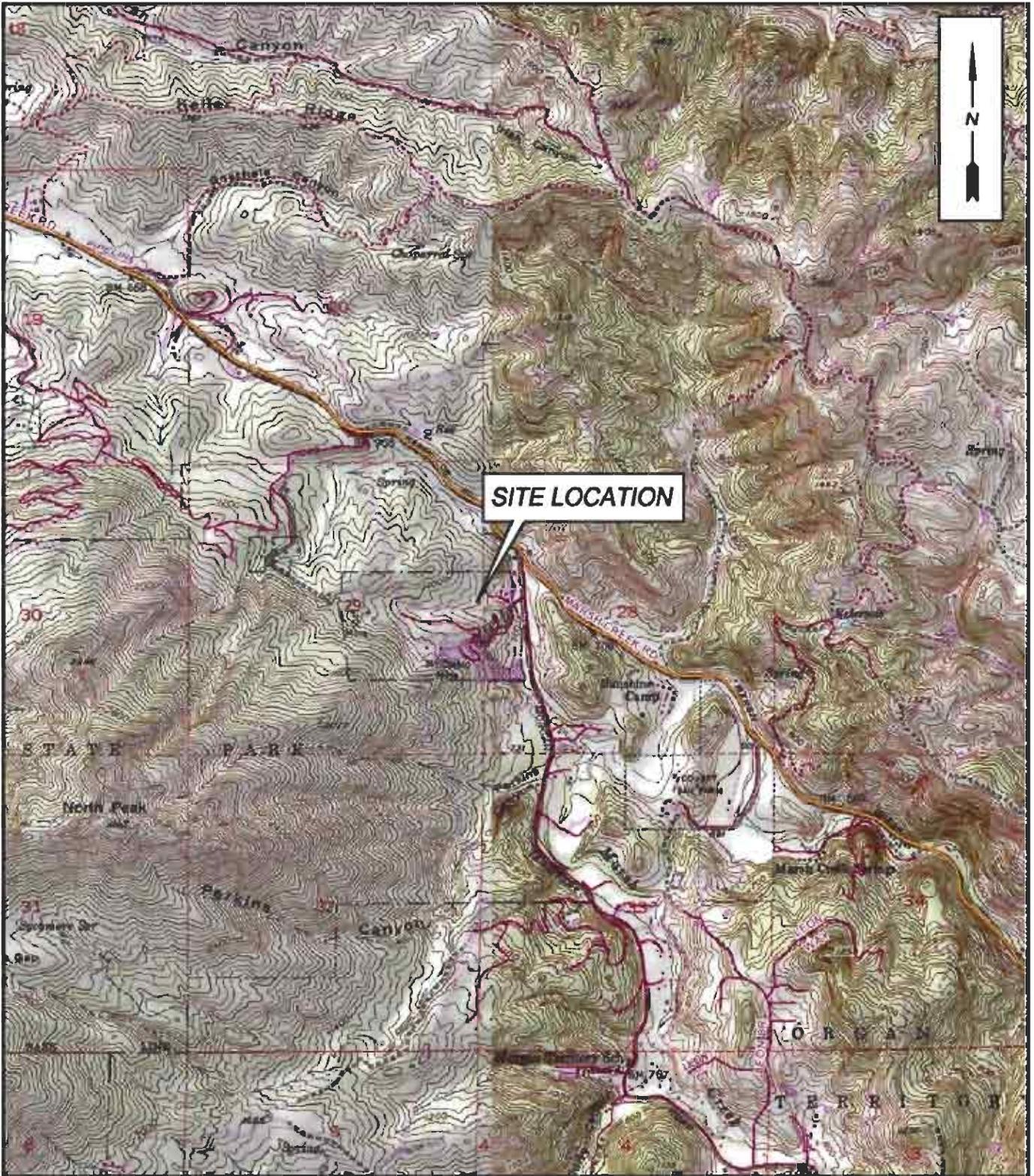
- Capping Plan for Waste Rock and Tailings;
- Drainage and Capping Plan for Ponds;
- Storm and Spring Water Drainage Design Plan;
- Adit Water Discharge Capture and Re-routing Plan; and
- Conceptual Adit Water Discharge Treatment Preliminary Design.

7.0 REFERENCES

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FIGURES



3451 C VINCENT ROAD
PLEASANT HILL, CA 94523

MAP SOURCE: U.S.G.S.

SCALE:



SITE LOCATION MAP

SITE:

SUNOCO
MT. DIABLO MERCURY MINE

DATE:

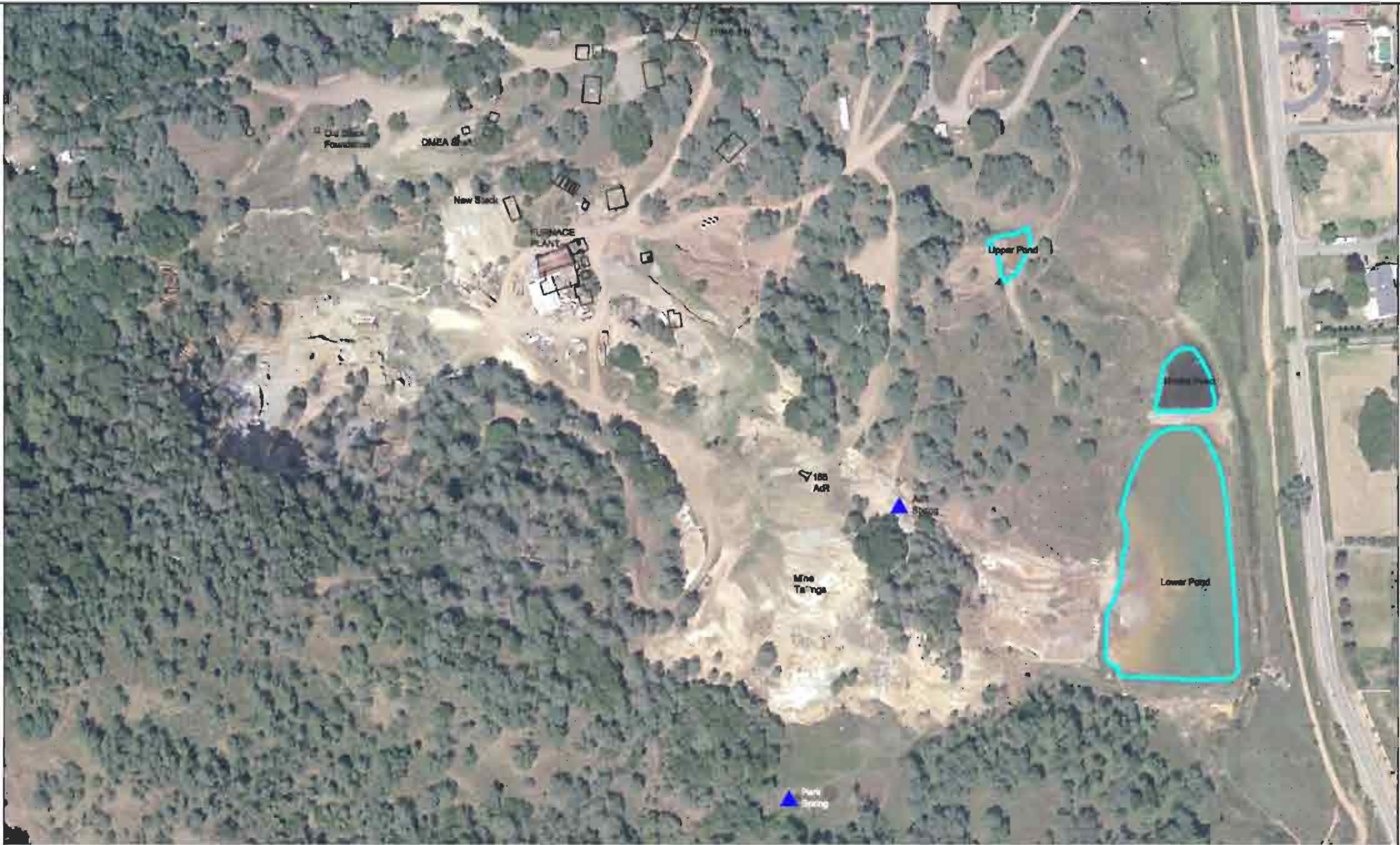
12/05/08

LOCATION:

2430 MORGAN TERRITORY ROAD
CLAYTON, CALIFORNIA

FIGURE:

1-1



- LEGEND**
-  Mine Structure (1953)
 -  Spring
 -  Pond (2004 Outline)

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 PLEASANT HILL, CA 94523



MT. DIABLO MERCURY MINE
 CONTRA COSTA COUNTY, CALIFORNIA
 (2004 AERIAL)

2004 AERIAL PHOTO OF
 MT DIABLO MINE SITE

FILE NAME
 Mine Features Map.dwg

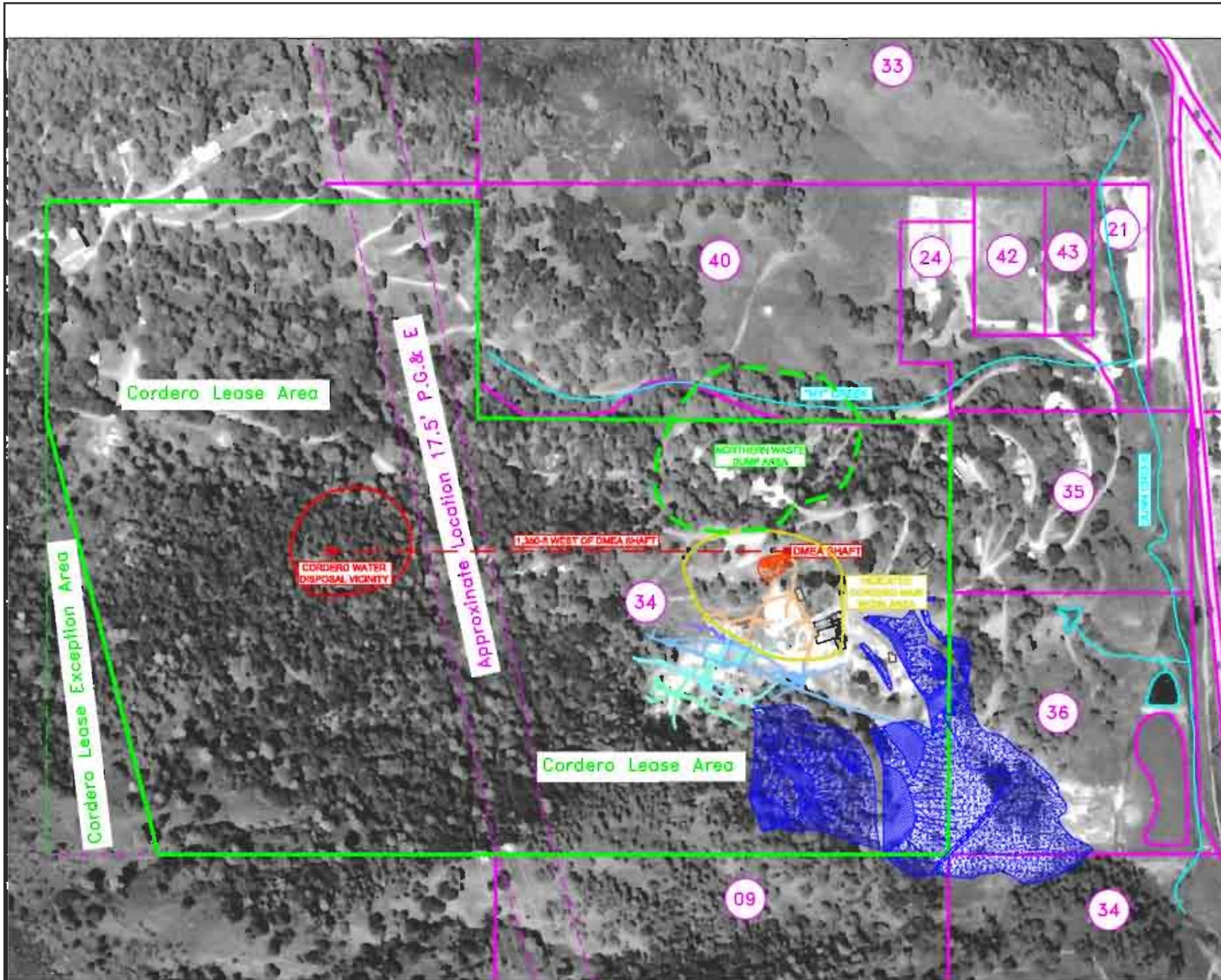
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APP. BY
 PH

PROJECT NO.
 01-SUN-050

FIGURE NO.
 2-1



LEGEND

- Mine Structure (1953)
- Tailings/Waste Rock (Pre Cordero)
- Waste Rock (DMEA/Cordero)

Underground Workings

- Adit Level
- 80-ft Level
- 165-ft Level
- 270-ft Level
- 360-ft Level (Cordero)

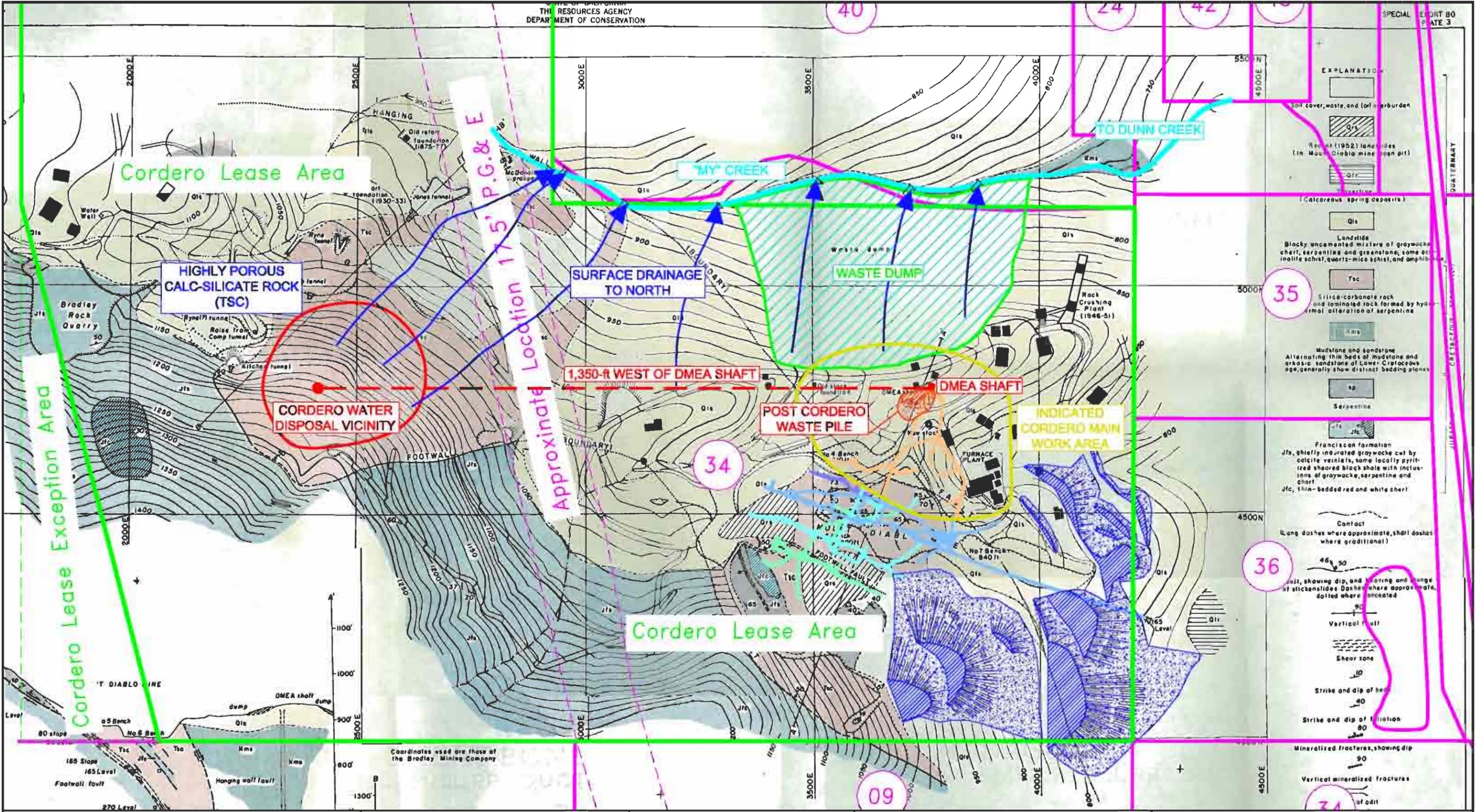
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HORIZONTAL SCALE IN FEET

**2004 AERIAL PHOTO SHOWING FEATURES
LEASE BOUNDARIES**

3451-C VINCENT ROAD
PLEASANT HILL, CA 94523

**FIGURE:
2-2**



EXPLANATION

- Soil cover, waste, and (or) overburden
- Landslides (1952) landslides (in Mount Diablo mine open pit)
- Calcareous spring deposits
- Q1s
- Tsc
- Jfs
- Jfc
- Franciscan formation
Jfs, shaly, indurated graywacke cut by calcite veins, some locally pyritized shales with inclusions of graywacke, serpentine and chert.
Jfc, thin-bedded red and white chert.
- Contact
(Long dashes where approximate, short dashes where gradational)
- Fault, showing dip, and bearing and range of slickensides. Dashes where approximate, dotted where concealed.
- Vertical fault
- Shear zone
- Strike and dip of bed
- Strike and dip of foliation
- Mineralized fractures, showing dip
- Vertical mineralized fractures

LEGEND

Mine Structure (1953)	Underground Workings
Tailings/Waste Rock (Pre Cordero)	Adit Level
Waste Rock (DMEA/Cordero)	80-ft Level
	165-ft Level
	270-ft Level
	360-ft Level (Cordero)

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SCALE

0 200 400
SCALE IN FEET

FILE NAME: Mine Features Map.dwg

MT. DIABLO MERCURY MINE
CONTRA COSTA COUNTY, CALIFORNIA
(2004 AERIAL)

DATE: 4/14/09	DR. BY: JP	APP. BY: PH
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DMEA MAP SHOWING PRE- AND POST- DMEA/CORDERO MINE FEATURES

PROJECT NO.: 01-SUN-050	EXHIBIT: 2-3
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2/108-286

UNITED STATES DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

OMEA 2448
(MERCURY)
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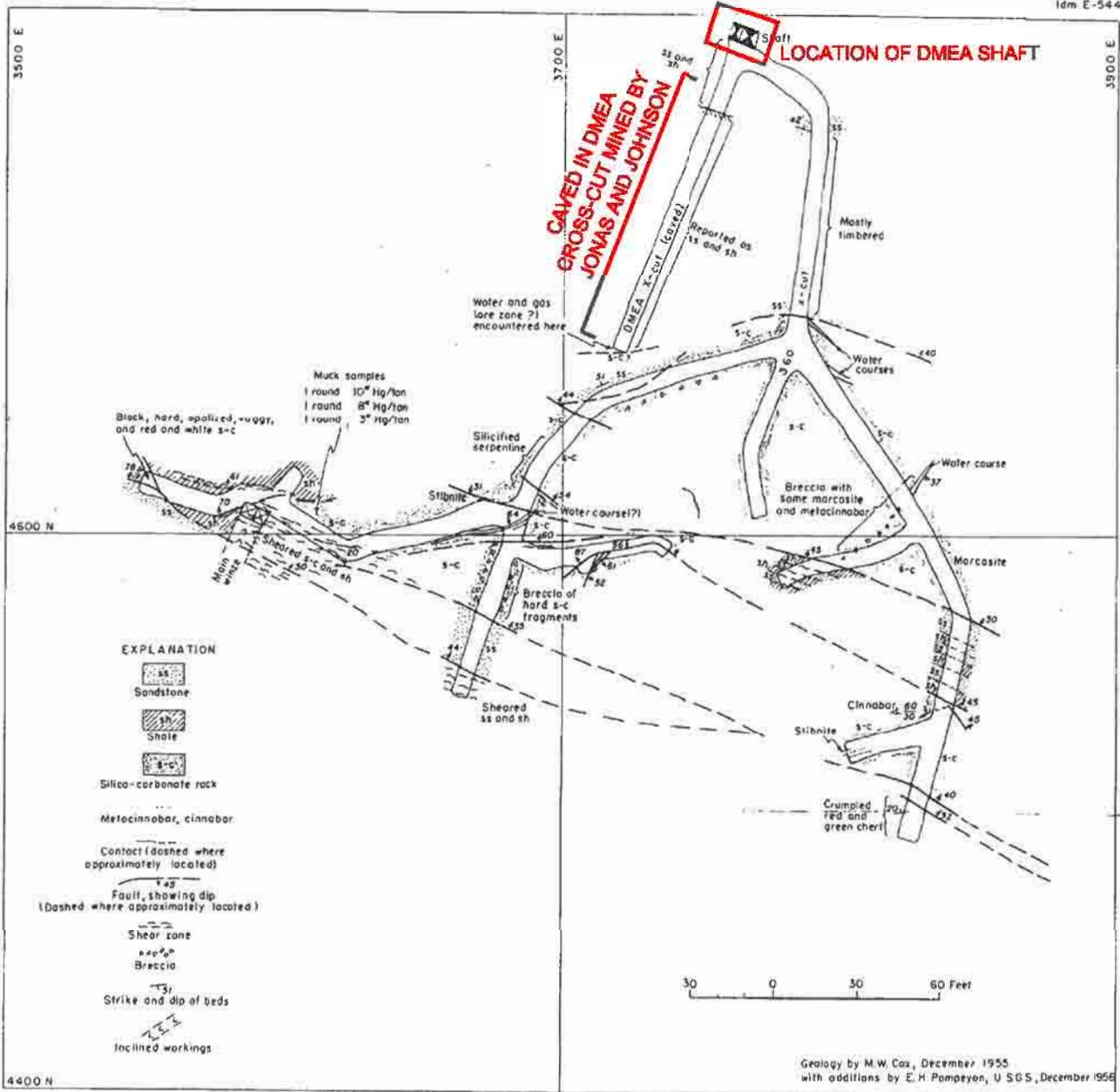


Figure 3. GEOLOGIC PLAN OF 360 LEVEL, MT DIABLO QUICKSILVER MINE
CONTRA COSTA COUNTY, CALIFORNIA

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PROJECT NO.: 01-SUN-050
DATE: 07/16/09
DR. BY: JP
APP. BY: PH

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HORIZONTAL SCALE IN FEET



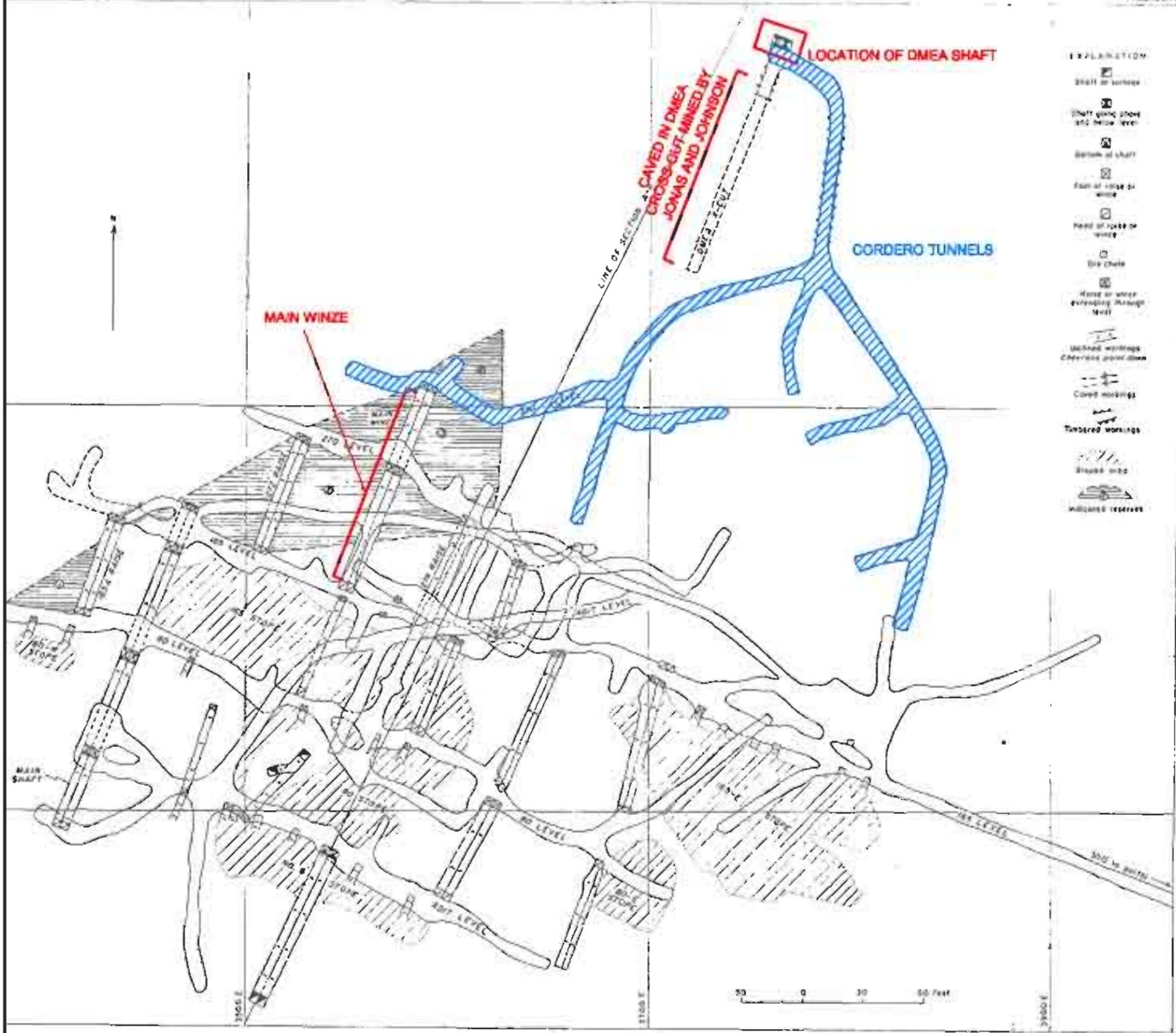
**PLAN VIEW OF CORDERO
TUNNEL SYSTEM**

**FIGURE:
2-4**

3-90/577

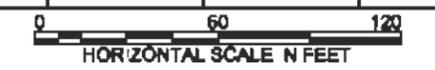
LEGEND

 **Cordero Workings**



- EXPLANATION**
-  Shaft or surface
 -  Shaft going above and below level
 -  Bottom of shaft
 -  Face of raise or winze
 -  Head of raise or winze
 -  Ore chute
 -  Head or where extending through level
 -  Unshaded workings
 -  Caved workings
 -  Timbered workings
 -  Shaded workings
 -  Millpond reserves

PROJECT NO.	DATE	DRAWN BY:	APP. BY:
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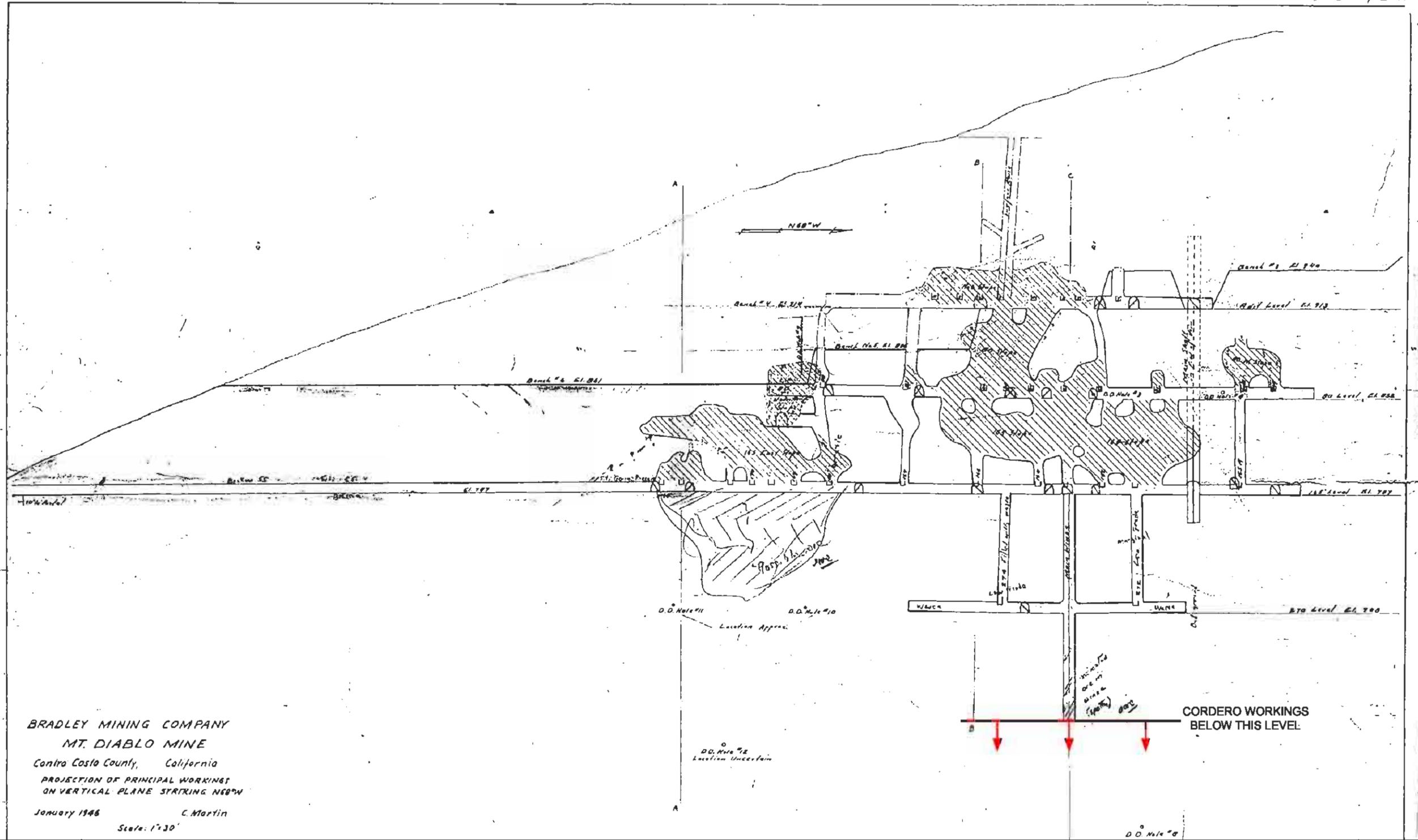
PLAN VIEW OF CORDERO TUNNEL SYSTEM WITH PRE-CORDERO TUNNELS

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3451-C VINCENT ROAD
PLEASANT HILL, CA 94523



FIGURE: 2-5

Figure 4. COMPOSITE MAP OF MILL WORKINGS, MT DIABLO MINE
CONTRA COSTA COUNTY, CALIFORNIA



PROJECT NO.	DATE:	DRAWN BY:	APP. BY:	CROSS SECTION OF PRE-CORDERO TUNNEL SYSTEM
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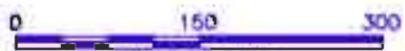
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LEGEND	
	Mine Structure (1953)
	Spring
	Pond (2004 Outline)
	ordero Waste Rock
	Main Winze, Sub-Vertical Connector


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 3451C VINCENT ROAD
 PLEASANT HILL, CA 94523

SCALE

 SCALE IN FEET

FILE NAME
 Mine Features Map.dwg

MT. DIABLO MERCURY MINE
 CONTRA COSTA COUNTY, CALIFORNIA
 (2004 AERIAL)

DATE 5/4/09	DR. BY JP	APP. BY PH
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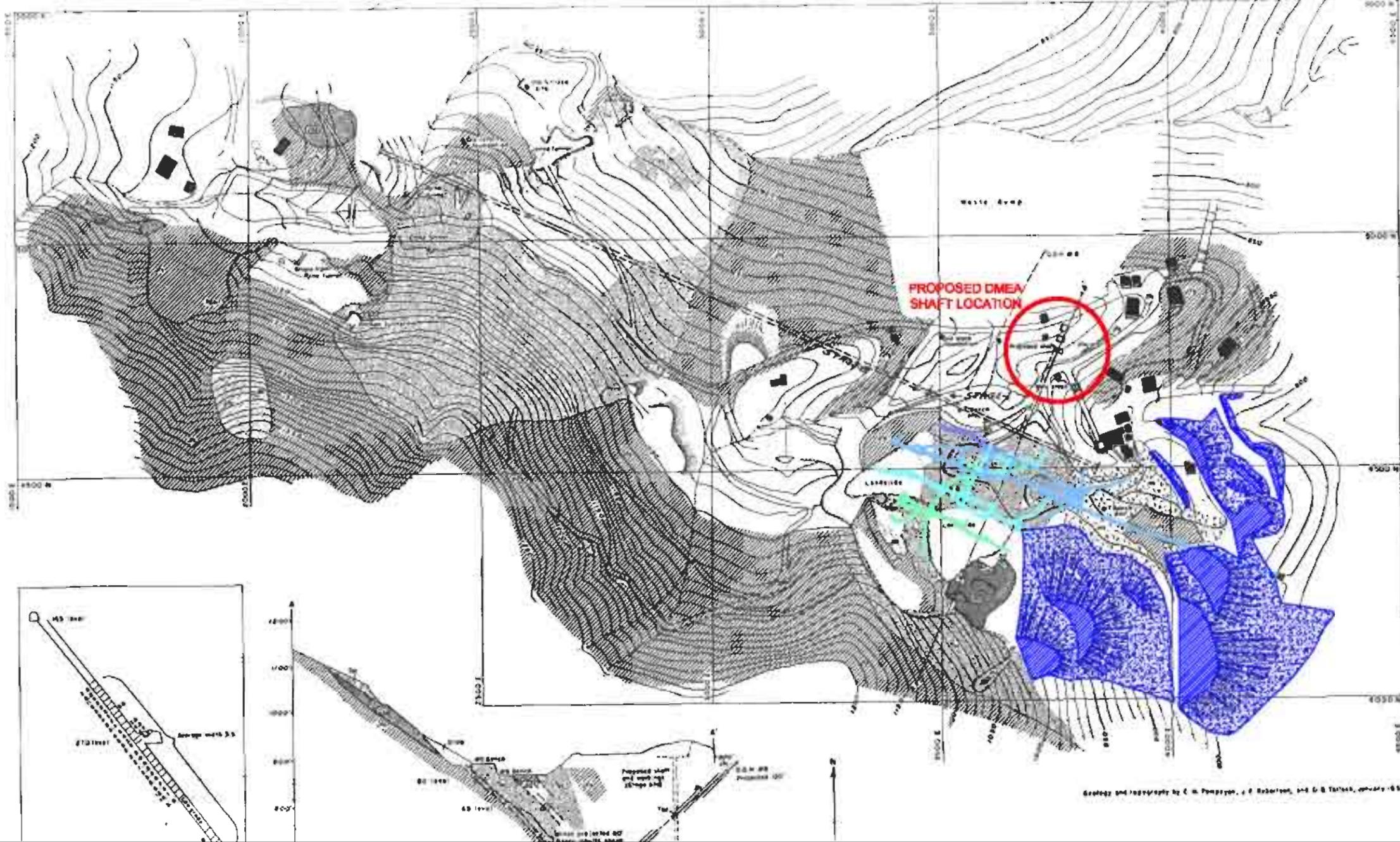
2004 AERIAL PHOTO WITH
 PRE- AND POST- DMEA/CORDERO
 MINE FEATURES

PROJECT NO. 01-SUN-050	FIGURE NO. 2-7
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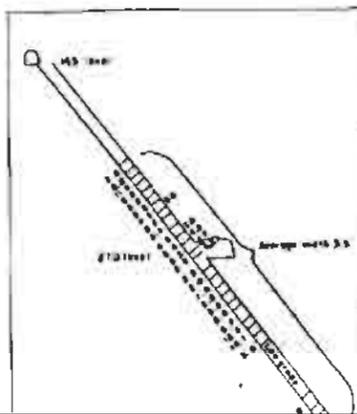
S-595/597

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DATE: 07-16-09
BY: JP



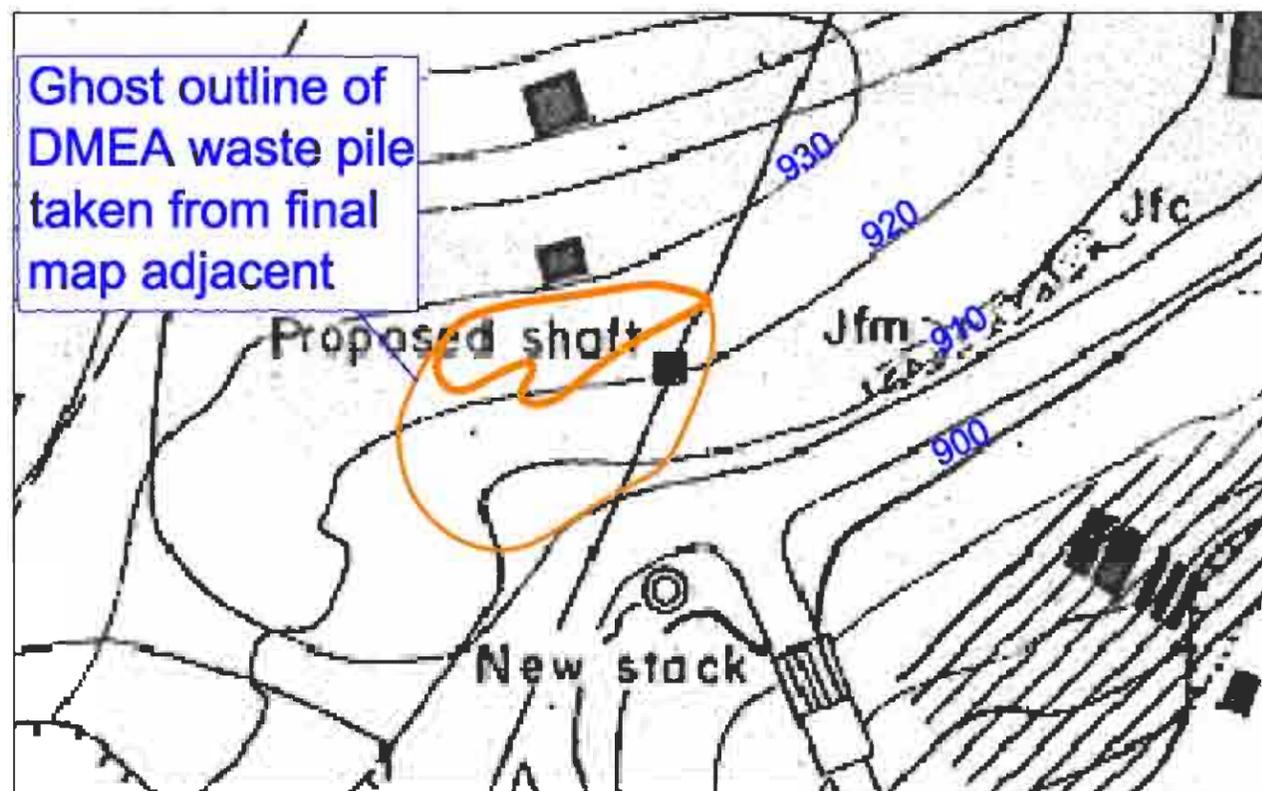
- EXPLANATION**
- Mine Structure
 - Pre-Cordero Tailings and Waste Rock
 - Underground Workings (Pre Cordero) Adit Level
 - Underground Workings (Pre Cordero) 80-ft Level
 - Underground Workings (Pre Cordero) 165-ft Level
 - Underground Workings (Pre Cordero) 270-ft Level
 - Contour Lines
 - Spot Elevation
 - Stream
 - Road
 - Boundary
 - Well
 - Shaft
 - Tunnel
 - Fault
 - Strike and Dip of Bed
 - Strike and Dip of Foliation
 - Period of Soil
 - Period of Cold Soil
 - Top of Ice
 - Bottom of Ice
 - Cave



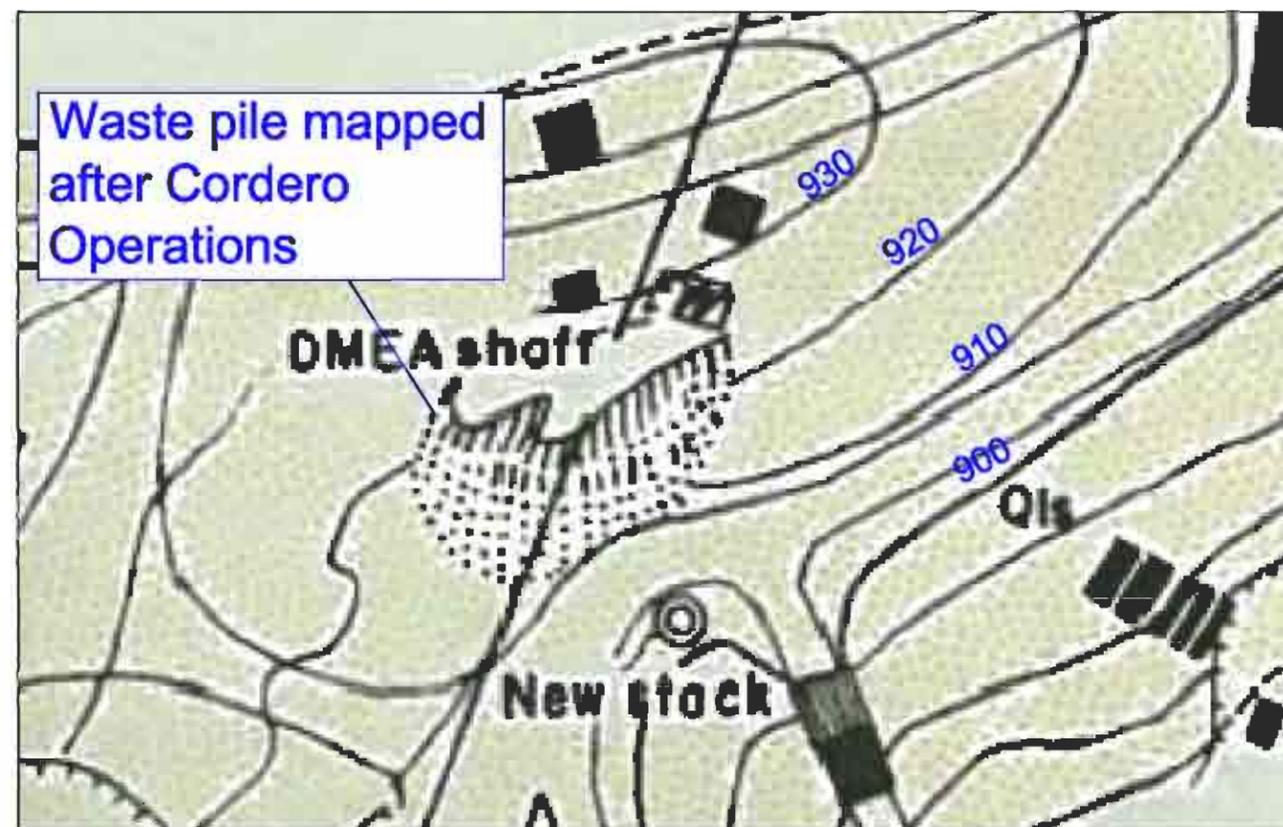
Geology and Topography by C. H. Penney, J. F. Robertson, and G. B. Tarrick, January 1955

<p>LEGEND</p> <div style="display: flex; justify-content: space-between;"> <div style="width: 45%;"> <p> Mine Structure</p> <p> Pre-Cordero Tailings and Waste Rock</p> </div> <div style="width: 45%;"> <p>Underground Workings (Pre Cordero)</p> <p> Adit Level</p> <p> 80-ft Level</p> <p> 165-ft Level</p> <p> 270-ft Level</p> </div> </div>	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 25%;">PROJECT NO.</td> <td style="width: 25%;">DATE:</td> <td style="width: 25%;">DRAWN BY:</td> <td style="width: 25%;">APP. BY:</td> </tr> <tr> <td style="text-align: center;">01-SUN-050</td> <td style="text-align: center;">07/16/09</td> <td style="text-align: center;">JP</td> <td style="text-align: center;">PH</td> </tr> </table>	PROJECT NO.	DATE:	DRAWN BY:	APP. BY:	01-SUN-050	07/16/09	JP	PH	<p>USGS DMEA MAP SHOWING PROPOSED DMEA SHAFT LOCATION</p>	<p>FIGURE: 2-8</p>
	PROJECT NO.	DATE:	DRAWN BY:	APP. BY:							
01-SUN-050	07/16/09	JP	PH								
<p> HORIZONTAL SCALE IN FEET</p>	<p>THE SOURCE GROUP, Inc. 3451-C VINCENT ROAD PLEASANT HILL, CA 94523</p>										

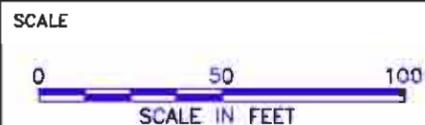
Pre-DMEA Shaft



Post-DMEA Shaft



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MT. DIABLO MERCURY MINE
CONTRA COSTA COUNTY, CALIFORNIA

DMEA WASTE PILE COMPARISON
CLOSE UP VIEW

FILE NAME
Mine Features Map.dwg

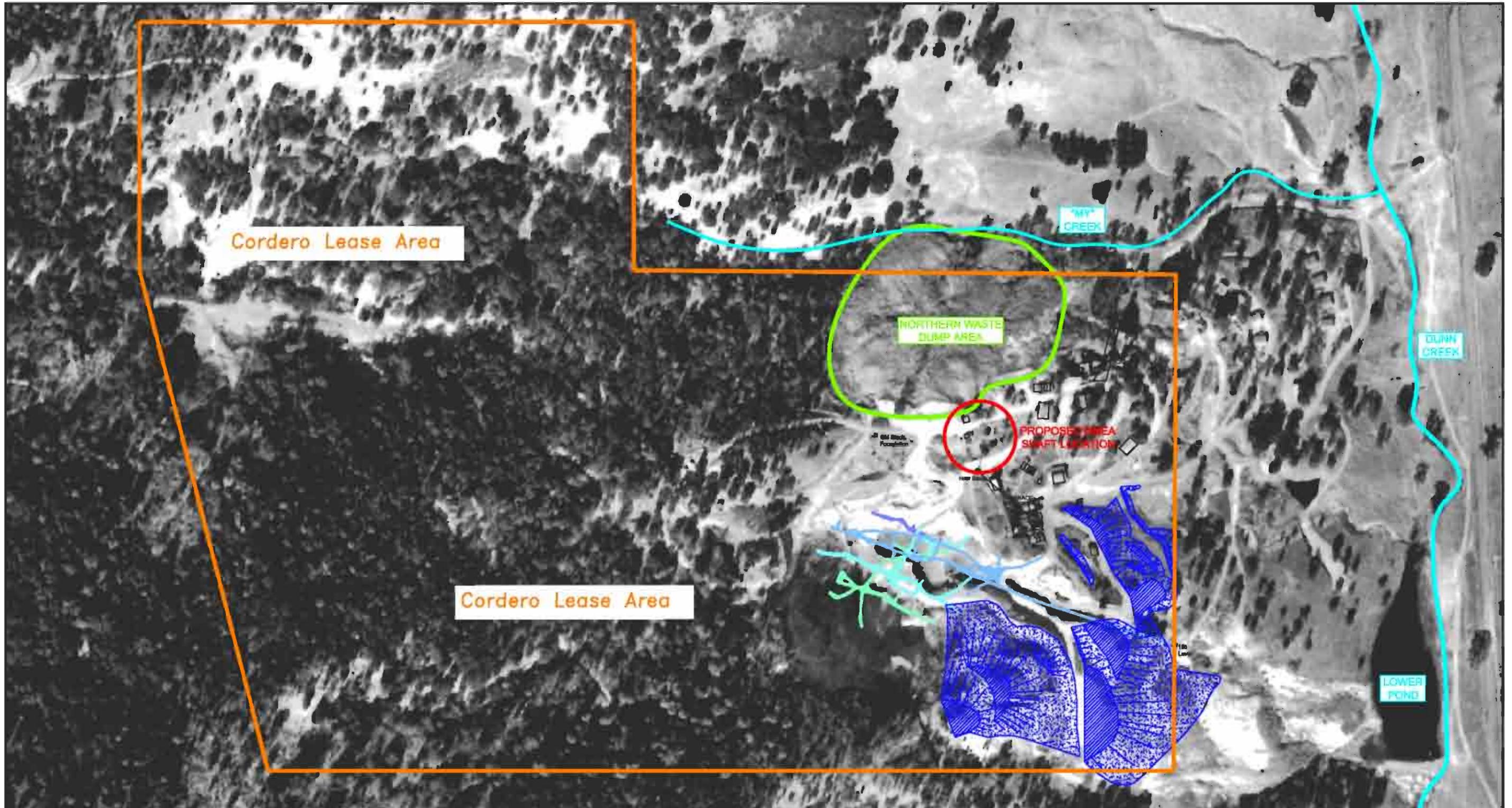
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01-SUN-050

EXHIBIT
2-9



LEGEND

-  Mine Structure
-  Pre-Cordero Tailings and Waste Rock

- Underground Workings (Pre Cordero)**
-  Adit Level
 -  80-ft Level
 -  165-ft Level
 -  270-ft Level

PROJECT NO.	DATE:	DRAWN BY:	APP. BY:
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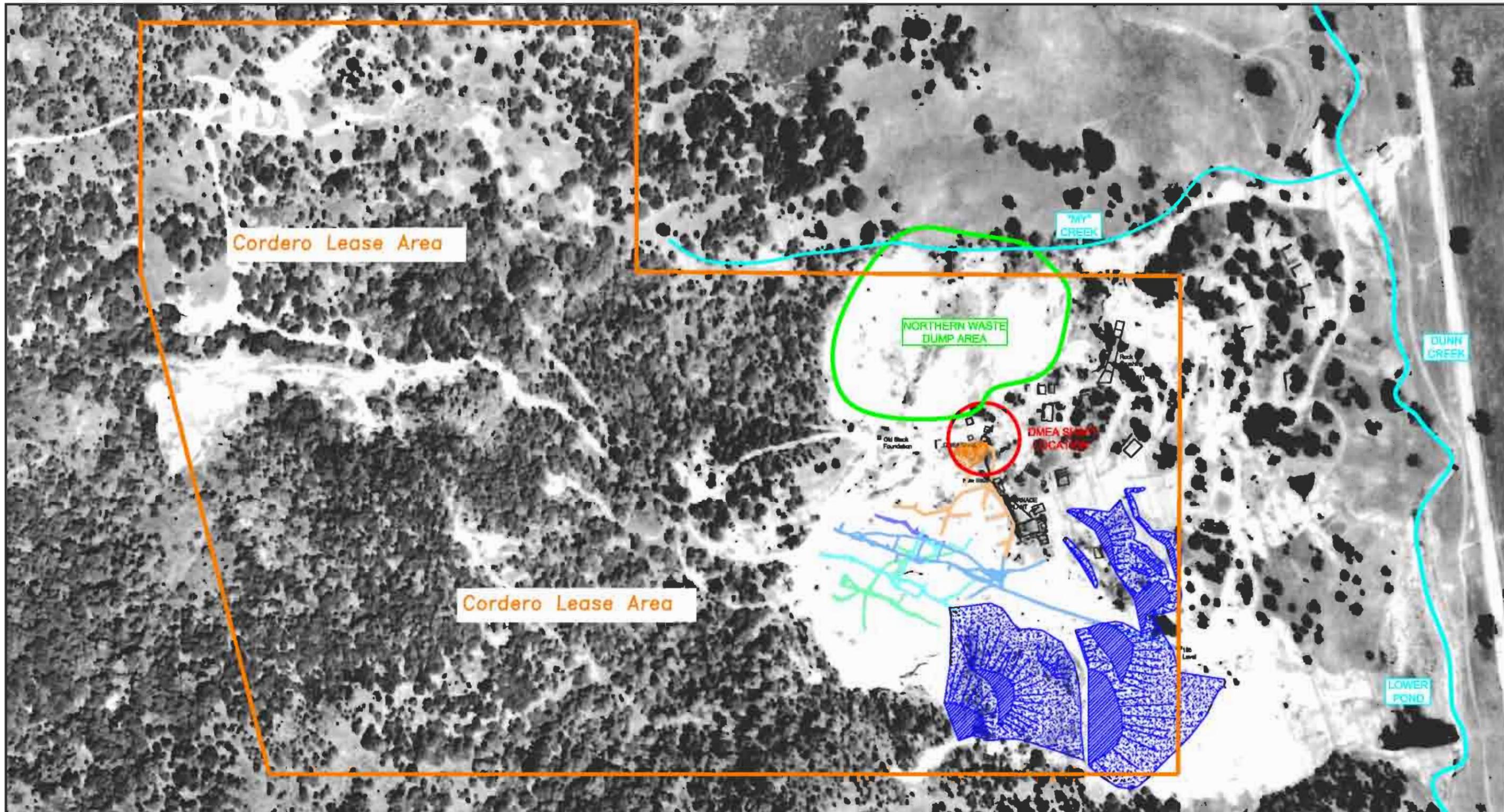
**PRE-CORDERO CONDITION
1952 AERIAL PHOTOGRAPH**



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 PLEASANT HILL, CA 94523



**FIGURE:
2-10**



LEGEND

Mine Structure (1953)

Tailings/Waste Rock (Pre Cordero)

Waste Rock (DMEA/Cordero)

Underground Workings

- Adit Level
- 80-ft Level
- 165-ft Level
- 270-ft Level
- 360-ft Level (Cordero)

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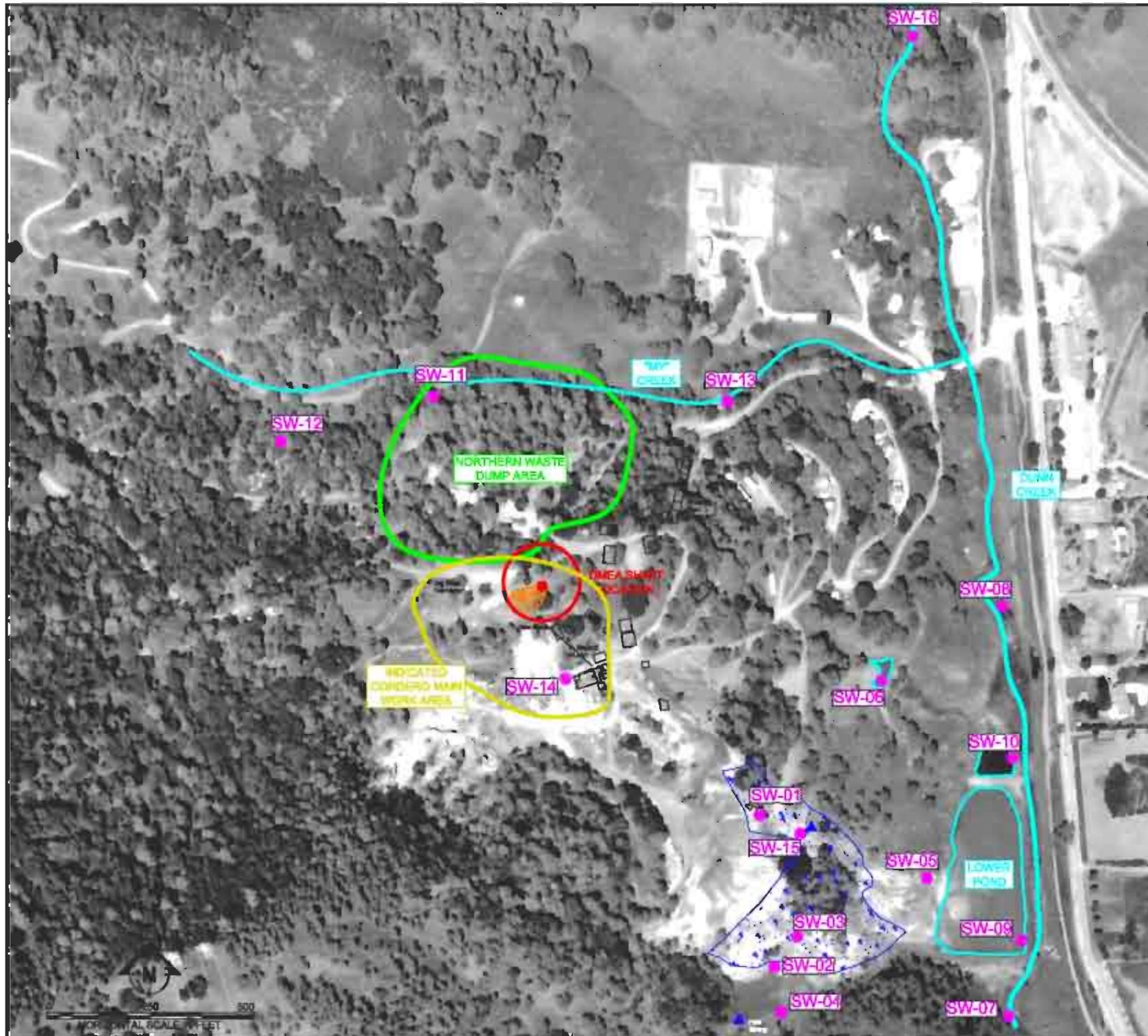
**POST CORDERO CONDITION
1957 AERIAL PHOTOGRAPH**



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**FIGURE:
2-11**



LEGEND

	Mine Structure (1953)
	Tailings/Waste Rock (Pre Cordero)
	Waste Rock (DMEA/Cordero)
	Surface Water Sample Location

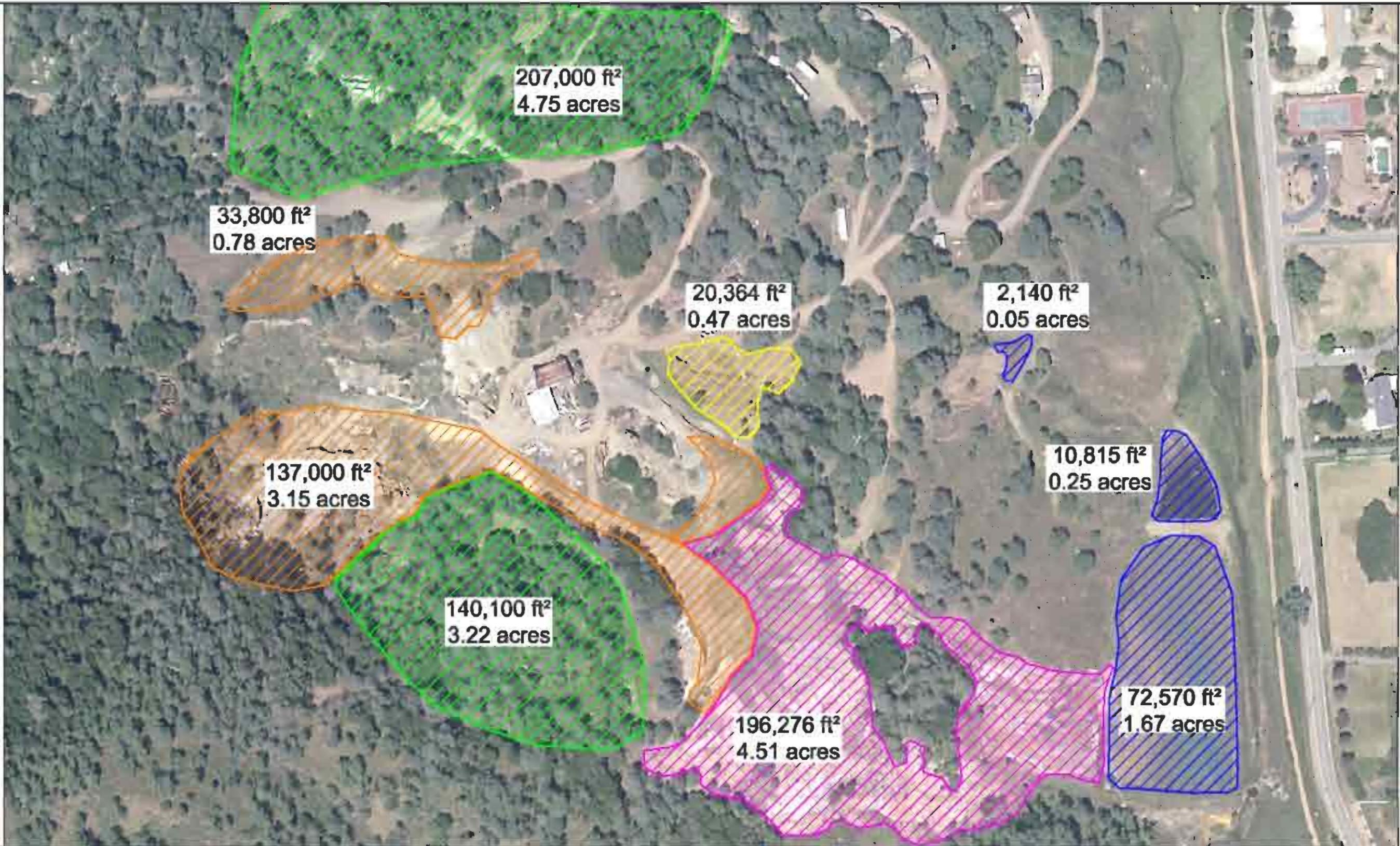
2010 SURFACE WATER SAMPLING LOCATIONS

MT. DIABLO MERCURY MINE
 CONTRA COSTA COUNTY, CALIFORNIA
 (2004 AERIAL)

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 PLEASANT HILL, CA 94523

FIGURE 3-1



LEGEND

- Bradley Tailings Piles
- Capped Areas
- Calcine Tailings Piles
- Waste/Quarry Rock
- Ponds

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ENVIRONMENTAL
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 PLEASANT HILL, CA 94523



MT. DIABLO MERCURY MINE
 CONTRA COSTA COUNTY, CALIFORNIA
 (2004 AERIAL)

MAPPED MINE WASTE MATERIALS

FILE NAME
 Mine Features Map.dwg

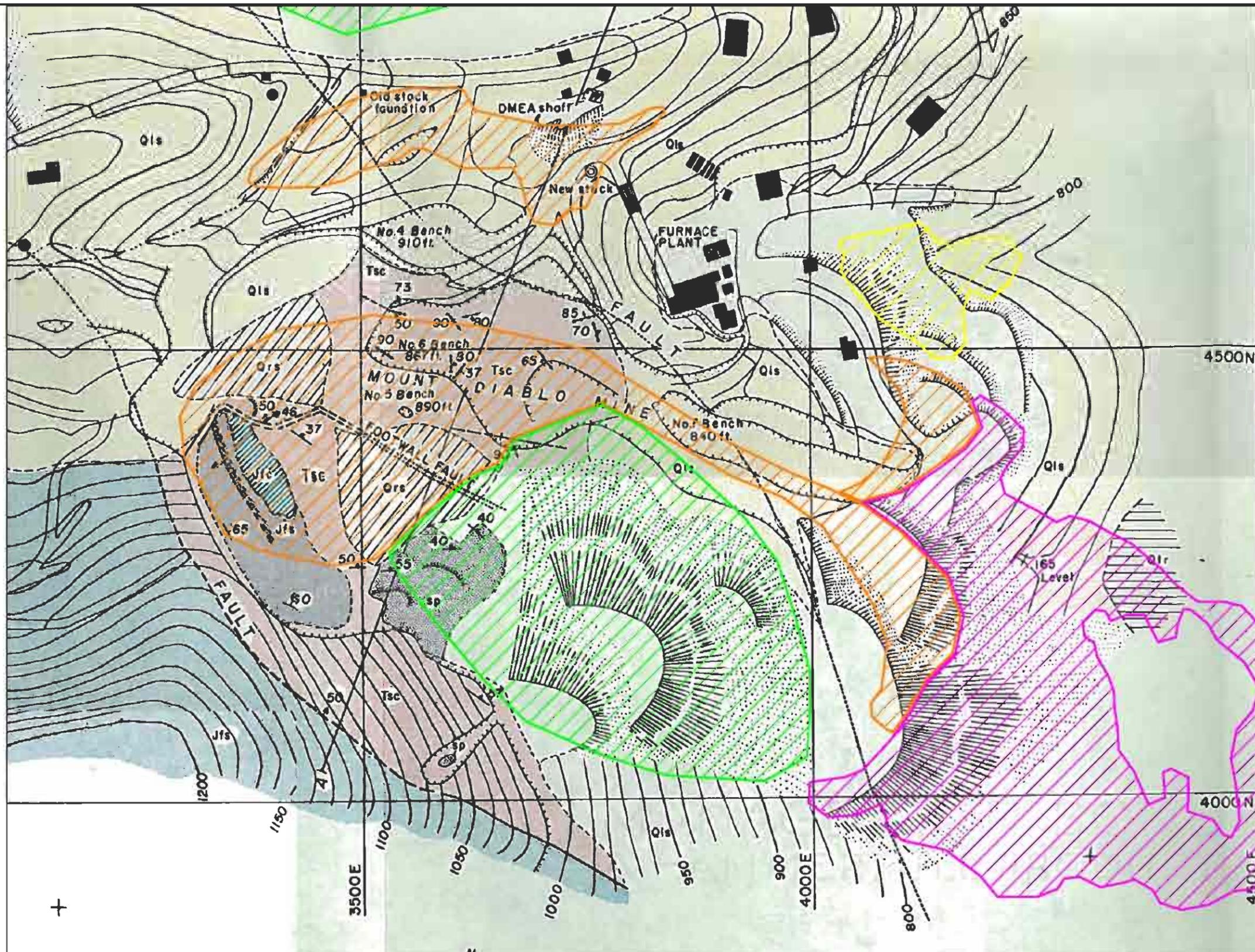
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 01-SUN-050

FIGURE NO.
 4-1



Mudstone and sandstone
Alternating thin beds of mudstone and
arkasic sandstone of Lower Cretaceous
age, generally show distinct bedding plane



Serpentine



Franciscan formation
Jfs, chiefly indurated graywacke cut by
calcite veinlets, some locally pyrit-
ized sheared black shale with inclu-
sions of graywacke, serpentine and
chert
Jfc, thin-bedded red and white chert.

Contact
(Long dashes where approximate, short dash
where gradational)

Fault, showing dip, and bearing and plung
of slickensides. Dashed where approxi-
mated, dotted where concealed

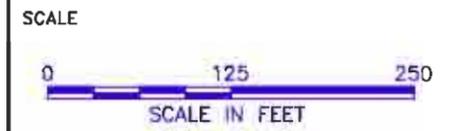
Vertical fault

Shear zone

Strike and dip of beds
Strike and dip of foliation
Mineralized fractures, showing dip
Vertical mineralized fractures
Portal of adit

- LEGEND**
- Bradley Tailings Piles
 - Capped Areas
 - Calcine Tailings Piles
 - Waste/Quarry Rock
 - Ponds

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MT. DIABLO MERCURY MINE
CONTRA COSTA COUNTY, CALIFORNIA
(1952 AERIAL)

**MAPPED MINE WASTE WITH USGS
FEATURES OVERLAY**

FILE NAME
Mine Features Map.dwg

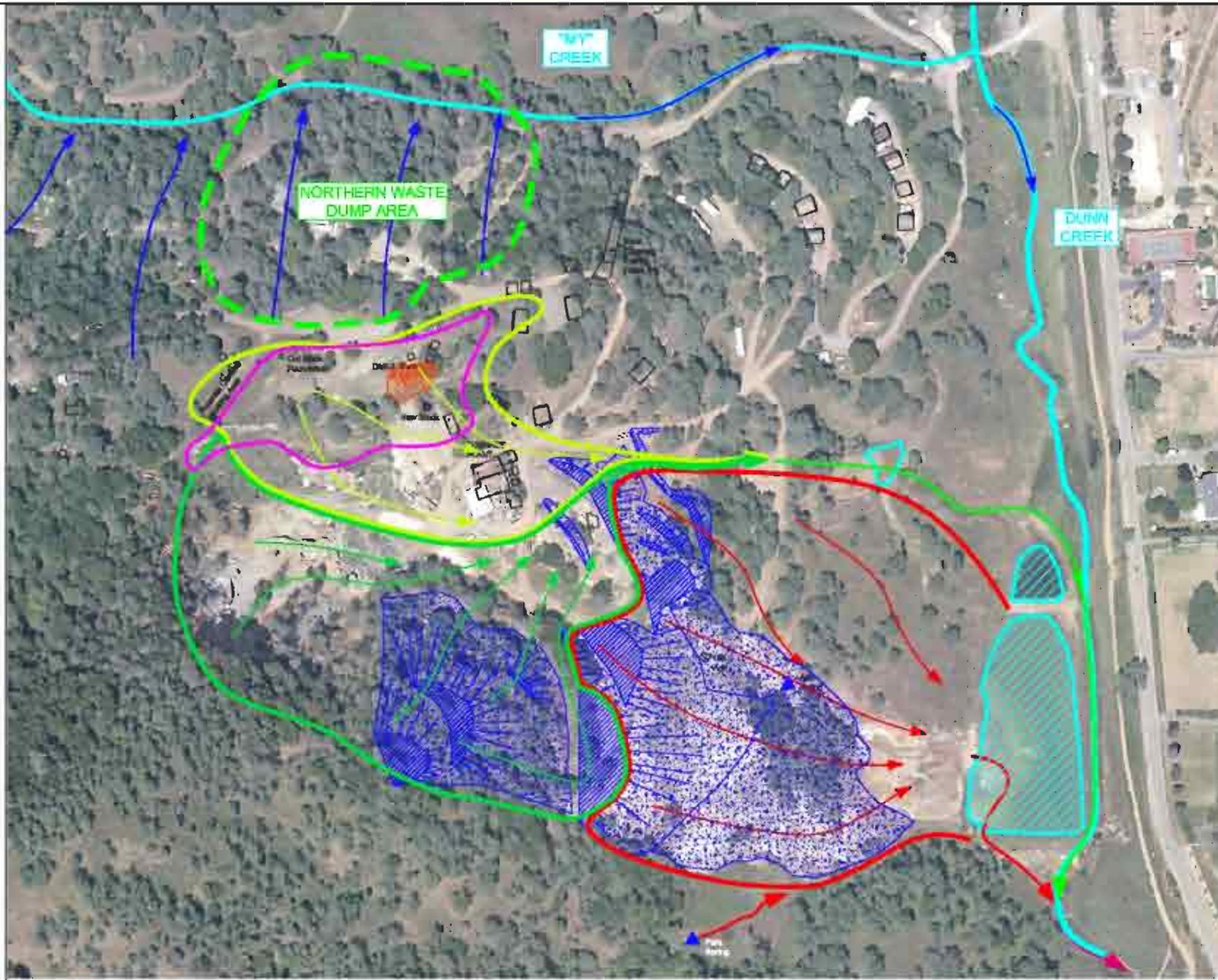
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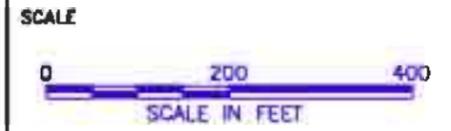
PROJECT NO.
01-SUN-050

FIGURE NO.
4-2



	Mine Structure		Tailings/Waste Rock (Pre Cordero)
	Spring		Tailings/Waste Rock (Cordero)
	Pond (2004 Configuration)		
	Surface Flow		

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 PLEASANT HILL, CA 94523



MT. DIABLO MERCURY MINE
 CONTRA COSTA COUNTY, CALIFORNIA
 (2004 AERIAL)

SITE DRAINAGE AND SURFACE FLOW INTERPRETATION

FILE NAME
 Mine Features Map.dwg

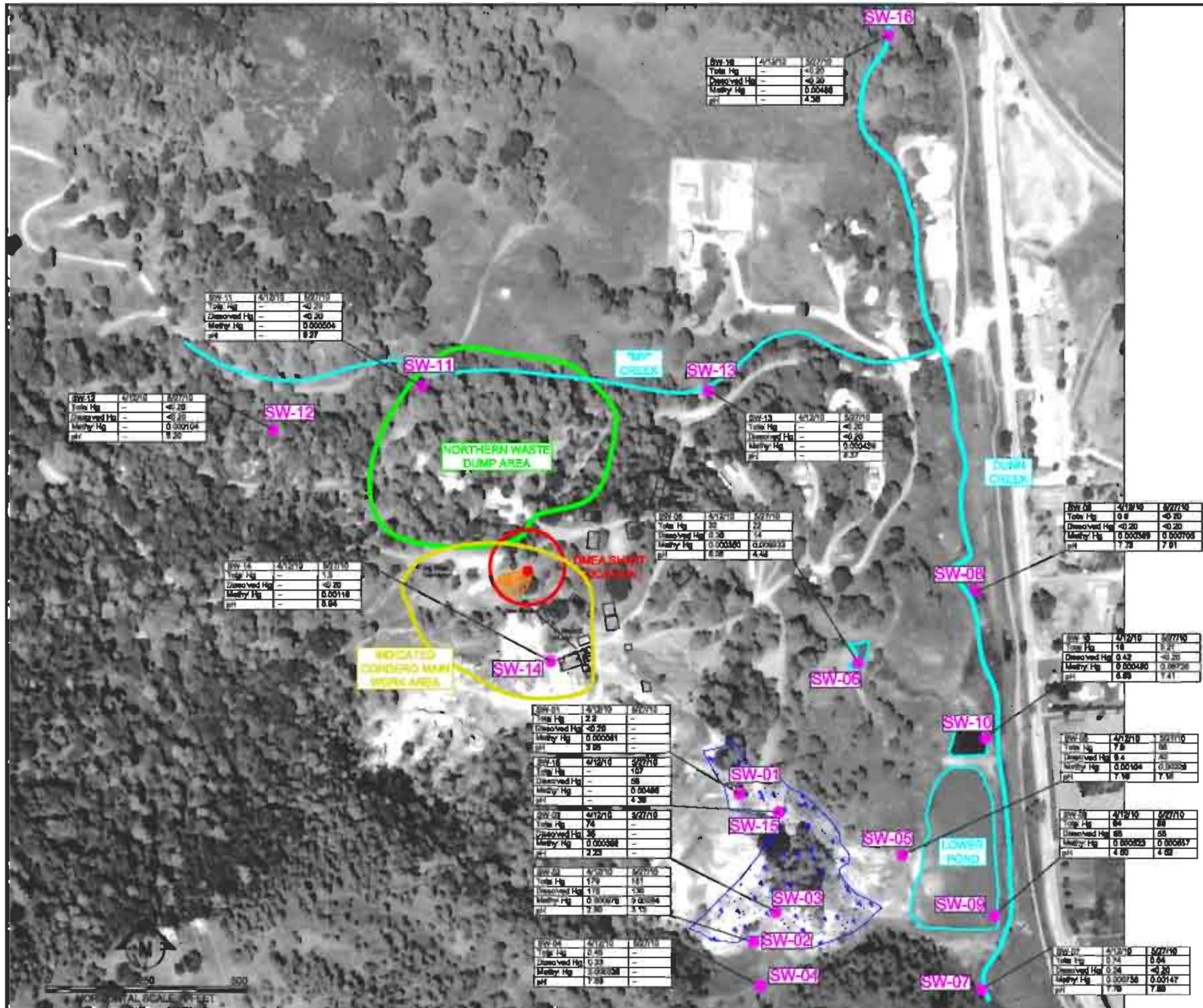
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PROJECT NO.
 01-SUN-050

FIGURE NO.
4-3



LEGEND

- Mine Structure (1953)
- Tailings/Waste Rock (Pre Cordero)
- Waste Rock (DMEA/Cordero)
- Surface Water Sample Location

Hg Mercury

<0.20 Analyte not detected at or above the laboratory reporting limit of 0.20 µg/L

NOTE
All concentrations reported in micrograms per liter (µg/L)

2010 SURFACE WATER SAMPLING RESULTS, MERCURY AND pH

MT. DIABLO MERCURY MINE
CONTRA COSTA COUNTY, CALIFORNIA
(2004 AERIAL)

PROJECT NO	DATE	DRAWN BY:	APP. BY
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SGI THE SOURCE GROUP, INC.
3451-C VINCENT ROAD
PLEASANT HILL, CA 94523

FIGURE 4-4

SW-18	4/15/10	5/27/10
Total Hg	-	<0.20
Dissolved Hg	-	<0.20
Methyl Hg	-	0.00488
pH	-	4.38

SW-11	4/15/10	5/27/10
Total Hg	-	<0.20
Dissolved Hg	-	<0.20
Methyl Hg	-	0.000504
pH	-	8.27

SW-12	4/15/10	5/27/10
Total Hg	-	<0.20
Dissolved Hg	-	<0.20
Methyl Hg	-	0.00104
pH	-	8.20

SW-13	4/15/10	5/27/10
Total Hg	-	<0.20
Dissolved Hg	-	<0.20
Methyl Hg	-	0.000458
pH	-	8.37

SW-06	4/15/10	5/27/10
Total Hg	22	22
Dissolved Hg	0.30	14
Methyl Hg	0.000380	0.000033
pH	8.08	4.48

SW-07	4/15/10	5/27/10
Total Hg	0.8	<0.20
Dissolved Hg	<0.20	<0.20
Methyl Hg	0.000589	0.000708
pH	7.78	7.81

SW-14	4/15/10	5/27/10
Total Hg	-	<0.20
Dissolved Hg	-	<0.20
Methyl Hg	-	0.00118
pH	-	8.84

SW-08	4/15/10	5/27/10
Total Hg	18	8.21
Dissolved Hg	0.42	<0.20
Methyl Hg	0.000480	0.00126
pH	6.88	7.41

SW-01	4/15/10	5/27/10
Total Hg	2.2	-
Dissolved Hg	<0.20	-
Methyl Hg	0.000081	-
pH	3.88	-

SW-16	4/15/10	5/27/10
Total Hg	-	187
Dissolved Hg	-	58
Methyl Hg	-	0.00488
pH	-	4.38

SW-02	4/15/10	5/27/10
Total Hg	74	-
Dissolved Hg	38	-
Methyl Hg	0.000388	-
pH	2.23	-

SW-09	4/15/10	5/27/10
Total Hg	7.8	80
Dissolved Hg	8.4	80
Methyl Hg	0.00104	0.00003
pH	7.98	7.98

SW-05	4/15/10	5/27/10
Total Hg	85	88
Dissolved Hg	85	88
Methyl Hg	0.000823	0.000837
pH	4.80	4.88

SW-20	4/15/10	5/27/10
Total Hg	179	181
Dissolved Hg	178	180
Methyl Hg	0.000078	0.000084
pH	7.80	7.73

SW-04	4/15/10	5/27/10
Total Hg	0.48	-
Dissolved Hg	0.23	-
Methyl Hg	0.000058	-
pH	7.88	-

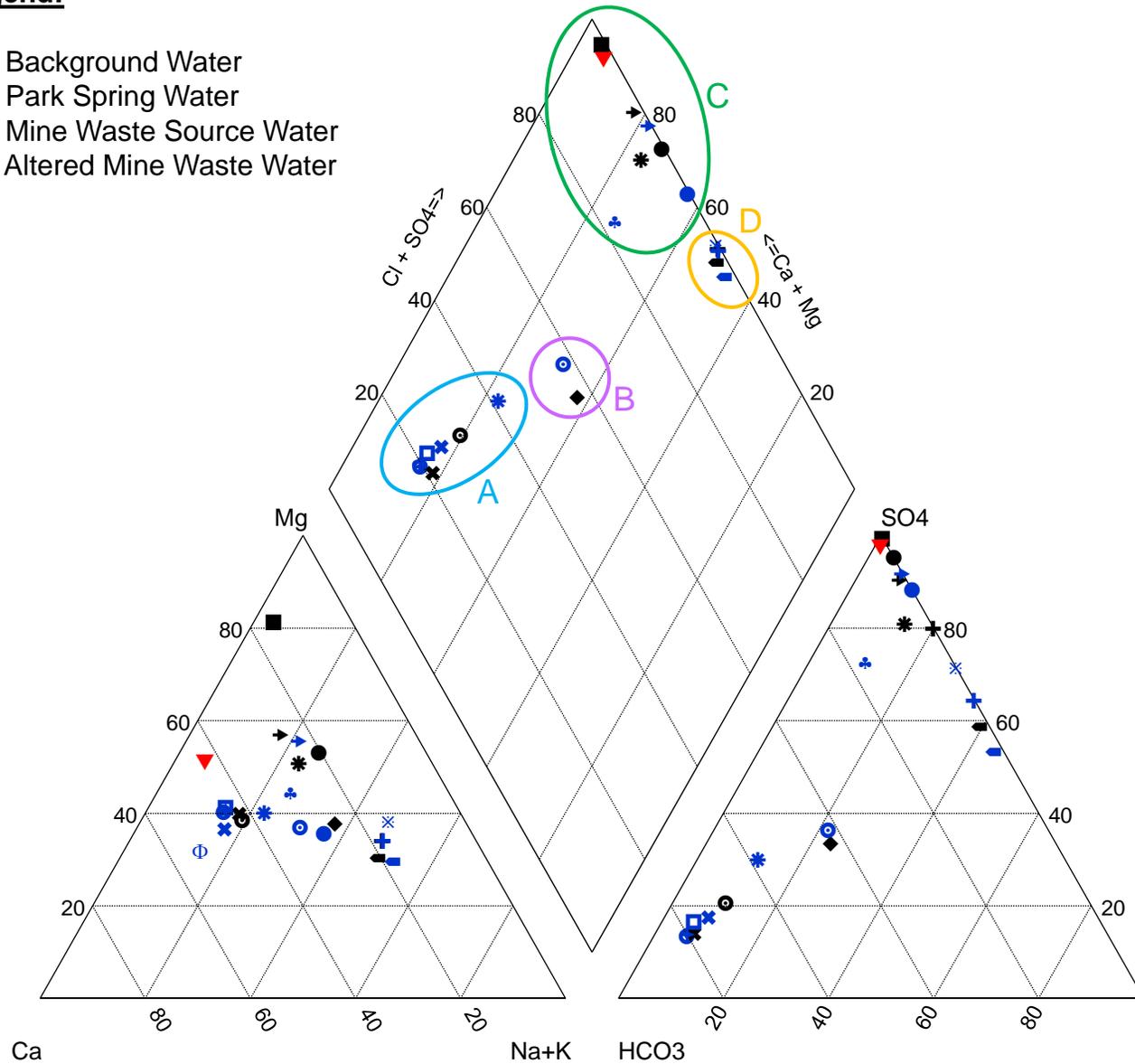
SW-07	4/15/10	5/27/10
Total Hg	0.74	0.64
Dissolved Hg	0.34	<0.20
Methyl Hg	0.000738	0.00147
pH	7.98	7.88



Figure 4-5
2010 Surface Water Data Piper Diagram

Legend:

- A = Background Water
- B = Park Spring Water
- C = Mine Waste Source Water
- D = Altered Mine Waste Water

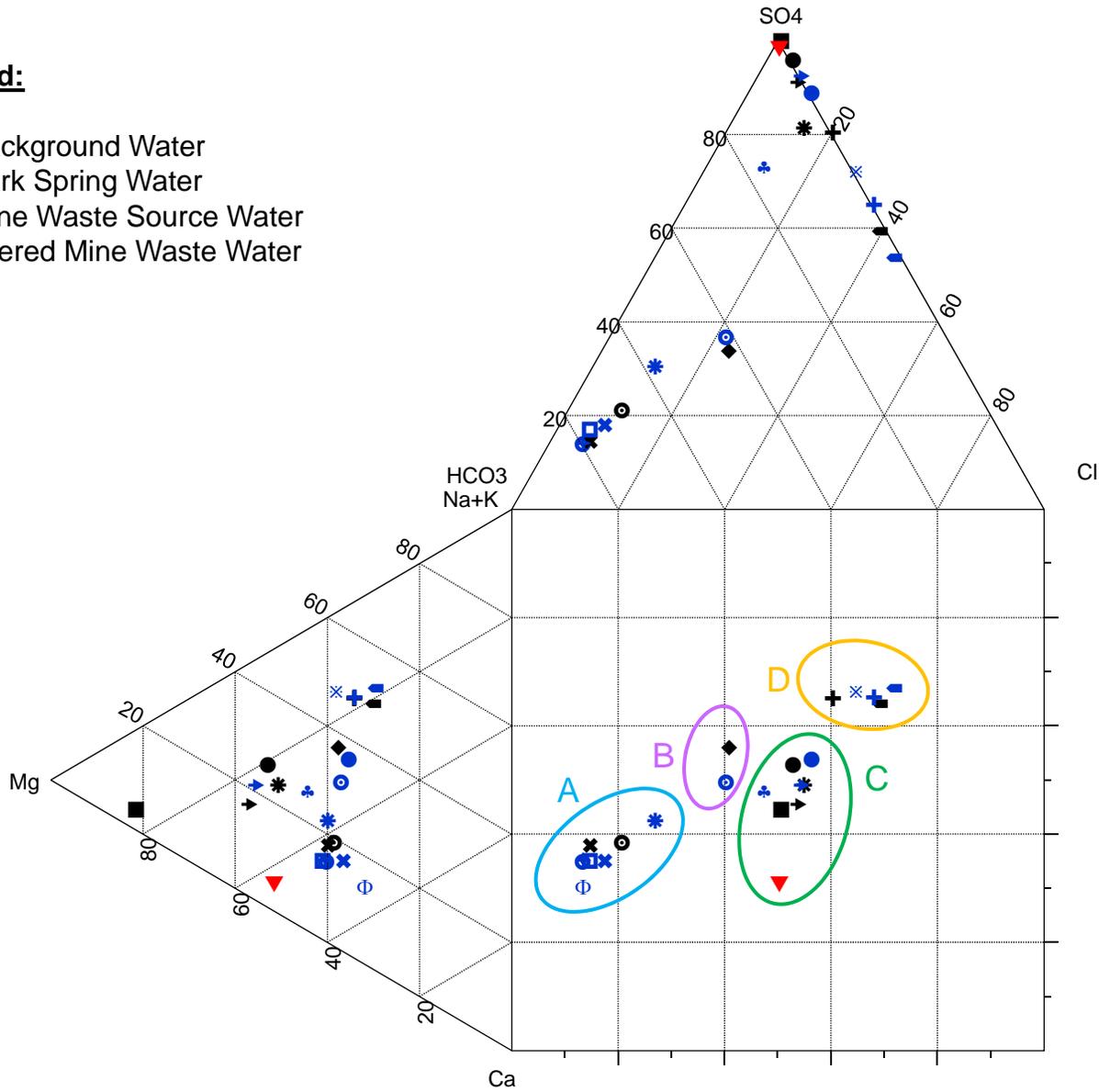


- ▼ SW-01
- * SW-10
- SW-02
- SW-03
- ◆ SW-04
- ▣ SW-05
- SW-06
- ⊙ SW-07
- ✕ SW-08
- ⊕ SW-09
- ⊕ SW-11 (5/27/10)
- ⊙ SW-12 (5/27/10)
- ▣ SW-13 (5/27/10)
- ✦ SW-14 (5/27/10)
- ✕ SW-15 (5/27/10)
- ⊕ SW-16 (5/27/10)
- SW-02 (5/27/10)
- ▣ SW-05 (5/27/10)
- SW-06 (5/27/10)
- ⊙ SW-07 (5/27/10)
- ✕ SW-08 (5/27/10)
- ⊕ SW-09 (5/27/10)
- ✦ SW-10 (5/27/10)

Figure 4-6
2010 Surface Water Data Durov Diagram

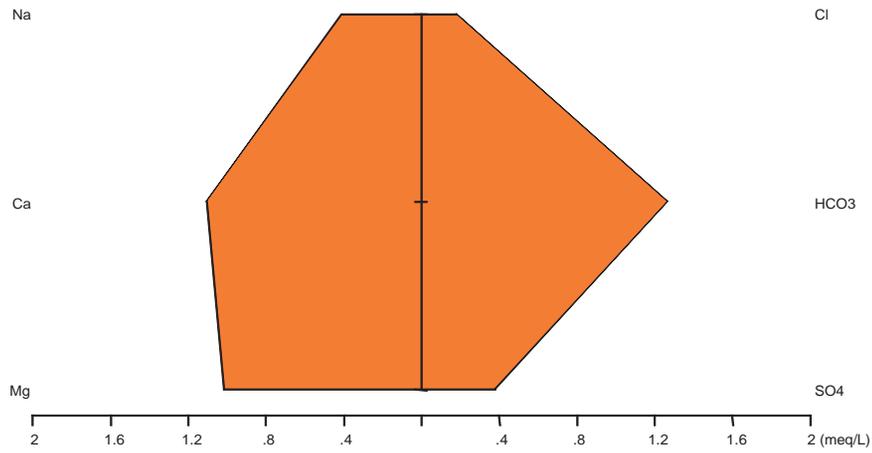
Legend:

- A** = Background Water
- B** = Park Spring Water
- C** = Mine Waste Source Water
- D** = Altered Mine Waste Water

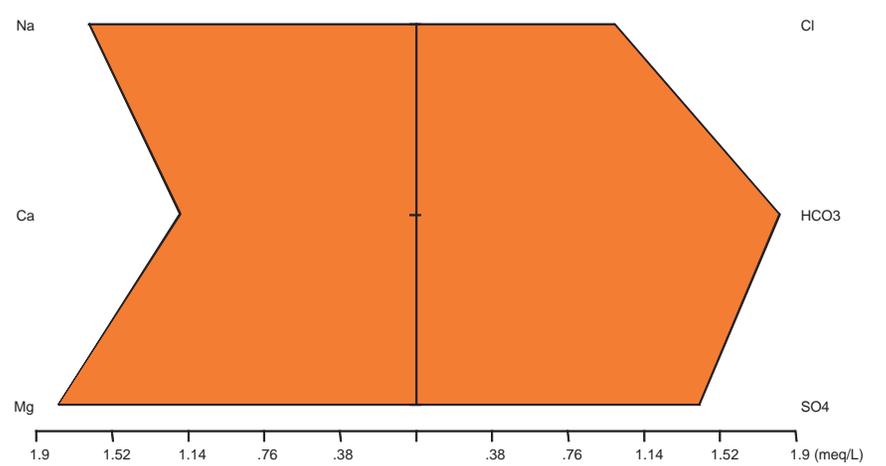


- ▼ SW-01
- * SW-10
- SW-02
- SW-03
- ◆ SW-04
- ▣ SW-05
- SW-06
- ⊙ SW-07
- × SW-08
- ⊕ SW-09
- ⋄ SW-11 (5/27/10)
- ⊙ SW-12 (5/27/10)
- ⊠ SW-13 (5/27/10)
- ⋄ SW-14 (5/27/10)
- × SW-15 (5/27/10)
- ⊙ SW-16 (5/27/10)
- SW-02 (5/27/10)
- ▣ SW-05 (5/27/10)
- SW-06 (5/27/10)
- ⊙ SW-07 (5/27/10)
- × SW-08 (5/27/10)
- ⊕ SW-09 (5/27/10)
- * SW-10 (5/27/10)

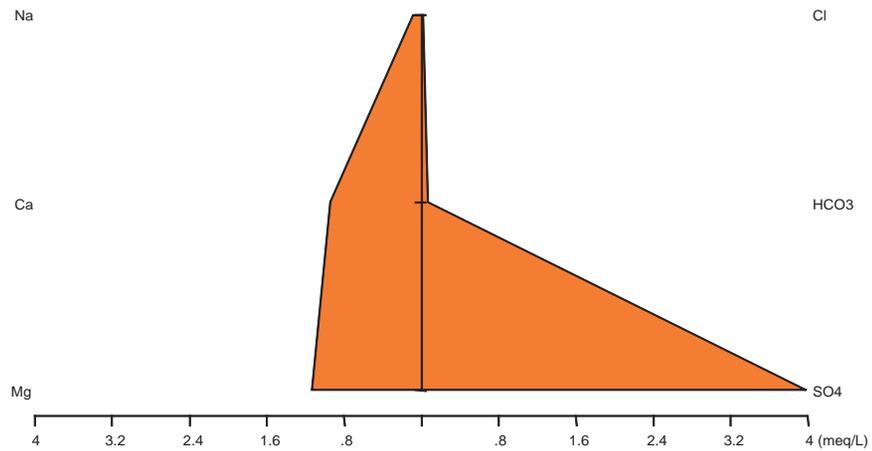
Background Water



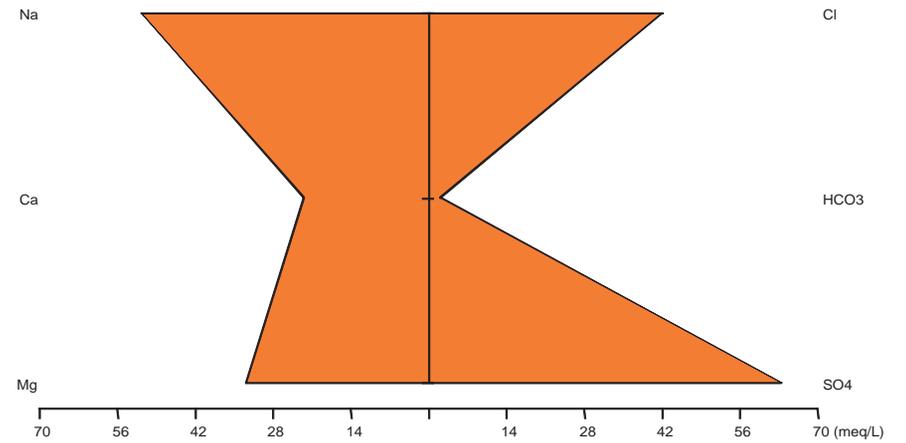
Park Spring Water



Mine Waste Source Water



Altered Mine Waste Water



Mount Diablo Mercury Mine
Contra Costa County, California

Characteristic Stiff Diagrams

FILE NAME
Figure 4-7 - Characteristic Stiff Diagrams.cdr

DATE
7/29/10

DR. BY
TC

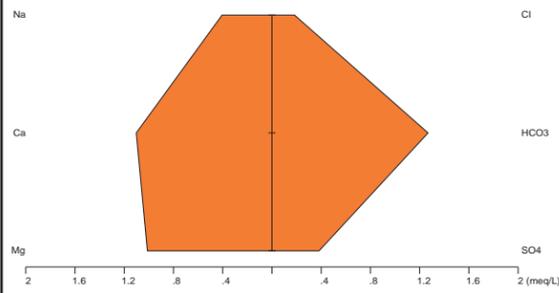
APP. BY
JP

PROJECT NO.
01-SUN-050

FIGURE 4-7

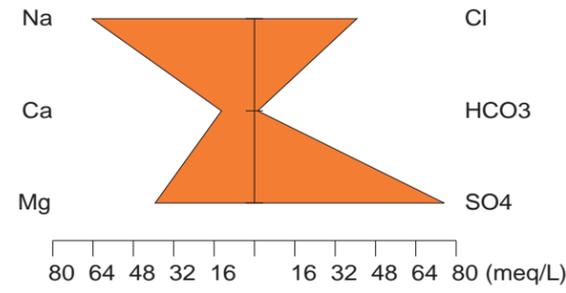
SW-07 - DUNN CREEK

April 2010

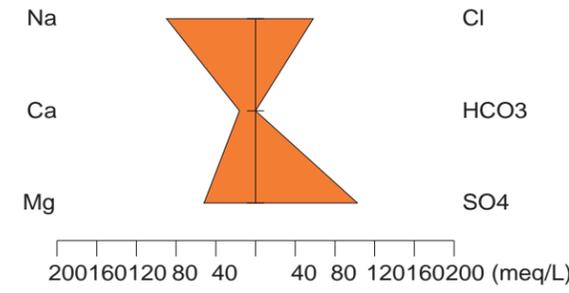


SW-07 - HISTORICAL DATA

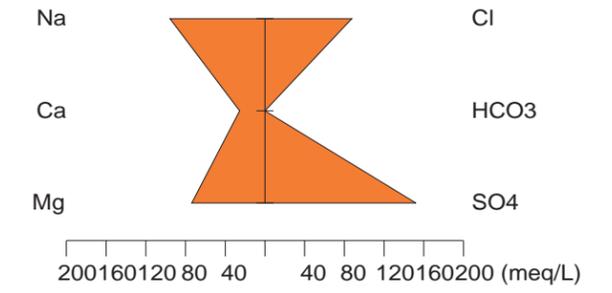
1975



1978

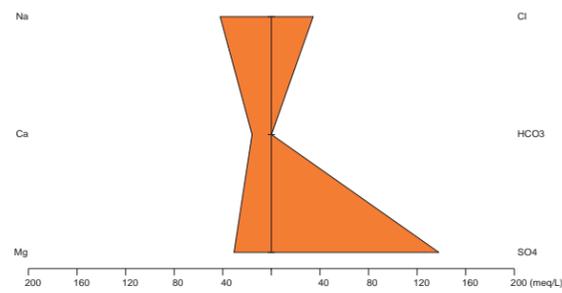


1984



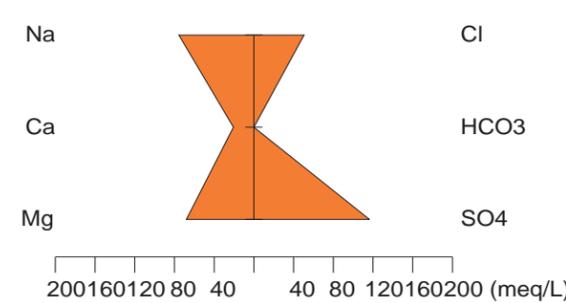
SW-09 - LOWER POND

April 2010

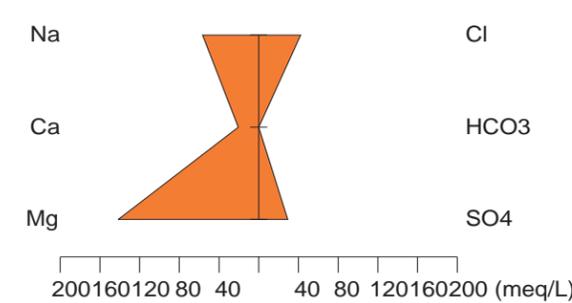


SW-09 - HISTORICAL DATA

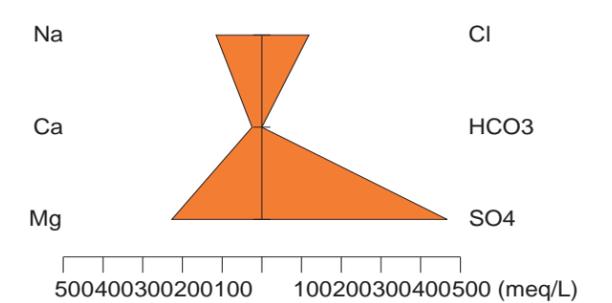
1978



1984

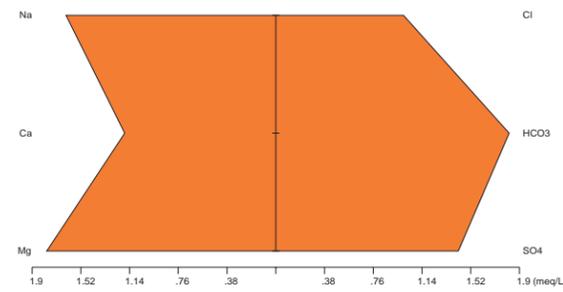


1987



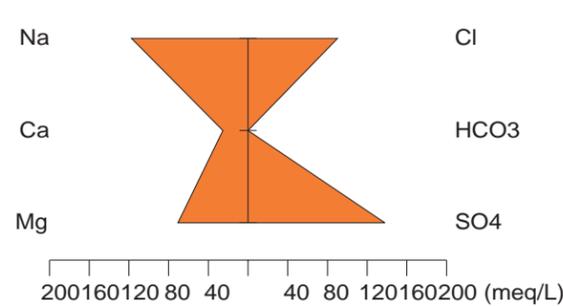
SW-04 - PARK SPRING

April 2010

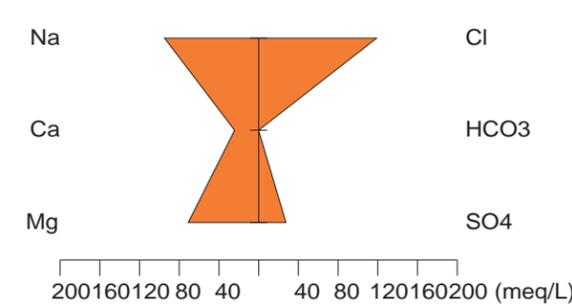


SW-04 - HISTORICAL DATA

1978



1984

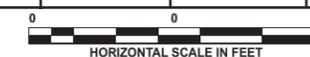


LEGEND

*Mount Diablo Mercury Mine
Contra Costa County, California*

**Comparison of Historical Data
Stiff Diagrams**

PROJECT NO.	DATE:	DRAWN BY:	APP. BY:
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3451-C VINCENT ROAD
PLEASANT HILL, CA 94523



**FIGURE
4-8**

TABLES

Table 2-1
Production Statistics
Mount Diablo Mercury Mine
Contra Costa County, California

PRODUCTION STATISTICS- MOUNT DIABLO MINE "MILL WORKINGS"					
Operator	Date	Cubic Yards of Ore Milled	Waste rock from tunnels, crosscuts, raises, shafts and stopes (cubic yards)	Dewater volume (acre-feet)	Mercury Produced, flasks
Welch	1863	shaft and placer	NA	none	NA
Unknown	1875-1877	NA	NA	NA	1000
Mt. Diablo Quicksilver MC, operator Ericson	1930-1936	NA	NA	NA	739
leased to Bradley MC	1936-1951	78,188 ⁽¹⁾	24,815 ⁽²⁾	161 ⁽³⁾	10,455
leased Ronnie B. Smith	Sept 1951- June 1953	920 ⁽⁴⁾	NA	NA	125 ⁽⁵⁾
DMEA and Smith	June 1953 - Jan 1954	none	630 ⁽⁶⁾	minor	none
DMEA, Johnson and Jonas	Jan 1954 - Feb 1955	none	67 ⁽⁷⁾	NA	none
leased to Cordero MC	Feb 1955 - Dec 1956	none	1,228 ⁽⁸⁾	19.5 ⁽⁹⁾	none
leased to Nevada Scheelite Company	1956	none	none	minor	none
Total Cubic Yards of Material Taken Out			105,848 ⁽¹⁰⁾		

Notes:

- ⁽¹⁾ Table 4, Ross 1958, reported 126,664 tons of ore milled. Converted here to cubic yards above based on conversion of 1.62 tons per cubic yard (cy)
- ⁽²⁾ Total length of workings 4,570 ft (Pampeyan 1963. p 25) x 5 feet x 7 feet x bulking factor plus 20% = 7,108 cy less (2) and (3). Included 550 ft of shafts and raises (935 cy) and stopes of 19,000 cy (Pampeyan, Plate 5).
- ⁽³⁾ Estimate 10 gpm for 10 years.
- ⁽⁴⁾ Used the ratio of ore milled to flasks produced for Bradley to estimate the amount of ore milled by Smith.
- ⁽⁵⁾ DMEA internal memo dated 2/4/57 ref doc no. 2:88/384
- ⁽⁶⁾ 300-ft DMEA shaft 4.5 ft x 8.5 ft (Ross 1958) plus 77 ft of tunnel at 5 ft x 7 ft on the 360 level w/ bulking factor of 20%
- ⁽⁷⁾ 43 ft of tunnel on the 360 level x 5 feet x 7 feet w/ bulking factor of 20%
- ⁽⁸⁾ 790 ft of crosscuts and drifts on the 360 level (Pampeyan, and Sheahan 1957) x 5 feet x 7 feet w/ bulking factor of 20%.
- ⁽⁹⁾ Best guess; 90 gpm for 27 days to dewater the mine (ref: DMEA payment records to Smith for same) and 200 days at 10 gpm.
- ⁽¹⁰⁾ Sum of Ore Milled and Waste Rock

Table 2-2
Summary of 1995 Mercury Data Collected by Slotton
 Mount Diablo Mercury Mine
 Contra Costa County, California

Site	Flow (cfs)	Aqueous Total Mercury		Suspended Solids	
		Raw ($\mu\text{g/L}$)	Filtered ($\mu\text{g/L}$)	All (TSS) (mg/L)	Solids Hg (dry ppm)
Upper Dunn Creek	5.20	0.0036	0.00273	1.50	0.60
Upper Horse Creek	0.08	0.0255	0.016	1.10	8.64
"My" Creek	2.10	0.381	0.0284	10.90	32.41
OreHouse Spring	0.01	1.94	0.071	11.40	164.00
Trickle coming from tailings	0.03	58.4	54.1	77.20	56.37
South Pond outlet	0.05	59.1	59.1	26.10	0.00
Horse Creek at tailings	0.32	25	21.9	104.00	29.80
Dunn Creek below mine confluence	7.80	0.949	0.226	13.50	53.60

Notes:

Data from study and report by Slotton et.al. (2006).

cfs = cubic feet per second.

$\mu\text{g/L}$ = micrograms per liter.

mg/L = milligrams per liter.

ppm = parts per million.

Table 4-1
2010 Surface Water Sample Location Key
 Mount Diablo Mercury Mine
 Contra Costa County, California

Type	Samples	Location Description
Background	SW-12	Watershed runoff upstream of My creek
Background	SW-16	Far up-gradient Dunn Creek
Springs	SW-4	Park spring
	SW-14	Ore House spring
Adit Spring	SW-1	Emanation point - April sampling
	SW-15	Emanation point - May sampling
My Creek Runoff	SW-11	My creek upstream of Northern waste dump
	SW-13	My creek downstream of Northern waste dump
Mid- Dunn Creek	SW-8	Dunn Creek upstream of ponds after confluenced with My Creek
Ponds	SW-6	Upper pond
	SW-9	Lower pond
	SW-10	Middle pond
Mine Water Runoff	SW-2	Overland flow in Bradley waste rock
	SW-3	Overland flow in Bradley waste rock
	SW-5	Overland flow just above lower pond
Downstream	SW-7	Below confluence of all wastes

Table 4-2
Summary of Chemical Analyses Results
2010 Surface Water Sampling
 Mount Diablo Mercury Mine
 Contra Costa County, California

Parameter	Unit	Date	Water Quality Criteria ^a			Sample Location																
			Freshwater	Human Health for Consumption of		Background		Springs				My Creek Runoff		Mid-Dunn Creek	Ponds			Mine Water Runoff			Downstream	
				Water + Organism	Organism Only	My Creek SW-12	Dunn Creek SW-16	Park SW-04	Ore House SW-14	Adit		Pond SW-11	Weir SW-13	SW-08	Upper SW-06	1 SW-09	Middle SW-10	SW-02	SW-03	SW-05	SW-07	
										SW-01	SW-15											
Mercury_total (Hg)	µg/L	4/12/2010 5/27/2010	0.91	0.05	0.051	--	--	0.45	--	2.2	--	--	--	0.6	32	94	18	179	74	7.9	0.74	
Mercury_Dissolved (Hg)	µg/L	4/12/2010 5/27/2010	0.77	0.05	0.051	<0.20	<0.20	--	1.3	--	107	<0.20	<0.20	<0.20	22	88	0.21	161	--	66	0.64	
Methyl Mercury	ng/L	4/12/2010 5/27/2010	3 ^b	0.3 mg/kg (fish tissue)	0.3 mg/kg (fish tissue)	--	--	0.328	--	0.061	--	--	--	0.389	0.350	0.523	0.480	0.976	0.398	1.04	0.736	
pH	su	4/12/2010 5/27/2010	6.5 - 9.0	5.0 - 9.0	--	--	--	7.69	--	3.95	--	--	--	7.73	6.08	4.50	6.83	2.60	2.23	7.16	7.79	
Alkalinity, Bicarbonate	mg/L	4/12/2010 5/27/2010	--	--	--	--	--	111	--	<5.0	--	--	--	83	<5.0	<5.0	12	<5.0	<5.0	127	77	
Alkalinity, Carbonate (CO3)	mg/L	4/12/2010 5/27/2010	--	--	--	--	--	<5.0	--	<5.0	--	--	--	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	
Alkalinity, Total as CaCO3	mg/L	4/12/2010 5/27/2010	20	--	--	--	--	111	--	<5.0	--	--	--	83	<5.0	<5.0	12	<5.0	<5.0	127	77	
Fluoride	mg/L	4/12/2010 5/27/2010	--	--	--	--	--	<0.10	--	<0.10	--	--	--	<0.10	<0.10	<0.50	0.12	0.39	1.2	<0.50	<0.10	
Dissolved Organic Carbon	mg/L	4/12/2010 5/27/2010	--	--	--	--	--	8.3	--	2.4	--	--	--	8.9	4.5	25.7	4.8	4.9	7.6	2.8	8.3	
Specific Conductivity	µmhos/cm	4/12/2010 5/27/2010	--	--	--	--	--	468	--	341	--	--	--	212	346	8,050	422	5,160	9,710	9,220	236	
Solids, Total Dissolved (TDS)	mg/L	4/12/2010 5/27/2010	250	--	--	--	--	291	--	224	--	--	--	199	242	6,120	267	4,450	16,000	6,790	210	
Turbidity	NTU	4/12/2010 5/27/2010	--	--	--	--	--	49	--	13	--	--	--	190	180	14	125	7.7	84	127	178	
Hardness, Total as CaCO3	mg/L	4/12/2010 5/27/2010	--	--	--	--	--	148	--	103	--	--	--	106	151	2,340	151	1,170	2,010	2,770	106	
Silica, Dissolved (SiO2)	mg/L	4/12/2010 5/27/2010	--	--	--	--	--	25	--	8.8	--	--	--	56	52	28	29	64	80	25	43	
Chloride (Cl)	mg/L	4/12/2010 5/27/2010	230	--	--	--	--	35	--	1.1	--	--	--	4.5	8.8	1,220	19	163	54	1,490	6.5	
Bromide (Br)	mg/L	4/12/2010 5/27/2010	--	--	--	--	--	<0.20	--	<0.20	--	--	--	<0.20	<0.20	4.6	<0.20	0.54	<0.40	5.7	<0.20	
Nitrogen, Nitrate (NO3)	mg/L	4/12/2010 5/27/2010	--	10	--	--	--	0.56	--	<0.10	--	--	--	0.18	0.48	1.8	<0.10	1.6	<0.20	4.2	0.26	
Sulfate (SO4)	mg/L	4/12/2010 5/27/2010	--	--	--	--	--	68	--	191	--	--	--	12	134	6,620	148	4,570	13,400	3,040	18	
Antimony (Sb)	µg/L	4/12/2010 5/27/2010	--	5.6	640	--	--	<10	--	10	--	--	--	<10	62	<10	35	19	112	<10	<10	
Arsenic (As)	µg/L	4/12/2010 5/27/2010	150	0.018	0.14	--	--	<10	--	<10	--	--	--	<10	53	<10	24	119	530	<50	<10	
Beryllium (Be)	µg/L	4/12/2010 5/27/2010	--	--	--	--	--	<5.0	--	<5.0	--	--	--	<5.0	<5.0	<5.0	<5.0	<5.0	8.3	<5.0	<5.0	
Boron (B)	µg/L	4/12/2010 5/27/2010	--	--	--	--	--	2,680	--	72	--	--	--	226	712	73,500	1,350	13,900	2,660	98,700	304	
Cadmium (Cd)	µg/L	4/12/2010 5/27/2010	0.25	--	--	--	--	<2.0	--	<2.0	--	--	--	<2.0	<2.0	<2.0	<2.0	<2.0	<6.0	<2.0	<2.0	
Calcium (Ca)	µg/L	4/12/2010 5/27/2010	--	--	--	--	--	23,600	--	18,700	--	--	--	21,700	18,800	319,000	20,200	130,000	124,000	449,000	22,100	
								47,100		38,200				41,400	133,000	409,000	55,900	178,000	--	549,000	52,000	

Table 4-2
Summary of Chemical Analyses Results
2010 Surface Water Sampling
 Mount Diablo Mercury Mine
 Contra Costa County, California

Parameter	Unit	Date	Water Quality Criteria ^a			Sample Location															
			Freshwater	Human Health for Consumption of		Background		Springs				My Creek Runoff		Mid-Dunn Creek	Ponds			Mine Water Runoff			Downstream
				Water + Organism	Organism Only	My Creek	Dunn Creek	Park	Ore House	Adit		Pond	Weir		Upper	1	Middle				
						SW-12	SW-16	SW-04	SW-14	SW-01	SW-15	SW-11	SW-13	SW-08	SW-06	SW-09	SW-10	SW-02	SW-03	SW-05	SW-07
Chromium (Cr)	µg/L	4/12/2010 5/27/2010	74	--	--	--	--	18	--	12	--	--	--	31	53	26	25	770	2,790	11	22
						<5.0	<5.0	--	<5.0	--	240	<5.0	<5.0	<5.0	<5.0	19	<5.0	309	--	28	<5.0
Copper (Cu)	µg/L	4/12/2010 5/27/2010	--	1300	--	--	--	6.9	--	12	--	--	--	34	33	50	16	235	632	22	23
						<5.0	5.1	--	6.4	--	101	<5.0	<5.0	<5.0	34	43	<5.0	94	--	28	<5.0
Iron (Fe)	µg/L	4/12/2010 5/27/2010	1000	--	--	--	--	6,840	--	2,140	--	--	--	19,500	22,800	13,400	9,830	392,000	1,600,000	18,300	13,200
						<50	2,260	--	987	--	411,000	70	89	732	272	11,100	1,330	83,800	--	22,900	665
Lead (Pb)	µg/L	4/12/2010 5/27/2010	2.5	--	--	--	--	<5.0	--	<5.0	--	--	--	5.8	6.8	<5.0	<5.0	<10	<20	<25	<5.0
						<5.0	<5.0	--	<5.0	--	13	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	7.6	--	<5.0	<5.0
Magnesium (Mg)	µg/L	4/12/2010 5/27/2010	--	--	--	--	--	21,700	--	13,700	--	--	--	12,500	25,300	374,000	24,500	205,000	414,000	400,000	12,300
						25,700	13,900	--	20,400	--	567,000	26,900	28,200	19,800	195,000	482,000	36,500	136,000	--	546,000	36,700
Manganese (Mn)	µg/L	4/12/2010 5/27/2010	--	--	100	--	--	80	--	584	--	--	--	388	648	5,930	554	5,720	13,000	6,350	280
						<5.0	90	--	194	--	16,000	12	5.8	71	3,410	6,950	623	3,410	--	6,240	381
Nickel (Ni)	µg/L	4/12/2010 5/27/2010	52	610	4600	--	--	165	--	1,320	--	--	--	45	1,590	11,800	1,460	23,900	73,400	8,760	82
						<5.0	<5.0	--	587	--	25,000	<5.0	6.2	10	16,600	16,000	263	11,000	--	9,060	345
Potassium (K)	µg/L	4/12/2010 5/27/2010	--	--	--	--	--	4,120	--	1,850	--	--	--	4,170	4,890	36,000	3,860	8,680	2,730	43,500	3,720
						717	1,800	--	2,080	--	53,300	808	898	1,560	10,900	47,000	2,120	14,500	--	68,300	3,140
Selenium (Se)	µg/L	4/12/2010 5/27/2010	5.0	170	4200	--	--	<20	--	<20	--	--	--	<20	<20	<20	<20	<20	<60	<20	<20
						<20	<20	--	<20	--	<40	<20	<20	<20	<20	<20	<20	<20	--	<20	<20
Silicon (Si)	µg/L	4/12/2010 5/27/2010	--	--	--	--	--	11,600	--	4,120	--	--	--	26,300	24,300	13,100	13,500	29,900	37,300	11,800	19,900
						7,830	8,130	--	15,100	--	38,500	7,790	7,720	6,620	25,700	16,500	7,960	13,600	--	12,800	5,930
Silver (Ag)	µg/L	4/12/2010 5/27/2010	--	--	--	--	--	<5.0	--	<5.0	--	--	--	<5.0	<5.0	<5.0	<5.0	<5.0	<15	<5.0	<5.0
						<5.0	<5.0	--	<5.0	--	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	--	<5.0	<5.0
Sodium (Na)	µg/L	4/12/2010 5/27/2010	--	--	--	--	--	37,600	--	1,670	--	--	--	8,110	11,400	969,000	19,200	186,000	34,600	1,190,000	9,320
						17,400	10,700	--	20,900	--	1,290,000	18,000	18,200	16,100	134,000	1,260,000	37,300	251,000	--	1,760,000	56,000
Thallium (Tl)	µg/L	4/12/2010 5/27/2010	--	0.24	0.47	--	--	<20	--	<20	--	--	--	<20	<20	<20	<20	<20	<60	<20	<20
						<20	<20	--	<20	--	<20	<20	<20	<20	<20	<20	<20	<20	--	<20	<20
Zinc (Zn)	µg/L	4/12/2010 5/27/2010	120	7400	26000	--	--	<10	--	28	--	--	--	49	78	335	52	646	2,160	205	34
						<10	11	--	14	--	1,180	<10	<10	<10	245	368	<10	276	--	180	<10

Notes:
Italic font indicates value is above the water quality criteria for human health for consumption of "water + organism" or "organism only".
Bold and font indicates value is above the water quality criteria for freshwater .
 µg/L = microgram per liter. µmho/cm = micromhos per centimeter.
 su = standard units NTU = nephelometric turbidity unit.
 ng/L = nanogram per liter.
 mg/L = milligram per liter.
 a Values represent the lesser of the water quality criteria available from CRWQCB (2008b) and USEPA (2009).
 b Value from CRWQCB – San Francisco Bay water quality criteria for methyl mercury in freshwater (CRWQCB, 2008a). Values were not available from CRWQCB (2008b) and USEPA (2009).

References:
 CRWQCB. 2008a. Screening for Environmental Concerns at Sites with Contaminated Soil and Groundwater. Interim Final. May.
 CRWQCB. 2008b. Central Valley Regional Water Quality Control Board, A Compilation of Water Quality Goals. July.
 USEPA. 2009. National Recommended Water Quality Criteria. Office of Water. Office of Science and Technology.

Table 4-3
Summary of Field Parameters
2010 Surface Water Sampling
 Mount Diablo Mercury Mine
 Contra Costa County, California

Sample Location	Sample ID	Date	Time	Temperature (°C)	pH (su)	Dissolved Oxygen (mg/L)	Electrical Conductivity (µS/cm)	Oxidation Reduction Potential (mV)
Background	MTD-SW-12/2	5/27/2010	9:20	NA	NA	NA	NA	NA
	MTD-SW-16/2	5/27/2010	12:45	12.83	7.3	10	335	226
Springs	MTD-SW-04/2	5/27/2010	12:15	NA	NA	NA	NA	NA
	MTD-SW-14/2	5/27/2010	10:05	14.5	5.22	9.5	437	228.1
Adit Spring	MTD-SW-15/2	5/27/2010	11:15	13.5	3.59	9.5	3702	400
My Creek Runoff	MTD-SW-11/2	5/27/2010	9:20	12.75	7.61	18.7	505	265.7
	MTD-SW-13/2	5/27/2010	9:30	12.12	7.7	16	550	261.3
Mid-Dunn Creek	MTD-SW-08/2	5/27/2010	13:00	14.34	7.6	9.15	334	216
Ponds	MTD-SW-06/2	5/27/2010	10:50	15.71	3.99	9.5	2477	307.2
	MTD-SW-09/2	5/27/2010	13:15	16.43	4.09	6.0	9892	289
	MTD-SW-10/2	5/27/2010	13:50	16.08	6.58	6.2	767	56.2
Mine Water Runoff	MTD-SW-02/2	5/27/2010	12:00	NA	NA	NA	NA	NA
	MTD-SW-05/2	5/27/2010	13:10	22	7.02	6.5	13410	-46
Downstream	MTD-SW-07/2	5/27/2010	13:30	NA	NA	NA	NA	NA

Notes:

°C = degrees Celsius.

su = standard unit.

mg/L = milligram per liter.

µS/cm = microSiemen per centimeter.

mV = millivolt.

Table 4-4
Select Historical Data Matched to Current Sample Collection Location
 Mount Diablo Mercury Mine
 Contra Costa County, California

Constituent	Units	Date	Ref #	SW-04-EQ	SW-05-EQ	SW-07-EQ	SW-08-EQ	SW-09-EQ	SW-14-EQ
Total Mercury (Hg)	µg/L	Sep-70	125-26			50			
		Jan-75	125-1, 125-26			72	1.6		
		Apr-75	125-1			4.2			
		Jul-78	125-1, 125-26			4	2	1.8	
		Oct-84	125-1, 125-26	10		7		152	
		Mar-87	125-1					33	
		Mar-87	125-26					84	
		Jul-87	125-26					17	
		Oct-87	125-26	<0.2	120				
		Mar-88	125-26		170		<1.0	110	
		Apr-89	125-26		190		2		13
pH	su	Sep-70	125-26			--			
		Jan-75	125-1, 125-26			7.2	8.1		
		Apr-75	125-1			7.2			
		Jul-78	125-1, 125-26			6.9	8.3	6.7	
		Oct-84	125-1, 125-26	7.7		7.0		2.7	
		Mar-87	125-1					2.9	
		Mar-87	125-26					--	
		Jul-87	125-26					2.4	
		Oct-87	125-26	7.7	2.5				
		Mar-88	125-26		2.2		8.6	3.1	
		Apr-89	125-26		2.3		5.0		3.0
May-89	125-26								

Notes:

(a) pH was analyzed past the 15min hold time.

Table 4-5
Summary Comparison of Surface Water Data
 Mount Diablo Mercury Mine
 Contra Costa County, California

Historical Data from RWQCB Files		UCD Slotton Study		Sunoco-SGI	
Year	(µg/L)	Year	(µg/L)	Year	(µg/L)
OREHOUSE SPRING (SW-14)					
1989	13	1995	1.944	2010	1.3
TAILINGS RUNOFF ABOVE LOWER POND (SW-05)					
1987	120	1995	58	2010	7.9 - 66
1988	170				
1989	190				
DUNN CREEK DOWNSTREAM OF LOWER POND (SW-07)					
1970	50	1995	0.949	2010	0.64 - 0.74
1975	72				
1978	4				
1984	7				
DUNN CREEK UPSTREAM OF LOWER POND (SW-08)					
1975	1.6	1995	0.004 - 0.381	2010	<0.20 - 0.6
1978	2				
1988	<1.0				
1989	2				
LOWER POND OUTLET (SW-09)					
1978	1.8	1995	59.1	2010	88 - 94
1984	152				
1987	84				
1988	110				
PARK SPRING (HORSE CREEK) UPHILL FROM MINE TAILINGS (SW-04)					
1984	10	1995	0.026	2010	0.45
1987	<0.200				

APPENDIX A

SUMMARY OF HISTORIC WATER QUALITY DATA WITH LOCATION KEY MAP AND NOTES

Appendix A
Mount Diablo Mercury Mine
Contra Costa County, California

Reference #	Station	Location	Date Sampled	Parameter																															
				EC (µmho/cm)	TDS (mg/L)	pH (unitless)	Turbidity (JTU)	Hardness (mg/L)	Alkalinity (mg/L)	COD (mg/L)	As (mg/L)	Cu (mg/L)	Fe (mg/L)	Pb (mg/L)	Mn (mg/L)	Hg (mg/L)	Ag (mg/L)	Zn (mg/L)	F (mg/L)	Al (mg/L)	Ca (mg/L)	Mg (mg/L)	Na (mg/L)	%Na (percent)	K (mg/L)	SO ₄ (mg/L)	Cl (mg/L)	NO ₃ (mg/L)	B (mg/L)	SiO ₂ (mg/L)	HCO ₃ (mg/L)	CO ₂ (mg/L)			
125-1	A	Dunn Creek Upstream of Pond at Morgan Territory Road and Marsh Creek Road	Feb-54	339	197	8.4	--	146	170	--	0	0	0.01	0	0	--	0	0.03	37	13	15	18	0.8	25	7.5	2.9	0.2	12 (Si)	154	8					
125-1	A	Dunn Creek Upstream of Pond at Morgan Territory Road and Marsh Creek Road	Apr-75	294	174	8.3	--	137	160	--	0	0	--	--	--	--	--	--	35	12	9	--	0.4	17	4.4	0.1	0.1	--	--	--					
125-30	A	Dunn Creek Upstream of Mine	Nov-78	--	--	8.4	3.5	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--				
*	A	Dunn Creek Upstream of Mine	Jun-82	9800	--	6.2	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--				
125-1	B	Dunn Creek Upstream of Pond Outlet	Feb-49	--	236	8.3	--	116	148	--	--	0.3	--	--	--	--	--	--	35	7	37	--	--	32	11	--	--	--	--	--	--				
125-1	B	Dunn Creek Upstream of Pond Outlet	Feb-52	467	--	7.9	--	208	--	--	0.01	0.37	0.32	--	0.42	--	--	--	37	28	17	15	1.1	100	18	0.8	0.75	12 (Si)	132	0					
125-1	B	Dunn Creek Upstream of Pond Outlet	Feb-59	--	--	7	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--				
125-1	B	Dunn Creek Upstream of Pond Outlet	Mar-61	1260	--	7.5	--	--	--	--	--	--	--	--	--	--	--	--	90	98	--	--	--	506	67	1.8	2.4	--	--	--	--				
125-1	B	Dunn Creek Upstream of Pond Outlet	Jan-75	622	390	8.1	15	250	200	60	--	0.01	2.1	--	--	0.0016	--	--	55	27	32	--	2.7	107	27	0.3	0.6	--	--	--	--				
125-1	B	Dunn Creek Upstream of Pond Outlet	Jul-78	1180	780	8.3	--	416	289	--	0	0	0.11	0.2	0.01	0.002	0	0.05	66	61	100	--	3.3	222	87	0.5	4.7	--	--	--	--				
125-30	B	Dunn Creek Downstream of Mine	Nov-78	--	--	6.0	300	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--			
125-25	B	Dunn Creek Near Waterfall #3W, Water	May-89	--	--	6.0	--	--	--	--	--	--	--	--	--	0.0002	0.005	0.005	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--		
*	B	Dunn Creek Near Waterfall #3W, Water	Jun-82	35000	--	6.0	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--		
125-1	C	Dunn Creek Downstream of Pond Outlet, After Confluence with Horse Creek	Feb-49	--	2162	4.9	--	1190	12	--	0	0	3	--	--	--	--	--	155	197	378	--	--	1197	540	--	--	--	--	--	--	--	--		
125-1	C*	Dunn Creek Downstream of Pond Outlet, After Confluence with Horse Creek (Pond Washout)	Feb-52	1820	--	4.1	--	864	--	--	0.01	0.31	160	--	2.5	--	--	0.3	30	26	83	60	13	1.7	979	76	0.4	5.1	--	0	0	0			
125-1	C	Dunn Creek Downstream of Pond Outlet, After Confluence with Horse Creek	Mar-54	2500	1560	7.3	--	636	--	--	0	0	0.05	0	0.05	--	--	0.01	100	94	292	50	0.8	525	440	1.7	18	8.2	156	--	--	--			
125-1	C	Dunn Creek Downstream of Pond Outlet, After Confluence with Horse Creek (Below Mine at Ou	Mar-56	1370	827	8	20	471	--	--	--	--	0.08	--	--	--	--	0.2	87	62	100	31	2.6	257	215	4	13	12	150	--	--	--			
125-1	C	Dunn Creek Downstream of Pond Outlet, After Confluence with Horse Creek	Feb-59	--	--	5.2	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--		
125-1	C	Dunn Creek Downstream of Pond Outlet, After Confluence with Horse Creek	Mar-61	2630	--	7.3	--	--	--	--	--	--	--	--	--	--	--	--	98	131	--	--	--	680	360	5.7	17	--	--	--	--	--	--		
125-1	C	Dunn Creek Downstream of Pond Outlet, After Confluence with Horse Creek	Jan-75	9830	8170	7.2	300	2620	81	26	--	0.03	42	--	--	0.072	--	--	262	478	1480	--	49	3610	1440	9.3	85	--	--	--	--	--	--		
125-1	C	Dunn Creek Downstream of Pond Outlet, After Confluence with Horse Creek	Jul-78	12800	11500	6.9	--	3400	59	--	0.01	0.06	40	0.02	5.9	0.004	0.04	0.41	--	324	630	2060	--	75	4930	2060	10	140	--	--	--	--	--		
125-30	C	Horse Creek Downstream of Mine	Nov-78	--	--	5.6	250	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
125-1	C	Dunn Creek Downstream of Pond Outlet, After Confluence with Horse Creek	Oct-84	19000	15000	7	140	5600	320	--	0.008	0.03	0.77	0.24	10.8	0.007	--	0.11	--	510	896	2200	--	137	7300	3100	5.1	180	4 (Si)	--	--	--	--		
*	C	(Top)	Jun-82	1600	--	5.6	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
*	C	(Bottom)	Jun-82	39200	--	3.6	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
125-1	D	Dunn Creek Downstream of Pond at Morgan Territory Road	Feb-59	--	--	5.8	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
125-1	D	Dunn Creek Downstream of Mine (500 feet) at Morgan Territory Road Bridge	Apr-75	1360	970	7.2	--	405	64	--	--	0.03	0.01	--	--	0.0042	--	--	57	64	117	--	3.1	448	125	1.6	8.8	--	--	--	--	--	--		
*	D	Pond	Jun-82	23000	--	2.4	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
125-1	E	Horse Creek Upstream of Pond Outlet	Jul-78	20700	18500	7.8	--	4020	1300	--	--	--	--	--	--	--	--	--	378	747	4330	--	165	6720	3740	30	280	--	--	--	--	--	--	--	
125-30	E	Horse Creek Upstream of Mine	Nov-78	--	--	6.5	5.0	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
125-1	E	Horse Creek Upstream of Pond Outlet	Oct-84	18600	15000	7.7	92 (NTU)	4900	530	--	0.008	0.3	1.02	0.23	6.9	0.01	--	0.02	--	508	838	2700	--	148	6600	3200	2.8	180	5 (Si)	--	--	--	--	--	
*	E	Horse Creek Upstream of Pond Outlet	Jun-82	32000	--	1.6	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
125-1	F	Perkins Creek Above Confl. with Marsh Creek	Feb-52	280	--	8.4	--	128	--	--	0	0	0	--	0.1	--	--	--	0	0	30	13	8.2	12	0.8	16	9	0.2	0.3	17 (Si)	146	0	0		
*	F	Perkins Creek Above Confl. with Marsh Creek	Jun-82	28000	--	5.7	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
125-1	G	Curry Creek Above Confl. With March Creek	Feb-59	--	--	7.4	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
*	G	Pond	Jun-82	7600	--	4.7	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
125-1	H	Marsh Creek Above Perkins Canyon, Upstream of Pond	Feb-49	--	249	7.6	--	199	164	--	--	0.2	--	--	--	--	--	--	46	21	40	--	--	49	51	--	--	--	--	--	--	--	--	--	
125-1	H	Marsh Creek Above Perkins Canyon, Upstream of Pond	Feb-52	562	--	8.4	--	232	--	--	0.02	0.16	0.2	--	0	--	--	0.2	52	25	33	23	1.4	72	25	2.1	0.45	20 (Si)	226	6	--	--	--		
125-1	H	Marsh Creek Upstream of Dunn Creek (at Morgan Territory Road)	Mar-61	381	--	8.3	--	155	--	--	--	--	--	--	--	--	--	--	35	16	--	--	--	23	24	0.3	0.2	--	--	--	--	--	--	--	
*	H	Marsh Creek Upstream of Dunn Creek (at Morgan Territory Road)	Jun-82	1400	--	7.3	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
125-1	I	Marsh Creek Below Confl. With Dunn Creek, Downstream of Pond	Feb-52	590	--	6.9	--	235	--	--	0	0	2.4	--	0.31	--	--	--	48	28	31	22	1.6	153	26	1.5	0.71	13 (Si)	140	0	0	0	0		
125-30	I	Marsh Creek at Confluence with Dunn Creek	Nov-78	--	--	6.1	110	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
*	I	Marsh Creek at Confluence with Dunn Creek	Jun-82	6800	--	4.0	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
125-1	J	Mars Creek Downstream of Pond at Prison Farm	Aug-39	--	--	7.8	--	--	276	--	--	0.2	--	--	--	--	--	--	228	142	262	--	--	164	900	--	--	--	--	--	--	--	--	--	
125-1	J	Mars Creek Downstream of Pond at Prison Farm	Feb-49	--	667	7.8	--	309	132	--	--	0.6	--	--	--	--	--	--	53	43	106	--	--	239	110	--	--	--	--	--	--	--	--	--	--
125-1	J	Mars Creek Downstream of Pond at Prison Farm	Jun-50	--	830	7.7	--	395	--	--	0	--	0	--	0	--	--	--	88	42	104	--	--	210	135	0.9	--	--	--	--	215	0	0		
125-1	J	Mars																																	

Appendix A
 Mount Diablo Mercury Mine
 Contra Costa County, California

Reference #	Station	Location	Date Sampled	Parameter																												
				EC (µmho/cm)	TDS (mg/L)	pH (unitless)	Turbidity (JTU)	Hardness (mg/L)	Alkalinity (mg/L)	COD (mg/L)	As (mg/L)	Cu (mg/L)	Fe (mg/L)	Pb (mg/L)	Mn (mg/L)	Hg (mg/L)	Ag (mg/L)	Zn (mg/L)	F (mg/L)	Al (mg/L)	Ca (mg/L)	Mg (mg/L)	Na (mg/L)	%Na (percent)	K (mg/L)	SO ₄ (mg/L)	Cl (mg/L)	NO ₃ (mg/L)	B (mg/L)	SiO ₂ (mg/L)	HCO ₃ (mg/L)	CO ₂ (mg/L)
125-26	S-1-2 ^a	Map Location 1 (?). Dunn Creek Above Mine, Exact Location Unknown	Feb-49	--	236	8.3	--	116	--	--	0.3	--	--	--	--	--	--	--	35	7	37	--	--	32	11	--	--	--	181	--	--	
125-26	S-1-3 ^a	Map Location 1A. Dunn Creek Above Mine, Exact Location Unknown	Feb-52	467	--	7.9	--	208	--	--	0.01	0.31	0.32	--	0.42	--	--	0.1	0.7	37	28	17	--	1.1	100	18	0.8	0.75	12	132	0	
125-26	S-1-4 ^b	Map Location 1A. Dunn Creek Above Mine Water	Apr-52	792	--	7.9	--	320	--	--	0.00	0.00	0.00	--	0.00	--	--	0.1	0.4	56	44	41	--	1.7	160	60	0.8	2.4	11	200	0	
125-26	S-1-5 ^c	Map Location 1A. Dunn Creek 150 Feet Above Road to Homes and Mine	Feb-54	339	197	8.4	--	146	170	--	0.00	0.0	0.01	0.00	0.00	--	--	0.00	--	0.03	37	13	15	--	0.8	20	7.5	2.9	0.2	12	154	8
125-26	S-1-6 ^d	Map Location 1C. Dunn Creek Intersection of Marsh Creek and Morgan Territory Road	Apr-75	294	174	8.3	--	137	160	--	0.00	0.00	--	--	--	--	--	--	--	35	12	9	--	0.4	--	4.4	0.1	0.1	17	160	0	
125-26	S-1-7 ^a	Map Location 1C. Dunn Creek Above Northern Pond	Apr-89	450	390	7.1	--	--	--	--	--	--	--	--	--	--	--	--	--	45	23	21	--	0.84	59	18	--	--	7.8	--	--	
125-26	S-2-1 ^b	Map Location 2A. West Fork of Dunn Creek about 100 Feet Above Confluence with Dunn Cree	Apr-52	1520	--	7.8	--	668	--	--	0	0	0	--	--	--	0	0.2	0.07	106	98	86	--	3.0	467	178	4.4	9.6	9.2	142	0	
125-26	S-3-1 ^b	Map Location 3A. West Fork of Dunn Creek about 3/4 Mile Above Confluence with Dunn Creek	Apr-52	727	--	8.0	--	318	--	--	0	0	0	--	--	0	0	0.1	0.1	65	38	29	--	0.9	100	78	1.6	4.7	18	202	0	
125-26	S-4-1 ^b	Map Location 4. Seepage Through Furnace Plant	Apr-52	3130	2400	2.75	--	2060	--	--	0.01	0	115	--	2.4	--	--	0.84	--	269	57	27	55	--	5.3	1600	108	0.3	3.5	--	0	0
125-26	S-4-2 ^a	Map Location 4 (?). Springs in Mine Waste is Franciscan ???	Sep-50	20100	16270	2.5	--	6640	--	--	--	--	991	--	--	--	--	--	--	336	354	--	--	--	5980	4951	--	>100	--	--	--	
125-26	S-4-3 ^a	Map Location 4 (?). Springs in Mine Waste is Franciscan ???	Nov-50	28900	57980	2.4	--	15800	--	--	--	--	2640	--	--	--	--	--	--	556	1720	--	--	--	36198	2540	--	121	78	ND	ND	
125-26	S-4-4 ^a	Map Location 4A. Ore House Springs	Apr-89	1200	740	3.0	--	--	--	--	0.03	0.07	6.0	ND	0.49	0.013	ND	0.10	0.46	--	60	17	25	--	1.8	640	15	--	--	44	--	--
125-26	S-5-1 ^a	Map Location 5. Dunn Creek Below Mine	Mar-42	--	--	3.4	--	--	--	--	--	--	300	--	--	--	--	--	--	341	94	--	--	--	3362	848	--	--	--	--	--	
125-26	S-5-2 ^a	Map Location 5. Dunn Creek Below Mine	Feb-49	--	2162	4.9	--	--	12	--	--	--	3.0	--	--	--	--	--	--	155	197	378	--	--	1197	540	--	--	--	15	--	
125-26	S-5-3 ^a	Map Location 7B. Dunn Creek Below Mine	Nov-50	2190	1901	3.4	--	--	--	--	--	--	2.53	--	--	--	--	--	--	80	122	--	--	--	1180	140	--	3.9	24	0	--	
125-26	S-5-4 ^b	Map Location 7A. Dunn Creek Below Mine	Feb-52	1820	1420	4.1	--	864	--	--	0.01	0.31	160	--	2.5	--	--	--	0.3	0.3	26	83	60	--	1.7	979	76	??	5.1	--	0	0
125-26	S-5-5 ^b	Map Location 7A. Dunn Creek Below Mine	Apr-52	900	575	8.2	--	360	--	--	0	0	0	--	0	--	--	0	0.2	0.4	65	48	56	--	2.1	219	84	0.9	4.9	9.5	174	0
125-26	S-5-6 ^f	Map Location 5. Dunn Creek Above Confluence with Horse Creek	Feb-53	--	--	7.6	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
125-26	S-5-7 ^a	Map Location 5B. Dunn Creek Above Confluence with Horse Creek	Feb-59	--	--	7.0	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
125-26	S-5-8 ^b	Map Location 5A. Dunn Creek Above Confluence with Horse Creek	Mar-88	766	490	8.6	--	256	--	--	<0.5	40.1	<0.01	0.032	<0.001	--	<0.05	--	--	41.4	37.1	46.4	--	--	108	40.1	--	--	--	198	16	
125-26	S-5-9 ^b	Map Location 5C. Dunn Creek Above Confluence with Horse Creek	Mar-88	1000	--	7.6	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
125-26	S-5-10 ^j	Map Location 5C. Dunn Creek East of Surface Impoundment	Nov-71	--	--	3.0	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
125-26	S-5-11 ^f	Map Location 5A. Dunn Creek East of Surface Impoundment	Jul-78	1180	780	6.95	--	416	289	--	0	0	0.11	0.2	0.01	0.0002	--	0.05	--	--	66	61	100	--	33	222	87	0.5	4.7	--	--	
125-26	S-6-1 ^f	Map Location 6A. Dunn Creek 100 Feet Below Confluence with Horse Creek	Feb-53	--	--	6.8	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
125-26	S-6-2 ^g	Map Location 6. Dunn Creek Below Confluence with Horse Creek	Feb-59	--	--	5.2	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
125-26	S-6-3 ^h	Map Location 6A. Dunn Creek Below Confluence with Horse Creek	Mar-61	2630	--	7.3	--	--	--	--	--	--	--	--	--	--	--	--	--	--	98	131	--	--	--	680	360	5.7	17	--	--	
125-26	S-6-4 ^a	Map Location 6A. Dunn Creek Below Confluence with Horse Creek	Sep-70	--	--	--	--	--	--	--	--	--	--	--	--	0.05	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
125-26	S-6-5 ^f	Map Location 6C. Dunn Creek Just Below Confluence with Horse Creek	Nov-71	--	--	8.0	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
125-26	S-6-6 ^f	Map Location 6C. Dunn Creek 100 Feet Below Confluence with Horse Creek	Jan-75	9830	8170	7.2	??	2620	--	--	--	0.03	42	--	--	0.072	--	--	--	--	262	478	1480	--	49	3610	1440	9.3	85	--	81	0
125-26	S-6-7 ^f	Map Location 6A. Dunn Creek Just Below Confluence with Horse Creek	Jul-78	12800	11500	6.9	--	3400	59	--	0.01	0.06	40	0.02	5.9	0.004	--	0.41	--	--	324	630	2060	--	75	4930	2060	10	140	--	--	
125-26	S-6-8 ^g	Map Location 6A. ?? Below Confluence with Horse Creek	Oct-84	19000	15000	7.0	--	320	--	--	0.008	0.03	0.77	0.24	10.8	0.007	--	0.11	--	0.09	510	896	2200	--	137	7300	3100	--	180	--	--	
125-26	S-6-9 ^h	??	Mar-88	2800	--	7.5	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
125-26	S-7-1 ^a	Map Location 7. ??	??	2500	1560	??	--	336	--	--	0	0	0.05	0	3.3	--	--	0.01	0.1	0.05	100	94	292	--	0.8	525	400	1.1	--	18	156	0
125-26	S-7-2	??	Apr-75	1360	970	7.2	--	415	--	--	0.01	0.03	--	--	--	0.0042	--	--	--	--	57	64	117	--	3.1	448	125	--	8.8	??	0	
125-26	S-7-3 ^g	??	Feb-59	--	--	5.8	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
125-26	S-8-1 ^b	??	Feb-52	590	374	6.9	--	235	--	--	0.02	0	2.4	--	0.31	--	--	--	0.1	0.6	118	28	31	--	1.6	153	26	15	--	0.71	140	0
125-26	S-8-2	??	Apr-52	744	463	8.1	--	300	--	--	0	0	0	--	0	--	--	0	0.2	0	64	34	50	--	1.8	112	44	24	--	0.9	286	0
125-26	S-9-1 ^a	??	Mar-42	--	--	8.2	--	--	--	--	--	--	0.2	--	--	--	--	--	--	--	49	22	--	--	--	212	45	--	--	--	--	
125-26	S-9-2 ^a	??	May-43	--	--	6.2	--	--	--	--	--	--	--	--	--	--	--	--	--	--	69	36	--	--	--	134	40	--	--	--	--	
125-26	S-9-3 ^a	??	Mar-46	--	--	7.2	--	--	--	--	--	--	0.3	--	--	--	--	--	--	--	70	35	--	--	--	307	58	--	--	--	--	
125-26	S-9-4 ^a	??	Feb-47	--	--	7.6	--	--	--	--	--	--	0.2	--	--	--	--	--	--	--	46	21	40	--	--	49	51	--	--	--	--	
125-26	S-9-5 ^a	??	Nov-50	490	303	8.1	--	192	--	--	--	0.16	--	--	--	--	--	--	--	--	44	28	--	--	--	54	36	--	--	0.65	182	--
125-26	S-9-6 ^a	??	Mar-61	381	--	8.3	--	--	--	--	--	--	--	--	--	--	--	--	--	--	35	16	--	--	--	23	24	0.3	--	0.2	--	
125-26	S-10-1 ^b	Map Location 10A.	Feb-52	280	166	8.4	--	128	--	--	0	0	0	--	0.01	--	--	--	--	0	30	13	8.2	--	0.8	16	90	0.2	--	0.3	146	0
125-26	S-10-2 ^b	Map Location 10A.	Apr-52	438	288	8.2	--	187	--	--	0	0	0	--	0	--	--	--	--	0	42	20	31	--	1.0	24	48	0.5	--	1.9	204	

Appendix A
Mount Diablo Mercury Mine
Contra Costa County, California

Reference #	Station	Location	Date Sampled	Parameter		pH (unitless)	Turbidity (JTU)	Hardness (mg/L)	Alkalinity (mg/L)	COD (mg/L)	As (mg/L)	Cu (mg/L)	Fe (mg/L)	Pb (mg/L)	Mn (mg/L)	Hg (mg/L)	Ag (mg/L)	Zn (mg/L)	F (mg/L)	Al (mg/L)	Ca (mg/L)	Mg (mg/L)	Na (mg/L)	%Na (percent)	K (mg/L)	SO ₄ (mg/L)	Cl (mg/L)	NO ₃ (mg/L)	B (mg/L)	SiO ₂ (mg/L)	HCO ₃ (mg/L)	CO ₃ (mg/L)	
				EC (µmho/cm)	TDS (mg/L)																												
125-26	S-22-2 ^m	Map Location 22A. Northern State Park Spring.	Oct-84	17600	14000	6.2	50	5200	--	--	<0.004	0.03	28.3	0.24	45.8	<0.001	--	0.05	--	<0.5	522	882	2000	--	130	6700	2700	0.7?	160	--	440	--	
125-26	S-22-3 ^o	Map Location 22B. Red Spring State Park Land.	Oct-87	15400	11550	6.4	--	3348	104	--	<0.1	<0.01	34.5	<0.05	6.6	<0.0002	<0.01	0.031	--	<0.05	490	518	1182	--	122	6105	3545	5	258	--	--	--	
125-26	S-22-4 ^o	Map Location 22C. B? Spring State Park Land.	Oct-87	20300	15225	7.6	--	2919	1179	--	<0.1	<0.01	<0.1	<0.05	2.2	<0.0002	<0.005	<0.01	--	0.069	197	592	1970	--	149	6370	5070	31?	205.4	--	--	--	
125-26	S-22-5 ^l	Map Location 22D. Horse Creek above park drainage.	Mar-88	23000	15338	7.6	--	4942	--	--	--	<0.05	4	<0.001	6.71	0.016	--	<0.05	--	--	521	888	2957	--	--	4121	2567	--	--	--	962	NIL	
125-26	S-22-6 ^h	Map Location 22E. Park drainage in tailings upper end.	Mar-88	20500	12682	6.7	--	3857	--	--	--	<0.05	4.1	<0.01	9.56	0.2	--	<0.05	--	--	382	708	2644	--	--	1995	1822	--	--	--	965	NIL	
125-26	S-23-1 ^k	Map Location 23. Dunn Creek above surface impoundment.	Mar-61	1260	--	7.5	--	--	--	--	--	--	--	--	--	--	--	--	--	--	90	98	--	--	--	566	67	1.8	2.4	--	--	--	
125-26	S-23-2 ^d	Map Location 23A. Dunn Creek 300 ft above confluence in Horse Creek.	Jan-75	622	3.9	8.1	--	250	--	--	--	0.01	2.1	--	--	0.0016	--	--	--	--	55	27	32	--	2.7	107	27	0.3	0.6	--	200	0	
125-26	S-23-3 ^h	Map Location 23B. Dunn Creek above confluence with Horse Creek.	Mar-88	720	--	8.2	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
125-26	S-24-1 ^a	Map Location 24A. Marsh Creek at prison farm.	Aug-39	--	--	7.8	--	--	276	--	--	0.2	--	--	--	--	--	--	--	--	228	142	262	--	--	164	900	--	--	--	--	--	
125-26	S-24-2 ^a	Map Location 24A. Marsh Creek at prison farm.	May-43	--	--	7	--	--	--	--	--	6	--	--	--	--	--	--	--	--	83	66	--	--	--	350	245	--	--	--	--	--	
125-26	S-24-3 ^a	Map Location 24A. Marsh Creek at prison farm.	Dec-45	--	--	7.2	--	--	--	--	--	1	--	--	--	--	--	--	--	--	83	47	--	--	--	207	240	--	--	--	--	--	
125-26	S-24-4 ^a	Map Location 24A. Marsh Creek at prison farm.	Mar-46	--	--	7.2	--	--	--	--	--	0.3	--	--	--	--	--	--	--	--	68	35	--	--	--	175	58	--	--	--	--	--	
125-26	S-24-5 ^p	Map Location 24A. Marsh Creek at prison farm.	Feb-49	--	667	7.8	0	--	132	--	--	0.6	--	--	--	--	--	--	--	--	53	43	106	--	--	239	110	--	--	--	--	--	
125-26	S-24-6 ^a	Map Location 24A. Marsh Creek at prison farm.	Jun-50	--	830	7.7	0	--	--	--	--	0	--	--	--	--	--	--	--	--	88	42	104	--	--	210	135	0.9	--	--	--	--	
125-26	S-24-7 ^k	Map Location 24A. Marsh Creek at prison farm.	Mar-61	2270	--	7.6	--	--	--	--	--	14	--	--	--	--	--	--	--	--	156	93	--	--	--	462	363	7.7	--	--	--	--	
125-26	S-25-1 ^b	Map Location 25. Marsh Creek 500 ft above confluence with Dunn creek.	Feb-52	232	562	8.4	--	--	--	--	0.02	0.16	0.2	--	0	--	--	--	0.2	0.5	52	25	33	--	1.4	72	25	2.1	0.45	--	226	6	
125-26	S-25-2 ^b	Map Location 25. Marsh Creek 500 ft above confluence with Perkins? creek.	Apr-52	285	732	8.1	--	--	--	--	0	0	0	--	0	--	--	0	0.2	0	40	45	49	--	1.7	111	40	0.6	0.6	--	288	0	
125-26	S-26-1 ^p	Map Location 26(?). Miner drainage.	Aug-39	--	--	3	--	--	1540	--	--	5	--	--	--	--	--	--	--	--	68	195	5379	--	--	82	7550	--	--	--	--	--	
125-26	W-8-1 ^a	Map Location 8. ? Watering well, completed in the ??	Sep-50	4980	2830	7.6	--	57	--	--	--	0.57	--	--	--	--	--	--	--	--	15	11.6	--	--	--	3.8	1320	1.9	75	--	724	--	
125-26	W-8-1 ^b	Map Location 8. ? Watering well, completed in the ??	Apr-52	605	370	7.5	--	36	--	--	0.02	0	0.18	--	0	--	--	2.3	--	0.01	6.8	11.6	113	--	3.5	121	58	3.7	39	--	98	0	
125-26	W-29-1 ^b	Map Location 29. ? well, ?? Shale.	Jul-87	4900	3675	7.5	--	199	564	--	<0.1	0.86	<0.1	<0.05	0.73	<0.0008	<0.005	0.042	--	<0.05	4.5	13.3	858	--	10.9	173	1335	4	8.5	--	--	--	
125-26	W-30-1 ^b	Map Location 30. Orellana well.	Jul-87	2000	1442	8.2	--	19	950	--	<0.1	<0.001	<0.1	<0.05	0.009	<0.0002	<0.02	<0.01	--	<0.05	2.5	5.1	385	--	8.2	364	308	5	9.3	--	--	--	
125-26	W-28-1 ^a	Map Location 28. ? Inside mine well, completed in alluvium.	Nov-50	335	205	7.8	--	139	--	--	--	--	--	--	--	--	--	--	--	--	40.5	8.48	--	--	--	19.2	99	1.24	0.8	--	179	--	
125-26	W-28-1 ^b	Map Location 28. ? Inside mine well, completed in alluvium.	Apr-53	495	273	7.8	--	214	--	--	0.04	0	0.12	--	0	--	--	2.1	--	0	58	17	13	--	0.7	27	11	1.2	0.05	--	258	--	
125-26	W-16-1 ^p	Map Location 16. ? Well, completed in alluvium.	Jun-50	--	675	7.4	--	350	270	--	--	0	--	--	--	--	--	--	--	--	72	37	88	--	--	9	112	0.8	--	--	--	0	
125-26	W-16-2 ^a	Map Location 16. ? Well, completed in alluvium.	Sep-50	3000	1850	7.6	--	1170	246	--	--	0.04	--	--	--	--	--	--	--	--	242	137	--	--	--	425	620	6.46	75	--	376	--	
125-26	W-16-3 ^a	Map Location 16. ? Well, completed in alluvium.	Nov-50	1670	954	7.4	--	426	--	--	--	0.04	--	--	--	--	--	--	--	--	89.9	44	--	--	--	137	788	5.58	10	--	179	--	
125-26	W-16-4 ^b	Map Location 16. ? Well, completed in alluvium.	Feb-52	338	200	7.8	--	108	--	--	0.01	0.72	8	--	0	--	--	0	--	0	22	13	31	--	0.2	22	70	1.7	0.85	--	148	0	
125-26	W-16-5 ^b	Map Location 16. ? Well, completed in alluvium.	Nov-52	516	314	8.1	--	210	--	--	0	0	0	--	0	--	--	0	--	0	46	23	30	--	1.5	32	42	0.8	38	--	236	0	
125-26	W-16-6 ^b	Map Location 16. ? Well, completed in alluvium.	Jul-55	8960	5870	7.1	--	385	--	--	--	0.04	--	--	--	--	--	--	--	--	77	888	677	--	9	1140	2980	41	83	--	190	0	
125-26	W-17-1 ^a	Map Location 17. Shallow well at ?? Completed in alluvium.	Aug-39	--	--	7.3	--	--	260	--	--	4	--	--	--	--	--	--	--	--	360	17	206	--	--	164	13.2	--	--	--	240	--	
125-26	W-17-2 ^a	Map Location 17. Shallow well at ?? Completed in alluvium.	Feb-40	--	--	--	--	--	238	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	191	1979	--	--	--	--	--	
125-26	W-17-3 ^a	Map Location 17. Shallow well at ?? Completed in alluvium.	May-40	--	--	--	--	--	--	--	--	0	--	--	--	--	--	--	--	--	--	--	--	--	--	53	760	--	--	--	--	--	
125-26	W-17-4 ^a	Map Location 17. Shallow well at ?? Completed in alluvium.	Mar-40	--	--	--	--	--	--	--	--	0.1	--	--	--	--	--	--	--	--	--	--	--	--	--	83	201	--	--	--	--	--	
125-26	W-17-5 ^a	Map Location 17. Shallow well at ?? Completed in alluvium.	Feb-42	--	--	--	--	--	284	--	--	--	--	--	--	--	--	--	--	--	118	57	--	--	--	139	355	--	--	--	--	--	
125-26	W-17-6 ^a	Map Location 17. Shallow well at ?? Completed in alluvium.	May-43	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	48	32	--	--	--	170	59	--	--	--	--	--	
125-26	W-17-7 ^a	Map Location 17. Shallow well at ?? Completed in alluvium.	Dec-45	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	85	101	--	--	--	118	145	--	--	--	--	--	
125-26	W-17-8 ^a	Map Location 17. Shallow well at ?? Completed in alluvium.	Mar-49	--	1162	7	--	549	286	--	--	0.4	--	--	--	--	--	--	--	--	120	61	158	--	--	193	335	--	--	--	--	--	
125-26	W-17-9 ^a	Map Location 17. Shallow well at ?? Completed in alluvium.	Jun-50	--	780	7.8	--	365	--	--	--	0	--	--	--	--	--	--	--	--	79	111	115	--	--	704	135	1.8	--	--	1.8	--	
125-26	W-17-10 ^a	Map Location 17. Shallow well at ?? Completed in alluvium.	Sep-50	1720	721	7.8	--	492	77	--	--	0.04	--	--	--	--	--	--	--	--	95	115	--	--	--	207	153	1.9	75	--	1.9	--	
125-26	W-17-11 ^a	Map Location 17. Shallow well at ?? Completed in alluvium.	Nov-50	1380	861	7.2	--	470	--	--	--	0.15	--	--	--	--	--	--	--	--	101	56	--	--	--	250	160	4.3	7.4	--	4.3	--	
**	MDM-589-1W	Northern Pond Water Sample Collected Approx. 20 Feet from the Mouth of the Creek Feeding this Pond. This Sample Was Clear When Collected	Jun-89	4000	3600	6.6	--	--	270	--	0.01	<0.01	54	<0.1	6.0	<0.0002	<0.01	0.01	2.2	--	230	280	540	--	4.2	1800	410	--	--	15	--	--	

Data analogous to 2010 SGI sampling location

pH or mercury data

Source: Iovenniti, J.L., Weiss Associates, and Wessman, J. 1989. Mount Diablo Mine Surface Impoundment Technical Report. June 30.

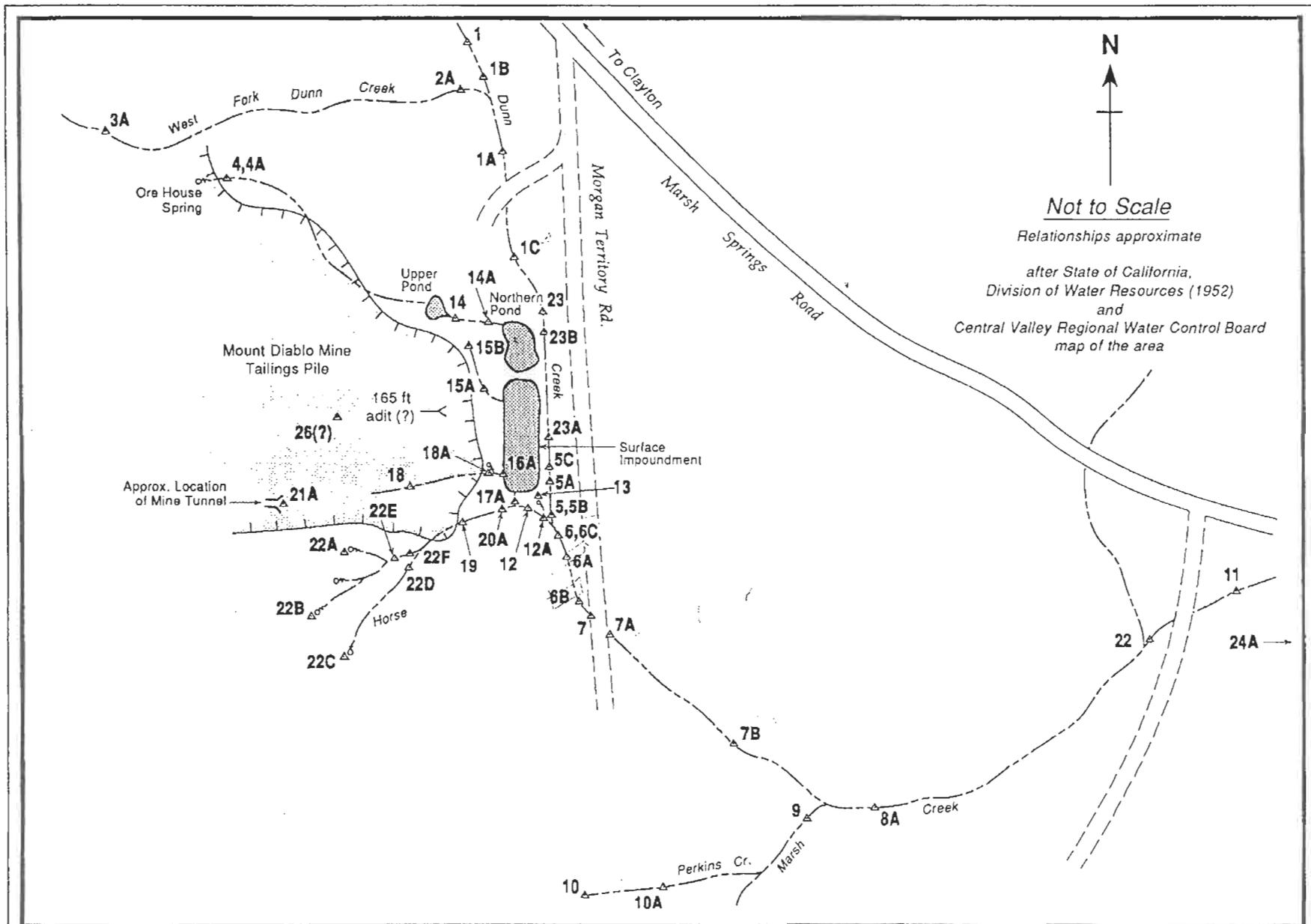


Figure 3 Location Map for Surface Water Samples Collected Near the Mount Diablo Mine Surface Impoundment

- A Dunn Creek upstr. of pond at Morgan Terr. Rd. + Marsh Cr. Rd.
- B Dunn Creek upstr. of pond outlet
- C Dunn Creek downstr. of pond outlet, after confluence w/ Horse Cr.
- C1 ^{+ Soil} Dunn Creek downstr. of pond at Morgan Terr. Rd.
- D Dunn Creek downstr. of pond at Morgan Terr. Rd.
- E Horse Creek upstream of pond outlet
- F Perkins Creek above ~~mouth~~ confl. w/ Marsh Cr.
- G Curry Creek above ~~the~~ confl. w/ Marsh Cr.

- H Marsh Creek upstr. of Dunn Cr. (@ Morgan Terr. Rd.)
- J Marsh Creek downstr. of pond @ Prison Farm
- K Marsh Creek downstr. of pond below Hog Creek (5 mi. below mine)
- L Marsh Creek downstr. of pond @ gaging stn. above Marsh Cr. reservoir (10 mi. below ~~the~~ mine)
- I Marsh Creek below confl. w/ Dunn Cr. - downstr. of pond
- H Marsh Creek above Perkins Canyon - upstr. of pond
- H Marsh Creek above confl. w/ Dunn Cr. - upstr. of pond

- M Drainage from mine floor tailings on Wessman property
- N Drainage from ponded area north of tailings
- P Springs on State Park land
- Q Alkali spring below + east of pond/dam

- R Mine pond - water
- R Mine pond - sludge

- S Zuur well
- T Prison Farm well
- u Marsh Cr. Springs Resort well

APPENDIX B

SELECTED SITE PHOTOGRAPHS

REFERENCED SAMPLE LOCATIONS PHOTOGRAPHS

Client Name: Sunoco, Inc.

Photo Date: April and May 2010

Project: Sunoco Mt. Diablo, ACP



Photograph B-1: *Capped area located at the top area of the Bradley tailings piles and waste rock.*



Photograph B-2: *Capped area overlying the historic collapsed main mine workings area.*

Client Name: Sunoco, Inc.

Photo Date: April and May 2010

Project: Sunoco Mt. Diablo, ACP



Photograph B-3: *Captured surface water flow directed into upper pond (sample location SW-06).*



Photograph B-4: *Park Spring (sample location SW-04).*

Client Name: Sunoco, Inc.

Photo Date: April and May 2010

Project: Sunoco Mt. Diablo, ACP



Photograph B-5: *Ore House spring (sample location SW-14).*



Photograph B-6: *Storm water from upper mine working routed around the lower pond (right) via Dunn Creek (left).*

GENERAL SAMPLE LOCATIONS AND SITE PHOTOGRAPHS

Client Name: Sunoco, Inc.

Photo Date: April and May 2010

Project: Sunoco Mt. Diablo, ACP



Photograph B-7: *My Creek retention pond (sample location SW-11).*



Photograph B-8: *Lower pond looking up toward Bradley tailing piles.*

Client Name: Sunoco, Inc.

Photo Date: April and May 2010

Project: Sunoco Mt. Diablo, ACP



Photograph B-9: *Runoff from upper Bradley mine tailings (sample location SW-02).*



Photograph B-10: *Runoff from upper Bradley tailing piles (sample location SW-02).*

Client Name: Sunoco, Inc.

Photo Date: April and May 2010

Project: Sunoco Mt. Diablo, ACP



Photograph B-11: Upper Bradley tailing piles



Photograph B-12: Upper Bradley tailing piles

Client Name: Sunoco, Inc.

Photo Date: April and May 2010

Project: Sunoco Mt. Diablo, ACP



Photograph B-13: Sample location SW-01.



Photograph B-14: Bradley tailing piles showing sample location SW-03.

Client Name: Sunoco, Inc.

Photo Date: April and May 2010

Project: Sunoco Mt. Diablo, ACP



Photograph B-15: *Runoff from vicinity of former 165-ft adit opening (sample location SW-01).*



Photograph B-16: *Upper pond (sample location SW-6).*

Client Name: Sunoco, Inc.

Photo Date: April and May 2010

Project: Sunoco Mt. Diablo, ACP



Photograph B-17: *Looking upstream from My Creek (sample location SW-12).*



Photograph B-18: *Middle pond looking to lower pond.*

Client Name: Sunoco, Inc.

Photo Date: April and May 2010

Project: Sunoco Mt. Diablo, ACP



Photograph B-19: *Dunn Creek and middle pond outlet.*



Photograph B-20: *Middle pond looking toward upper pond.*

Client Name: Sunoco, Inc.

Photo Date: April and May 2010

Project: Sunoco Mt. Diablo, ACP



Photograph B-21: *Dunn Creek showing out flow from middle pond.*



Photograph B-22: *Outflow from middle pond to Dunn Creek (sample location SW-10).*

Client Name: Sunoco, Inc.

Photo Date: April and May 2010

Project: Sunoco Mt. Diablo, ACP



Photograph B-23: *My Creek upstream of northern waste dump area (sample location SW-12).*



Photograph B-24: *Surface water drainage from upper mine working area.*

Client Name: Sunoco, Inc.

Photo Date: April and May 2010

Project: Sunoco Mt. Diablo, ACP



Photograph B-25: Surface water drainage from upper mine working area.



Photograph B-26: Calcine tailings above upper pond area. Drains to upper pond.

Client Name: Sunoco, Inc.

Photo Date: April and May 2010

Project: Sunoco Mt. Diablo, ACP



Photograph B-27: Drainage under road toward upper pond.



Photograph B-28: Surface water drainage from upper mine working area.

Client Name: Sunoco, Inc.

Photo Date: April and May 2010

Project: Sunoco Mt. Diablo, ACP



Photograph B-29: *Mining debris in northern waste dump above My Creek.*



Photograph B-30: *Mining debris in northern waste dump above My Creek.*



Photograph B-31: Northern waste dump.



Photograph B-32: Calcine tailings.

Client Name: Sunoco, Inc.

Photo Date: April and May 2010

Project: Sunoco Mt. Diablo, ACP



Photograph B-33: Bradley waste pile above lower pond.



Photograph B-34: Looking downhill from Ore House spring.

Client Name: Sunoco, Inc.

Photo Date: April and May 2010

Project: Sunoco Mt. Diablo, ACP



Photograph B-35: *Ore House spring.*



Photograph B-36: *Weir on My Creek below retention pond (sample location SW-13).*

Client Name: Sunoco, Inc.

Photo Date: April and May 2010

Project: Sunoco Mt. Diablo, ACP



Photograph B-37: Weir on My Creek below retention pond (sample location SW-13).



Photograph B-38: Storm water runoff outlet piping from upper mine workings area.

Client Name: Sunoco, Inc.

Photo Date: April and May 2010

Project: Sunoco Mt. Diablo, ACP



Photograph B-39: *Storm water runoff outlet piping from upper mine workings area.*



Photograph B-40: *Storm water runoff outlet piping from upper mine workings area.*

Client Name: Sunoco, Inc.

Photo Date: April and May 2010

Project: Sunoco Mt. Diablo, ACP



Photograph B-41: *Mt. Diablo State Park spring (sample location SW-04).*



Photograph B-42: *Surface water runoff channel to upper pond.*

Client Name: Sunoco, Inc.

Photo Date: April and May 2010

Project: Sunoco Mt. Diablo, ACP



Photograph B-43: *Surface water runoff channel from upper Bradley tailings pile (sample location SW-02).*



Photograph B-44: *Bradley runoff waste pile.*

APPENDIX C

2010 SAMPLING PROGRAM CHAIN OF CUSTODY AND LABORATORY REPORTS



Technical Report for

The Source Group

Mt. Diablo- Marsh Creek Road

01-SUN-050

Accutest Job Number: C10601

Sampling Date: 04/12/10

Report to:

The Source Group
3451C Vincent Road
Pleasant Hill, CA 94523
jphilipp@thesourcegroup.net

ATTN: Jon Philipp

Total number of pages in report: **61**



Test results contained within this data package meet the requirements of the National Environmental Laboratory Accreditation Conference and/or state specific certification programs as applicable.

Laurie Glantz-Murphy
Laboratory Director

Client Service contact: Anne Kathain 408-588-0200

Certifications: CA (08258CA)

This report shall not be reproduced, except in its entirety, without the written approval of Accutest Laboratories.
Test results relate only to samples analyzed.



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Sample Summary

The Source Group

Job No: C10601

Mt. Diablo- Marsh Creek Road
 Project No: 01-SUN-050

Sample Number	Collected		Matrix Code	Received	Type	Client Sample ID
	Date	Time By				
C10601-1	04/12/10	13:55 NCJP	AQ	04/13/10	Surface Water	MTD-SW-01
C10601-1F	04/12/10	13:55 NCJP	AQ	04/13/10	Surface H2O Filtered	MTD-SW-01
C10601-2	04/12/10	14:25 NCJP	AQ	04/13/10	Surface Water	MTD-SW-02
C10601-2F	04/12/10	14:25 NCJP	AQ	04/13/10	Surface H2O Filtered	MTD-SW-02
C10601-3	04/12/10	14:15 NCJP	AQ	04/13/10	Surface Water	MTD-SW-03
C10601-3F	04/12/10	14:15 NCJP	AQ	04/13/10	Surface H2O Filtered	MTD-SW-03
C10601-4	04/12/10	14:35 NCJP	AQ	04/13/10	Surface Water	MTD-SW-04
C10601-4F	04/12/10	14:35 NCJP	AQ	04/13/10	Surface H2O Filtered	MTD-SW-04
C10601-5	04/12/10	15:10 NCJP	AQ	04/13/10	Surface Water	MTD-SW-05
C10601-5F	04/12/10	15:10 NCJP	AQ	04/13/10	Surface H2O Filtered	MTD-SW-05
C10601-6	04/12/10	13:35 NCJP	AQ	04/13/10	Surface Water	MTD-SW-06
C10601-6F	04/12/10	13:35 NCJP	AQ	04/13/10	Surface H2O Filtered	MTD-SW-06
C10601-7	04/12/10	15:30 NCJP	AQ	04/13/10	Surface Water	MTD-SW-07



Sample Summary

(continued)

The Source Group

Job No: C10601

Mt. Diablo- Marsh Creek Road
 Project No: 01-SUN-050

Sample Number	Collected		Received	Matrix		Client Sample ID
	Date	Time By		Code	Type	
C10601-7F	04/12/10	15:30 NCJP	04/13/10	AQ	Surface H2O Filtered	MTD-SW-07
C10601-8	04/12/10	14:45 NCJP	04/13/10	AQ	Surface Water	MTD-SW-08
C10601-8F	04/12/10	14:45 NCJP	04/13/10	AQ	Surface H2O Filtered	MTD-SW-08
C10601-9	04/12/10	15:00 NCJP	04/13/10	AQ	Surface Water	MTD-SW-09
C10601-9F	04/12/10	15:00 NCJP	04/13/10	AQ	Surface H2O Filtered	MTD-SW-09
C10601-10	04/12/10	15:20 NCJP	04/13/10	AQ	Surface Water	MTD-SW-10
C10601-10F	04/12/10	15:20 NCJP	04/13/10	AQ	Surface H2O Filtered	MTD-SW-10



Sample Results

Report of Analysis

Report of Analysis

Client Sample ID: MTD-SW-01	Date Sampled: 04/12/10
Lab Sample ID: C10601-1	Date Received: 04/13/10
Matrix: AQ - Surface Water	Percent Solids: n/a
Project: Mt. Diablo- Marsh Creek Road	

Total Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed By	Method	Prep Method
Antimony	10.1	10	ug/l	1	04/21/10	04/26/10	CT SW846 6010B ²	SW3010A ⁴
Arsenic	< 10	10	ug/l	1	04/21/10	04/26/10	CT SW846 6010B ²	SW3010A ⁴
Beryllium	< 5.0	5.0	ug/l	1	04/21/10	04/26/10	CT SW846 6010B ²	SW3010A ⁴
Boron	72.0	50	ug/l	1	04/21/10	04/26/10	CT SW846 6010B ²	SW3010A ⁴
Cadmium	< 2.0	2.0	ug/l	1	04/21/10	04/26/10	CT SW846 6010B ²	SW3010A ⁴
Calcium	18700	50	ug/l	1	04/21/10	04/26/10	CT SW846 6010B ²	SW3010A ⁴
Chromium	12.1	5.0	ug/l	1	04/21/10	04/26/10	CT SW846 6010B ²	SW3010A ⁴
Copper	12.0	5.0	ug/l	1	04/21/10	04/26/10	CT SW846 6010B ²	SW3010A ⁴
Iron	2140	50	ug/l	1	04/21/10	04/26/10	CT SW846 6010B ²	SW3010A ⁴
Lead	< 5.0	5.0	ug/l	1	04/21/10	04/26/10	CT SW846 6010B ²	SW3010A ⁴
Magnesium	13700	50	ug/l	1	04/21/10	04/26/10	CT SW846 6010B ²	SW3010A ⁴
Manganese	584	5.0	ug/l	1	04/21/10	04/26/10	CT SW846 6010B ²	SW3010A ⁴
Mercury	2.2	0.20	ug/l	1	04/14/10	04/14/10	RW EPA 245.1 ¹	EPA 245.1/SW7470A ³
Nickel	1320	5.0	ug/l	1	04/21/10	04/26/10	CT SW846 6010B ²	SW3010A ⁴
Potassium	1850	500	ug/l	1	04/21/10	04/26/10	CT SW846 6010B ²	SW3010A ⁴
Selenium	< 20	20	ug/l	1	04/21/10	04/26/10	CT SW846 6010B ²	SW3010A ⁴
Silicon	4120	50	ug/l	1	04/21/10	04/26/10	CT SW846 6010B ²	SW3010A ⁴
Silver	< 5.0	5.0	ug/l	1	04/21/10	04/26/10	CT SW846 6010B ²	SW3010A ⁴
Sodium	1670	100	ug/l	1	04/21/10	04/26/10	CT SW846 6010B ²	SW3010A ⁴
Thallium	< 20	20	ug/l	1	04/21/10	04/26/10	CT SW846 6010B ²	SW3010A ⁴
Zinc	28.2	10	ug/l	1	04/21/10	04/26/10	CT SW846 6010B ²	SW3010A ⁴

- (1) Instrument QC Batch: MA1166
- (2) Instrument QC Batch: MA1183
- (3) Prep QC Batch: MP2279
- (4) Prep QC Batch: MP2300

RL = Reporting Limit

Report of Analysis

Client Sample ID: MTD-SW-01	Date Sampled: 04/12/10
Lab Sample ID: C10601-1	Date Received: 04/13/10
Matrix: AQ - Surface Water	Percent Solids: n/a
Project: Mt. Diablo- Marsh Creek Road	

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Alkalinity, Bicarbonate	< 5.0	5.0	mg/l	1	04/26/10	PH	SM18 4500CO2D
Alkalinity, Carbonate	< 5.0	5.0	mg/l	1	04/26/10	PH	SM18 4500CO2D
Alkalinity, Total as CaCO ₃	< 5.0	5.0	mg/l	1	04/26/10	PH	SM18 2320B
Bromide	< 0.20	0.20	mg/l	1	04/13/10 20:03	HD	EPA 300/SW846 9056A
Chloride	1.1	0.50	mg/l	1	04/13/10 20:03	HD	EPA 300/SW846 9056A
Dissolved Organic Carbon	2.4	1.0	mg/l	1	04/15/10	MF	SM18 5310C
Fluoride	< 0.10	0.10	mg/l	1	04/13/10 20:03	HD	EPA 300/SW846 9056A
Hardness, Total as CaCO ₃ ^a	103	0.33	mg/l	1	04/26/10 15:58	CT	SW846 6010B/SM 2340B
Nitrogen, Nitrate	< 0.10	0.10	mg/l	1	04/13/10 20:03	HD	EPA 300/SW846 9056A
Silica, Dissolved ^b	8.8	0.11	mg/l	1	04/26/10 15:58	CT	SW846 6010B
Solids, Total Dissolved	224	10	mg/l	1	04/15/10	MF	SM18 2540C
Specific Conductivity	341	1.0	umhos/cm	1	04/14/10	MF	SM18 2510B/EPA 120.1
Sulfate	191	5.0	mg/l	10	04/15/10 20:22	HD	EPA 300/SW846 9056A
Turbidity	13.0	0.50	NTU	1	04/13/10 13:18	PH	SM18 2130B
pH ^c	3.95		su	1	04/13/10 11:40	PH	SM18 4500H+ B

(a) Calculated as: (Calcium * 2.497) + (Magnesium * 4.118)

(b) Calculated as: (Silicon * 2.139)

(c) pH was analyzed past the 15min hold time.

RL = Reporting Limit

Report of Analysis

Client Sample ID: MTD-SW-01	Date Sampled: 04/12/10
Lab Sample ID: C10601-1F	Date Received: 04/13/10
Matrix: AQ - Surface H2O Filtered	Percent Solids: n/a
Project: Mt. Diablo- Marsh Creek Road	

Dissolved Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed By	Method	Prep Method
Mercury	< 0.20	0.20	ug/l	1	04/20/10	04/21/10 RW	EPA 245.1 ¹	EPA 245.1/SW7470A ²

(1) Instrument QC Batch: MA1177

(2) Prep QC Batch: MP2298

RL = Reporting Limit

Report of Analysis

Client Sample ID: MTD-SW-02	Date Sampled: 04/12/10
Lab Sample ID: C10601-2	Date Received: 04/13/10
Matrix: AQ - Surface Water	Percent Solids: n/a
Project: Mt. Diablo- Marsh Creek Road	

Total Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed By	Method	Prep Method
Antimony	19.3	10	ug/l	1	04/21/10	04/26/10 CT	SW846 6010B ²	SW3010A ⁴
Arsenic	119	10	ug/l	1	04/21/10	04/26/10 CT	SW846 6010B ²	SW3010A ⁴
Beryllium	< 5.0	5.0	ug/l	1	04/21/10	04/26/10 CT	SW846 6010B ²	SW3010A ⁴
Boron	13900	50	ug/l	1	04/21/10	04/26/10 CT	SW846 6010B ²	SW3010A ⁴
Cadmium	< 2.0	2.0	ug/l	1	04/21/10	04/26/10 CT	SW846 6010B ²	SW3010A ⁴
Calcium	130000	50	ug/l	1	04/21/10	04/26/10 CT	SW846 6010B ²	SW3010A ⁴
Chromium	770	5.0	ug/l	1	04/21/10	04/26/10 CT	SW846 6010B ²	SW3010A ⁴
Copper	235	5.0	ug/l	1	04/21/10	04/26/10 CT	SW846 6010B ²	SW3010A ⁴
Iron	392000	50	ug/l	1	04/21/10	04/26/10 CT	SW846 6010B ²	SW3010A ⁴
Lead ^a	< 10	10	ug/l	2	04/21/10	04/26/10 CT	SW846 6010B ²	SW3010A ⁴
Magnesium	205000	50	ug/l	1	04/21/10	04/26/10 CT	SW846 6010B ²	SW3010A ⁴
Manganese	5720	5.0	ug/l	1	04/21/10	04/26/10 CT	SW846 6010B ²	SW3010A ⁴
Mercury	179	5.0	ug/l	25	04/14/10	04/14/10 RW	EPA 245.1 ¹	EPA 245.1/SW7470A ³
Nickel	23900	5.0	ug/l	1	04/21/10	04/26/10 CT	SW846 6010B ²	SW3010A ⁴
Potassium	8680	500	ug/l	1	04/21/10	04/26/10 CT	SW846 6010B ²	SW3010A ⁴
Selenium	< 20	20	ug/l	1	04/21/10	04/26/10 CT	SW846 6010B ²	SW3010A ⁴
Silicon	29900	50	ug/l	1	04/21/10	04/26/10 CT	SW846 6010B ²	SW3010A ⁴
Silver	< 5.0	5.0	ug/l	1	04/21/10	04/26/10 CT	SW846 6010B ²	SW3010A ⁴
Sodium	186000	100	ug/l	1	04/21/10	04/26/10 CT	SW846 6010B ²	SW3010A ⁴
Thallium	< 20	20	ug/l	1	04/21/10	04/26/10 CT	SW846 6010B ²	SW3010A ⁴
Zinc	646	10	ug/l	1	04/21/10	04/26/10 CT	SW846 6010B ²	SW3010A ⁴

- (1) Instrument QC Batch: MA1166
- (2) Instrument QC Batch: MA1183
- (3) Prep QC Batch: MP2279
- (4) Prep QC Batch: MP2300

(a) Elevated reporting limit(s) due to matrix interference.

RL = Reporting Limit

Report of Analysis

Client Sample ID: MTD-SW-02	Date Sampled: 04/12/10
Lab Sample ID: C10601-2	Date Received: 04/13/10
Matrix: AQ - Surface Water	Percent Solids: n/a
Project: Mt. Diablo- Marsh Creek Road	

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Alkalinity, Bicarbonate	< 5.0	5.0	mg/l	1	04/26/10	PH	SM18 4500CO2D
Alkalinity, Carbonate	< 5.0	5.0	mg/l	1	04/26/10	PH	SM18 4500CO2D
Alkalinity, Total as CaCO ₃	< 5.0	5.0	mg/l	1	04/26/10	PH	SM18 2320B
Bromide	0.54	0.20	mg/l	1	04/13/10 20:21	HD	EPA 300/SW846 9056A
Chloride	163	25	mg/l	50	04/15/10 20:39	HD	EPA 300/SW846 9056A
Dissolved Organic Carbon	4.9	1.0	mg/l	1	04/15/10	MF	SM18 5310C
Fluoride	0.39	0.10	mg/l	1	04/13/10 20:21	HD	EPA 300/SW846 9056A
Hardness, Total as CaCO ₃ ^a	1170	0.33	mg/l	1	04/26/10 16:03	CT	SW846 6010B/SM 2340B
Nitrogen, Nitrate	1.6	0.10	mg/l	1	04/13/10 20:21	HD	EPA 300/SW846 9056A
Silica, Dissolved ^b	64.0	0.11	mg/l	1	04/26/10 16:03	CT	SW846 6010B
Solids, Total Dissolved	4450	10	mg/l	1	04/15/10	MF	SM18 2540C
Specific Conductivity	5160	1.0	umhos/cm	1	04/14/10	MF	SM18 2510B/EPA 120.1
Sulfate	4570	250	mg/l	500	04/20/10 17:32	HD	EPA 300/SW846 9056A
Turbidity	7.7	0.50	NTU	1	04/13/10 13:18	PH	SM18 2130B
pH ^c	2.60		su	1	04/13/10 11:43	PH	SM18 4500H+ B

(a) Calculated as: (Calcium * 2.497) + (Magnesium * 4.118)

(b) Calculated as: (Silicon * 2.139)

(c) pH was analyzed past the 15min hold time.

RL = Reporting Limit

Report of Analysis

Client Sample ID: MTD-SW-02	Date Sampled: 04/12/10
Lab Sample ID: C10601-2F	Date Received: 04/13/10
Matrix: AQ - Surface H2O Filtered	Percent Solids: n/a
Project: Mt. Diablo- Marsh Creek Road	

Dissolved Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed By	Method	Prep Method
Mercury	175	5.0	ug/l	25	04/20/10	04/21/10 RW	EPA 245.1 ¹	EPA 245.1/SW7470A ²

(1) Instrument QC Batch: MA1177

(2) Prep QC Batch: MP2298

RL = Reporting Limit

Report of Analysis

Client Sample ID: MTD-SW-03	Date Sampled: 04/12/10
Lab Sample ID: C10601-3	Date Received: 04/13/10
Matrix: AQ - Surface Water	Percent Solids: n/a
Project: Mt. Diablo- Marsh Creek Road	

Total Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed By	Method	Prep Method
Antimony	112	40	ug/l	4	04/21/10	04/26/10 CT	SW846 6010B ³	SW3010A ⁵
Arsenic	530	40	ug/l	4	04/21/10	04/26/10 CT	SW846 6010B ³	SW3010A ⁵
Beryllium	8.3	5.0	ug/l	1	04/21/10	04/22/10 CT	SW846 6010B ²	SW3010A ⁵
Boron	2660	200	ug/l	4	04/21/10	04/26/10 CT	SW846 6010B ³	SW3010A ⁵
Cadmium	< 6.0	6.0	ug/l	3	04/21/10	04/26/10 CT	SW846 6010B ³	SW3010A ⁵
Calcium	124000	200	ug/l	4	04/21/10	04/26/10 CT	SW846 6010B ³	SW3010A ⁵
Chromium	2790	20	ug/l	4	04/21/10	04/26/10 CT	SW846 6010B ³	SW3010A ⁵
Copper	632	20	ug/l	4	04/21/10	04/26/10 CT	SW846 6010B ³	SW3010A ⁵
Iron	1600000	200	ug/l	4	04/21/10	04/26/10 CT	SW846 6010B ³	SW3010A ⁵
Lead	< 20	20	ug/l	4	04/21/10	04/26/10 CT	SW846 6010B ³	SW3010A ⁵
Magnesium	414000	200	ug/l	4	04/21/10	04/26/10 CT	SW846 6010B ³	SW3010A ⁵
Manganese	13000	20	ug/l	4	04/21/10	04/26/10 CT	SW846 6010B ³	SW3010A ⁵
Mercury	73.6	2.0	ug/l	10	04/14/10	04/14/10 RW	EPA 245.1 ¹	EPA 245.1/SW7470A ⁴
Nickel	73400	20	ug/l	4	04/21/10	04/26/10 CT	SW846 6010B ³	SW3010A ⁵
Potassium	2730	2000	ug/l	4	04/21/10	04/26/10 CT	SW846 6010B ³	SW3010A ⁵
Selenium	< 60	60	ug/l	3	04/21/10	04/26/10 CT	SW846 6010B ³	SW3010A ⁵
Silicon	37300	200	ug/l	4	04/21/10	04/26/10 CT	SW846 6010B ³	SW3010A ⁵
Silver	< 15	15	ug/l	3	04/21/10	04/26/10 CT	SW846 6010B ³	SW3010A ⁵
Sodium	34600	400	ug/l	4	04/21/10	04/26/10 CT	SW846 6010B ³	SW3010A ⁵
Thallium	< 60	60	ug/l	3	04/21/10	04/26/10 CT	SW846 6010B ³	SW3010A ⁵
Zinc	2160	40	ug/l	4	04/21/10	04/26/10 CT	SW846 6010B ³	SW3010A ⁵

(1) Instrument QC Batch: MA1166

(2) Instrument QC Batch: MA1179

(3) Instrument QC Batch: MA1183

(4) Prep QC Batch: MP2279

(5) Prep QC Batch: MP2300

RL = Reporting Limit

Report of Analysis

Client Sample ID: MTD-SW-03	Date Sampled: 04/12/10
Lab Sample ID: C10601-3	Date Received: 04/13/10
Matrix: AQ - Surface Water	Percent Solids: n/a
Project: Mt. Diablo- Marsh Creek Road	

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Alkalinity, Bicarbonate	< 5.0	5.0	mg/l	1	04/26/10	PH	SM18 4500CO2D
Alkalinity, Carbonate	< 5.0	5.0	mg/l	1	04/26/10	PH	SM18 4500CO2D
Alkalinity, Total as CaCO ₃	< 5.0	5.0	mg/l	1	04/26/10	PH	SM18 2320B
Bromide ^a	< 0.40	0.40	mg/l	2	04/14/10 10:38	HD	EPA 300/SW846 9056A
Chloride	53.5	2.5	mg/l	5	04/15/10 21:14	HD	EPA 300/SW846 9056A
Dissolved Organic Carbon	7.6	1.0	mg/l	1	04/15/10	MF	SM18 5310C
Fluoride ^a	1.2	0.20	mg/l	2	04/14/10 10:38	HD	EPA 300/SW846 9056A
Hardness, Total as CaCO ₃ ^b	2010	1.3	mg/l	1	04/26/10 16:14	CT	SW846 6010B/SM 2340B
Nitrogen, Nitrate ^a	< 0.20	0.20	mg/l	2	04/14/10 10:38	HD	EPA 300/SW846 9056A
Silica, Dissolved ^c	79.8	0.43	mg/l	1	04/26/10 16:14	CT	SW846 6010B
Solids, Total Dissolved	16000	10	mg/l	1	04/15/10	MF	SM18 2540C
Specific Conductivity	9710	1.0	umhos/cm	1	04/14/10	MF	SM18 2510B/EPA 120.1
Sulfate	13400	500	mg/l	1000	04/20/10 17:49	HD	EPA 300/SW846 9056A
Turbidity	84.0	2.5	NTU	5	04/13/10 13:18	PH	SM18 2130B
pH ^d	2.23		su	1	04/13/10 11:44	PH	SM18 4500H+ B

(a) Elevated detection limit due to matrix interference.

(b) Calculated as: (Calcium * 2.497) + (Magnesium * 4.118)

(c) Calculated as: (Silicon * 2.139)

(d) pH was analyzed past the 15min hold time.

RL = Reporting Limit

Report of Analysis

Client Sample ID: MTD-SW-03	Date Sampled: 04/12/10
Lab Sample ID: C10601-3F	Date Received: 04/13/10
Matrix: AQ - Surface H2O Filtered	Percent Solids: n/a
Project: Mt. Diablo- Marsh Creek Road	

Dissolved Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed By	Method	Prep Method
Mercury	34.7	2.0	ug/l	10	04/20/10	04/21/10 RW	EPA 245.1 ¹	EPA 245.1/SW7470A ²

(1) Instrument QC Batch: MA1177

(2) Prep QC Batch: MP2298

RL = Reporting Limit

Report of Analysis

Client Sample ID: MTD-SW-04	Date Sampled: 04/12/10
Lab Sample ID: C10601-4	Date Received: 04/13/10
Matrix: AQ - Surface Water	Percent Solids: n/a
Project: Mt. Diablo- Marsh Creek Road	

Total Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed By	Method	Prep Method
Antimony	< 10	10	ug/l	1	04/21/10	04/26/10 CT	SW846 6010B ²	SW3010A ⁴
Arsenic	< 10	10	ug/l	1	04/21/10	04/26/10 CT	SW846 6010B ²	SW3010A ⁴
Beryllium	< 5.0	5.0	ug/l	1	04/21/10	04/26/10 CT	SW846 6010B ²	SW3010A ⁴
Boron	2680	50	ug/l	1	04/21/10	04/26/10 CT	SW846 6010B ²	SW3010A ⁴
Cadmium	< 2.0	2.0	ug/l	1	04/21/10	04/26/10 CT	SW846 6010B ²	SW3010A ⁴
Calcium	23600	50	ug/l	1	04/21/10	04/26/10 CT	SW846 6010B ²	SW3010A ⁴
Chromium	18.4	5.0	ug/l	1	04/21/10	04/26/10 CT	SW846 6010B ²	SW3010A ⁴
Copper	6.9	5.0	ug/l	1	04/21/10	04/26/10 CT	SW846 6010B ²	SW3010A ⁴
Iron	6840	50	ug/l	1	04/21/10	04/26/10 CT	SW846 6010B ²	SW3010A ⁴
Lead	< 5.0	5.0	ug/l	1	04/21/10	04/26/10 CT	SW846 6010B ²	SW3010A ⁴
Magnesium	21700	50	ug/l	1	04/21/10	04/26/10 CT	SW846 6010B ²	SW3010A ⁴
Manganese	79.6	5.0	ug/l	1	04/21/10	04/26/10 CT	SW846 6010B ²	SW3010A ⁴
Mercury	0.45	0.20	ug/l	1	04/14/10	04/14/10 RW	EPA 245.1 ¹	EPA 245.1/SW7470A ³
Nickel	165	5.0	ug/l	1	04/21/10	04/26/10 CT	SW846 6010B ²	SW3010A ⁴
Potassium	4120	500	ug/l	1	04/21/10	04/26/10 CT	SW846 6010B ²	SW3010A ⁴
Selenium	< 20	20	ug/l	1	04/21/10	04/26/10 CT	SW846 6010B ²	SW3010A ⁴
Silicon	11600	50	ug/l	1	04/21/10	04/26/10 CT	SW846 6010B ²	SW3010A ⁴
Silver	< 5.0	5.0	ug/l	1	04/21/10	04/26/10 CT	SW846 6010B ²	SW3010A ⁴
Sodium	37600	100	ug/l	1	04/21/10	04/26/10 CT	SW846 6010B ²	SW3010A ⁴
Thallium	< 20	20	ug/l	1	04/21/10	04/26/10 CT	SW846 6010B ²	SW3010A ⁴
Zinc	< 10	10	ug/l	1	04/21/10	04/26/10 CT	SW846 6010B ²	SW3010A ⁴

- (1) Instrument QC Batch: MA1166
- (2) Instrument QC Batch: MA1183
- (3) Prep QC Batch: MP2279
- (4) Prep QC Batch: MP2300

RL = Reporting Limit

Report of Analysis

Client Sample ID: MTD-SW-04	Date Sampled: 04/12/10
Lab Sample ID: C10601-4	Date Received: 04/13/10
Matrix: AQ - Surface Water	Percent Solids: n/a
Project: Mt. Diablo- Marsh Creek Road	

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Alkalinity, Bicarbonate	111	5.0	mg/l	1	04/26/10	PH	SM18 4500CO2D
Alkalinity, Carbonate	< 5.0	5.0	mg/l	1	04/26/10	PH	SM18 4500CO2D
Alkalinity, Total as CaCO ₃	111	5.0	mg/l	1	04/26/10	PH	SM18 2320B
Bromide	< 0.20	0.20	mg/l	1	04/13/10 20:56	HD	EPA 300/SW846 9056A
Chloride	35.3	2.5	mg/l	5	04/15/10 21:49	HD	EPA 300/SW846 9056A
Dissolved Organic Carbon	8.3	1.0	mg/l	1	04/15/10	MF	SM18 5310C
Fluoride	< 0.10	0.10	mg/l	1	04/13/10 20:56	HD	EPA 300/SW846 9056A
Hardness, Total as CaCO ₃ ^a	148	0.33	mg/l	1	04/26/10 16:20	CT	SW846 6010B/SM 2340B
Nitrogen, Nitrate	0.56	0.10	mg/l	1	04/13/10 20:56	HD	EPA 300/SW846 9056A
Silica, Dissolved ^b	24.8	0.11	mg/l	1	04/26/10 16:20	CT	SW846 6010B
Solids, Total Dissolved	291	10	mg/l	1	04/15/10	MF	SM18 2540C
Specific Conductivity	468	1.0	umhos/cm	1	04/14/10	MF	SM18 2510B/EPA 120.1
Sulfate	68.3	2.5	mg/l	5	04/15/10 21:49	HD	EPA 300/SW846 9056A
Turbidity	48.8	1.0	NTU	2	04/13/10 13:18	PH	SM18 2130B
pH ^c	7.69		su	1	04/13/10 11:46	PH	SM18 4500H+ B

(a) Calculated as: (Calcium * 2.497) + (Magnesium * 4.118)

(b) Calculated as: (Silicon * 2.139)

(c) pH was analyzed past the 15min hold time.

RL = Reporting Limit

Report of Analysis

Client Sample ID: MTD-SW-04	Date Sampled: 04/12/10
Lab Sample ID: C10601-4F	Date Received: 04/13/10
Matrix: AQ - Surface H2O Filtered	Percent Solids: n/a
Project: Mt. Diablo- Marsh Creek Road	

Dissolved Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed By	Method	Prep Method
Mercury	0.33	0.20	ug/l	1	04/20/10	04/21/10 RW	EPA 245.1 ¹	EPA 245.1/SW7470A ²

(1) Instrument QC Batch: MA1177

(2) Prep QC Batch: MP2298

RL = Reporting Limit

Report of Analysis

Client Sample ID: MTD-SW-05	Date Sampled: 04/12/10
Lab Sample ID: C10601-5	Date Received: 04/13/10
Matrix: AQ - Surface Water	Percent Solids: n/a
Project: Mt. Diablo- Marsh Creek Road	

Total Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed By	Method	Prep Method
Antimony	< 10	10	ug/l	1	04/21/10	04/22/10	CT SW846 6010B ²	SW3010A ⁵
Arsenic ^a	< 50	50	ug/l	5	04/21/10	04/26/10	CT SW846 6010B ³	SW3010A ⁵
Beryllium	< 5.0	5.0	ug/l	1	04/21/10	04/22/10	CT SW846 6010B ²	SW3010A ⁵
Boron	98700	250	ug/l	5	04/21/10	04/26/10	CT SW846 6010B ³	SW3010A ⁵
Cadmium	< 2.0	2.0	ug/l	1	04/21/10	04/22/10	CT SW846 6010B ²	SW3010A ⁵
Calcium	449000	250	ug/l	5	04/21/10	04/26/10	CT SW846 6010B ³	SW3010A ⁵
Chromium	11.2	5.0	ug/l	1	04/21/10	04/22/10	CT SW846 6010B ²	SW3010A ⁵
Copper	21.6	5.0	ug/l	1	04/21/10	04/22/10	CT SW846 6010B ²	SW3010A ⁵
Iron	18300	250	ug/l	5	04/21/10	04/26/10	CT SW846 6010B ³	SW3010A ⁵
Lead	< 25	25	ug/l	5	04/21/10	04/26/10	CT SW846 6010B ³	SW3010A ⁵
Magnesium	400000	250	ug/l	5	04/21/10	04/26/10	CT SW846 6010B ³	SW3010A ⁵
Manganese	6350	25	ug/l	5	04/21/10	04/26/10	CT SW846 6010B ³	SW3010A ⁵
Mercury	7.9	0.20	ug/l	1	04/14/10	04/14/10	RW EPA 245.1 ¹	EPA 245.1/SW7470A ⁴
Nickel	8760	25	ug/l	5	04/21/10	04/26/10	CT SW846 6010B ³	SW3010A ⁵
Potassium	43500	2500	ug/l	5	04/21/10	04/26/10	CT SW846 6010B ³	SW3010A ⁵
Selenium	< 20	20	ug/l	1	04/21/10	04/22/10	CT SW846 6010B ²	SW3010A ⁵
Silicon	11800	250	ug/l	5	04/21/10	04/26/10	CT SW846 6010B ³	SW3010A ⁵
Silver	< 5.0	5.0	ug/l	1	04/21/10	04/22/10	CT SW846 6010B ²	SW3010A ⁵
Sodium	1190000	500	ug/l	5	04/21/10	04/26/10	CT SW846 6010B ³	SW3010A ⁵
Thallium	< 20	20	ug/l	1	04/21/10	04/22/10	CT SW846 6010B ²	SW3010A ⁵
Zinc	205	50	ug/l	5	04/21/10	04/26/10	CT SW846 6010B ³	SW3010A ⁵

(1) Instrument QC Batch: MA1166

(2) Instrument QC Batch: MA1179

(3) Instrument QC Batch: MA1183

(4) Prep QC Batch: MP2279

(5) Prep QC Batch: MP2300

(a) Elevated detection limit due to dilution required for high interfering element.

RL = Reporting Limit

Report of Analysis

Client Sample ID: MTD-SW-05	Date Sampled: 04/12/10
Lab Sample ID: C10601-5	Date Received: 04/13/10
Matrix: AQ - Surface Water	Percent Solids: n/a
Project: Mt. Diablo- Marsh Creek Road	

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Alkalinity, Bicarbonate	127	5.0	mg/l	1	04/26/10	PH	SM18 4500CO2D
Alkalinity, Carbonate	< 5.0	5.0	mg/l	1	04/26/10	PH	SM18 4500CO2D
Alkalinity, Total as CaCO ₃	127	5.0	mg/l	1	04/26/10	PH	SM18 2320B
Bromide	5.7	0.20	mg/l	1	04/13/10 21:13	HD	EPA 300/SW846 9056A
Chloride	1490	250	mg/l	500	04/15/10 23:17	HD	EPA 300/SW846 9056A
Dissolved Organic Carbon	2.8	1.0	mg/l	1	04/15/10	MF	SM18 5310C
Fluoride ^a	< 0.50	0.50	mg/l	5	04/15/10 23:34	HD	EPA 300/SW846 9056A
Hardness, Total as CaCO ₃ ^b	2770	1.7	mg/l	1	04/26/10 17:03	CT	SW846 6010B/SM 2340B
Nitrogen, Nitrate	4.2	0.10	mg/l	1	04/13/10 21:13	HD	EPA 300/SW846 9056A
Silica, Dissolved ^c	25.2	0.53	mg/l	1	04/26/10 17:03	CT	SW846 6010B
Solids, Total Dissolved	6790	10	mg/l	1	04/15/10	MF	SM18 2540C
Specific Conductivity	9220	1.0	umhos/cm	1	04/14/10	MF	SM18 2510B/EPA 120.1
Sulfate	3040	250	mg/l	500	04/15/10 23:17	HD	EPA 300/SW846 9056A
Turbidity	127	2.5	NTU	5	04/13/10 13:18	PH	SM18 2130B
pH ^d	7.16		su	1	04/13/10 11:51	PH	SM18 4500H+ B

(a) Elevated detection limit due to high concentration of Chloride.

(b) Calculated as: (Calcium * 2.497) + (Magnesium * 4.118)

(c) Calculated as: (Silicon * 2.139)

(d) pH was analyzed past the 15min hold time.

RL = Reporting Limit

Report of Analysis

Client Sample ID: MTD-SW-05	Date Sampled: 04/12/10
Lab Sample ID: C10601-5F	Date Received: 04/13/10
Matrix: AQ - Surface H2O Filtered	Percent Solids: n/a
Project: Mt. Diablo- Marsh Creek Road	

Dissolved Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed By	Method	Prep Method
Mercury	9.4	0.20	ug/l	1	04/20/10	04/21/10 RW	EPA 245.1 ¹	EPA 245.1/SW7470A ²

(1) Instrument QC Batch: MA1177

(2) Prep QC Batch: MP2298

RL = Reporting Limit

Report of Analysis

Client Sample ID: MTD-SW-06	Date Sampled: 04/12/10
Lab Sample ID: C10601-6	Date Received: 04/13/10
Matrix: AQ - Surface Water	Percent Solids: n/a
Project: Mt. Diablo- Marsh Creek Road	

Total Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed By	Method	Prep Method
Antimony	61.5	10	ug/l	1	04/21/10	04/26/10 CT	SW846 6010B ²	SW3010A ⁴
Arsenic	53.2	10	ug/l	1	04/21/10	04/26/10 CT	SW846 6010B ²	SW3010A ⁴
Beryllium	< 5.0	5.0	ug/l	1	04/21/10	04/26/10 CT	SW846 6010B ²	SW3010A ⁴
Boron	712	50	ug/l	1	04/21/10	04/26/10 CT	SW846 6010B ²	SW3010A ⁴
Cadmium	< 2.0	2.0	ug/l	1	04/21/10	04/26/10 CT	SW846 6010B ²	SW3010A ⁴
Calcium	18800	50	ug/l	1	04/21/10	04/26/10 CT	SW846 6010B ²	SW3010A ⁴
Chromium	52.5	5.0	ug/l	1	04/21/10	04/26/10 CT	SW846 6010B ²	SW3010A ⁴
Copper	33.0	5.0	ug/l	1	04/21/10	04/26/10 CT	SW846 6010B ²	SW3010A ⁴
Iron	22800	50	ug/l	1	04/21/10	04/26/10 CT	SW846 6010B ²	SW3010A ⁴
Lead	6.8	5.0	ug/l	1	04/21/10	04/26/10 CT	SW846 6010B ²	SW3010A ⁴
Magnesium	25300	50	ug/l	1	04/21/10	04/26/10 CT	SW846 6010B ²	SW3010A ⁴
Manganese	648	5.0	ug/l	1	04/21/10	04/26/10 CT	SW846 6010B ²	SW3010A ⁴
Mercury	31.9	1.2	ug/l	6	04/14/10	04/14/10 RW	EPA 245.1 ¹	EPA 245.1/SW7470A ³
Nickel	1590	5.0	ug/l	1	04/21/10	04/26/10 CT	SW846 6010B ²	SW3010A ⁴
Potassium	4890	500	ug/l	1	04/21/10	04/26/10 CT	SW846 6010B ²	SW3010A ⁴
Selenium	< 20	20	ug/l	1	04/21/10	04/26/10 CT	SW846 6010B ²	SW3010A ⁴
Silicon	24300	50	ug/l	1	04/21/10	04/26/10 CT	SW846 6010B ²	SW3010A ⁴
Silver	< 5.0	5.0	ug/l	1	04/21/10	04/26/10 CT	SW846 6010B ²	SW3010A ⁴
Sodium	11400	100	ug/l	1	04/21/10	04/26/10 CT	SW846 6010B ²	SW3010A ⁴
Thallium	< 20	20	ug/l	1	04/21/10	04/26/10 CT	SW846 6010B ²	SW3010A ⁴
Zinc	78.1	10	ug/l	1	04/21/10	04/26/10 CT	SW846 6010B ²	SW3010A ⁴

- (1) Instrument QC Batch: MA1166
- (2) Instrument QC Batch: MA1183
- (3) Prep QC Batch: MP2279
- (4) Prep QC Batch: MP2300

RL = Reporting Limit

Report of Analysis

Client Sample ID: MTD-SW-06	Date Sampled: 04/12/10
Lab Sample ID: C10601-6	Date Received: 04/13/10
Matrix: AQ - Surface Water	Percent Solids: n/a
Project: Mt. Diablo- Marsh Creek Road	

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Alkalinity, Bicarbonate	< 5.0	5.0	mg/l	1	04/26/10	PH	SM18 4500CO2D
Alkalinity, Carbonate	< 5.0	5.0	mg/l	1	04/26/10	PH	SM18 4500CO2D
Alkalinity, Total as CaCO ₃	< 5.0	5.0	mg/l	1	04/26/10	PH	SM18 2320B
Bromide	< 0.20	0.20	mg/l	1	04/13/10 21:31	HD	EPA 300/SW846 9056A
Chloride	8.8	1.3	mg/l	2.5	04/15/10 23:52	HD	EPA 300/SW846 9056A
Dissolved Organic Carbon	4.5	1.0	mg/l	1	04/15/10	MF	SM18 5310C
Fluoride	< 0.10	0.10	mg/l	1	04/13/10 21:31	HD	EPA 300/SW846 9056A
Hardness, Total as CaCO ₃ ^a	151	0.33	mg/l	1	04/26/10 16:25	CT	SW846 6010B/SM 2340B
Nitrogen, Nitrate	0.48	0.10	mg/l	1	04/13/10 21:31	HD	EPA 300/SW846 9056A
Silica, Dissolved ^b	52.0	0.11	mg/l	1	04/26/10 16:25	CT	SW846 6010B
Solids, Total Dissolved	242	10	mg/l	1	04/15/10	MF	SM18 2540C
Specific Conductivity	346	1.0	umhos/cm	1	04/14/10	MF	SM18 2510B/EPA 120.1
Sulfate	134	5.0	mg/l	10	04/16/10 00:09	HD	EPA 300/SW846 9056A
Turbidity	180	2.5	NTU	5	04/13/10 13:18	PH	SM18 2130B
pH ^c	6.08		su	1	04/13/10 11:55	PH	SM18 4500H+ B

(a) Calculated as: (Calcium * 2.497) + (Magnesium * 4.118)

(b) Calculated as: (Silicon * 2.139)

(c) pH was analyzed past the 15min hold time.

RL = Reporting Limit

Report of Analysis

Client Sample ID: MTD-SW-06	Date Sampled: 04/12/10
Lab Sample ID: C10601-6F	Date Received: 04/13/10
Matrix: AQ - Surface H2O Filtered	Percent Solids: n/a
Project: Mt. Diablo- Marsh Creek Road	

Dissolved Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed By	Method	Prep Method
Mercury	0.30	0.20	ug/l	1	04/20/10	04/21/10 RW	EPA 245.1 ¹	EPA 245.1/SW7470A ²

(1) Instrument QC Batch: MA1177

(2) Prep QC Batch: MP2298

RL = Reporting Limit

Report of Analysis

Client Sample ID: MTD-SW-07	Date Sampled: 04/12/10
Lab Sample ID: C10601-7	Date Received: 04/13/10
Matrix: AQ - Surface Water	Percent Solids: n/a
Project: Mt. Diablo- Marsh Creek Road	

Total Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed By	Method	Prep Method
Antimony	< 10	10	ug/l	1	04/21/10	04/26/10 CT	SW846 6010B ²	SW3010A ⁴
Arsenic	< 10	10	ug/l	1	04/21/10	04/26/10 CT	SW846 6010B ²	SW3010A ⁴
Beryllium	< 5.0	5.0	ug/l	1	04/21/10	04/26/10 CT	SW846 6010B ²	SW3010A ⁴
Boron	304	50	ug/l	1	04/21/10	04/26/10 CT	SW846 6010B ²	SW3010A ⁴
Cadmium	< 2.0	2.0	ug/l	1	04/21/10	04/26/10 CT	SW846 6010B ²	SW3010A ⁴
Calcium	22100	50	ug/l	1	04/21/10	04/26/10 CT	SW846 6010B ²	SW3010A ⁴
Chromium	21.6	5.0	ug/l	1	04/21/10	04/26/10 CT	SW846 6010B ²	SW3010A ⁴
Copper	22.8	5.0	ug/l	1	04/21/10	04/26/10 CT	SW846 6010B ²	SW3010A ⁴
Iron	13200	50	ug/l	1	04/21/10	04/26/10 CT	SW846 6010B ²	SW3010A ⁴
Lead	< 5.0	5.0	ug/l	1	04/21/10	04/26/10 CT	SW846 6010B ²	SW3010A ⁴
Magnesium	12300	50	ug/l	1	04/21/10	04/26/10 CT	SW846 6010B ²	SW3010A ⁴
Manganese	280	5.0	ug/l	1	04/21/10	04/26/10 CT	SW846 6010B ²	SW3010A ⁴
Mercury	0.74	0.20	ug/l	1	04/14/10	04/14/10 RW	EPA 245.1 ¹	EPA 245.1/SW7470A ³
Nickel	81.8	5.0	ug/l	1	04/21/10	04/26/10 CT	SW846 6010B ²	SW3010A ⁴
Potassium	3720	500	ug/l	1	04/21/10	04/26/10 CT	SW846 6010B ²	SW3010A ⁴
Selenium	< 20	20	ug/l	1	04/21/10	04/26/10 CT	SW846 6010B ²	SW3010A ⁴
Silicon	19900	50	ug/l	1	04/21/10	04/26/10 CT	SW846 6010B ²	SW3010A ⁴
Silver	< 5.0	5.0	ug/l	1	04/21/10	04/26/10 CT	SW846 6010B ²	SW3010A ⁴
Sodium	9320	100	ug/l	1	04/21/10	04/26/10 CT	SW846 6010B ²	SW3010A ⁴
Thallium	< 20	20	ug/l	1	04/21/10	04/26/10 CT	SW846 6010B ²	SW3010A ⁴
Zinc	33.9	10	ug/l	1	04/21/10	04/26/10 CT	SW846 6010B ²	SW3010A ⁴

(1) Instrument QC Batch: MA1166

(2) Instrument QC Batch: MA1183

(3) Prep QC Batch: MP2279

(4) Prep QC Batch: MP2300

RL = Reporting Limit

Report of Analysis

Client Sample ID: MTD-SW-07	Date Sampled: 04/12/10
Lab Sample ID: C10601-7	Date Received: 04/13/10
Matrix: AQ - Surface Water	Percent Solids: n/a
Project: Mt. Diablo- Marsh Creek Road	

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Alkalinity, Bicarbonate	77.4	5.0	mg/l	1	04/26/10	PH	SM18 4500CO2D
Alkalinity, Carbonate	< 5.0	5.0	mg/l	1	04/26/10	PH	SM18 4500CO2D
Alkalinity, Total as CaCO ₃	77.4	5.0	mg/l	1	04/26/10	PH	SM18 2320B
Bromide	< 0.20	0.20	mg/l	1	04/13/10 21:49	HD	EPA 300/SW846 9056A
Chloride	6.5	0.50	mg/l	1	04/13/10 21:49	HD	EPA 300/SW846 9056A
Dissolved Organic Carbon	8.3	1.0	mg/l	1	04/15/10	MF	SM18 5310C
Fluoride	< 0.10	0.10	mg/l	1	04/13/10 21:49	HD	EPA 300/SW846 9056A
Hardness, Total as CaCO ₃ ^a	106	0.33	mg/l	1	04/26/10 16:30	CT	SW846 6010B/SM 2340B
Nitrogen, Nitrate	0.26	0.10	mg/l	1	04/13/10 21:49	HD	EPA 300/SW846 9056A
Silica, Dissolved ^b	42.6	0.11	mg/l	1	04/26/10 16:30	CT	SW846 6010B
Solids, Total Dissolved	210	10	mg/l	1	04/15/10	MF	SM18 2540C
Specific Conductivity	236	1.0	umhos/cm	1	04/14/10	MF	SM18 2510B/EPA 120.1
Sulfate	18.4	1.3	mg/l	2.5	04/16/10 00:27	HD	EPA 300/SW846 9056A
Turbidity	178	2.5	NTU	5	04/13/10 13:18	PH	SM18 2130B
pH ^c	7.79		su	1	04/13/10 12:00	PH	SM18 4500H+ B

(a) Calculated as: (Calcium * 2.497) + (Magnesium * 4.118)

(b) Calculated as: (Silicon * 2.139)

(c) pH was analyzed past the 15min hold time.

RL = Reporting Limit

Report of Analysis

Client Sample ID: MTD-SW-07	Date Sampled: 04/12/10
Lab Sample ID: C10601-7F	Date Received: 04/13/10
Matrix: AQ - Surface H2O Filtered	Percent Solids: n/a
Project: Mt. Diablo- Marsh Creek Road	

Dissolved Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed By	Method	Prep Method
Mercury	0.24	0.20	ug/l	1	04/20/10	04/21/10 RW	EPA 245.1 ¹	EPA 245.1/SW7470A ²

(1) Instrument QC Batch: MA1177

(2) Prep QC Batch: MP2298

RL = Reporting Limit

Report of Analysis

Client Sample ID: MTD-SW-08	Date Sampled: 04/12/10
Lab Sample ID: C10601-8	Date Received: 04/13/10
Matrix: AQ - Surface Water	Percent Solids: n/a
Project: Mt. Diablo- Marsh Creek Road	

Total Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed By	Method	Prep Method
Antimony	< 10	10	ug/l	1	04/21/10	04/26/10 CT	SW846 6010B ²	SW3010A ⁴
Arsenic	< 10	10	ug/l	1	04/21/10	04/26/10 CT	SW846 6010B ²	SW3010A ⁴
Beryllium	< 5.0	5.0	ug/l	1	04/21/10	04/26/10 CT	SW846 6010B ²	SW3010A ⁴
Boron	226	50	ug/l	1	04/21/10	04/26/10 CT	SW846 6010B ²	SW3010A ⁴
Cadmium	< 2.0	2.0	ug/l	1	04/21/10	04/26/10 CT	SW846 6010B ²	SW3010A ⁴
Calcium	21700	50	ug/l	1	04/21/10	04/26/10 CT	SW846 6010B ²	SW3010A ⁴
Chromium	31.0	5.0	ug/l	1	04/21/10	04/26/10 CT	SW846 6010B ²	SW3010A ⁴
Copper	33.6	5.0	ug/l	1	04/21/10	04/26/10 CT	SW846 6010B ²	SW3010A ⁴
Iron	19500	50	ug/l	1	04/21/10	04/26/10 CT	SW846 6010B ²	SW3010A ⁴
Lead	5.8	5.0	ug/l	1	04/21/10	04/26/10 CT	SW846 6010B ²	SW3010A ⁴
Magnesium	12500	50	ug/l	1	04/21/10	04/26/10 CT	SW846 6010B ²	SW3010A ⁴
Manganese	388	5.0	ug/l	1	04/21/10	04/26/10 CT	SW846 6010B ²	SW3010A ⁴
Mercury	0.61	0.20	ug/l	1	04/14/10	04/14/10 RW	EPA 245.1 ¹	EPA 245.1/SW7470A ³
Nickel	44.7	5.0	ug/l	1	04/21/10	04/26/10 CT	SW846 6010B ²	SW3010A ⁴
Potassium	4170	500	ug/l	1	04/21/10	04/26/10 CT	SW846 6010B ²	SW3010A ⁴
Selenium	< 20	20	ug/l	1	04/21/10	04/26/10 CT	SW846 6010B ²	SW3010A ⁴
Silicon	26300	50	ug/l	1	04/21/10	04/26/10 CT	SW846 6010B ²	SW3010A ⁴
Silver	< 5.0	5.0	ug/l	1	04/21/10	04/26/10 CT	SW846 6010B ²	SW3010A ⁴
Sodium	8110	100	ug/l	1	04/21/10	04/26/10 CT	SW846 6010B ²	SW3010A ⁴
Thallium	< 20	20	ug/l	1	04/21/10	04/26/10 CT	SW846 6010B ²	SW3010A ⁴
Zinc	48.7	10	ug/l	1	04/21/10	04/26/10 CT	SW846 6010B ²	SW3010A ⁴

(1) Instrument QC Batch: MA1166

(2) Instrument QC Batch: MA1183

(3) Prep QC Batch: MP2279

(4) Prep QC Batch: MP2300

RL = Reporting Limit

Report of Analysis

Client Sample ID: MTD-SW-08	Date Sampled: 04/12/10
Lab Sample ID: C10601-8	Date Received: 04/13/10
Matrix: AQ - Surface Water	Percent Solids: n/a
Project: Mt. Diablo- Marsh Creek Road	

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Alkalinity, Bicarbonate	83.2	5.0	mg/l	1	04/26/10	PH	SM18 4500CO2D
Alkalinity, Carbonate	< 5.0	5.0	mg/l	1	04/26/10	PH	SM18 4500CO2D
Alkalinity, Total as CaCO ₃	83.2	5.0	mg/l	1	04/26/10	PH	SM18 2320B
Bromide	< 0.20	0.20	mg/l	1	04/13/10 22:41	HD	EPA 300/SW846 9056A
Chloride	4.5	0.50	mg/l	1	04/13/10 22:41	HD	EPA 300/SW846 9056A
Dissolved Organic Carbon	8.9	1.0	mg/l	1	04/15/10	MF	SM18 5310C
Fluoride	< 0.10	0.10	mg/l	1	04/13/10 22:41	HD	EPA 300/SW846 9056A
Hardness, Total as CaCO ₃ ^a	106	0.33	mg/l	1	04/26/10 16:35	CT	SW846 6010B/SM 2340B
Nitrogen, Nitrate	0.18	0.10	mg/l	1	04/13/10 22:41	HD	EPA 300/SW846 9056A
Silica, Dissolved ^b	56.3	0.11	mg/l	1	04/26/10 16:35	CT	SW846 6010B
Solids, Total Dissolved	199	10	mg/l	1	04/15/10	MF	SM18 2540C
Specific Conductivity	212	1.0	umhos/cm	1	04/14/10	MF	SM18 2510B/EPA 120.1
Sulfate	11.9	0.50	mg/l	1	04/13/10 22:41	HD	EPA 300/SW846 9056A
Turbidity	190	5.0	NTU	10	04/13/10 13:18	PH	SM18 2130B
pH ^c	7.73		su	1	04/13/10 12:12	PH	SM18 4500H+ B

(a) Calculated as: (Calcium * 2.497) + (Magnesium * 4.118)

(b) Calculated as: (Silicon * 2.139)

(c) pH was analyzed past the 15min hold time.

RL = Reporting Limit

Report of Analysis

Client Sample ID: MTD-SW-08	Date Sampled: 04/12/10
Lab Sample ID: C10601-8F	Date Received: 04/13/10
Matrix: AQ - Surface H2O Filtered	Percent Solids: n/a
Project: Mt. Diablo- Marsh Creek Road	

Dissolved Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed By	Method	Prep Method
Mercury	< 0.20	0.20	ug/l	1	04/20/10	04/21/10 RW	EPA 245.1 ¹	EPA 245.1/SW7470A ²

(1) Instrument QC Batch: MA1177

(2) Prep QC Batch: MP2298

RL = Reporting Limit

Report of Analysis

Client Sample ID: MTD-SW-09	Date Sampled: 04/12/10
Lab Sample ID: C10601-9	Date Received: 04/13/10
Matrix: AQ - Surface Water	Percent Solids: n/a
Project: Mt. Diablo- Marsh Creek Road	

Total Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed By	Method	Prep Method
Antimony	< 10	10	ug/l	1	04/21/10	04/22/10 CT	SW846 6010B ²	SW3010A ⁵
Arsenic	< 10	10	ug/l	1	04/21/10	04/22/10 CT	SW846 6010B ²	SW3010A ⁵
Beryllium	< 5.0	5.0	ug/l	1	04/21/10	04/22/10 CT	SW846 6010B ²	SW3010A ⁵
Boron	73500	250	ug/l	5	04/21/10	04/26/10 CT	SW846 6010B ³	SW3010A ⁵
Cadmium	< 2.0	2.0	ug/l	1	04/21/10	04/22/10 CT	SW846 6010B ²	SW3010A ⁵
Calcium	319000	250	ug/l	5	04/21/10	04/26/10 CT	SW846 6010B ³	SW3010A ⁵
Chromium	26.3	5.0	ug/l	1	04/21/10	04/22/10 CT	SW846 6010B ²	SW3010A ⁵
Copper	50.0	5.0	ug/l	1	04/21/10	04/22/10 CT	SW846 6010B ²	SW3010A ⁵
Iron	13400	250	ug/l	5	04/21/10	04/26/10 CT	SW846 6010B ³	SW3010A ⁵
Lead	< 5.0	5.0	ug/l	1	04/21/10	04/22/10 CT	SW846 6010B ²	SW3010A ⁵
Magnesium	374000	250	ug/l	5	04/21/10	04/26/10 CT	SW846 6010B ³	SW3010A ⁵
Manganese	5930	5.0	ug/l	1	04/21/10	04/22/10 CT	SW846 6010B ²	SW3010A ⁵
Mercury	93.6	2.0	ug/l	10	04/14/10	04/14/10 RW	EPA 245.1 ¹	EPA 245.1/SW7470A ⁴
Nickel	11800	5.0	ug/l	1	04/21/10	04/22/10 CT	SW846 6010B ²	SW3010A ⁵
Potassium	36000	500	ug/l	1	04/21/10	04/22/10 CT	SW846 6010B ²	SW3010A ⁵
Selenium	< 20	20	ug/l	1	04/21/10	04/22/10 CT	SW846 6010B ²	SW3010A ⁵
Silicon	13100	250	ug/l	5	04/21/10	04/26/10 CT	SW846 6010B ³	SW3010A ⁵
Silver	< 5.0	5.0	ug/l	1	04/21/10	04/22/10 CT	SW846 6010B ²	SW3010A ⁵
Sodium	969000	500	ug/l	5	04/21/10	04/26/10 CT	SW846 6010B ³	SW3010A ⁵
Thallium	< 20	20	ug/l	1	04/21/10	04/22/10 CT	SW846 6010B ²	SW3010A ⁵
Zinc	335	10	ug/l	1	04/21/10	04/22/10 CT	SW846 6010B ²	SW3010A ⁵

(1) Instrument QC Batch: MA1166

(2) Instrument QC Batch: MA1179

(3) Instrument QC Batch: MA1183

(4) Prep QC Batch: MP2279

(5) Prep QC Batch: MP2300

RL = Reporting Limit

Report of Analysis

Client Sample ID: MTD-SW-09	Date Sampled: 04/12/10
Lab Sample ID: C10601-9	Date Received: 04/13/10
Matrix: AQ - Surface Water	Percent Solids: n/a
Project: Mt. Diablo- Marsh Creek Road	

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Alkalinity, Bicarbonate	< 5.0	5.0	mg/l	1	04/26/10	PH	SM18 4500CO2D
Alkalinity, Carbonate	< 5.0	5.0	mg/l	1	04/26/10	PH	SM18 4500CO2D
Alkalinity, Total as CaCO ₃	< 5.0	5.0	mg/l	1	04/26/10	PH	SM18 2320B
Bromide	4.6	0.20	mg/l	1	04/13/10 22:59	HD	EPA 300/SW846 9056A
Chloride	1220	250	mg/l	500	04/16/10 01:02	HD	EPA 300/SW846 9056A
Dissolved Organic Carbon	25.7	1.0	mg/l	1	04/15/10	MF	SM18 5310C
Fluoride ^a	< 0.50	0.50	mg/l	5	04/16/10 00:44	HD	EPA 300/SW846 9056A
Hardness, Total as CaCO ₃ ^b	2340	1.7	mg/l	1	04/26/10 17:08	CT	SW846 6010B/SM 2340B
Nitrogen, Nitrate	1.8	0.10	mg/l	1	04/13/10 22:59	HD	EPA 300/SW846 9056A
Silica, Dissolved ^c	28.0	0.53	mg/l	1	04/26/10 17:08	CT	SW846 6010B
Solids, Total Dissolved	6120	10	mg/l	1	04/15/10	MF	SM18 2540C
Specific Conductivity	8050	1.0	umhos/cm	1	04/14/10	MF	SM18 2510B/EPA 120.1
Sulfate	6620	250	mg/l	500	04/16/10 01:02	HD	EPA 300/SW846 9056A
Turbidity	13.8	0.50	NTU	1	04/13/10 13:18	PH	SM18 2130B
pH ^d	4.50		su	1	04/13/10 12:14	PH	SM18 4500H+ B

(a) Elevated detection limit due to high concentration of Chloride.

(b) Calculated as: (Calcium * 2.497) + (Magnesium * 4.118)

(c) Calculated as: (Silicon * 2.139)

(d) pH was analyzed past the 15min hold time.

RL = Reporting Limit

Report of Analysis

Client Sample ID: MTD-SW-09	Date Sampled: 04/12/10
Lab Sample ID: C10601-9F	Date Received: 04/13/10
Matrix: AQ - Surface H2O Filtered	Percent Solids: n/a
Project: Mt. Diablo- Marsh Creek Road	

Dissolved Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed By	Method	Prep Method
Mercury	85.3	2.0	ug/l	10	04/20/10	04/21/10 RW	EPA 245.1 ¹	EPA 245.1/SW7470A ²

(1) Instrument QC Batch: MA1177

(2) Prep QC Batch: MP2298

RL = Reporting Limit

Report of Analysis

Client Sample ID: MTD-SW-10	Date Sampled: 04/12/10
Lab Sample ID: C10601-10	Date Received: 04/13/10
Matrix: AQ - Surface Water	Percent Solids: n/a
Project: Mt. Diablo- Marsh Creek Road	

Total Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed By	Method	Prep Method
Antimony	35.4	10	ug/l	1	04/21/10	04/26/10 CT	SW846 6010B ²	SW3010A ⁴
Arsenic	23.8	10	ug/l	1	04/21/10	04/26/10 CT	SW846 6010B ²	SW3010A ⁴
Beryllium	< 5.0	5.0	ug/l	1	04/21/10	04/26/10 CT	SW846 6010B ²	SW3010A ⁴
Boron	1350	50	ug/l	1	04/21/10	04/26/10 CT	SW846 6010B ²	SW3010A ⁴
Cadmium	< 2.0	2.0	ug/l	1	04/21/10	04/26/10 CT	SW846 6010B ²	SW3010A ⁴
Calcium	20200	50	ug/l	1	04/21/10	04/26/10 CT	SW846 6010B ²	SW3010A ⁴
Chromium	25.4	5.0	ug/l	1	04/21/10	04/26/10 CT	SW846 6010B ²	SW3010A ⁴
Copper	15.6	5.0	ug/l	1	04/21/10	04/26/10 CT	SW846 6010B ²	SW3010A ⁴
Iron	9830	50	ug/l	1	04/21/10	04/26/10 CT	SW846 6010B ²	SW3010A ⁴
Lead	< 5.0	5.0	ug/l	1	04/21/10	04/26/10 CT	SW846 6010B ²	SW3010A ⁴
Magnesium	24500	50	ug/l	1	04/21/10	04/26/10 CT	SW846 6010B ²	SW3010A ⁴
Manganese	554	5.0	ug/l	1	04/21/10	04/26/10 CT	SW846 6010B ²	SW3010A ⁴
Mercury	18.0	0.80	ug/l	4	04/14/10	04/14/10 RW	EPA 245.1 ¹	EPA 245.1/SW7470A ³
Nickel	1460	5.0	ug/l	1	04/21/10	04/26/10 CT	SW846 6010B ²	SW3010A ⁴
Potassium	3860	500	ug/l	1	04/21/10	04/26/10 CT	SW846 6010B ²	SW3010A ⁴
Selenium	< 20	20	ug/l	1	04/21/10	04/26/10 CT	SW846 6010B ²	SW3010A ⁴
Silicon	13500	50	ug/l	1	04/21/10	04/26/10 CT	SW846 6010B ²	SW3010A ⁴
Silver	< 5.0	5.0	ug/l	1	04/21/10	04/26/10 CT	SW846 6010B ²	SW3010A ⁴
Sodium	19200	100	ug/l	1	04/21/10	04/26/10 CT	SW846 6010B ²	SW3010A ⁴
Thallium	< 20	20	ug/l	1	04/21/10	04/26/10 CT	SW846 6010B ²	SW3010A ⁴
Zinc	52.1	10	ug/l	1	04/21/10	04/26/10 CT	SW846 6010B ²	SW3010A ⁴

(1) Instrument QC Batch: MA1166

(2) Instrument QC Batch: MA1183

(3) Prep QC Batch: MP2279

(4) Prep QC Batch: MP2300

RL = Reporting Limit

Report of Analysis

Client Sample ID: MTD-SW-10	Date Sampled: 04/12/10
Lab Sample ID: C10601-10	Date Received: 04/13/10
Matrix: AQ - Surface Water	Percent Solids: n/a
Project: Mt. Diablo- Marsh Creek Road	

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Alkalinity, Bicarbonate	11.9	5.0	mg/l	1	04/26/10	PH	SM18 4500CO2D
Alkalinity, Carbonate	< 5.0	5.0	mg/l	1	04/26/10	PH	SM18 4500CO2D
Alkalinity, Total as CaCO ₃	11.9	5.0	mg/l	1	04/26/10	PH	SM18 2320B
Bromide	< 0.20	0.20	mg/l	1	04/13/10 23:51	HD	EPA 300/SW846 9056A
Chloride	18.7	2.5	mg/l	5	04/16/10 01:37	HD	EPA 300/SW846 9056A
Dissolved Organic Carbon	4.8	1.0	mg/l	1	04/15/10	MF	SM18 5310C
Fluoride	0.12	0.10	mg/l	1	04/13/10 23:51	HD	EPA 300/SW846 9056A
Hardness, Total as CaCO ₃ ^a	151	0.33	mg/l	1	04/26/10 16:40	CT	SW846 6010B/SM 2340B
Nitrogen, Nitrate	< 0.10	0.10	mg/l	1	04/13/10 23:51	HD	EPA 300/SW846 9056A
Silica, Dissolved ^b	28.9	0.11	mg/l	1	04/26/10 16:40	CT	SW846 6010B
Solids, Total Dissolved	267	10	mg/l	1	04/15/10	MF	SM18 2540C
Specific Conductivity	422	1.0	umhos/cm	1	04/14/10	MF	SM18 2510B/EPA 120.1
Sulfate	148	13	mg/l	25	04/16/10 01:54	HD	EPA 300/SW846 9056A
Turbidity	125	2.5	NTU	5	04/13/10 13:18	PH	SM18 2130B
pH ^c	6.83		su	1	04/13/10 12:17	PH	SM18 4500H+ B

(a) Calculated as: (Calcium * 2.497) + (Magnesium * 4.118)

(b) Calculated as: (Silicon * 2.139)

(c) pH was analyzed past the 15min hold time.

RL = Reporting Limit

Report of Analysis

Client Sample ID: MTD-SW-10	Date Sampled: 04/12/10
Lab Sample ID: C10601-10F	Date Received: 04/13/10
Matrix: AQ - Surface H2O Filtered	Percent Solids: n/a
Project: Mt. Diablo- Marsh Creek Road	

Dissolved Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed By	Method	Prep Method
Mercury	0.42	0.20	ug/l	1	04/20/10	04/21/10 RW	EPA 245.1 ¹	EPA 245.1/SW7470A ²

(1) Instrument QC Batch: MA1177

(2) Prep QC Batch: MP2298

RL = Reporting Limit



Misc. Forms

Custody Documents and Other Forms

Includes the following where applicable:

- Chain of Custody

CHAIN OF CUSTODY

2235 Route 130, Dayton, NJ 08810
732-329-0200 FAX: 732-329-3499/3480

"SGRPCAPH267A"

Client / Reporting Information		Project Information		Requested Analysis		Matrix Codes			
Company Name The Source Group		Project Name: Mt. Diablo		Requested Analysis		Matrix Codes			
Address 3451C Vincent Road		Street Marsh Creek Road		Requested Analysis		Matrix Codes			
City Clayton		City Clayton		Requested Analysis		Matrix Codes			
State California		State CA		Requested Analysis		Matrix Codes			
Zip 94523		Project # 01-SUN-050		Requested Analysis		Matrix Codes			
Project Contact: Jon Philipp jphilipp@thesourcegroup.net		Client Purchase Order # 01-SUN-050		Requested Analysis		Matrix Codes			
Phone # 925-944-2856 x316		Fax # 925-944-2859		Requested Analysis		Matrix Codes			
Sampler's Name NC/JP		Collection		Requested Analysis		Matrix Codes			
SUKMA #		Collection		Requested Analysis		Matrix Codes			
MEOH Vial #		Collection		Requested Analysis		Matrix Codes			
Field ID / Point of Collection		Collection		Requested Analysis		Matrix Codes			
Date		Collection		Requested Analysis		Matrix Codes			
Time		Collection		Requested Analysis		Matrix Codes			
Sampled by		Collection		Requested Analysis		Matrix Codes			
Matrix		Collection		Requested Analysis		Matrix Codes			
# of bottles		Collection		Requested Analysis		Matrix Codes			
1		Collection		Requested Analysis		Matrix Codes			
2		Collection		Requested Analysis		Matrix Codes			
3		Collection		Requested Analysis		Matrix Codes			
4		Collection		Requested Analysis		Matrix Codes			
5		Collection		Requested Analysis		Matrix Codes			
6		Collection		Requested Analysis		Matrix Codes			
7		Collection		Requested Analysis		Matrix Codes			
8		Collection		Requested Analysis		Matrix Codes			
9		Collection		Requested Analysis		Matrix Codes			
10		Collection		Requested Analysis		Matrix Codes			
Turnaround Time (Business days)		Data Deliverable Information		Comments / Remarks		Matrix Codes			
<input checked="" type="checkbox"/> Std. 15 Business Days <input type="checkbox"/> 10 Day RUSH <input type="checkbox"/> 5 Day RUSH <input type="checkbox"/> 3 Day EMERGENCY <input type="checkbox"/> 2 Day EMERGENCY <input type="checkbox"/> 1 Day EMERGENCY <input type="checkbox"/> Other		<input checked="" type="checkbox"/> Commercial "A" <input checked="" type="checkbox"/> Commercial "B" <input type="checkbox"/> NJ Reduced <input type="checkbox"/> NJ Full <input type="checkbox"/> Other		<input type="checkbox"/> FULL CLP <input type="checkbox"/> NYASP Category A <input type="checkbox"/> NYASP Category B <input type="checkbox"/> State Forms <input type="checkbox"/> EDD Format		samples not filtered Cooler # 1 : 4.5 + 0.3 = 4.8 °C Cooler # 2 : 3.1 + 0.3 = 3.4 °C		DW- Drinking Water GW- Ground Water WW- Water SW- Surface Water SO- Soil SL- Sludge OI- Oil LIQ- Other Liquid AIR- Air SOL- Other Solid WP- Wipe LAB USE ONLY 250ml poly each (10/100) PHZZ (5/10) 1x100 poly each NIP (10) (3) 500ml Amber glass (10/100) (10) 1630 - subbed to collect	
Emergency TIA data available VIA Lablink		Commercial "A" = Results Only		Comments / Remarks		Matrix Codes			
Relinquished by Sampler		Date Time		Received By		Date Time			
9:00		4/13/10		1		9:57 4/13/10			
Relinquished by:		Date Time		Received By		Date Time			
3		Date Time		Received By		Date Time			
5		Date Time		Received By		Date Time			
Custody Seal #		Preserved where applicable		On Ice		Cooler Temp.			
4		Y		Y		2-coolers Rec'd			

31
3

C10601: Chain of Custody

Page 1 of 2



Metals Analysis

QC Data Summaries

Includes the following where applicable:

- Method Blank Summaries
- Matrix Spike and Duplicate Summaries
- Blank Spike and Lab Control Sample Summaries
- Serial Dilution Summaries

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: C10601
Account: SGRPCAPH - The Source Group
Project: Mt. Diablo- Marsh Creek Road

QC Batch ID: MP2279
Matrix Type: AQUEOUS

Methods: EPA 245.1
Units: ug/l

Prep Date: 04/14/10

Metal	RL	IDL	MDL	MB	
				raw	final
Mercury	0.20	.02	.02	-0.020	<0.20

Associated samples MP2279: C10601-1, C10601-2, C10601-3, C10601-4, C10601-5, C10601-6, C10601-7, C10601-8, C10601-9, C10601-10

Results < IDL are shown as zero for calculation purposes

(*) Outside of QC limits

(anr) Analyte not requested

4.1.1
4

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: C10601
 Account: SGRPCAPH - The Source Group
 Project: Mt. Diablo- Marsh Creek Road

QC Batch ID: MP2279
 Matrix Type: AQUEOUS

Methods: EPA 245.1
 Units: ug/l

Prep Date: 04/14/10

Metal	C10601-1 Original MS	SpikeLot HGPWS1	% Rec	QC Limits
Mercury	2.2 6.0	4	95.0	70-130

Associated samples MP2279: C10601-1, C10601-2, C10601-3, C10601-4, C10601-5, C10601-6, C10601-7, C10601-8, C10601-9, C10601-10

Results < IDL are shown as zero for calculation purposes
 (*) Outside of QC limits
 (N) Matrix Spike Rec. outside of QC limits
 (anr) Analyte not requested

4.1.2
 4

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: C10601
 Account: SGRPCAPH - The Source Group
 Project: Mt. Diablo- Marsh Creek Road

QC Batch ID: MP2279
 Matrix Type: AQUEOUS

Methods: EPA 245.1
 Units: ug/l

Prep Date: 04/14/10

Metal	C10601-1 Original	C10601-1 MSD	Spike lot	HGPWS1 % Rec	MSD RPD	QC Limit
Mercury	2.2	5.9	4	92.5	1.7	20

Associated samples MP2279: C10601-1, C10601-2, C10601-3, C10601-4, C10601-5, C10601-6, C10601-7, C10601-8, C10601-9, C10601-10

Results < IDL are shown as zero for calculation purposes
 (*) Outside of QC limits
 (N) Matrix Spike Rec. outside of QC limits
 (anr) Analyte not requested

4.1.2
4

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: C10601
 Account: SGRPCAPH - The Source Group
 Project: Mt. Diablo- Marsh Creek Road

QC Batch ID: MP2279
 Matrix Type: AQUEOUS

Methods: EPA 245.1
 Units: ug/l

Prep Date: 04/14/10 04/14/10

Metal	BSP Result	Spikelot HGPWS1	% Rec	QC Limits	BSD Result	Spikelot HGPWS1	% Rec	BSD RPD	QC Limit
Mercury	2.0	2	100.0	85-115	2.0	2	100.0	0.0	

Associated samples MP2279: C10601-1, C10601-2, C10601-3, C10601-4, C10601-5, C10601-6, C10601-7, C10601-8, C10601-9, C10601-10

Results < IDL are shown as zero for calculation purposes
 (*) Outside of QC limits
 (anr) Analyte not requested

4.1.3
4

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: C10601
Account: SGRPCAPH - The Source Group
Project: Mt. Diablo- Marsh Creek Road

QC Batch ID: MP2298
Matrix Type: AQUEOUS

Methods: EPA 245.1
Units: ug/l

Prep Date: 04/20/10

Metal	RL	IDL	MDL	MB	
				raw	final
Mercury	0.20	.02	.02	0.058	<0.20

Associated samples MP2298: C10601-1F, C10601-2F, C10601-3F, C10601-4F, C10601-5F, C10601-6F, C10601-7F, C10601-8F, C10601-9F, C10601-10F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

4.2.1
4

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: C10601
 Account: SGRPCAPH - The Source Group
 Project: Mt. Diablo- Marsh Creek Road

QC Batch ID: MP2298
 Matrix Type: AQUEOUS

Methods: EPA 245.1
 Units: ug/l

Prep Date: 04/20/10

Metal	C10601-9F Original MS	SpikeLot HGPWS1	% Rec	QC Limits
Mercury	85.3 92.5	4	180.0(a)	70-130

Associated samples MP2298: C10601-1F, C10601-2F, C10601-3F, C10601-4F, C10601-5F, C10601-6F, C10601-7F, C10601-8F, C10601-9F, C10601-10F

Results < IDL are shown as zero for calculation purposes

- (*) Outside of QC limits
- (N) Matrix Spike Rec. outside of QC limits
- (anr) Analyte not requested
- (a) Spike amount low relative to the sample amount. Refer to lab control or spike blank for recovery information.

4.2.2
4

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: C10601
 Account: SGRPCAPH - The Source Group
 Project: Mt. Diablo- Marsh Creek Road

QC Batch ID: MP2298
 Matrix Type: AQUEOUS

Methods: EPA 245.1
 Units: ug/l

Prep Date: 04/20/10

Metal	C10601-9F Original MSD	Spikelot HGPWS1	% Rec	MSD RPD	QC Limit
Mercury	85.3	97.6	4	307.0(a) 5.4	20

Associated samples MP2298: C10601-1F, C10601-2F, C10601-3F, C10601-4F, C10601-5F, C10601-6F, C10601-7F, C10601-8F, C10601-9F, C10601-10F

Results < IDL are shown as zero for calculation purposes

(*) Outside of QC limits

(N) Matrix Spike Rec. outside of QC limits

(anr) Analyte not requested

(a) Spike amount low relative to the sample amount. Refer to lab control or spike blank for recovery information.

4.2.2
4

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: C10601
 Account: SGRPCAPH - The Source Group
 Project: Mt. Diablo- Marsh Creek Road

QC Batch ID: MP2298
 Matrix Type: AQUEOUS

Methods: EPA 245.1
 Units: ug/l

Prep Date: 04/20/10 04/20/10

Metal	BSP Result	Spikelot HGPWS1	% Rec	QC Limits	BSD Result	Spikelot HGPWS1	% Rec	BSD RPD	QC Limit
Mercury	2.0	2	100.0	85-115	2.0	2	100.0	0.0	

Associated samples MP2298: C10601-1F, C10601-2F, C10601-3F, C10601-4F, C10601-5F, C10601-6F, C10601-7F, C10601-8F, C10601-9F, C10601-10F

Results < IDL are shown as zero for calculation purposes
 (*) Outside of QC limits
 (anr) Analyte not requested

4.2.3
4

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: C10601
Account: SGRPCAPH - The Source Group
Project: Mt. Diablo- Marsh Creek Road

QC Batch ID: MP2300
Matrix Type: AQUEOUS

Methods: SW846 6010B
Units: ug/l

Prep Date: 04/21/10

Metal	RL	IDL	MDL	MB raw	final
Aluminum	50	14	21		
Antimony	10	6.9	5.3	6.2	<10
Arsenic	10	4.4	3.1	-2.7	<10
Barium	5.0	.6	.7		
Beryllium	5.0	.1	.2	0.0	<5.0
Boron	50	8.6	11	3.0	<50
Cadmium	2.0	.3	.3	0.40	<2.0
Calcium	50	29	12	16.9	<50
Chromium	5.0	.4	.6	0.20	<5.0
Cobalt	5.0	.4	.4		
Copper	5.0	.8	1.1	-0.10	<5.0
Iron	50	2.6	18	3.3	<50
Lead	5.0	3.3	1.3	0.50	<5.0
Lithium	10	2.2	2.5		
Magnesium	50	9.6	13	24.3	<50
Manganese	5.0	.1	.2	0.10	<5.0
Molybdenum	5.0	1.3	1		
Nickel	5.0	.8	.5	-0.10	<5.0
Potassium	500	58	60	24.8	<500
Selenium	20	14	12	3.1	<20
Silicon	50	3.4	5.3	-0.60	<50
Silver	5.0	.9	.7	0.60	<5.0
Sodium	100	15	13	6.8	<100
Strontium	10	.3	2.4		
Thallium	20	6.5	6.4	2.6	<20
Tin	50	2.3	2		
Titanium	2.0	.2	.2		
Vanadium	5.0	.7	.5		
Zinc	10	.9	1.1	-0.10	<10

Associated samples MP2300: C10601-1, C10601-2, C10601-3, C10601-4, C10601-5, C10601-6, C10601-7, C10601-8, C10601-9, C10601-10

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: C10601
 Account: SGRPCAPH - The Source Group
 Project: Mt. Diablo- Marsh Creek Road

QC Batch ID: MP2300
 Matrix Type: AQUEOUS

Methods: SW846 6010B
 Units: ug/l

Prep Date: 04/21/10

Metal	C10680-1 Original MS		SpikeLot MPIR1	% Rec	QC Limits
Aluminum	anr				
Antimony	15.9	522	500	101.2	80-120
Arsenic	0.0	516	500	103.2	80-120
Barium					
Beryllium	0.0	515	500	103.0	80-120
Boron	117	642	500	105.0	80-120
Cadmium	11.3	517	500	101.1	80-120
Calcium	22900	23600	500	140.0(a)	80-120
Chromium	16.5	508	500	98.3	80-120
Cobalt					
Copper	67.9	595	500	105.4	80-120
Iron	1650	2130	500	96.0	80-120
Lead	12.1	517	500	101.0	80-120
Lithium					
Magnesium	13900	14500	500	120.0	80-120
Manganese	305	816	500	102.2	80-120
Molybdenum					
Nickel	31.9	526	500	98.8	80-120
Potassium	3520	8580	5000	101.2	80-120
Selenium	0.0	493	500	98.6	80-120
Silicon	4050	4390	250	136.0(a)	80-120
Silver	2.7	528	500	105.1	80-120
Sodium	113000	116000	500	600.0(a)	80-120
Strontium					
Thallium	0.0	470	500	94.0	80-120
Tin					
Titanium					
Vanadium					
Zinc	128	639	500	102.2	80-120

Associated samples MP2300: C10601-1, C10601-2, C10601-3, C10601-4, C10601-5, C10601-6, C10601-7, C10601-8, C10601-9, C10601-10

Results < IDL are shown as zero for calculation purposes

(*) Outside of QC limits

(N) Matrix Spike Rec. outside of QC limits

(anr) Analyte not requested

(a) Spike amount low relative to the sample amount. Refer to lab control or spike blank for recovery

4.3.2
 4

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: C10601
Account: SGRPCAPH - The Source Group
Project: Mt. Diablo- Marsh Creek Road

QC Batch ID: MP2300
Matrix Type: AQUEOUS

Methods: SW846 6010B
Units: ug/l

Prep Date:

Metal

information.

4.3.2

4

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: C10601
 Account: SGRPCAPH - The Source Group
 Project: Mt. Diablo- Marsh Creek Road

QC Batch ID: MP2300
 Matrix Type: AQUEOUS

Methods: SW846 6010B
 Units: ug/l

Prep Date: 04/21/10

Metal	C10680-1 Original MSD		SpikeLot MPIR1	% Rec	MSD RPD	QC Limit
Aluminum	anr					
Antimony	15.9	523	500	101.4	0.2	20
Arsenic	0.0	519	500	103.8	0.6	20
Barium						
Beryllium	0.0	519	500	103.8	0.8	20
Boron	117	649	500	106.4	1.1	20
Cadmium	11.3	519	500	101.5	0.4	20
Calcium	22900	22900	500	0.0 (a)	3.0	20
Chromium	16.5	514	500	99.5	1.2	20
Cobalt						
Copper	67.9	605	500	107.4	1.7	20
Iron	1650	2300	500	130.0N(b)	7.7	20
Lead	12.1	520	500	101.6	0.6	20
Lithium						
Magnesium	13900	14400	500	100.0	0.7	20
Manganese	305	816	500	102.2	0.0	20
Molybdenum						
Nickel	31.9	533	500	100.2	1.3	20
Potassium	3520	8620	5000	102.0	0.5	20
Selenium	0.0	491	500	98.2	0.4	20
Silicon	4050	4450	250	160.0(a)	1.4	20
Silver	2.7	534	500	106.3	1.1	20
Sodium	113000	112000	500	-200.0(a)	3.5	20
Strontium						
Thallium	0.0	467	500	93.4	0.6	20
Tin						
Titanium						
Vanadium						
Zinc	128	647	500	103.8	1.2	20

Associated samples MP2300: C10601-1, C10601-2, C10601-3, C10601-4, C10601-5, C10601-6, C10601-7, C10601-8, C10601-9, C10601-10

Results < IDL are shown as zero for calculation purposes

(*) Outside of QC limits

(N) Matrix Spike Rec. outside of QC limits

(anr) Analyte not requested

(a) Spike amount low relative to the sample amount. Refer to lab control or spike blank for recovery

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: C10601
Account: SGRPCAPH - The Source Group
Project: Mt. Diablo- Marsh Creek Road

QC Batch ID: MP2300
Matrix Type: AQUEOUS

Methods: SW846 6010B
Units: ug/l

Prep Date:

Metal

information.
(b) Spike recovery indicates possible matrix interference and/or sample nonhomogeneity.

4.3.2

4

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: C10601
 Account: SGRPCAPH - The Source Group
 Project: Mt. Diablo- Marsh Creek Road

QC Batch ID: MP2300
 Matrix Type: AQUEOUS

Methods: SW846 6010B
 Units: ug/l

Prep Date: 04/21/10 04/21/10

Metal	BSP Result	Spikelot MPIR1	% Rec	QC Limits	BSD Result	Spikelot MPIR1	% Rec	BSD RPD	QC Limit
Aluminum	anr								
Antimony	496	500	99.2	80-120	500	500	100.0	0.8	
Arsenic	493	500	98.6	80-120	494	500	98.8	0.2	
Barium									
Beryllium	496	500	99.2	80-120	494	500	98.8	0.4	
Boron	518	500	103.6	80-120	515	500	103.0	0.6	
Cadmium	502	500	100.4	80-120	498	500	99.6	0.8	
Calcium	524	500	104.8	80-120	505	500	101.0	3.7	
Chromium	493	500	98.6	80-120	490	500	98.0	0.6	
Cobalt									
Copper	476	500	95.2	80-120	478	500	95.6	0.4	
Iron	525	500	105.0	80-120	515	500	103.0	1.9	
Lead	519	500	103.8	80-120	513	500	102.6	1.2	
Lithium									
Magnesium	524	500	104.8	80-120	511	500	102.2	2.5	
Manganese	501	500	100.2	80-120	501	500	100.2	0.0	
Molybdenum									
Nickel	503	500	100.6	80-120	499	500	99.8	0.8	
Potassium	5010	5000	100.2	80-120	4970	5000	99.4	0.8	
Selenium	500	500	100.0	80-120	498	500	99.6	0.4	
Silicon	266	250	106.4	80-120	265	250	106.0	0.4	
Silver	521	500	104.2	80-120	521	500	104.2	0.0	
Sodium	514	500	102.8	80-120	502	500	100.4	2.4	
Strontium									
Thallium	476	500	95.2	80-120	473	500	94.6	0.6	
Tin									
Titanium									
Vanadium									
Zinc	490	500	98.0	80-120	487	500	97.4	0.6	

Associated samples MP2300: C10601-1, C10601-2, C10601-3, C10601-4, C10601-5, C10601-6, C10601-7, C10601-8, C10601-9, C10601-10

Results < IDL are shown as zero for calculation purposes
 (*) Outside of QC limits
 (anr) Analyte not requested

SERIAL DILUTION RESULTS SUMMARY

Login Number: C10601
 Account: SGRPCAPH - The Source Group
 Project: Mt. Diablo- Marsh Creek Road

QC Batch ID: MP2300
 Matrix Type: AQUEOUS

Methods: SW846 6010B
 Units: ug/l

Prep Date: 04/21/10

Metal	C10680-1 Original	SDL 1:5	%DIF	QC Limits
Aluminum	anr			
Antimony	15.9	36.0	126.4(a)	0-10
Arsenic	0.00	0.00	NC	0-10
Barium				
Beryllium	0.00	0.00	NC	0-10
Boron	117	136	15.8 (a)	0-10
Cadmium	11.3	13.0	15.0 (a)	0-10
Calcium	22900	22800	0.2	0-10
Chromium	16.5	17.5	6.1	0-10
Cobalt				
Copper	67.9	68.0	0.1	0-10
Iron	1650	1630	1.2	0-10
Lead	12.1	0.00	100.0(a)	0-10
Lithium				
Magnesium	13900	13800	0.2	0-10
Manganese	305	304	0.6	0-10
Molybdenum				
Nickel	31.9	34.5	8.2	0-10
Potassium	3520	3570	1.2	0-10
Selenium	0.00	0.00	NC	0-10
Silicon	4050	3970	2.1	0-10
Silver	2.70	0.00	100.0(a)	0-10
Sodium	113000	113000	0.6	0-10
Strontium				
Thallium	0.00	0.00	NC	0-10
Tin				
Titanium				
Vanadium				
Zinc	128	131	2.2	0-10

Associated samples MP2300: C10601-1, C10601-2, C10601-3, C10601-4, C10601-5, C10601-6, C10601-7, C10601-8, C10601-9, C10601-10

Results < IDL are shown as zero for calculation purposes

(*) Outside of QC limits

(anr) Analyte not requested

(a) Percent difference acceptable due to low initial sample concentration (< 50 times IDL).

POST DIGESTATE SPIKE SUMMARY

Login Number: C10601
 Account: SGRPCAPH - The Source Group
 Project: Mt. Diablo- Marsh Creek Road

QC Batch ID: MP2300
 Matrix Type: AQUEOUS

Methods: SW846 6010B
 Units: ug/l

Prep Date:

04/21/10

Metal	Sample ml	Final ml	C10680-1 Raw	PS Corr.**	PS ug/l	Spike ml	Spike ug/ml	Spike ug/l	% Rec	QC Limits
Aluminum										
Antimony										
Arsenic										
Barium										
Beryllium										
Boron										
Cadmium										
Calcium										
Chromium										
Cobalt										
Copper										
Iron	10	10.1	1652.4	1636.04	2120.7	0.05	100	495.0495	97.9	-
Lead										
Lithium										
Magnesium										
Manganese										
Molybdenum										
Nickel										
Potassium										
Selenium										
Silicon										
Silver										
Sodium										
Strontium										
Thallium										
Tin										
Titanium										
Vanadium										
Zinc										

Associated samples MP2300: C10601-1, C10601-2, C10601-3, C10601-4, C10601-5, C10601-6, C10601-7, C10601-8, C10601-9, C10601-10

Results < IDL are shown as zero for calculation purposes
 (*) Outside of QC limits
 (**) Corr. sample result = Raw * (sample volume / final volume)
 (anr) Analyte not requested

4.3.5
 4



General Chemistry

QC Data Summaries

Includes the following where applicable:

- Method Blank and Blank Spike Summaries
- Duplicate Summaries
- Matrix Spike Summaries

METHOD BLANK AND SPIKE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: C10601
Account: SGRPCAPH - The Source Group
Project: Mt. Diablo- Marsh Creek Road

Analyte	Batch ID	RL	MB Result	Units	Spike Amount	BSP Result	BSP %Recov	QC Limits
Alkalinity, Total as CaCO3	GN3656	5.0	0.0	mg/l	250	251	100.6	75-125%
Bromide	GP1649/GN3604	0.20	0.0	mg/l	5	4.95	99.0	90-110%
Chloride	GP1649/GN3604	0.50	0.0	mg/l	5	4.87	97.4	90-110%
Chloride	GP1654/GN3615	0.50	0.0	mg/l	5	4.58	91.6	90-110%
Dissolved Organic Carbon	GP1656/GN3621	1.0	0.72	mg/l	25	24.3	97.2	75-125%
Fluoride	GP1649/GN3604	0.10	0.028	mg/l	5	4.85	97.0	90-110%
Fluoride	GP1654/GN3615	0.10	0.035	mg/l	5	5.03	100.6	90-110%
Nitrogen, Nitrate	GP1649/GN3604	0.10	0.0	mg/l	5	4.76	95.2	90-110%
Nitrogen, Nitrate	GP1654/GN3615	0.10	0.0	mg/l	5	4.97	99.4	90-110%
Solids, Total Dissolved	GN3610	10	0.0	mg/l				
Specific Conductivity	GN3608	1.0	0.0	umhos/cm				
Sulfate	GP1649/GN3604	0.50	0.0	mg/l	5	4.72	94.4	90-110%
Sulfate	GP1654/GN3615	0.50	0.0	mg/l	5	4.89	97.8	90-110%
Turbidity	GN3596	0.50	0.045	NTU	40	40.9	102.2	75-125%

Associated Samples:

Batch GN3596: C10601-1, C10601-10, C10601-2, C10601-3, C10601-4, C10601-5, C10601-6, C10601-7, C10601-8, C10601-9
 Batch GN3608: C10601-1, C10601-10, C10601-2, C10601-3, C10601-4, C10601-5, C10601-6, C10601-7, C10601-8, C10601-9
 Batch GN3610: C10601-1, C10601-10, C10601-2, C10601-3, C10601-4, C10601-5, C10601-6, C10601-7, C10601-8, C10601-9
 Batch GN3656: C10601-1, C10601-10, C10601-2, C10601-3, C10601-4, C10601-5, C10601-6, C10601-7, C10601-8, C10601-9
 Batch GP1649: C10601-1, C10601-10, C10601-2, C10601-3, C10601-4, C10601-5, C10601-6, C10601-7, C10601-8, C10601-9
 Batch GP1654: C10601-1, C10601-10, C10601-2, C10601-3, C10601-4, C10601-5, C10601-6, C10601-7, C10601-9
 Batch GP1656: C10601-1, C10601-10, C10601-2, C10601-3, C10601-4, C10601-5, C10601-6, C10601-7, C10601-8, C10601-9

(*) Outside of QC limits

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BLANK SPIKE DUPLICATE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: C10601
Account: SGRPCAPH - The Source Group
Project: Mt. Diablo- Marsh Creek Road

Analyte	Batch ID	Units	Spike Amount	BSD Result	RPD	QC Limit
Alkalinity, Total as CaCO3	GN3656	mg/l	250	251	0.0	
Bromide	GP1649/GN3604	mg/l	5	4.94	0.2	25%
Chloride	GP1649/GN3604	mg/l	5	4.78	1.9	25%
Chloride	GP1654/GN3615	mg/l	5	5.11	10.9	25%
Dissolved Organic Carbon	GP1656/GN3621	mg/l	25	24.7	1.6	
Fluoride	GP1649/GN3604	mg/l	5	4.63	4.6	25%
Fluoride	GP1654/GN3615	mg/l	5	5.04	0.2	25%
Nitrogen, Nitrate	GP1649/GN3604	mg/l	5	4.77	0.2	25%
Nitrogen, Nitrate	GP1654/GN3615	mg/l	5	4.94	0.6	25%
Sulfate	GP1649/GN3604	mg/l	5	4.71	0.2	25%
Sulfate	GP1654/GN3615	mg/l	5	4.84	1.0	25%
Turbidity	GN3596	NTU	40	40.9	0.0	

Associated Samples:

Batch GN3596: C10601-1, C10601-10, C10601-2, C10601-3, C10601-4, C10601-5, C10601-6, C10601-7, C10601-8, C10601-9
 Batch GN3656: C10601-1, C10601-10, C10601-2, C10601-3, C10601-4, C10601-5, C10601-6, C10601-7, C10601-8, C10601-9
 Batch GP1649: C10601-1, C10601-10, C10601-2, C10601-3, C10601-4, C10601-5, C10601-6, C10601-7, C10601-8, C10601-9
 Batch GP1654: C10601-1, C10601-10, C10601-2, C10601-3, C10601-4, C10601-5, C10601-6, C10601-7, C10601-9
 Batch GP1656: C10601-1, C10601-10, C10601-2, C10601-3, C10601-4, C10601-5, C10601-6, C10601-7, C10601-8, C10601-9
 (*) Outside of QC limits

5.2
5

DUPLICATE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: C10601
Account: SGRPCAPH - The Source Group
Project: Mt. Diablo- Marsh Creek Road

Analyte	Batch ID	QC Sample	Units	Original Result	DUP Result	RPD	QC Limits
Solids, Total Dissolved	GN3610	C10601-8	mg/l	199	195	2.0	0-%
Specific Conductivity	GN3608	C10601-1	umhos/cm	341	340	0.3	0-25%
Turbidity	GN3596	C10601-9	NTU	13.8	13.9	0.7	0-25%
pH	GN3593	C10600-2	su	7.37	7.30	1.0	0-25%

Associated Samples:

Batch GN3593: C10601-1, C10601-10, C10601-2, C10601-3, C10601-4, C10601-5, C10601-6, C10601-7, C10601-8, C10601-9

Batch GN3596: C10601-1, C10601-10, C10601-2, C10601-3, C10601-4, C10601-5, C10601-6, C10601-7, C10601-8, C10601-9

Batch GN3608: C10601-1, C10601-10, C10601-2, C10601-3, C10601-4, C10601-5, C10601-6, C10601-7, C10601-8, C10601-9

Batch GN3610: C10601-1, C10601-10, C10601-2, C10601-3, C10601-4, C10601-5, C10601-6, C10601-7, C10601-8, C10601-9

(*) Outside of QC limits

5.3
5

MATRIX SPIKE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: C10601
Account: SGRPCAPH - The Source Group
Project: Mt. Diablo- Marsh Creek Road

Analyte	Batch ID	QC Sample	Units	Original Result	Spike Amount	MS Result	%Rec	QC Limits
Bromide	GP1649/GN3604	C10601-9	mg/l	4.6	4	8.9	107.5	80-120%
Chloride	GP1649/GN3604	C10601-9	mg/l	0.0	4	0.0	0.0N(a)	80-120%
Chloride	GP1654/GN3615	C10601-4	mg/l	35.3	20	59.6	121.5N(b)	80-120%
Dissolved Organic Carbon	GP1656/GN3621	C10601-9	mg/l	25.7	25	46.7	84.2	75-125%
Fluoride	GP1649/GN3604	C10601-9	mg/l	0.045	4	0.0	-1.1N(a)	80-120%
Fluoride	GP1654/GN3615	C10601-4	mg/l	0.19	20	18.2	90.1	80-120%
Nitrogen, Nitrate	GP1649/GN3604	C10601-9	mg/l	1.8	4	5.9	102.5	80-120%
Nitrogen, Nitrate	GP1654/GN3615	C10601-4	mg/l	0.52	20	20.5	99.9	80-120%
Sulfate	GP1649/GN3604	C10601-9	mg/l	0.0	4	0.0	0.0N(c)	80-120%
Sulfate	GP1654/GN3615	C10601-4	mg/l	68.3	20	81.1	64.0N(b)	80-120%

Associated Samples:

Batch GP1649: C10601-1, C10601-10, C10601-2, C10601-3, C10601-4, C10601-5, C10601-6, C10601-7, C10601-8, C10601-9

Batch GP1654: C10601-1, C10601-10, C10601-2, C10601-3, C10601-4, C10601-5, C10601-6, C10601-7, C10601-9

Batch GP1656: C10601-1, C10601-10, C10601-2, C10601-3, C10601-4, C10601-5, C10601-6, C10601-7, C10601-8, C10601-9

(*) Outside of QC limits

(N) Matrix Spike Rec. outside of QC limits

(a) Spike recovery shows interference from high chloride concentration.

(b) Spike recovery indicates possible matrix interference.

(c) Spike recovery shows interference from high sulfate concentration.

5.4
5

MATRIX SPIKE DUPLICATE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: C10601
Account: SGRPCAPH - The Source Group
Project: Mt. Diablo- Marsh Creek Road

Analyte	Batch ID	QC Sample	Units	Original Result	Spike Amount	MSD Result	RPD	QC Limit
Bromide	GP1649/GN3604	C10601-9	mg/l	4.6	4	8.8	1.1	
Chloride	GP1649/GN3604	C10601-9	mg/l	0.0	4	0.0	0.0N(a)	
Chloride	GP1654/GN3615	C10601-4	mg/l	35.3	20	59.5	0.2N(b)	
Dissolved Organic Carbon	GP1656/GN3621	C10601-9	mg/l	25.7	25	48.7	4.2	
Fluoride	GP1649/GN3604	C10601-9	mg/l	0.045	4	0.0	0.0N(a)	
Fluoride	GP1654/GN3615	C10601-4	mg/l	0.19	20	18.3	0.5	
Nitrogen, Nitrate	GP1649/GN3604	C10601-9	mg/l	1.8	4	5.9	0.0	
Nitrogen, Nitrate	GP1654/GN3615	C10601-4	mg/l	0.52	20	20.5	0.0	
Sulfate	GP1649/GN3604	C10601-9	mg/l	0.0	4	0.0	0.0N(c)	
Sulfate	GP1654/GN3615	C10601-4	mg/l	68.3	20	80.7	0.5N(b)	

Associated Samples:

Batch GP1649: C10601-1, C10601-10, C10601-2, C10601-3, C10601-4, C10601-5, C10601-6, C10601-7, C10601-8, C10601-9

Batch GP1654: C10601-1, C10601-10, C10601-2, C10601-3, C10601-4, C10601-5, C10601-6, C10601-7, C10601-9

Batch GP1656: C10601-1, C10601-10, C10601-2, C10601-3, C10601-4, C10601-5, C10601-6, C10601-7, C10601-8, C10601-9

(*) Outside of QC limits

(N) Matrix Spike Rec. outside of QC limits

(a) Spike recovery shows interference from high chloride concentration.

(b) Spike recovery indicates possible matrix interference.

(c) Spike recovery shows interference from high sulfate concentration.

5.5
5

Technical Report for

The Source Group

Mt. Diablo- Marsh Creek Road

01-SUN-050

Accutest Job Number: C10601X

Sampling Date: 04/12/10

Report to:

The Source Group
3451C Vincent Road
Pleasant Hill, CA 94523
jphilipp@thesourcegroup.net

ATTN: Jon Philipp

Total number of pages in report:



Test results contained within this data package meet the requirements of the National Environmental Laboratory Accreditation Conference and/or state specific certification programs as applicable.

Laurie Glantz-Murphy
Laboratory Director

Client Service contact: Anne Kathain 408-588-0200

Certifications: CA (08258CA)

This report shall not be reproduced, except in its entirety, without the written approval of Accutest Laboratories.
Test results relate only to samples analyzed.

Sample Summary

The Source Group

Job No: C10601X

Mt. Diablo- Marsh Creek Road
 Project No: 01-SUN-050

Sample Number	Collected		Matrix Received	Code	Type	Client Sample ID
	Date	Time By				
C10601-1X	04/12/10	13:55 NCJP	04/13/10	AQ	Surface Water	MTD-SW-01
C10601-2X	04/12/10	14:25 NCJP	04/13/10	AQ	Surface Water	MTD-SW-02
C10601-3X	04/12/10	14:15 NCJP	04/13/10	AQ	Surface Water	MTD-SW-03
C10601-4X	04/12/10	14:35 NCJP	04/13/10	AQ	Surface Water	MTD-SW-04
C10601-5X	04/12/10	15:10 NCJP	04/13/10	AQ	Surface Water	MTD-SW-05
C10601-6X	04/12/10	13:35 NCJP	04/13/10	AQ	Surface Water	MTD-SW-06
C10601-7X	04/12/10	15:30 NCJP	04/13/10	AQ	Surface Water	MTD-SW-07
C10601-8X	04/12/10	14:45 NCJP	04/13/10	AQ	Surface Water	MTD-SW-08
C10601-9X	04/12/10	15:00 NCJP	04/13/10	AQ	Surface Water	MTD-SW-09
C10601-10X	04/12/10	15:20 NCJP	04/13/10	AQ	Surface Water	MTD-SW-10

Subcontract Data



ENVIRONMENTAL ANALYSES

Thursday, April 29, 2010

Ann Kathain
Accutest Laboratories
2105 Lundy Avenue
San Jose, CA 95131

RE: Lab Order: K040531
Project ID: MT. DIABLO

Collected By: CLIENT
PO/Contract #: C10601

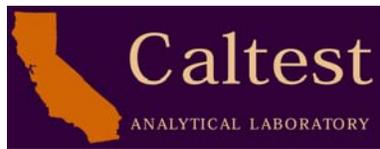
Dear Ann Kathain:

Enclosed are the analytical results for sample(s) received by the laboratory on Tuesday, April 13, 2010. Results reported herein conform to the most current NELAC standards, where applicable, unless otherwise narrated in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Enclosures

Project Manager: Mike Hamilton



ENVIRONMENTAL ANALYSES

SAMPLE SUMMARY

Lab Order: K040531

Project ID: MT. DIABLO

Lab ID	Sample ID	Matrix	Date Collected	Date Received
K040531001	C10601-1 MTD-SW-01	Water	4/12/2010 13:55	4/13/2010 14:51
K040531002	C10601-2 MTD-SW-02	Water	4/12/2010 14:25	4/13/2010 14:51
K040531003	C10601-3 MTD-SW-03	Water	4/12/2010 14:15	4/13/2010 14:51
K040531004	C10601-4 MTD-SW-04	Water	4/12/2010 14:35	4/13/2010 14:51
K040531005	C10601-5 MTD-SW-05	Water	4/12/2010 15:10	4/13/2010 14:51
K040531006	C10601-6 MTD-SW-06	Water	4/12/2010 13:35	4/13/2010 14:51
K040531007	C10601-7 MTD-SW-07	Water	4/12/2010 15:30	4/13/2010 14:51
K040531008	C10601-8 MTD-SW-08	Water	4/12/2010 14:45	4/13/2010 14:51
K040531009	C10601-9 MTD-SW-09	Water	4/12/2010 15:00	4/13/2010 14:51
K040531010	C10601-10 MTD-SW-10	Water	4/12/2010 15:20	4/13/2010 14:51

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
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ENVIRONMENTAL ANALYSES

NARRATIVE

Lab Order: K040531

Project ID: MT. DIABLO

General Qualifiers and Notes

Caltest authorizes this report to be reproduced only in its entirety. Results are specific to the sample(s) as submitted and only to the parameter(s) reported.

Caltest certifies that all test results for wastewater and hazardous waste analyses meet all applicable NELAC requirements; all microbiology and drinking water testing meet applicable ELAP requirements, unless stated otherwise.

All analyses performed by EPA Methods or Standard Methods (SM) 18th Ed. except where noted.

Caltest collects samples in compliance with 40 CFR, EPA Methods, Cal. Title 22, and Standard Methods.

Dilution Factors (DF) reported greater than '1' have been used to adjust the result, Reporting Limit (RL), and Method Detection Limit (MDL).

All Solid, sludge, and/or biosolids data is reported in Wet Weight, unless otherwise specified.

Laboratory filtration for dissolved metals (excluding mercury) and/or pH analysis was not performed within the 15 minute holding time as specified by 40CFR 136.3 table II.

Results Qualifiers: Report fields may contain codes and non-numeric data correlating to one or more of the following definitions:

ND - Non Detect - indicates analytical result has not been detected.

RL - Reporting Limit is the quantitation limit at which the laboratory is able to detect an analyte. An analyte not detected at or above the RL is reported as ND unless otherwise noted or qualified. For analyses pertaining to the State Implementation Plan of the California Toxics Rule, the Caltest Reporting Limit (RL) is equivalent to the Minimum Level (ML). A standard is always run at or below the ML. Where Reporting Limits are elevated due to dilution, the ML calibration criteria has been met.

J - reflects estimated analytical result value detected below the Reporting Limit (RL) and above the Method Detection Limit (MDL). The 'J' flag is equivalent to the DNQ Estimated Concentration flag.

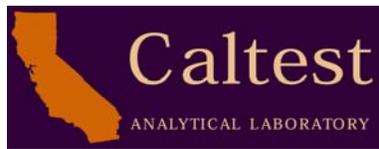
E - indicates an estimated analytical result value.

B - indicates the analyte has been detected in the blank associated with the sample.

NC - means not able to be calculated for RPD or Spike Recoveries.

SS - compound is a Surrogate Spike used per laboratory quality assurance manual.

NOTE: This document represents a complete Analytical Report for the samples referenced herein and should be retained as a permanent record thereof.



ENVIRONMENTAL ANALYSIS

ANALYTICAL RESULTS

Lab Order: K040531
 Project ID MT. DIABLO

Lab ID:	K040531001	Date Collected:	4/12/2010 13:55	Matrix:	Water			
Sample ID:	C10601-1 MTD-SW-01	Date Received:	4/13/2010 14:51					
Parameters	Result Units	R. L.	MDL	DF Prepared	Batch	Analyzed	Batch	Qual
Methyl Mercury Analysis	Prep Method:	Draft EPA 1630		Prep by:	ECV			
	Analytical Method:	Draft EPA 1630				Analyzed by:	ECV	
Methyl Mercury	0.0607 ng/L	0.05	0.02	1	04/21/10 00:00	MPR 8689	04/23/10 00:00	MHG 3113

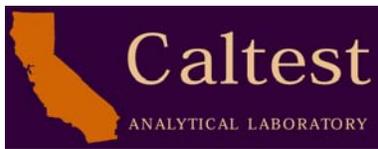
Lab ID:	K040531002	Date Collected:	4/12/2010 14:25	Matrix:	Water			
Sample ID:	C10601-2 MTD-SW-02	Date Received:	4/13/2010 14:51					
Parameters	Result Units	R. L.	MDL	DF Prepared	Batch	Analyzed	Batch	Qual
Methyl Mercury Analysis	Prep Method:	Draft EPA 1630		Prep by:	ECV			
	Analytical Method:	Draft EPA 1630				Analyzed by:	ECV	
Methyl Mercury	0.976 ng/L	0.2	0.1	1	04/21/10 00:00	MPR 8689	04/23/10 00:00	MHG 3113

Lab ID:	K040531003	Date Collected:	4/12/2010 14:15	Matrix:	Water			
Sample ID:	C10601-3 MTD-SW-03	Date Received:	4/13/2010 14:51					
Parameters	Result Units	R. L.	MDL	DF Prepared	Batch	Analyzed	Batch	Qual
Methyl Mercury Analysis	Prep Method:	Draft EPA 1630		Prep by:	ECV			
	Analytical Method:	Draft EPA 1630				Analyzed by:	ECV	
Methyl Mercury	0.398 ng/L	0.2	0.1	1	04/21/10 00:00	MPR 8689	04/23/10 00:00	MHG 3113

Lab ID:	K040531004	Date Collected:	4/12/2010 14:35	Matrix:	Water			
Sample ID:	C10601-4 MTD-SW-04	Date Received:	4/13/2010 14:51					
Parameters	Result Units	R. L.	MDL	DF Prepared	Batch	Analyzed	Batch	Qual
Methyl Mercury Analysis	Prep Method:	Draft EPA 1630		Prep by:	ECV			
	Analytical Method:	Draft EPA 1630				Analyzed by:	ECV	
Methyl Mercury	0.328 ng/L	0.05	0.02	1	04/21/10 00:00	MPR 8689	04/23/10 00:00	MHG 3113

Lab ID:	K040531005	Date Collected:	4/12/2010 15:10	Matrix:	Water			
Sample ID:	C10601-5 MTD-SW-05	Date Received:	4/13/2010 14:51					
Parameters	Result Units	R. L.	MDL	DF Prepared	Batch	Analyzed	Batch	Qual
Methyl Mercury Analysis	Prep Method:	Draft EPA 1630		Prep by:	ECV			





ENVIRONMENTAL ANALYSIS

ANALYTICAL RESULTS

Lab Order: K040531
Project ID MT. DIABLO

Lab ID:	K040531005	Date Collected:	4/12/2010 15:10	Matrix:	Water			
Sample ID:	C10601-5 MTD-SW-05	Date Received:	4/13/2010 14:51					
Parameters	Result Units	R. L.	MDL	DF Prepared	Batch	Analyzed	Batch	Qual
	Analytical Method:		Draft EPA 1630		Analyzed by:		ECV	
Methyl Mercury	1.04 ng/L	0.2	0.1	1 04/21/10 00:00	MPR 8689	04/23/10 00:00	MHG 3113	

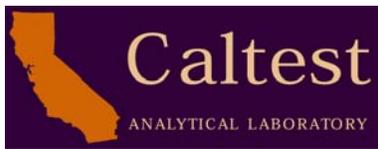
Lab ID:	K040531006	Date Collected:	4/12/2010 13:35	Matrix:	Water			
Sample ID:	C10601-6 MTD-SW-06	Date Received:	4/13/2010 14:51					
Parameters	Result Units	R. L.	MDL	DF Prepared	Batch	Analyzed	Batch	Qual
	Prep Method:		Draft EPA 1630		Prep by:		ECV	
	Analytical Method:		Draft EPA 1630		Analyzed by:		ECV	
Methyl Mercury	0.350 ng/L	0.2	0.1	1 04/21/10 00:00	MPR 8689	04/23/10 00:00	MHG 3113	

Lab ID:	K040531007	Date Collected:	4/12/2010 15:30	Matrix:	Water			
Sample ID:	C10601-7 MTD-SW-07	Date Received:	4/13/2010 14:51					
Parameters	Result Units	R. L.	MDL	DF Prepared	Batch	Analyzed	Batch	Qual
	Prep Method:		Draft EPA 1630		Prep by:		ECV	
	Analytical Method:		Draft EPA 1630		Analyzed by:		ECV	
Methyl Mercury	0.736 ng/L	0.05	0.02	1 04/21/10 00:00	MPR 8689	04/23/10 00:00	MHG 3113	

Lab ID:	K040531008	Date Collected:	4/12/2010 14:45	Matrix:	Water			
Sample ID:	C10601-8 MTD-SW-08	Date Received:	4/13/2010 14:51					
Parameters	Result Units	R. L.	MDL	DF Prepared	Batch	Analyzed	Batch	Qual
	Prep Method:		Draft EPA 1630		Prep by:		ECV	
	Analytical Method:		Draft EPA 1630		Analyzed by:		ECV	
Methyl Mercury	0.389 ng/L	0.05	0.02	1 04/21/10 00:00	MPR 8689	04/23/10 00:00	MHG 3113	

Lab ID:	K040531009	Date Collected:	4/12/2010 15:00	Matrix:	Water			
Sample ID:	C10601-9 MTD-SW-09	Date Received:	4/13/2010 14:51					
Parameters	Result Units	R. L.	MDL	DF Prepared	Batch	Analyzed	Batch	Qual
	Prep Method:		Draft EPA 1630		Prep by:		ECV	
	Analytical Method:		Draft EPA 1630		Analyzed by:		ECV	





ENVIRONMENTAL ANALYSIS

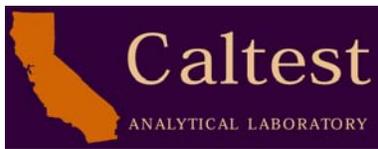
ANALYTICAL RESULTS

Lab Order: K040531
 Project ID MT. DIABLO

Lab ID:	K040531009	Date Collected:	4/12/2010 15:00	Matrix:	Water			
Sample ID:	C10601-9 MTD-SW-09	Date Received:	4/13/2010 14:51					
Parameters	Result Units	R. L.	MDL	DF Prepared	Batch	Analyzed	Batch	Qual
Methyl Mercury	0.523 ng/L	0.2	0.1	1 04/21/10 00:00	MPR 8689	04/23/10 00:00	MHG 3113	

Lab ID:	K040531010	Date Collected:	4/12/2010 15:20	Matrix:	Water			
Sample ID:	C10601-10 MTD-SW-10	Date Received:	4/13/2010 14:51					
Parameters	Result Units	R. L.	MDL	DF Prepared	Batch	Analyzed	Batch	Qual
Methyl Mercury Analysis								
		Prep Method:	Draft EPA 1630	Prep by:	ECV			
		Analytical Method:	Draft EPA 1630	Analyzed by:	ECV			
Methyl Mercury	0.480 ng/L	0.2	0.1	1 04/21/10 00:00	MPR 8689	04/23/10 00:00	MHG 3113	





ENVIRONMENTAL ANALYSES

QUALITY CONTROL DATA

Lab Order: K040531

Project ID: MT. DIABLO

Analysis Description:	Methyl Mercury Analysis	QC Batch:	MPR/8689
Analysis Method:	Draft EPA 1630	QC Batch Method:	Draft EPA 1630

METHOD BLANK: 327433

Parameter	Blank Result	Reporting Limit	MDL	Units	Qualifiers
Methyl Mercury	ND	0.05	0.02	ng/L	

LABORATORY CONTROL SAMPLE: 327434

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Methyl Mercury	ng/L	1.11	0.966	87	67-133	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 327435 327436

Parameter	Units	K040637001 Result	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limit	RPD	Max RPD	Qualifiers
Methyl Mercury	ng/L	0.0233	1.11	1.02	1.02	90	90	65-135	0	35	





ENVIRONMENTAL ANALYSES

QUALITY CONTROL DATA QUALIFIERS

Lab Order: K040531

Project ID: MT. DIABLO

QUALITY CONTROL PARAMETER QUALIFIERS

Results Qualifiers: Report fields may contain codes and non-numeric data correlating to one or more of the following definitions:

NS - means not spiked and will not have recoveries reported for Analyte Spike Amounts

NC - means not able to be calculated for RPD or Spike Recoveries.

QC Codes Keys: These descriptors are used to help identify the specific QC samples and clarify the report.

MB - Method Blank

Method Blanks are reported to the same Method Detection Limits (MDLs) or Reporting Limits (RLs) as the analytical samples in the corresponding QC batch.

LCS/LCSD - Laboratory Control Spike / Laboratory Control Spike Duplicate

DUP - Duplicate of Original Sample Matrix

MS/MSD - Matrix Spike / Matrix Spike Duplicate

RPD - Relative Percent Difference

%Recovery - Spike Recovery stated as a percentage



ENVIRONMENTAL ANALYSES

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Lab Order: K040531

Project ID: MT. DIABLO

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
K040531001	C10601-1 MTD-SW-01	Draft EPA 1630	MPR/8689	Draft EPA 1630	MHG/3113
K040531002	C10601-2 MTD-SW-02	Draft EPA 1630	MPR/8689	Draft EPA 1630	MHG/3113
K040531003	C10601-3 MTD-SW-03	Draft EPA 1630	MPR/8689	Draft EPA 1630	MHG/3113
K040531004	C10601-4 MTD-SW-04	Draft EPA 1630	MPR/8689	Draft EPA 1630	MHG/3113
K040531005	C10601-5 MTD-SW-05	Draft EPA 1630	MPR/8689	Draft EPA 1630	MHG/3113
K040531006	C10601-6 MTD-SW-06	Draft EPA 1630	MPR/8689	Draft EPA 1630	MHG/3113
K040531007	C10601-7 MTD-SW-07	Draft EPA 1630	MPR/8689	Draft EPA 1630	MHG/3113
K040531008	C10601-8 MTD-SW-08	Draft EPA 1630	MPR/8689	Draft EPA 1630	MHG/3113
K040531009	C10601-9 MTD-SW-09	Draft EPA 1630	MPR/8689	Draft EPA 1630	MHG/3113
K040531010	C10601-10 MTD-SW-10	Draft EPA 1630	MPR/8689	Draft EPA 1630	MHG/3113



K040531

Accutest ID and PO#: C10601

2105 Lundy Avenue, San Jose, CA 95131 Phone : (408)588-0200 Fax: (408)588-0201

Subcontract Chain of Custody

Subcontract Lab: Caltest Analytical Laboratory

Date Sent: 04/13/10

Date Due: 10 Day TAT

10 Day TAT

Project Name: Mt. Diablo

Project Location: Clayton, CA

Accutest Lab Number	Customer Sample Name/Field Point ID	Matrix	Method	Collect Date	Collect Time
C10601-1	MTD-SW-01	SW	Methyl Mercury	04/12/10	13:55
C10601-2	MTD-SW-02	SW	Methyl Mercury	04/12/10	14:25
C10601-3	MTD-SW-03	SW	Methyl Mercury	04/12/10	14:15
C10601-4	MTD-SW-04	SW	Methyl Mercury	04/12/10	14:35
C10601-5	MTD-SW-05	SW	Methyl Mercury	04/12/10	15:10
C10601-6	MTD-SW-06	SW	Methyl Mercury	04/12/10	13:35
C10601-7	MTD-SW-07	SW	Methyl Mercury	04/12/10	15:30
C10601-8	MTD-SW-08	SW	Methyl Mercury	04/12/10	14:45
C10601-9	MTD-SW-09	SW	Methyl Mercury	04/12/10	15:00
C10601-10	MTD-SW-10	SW	Methyl Mercury	04/12/10	15:20

Comments:

Relinquished By: ekumar	Received By:	Date: 4/13/10	Time: 1220
Relinquished By:	Received By:	Date: 4/13/10	Time: 1451
Relinquished By:	Received By:	Date:	Time:

Send the Report to: dianet@accutest.com



Technical Report for

The Source Group

Mt. Diablo- Marsh Creek Road, Clayton, CA

SUNOCO

Accutest Job Number: C11216

Sampling Date: 05/27/10

Report to:

The Source Group
3451C Vincent Road
Pleasant Hill, CA 94523
jphilipp@thesourcegroup.net

ATTN: Jon Philipp

Total number of pages in report: **50**



Test results contained within this data package meet the requirements of the National Environmental Laboratory Accreditation Conference and/or state specific certification programs as applicable.

Laurie Glantz-Murphy
Laboratory Director

Client Service contact: Anne Kathain 408-588-0200

Certifications: CA (08258CA) DoD/ISO/IEC 17025:2005 (L2242)

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Test results relate only to samples analyzed.



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Sample Summary

The Source Group

Job No: C11216

Mt. Diablo- Marsh Creek Road, Clayton, CA
 Project No: SUNOCO

Sample Number	Collected		Received	Matrix		Client Sample ID
	Date	Time By		Code	Type	
C11216-1	05/27/10	13:00 JP	05/28/10	AQ	Surface Water	MTD-SW-08/2
C11216-1F	05/27/10	13:00 JP	05/28/10	AQ	Surface H2O Filtered	MTD-SW-08/2
C11216-2	05/27/10	13:30 JP	05/28/10	AQ	Surface Water	MTD-SW-07/2
C11216-2F	05/27/10	13:30 JP	05/28/10	AQ	Surface H2O Filtered	MTD-SW-07/2
C11216-3	05/27/10	13:15 JP	05/28/10	AQ	Surface Water	MTD-SW-09/2
C11216-3F	05/27/10	13:15 JP	05/28/10	AQ	Surface H2O Filtered	MTD-SW-09/2
C11216-4	05/27/10	13:50 JP	05/28/10	AQ	Surface Water	MTD-SW-10/2
C11216-4F	05/27/10	13:50 JP	05/28/10	AQ	Surface H2O Filtered	MTD-SW-10/2
C11216-5	05/27/10	10:50 JP	05/28/10	AQ	Surface Water	MTD-SW-06/2
C11216-5F	05/27/10	10:50 JP	05/28/10	AQ	Surface H2O Filtered	MTD-SW-06/2
C11216-6	05/27/10	09:20 JP	05/28/10	AQ	Surface Water	MTD-SW-11/2
C11216-6F	05/27/10	09:20 JP	05/28/10	AQ	Surface H2O Filtered	MTD-SW-11/2
C11216-7	05/27/10	12:45 JP	05/28/10	AQ	Surface Water	MTD-SW-16/2



Sample Summary

(continued)

The Source Group

Job No: C11216

Mt. Diablo- Marsh Creek Road, Clayton, CA
Project No: SUNOCO

Sample Number	Collected		Matrix			Client Sample ID
	Date	Time By	Received	Code	Type	
C11216-7F	05/27/10	12:45 JP	05/28/10	AQ	Surface H2O Filtered	MTD-SW-16/2



Sample Results

Report of Analysis

Report of Analysis

Client Sample ID: MTD-SW-08/2	Date Sampled: 05/27/10
Lab Sample ID: C11216-1	Date Received: 05/28/10
Matrix: AQ - Surface Water	Percent Solids: n/a
Project: Mt. Diablo- Marsh Creek Road, Clayton, CA	

Total Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed By	Method	Prep Method
Antimony	< 10	10	ug/l	1	06/02/10	06/04/10 CT	SW846 6010B ²	SW3010A ⁴
Arsenic	< 10	10	ug/l	1	06/02/10	06/04/10 CT	SW846 6010B ²	SW3010A ⁴
Beryllium	< 5.0	5.0	ug/l	1	06/02/10	06/04/10 CT	SW846 6010B ²	SW3010A ⁴
Boron	486	50	ug/l	1	06/02/10	06/04/10 CT	SW846 6010B ²	SW3010A ⁴
Cadmium	< 2.0	2.0	ug/l	1	06/02/10	06/04/10 CT	SW846 6010B ²	SW3010A ⁴
Calcium	41400	50	ug/l	1	06/02/10	06/04/10 CT	SW846 6010B ²	SW3010A ⁴
Chromium	< 5.0	5.0	ug/l	1	06/02/10	06/04/10 CT	SW846 6010B ²	SW3010A ⁴
Copper	< 5.0	5.0	ug/l	1	06/02/10	06/04/10 CT	SW846 6010B ²	SW3010A ⁴
Iron	732	50	ug/l	1	06/02/10	06/04/10 CT	SW846 6010B ²	SW3010A ⁴
Lead	< 5.0	5.0	ug/l	1	06/02/10	06/04/10 CT	SW846 6010B ²	SW3010A ⁴
Magnesium	19800	50	ug/l	1	06/02/10	06/04/10 CT	SW846 6010B ²	SW3010A ⁴
Manganese	70.5	5.0	ug/l	1	06/02/10	06/04/10 CT	SW846 6010B ²	SW3010A ⁴
Mercury	< 0.20	0.20	ug/l	1	06/01/10	06/02/10 RW	EPA 245.1 ¹	EPA 245.1/SW7470A ³
Nickel	9.5	5.0	ug/l	1	06/02/10	06/04/10 CT	SW846 6010B ²	SW3010A ⁴
Potassium	1560	500	ug/l	1	06/02/10	06/04/10 CT	SW846 6010B ²	SW3010A ⁴
Selenium	< 20	20	ug/l	1	06/02/10	06/04/10 CT	SW846 6010B ²	SW3010A ⁴
Silicon	6620	50	ug/l	1	06/02/10	06/04/10 CT	SW846 6010B ²	SW3010A ⁴
Silver	< 5.0	5.0	ug/l	1	06/02/10	06/04/10 CT	SW846 6010B ²	SW3010A ⁴
Sodium	16100	100	ug/l	1	06/02/10	06/04/10 CT	SW846 6010B ²	SW3010A ⁴
Thallium	< 20	20	ug/l	1	06/02/10	06/04/10 CT	SW846 6010B ²	SW3010A ⁴
Zinc	< 10	10	ug/l	1	06/02/10	06/04/10 CT	SW846 6010B ²	SW3010A ⁴

- (1) Instrument QC Batch: MA1239
- (2) Instrument QC Batch: MA1243
- (3) Prep QC Batch: MP2431
- (4) Prep QC Batch: MP2433

RL = Reporting Limit

Report of Analysis

Client Sample ID:	MTD-SW-08/2	Date Sampled:	05/27/10
Lab Sample ID:	C11216-1	Date Received:	05/28/10
Matrix:	AQ - Surface Water	Percent Solids:	n/a
Project:	Mt. Diablo- Marsh Creek Road, Clayton, CA		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Alkalinity, Bicarbonate	169	5.0	mg/l	1	06/01/10	PH	SM18 4500CO2D
Alkalinity, Carbonate	< 5.0	5.0	mg/l	1	06/01/10	PH	SM18 4500CO2D
Alkalinity, Total as CaCO ₃	169	5.0	mg/l	1	06/01/10	PH	SM18 2320B
Bromide	< 0.20	0.20	mg/l	1	05/28/10 13:33	RL	EPA 300/SW846 9056A
Chloride	10.8	1.3	mg/l	2.5	06/01/10 21:52	RL	EPA 300/SW846 9056A
Dissolved Organic Carbon	4.1	1.0	mg/l	1	05/28/10	RL	SM18 5310C
Fluoride	< 0.10	0.10	mg/l	1	05/28/10 13:33	RL	EPA 300/SW846 9056A
Hardness, Total as CaCO ₃ ^a	185	0.33	mg/l	1	06/04/10 15:30	CT	SW846 6010B/SM 2340B
Nitrogen, Nitrate	< 0.10	0.10	mg/l	1	05/28/10 13:33	RL	EPA 300/SW846 9056A
Silica, Dissolved ^b	14.2	0.11	mg/l	1	06/04/10 15:30	CT	SW846 6010B
Solids, Total Dissolved	231	10	mg/l	1	06/01/10	PH	SM18 2540C
Specific Conductivity	414	1.0	umhos/cm	1	05/28/10	PH	SM18 2510B/EPA 120.1
Sulfate	32.4	1.3	mg/l	2.5	06/01/10 21:52	RL	EPA 300/SW846 9056A
Turbidity	26.9	0.50	NTU	1	05/28/10 12:10	EB	SM18 2130B
pH ^c	7.91		su	1	05/28/10 13:12	PH	SM18 4500H+ B

(a) Calculated as: (Calcium * 2.497) + (Magnesium * 4.118)

(b) Calculated as: (Silicon * 2.139)

(c) pH was analyzed past the 15min hold time.

RL = Reporting Limit

Report of Analysis

Client Sample ID: MTD-SW-08/2	Date Sampled: 05/27/10
Lab Sample ID: C11216-1F	Date Received: 05/28/10
Matrix: AQ - Surface H2O Filtered	Percent Solids: n/a
Project: Mt. Diablo- Marsh Creek Road, Clayton, CA	

Dissolved Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed By	Method	Prep Method
Mercury	< 0.20	0.20	ug/l	1	06/02/10	06/03/10 RW	EPA 245.1 ¹	EPA 245.1/SW7470A ²

(1) Instrument QC Batch: MA1240

(2) Prep QC Batch: MP2430

RL = Reporting Limit

Report of Analysis

Client Sample ID: MTD-SW-07/2	Date Sampled: 05/27/10
Lab Sample ID: C11216-2	Date Received: 05/28/10
Matrix: AQ - Surface Water	Percent Solids: n/a
Project: Mt. Diablo- Marsh Creek Road, Clayton, CA	

Total Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed By	Method	Prep Method
Antimony	< 10	10	ug/l	1	06/02/10	06/02/10 CT	SW846 6010B ¹	SW3010A ⁵
Arsenic	< 10	10	ug/l	1	06/02/10	06/02/10 CT	SW846 6010B ¹	SW3010A ⁵
Beryllium	< 5.0	5.0	ug/l	1	06/02/10	06/02/10 CT	SW846 6010B ¹	SW3010A ⁵
Boron	3120	250	ug/l	5	06/02/10	06/04/10 CT	SW846 6010B ³	SW3010A ⁵
Cadmium	< 2.0	2.0	ug/l	1	06/02/10	06/02/10 CT	SW846 6010B ¹	SW3010A ⁵
Calcium	52000	250	ug/l	5	06/02/10	06/04/10 CT	SW846 6010B ³	SW3010A ⁵
Chromium	< 5.0	5.0	ug/l	1	06/02/10	06/02/10 CT	SW846 6010B ¹	SW3010A ⁵
Copper	< 5.0	5.0	ug/l	1	06/02/10	06/02/10 CT	SW846 6010B ¹	SW3010A ⁵
Iron	665	50	ug/l	1	06/02/10	06/02/10 CT	SW846 6010B ¹	SW3010A ⁵
Lead	< 5.0	5.0	ug/l	1	06/02/10	06/02/10 CT	SW846 6010B ¹	SW3010A ⁵
Magnesium	36700	250	ug/l	5	06/02/10	06/04/10 CT	SW846 6010B ³	SW3010A ⁵
Manganese	381	5.0	ug/l	1	06/02/10	06/02/10 CT	SW846 6010B ¹	SW3010A ⁵
Mercury	0.64	0.20	ug/l	1	06/01/10	06/02/10 RW	EPA 245.1 ²	EPA 245.1/SW7470A ⁴
Nickel	345	25	ug/l	5	06/02/10	06/04/10 CT	SW846 6010B ³	SW3010A ⁵
Potassium	3140	500	ug/l	1	06/02/10	06/02/10 CT	SW846 6010B ¹	SW3010A ⁵
Selenium	< 20	20	ug/l	1	06/02/10	06/02/10 CT	SW846 6010B ¹	SW3010A ⁵
Silicon	5930	50	ug/l	1	06/02/10	06/02/10 CT	SW846 6010B ¹	SW3010A ⁵
Silver	< 5.0	5.0	ug/l	1	06/02/10	06/02/10 CT	SW846 6010B ¹	SW3010A ⁵
Sodium	56000	500	ug/l	5	06/02/10	06/04/10 CT	SW846 6010B ³	SW3010A ⁵
Thallium	< 20	20	ug/l	1	06/02/10	06/02/10 CT	SW846 6010B ¹	SW3010A ⁵
Zinc	< 10	10	ug/l	1	06/02/10	06/02/10 CT	SW846 6010B ¹	SW3010A ⁵

- (1) Instrument QC Batch: MA1238
- (2) Instrument QC Batch: MA1239
- (3) Instrument QC Batch: MA1243
- (4) Prep QC Batch: MP2431
- (5) Prep QC Batch: MP2433

RL = Reporting Limit

Report of Analysis

Client Sample ID:	MTD-SW-07/2	Date Sampled:	05/27/10
Lab Sample ID:	C11216-2	Date Received:	05/28/10
Matrix:	AQ - Surface Water	Percent Solids:	n/a
Project:	Mt. Diablo- Marsh Creek Road, Clayton, CA		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Alkalinity, Bicarbonate	179	5.0	mg/l	1	06/01/10	PH	SM18 4500CO2D
Alkalinity, Carbonate	< 5.0	5.0	mg/l	1	06/01/10	PH	SM18 4500CO2D
Alkalinity, Total as CaCO ₃	179	5.0	mg/l	1	06/01/10	PH	SM18 2320B
Bromide	< 0.20	0.20	mg/l	1	05/28/10 13:50	RL	EPA 300/SW846 9056A
Chloride	54.0	5.0	mg/l	10	06/01/10 22:45	RL	EPA 300/SW846 9056A
Dissolved Organic Carbon	4.3	1.0	mg/l	1	05/28/10	RL	SM18 5310C
Fluoride	< 0.10	0.10	mg/l	1	05/28/10 13:50	RL	EPA 300/SW846 9056A
Hardness, Total as CaCO ₃ ^a	281	1.7	mg/l	1	06/04/10 15:35	CT	SW846 6010B/SM 2340B
Nitrogen, Nitrate	< 0.10	0.10	mg/l	1	05/28/10 13:50	RL	EPA 300/SW846 9056A
Silica, Dissolved ^b	12.7	0.11	mg/l	1	06/02/10 20:09	CT	SW846 6010B
Solids, Total Dissolved	465	10	mg/l	1	06/01/10	PH	SM18 2540C
Specific Conductivity	774	1.0	umhos/cm	1	05/28/10	PH	SM18 2510B/EPA 120.1
Sulfate	123	5.0	mg/l	10	06/01/10 22:45	RL	EPA 300/SW846 9056A
Turbidity	13.0	0.50	NTU	1	05/28/10 12:10	EB	SM18 2130B
pH ^c	7.69		su	1	05/28/10 13:16	PH	SM18 4500H+ B

(a) Calculated as: (Calcium * 2.497) + (Magnesium * 4.118)

(b) Calculated as: (Silicon * 2.139)

(c) pH was analyzed past the 15min hold time.

RL = Reporting Limit

Report of Analysis

Client Sample ID: MTD-SW-07/2	Date Sampled: 05/27/10
Lab Sample ID: C11216-2F	Date Received: 05/28/10
Matrix: AQ - Surface H2O Filtered	Percent Solids: n/a
Project: Mt. Diablo- Marsh Creek Road, Clayton, CA	

Dissolved Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed By	Method	Prep Method
Mercury	< 0.20	0.20	ug/l	1	06/02/10	06/03/10 RW	EPA 245.1 ¹	EPA 245.1/SW7470A ²

(1) Instrument QC Batch: MA1240

(2) Prep QC Batch: MP2430

RL = Reporting Limit

Report of Analysis

Client Sample ID: MTD-SW-09/2	Date Sampled: 05/27/10
Lab Sample ID: C11216-3	Date Received: 05/28/10
Matrix: AQ - Surface Water	Percent Solids: n/a
Project: Mt. Diablo- Marsh Creek Road, Clayton, CA	

Total Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed By	Method	Prep Method
Antimony	< 10	10	ug/l	1	06/02/10	06/02/10 CT	SW846 6010B ¹	SW3010A ⁵
Arsenic	< 10	10	ug/l	1	06/02/10	06/02/10 CT	SW846 6010B ¹	SW3010A ⁵
Beryllium	< 5.0	5.0	ug/l	1	06/02/10	06/02/10 CT	SW846 6010B ¹	SW3010A ⁵
Boron	86800	50	ug/l	1	06/02/10	06/02/10 CT	SW846 6010B ¹	SW3010A ⁵
Cadmium	< 2.0	2.0	ug/l	1	06/02/10	06/02/10 CT	SW846 6010B ¹	SW3010A ⁵
Calcium	409000	2500	ug/l	50	06/02/10	06/04/10 CT	SW846 6010B ³	SW3010A ⁵
Chromium	18.7	5.0	ug/l	1	06/02/10	06/02/10 CT	SW846 6010B ¹	SW3010A ⁵
Copper	43.2	5.0	ug/l	1	06/02/10	06/02/10 CT	SW846 6010B ¹	SW3010A ⁵
Iron	11100	50	ug/l	1	06/02/10	06/02/10 CT	SW846 6010B ¹	SW3010A ⁵
Lead	< 5.0	5.0	ug/l	1	06/02/10	06/02/10 CT	SW846 6010B ¹	SW3010A ⁵
Magnesium	482000	2500	ug/l	50	06/02/10	06/04/10 CT	SW846 6010B ³	SW3010A ⁵
Manganese	6950	5.0	ug/l	1	06/02/10	06/02/10 CT	SW846 6010B ¹	SW3010A ⁵
Mercury	88.0	2.0	ug/l	10	06/01/10	06/02/10 RW	EPA 245.1 ²	EPA 245.1/SW7470A ⁴
Nickel	16000	250	ug/l	50	06/02/10	06/04/10 CT	SW846 6010B ³	SW3010A ⁵
Potassium	47000	500	ug/l	1	06/02/10	06/02/10 CT	SW846 6010B ¹	SW3010A ⁵
Selenium	< 20	20	ug/l	1	06/02/10	06/02/10 CT	SW846 6010B ¹	SW3010A ⁵
Silicon	16500	50	ug/l	1	06/02/10	06/02/10 CT	SW846 6010B ¹	SW3010A ⁵
Silver	< 5.0	5.0	ug/l	1	06/02/10	06/02/10 CT	SW846 6010B ¹	SW3010A ⁵
Sodium	1260000	5000	ug/l	50	06/02/10	06/04/10 CT	SW846 6010B ³	SW3010A ⁵
Thallium	< 20	20	ug/l	1	06/02/10	06/02/10 CT	SW846 6010B ¹	SW3010A ⁵
Zinc	368	10	ug/l	1	06/02/10	06/02/10 CT	SW846 6010B ¹	SW3010A ⁵

(1) Instrument QC Batch: MA1238

(2) Instrument QC Batch: MA1239

(3) Instrument QC Batch: MA1243

(4) Prep QC Batch: MP2431

(5) Prep QC Batch: MP2433

RL = Reporting Limit

Report of Analysis

Client Sample ID:	MTD-SW-09/2	Date Sampled:	05/27/10
Lab Sample ID:	C11216-3	Date Received:	05/28/10
Matrix:	AQ - Surface Water	Percent Solids:	n/a
Project:	Mt. Diablo- Marsh Creek Road, Clayton, CA		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Alkalinity, Bicarbonate	< 5.0	5.0	mg/l	1	06/01/10	PH	SM18 4500CO2D
Alkalinity, Carbonate	< 5.0	5.0	mg/l	1	06/01/10	PH	SM18 4500CO2D
Alkalinity, Total as CaCO ₃	< 5.0	5.0	mg/l	1	06/01/10	PH	SM18 2320B
Bromide	5.9	1.0	mg/l	5	05/28/10 16:10	RL	EPA 300/SW846 9056A
Chloride	1750	100	mg/l	200	06/01/10 23:02	RL	EPA 300/SW846 9056A
Dissolved Organic Carbon	2.7	1.0	mg/l	1	05/28/10	RL	SM18 5310C
Fluoride ^a	< 0.50	0.50	mg/l	5	05/28/10 16:10	RL	EPA 300/SW846 9056A
Hardness, Total as CaCO ₃ ^b	3010	17	mg/l	1	06/04/10 15:23	CT	SW846 6010B/SM 2340B
Nitrogen, Nitrate	1.8	0.50	mg/l	5	05/28/10 16:10	RL	EPA 300/SW846 9056A
Silica, Dissolved ^c	35.3	0.11	mg/l	1	06/02/10 20:15	CT	SW846 6010B
Solids, Total Dissolved	7800	10	mg/l	1	06/01/10	PH	SM18 2540C
Specific Conductivity	9810	1.0	umhos/cm	1	05/28/10	PH	SM18 2510B/EPA 120.1
Sulfate	4310	200	mg/l	400	06/02/10 11:37	RL	EPA 300/SW846 9056A
Turbidity	19.1	0.50	NTU	1	05/28/10 12:10	EB	SM18 2130B
pH ^d	4.52		su	1	05/28/10 13:19	PH	SM18 4500H+ B

(a) Elevated detection limit due to high concentration of Chloride.

(b) Calculated as: (Calcium * 2.497) + (Magnesium * 4.118)

(c) Calculated as: (Silicon * 2.139)

(d) pH was analyzed past the 15min hold time.

RL = Reporting Limit

Report of Analysis

Client Sample ID: MTD-SW-09/2	Date Sampled: 05/27/10
Lab Sample ID: C11216-3F	Date Received: 05/28/10
Matrix: AQ - Surface H2O Filtered	Percent Solids: n/a
Project: Mt. Diablo- Marsh Creek Road, Clayton, CA	

Dissolved Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed By	Method	Prep Method
Mercury	55.1	2.0	ug/l	10	06/02/10	06/03/10 RW	EPA 245.1 ¹	EPA 245.1/SW7470A ²

(1) Instrument QC Batch: MA1240

(2) Prep QC Batch: MP2430

RL = Reporting Limit

Report of Analysis

Client Sample ID: MTD-SW-10/2	Date Sampled: 05/27/10
Lab Sample ID: C11216-4	Date Received: 05/28/10
Matrix: AQ - Surface Water	Percent Solids: n/a
Project: Mt. Diablo- Marsh Creek Road, Clayton, CA	

Total Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed By	Method	Prep Method
Antimony	< 10	10	ug/l	1	06/02/10	06/02/10 CT	SW846 6010B ¹	SW3010A ⁵
Arsenic	< 10	10	ug/l	1	06/02/10	06/02/10 CT	SW846 6010B ¹	SW3010A ⁵
Beryllium	< 5.0	5.0	ug/l	1	06/02/10	06/02/10 CT	SW846 6010B ¹	SW3010A ⁵
Boron	1920	150	ug/l	3	06/02/10	06/04/10 CT	SW846 6010B ³	SW3010A ⁵
Cadmium	< 2.0	2.0	ug/l	1	06/02/10	06/02/10 CT	SW846 6010B ¹	SW3010A ⁵
Calcium	55900	50	ug/l	1	06/02/10	06/02/10 CT	SW846 6010B ¹	SW3010A ⁵
Chromium	< 5.0	5.0	ug/l	1	06/02/10	06/02/10 CT	SW846 6010B ¹	SW3010A ⁵
Copper	< 5.0	5.0	ug/l	1	06/02/10	06/02/10 CT	SW846 6010B ¹	SW3010A ⁵
Iron	1330	50	ug/l	1	06/02/10	06/02/10 CT	SW846 6010B ¹	SW3010A ⁵
Lead	< 5.0	5.0	ug/l	1	06/02/10	06/02/10 CT	SW846 6010B ¹	SW3010A ⁵
Magnesium	36500	50	ug/l	1	06/02/10	06/02/10 CT	SW846 6010B ¹	SW3010A ⁵
Manganese	623	5.0	ug/l	1	06/02/10	06/02/10 CT	SW846 6010B ¹	SW3010A ⁵
Mercury	0.21	0.20	ug/l	1	06/01/10	06/02/10 RW	EPA 245.1 ²	EPA 245.1/SW7470A ⁴
Nickel	263	5.0	ug/l	1	06/02/10	06/02/10 CT	SW846 6010B ¹	SW3010A ⁵
Potassium	2120	500	ug/l	1	06/02/10	06/02/10 CT	SW846 6010B ¹	SW3010A ⁵
Selenium	< 20	20	ug/l	1	06/02/10	06/02/10 CT	SW846 6010B ¹	SW3010A ⁵
Silicon	7960	50	ug/l	1	06/02/10	06/02/10 CT	SW846 6010B ¹	SW3010A ⁵
Silver	< 5.0	5.0	ug/l	1	06/02/10	06/02/10 CT	SW846 6010B ¹	SW3010A ⁵
Sodium	37300	300	ug/l	3	06/02/10	06/04/10 CT	SW846 6010B ³	SW3010A ⁵
Thallium	< 20	20	ug/l	1	06/02/10	06/02/10 CT	SW846 6010B ¹	SW3010A ⁵
Zinc	< 10	10	ug/l	1	06/02/10	06/02/10 CT	SW846 6010B ¹	SW3010A ⁵

(1) Instrument QC Batch: MA1238

(2) Instrument QC Batch: MA1239

(3) Instrument QC Batch: MA1243

(4) Prep QC Batch: MP2431

(5) Prep QC Batch: MP2433

RL = Reporting Limit

Report of Analysis

Client Sample ID:	MTD-SW-10/2	Date Sampled:	05/27/10
Lab Sample ID:	C11216-4	Date Received:	05/28/10
Matrix:	AQ - Surface Water	Percent Solids:	n/a
Project:	Mt. Diablo- Marsh Creek Road, Clayton, CA		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Alkalinity, Bicarbonate	248	5.0	mg/l	1	06/01/10	PH	SM18 4500CO2D
Alkalinity, Carbonate	< 5.0	5.0	mg/l	1	06/01/10	PH	SM18 4500CO2D
Alkalinity, Total as CaCO ₃	248	5.0	mg/l	1	06/01/10	PH	SM18 2320B
Bromide	< 0.20	0.20	mg/l	1	05/28/10 14:25	RL	EPA 300/SW846 9056A
Chloride	27.5	3.0	mg/l	6	06/01/10 23:20	RL	EPA 300/SW846 9056A
Dissolved Organic Carbon	5.2	1.0	mg/l	1	05/28/10	RL	SM18 5310C
Fluoride	< 0.10	0.10	mg/l	1	05/28/10 14:25	RL	EPA 300/SW846 9056A
Hardness, Total as CaCO ₃ ^a	290	0.33	mg/l	1	06/02/10 20:21	CT	SW846 6010B/SM 2340B
Nitrogen, Nitrate	< 0.10	0.10	mg/l	1	05/28/10 14:25	RL	EPA 300/SW846 9056A
Silica, Dissolved ^b	17.0	0.11	mg/l	1	06/02/10 20:21	CT	SW846 6010B
Solids, Total Dissolved	447	10	mg/l	1	06/01/10	PH	SM18 2540C
Specific Conductivity	711	1.0	umhos/cm	1	05/28/10	PH	SM18 2510B/EPA 120.1
Sulfate	101	3.0	mg/l	6	06/01/10 23:20	RL	EPA 300/SW846 9056A
Turbidity	7.1	0.50	NTU	1	05/28/10 12:10	EB	SM18 2130B
pH ^c	7.41		su	1	05/28/10 13:26	PH	SM18 4500H+ B

(a) Calculated as: (Calcium * 2.497) + (Magnesium * 4.118)

(b) Calculated as: (Silicon * 2.139)

(c) pH was analyzed past the 15min hold time.

RL = Reporting Limit

Report of Analysis

Client Sample ID: MTD-SW-10/2	Date Sampled: 05/27/10
Lab Sample ID: C11216-4F	Date Received: 05/28/10
Matrix: AQ - Surface H2O Filtered	Percent Solids: n/a
Project: Mt. Diablo- Marsh Creek Road, Clayton, CA	

Dissolved Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed By	Method	Prep Method
Mercury	< 0.20	0.20	ug/l	1	06/02/10	06/03/10 RW	EPA 245.1 ¹	EPA 245.1/SW7470A ²

(1) Instrument QC Batch: MA1240

(2) Prep QC Batch: MP2430

RL = Reporting Limit

Report of Analysis

Client Sample ID: MTD-SW-06/2	Date Sampled: 05/27/10
Lab Sample ID: C11216-5	Date Received: 05/28/10
Matrix: AQ - Surface Water	Percent Solids: n/a
Project: Mt. Diablo- Marsh Creek Road, Clayton, CA	

Total Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed By	Method	Prep Method
Antimony	< 10	10	ug/l	1	06/02/10	06/02/10 CT	SW846 6010B ¹	SW3010A ⁵
Arsenic	< 10	10	ug/l	1	06/02/10	06/02/10 CT	SW846 6010B ¹	SW3010A ⁵
Beryllium	< 5.0	5.0	ug/l	1	06/02/10	06/02/10 CT	SW846 6010B ¹	SW3010A ⁵
Boron	8660	500	ug/l	10	06/02/10	06/04/10 CT	SW846 6010B ³	SW3010A ⁵
Cadmium	< 2.0	2.0	ug/l	1	06/02/10	06/02/10 CT	SW846 6010B ¹	SW3010A ⁵
Calcium	133000	500	ug/l	10	06/02/10	06/04/10 CT	SW846 6010B ³	SW3010A ⁵
Chromium	< 5.0	5.0	ug/l	1	06/02/10	06/02/10 CT	SW846 6010B ¹	SW3010A ⁵
Copper	34.2	5.0	ug/l	1	06/02/10	06/02/10 CT	SW846 6010B ¹	SW3010A ⁵
Iron	272	50	ug/l	1	06/02/10	06/02/10 CT	SW846 6010B ¹	SW3010A ⁵
Lead	< 5.0	5.0	ug/l	1	06/02/10	06/02/10 CT	SW846 6010B ¹	SW3010A ⁵
Magnesium	195000	500	ug/l	10	06/02/10	06/04/10 CT	SW846 6010B ³	SW3010A ⁵
Manganese	3410	5.0	ug/l	1	06/02/10	06/02/10 CT	SW846 6010B ¹	SW3010A ⁵
Mercury	22.4	2.0	ug/l	10	06/01/10	06/02/10 RW	EPA 245.1 ²	EPA 245.1/SW7470A ⁴
Nickel	16600	50	ug/l	10	06/02/10	06/04/10 CT	SW846 6010B ³	SW3010A ⁵
Potassium	10900	500	ug/l	1	06/02/10	06/02/10 CT	SW846 6010B ¹	SW3010A ⁵
Selenium	< 20	20	ug/l	1	06/02/10	06/02/10 CT	SW846 6010B ¹	SW3010A ⁵
Silicon	25700	50	ug/l	1	06/02/10	06/02/10 CT	SW846 6010B ¹	SW3010A ⁵
Silver	< 5.0	5.0	ug/l	1	06/02/10	06/02/10 CT	SW846 6010B ¹	SW3010A ⁵
Sodium	134000	1000	ug/l	10	06/02/10	06/04/10 CT	SW846 6010B ³	SW3010A ⁵
Thallium	< 20	20	ug/l	1	06/02/10	06/02/10 CT	SW846 6010B ¹	SW3010A ⁵
Zinc	245	10	ug/l	1	06/02/10	06/02/10 CT	SW846 6010B ¹	SW3010A ⁵

(1) Instrument QC Batch: MA1238

(2) Instrument QC Batch: MA1239

(3) Instrument QC Batch: MA1243

(4) Prep QC Batch: MP2431

(5) Prep QC Batch: MP2433

RL = Reporting Limit

Report of Analysis

Client Sample ID:	MTD-SW-06/2	Date Sampled:	05/27/10
Lab Sample ID:	C11216-5	Date Received:	05/28/10
Matrix:	AQ - Surface Water	Percent Solids:	n/a
Project:	Mt. Diablo- Marsh Creek Road, Clayton, CA		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Alkalinity, Bicarbonate	< 5.0	5.0	mg/l	1	06/01/10	PH	SM18 4500CO2D
Alkalinity, Carbonate	< 5.0	5.0	mg/l	1	06/01/10	PH	SM18 4500CO2D
Alkalinity, Total as CaCO ₃	< 5.0	5.0	mg/l	1	06/01/10	PH	SM18 2320B
Bromide	0.38	0.20	mg/l	1	05/28/10 14:43	RL	EPA 300/SW846 9056A
Chloride	102	13	mg/l	25	06/01/10 23:38	RL	EPA 300/SW846 9056A
Dissolved Organic Carbon	6.1	1.0	mg/l	1	05/28/10	RL	SM18 5310C
Fluoride	< 0.10	0.10	mg/l	1	05/28/10 14:43	RL	EPA 300/SW846 9056A
Hardness, Total as CaCO ₃ ^a	1140	3.3	mg/l	1	06/04/10 15:45	CT	SW846 6010B/SM 2340B
Nitrogen, Nitrate	< 0.10	0.10	mg/l	1	05/28/10 14:43	RL	EPA 300/SW846 9056A
Silica, Dissolved ^b	55.0	0.11	mg/l	1	06/02/10 21:18	CT	SW846 6010B
Solids, Total Dissolved	2000	10	mg/l	1	06/01/10	PH	SM18 2540C
Specific Conductivity	2430	1.0	umhos/cm	1	05/28/10	PH	SM18 2510B/EPA 120.1
Sulfate	1610	50	mg/l	100	06/02/10 00:30	RL	EPA 300/SW846 9056A
Turbidity	0.97	0.50	NTU	1	05/28/10 12:10	EB	SM18 2130B
pH ^c	4.48		su	1	05/28/10 13:27	PH	SM18 4500H+ B

(a) Calculated as: (Calcium * 2.497) + (Magnesium * 4.118)

(b) Calculated as: (Silicon * 2.139)

(c) pH was analyzed past the 15min hold time.

RL = Reporting Limit

Report of Analysis

Client Sample ID: MTD-SW-06/2	Date Sampled: 05/27/10
Lab Sample ID: C11216-5F	Date Received: 05/28/10
Matrix: AQ - Surface H2O Filtered	Percent Solids: n/a
Project: Mt. Diablo- Marsh Creek Road, Clayton, CA	

Dissolved Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed By	Method	Prep Method
Mercury	13.8	1.0	ug/l	5	06/02/10	06/03/10 RW	EPA 245.1 ¹	EPA 245.1/SW7470A ²

(1) Instrument QC Batch: MA1240

(2) Prep QC Batch: MP2430

RL = Reporting Limit

Report of Analysis

Client Sample ID: MTD-SW-11/2	Date Sampled: 05/27/10
Lab Sample ID: C11216-6	Date Received: 05/28/10
Matrix: AQ - Surface Water	Percent Solids: n/a
Project: Mt. Diablo- Marsh Creek Road, Clayton, CA	

Total Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed By	Method	Prep Method
Antimony	< 10	10	ug/l	1	06/02/10	06/04/10 CT	SW846 6010B ²	SW3010A ⁴
Arsenic	< 10	10	ug/l	1	06/02/10	06/04/10 CT	SW846 6010B ²	SW3010A ⁴
Beryllium	< 5.0	5.0	ug/l	1	06/02/10	06/04/10 CT	SW846 6010B ²	SW3010A ⁴
Boron	971	50	ug/l	1	06/02/10	06/04/10 CT	SW846 6010B ²	SW3010A ⁴
Cadmium	< 2.0	2.0	ug/l	1	06/02/10	06/04/10 CT	SW846 6010B ²	SW3010A ⁴
Calcium	48300	50	ug/l	1	06/02/10	06/04/10 CT	SW846 6010B ²	SW3010A ⁴
Chromium	< 5.0	5.0	ug/l	1	06/02/10	06/04/10 CT	SW846 6010B ²	SW3010A ⁴
Copper	< 5.0	5.0	ug/l	1	06/02/10	06/04/10 CT	SW846 6010B ²	SW3010A ⁴
Iron	69.9	50	ug/l	1	06/02/10	06/04/10 CT	SW846 6010B ²	SW3010A ⁴
Lead	< 5.0	5.0	ug/l	1	06/02/10	06/04/10 CT	SW846 6010B ²	SW3010A ⁴
Magnesium	26900	50	ug/l	1	06/02/10	06/04/10 CT	SW846 6010B ²	SW3010A ⁴
Manganese	11.9	5.0	ug/l	1	06/02/10	06/04/10 CT	SW846 6010B ²	SW3010A ⁴
Mercury	< 0.20	0.20	ug/l	1	06/01/10	06/02/10 RW	EPA 245.1 ¹	EPA 245.1/SW7470A ³
Nickel	< 5.0	5.0	ug/l	1	06/02/10	06/04/10 CT	SW846 6010B ²	SW3010A ⁴
Potassium	808	500	ug/l	1	06/02/10	06/04/10 CT	SW846 6010B ²	SW3010A ⁴
Selenium	< 20	20	ug/l	1	06/02/10	06/04/10 CT	SW846 6010B ²	SW3010A ⁴
Silicon	7790	50	ug/l	1	06/02/10	06/04/10 CT	SW846 6010B ²	SW3010A ⁴
Silver	< 5.0	5.0	ug/l	1	06/02/10	06/04/10 CT	SW846 6010B ²	SW3010A ⁴
Sodium	18000	100	ug/l	1	06/02/10	06/04/10 CT	SW846 6010B ²	SW3010A ⁴
Thallium	< 20	20	ug/l	1	06/02/10	06/04/10 CT	SW846 6010B ²	SW3010A ⁴
Zinc	< 10	10	ug/l	1	06/02/10	06/04/10 CT	SW846 6010B ²	SW3010A ⁴

- (1) Instrument QC Batch: MA1239
- (2) Instrument QC Batch: MA1243
- (3) Prep QC Batch: MP2431
- (4) Prep QC Batch: MP2433

RL = Reporting Limit

Report of Analysis

Client Sample ID:	MTD-SW-11/2	Date Sampled:	05/27/10
Lab Sample ID:	C11216-6	Date Received:	05/28/10
Matrix:	AQ - Surface Water	Percent Solids:	n/a
Project:	Mt. Diablo- Marsh Creek Road, Clayton, CA		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Alkalinity, Bicarbonate	227	5.0	mg/l	1	06/01/10	PH	SM18 4500CO2D
Alkalinity, Carbonate	< 5.0	5.0	mg/l	1	06/01/10	PH	SM18 4500CO2D
Alkalinity, Total as CaCO ₃	227	5.0	mg/l	1	06/01/10	PH	SM18 2320B
Bromide	< 0.20	0.20	mg/l	1	05/28/10 15:00	RL	EPA 300/SW846 9056A
Chloride	9.7	1.0	mg/l	2	06/02/10 00:48	RL	EPA 300/SW846 9056A
Dissolved Organic Carbon	2.4	1.0	mg/l	1	05/28/10	RL	SM18 5310C
Fluoride	< 0.10	0.10	mg/l	1	05/28/10 15:00	RL	EPA 300/SW846 9056A
Hardness, Total as CaCO ₃ ^a	231	0.33	mg/l	1	06/04/10 15:50	CT	SW846 6010B/SM 2340B
Nitrogen, Nitrate	< 0.10	0.10	mg/l	1	05/28/10 15:00	RL	EPA 300/SW846 9056A
Silica, Dissolved ^b	16.7	0.11	mg/l	1	06/04/10 15:50	CT	SW846 6010B
Solids, Total Dissolved	273	10	mg/l	1	06/01/10	PH	SM18 2540C
Specific Conductivity	494	1.0	umhos/cm	1	05/28/10	PH	SM18 2510B/EPA 120.1
Sulfate	31.4	1.0	mg/l	2	06/02/10 00:48	RL	EPA 300/SW846 9056A
Turbidity	2.7	0.50	NTU	1	05/28/10 12:10	EB	SM18 2130B
pH ^c	8.27		su	1	05/28/10 13:32	PH	SM18 4500H+ B

(a) Calculated as: (Calcium * 2.497) + (Magnesium * 4.118)

(b) Calculated as: (Silicon * 2.139)

(c) pH was analyzed past the 15min hold time.

RL = Reporting Limit

Report of Analysis

Client Sample ID:	MTD-SW-11/2	
Lab Sample ID:	C11216-6F	Date Sampled: 05/27/10
Matrix:	AQ - Surface H2O Filtered	Date Received: 05/28/10
Project:	Mt. Diablo- Marsh Creek Road, Clayton, CA	Percent Solids: n/a

Dissolved Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed By	Method	Prep Method
Mercury	< 0.20	0.20	ug/l	1	06/02/10	06/03/10 RW	EPA 245.1 ¹	EPA 245.1/SW7470A ²

(1) Instrument QC Batch: MA1240

(2) Prep QC Batch: MP2430

RL = Reporting Limit

Report of Analysis

Client Sample ID: MTD-SW-16/2		Date Sampled: 05/27/10
Lab Sample ID: C11216-7		Date Received: 05/28/10
Matrix: AQ - Surface Water		Percent Solids: n/a
Project: Mt. Diablo- Marsh Creek Road, Clayton, CA		

Total Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed By	Method	Prep Method
Antimony	< 10	10	ug/l	1	06/02/10	06/04/10 CT	SW846 6010B ²	SW3010A ⁴
Arsenic	< 10	10	ug/l	1	06/02/10	06/04/10 CT	SW846 6010B ²	SW3010A ⁴
Beryllium	< 5.0	5.0	ug/l	1	06/02/10	06/04/10 CT	SW846 6010B ²	SW3010A ⁴
Boron	171	50	ug/l	1	06/02/10	06/04/10 CT	SW846 6010B ²	SW3010A ⁴
Cadmium	< 2.0	2.0	ug/l	1	06/02/10	06/04/10 CT	SW846 6010B ²	SW3010A ⁴
Calcium	38200	50	ug/l	1	06/02/10	06/04/10 CT	SW846 6010B ²	SW3010A ⁴
Chromium	< 5.0	5.0	ug/l	1	06/02/10	06/04/10 CT	SW846 6010B ²	SW3010A ⁴
Copper	5.1	5.0	ug/l	1	06/02/10	06/04/10 CT	SW846 6010B ²	SW3010A ⁴
Iron	2260	50	ug/l	1	06/02/10	06/04/10 CT	SW846 6010B ²	SW3010A ⁴
Lead	< 5.0	5.0	ug/l	1	06/02/10	06/04/10 CT	SW846 6010B ²	SW3010A ⁴
Magnesium	13900	50	ug/l	1	06/02/10	06/04/10 CT	SW846 6010B ²	SW3010A ⁴
Manganese	90.1	5.0	ug/l	1	06/02/10	06/04/10 CT	SW846 6010B ²	SW3010A ⁴
Mercury	< 0.20	0.20	ug/l	1	06/01/10	06/02/10 RW	EPA 245.1 ¹	EPA 245.1/SW7470A ³
Nickel	< 5.0	5.0	ug/l	1	06/02/10	06/04/10 CT	SW846 6010B ²	SW3010A ⁴
Potassium	1800	500	ug/l	1	06/02/10	06/04/10 CT	SW846 6010B ²	SW3010A ⁴
Selenium	< 20	20	ug/l	1	06/02/10	06/04/10 CT	SW846 6010B ²	SW3010A ⁴
Silicon	8130	50	ug/l	1	06/02/10	06/04/10 CT	SW846 6010B ²	SW3010A ⁴
Silver	< 5.0	5.0	ug/l	1	06/02/10	06/04/10 CT	SW846 6010B ²	SW3010A ⁴
Sodium	10700	100	ug/l	1	06/02/10	06/04/10 CT	SW846 6010B ²	SW3010A ⁴
Thallium	< 20	20	ug/l	1	06/02/10	06/04/10 CT	SW846 6010B ²	SW3010A ⁴
Zinc	10.6	10	ug/l	1	06/02/10	06/04/10 CT	SW846 6010B ²	SW3010A ⁴

- (1) Instrument QC Batch: MA1239
- (2) Instrument QC Batch: MA1243
- (3) Prep QC Batch: MP2431
- (4) Prep QC Batch: MP2433

RL = Reporting Limit

Report of Analysis

Client Sample ID:	MTD-SW-16/2	Date Sampled:	05/27/10
Lab Sample ID:	C11216-7	Date Received:	05/28/10
Matrix:	AQ - Surface Water	Percent Solids:	n/a
Project:	Mt. Diablo- Marsh Creek Road, Clayton, CA		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Alkalinity, Bicarbonate	139	5.0	mg/l	1	06/01/10	PH	SM18 4500CO2D
Alkalinity, Carbonate	< 5.0	5.0	mg/l	1	06/01/10	PH	SM18 4500CO2D
Alkalinity, Total as CaCO ₃	139	5.0	mg/l	1	06/01/10	PH	SM18 2320B
Bromide	< 0.20	0.20	mg/l	1	05/28/10 15:18	RL	EPA 300/SW846 9056A
Chloride	6.2	1.0	mg/l	2	06/02/10 01:05	RL	EPA 300/SW846 9056A
Dissolved Organic Carbon	4.2	1.0	mg/l	1	05/28/10	RL	SM18 5310C
Fluoride	< 0.10	0.10	mg/l	1	05/28/10 15:18	RL	EPA 300/SW846 9056A
Hardness, Total as CaCO ₃ ^a	153	0.33	mg/l	1	06/04/10 15:55	CT	SW846 6010B/SM 2340B
Nitrogen, Nitrate	0.23	0.10	mg/l	1	05/28/10 15:18	RL	EPA 300/SW846 9056A
Silica, Dissolved ^b	17.4	0.11	mg/l	1	06/04/10 15:55	CT	SW846 6010B
Solids, Total Dissolved	190	10	mg/l	1	06/01/10	PH	SM18 2540C
Specific Conductivity	335	1.0	umhos/cm	1	05/28/10	PH	SM18 2510B/EPA 120.1
Sulfate	19.3	1.0	mg/l	2	06/02/10 01:05	RL	EPA 300/SW846 9056A
Turbidity	45.8	1.0	NTU	2	05/28/10 12:10	EB	SM18 2130B
pH ^c	7.75		su	1	05/28/10 13:34	PH	SM18 4500H+ B

(a) Calculated as: (Calcium * 2.497) + (Magnesium * 4.118)

(b) Calculated as: (Silicon * 2.139)

(c) pH was analyzed past the 15min hold time.

RL = Reporting Limit

Report of Analysis

Client Sample ID: MTD-SW-16/2	Date Sampled: 05/27/10
Lab Sample ID: C11216-7F	Date Received: 05/28/10
Matrix: AQ - Surface H2O Filtered	Percent Solids: n/a
Project: Mt. Diablo- Marsh Creek Road, Clayton, CA	

Dissolved Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed By	Method	Prep Method
Mercury	< 0.20	0.20	ug/l	1	06/02/10	06/03/10 RW	EPA 245.1 ¹	EPA 245.1/SW7470A ²

(1) Instrument QC Batch: MA1240

(2) Prep QC Batch: MP2430

RL = Reporting Limit



Misc. Forms

Custody Documents and Other Forms

Includes the following where applicable:

- Chain of Custody



Metals Analysis

QC Data Summaries

Includes the following where applicable:

- Method Blank Summaries
- Matrix Spike and Duplicate Summaries
- Blank Spike and Lab Control Sample Summaries
- Serial Dilution Summaries

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: C11216
Account: SGRPCAPH - The Source Group
Project: Mt. Diablo- Marsh Creek Road, Clayton, CA

QC Batch ID: MP2430
Matrix Type: AQUEOUS

Methods: EPA 245.1
Units: ug/l

Prep Date: 06/02/10

Metal	RL	IDL	MDL	MB	
				raw	final
Mercury	0.20	.02	.02	0.0028	<0.20

Associated samples MP2430: C11216-1F, C11216-2F, C11216-3F, C11216-4F, C11216-5F, C11216-6F, C11216-7F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

4.1.1
4

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: C11216
 Account: SGRPCAPH - The Source Group
 Project: Mt. Diablo- Marsh Creek Road, Clayton, CA

QC Batch ID: MP2430
 Matrix Type: AQUEOUS

Methods: EPA 245.1
 Units: ug/l

Prep Date: 06/02/10

Metal	C11217-1F Original MS	Spike lot	HGPWS1	% Rec	QC Limits
Mercury	135	139	4	2240.0(a)	70-130

Associated samples MP2430: C11216-1F, C11216-2F, C11216-3F, C11216-4F, C11216-5F, C11216-6F, C11216-7F

Results < IDL are shown as zero for calculation purposes

(*) Outside of QC limits

(N) Matrix Spike Rec. outside of QC limits

(anr) Analyte not requested

(a) Spike amount low relative to the sample amount. Refer to lab control or spike blank for recovery information.

4.1.2
4

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: C11216
 Account: SGRPCAPH - The Source Group
 Project: Mt. Diablo- Marsh Creek Road, Clayton, CA

QC Batch ID: MP2430
 Matrix Type: AQUEOUS

Methods: EPA 245.1
 Units: ug/l

Prep Date: 06/02/10

Metal	C11217-1F Original MSD	Spikelot HGPWS1	% Rec	MSD RPD	QC Limit
Mercury	135	135	4	2140.0(a 2.9	20

Associated samples MP2430: C11216-1F, C11216-2F, C11216-3F, C11216-4F, C11216-5F, C11216-6F, C11216-7F

Results < IDL are shown as zero for calculation purposes

(*) Outside of QC limits

(N) Matrix Spike Rec. outside of QC limits

(anr) Analyte not requested

(a) Spike amount low relative to the sample amount. Refer to lab control or spike blank for recovery information.

4.1.2
4

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: C11216
 Account: SGRPCAPH - The Source Group
 Project: Mt. Diablo- Marsh Creek Road, Clayton, CA

QC Batch ID: MP2430
 Matrix Type: AQUEOUS

Methods: EPA 245.1
 Units: ug/l

Prep Date: 06/02/10 06/02/10

Metal	BSP Result	Spikelot HGPWS1	% Rec	QC Limits	BSD Result	Spikelot HGPWS1	% Rec	BSD RPD	QC Limit
Mercury	1.9	2	95.0	85-115	2.0	2	100.0	5.1	

Associated samples MP2430: C11216-1F, C11216-2F, C11216-3F, C11216-4F, C11216-5F, C11216-6F, C11216-7F

Results < IDL are shown as zero for calculation purposes
 (*) Outside of QC limits
 (anr) Analyte not requested

4.1.3
4

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: C11216
Account: SGRPCAPH - The Source Group
Project: Mt. Diablo- Marsh Creek Road, Clayton, CA

QC Batch ID: MP2431
Matrix Type: AQUEOUS

Methods: EPA 245.1
Units: ug/l

Prep Date: 06/01/10

Metal	RL	IDL	MDL	MB	
				raw	final
Mercury	0.20	.02	.02	-0.0054	<0.20

Associated samples MP2431: C11216-1, C11216-2, C11216-3, C11216-4, C11216-5, C11216-6, C11216-7

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

4.2.1
4

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: C11216
 Account: SGRPCAPH - The Source Group
 Project: Mt. Diablo- Marsh Creek Road, Clayton, CA

QC Batch ID: MP2431
 Matrix Type: AQUEOUS

Methods: EPA 245.1
 Units: ug/l

Prep Date: 06/01/10

Metal	C11216-1 Original MS	Spike lot	HGPWS1	% Rec	QC Limits
Mercury	0.0	3.8	4	95.0	70-130

Associated samples MP2431: C11216-1, C11216-2, C11216-3, C11216-4, C11216-5, C11216-6, C11216-7

Results < IDL are shown as zero for calculation purposes

(*) Outside of QC limits

(N) Matrix Spike Rec. outside of QC limits

(anr) Analyte not requested

4.2.2
4

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: C11216
 Account: SGRPCAPH - The Source Group
 Project: Mt. Diablo- Marsh Creek Road, Clayton, CA

QC Batch ID: MP2431
 Matrix Type: AQUEOUS

Methods: EPA 245.1
 Units: ug/l

Prep Date: 06/01/10

Metal	C11216-1 Original	MSD	Spike/lot HGPWS1	% Rec	MSD RPD	QC Limit
Mercury	0.0	3.8	4	95.0	0.0	20

Associated samples MP2431: C11216-1, C11216-2, C11216-3, C11216-4, C11216-5, C11216-6, C11216-7

Results < IDL are shown as zero for calculation purposes
 (*) Outside of QC limits
 (N) Matrix Spike Rec. outside of QC limits
 (anr) Analyte not requested

4.2.2
4

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: C11216
 Account: SGRPCAPH - The Source Group
 Project: Mt. Diablo- Marsh Creek Road, Clayton, CA

QC Batch ID: MP2431
 Matrix Type: AQUEOUS

Methods: EPA 245.1
 Units: ug/l

Prep Date: 06/01/10 06/01/10

Metal	BSP Result	Spikelot HGPWS1	% Rec	QC Limits	BSD Result	Spikelot HGPWS1	% Rec	BSD RPD	QC Limit
Mercury	1.9	2	95.0	85-115	1.9	2	95.0	0.0	

Associated samples MP2431: C11216-1, C11216-2, C11216-3, C11216-4, C11216-5, C11216-6, C11216-7

Results < IDL are shown as zero for calculation purposes
 (*) Outside of QC limits
 (anr) Analyte not requested

4.2.3
4

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: C11216
Account: SGRPCAPH - The Source Group
Project: Mt. Diablo- Marsh Creek Road, Clayton, CA

QC Batch ID: MP2433
Matrix Type: AQUEOUS

Methods: SW846 6010B
Units: ug/l

Prep Date: 06/02/10

Metal	RL	IDL	MDL	MB raw	final
Aluminum	50	14	21		
Antimony	10	6.9	5.3	4.8	<10
Arsenic	10	4.4	3.1	-0.20	<10
Barium	5.0	.6	.7		
Beryllium	5.0	.1	.2	0.10	<5.0
Boron	50	8.6	11	8.2	<50
Cadmium	2.0	.3	.3	0.10	<2.0
Calcium	50	29	12	-27	<50
Chromium	5.0	.4	.6	0.0	<5.0
Cobalt	5.0	.4	.4		
Copper	5.0	.8	1.1	-0.90	<5.0
Iron	50	2.6	18	2.5	<50
Lead	5.0	3.3	1.3	-0.70	<5.0
Lithium	10	2.2	2.5		
Magnesium	50	9.6	13	-3.3	<50
Manganese	5.0	.1	.2	0.0	<5.0
Molybdenum	5.0	1.3	1		
Nickel	5.0	.8	.5	0.20	<5.0
Potassium	500	58	60	61.7	<500
Selenium	20	14	12	1.7	<20
Silicon	50	3.4	5.3	9.9	<50
Silver	5.0	.9	.7	-0.20	<5.0
Sodium	100	15	13	80.9	<100
Strontium	10	.3	2.4		
Thallium	20	6.5	6.4	-4.3	<20
Tin	50	2.3	2		
Titanium	2.0	.2	.2		
Vanadium	5.0	.7	.5		
Zinc	10	.9	1.1	0.50	<10

Associated samples MP2433: C11216-1, C11216-2, C11216-3, C11216-4, C11216-5, C11216-6, C11216-7

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: C11216
 Account: SGRPCAPH - The Source Group
 Project: Mt. Diablo- Marsh Creek Road, Clayton, CA

QC Batch ID: MP2433
 Matrix Type: AQUEOUS

Methods: SW846 6010B
 Units: ug/l

Prep Date: 06/02/10

Metal	C11226-2 Original MS		SpikeLot MPIR1	% Rec	QC Limits
Aluminum	anr				
Antimony	0.0	482	500	96.4	80-120
Arsenic	0.0	475	500	95.0	80-120
Barium	anr				
Beryllium	0.0	486	500	97.2	80-120
Boron	98.0	573	500	95.0	80-120
Cadmium	0.0	472	500	94.4	80-120
Calcium	24800	24900	500	20.0 (a)	80-120
Chromium	0.0	487	500	97.4	80-120
Cobalt					
Copper	80.2	568	500	97.6	80-120
Iron	1370	1850	500	96.0	80-120
Lead	0.0	474	500	94.8	80-120
Lithium					
Magnesium	9990	10200	500	42.0 (a)	80-120
Manganese	107	586	500	95.8	80-120
Molybdenum	anr				
Nickel	2.9	484	500	96.2	80-120
Potassium	2570	7440	5000	97.4	80-120
Selenium	0.0	468	500	93.6	80-120
Silicon	3080	3290	250	84.0	80-120
Silver	0.0	500	500	100.0	80-120
Sodium	78200	77600	500	-120.0(a)	80-120
Strontium					
Thallium	0.0	445	500	89.0	80-120
Tin					
Titanium					
Vanadium					
Zinc	10.6	481	500	94.1	80-120

Associated samples MP2433: C11216-1, C11216-2, C11216-3, C11216-4, C11216-5, C11216-6, C11216-7

Results < IDL are shown as zero for calculation purposes

(*) Outside of QC limits

(N) Matrix Spike Rec. outside of QC limits

(anr) Analyte not requested

(a) Spike amount low relative to the sample amount. Refer to lab control or spike blank for recovery information.

4.3.2
 4

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: C11216
 Account: SGRPCAPH - The Source Group
 Project: Mt. Diablo- Marsh Creek Road, Clayton, CA

QC Batch ID: MP2433
 Matrix Type: AQUEOUS

Methods: SW846 6010B
 Units: ug/l

Prep Date: 06/02/10

Metal	C11226-2 Original	MSD	Spike/lot MPIR1	% Rec	MSD RPD	QC Limit
Aluminum	anr					
Antimony	0.0	477	500	95.4	1.0	20
Arsenic	0.0	464	500	92.8	2.3	20
Barium	anr					
Beryllium	0.0	484	500	96.8	0.4	20
Boron	98.0	567	500	93.8	1.1	20
Cadmium	0.0	467	500	93.4	1.1	20
Calcium	24800	24800	500	0.0 (a)	0.4	20
Chromium	0.0	481	500	96.2	1.2	20
Cobalt						
Copper	80.2	564	500	96.8	0.7	20
Iron	1370	1770	500	80.0	4.4	20
Lead	0.0	470	500	94.0	0.8	20
Lithium						
Magnesium	9990	10100	500	22.0 (a)	1.0	20
Manganese	107	583	500	95.2	0.5	20
Molybdenum	anr					
Nickel	2.9	478	500	95.0	1.2	20
Potassium	2570	7380	5000	96.2	0.8	20
Selenium	0.0	459	500	91.8	1.9	20
Silicon	3080	3260	250	72.0 (a)	0.9	20
Silver	0.0	496	500	99.2	0.8	20
Sodium	78200	77700	500	-100.0(a)	0.1	20
Strontium						
Thallium	0.0	441	500	88.2	0.9	20
Tin						
Titanium						
Vanadium						
Zinc	10.6	475	500	92.9	1.3	20

Associated samples MP2433: C11216-1, C11216-2, C11216-3, C11216-4, C11216-5, C11216-6, C11216-7

Results < IDL are shown as zero for calculation purposes

(*) Outside of QC limits

(N) Matrix Spike Rec. outside of QC limits

(anr) Analyte not requested

(a) Spike amount low relative to the sample amount. Refer to lab control or spike blank for recovery information.

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: C11216
 Account: SGRPCAPH - The Source Group
 Project: Mt. Diablo- Marsh Creek Road, Clayton, CA

QC Batch ID: MP2433
 Matrix Type: AQUEOUS

Methods: SW846 6010B
 Units: ug/l

Prep Date: 06/02/10 06/02/10

Metal	BSP Result	Spikelot MPIR1	% Rec	QC Limits	BSD Result	Spikelot MPIR1	% Rec	BSD RPD	QC Limit
Aluminum	anr								
Antimony	466	500	93.2	80-120	475	500	95.0	1.9	
Arsenic	446	500	89.2	80-120	458	500	91.6	2.7	
Barium	anr								
Beryllium	467	500	93.4	80-120	473	500	94.6	1.3	
Boron	472	500	94.4	80-120	484	500	96.8	2.5	
Cadmium	460	500	92.0	80-120	468	500	93.6	1.7	
Calcium	457	500	91.4	80-120	474	500	94.8	3.7	
Chromium	483	500	96.6	80-120	491	500	98.2	1.6	
Cobalt									
Copper	466	500	93.2	80-120	473	500	94.6	1.5	
Iron	485	500	97.0	80-120	495	500	99.0	2.0	
Lead	470	500	94.0	80-120	477	500	95.4	1.5	
Lithium									
Magnesium	484	500	96.8	80-120	487	500	97.4	0.6	
Manganese	478	500	95.6	80-120	485	500	97.0	1.5	
Molybdenum	anr								
Nickel	481	500	96.2	80-120	490	500	98.0	1.9	
Potassium	4930	5000	98.6	80-120	4980	5000	99.6	1.0	
Selenium	446	500	89.2	80-120	464	500	92.8	4.0	
Silicon	257	250	102.8	80-120	264	250	105.6	2.7	
Silver	492	500	98.4	80-120	498	500	99.6	1.2	
Sodium	568	500	113.6	80-120	572	500	114.4	0.7	
Strontium									
Thallium	430	500	86.0	80-120	445	500	89.0	3.4	
Tin									
Titanium									
Vanadium									
Zinc	457	500	91.4	80-120	466	500	93.2	2.0	

Associated samples MP2433: C11216-1, C11216-2, C11216-3, C11216-4, C11216-5, C11216-6, C11216-7

Results < IDL are shown as zero for calculation purposes
 (*) Outside of QC limits
 (anr) Analyte not requested

SERIAL DILUTION RESULTS SUMMARY

Login Number: C11216
 Account: SGRPCAPH - The Source Group
 Project: Mt. Diablo- Marsh Creek Road, Clayton, CA

QC Batch ID: MP2433
 Matrix Type: AQUEOUS

Methods: SW846 6010B
 Units: ug/l

Prep Date: 06/02/10

Metal	C11226-2 Original SDL 1:5		%DIF	QC Limits
Aluminum	anr			
Antimony	0.00	0.00	NC	0-10
Arsenic	0.00	0.00	NC	0-10
Barium	anr			
Beryllium	0.00	0.00	NC	0-10
Boron	98.0	136	38.8 (a)	0-10
Cadmium	0.00	0.00	NC	0-10
Calcium	24800	24500	1.0	0-10
Chromium	0.00	0.00	NC	0-10
Cobalt				
Copper	80.2	79.0	1.5	0-10
Iron	1370	1360	0.6	0-10
Lead	0.00	0.00	NC	0-10
Lithium				
Magnesium	9990	9980	0.0	0-10
Manganese	107	108	0.2	0-10
Molybdenum	anr			
Nickel	2.90	6.00	106.9 (a)	0-10
Potassium	2570	2550	0.7	0-10
Selenium	0.00	0.00	NC	0-10
Silicon	3080	3000	2.6	0-10
Silver	0.00	0.00	NC	0-10
Sodium	78200	78000	0.3	0-10
Strontium				
Thallium	0.00	0.00	NC	0-10
Tin				
Titanium				
Vanadium				
Zinc	10.6	11.5	8.5	0-10

Associated samples MP2433: C11216-1, C11216-2, C11216-3, C11216-4, C11216-5, C11216-6, C11216-7

Results < IDL are shown as zero for calculation purposes

(*) Outside of QC limits

(anr) Analyte not requested

(a) Percent difference acceptable due to low initial sample concentration (< 50 times IDL).

4.3.4
 4

POST DIGESTATE SPIKE SUMMARY

Login Number: C11216
 Account: SGRPCAPH - The Source Group
 Project: Mt. Diablo- Marsh Creek Road, Clayton, CA

QC Batch ID: MP2433
 Matrix Type: AQUEOUS

Methods: SW846 6010B
 Units: ug/l

Prep Date:

06/02/10

Metal	Sample ml	Final ml	Raw	Corr.**	PS ug/l	Spike ml	Spike ug/ml	Spike ug/l	% Rec	QC Limits
Aluminum										
Antimony										
Arsenic										
Barium										
Beryllium										
Boron										
Cadmium										
Calcium										
Chromium										
Cobalt										
Copper										
Iron										
Lead										
Lithium										
Magnesium										
Manganese										
Molybdenum										
Nickel										
Potassium										
Selenium										
Silicon										
Silver										
Sodium										
Strontium										
Thallium										
Tin										
Titanium										
Vanadium										
Zinc										

Associated samples MP2433: C11216-1, C11216-2, C11216-3, C11216-4, C11216-5, C11216-6, C11216-7

Results < IDL are shown as zero for calculation purposes
 (*) Outside of QC limits
 (**) Corr. sample result = Raw * (sample volume / final volume)
 (anr) Analyte not requested

4.3.5
 4



General Chemistry

5

QC Data Summaries

Includes the following where applicable:

- Method Blank and Blank Spike Summaries
- Duplicate Summaries
- Matrix Spike Summaries

METHOD BLANK AND SPIKE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: C11216
Account: SGRPCAPH - The Source Group
Project: Mt. Diablo- Marsh Creek Road, Clayton, CA

Analyte	Batch ID	RL	MB Result	Units	Spike Amount	BSP Result	BSP %Recov	QC Limits
Alkalinity, Total as CaCO3	GN3890	5.0	0.0	mg/l	250	251	100.5	75-125%
Bromide	GP1783/GN3889	0.20	0.0	mg/l	5	4.78	95.6	90-110%
Chloride	GP1789/GN3906	0.50	0.0	mg/l	5	4.62	92.4	90-110%
Dissolved Organic Carbon	GP1782/GN3888	1.0	0.52	mg/l	25.0	25.2	100.9	75-125%
Fluoride	GP1783/GN3889	0.10	0.0	mg/l	5	4.84	96.8	90-110%
Nitrogen, Nitrate	GP1783/GN3889	0.10	0.0	mg/l	5	4.65	93.0	90-110%
Solids, Total Dissolved	GN3886	10	0.0	mg/l				
Specific Conductivity	GN3877	1.0	0.0	umhos/cm				
Sulfate	GP1789/GN3906	0.50	0.0	mg/l	5	4.76	95.2	90-110%
Turbidity	GN3883	0.50	0.048	NTU	40	41.1	102.8	75-125%

Associated Samples:

Batch GN3877: C11216-1, C11216-2, C11216-3, C11216-4, C11216-5, C11216-6, C11216-7
 Batch GN3883: C11216-1, C11216-2, C11216-3, C11216-4, C11216-5, C11216-6, C11216-7
 Batch GN3886: C11216-1, C11216-2, C11216-3, C11216-4, C11216-5, C11216-6, C11216-7
 Batch GN3890: C11216-1, C11216-2, C11216-3, C11216-4, C11216-5, C11216-6, C11216-7
 Batch GP1782: C11216-1, C11216-2, C11216-3, C11216-4, C11216-5, C11216-6, C11216-7
 Batch GP1783: C11216-1, C11216-2, C11216-3, C11216-4, C11216-5, C11216-6, C11216-7
 Batch GP1789: C11216-1, C11216-2, C11216-3, C11216-4, C11216-5, C11216-6, C11216-7
 (*) Outside of QC limits

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BLANK SPIKE DUPLICATE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: C11216
Account: SGRPCAPH - The Source Group
Project: Mt. Diablo- Marsh Creek Road, Clayton, CA

Analyte	Batch ID	Units	Spike Amount	BSD Result	RPD	QC Limit
Alkalinity, Total as CaCO3	GN3890	mg/l	250	251	0.0	
Bromide	GP1783/GN3889	mg/l	5	4.82	0.8	25%
Chloride	GP1789/GN3906	mg/l	5	4.61	0.2	25%
Dissolved Organic Carbon	GP1782/GN3888	mg/l	25.0	24.7	2.2	
Fluoride	GP1783/GN3889	mg/l	5	4.78	1.2	25%
Nitrogen, Nitrate	GP1783/GN3889	mg/l	5	4.65	0.0	25%
Sulfate	GP1789/GN3906	mg/l	5	4.74	0.4	25%
Turbidity	GN3883	NTU	40	40.9	0.5	

Associated Samples:

Batch GN3883: C11216-1, C11216-2, C11216-3, C11216-4, C11216-5, C11216-6, C11216-7
 Batch GN3890: C11216-1, C11216-2, C11216-3, C11216-4, C11216-5, C11216-6, C11216-7
 Batch GP1782: C11216-1, C11216-2, C11216-3, C11216-4, C11216-5, C11216-6, C11216-7
 Batch GP1783: C11216-1, C11216-2, C11216-3, C11216-4, C11216-5, C11216-6, C11216-7
 Batch GP1789: C11216-1, C11216-2, C11216-3, C11216-4, C11216-5, C11216-6, C11216-7
 (*) Outside of QC limits

5.2
5

DUPLICATE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: C11216
Account: SGRPCAPH - The Source Group
Project: Mt. Diablo- Marsh Creek Road, Clayton, CA

Analyte	Batch ID	QC Sample	Units	Original Result	DUP Result	RPD	QC Limits
Alkalinity, Total as CaCO3	GN3890	C11107-4	mg/l	169	167	1.2	0-25%
Solids, Total Dissolved	GN3886	C11190-1	mg/l	692	685	1.0	0-%
Specific Conductivity	GN3877	C11216-1	umhos/cm	414	418	1.0	0-25%
Turbidity	GN3883	C11216-1	NTU	26.9	26.5	1.5	0-25%
pH	GN3876	C11216-1	su	7.91	7.93	0.3	0-25%

Associated Samples:

Batch GN3876: C11216-1, C11216-2, C11216-3, C11216-4, C11216-5, C11216-6, C11216-7
 Batch GN3877: C11216-1, C11216-2, C11216-3, C11216-4, C11216-5, C11216-6, C11216-7
 Batch GN3883: C11216-1, C11216-2, C11216-3, C11216-4, C11216-5, C11216-6, C11216-7
 Batch GN3886: C11216-1, C11216-2, C11216-3, C11216-4, C11216-5, C11216-6, C11216-7
 Batch GN3890: C11216-1, C11216-2, C11216-3, C11216-4, C11216-5, C11216-6, C11216-7
 (*) Outside of QC limits

5.3
5

MATRIX SPIKE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: C11216
Account: SGRPCAPH - The Source Group
Project: Mt. Diablo- Marsh Creek Road, Clayton, CA

Analyte	Batch ID	QC Sample	Units	Original Result	Spike Amount	MS Result	%Rec	QC Limits
Bromide	GP1783/GN3889	C11216-1	mg/l	0.0	4	3.7	92.5	80-120%
Chloride	GP1789/GN3906	C11216-1	mg/l	10.8	10	20.7	99.0	80-120%
Dissolved Organic Carbon	GP1782/GN3888	C11217-2	mg/l	6.6	25	30.2	94.1	75-125%
Fluoride	GP1783/GN3889	C11216-1	mg/l	0.027	4	3.6	89.3	80-120%
Nitrogen, Nitrate	GP1783/GN3889	C11216-1	mg/l	0.031	4	3.6	89.2	80-120%
Sulfate	GP1789/GN3906	C11216-1	mg/l	32.4	10	42.2	98.0	80-120%

5.4
5

Associated Samples:

Batch GP1782: C11216-1, C11216-2, C11216-3, C11216-4, C11216-5, C11216-6, C11216-7

Batch GP1783: C11216-1, C11216-2, C11216-3, C11216-4, C11216-5, C11216-6, C11216-7

Batch GP1789: C11216-1, C11216-2, C11216-3, C11216-4, C11216-5, C11216-6, C11216-7

(*) Outside of QC limits

(N) Matrix Spike Rec. outside of QC limits

MATRIX SPIKE DUPLICATE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: C11216
Account: SGRPCAPH - The Source Group
Project: Mt. Diablo- Marsh Creek Road, Clayton, CA

Analyte	Batch ID	QC Sample	Units	Original Result	Spike Amount	MSD Result	RPD	QC Limit
Bromide	GP1783/GN3889	C11216-1	mg/l	0.0	4	3.7	0.0	
Chloride	GP1789/GN3906	C11216-1	mg/l	10.8	10	20.7	0.0	
Dissolved Organic Carbon	GP1782/GN3888	C11217-2	mg/l	6.6	25	29.6	2.0	
Fluoride	GP1783/GN3889	C11216-1	mg/l	0.027	4	3.5	2.8	
Nitrogen, Nitrate	GP1783/GN3889	C11216-1	mg/l	0.031	4	3.6	0.0	
Sulfate	GP1789/GN3906	C11216-1	mg/l	32.4	10	42.1	0.2	

Associated Samples:

Batch GP1782: C11216-1, C11216-2, C11216-3, C11216-4, C11216-5, C11216-6, C11216-7

Batch GP1783: C11216-1, C11216-2, C11216-3, C11216-4, C11216-5, C11216-6, C11216-7

Batch GP1789: C11216-1, C11216-2, C11216-3, C11216-4, C11216-5, C11216-6, C11216-7

(*) Outside of QC limits

(N) Matrix Spike Rec. outside of QC limits

5.5
5



Technical Report for

The Source Group

Mt. Diablo- Marsh Creek Road, Clayton, CA

SUNOCO

Accutest Job Number: C11217

Sampling Date: 05/27/10

Report to:

The Source Group
3451C Vincent Road
Pleasant Hill, CA 94523
jphilipp@thesourcegroup.net

ATTN: Jon Philipp

Total number of pages in report: **46**



Test results contained within this data package meet the requirements of the National Environmental Laboratory Accreditation Conference and/or state specific certification programs as applicable.

Laurie Glantz-Murphy
Laboratory Director

Client Service contact: Anne Kathain 408-588-0200

Certifications: CA (08258CA) DoD/ISO/IEC 17025:2005 (L2242)

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Test results relate only to samples analyzed.



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Sample Summary

The Source Group

Job No: C11217

Mt. Diablo- Marsh Creek Road, Clayton, CA
 Project No: SUNOCO

Sample Number	Collected		Received	Matrix		Client Sample ID
	Date	Time By		Code	Type	
C11217-1	05/27/10	12:00 JP	05/28/10	AQ	Surface Water	MTD-SW-02/2
C11217-1F	05/27/10	12:00 JP	05/28/10	AQ	Surface H2O Filtered	MTD-SW-02/2
C11217-2F	05/27/10	12:15 JP	05/28/10	AQ	Surface H2O Filtered	MTD-SW-04/2
C11217-3	05/27/10	09:20 JP	05/28/10	AQ	Surface Water	MTD-SW-12/2
C11217-3F	05/27/10	09:20 JP	05/28/10	AQ	Surface H2O Filtered	MTD-SW-12/2
C11217-4	05/27/10	09:30 JP	05/28/10	AQ	Surface Water	MTD-SW-13/2
C11217-4F	05/27/10	09:30 JP	05/28/10	AQ	Surface H2O Filtered	MTD-SW-13/2
C11217-5	05/27/10	10:05 JP	05/28/10	AQ	Surface Water	MTD-SW-14/2
C11217-5F	05/27/10	10:05 JP	05/28/10	AQ	Surface H2O Filtered	MTD-SW-14/2
C11217-6	05/27/10	11:15 JP	05/28/10	AQ	Surface Water	MTD-SW-15/2
C11217-6F	05/27/10	11:15 JP	05/28/10	AQ	Surface H2O Filtered	MTD-SW-15/2
C11217-7	05/27/10	13:10 JP	05/28/10	AQ	Surface Water	MTD-SW-05/2
C11217-7F	05/27/10	13:10 JP	05/28/10	AQ	Surface H2O Filtered	MTD-SW-05/2



Sample Results

Report of Analysis

Report of Analysis

Client Sample ID: MTD-SW-02/2	Date Sampled: 05/27/10
Lab Sample ID: C11217-1	Date Received: 05/28/10
Matrix: AQ - Surface Water	Percent Solids: n/a
Project: Mt. Diablo- Marsh Creek Road, Clayton, CA	

Total Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed By	Method	Prep Method
Antimony	21.9	10	ug/l	1	06/04/10	06/04/10 CT	SW846 6010B ²	SW3010A ⁴
Arsenic	47.6	10	ug/l	1	06/04/10	06/04/10 CT	SW846 6010B ²	SW3010A ⁴
Beryllium	< 5.0	5.0	ug/l	1	06/04/10	06/04/10 CT	SW846 6010B ²	SW3010A ⁴
Boron	18000	500	ug/l	10	06/04/10	06/04/10 CT	SW846 6010B ²	SW3010A ⁴
Cadmium	< 2.0	2.0	ug/l	1	06/04/10	06/04/10 CT	SW846 6010B ²	SW3010A ⁴
Calcium	178000	500	ug/l	10	06/04/10	06/04/10 CT	SW846 6010B ²	SW3010A ⁴
Chromium	309	5.0	ug/l	1	06/04/10	06/04/10 CT	SW846 6010B ²	SW3010A ⁴
Copper	94.3	5.0	ug/l	1	06/04/10	06/04/10 CT	SW846 6010B ²	SW3010A ⁴
Iron	83800	50	ug/l	1	06/04/10	06/04/10 CT	SW846 6010B ²	SW3010A ⁴
Lead	7.6	5.0	ug/l	1	06/04/10	06/04/10 CT	SW846 6010B ²	SW3010A ⁴
Magnesium	136000	500	ug/l	10	06/04/10	06/04/10 CT	SW846 6010B ²	SW3010A ⁴
Manganese	3410	5.0	ug/l	1	06/04/10	06/04/10 CT	SW846 6010B ²	SW3010A ⁴
Mercury	161	10	ug/l	50	06/01/10	06/02/10 RW	EPA 245.1 ¹	EPA 245.1/SW7470A ³
Nickel	11000	50	ug/l	10	06/04/10	06/04/10 CT	SW846 6010B ²	SW3010A ⁴
Potassium	14500	500	ug/l	1	06/04/10	06/04/10 CT	SW846 6010B ²	SW3010A ⁴
Selenium	< 20	20	ug/l	1	06/04/10	06/04/10 CT	SW846 6010B ²	SW3010A ⁴
Silicon	13600	500	ug/l	10	06/04/10	06/04/10 CT	SW846 6010B ²	SW3010A ⁴
Silver	< 5.0	5.0	ug/l	1	06/04/10	06/04/10 CT	SW846 6010B ²	SW3010A ⁴
Sodium	251000	1000	ug/l	10	06/04/10	06/04/10 CT	SW846 6010B ²	SW3010A ⁴
Thallium	< 20	20	ug/l	1	06/04/10	06/04/10 CT	SW846 6010B ²	SW3010A ⁴
Zinc	276	10	ug/l	1	06/04/10	06/04/10 CT	SW846 6010B ²	SW3010A ⁴

(1) Instrument QC Batch: MA1239

(2) Instrument QC Batch: MA1243

(3) Prep QC Batch: MP2431

(4) Prep QC Batch: MP2440

RL = Reporting Limit

Report of Analysis

Client Sample ID:	MTD-SW-02/2	Date Sampled:	05/27/10
Lab Sample ID:	C11217-1	Date Received:	05/28/10
Matrix:	AQ - Surface Water	Percent Solids:	n/a
Project:	Mt. Diablo- Marsh Creek Road, Clayton, CA		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Alkalinity, Bicarbonate	< 5.0	5.0	mg/l	1	06/01/10	PH	SM18 4500CO2D
Alkalinity, Carbonate	< 5.0	5.0	mg/l	1	06/01/10	PH	SM18 4500CO2D
Alkalinity, Total as CaCO ₃	< 5.0	5.0	mg/l	1	06/01/10	PH	SM18 2320B
Bromide	0.92	0.20	mg/l	1	05/28/10 17:03	RL	EPA 300/SW846 9056A
Chloride	333	50	mg/l	100	06/02/10 01:23	RL	EPA 300/SW846 9056A
Dissolved Organic Carbon	9.2	1.0	mg/l	1	05/28/10	RL	SM18 5310C
Fluoride	< 0.10	0.10	mg/l	1	05/28/10 17:03	RL	EPA 300/SW846 9056A
Hardness, Total as CaCO ₃ ^a	1000	3.3	mg/l	1	06/04/10 16:53	CT	SW846 6010B/SM 2340B
Nitrogen, Nitrate	1.3	0.10	mg/l	1	05/28/10 17:03	RL	EPA 300/SW846 9056A
Silica, Dissolved ^b	29.1	1.1	mg/l	1	06/04/10 16:53	CT	SW846 6010B
Solids, Total Dissolved	3060	10	mg/l	1	06/01/10	PH	SM18 2540C
Specific Conductivity	3860	1.0	umhos/cm	1	05/28/10	PH	SM18 2510B/EPA 120.1
Sulfate	3450	100	mg/l	200	06/02/10 11:55	RL	EPA 300/SW846 9056A
Turbidity	261	5.0	NTU	10	05/28/10 12:10	EB	SM18 2130B
pH ^c	3.13		su	1	05/28/10 13:35	PH	SM18 4500H+ B

(a) Calculated as: (Calcium * 2.497) + (Magnesium * 4.118)

(b) Calculated as: (Silicon * 2.139)

(c) pH was analyzed past the 15min hold time.

RL = Reporting Limit

Report of Analysis

Client Sample ID:	MTD-SW-02/2	
Lab Sample ID:	C11217-1F	Date Sampled: 05/27/10
Matrix:	AQ - Surface H2O Filtered	Date Received: 05/28/10
		Percent Solids: n/a
Project:	Mt. Diablo- Marsh Creek Road, Clayton, CA	

Dissolved Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed By	Method	Prep Method
Mercury	135	5.0	ug/l	25	06/02/10	06/03/10 RW	EPA 245.1 ¹	EPA 245.1/SW7470A ²

(1) Instrument QC Batch: MA1240

(2) Prep QC Batch: MP2430

RL = Reporting Limit

Report of Analysis

Client Sample ID: MTD-SW-12/2	Date Sampled: 05/27/10
Lab Sample ID: C11217-3	Date Received: 05/28/10
Matrix: AQ - Surface Water	Percent Solids: n/a
Project: Mt. Diablo- Marsh Creek Road, Clayton, CA	

Total Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed By	Method	Prep Method
Antimony	< 10	10	ug/l	1	06/04/10	06/04/10 CT	SW846 6010B ²	SW3010A ⁴
Arsenic	< 10	10	ug/l	1	06/04/10	06/04/10 CT	SW846 6010B ²	SW3010A ⁴
Beryllium	< 5.0	5.0	ug/l	1	06/04/10	06/04/10 CT	SW846 6010B ²	SW3010A ⁴
Boron	941	50	ug/l	1	06/04/10	06/04/10 CT	SW846 6010B ²	SW3010A ⁴
Cadmium	< 2.0	2.0	ug/l	1	06/04/10	06/04/10 CT	SW846 6010B ²	SW3010A ⁴
Calcium	47100	50	ug/l	1	06/04/10	06/04/10 CT	SW846 6010B ²	SW3010A ⁴
Chromium	< 5.0	5.0	ug/l	1	06/04/10	06/04/10 CT	SW846 6010B ²	SW3010A ⁴
Copper	< 5.0	5.0	ug/l	1	06/04/10	06/04/10 CT	SW846 6010B ²	SW3010A ⁴
Iron	< 50	50	ug/l	1	06/04/10	06/04/10 CT	SW846 6010B ²	SW3010A ⁴
Lead	< 5.0	5.0	ug/l	1	06/04/10	06/04/10 CT	SW846 6010B ²	SW3010A ⁴
Magnesium	25700	50	ug/l	1	06/04/10	06/04/10 CT	SW846 6010B ²	SW3010A ⁴
Manganese	< 5.0	5.0	ug/l	1	06/04/10	06/04/10 CT	SW846 6010B ²	SW3010A ⁴
Mercury	< 0.20	0.20	ug/l	1	06/01/10	06/02/10 RW	EPA 245.1 ¹	EPA 245.1/SW7470A ³
Nickel	< 5.0	5.0	ug/l	1	06/04/10	06/04/10 CT	SW846 6010B ²	SW3010A ⁴
Potassium	717	500	ug/l	1	06/04/10	06/04/10 CT	SW846 6010B ²	SW3010A ⁴
Selenium	< 20	20	ug/l	1	06/04/10	06/04/10 CT	SW846 6010B ²	SW3010A ⁴
Silicon	7830	50	ug/l	1	06/04/10	06/04/10 CT	SW846 6010B ²	SW3010A ⁴
Silver	< 5.0	5.0	ug/l	1	06/04/10	06/04/10 CT	SW846 6010B ²	SW3010A ⁴
Sodium	17400	100	ug/l	1	06/04/10	06/04/10 CT	SW846 6010B ²	SW3010A ⁴
Thallium	< 20	20	ug/l	1	06/04/10	06/04/10 CT	SW846 6010B ²	SW3010A ⁴
Zinc	< 10	10	ug/l	1	06/04/10	06/04/10 CT	SW846 6010B ²	SW3010A ⁴

(1) Instrument QC Batch: MA1239

(2) Instrument QC Batch: MA1243

(3) Prep QC Batch: MP2431

(4) Prep QC Batch: MP2440

RL = Reporting Limit

Report of Analysis

Client Sample ID:	MTD-SW-12/2	Date Sampled:	05/27/10
Lab Sample ID:	C11217-3	Date Received:	05/28/10
Matrix:	AQ - Surface Water	Percent Solids:	n/a
Project:	Mt. Diablo- Marsh Creek Road, Clayton, CA		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Alkalinity, Bicarbonate	223	5.0	mg/l	1	06/01/10	PH	SM18 4500CO2D
Alkalinity, Carbonate	< 5.0	5.0	mg/l	1	06/01/10	PH	SM18 4500CO2D
Alkalinity, Total as CaCO ₃	223	5.0	mg/l	1	06/01/10	PH	SM18 2320B
Bromide	4.7	0.20	mg/l	1	05/28/10 18:13	RL	EPA 300/SW846 9056A
Chloride	9.6	1.0	mg/l	2	06/02/10 01:58	RL	EPA 300/SW846 9056A
Dissolved Organic Carbon	2.6	1.0	mg/l	1	05/28/10	RL	SM18 5310C
Fluoride	< 0.10	0.10	mg/l	1	05/28/10 18:13	RL	EPA 300/SW846 9056A
Hardness, Total as CaCO ₃ ^a	223	0.33	mg/l	1	06/04/10 17:15	CT	SW846 6010B/SM 2340B
Nitrogen, Nitrate	< 0.10	0.10	mg/l	1	05/28/10 18:13	RL	EPA 300/SW846 9056A
Silica, Dissolved ^b	16.7	0.11	mg/l	1	06/04/10 17:15	CT	SW846 6010B
Solids, Total Dissolved	261	10	mg/l	1	06/01/10	PH	SM18 2540C
Specific Conductivity	494	1.0	umhos/cm	1	05/28/10	PH	SM18 2510B/EPA 120.1
Sulfate	29.5	1.0	mg/l	2	06/02/10 01:58	RL	EPA 300/SW846 9056A
Turbidity	1.5	0.50	NTU	1	05/28/10 12:10	EB	SM18 2130B
pH ^c	8.20		su	1	05/28/10 13:44	PH	SM18 4500H+ B

(a) Calculated as: (Calcium * 2.497) + (Magnesium * 4.118)

(b) Calculated as: (Silicon * 2.139)

(c) pH was analyzed past the 15min hold time.

RL = Reporting Limit

Report of Analysis

Client Sample ID: MTD-SW-12/2	Date Sampled: 05/27/10
Lab Sample ID: C11217-3F	Date Received: 05/28/10
Matrix: AQ - Surface H2O Filtered	Percent Solids: n/a
Project: Mt. Diablo- Marsh Creek Road, Clayton, CA	

Dissolved Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed By	Method	Prep Method
Mercury	< 0.20	0.20	ug/l	1	06/02/10	06/03/10 RW	EPA 245.1 ¹	EPA 245.1/SW7470A ²

(1) Instrument QC Batch: MA1240

(2) Prep QC Batch: MP2430

RL = Reporting Limit

Report of Analysis

Client Sample ID: MTD-SW-13/2	Date Sampled: 05/27/10
Lab Sample ID: C11217-4	Date Received: 05/28/10
Matrix: AQ - Surface Water	Percent Solids: n/a
Project: Mt. Diablo- Marsh Creek Road, Clayton, CA	

Total Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed By	Method	Prep Method
Antimony	10.4	10	ug/l	1	06/04/10	06/04/10 CT	SW846 6010B ²	SW3010A ⁴
Arsenic	< 10	10	ug/l	1	06/04/10	06/04/10 CT	SW846 6010B ²	SW3010A ⁴
Beryllium	< 5.0	5.0	ug/l	1	06/04/10	06/04/10 CT	SW846 6010B ²	SW3010A ⁴
Boron	953	50	ug/l	1	06/04/10	06/04/10 CT	SW846 6010B ²	SW3010A ⁴
Cadmium	< 2.0	2.0	ug/l	1	06/04/10	06/04/10 CT	SW846 6010B ²	SW3010A ⁴
Calcium	49700	50	ug/l	1	06/04/10	06/04/10 CT	SW846 6010B ²	SW3010A ⁴
Chromium	< 5.0	5.0	ug/l	1	06/04/10	06/04/10 CT	SW846 6010B ²	SW3010A ⁴
Copper	< 5.0	5.0	ug/l	1	06/04/10	06/04/10 CT	SW846 6010B ²	SW3010A ⁴
Iron	89.4	50	ug/l	1	06/04/10	06/04/10 CT	SW846 6010B ²	SW3010A ⁴
Lead	< 5.0	5.0	ug/l	1	06/04/10	06/04/10 CT	SW846 6010B ²	SW3010A ⁴
Magnesium	28200	50	ug/l	1	06/04/10	06/04/10 CT	SW846 6010B ²	SW3010A ⁴
Manganese	5.8	5.0	ug/l	1	06/04/10	06/04/10 CT	SW846 6010B ²	SW3010A ⁴
Mercury	< 0.20	0.20	ug/l	1	06/01/10	06/02/10 RW	EPA 245.1 ¹	EPA 245.1/SW7470A ³
Nickel	6.2	5.0	ug/l	1	06/04/10	06/04/10 CT	SW846 6010B ²	SW3010A ⁴
Potassium	898	500	ug/l	1	06/04/10	06/04/10 CT	SW846 6010B ²	SW3010A ⁴
Selenium	< 20	20	ug/l	1	06/04/10	06/04/10 CT	SW846 6010B ²	SW3010A ⁴
Silicon	7720	50	ug/l	1	06/04/10	06/04/10 CT	SW846 6010B ²	SW3010A ⁴
Silver	< 5.0	5.0	ug/l	1	06/04/10	06/04/10 CT	SW846 6010B ²	SW3010A ⁴
Sodium	18200	100	ug/l	1	06/04/10	06/04/10 CT	SW846 6010B ²	SW3010A ⁴
Thallium	< 20	20	ug/l	1	06/04/10	06/04/10 CT	SW846 6010B ²	SW3010A ⁴
Zinc	< 10	10	ug/l	1	06/04/10	06/04/10 CT	SW846 6010B ²	SW3010A ⁴

- (1) Instrument QC Batch: MA1239
- (2) Instrument QC Batch: MA1243
- (3) Prep QC Batch: MP2431
- (4) Prep QC Batch: MP2440

RL = Reporting Limit

Report of Analysis

Client Sample ID:	MTD-SW-13/2	Date Sampled:	05/27/10
Lab Sample ID:	C11217-4	Date Received:	05/28/10
Matrix:	AQ - Surface Water	Percent Solids:	n/a
Project:	Mt. Diablo- Marsh Creek Road, Clayton, CA		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Alkalinity, Bicarbonate	229	5.0	mg/l	1	06/01/10	PH	SM18 4500CO2D
Alkalinity, Carbonate	< 5.0	5.0	mg/l	1	06/01/10	PH	SM18 4500CO2D
Alkalinity, Total as CaCO ₃	233	5.0	mg/l	1	06/01/10	PH	SM18 2320B
Bromide	< 0.20	0.20	mg/l	1	05/28/10 18:31	RL	EPA 300/SW846 9056A
Chloride	10.2	1.3	mg/l	2.5	06/02/10 02:15	RL	EPA 300/SW846 9056A
Dissolved Organic Carbon	2.6	1.0	mg/l	1	05/28/10	RL	SM18 5310C
Fluoride	< 0.10	0.10	mg/l	1	05/28/10 18:31	RL	EPA 300/SW846 9056A
Hardness, Total as CaCO ₃ ^a	240	0.33	mg/l	1	06/04/10 16:31	CT	SW846 6010B/SM 2340B
Nitrogen, Nitrate	< 0.10	0.10	mg/l	1	05/28/10 18:31	RL	EPA 300/SW846 9056A
Silica, Dissolved ^b	16.5	0.11	mg/l	1	06/04/10 16:31	CT	SW846 6010B
Solids, Total Dissolved	301	10	mg/l	1	06/01/10	PH	SM18 2540C
Specific Conductivity	526	1.0	umhos/cm	1	05/28/10	PH	SM18 2510B/EPA 120.1
Sulfate	39.2	1.3	mg/l	2.5	06/02/10 02:15	RL	EPA 300/SW846 9056A
Turbidity	3.0	0.50	NTU	1	05/28/10 12:10	EB	SM18 2130B
pH ^c	8.37		su	1	05/28/10 13:46	PH	SM18 4500H+ B

(a) Calculated as: (Calcium * 2.497) + (Magnesium * 4.118)

(b) Calculated as: (Silicon * 2.139)

(c) pH was analyzed past the 15min hold time.

RL = Reporting Limit

Report of Analysis

Client Sample ID: MTD-SW-13/2	Date Sampled: 05/27/10
Lab Sample ID: C11217-4F	Date Received: 05/28/10
Matrix: AQ - Surface H2O Filtered	Percent Solids: n/a
Project: Mt. Diablo- Marsh Creek Road, Clayton, CA	

Dissolved Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed By	Method	Prep Method
Mercury	< 0.20	0.20	ug/l	1	06/02/10	06/03/10 RW	EPA 245.1 ¹	EPA 245.1/SW7470A ²

(1) Instrument QC Batch: MA1240

(2) Prep QC Batch: MP2430

RL = Reporting Limit

Report of Analysis

Client Sample ID: MTD-SW-14/2	Date Sampled: 05/27/10
Lab Sample ID: C11217-5	Date Received: 05/28/10
Matrix: AQ - Surface Water	Percent Solids: n/a
Project: Mt. Diablo- Marsh Creek Road, Clayton, CA	

Total Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed By	Method	Prep Method
Antimony	< 10	10	ug/l	1	06/04/10	06/04/10 CT	SW846 6010B ²	SW3010A ⁴
Arsenic	< 10	10	ug/l	1	06/04/10	06/04/10 CT	SW846 6010B ²	SW3010A ⁴
Beryllium	< 5.0	5.0	ug/l	1	06/04/10	06/04/10 CT	SW846 6010B ²	SW3010A ⁴
Boron	761	50	ug/l	1	06/04/10	06/04/10 CT	SW846 6010B ²	SW3010A ⁴
Cadmium	< 2.0	2.0	ug/l	1	06/04/10	06/04/10 CT	SW846 6010B ²	SW3010A ⁴
Calcium	22800	50	ug/l	1	06/04/10	06/04/10 CT	SW846 6010B ²	SW3010A ⁴
Chromium	< 5.0	5.0	ug/l	1	06/04/10	06/04/10 CT	SW846 6010B ²	SW3010A ⁴
Copper	6.4	5.0	ug/l	1	06/04/10	06/04/10 CT	SW846 6010B ²	SW3010A ⁴
Iron	987	50	ug/l	1	06/04/10	06/04/10 CT	SW846 6010B ²	SW3010A ⁴
Lead	< 5.0	5.0	ug/l	1	06/04/10	06/04/10 CT	SW846 6010B ²	SW3010A ⁴
Magnesium	20400	50	ug/l	1	06/04/10	06/04/10 CT	SW846 6010B ²	SW3010A ⁴
Manganese	194	5.0	ug/l	1	06/04/10	06/04/10 CT	SW846 6010B ²	SW3010A ⁴
Mercury	1.3	0.20	ug/l	1	06/01/10	06/02/10 RW	EPA 245.1 ¹	EPA 245.1/SW7470A ³
Nickel	587	5.0	ug/l	1	06/04/10	06/04/10 CT	SW846 6010B ²	SW3010A ⁴
Potassium	2080	500	ug/l	1	06/04/10	06/04/10 CT	SW846 6010B ²	SW3010A ⁴
Selenium	< 20	20	ug/l	1	06/04/10	06/04/10 CT	SW846 6010B ²	SW3010A ⁴
Silicon	15100	50	ug/l	1	06/04/10	06/04/10 CT	SW846 6010B ²	SW3010A ⁴
Silver	< 5.0	5.0	ug/l	1	06/04/10	06/04/10 CT	SW846 6010B ²	SW3010A ⁴
Sodium	20900	100	ug/l	1	06/04/10	06/04/10 CT	SW846 6010B ²	SW3010A ⁴
Thallium	< 20	20	ug/l	1	06/04/10	06/04/10 CT	SW846 6010B ²	SW3010A ⁴
Zinc	13.8	10	ug/l	1	06/04/10	06/04/10 CT	SW846 6010B ²	SW3010A ⁴

- (1) Instrument QC Batch: MA1239
- (2) Instrument QC Batch: MA1243
- (3) Prep QC Batch: MP2431
- (4) Prep QC Batch: MP2440

RL = Reporting Limit

Report of Analysis

Client Sample ID:	MTD-SW-14/2	Date Sampled:	05/27/10
Lab Sample ID:	C11217-5	Date Received:	05/28/10
Matrix:	AQ - Surface Water	Percent Solids:	n/a
Project:	Mt. Diablo- Marsh Creek Road, Clayton, CA		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Alkalinity, Bicarbonate	39.8	5.0	mg/l	1	06/01/10	PH	SM18 4500CO2D
Alkalinity, Carbonate	< 5.0	5.0	mg/l	1	06/01/10	PH	SM18 4500CO2D
Alkalinity, Total as CaCO ₃	39.8	5.0	mg/l	1	06/01/10	PH	SM18 2320B
Bromide	< 0.20	0.20	mg/l	1	05/28/10 18:48	RL	EPA 300/SW846 9056A
Chloride	14.8	1.0	mg/l	2	06/02/10 02:33	RL	EPA 300/SW846 9056A
Dissolved Organic Carbon	3.7	1.0	mg/l	1	05/28/10	RL	SM18 5310C
Fluoride	< 0.10	0.10	mg/l	1	05/28/10 18:48	RL	EPA 300/SW846 9056A
Hardness, Total as CaCO ₃ ^a	141	0.33	mg/l	1	06/04/10 17:20	CT	SW846 6010B/SM 2340B
Nitrogen, Nitrate	< 0.10	0.10	mg/l	1	05/28/10 18:48	RL	EPA 300/SW846 9056A
Silica, Dissolved ^b	32.3	0.11	mg/l	1	06/04/10 17:20	CT	SW846 6010B
Solids, Total Dissolved	276	10	mg/l	1	06/01/10	PH	SM18 2540C
Specific Conductivity	414	1.0	umhos/cm	1	05/28/10	PH	SM18 2510B/EPA 120.1
Sulfate	136	5.0	mg/l	10	06/02/10 02:50	RL	EPA 300/SW846 9056A
Turbidity	5.6	0.50	NTU	1	05/28/10 12:10	EB	SM18 2130B
pH ^c	5.94		su	1	05/28/10 13:50	PH	SM18 4500H+ B

(a) Calculated as: (Calcium * 2.497) + (Magnesium * 4.118)

(b) Calculated as: (Silicon * 2.139)

(c) pH was analyzed past the 15min hold time.

RL = Reporting Limit

Report of Analysis

Client Sample ID: MTD-SW-14/2	Date Sampled: 05/27/10
Lab Sample ID: C11217-5F	Date Received: 05/28/10
Matrix: AQ - Surface H2O Filtered	Percent Solids: n/a
Project: Mt. Diablo- Marsh Creek Road, Clayton, CA	

Dissolved Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed By	Method	Prep Method
Mercury	< 0.20	0.20	ug/l	1	06/02/10	06/03/10 RW	EPA 245.1 ¹	EPA 245.1/SW7470A ²

(1) Instrument QC Batch: MA1240

(2) Prep QC Batch: MP2430

RL = Reporting Limit

Report of Analysis

Client Sample ID: MTD-SW-15/2	Date Sampled: 05/27/10
Lab Sample ID: C11217-6	Date Received: 05/28/10
Matrix: AQ - Surface Water	Percent Solids: n/a
Project: Mt. Diablo- Marsh Creek Road, Clayton, CA	

Total Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed By	Method	Prep Method
Antimony	62.0	20	ug/l	2	06/04/10	06/04/10	CT SW846 6010B ²	SW3010A ⁴
Arsenic ^a	182	20	ug/l	2	06/04/10	06/04/10	CT SW846 6010B ²	SW3010A ⁴
Beryllium	5.2	5.0	ug/l	1	06/04/10	06/04/10	CT SW846 6010B ²	SW3010A ⁴
Boron	98900	2500	ug/l	50	06/04/10	06/04/10	CT SW846 6010B ²	SW3010A ⁴
Cadmium	< 2.0	2.0	ug/l	1	06/04/10	06/04/10	CT SW846 6010B ²	SW3010A ⁴
Calcium	357000	2500	ug/l	50	06/04/10	06/04/10	CT SW846 6010B ²	SW3010A ⁴
Chromium	240	10	ug/l	2	06/04/10	06/04/10	CT SW846 6010B ²	SW3010A ⁴
Copper	101	10	ug/l	2	06/04/10	06/04/10	CT SW846 6010B ²	SW3010A ⁴
Iron	411000	2500	ug/l	50	06/04/10	06/04/10	CT SW846 6010B ²	SW3010A ⁴
Lead	13.4	5.0	ug/l	1	06/04/10	06/04/10	CT SW846 6010B ²	SW3010A ⁴
Magnesium	567000	2500	ug/l	50	06/04/10	06/04/10	CT SW846 6010B ²	SW3010A ⁴
Manganese	16000	250	ug/l	50	06/04/10	06/04/10	CT SW846 6010B ²	SW3010A ⁴
Mercury	107	4.0	ug/l	20	06/01/10	06/02/10	RW EPA 245.1 ¹	EPA 245.1/SW7470A ³
Nickel	25000	250	ug/l	50	06/04/10	06/04/10	CT SW846 6010B ²	SW3010A ⁴
Potassium	53300	1000	ug/l	2	06/04/10	06/04/10	CT SW846 6010B ²	SW3010A ⁴
Selenium ^b	< 40	40	ug/l	2	06/04/10	06/04/10	CT SW846 6010B ²	SW3010A ⁴
Silicon	38500	2500	ug/l	50	06/04/10	06/04/10	CT SW846 6010B ²	SW3010A ⁴
Silver	< 5.0	5.0	ug/l	1	06/04/10	06/04/10	CT SW846 6010B ²	SW3010A ⁴
Sodium	1290000	5000	ug/l	50	06/04/10	06/04/10	CT SW846 6010B ²	SW3010A ⁴
Thallium	< 20	20	ug/l	1	06/04/10	06/04/10	CT SW846 6010B ²	SW3010A ⁴
Zinc	1180	20	ug/l	2	06/04/10	06/04/10	CT SW846 6010B ²	SW3010A ⁴

(1) Instrument QC Batch: MA1239

(2) Instrument QC Batch: MA1243

(3) Prep QC Batch: MP2431

(4) Prep QC Batch: MP2440

(a) Result confirmed by reanalysis.

(b) Elevated reporting limit(s) due to matrix interference.

RL = Reporting Limit

Report of Analysis

Client Sample ID:	MTD-SW-15/2	Date Sampled:	05/27/10
Lab Sample ID:	C11217-6	Date Received:	05/28/10
Matrix:	AQ - Surface Water	Percent Solids:	n/a
Project:	Mt. Diablo- Marsh Creek Road, Clayton, CA		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Alkalinity, Bicarbonate	< 5.0	5.0	mg/l	1	06/01/10	PH	SM18 4500CO2D
Alkalinity, Carbonate	< 5.0	5.0	mg/l	1	06/01/10	PH	SM18 4500CO2D
Alkalinity, Total as CaCO ₃	< 5.0	5.0	mg/l	1	06/01/10	PH	SM18 2320B
Bromide	5.5	1.0	mg/l	5	06/01/10 11:29	RL	EPA 300/SW846 9056A
Chloride	1570	150	mg/l	300	06/02/10 14:14	RL	EPA 300/SW846 9056A
Dissolved Organic Carbon	11.3	1.0	mg/l	1	05/28/10	RL	SM18 5310C
Fluoride ^a	< 0.50	0.50	mg/l	5	06/01/10 11:29	RL	EPA 300/SW846 9056A
Hardness, Total as CaCO ₃ ^b	3230	17	mg/l	1	06/04/10 17:25	CT	SW846 6010B/SM 2340B
Nitrogen, Nitrate ^c	< 0.50	0.50	mg/l	5	06/01/10 11:29	RL	EPA 300/SW846 9056A
Silica, Dissolved ^d	82.4	5.3	mg/l	1	06/04/10 17:25	CT	SW846 6010B
Solids, Total Dissolved	9110	10	mg/l	1	06/01/10	PH	SM18 2540C
Specific Conductivity	11400	2.0	umhos/cm	2	06/04/10	PH	SM18 2510B/EPA 120.1
Sulfate	5340	150	mg/l	300	06/02/10 14:14	RL	EPA 300/SW846 9056A
Turbidity	2650	50	NTU	100	05/28/10 12:10	EB	SM18 2130B
pH ^e	4.36		su	1	05/28/10 13:51	PH	SM18 4500H+ B

(a) Elevated detection limit due to high concentration of Chloride.

(b) Calculated as: (Calcium * 2.497) + (Magnesium * 4.118)

(c) Sample exceeded holding time due to reanalysis.

(d) Calculated as: (Silicon * 2.139)

(e) pH was analyzed past the 15min hold time.

RL = Reporting Limit

Report of Analysis

Client Sample ID: MTD-SW-15/2	Date Sampled: 05/27/10
Lab Sample ID: C11217-6F	Date Received: 05/28/10
Matrix: AQ - Surface H2O Filtered	Percent Solids: n/a
Project: Mt. Diablo- Marsh Creek Road, Clayton, CA	

Dissolved Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed By	Method	Prep Method
Mercury ^a	55.6	2.0	ug/l	10	06/02/10	06/03/10 RW	EPA 245.1 ¹	EPA 245.1/SW7470A ²

(1) Instrument QC Batch: MA1240

(2) Prep QC Batch: MP2430

(a) Elevated reporting limit(s) due to matrix interference.

RL = Reporting Limit

Report of Analysis

Client Sample ID: MTD-SW-05/2	Date Sampled: 05/27/10
Lab Sample ID: C11217-7	Date Received: 05/28/10
Matrix: AQ - Surface Water	Percent Solids: n/a
Project: Mt. Diablo- Marsh Creek Road, Clayton, CA	

Total Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed By	Method	Prep Method
Antimony	12.0	10	ug/l	1	06/04/10	06/04/10 CT	SW846 6010B ²	SW3010A ⁴
Arsenic	< 10	10	ug/l	1	06/04/10	06/04/10 CT	SW846 6010B ²	SW3010A ⁴
Beryllium	< 5.0	5.0	ug/l	1	06/04/10	06/04/10 CT	SW846 6010B ²	SW3010A ⁴
Boron	139000	2500	ug/l	50	06/04/10	06/04/10 CT	SW846 6010B ²	SW3010A ⁴
Cadmium	< 2.0	2.0	ug/l	1	06/04/10	06/04/10 CT	SW846 6010B ²	SW3010A ⁴
Calcium	549000	2500	ug/l	50	06/04/10	06/04/10 CT	SW846 6010B ²	SW3010A ⁴
Chromium	27.6	10	ug/l	2	06/04/10	06/04/10 CT	SW846 6010B ²	SW3010A ⁴
Copper	27.6	10	ug/l	2	06/04/10	06/04/10 CT	SW846 6010B ²	SW3010A ⁴
Iron	22900	100	ug/l	2	06/04/10	06/04/10 CT	SW846 6010B ²	SW3010A ⁴
Lead	< 5.0	5.0	ug/l	1	06/04/10	06/04/10 CT	SW846 6010B ²	SW3010A ⁴
Magnesium	546000	2500	ug/l	50	06/04/10	06/04/10 CT	SW846 6010B ²	SW3010A ⁴
Manganese	6240	10	ug/l	2	06/04/10	06/04/10 CT	SW846 6010B ²	SW3010A ⁴
Mercury	66.3	2.0	ug/l	10	06/01/10	06/02/10 RW	EPA 245.1 ¹	EPA 245.1/SW7470A ³
Nickel	9060	10	ug/l	2	06/04/10	06/04/10 CT	SW846 6010B ²	SW3010A ⁴
Potassium	68300	1000	ug/l	2	06/04/10	06/04/10 CT	SW846 6010B ²	SW3010A ⁴
Selenium	< 20	20	ug/l	1	06/04/10	06/04/10 CT	SW846 6010B ²	SW3010A ⁴
Silicon	12800	100	ug/l	2	06/04/10	06/04/10 CT	SW846 6010B ²	SW3010A ⁴
Silver	< 5.0	5.0	ug/l	1	06/04/10	06/04/10 CT	SW846 6010B ²	SW3010A ⁴
Sodium	1760000	5000	ug/l	50	06/04/10	06/04/10 CT	SW846 6010B ²	SW3010A ⁴
Thallium	< 20	20	ug/l	1	06/04/10	06/04/10 CT	SW846 6010B ²	SW3010A ⁴
Zinc	180	20	ug/l	2	06/04/10	06/04/10 CT	SW846 6010B ²	SW3010A ⁴

(1) Instrument QC Batch: MA1239

(2) Instrument QC Batch: MA1243

(3) Prep QC Batch: MP2431

(4) Prep QC Batch: MP2440

RL = Reporting Limit

Report of Analysis

Client Sample ID:	MTD-SW-05/2	Date Sampled:	05/27/10
Lab Sample ID:	C11217-7	Date Received:	05/28/10
Matrix:	AQ - Surface Water	Percent Solids:	n/a
Project:	Mt. Diablo- Marsh Creek Road, Clayton, CA		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Alkalinity, Bicarbonate	187	5.0	mg/l	1	06/01/10	PH	SM18 4500CO2D
Alkalinity, Carbonate	< 5.0	5.0	mg/l	1	06/01/10	PH	SM18 4500CO2D
Alkalinity, Total as CaCO ₃	187	5.0	mg/l	1	06/01/10	PH	SM18 2320B
Bromide	8.7	1.0	mg/l	5	06/01/10 11:46	RL	EPA 300/SW846 9056A
Chloride	2370	300	mg/l	600	06/02/10 14:31	RL	EPA 300/SW846 9056A
Dissolved Organic Carbon	5.8	1.0	mg/l	1	05/28/10	RL	SM18 5310C
Fluoride ^a	< 0.50	0.50	mg/l	5	06/01/10 11:46	RL	EPA 300/SW846 9056A
Hardness, Total as CaCO ₃ ^b	3620	17	mg/l	1	06/04/10 17:30	CT	SW846 6010B/SM 2340B
Nitrogen, Nitrate ^c	5.7	0.50	mg/l	5	06/01/10 11:46	RL	EPA 300/SW846 9056A
Silica, Dissolved ^d	27.4	0.21	mg/l	1	06/04/10 18:40	CT	SW846 6010B
Solids, Total Dissolved	9980	10	mg/l	1	06/01/10	PH	SM18 2540C
Specific Conductivity	14200	2.0	umhos/cm	2	06/04/10	PH	SM18 2510B/EPA 120.1
Sulfate	3840	300	mg/l	600	06/02/10 14:31	RL	EPA 300/SW846 9056A
Turbidity	298	5.0	NTU	10	05/28/10 12:10	EB	SM18 2130B
pH ^e	7.18		su	1	05/28/10 13:56	PH	SM18 4500H+ B

(a) Elevated detection limit due to high concentration of Chloride.

(b) Calculated as: (Calcium * 2.497) + (Magnesium * 4.118)

(c) Sample exceeded holding time due to reanalysis.

(d) Calculated as: (Silicon * 2.139)

(e) pH was analyzed past the 15min hold time.

RL = Reporting Limit

Report of Analysis

Client Sample ID: MTD-SW-05/2	Date Sampled: 05/27/10
Lab Sample ID: C11217-7F	Date Received: 05/28/10
Matrix: AQ - Surface H2O Filtered	Percent Solids: n/a
Project: Mt. Diablo- Marsh Creek Road, Clayton, CA	

Dissolved Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed By	Method	Prep Method
Mercury ^a	39.7	1.0	ug/l	5	06/02/10	06/03/10 RW	EPA 245.1 ¹	EPA 245.1/SW7470A ²

(1) Instrument QC Batch: MA1240

(2) Prep QC Batch: MP2430

(a) Elevated reporting limit(s) due to matrix interference.

RL = Reporting Limit



Misc. Forms

Custody Documents and Other Forms

Includes the following where applicable:

- Chain of Custody



Metals Analysis

QC Data Summaries

Includes the following where applicable:

- Method Blank Summaries
- Matrix Spike and Duplicate Summaries
- Blank Spike and Lab Control Sample Summaries
- Serial Dilution Summaries

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: C11217
Account: SGRPCAPH - The Source Group
Project: Mt. Diablo- Marsh Creek Road, Clayton, CA

QC Batch ID: MP2430
Matrix Type: AQUEOUS

Methods: EPA 245.1
Units: ug/l

Prep Date: 06/02/10

Metal	RL	IDL	MDL	MB	
				raw	final
Mercury	0.20	.02	.02	0.0028	<0.20

Associated samples MP2430: C11217-1F, C11217-3F, C11217-4F, C11217-5F, C11217-6F, C11217-7F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

4.1.1
4

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: C11217
 Account: SGRPCAPH - The Source Group
 Project: Mt. Diablo- Marsh Creek Road, Clayton, CA

QC Batch ID: MP2430
 Matrix Type: AQUEOUS

Methods: EPA 245.1
 Units: ug/l

Prep Date: 06/02/10

Metal	C11217-1F Original MS	Spike lot	HGPWS1	% Rec	QC Limits
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Mercury 135 139 4 2240.0(a) 70-130

Associated samples MP2430: C11217-1F, C11217-3F, C11217-4F, C11217-5F, C11217-6F, C11217-7F

Results < IDL are shown as zero for calculation purposes

(*) Outside of QC limits

(N) Matrix Spike Rec. outside of QC limits

(anr) Analyte not requested

(a) Spike amount low relative to the sample amount. Refer to lab control or spike blank for recovery information.

4.1.2
4

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: C11217
 Account: SGRPCAPH - The Source Group
 Project: Mt. Diablo- Marsh Creek Road, Clayton, CA

QC Batch ID: MP2430
 Matrix Type: AQUEOUS

Methods: EPA 245.1
 Units: ug/l

Prep Date: 06/02/10

Metal	C11217-1F Original MSD	Spikelot HGPWS1	% Rec	MSD RPD	QC Limit
Mercury	135	135	4	2140.0(a 2.9	20

Associated samples MP2430: C11217-1F, C11217-3F, C11217-4F, C11217-5F, C11217-6F, C11217-7F

Results < IDL are shown as zero for calculation purposes

(*) Outside of QC limits

(N) Matrix Spike Rec. outside of QC limits

(anr) Analyte not requested

(a) Spike amount low relative to the sample amount. Refer to lab control or spike blank for recovery information.

4.1.2
4

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: C11217
 Account: SGRPCAPH - The Source Group
 Project: Mt. Diablo- Marsh Creek Road, Clayton, CA

QC Batch ID: MP2430
 Matrix Type: AQUEOUS

Methods: EPA 245.1
 Units: ug/l

Prep Date: 06/02/10 06/02/10

Metal	BSP Result	Spikelot HGPWS1	% Rec	QC Limits	BSD Result	Spikelot HGPWS1	% Rec	BSD RPD	QC Limit
Mercury	1.9	2	95.0	85-115	2.0	2	100.0	5.1	

Associated samples MP2430: C11217-1F, C11217-3F, C11217-4F, C11217-5F, C11217-6F, C11217-7F

Results < IDL are shown as zero for calculation purposes
 (*) Outside of QC limits
 (anr) Analyte not requested

4.1.3
4

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: C11217
Account: SGRPCAPH - The Source Group
Project: Mt. Diablo- Marsh Creek Road, Clayton, CA

QC Batch ID: MP2431
Matrix Type: AQUEOUS

Methods: EPA 245.1
Units: ug/l

Prep Date: 06/01/10

Metal	RL	IDL	MDL	MB	
				raw	final
Mercury	0.20	.02	.02	-0.0054	<0.20

Associated samples MP2431: C11217-1, C11217-3, C11217-4, C11217-5, C11217-6, C11217-7

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

4.2.1
4

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: C11217
 Account: SGRPCAPH - The Source Group
 Project: Mt. Diablo- Marsh Creek Road, Clayton, CA

QC Batch ID: MP2431
 Matrix Type: AQUEOUS

Methods: EPA 245.1
 Units: ug/l

Prep Date: 06/01/10

Metal	C11216-1 Original MS	Spike HGPWS1	lot % Rec	QC Limits
Mercury	0.0	3.8	4	95.0 70-130

Associated samples MP2431: C11217-1, C11217-3, C11217-4, C11217-5, C11217-6, C11217-7

Results < IDL are shown as zero for calculation purposes
 (*) Outside of QC limits
 (N) Matrix Spike Rec. outside of QC limits
 (anr) Analyte not requested

4.2.2
4

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: C11217
 Account: SGRPCAPH - The Source Group
 Project: Mt. Diablo- Marsh Creek Road, Clayton, CA

QC Batch ID: MP2431
 Matrix Type: AQUEOUS

Methods: EPA 245.1
 Units: ug/l

Prep Date: 06/01/10

Metal	C11216-1 Original MSD	Spike HGPWS1	lot % Rec	MSD RPD	QC Limit
Mercury	0.0	3.8	4	95.0	0.0 20

Associated samples MP2431: C11217-1, C11217-3, C11217-4, C11217-5, C11217-6, C11217-7

Results < IDL are shown as zero for calculation purposes
 (*) Outside of QC limits
 (N) Matrix Spike Rec. outside of QC limits
 (anr) Analyte not requested

4.2.2
4

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: C11217
 Account: SGRPCAPH - The Source Group
 Project: Mt. Diablo- Marsh Creek Road, Clayton, CA

QC Batch ID: MP2431
 Matrix Type: AQUEOUS

Methods: EPA 245.1
 Units: ug/l

Prep Date: 06/01/10 06/01/10

Metal	BSP Result	Spikelot HGPWS1	% Rec	QC Limits	BSD Result	Spikelot HGPWS1	% Rec	BSD RPD	QC Limit
Mercury	1.9	2	95.0	85-115	1.9	2	95.0	0.0	

Associated samples MP2431: C11217-1, C11217-3, C11217-4, C11217-5, C11217-6, C11217-7

Results < IDL are shown as zero for calculation purposes
 (*) Outside of QC limits
 (anr) Analyte not requested

4.2.3
4

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: C11217
Account: SGRPCAPH - The Source Group
Project: Mt. Diablo- Marsh Creek Road, Clayton, CA

QC Batch ID: MP2440
Matrix Type: AQUEOUS

Methods: SW846 6010B
Units: ug/l

Prep Date: 06/04/10

Metal	RL	IDL	MDL	MB raw	final
Aluminum	50	14	21		
Antimony	10	6.9	5.3	4.7	<10
Arsenic	10	4.4	3.1	4.1	<10
Barium	5.0	.6	.7		
Beryllium	5.0	.1	.2	0.10	<5.0
Boron	50	8.6	11	8.4	<50
Cadmium	2.0	.3	.3	0.30	<2.0
Calcium	50	29	12	0.30	<50
Chromium	5.0	.4	.6	0.50	<5.0
Cobalt	5.0	.4	.4		
Copper	5.0	.8	1.1	-0.10	<5.0
Iron	50	2.6	18	0.50	<50
Lead	5.0	3.3	1.3	0.80	<5.0
Lithium	10	2.2	2.5		
Magnesium	50	9.6	13	1.3	<50
Manganese	5.0	.1	.2	0.10	<5.0
Molybdenum	5.0	1.3	1		
Nickel	5.0	.8	.5	0.20	<5.0
Potassium	500	58	60	-5.8	<500
Selenium	20	14	12	-13	<20
Silicon	50	3.4	5.3	0.0	<50
Silver	5.0	.9	.7	0.30	<5.0
Sodium	100	15	13	11.4	<100
Strontium	10	.3	2.4		
Thallium	20	6.5	6.4	7.5	<20
Tin	50	2.3	2		
Titanium	2.0	.2	.2		
Vanadium	5.0	.7	.5		
Zinc	10	.9	1.1	-0.10	<10

Associated samples MP2440: C11217-1, C11217-3, C11217-4, C11217-5, C11217-6, C11217-7

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: C11217
 Account: SGRPCAPH - The Source Group
 Project: Mt. Diablo- Marsh Creek Road, Clayton, CA

QC Batch ID: MP2440
 Matrix Type: AQUEOUS

Methods: SW846 6010B
 Units: ug/l

Prep Date: 06/04/10

Metal	C11217-4 Original MS		SpikeLot MPIR1	% Rec	QC Limits
Aluminum					
Antimony	10.4	509	500	99.7	80-120
Arsenic	0.0	499	500	99.8	80-120
Barium	anr				
Beryllium	0.10	504	500	100.8	80-120
Boron	953	1480	500	105.4	80-120
Cadmium	0.70	491	500	98.1	80-120
Calcium	49700	50500	500	160.0(a)	80-120
Chromium	0.40	490	500	97.9	80-120
Cobalt	anr				
Copper	2.0	500	500	99.6	80-120
Iron	89.4	596	500	101.3	80-120
Lead	4.0	493	500	97.8	80-120
Lithium					
Magnesium	28200	29100	500	180.0(a)	80-120
Manganese	5.8	502	500	99.2	80-120
Molybdenum	anr				
Nickel	6.2	479	500	94.6	80-120
Potassium	898	5940	5000	100.8	80-120
Selenium	0.0	496	500	99.2	80-120
Silicon	7720	8090	250	148.0(a)	80-120
Silver	0.0	523	500	104.6	80-120
Sodium	18200	18800	500	120.0	80-120
Strontium					
Thallium	0.0	462	500	92.4	80-120
Tin					
Titanium					
Vanadium	anr				
Zinc	2.1	487	500	97.0	80-120

Associated samples MP2440: C11217-1, C11217-3, C11217-4, C11217-5, C11217-6, C11217-7

Results < IDL are shown as zero for calculation purposes

(*) Outside of QC limits

(N) Matrix Spike Rec. outside of QC limits

(anr) Analyte not requested

(a) Spike amount low relative to the sample amount. Refer to lab control or spike blank for recovery information.

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: C11217
 Account: SGRPCAPH - The Source Group
 Project: Mt. Diablo- Marsh Creek Road, Clayton, CA

QC Batch ID: MP2440
 Matrix Type: AQUEOUS

Methods: SW846 6010B
 Units: ug/l

Prep Date: 06/04/10

Metal	C11217-4 Original MSD		SpikeLot MPIR1	% Rec	MSD RPD	QC Limit
Aluminum						
Antimony	10.4	507	500	99.3	0.4	20
Arsenic	0.0	498	500	99.6	0.2	20
Barium	anr					
Beryllium	0.10	497	500	99.4	1.4	20
Boron	953	1490	500	107.4	0.7	20
Cadmium	0.70	490	500	97.9	0.2	20
Calcium	49700	50600	500	180.0(a)	0.2	20
Chromium	0.40	490	500	97.9	0.0	20
Cobalt	anr					
Copper	2.0	490	500	97.6	2.0	20
Iron	89.4	589	500	99.9	1.2	20
Lead	4.0	490	500	97.2	0.6	20
Lithium						
Magnesium	28200	29200	500	200.0(a)	0.3	20
Manganese	5.8	494	500	97.6	1.6	20
Molybdenum	anr					
Nickel	6.2	478	500	94.4	0.2	20
Potassium	898	5940	5000	100.8	0.0	20
Selenium	0.0	476	500	95.2	4.1	20
Silicon	7720	8150	250	172.0(a)	0.7	20
Silver	0.0	513	500	102.6	1.9	20
Sodium	18200	18800	500	120.0	0.0	20
Strontium						
Thallium	0.0	457	500	91.4	1.1	20
Tin						
Titanium						
Vanadium	anr					
Zinc	2.1	486	500	96.8	0.2	20

Associated samples MP2440: C11217-1, C11217-3, C11217-4, C11217-5, C11217-6, C11217-7

Results < IDL are shown as zero for calculation purposes

(*) Outside of QC limits

(N) Matrix Spike Rec. outside of QC limits

(anr) Analyte not requested

(a) Spike amount low relative to the sample amount. Refer to lab control or spike blank for recovery information.

4.3.2
 4

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: C11217
 Account: SGRPCAPH - The Source Group
 Project: Mt. Diablo- Marsh Creek Road, Clayton, CA

QC Batch ID: MP2440
 Matrix Type: AQUEOUS

Methods: SW846 6010B
 Units: ug/l

Prep Date: 06/04/10 06/04/10

Metal	BSP Result	Spikelot MPIR1	% Rec	QC Limits	BSD Result	Spikelot MPIR1	% Rec	BSD RPD	QC Limit
Aluminum									
Antimony	473	500	94.6	80-120	480	500	96.0	1.5	
Arsenic	487	500	97.4	80-120	488	500	97.6	0.2	
Barium	anr								
Beryllium	493	500	98.6	80-120	491	500	98.2	0.4	
Boron	495	500	99.0	80-120	500	500	100.0	1.0	
Cadmium	494	500	98.8	80-120	493	500	98.6	0.2	
Calcium	502	500	100.4	80-120	504	500	100.8	0.4	
Chromium	494	500	98.8	80-120	491	500	98.2	0.6	
Cobalt	anr								
Copper	479	500	95.8	80-120	478	500	95.6	0.2	
Iron	503	500	100.6	80-120	506	500	101.2	0.6	
Lead	504	500	100.8	80-120	499	500	99.8	1.0	
Lithium									
Magnesium	500	500	100.0	80-120	511	500	102.2	2.2	
Manganese	500	500	100.0	80-120	497	500	99.4	0.6	
Molybdenum	anr								
Nickel	498	500	99.6	80-120	495	500	99.0	0.6	
Potassium	4870	5000	97.4	80-120	4890	5000	97.8	0.4	
Selenium	502	500	100.4	80-120	499	500	99.8	0.6	
Silicon	254	250	101.6	80-120	253	250	101.2	0.4	
Silver	513	500	102.6	80-120	512	500	102.4	0.2	
Sodium	497	500	99.4	80-120	500	500	100.0	0.6	
Strontium									
Thallium	473	500	94.6	80-120	470	500	94.0	0.6	
Tin									
Titanium									
Vanadium	anr								
Zinc	499	500	99.8	80-120	497	500	99.4	0.4	

Associated samples MP2440: C11217-1, C11217-3, C11217-4, C11217-5, C11217-6, C11217-7

Results < IDL are shown as zero for calculation purposes
 (*) Outside of QC limits
 (anr) Analyte not requested

SERIAL DILUTION RESULTS SUMMARY

Login Number: C11217
 Account: SGRPCAPH - The Source Group
 Project: Mt. Diablo- Marsh Creek Road, Clayton, CA

QC Batch ID: MP2440
 Matrix Type: AQUEOUS

Methods: SW846 6010B
 Units: ug/l

Prep Date: 06/04/10

Metal	C11217-4 Original	SDL 1:5	%DIF	QC Limits
Aluminum				
Antimony	10.4	0.00	100.0(a)	0-10
Arsenic	0.00	0.00	NC	0-10
Barium	anr			
Beryllium	0.100	0.00	100.0(a)	0-10
Boron	953	1000	5.1	0-10
Cadmium	0.700	2.00	185.7(a)	0-10
Calcium	49700	48200	3.1	0-10
Chromium	0.400	0.00	100.0(a)	0-10
Cobalt	anr			
Copper	2.00	0.00	100.0(a)	0-10
Iron	89.4	84.5	5.5	0-10
Lead	4.00	0.00	100.0(a)	0-10
Lithium				
Magnesium	28200	28500	0.9	0-10
Manganese	5.80	6.00	3.4	0-10
Molybdenum	anr			
Nickel	6.20	4.00	35.5 (a)	0-10
Potassium	898	764	15.0 (a)	0-10
Selenium	0.00	0.00	NC	0-10
Silicon	7720	7620	1.3	0-10
Silver	0.00	0.00	NC	0-10
Sodium	18200	17900	1.2	0-10
Strontium				
Thallium	0.00	0.00	NC	0-10
Tin				
Titanium				
Vanadium	anr			
Zinc	2.10	0.00	100.0(a)	0-10

Associated samples MP2440: C11217-1, C11217-3, C11217-4, C11217-5, C11217-6, C11217-7

Results < IDL are shown as zero for calculation purposes

(*) Outside of QC limits

(anr) Analyte not requested

(a) Percent difference acceptable due to low initial sample concentration (< 50 times IDL).

POST DIGESTATE SPIKE SUMMARY

Login Number: C11217
 Account: SGRPCAPH - The Source Group
 Project: Mt. Diablo- Marsh Creek Road, Clayton, CA

QC Batch ID: MP2440
 Matrix Type: AQUEOUS

Methods: SW846 6010B
 Units: ug/l

Prep Date:

06/04/10

Metal	Sample ml	Final ml	Raw	Corr.**	PS ug/l	Spike ml	Spike ug/ml	Spike ug/l	% Rec	QC Limits
Aluminum										
Antimony										
Arsenic										
Barium										
Beryllium										
Boron										
Cadmium										
Calcium										
Chromium										
Cobalt										
Copper										
Iron										
Lead										
Lithium										
Magnesium										
Manganese										
Molybdenum										
Nickel										
Potassium										
Selenium										
Silicon										
Silver										
Sodium										
Strontium										
Thallium										
Tin										
Titanium										
Vanadium										
Zinc										

Associated samples MP2440: C11217-1, C11217-3, C11217-4, C11217-5, C11217-6, C11217-7

Results < IDL are shown as zero for calculation purposes
 (*) Outside of QC limits
 (**) Corr. sample result = Raw * (sample volume / final volume)
 (anr) Analyte not requested

4.3.5
 4



General Chemistry

QC Data Summaries

Includes the following where applicable:

- Method Blank and Blank Spike Summaries
- Duplicate Summaries
- Matrix Spike Summaries

METHOD BLANK AND SPIKE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: C11217
Account: SGRPCAPH - The Source Group
Project: Mt. Diablo- Marsh Creek Road, Clayton, CA

Analyte	Batch ID	RL	MB Result	Units	Spike Amount	BSP Result	BSP %Recov	QC Limits
Alkalinity, Total as CaCO3	GN3890	5.0	0.0	mg/l	250	251	100.5	75-125%
Bromide	GP1783/GN3889	0.20	0.0	mg/l	5	4.78	95.6	90-110%
Chloride	GP1789/GN3906	0.50	0.0	mg/l	5	4.62	92.4	90-110%
Dissolved Organic Carbon	GP1782/GN3888	1.0	0.52	mg/l	25.0	25.2	100.9	75-125%
Fluoride	GP1783/GN3889	0.10	0.0	mg/l	5	4.84	96.8	90-110%
Nitrogen, Nitrate	GP1783/GN3889	0.10	0.0	mg/l	5	4.65	93.0	90-110%
Solids, Total Dissolved	GN3886	10	0.0	mg/l				
Specific Conductivity	GN3877	1.0	0.0	umhos/cm				
Specific Conductivity	GN3913	1.0	0.0	umhos/cm				
Sulfate	GP1789/GN3906	0.50	0.0	mg/l	5	4.76	95.2	90-110%
Turbidity	GN3883	0.50	0.048	NTU	40	41.1	102.8	75-125%

Associated Samples:

Batch GN3877: C11217-1, C11217-3, C11217-4, C11217-5
 Batch GN3883: C11217-1, C11217-3, C11217-4, C11217-5, C11217-6, C11217-7
 Batch GN3886: C11217-1, C11217-3, C11217-4, C11217-5, C11217-6, C11217-7
 Batch GN3890: C11217-1, C11217-3, C11217-4, C11217-5, C11217-6, C11217-7
 Batch GN3913: C11217-6, C11217-7
 Batch GP1782: C11217-1, C11217-3, C11217-4, C11217-5, C11217-6, C11217-7
 Batch GP1783: C11217-1, C11217-3, C11217-4, C11217-5, C11217-6, C11217-7
 Batch GP1789: C11217-1, C11217-3, C11217-4, C11217-5, C11217-6, C11217-7
 (*) Outside of QC limits

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BLANK SPIKE DUPLICATE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: C11217
Account: SGRPCAPH - The Source Group
Project: Mt. Diablo- Marsh Creek Road, Clayton, CA

Analyte	Batch ID	Units	Spike Amount	BSD Result	RPD	QC Limit
Alkalinity, Total as CaCO3	GN3890	mg/l	250	251	0.0	
Bromide	GP1783/GN3889	mg/l	5	4.82	0.8	25%
Chloride	GP1789/GN3906	mg/l	5	4.61	0.2	25%
Dissolved Organic Carbon	GP1782/GN3888	mg/l	25.0	24.7	2.2	
Fluoride	GP1783/GN3889	mg/l	5	4.78	1.2	25%
Nitrogen, Nitrate	GP1783/GN3889	mg/l	5	4.65	0.0	25%
Sulfate	GP1789/GN3906	mg/l	5	4.74	0.4	25%
Turbidity	GN3883	NTU	40	40.9	0.5	

Associated Samples:

Batch GN3883: C11217-1, C11217-3, C11217-4, C11217-5, C11217-6, C11217-7
 Batch GN3890: C11217-1, C11217-3, C11217-4, C11217-5, C11217-6, C11217-7
 Batch GP1782: C11217-1, C11217-3, C11217-4, C11217-5, C11217-6, C11217-7
 Batch GP1783: C11217-1, C11217-3, C11217-4, C11217-5, C11217-6, C11217-7
 Batch GP1789: C11217-1, C11217-3, C11217-4, C11217-5, C11217-6, C11217-7
 (*) Outside of QC limits

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DUPLICATE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: C11217
Account: SGRPCAPH - The Source Group
Project: Mt. Diablo- Marsh Creek Road, Clayton, CA

Analyte	Batch ID	QC Sample	Units	Original Result	DUP Result	RPD	QC Limits
Alkalinity, Total as CaCO3	GN3890	C11107-4	mg/l	169	167	1.2	0-25%
Solids, Total Dissolved	GN3886	C11190-1	mg/l	692	685	1.0	0-%
Specific Conductivity	GN3877	C11216-1	umhos/cm	414	418	1.0	0-25%
Specific Conductivity	GN3913	C11251-1	umhos/cm	893	896	0.3	0-25%
Turbidity	GN3883	C11216-1	NTU	26.9	26.5	1.5	0-25%
pH	GN3876	C11216-1	su	7.91	7.93	0.3	0-25%

Associated Samples:

Batch GN3876: C11217-1, C11217-3, C11217-4, C11217-5, C11217-6, C11217-7

Batch GN3877: C11217-1, C11217-3, C11217-4, C11217-5

Batch GN3883: C11217-1, C11217-3, C11217-4, C11217-5, C11217-6, C11217-7

Batch GN3886: C11217-1, C11217-3, C11217-4, C11217-5, C11217-6, C11217-7

Batch GN3890: C11217-1, C11217-3, C11217-4, C11217-5, C11217-6, C11217-7

Batch GN3913: C11217-6, C11217-7

(*) Outside of QC limits

5.3
5

MATRIX SPIKE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: C11217
Account: SGRPCAPH - The Source Group
Project: Mt. Diablo- Marsh Creek Road, Clayton, CA

Analyte	Batch ID	QC Sample	Units	Original Result	Spike Amount	MS Result	%Rec	QC Limits
Bromide	GP1783/GN3889	C11216-1	mg/l	0.0	4	3.7	92.5	80-120%
Chloride	GP1789/GN3906	C11217-7	mg/l	2370	2400	4740	98.8	80-120%
Dissolved Organic Carbon	GP1782/GN3888	C11217-2	mg/l	6.6	25	30.2	94.1	75-125%
Fluoride	GP1783/GN3889	C11216-1	mg/l	0.027	4	3.6	89.3	80-120%
Nitrogen, Nitrate	GP1783/GN3889	C11216-1	mg/l	0.031	4	3.6	89.2	80-120%
Sulfate	GP1789/GN3906	C11217-7	mg/l	3840	2400	6020	90.8	80-120%

Associated Samples:

Batch GP1782: C11217-1, C11217-3, C11217-4, C11217-5, C11217-6, C11217-7

Batch GP1783: C11217-1, C11217-3, C11217-4, C11217-5, C11217-6, C11217-7

Batch GP1789: C11217-1, C11217-3, C11217-4, C11217-5, C11217-6, C11217-7

(*) Outside of QC limits

(N) Matrix Spike Rec. outside of QC limits

5.4
5

MATRIX SPIKE DUPLICATE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: C11217
Account: SGRPCAPH - The Source Group
Project: Mt. Diablo- Marsh Creek Road, Clayton, CA

Analyte	Batch ID	QC Sample	Units	Original Result	Spike Amount	MSD Result	RPD	QC Limit
Bromide	GP1783/GN3889	C11216-1	mg/l	0.0	4	3.7	0.0	
Chloride	GP1789/GN3906	C11217-7	mg/l	2370	2400	4760	0.4	
Dissolved Organic Carbon	GP1782/GN3888	C11217-2	mg/l	6.6	25	29.6	2.0	
Fluoride	GP1783/GN3889	C11216-1	mg/l	0.027	4	3.5	2.8	
Nitrogen, Nitrate	GP1783/GN3889	C11216-1	mg/l	0.031	4	3.6	0.0	
Sulfate	GP1789/GN3906	C11217-7	mg/l	3840	2400	6070	0.8	

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5

Associated Samples:

Batch GP1782: C11217-1, C11217-3, C11217-4, C11217-5, C11217-6, C11217-7

Batch GP1783: C11217-1, C11217-3, C11217-4, C11217-5, C11217-6, C11217-7

Batch GP1789: C11217-1, C11217-3, C11217-4, C11217-5, C11217-6, C11217-7

(*) Outside of QC limits

(N) Matrix Spike Rec. outside of QC limits

Technical Report for

The Source Group

Mt. Diablo- Marsh Creek Road, Clayton, CA

SUNOCO

Accutest Job Number: C11216X

Sampling Date: 05/27/10

Report to:

The Source Group
3451C Vincent Road
Pleasant Hill, CA 94523
jphilipp@thesourcegroup.net

ATTN: Jon Philipp

Total number of pages in report:



Test results contained within this data package meet the requirements of the National Environmental Laboratory Accreditation Conference and/or state specific certification programs as applicable.

Laurie Glantz-Murphy
Laboratory Director

Client Service contact: Anne Kathain 408-588-0200

Certifications: CA (08258CA) DoD/ISO/IEC 17025:2005 (L2242)

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Test results relate only to samples analyzed.

Technical Report for

The Source Group

Mt. Diablo- Marsh Creek Road, Clayton, CA

SUNOCO

Accutest Job Number: C11217X

Sampling Date: 05/27/10

Report to:

The Source Group
3451C Vincent Road
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jphilipp@thesourcegroup.net

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Test results relate only to samples analyzed.

Sample Summary

The Source Group

Job No: C11216X

Mt. Diablo- Marsh Creek Road, Clayton, CA
Project No: SUNOCO

Sample Number	Collected Date	Time By	Received	Matrix Code	Type	Client Sample ID
C11216-1X	05/27/10	13:00 JP	05/28/10	AQ	Surface Water	MTD-SW-08/2
C11216-2X	05/27/10	13:30 JP	05/28/10	AQ	Surface Water	MTD-SW-07/2
C11216-3X	05/27/10	13:15 JP	05/28/10	AQ	Surface Water	MTD-SW-09/2
C11216-4X	05/27/10	13:50 JP	05/28/10	AQ	Surface Water	MTD-SW-10/2
C11216-5X	05/27/10	10:50 JP	05/28/10	AQ	Surface Water	MTD-SW-06/2
C11216-6X	05/27/10	09:20 JP	05/28/10	AQ	Surface Water	MTD-SW-11/2
C11216-7X	05/27/10	12:45 JP	05/28/10	AQ	Surface Water	MTD-SW-16/2

Sample Summary

The Source Group

Job No: C11217X

Mt. Diablo- Marsh Creek Road, Clayton, CA
Project No: SUNOCO

Sample Number	Collected Date	Time By	Received	Matrix Code	Type	Client Sample ID
C11217-1X	05/27/10	12:00 JP	05/28/10	AQ	Surface Water	MTD-SW-02/2
C11217-3X	05/27/10	09:20 JP	05/28/10	AQ	Surface Water	MTD-SW-12/2
C11217-4X	05/27/10	09:30 JP	05/28/10	AQ	Surface Water	MTD-SW-13/2
C11217-5X	05/27/10	10:05 JP	05/28/10	AQ	Surface Water	MTD-SW-14/2
C11217-6X	05/27/10	11:15 JP	05/28/10	AQ	Surface Water	MTD-SW-15/2
C11217-7X	05/27/10	13:10 JP	05/28/10	AQ	Surface Water	MTD-SW-05/2



ENVIRONMENTAL ANALYSES

Tuesday, June 08, 2010

Ann Kathain
Accutest Laboratories
2105 Lundy Avenue
San Jose, CA 95131

RE: Lab Order: K060068
Project ID: MT.DIABLO

Collected By: CLIENT
PO/Contract #: C11216

Dear Ann Kathain:

Enclosed are the analytical results for sample(s) received by the laboratory on Tuesday, June 01, 2010. Results reported herein conform to the most current NELAC standards, where applicable, unless otherwise narrated in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Enclosures

Project Manager: Mike Hamilton



ENVIRONMENTAL ANALYSES

SAMPLE SUMMARY

Lab Order: K060068

Project ID: MT.DIABLO

Lab ID	Sample ID	Matrix	Date Collected	Date Received
K060068001	MTD-SW-08/2	Water	5/27/2010 13:00	6/1/2010 14:20
K060068002	MTD-SW-07/2	Water	5/27/2010 13:30	6/1/2010 14:20
K060068003	MTD-SW-09/	Water	5/27/2010 13:15	6/1/2010 14:20
K060068004	MTD-SW-10/2	Water	5/27/2010 13:50	6/1/2010 14:20
K060068005	MTD-SW-06/2	Water	5/27/2010 10:50	6/1/2010 14:20
K060068006	MTD-SW-11/2	Water	5/27/2010 09:20	6/1/2010 14:20
K060068007	MTD-SW-16/2	Water	5/27/2010 12:45	6/1/2010 14:20
K060068008	MTD-SW-02/2	Water	5/27/2010 12:00	6/1/2010 14:20
K060068009	MTD-SW-04/2	Water	5/27/2010 12:15	6/1/2010 14:20
K060068010	MTD-SW-12/2	Water	5/27/2010 09:20	6/1/2010 14:20
K060068011	MTD-SW-13/2	Water	5/27/2010 09:30	6/1/2010 14:20
K060068012	MTD-SW-14/2	Water	5/27/2010 10:05	6/1/2010 14:20
K060068013	MTD-SW-15/2	Water	5/27/2010 11:15	6/1/2010 14:20
K060068014	MTD-SW-05/2	Water	5/27/2010 13:10	6/1/2010 14:20



ENVIRONMENTAL ANALYSES

NARRATIVE

Lab Order: K060068
Project ID: MT.DIABLO

General Qualifiers and Notes

Caltest authorizes this report to be reproduced only in its entirety. Results are specific to the sample(s) as submitted and only to the parameter(s) reported.

Caltest certifies that all test results for wastewater and hazardous waste analyses meet all applicable NELAC requirements; all microbiology and drinking water testing meet applicable ELAP requirements, unless stated otherwise.

All analyses performed by EPA Methods or Standard Methods (SM) 18th Ed. except where noted.

Caltest collects samples in compliance with 40 CFR, EPA Methods, Cal. Title 22, and Standard Methods.

Dilution Factors (DF) reported greater than '1' have been used to adjust the result, Reporting Limit (RL), and Method Detection Limit (MDL).

All Solid, sludge, and/or biosolids data is reported in Wet Weight, unless otherwise specified.

Laboratory filtration for dissolved metals (excluding mercury) and/or pH analysis was not performed within the 15 minute holding time as specified by 40CFR 136.3 table II.

Results Qualifiers: Report fields may contain codes and non-numeric data correlating to one or more of the following definitions:

ND - Non Detect - indicates analytical result has not been detected.

RL - Reporting Limit is the quantitation limit at which the laboratory is able to detect an analyte. An analyte not detected at or above the RL is reported as ND unless otherwise noted or qualified. For analyses pertaining to the State Implementation Plan of the California Toxics Rule, the Caltest Reporting Limit (RL) is equivalent to the Minimum Level (ML). A standard is always run at or below the ML. Where Reporting Limits are elevated due to dilution, the ML calibration criteria has been met.

J - reflects estimated analytical result value detected below the Reporting Limit (RL) and above the Method Detection Limit (MDL). The 'J' flag is equivalent to the DNQ Estimated Concentration flag.

E - indicates an estimated analytical result value.

B - indicates the analyte has been detected in the blank associated with the sample.

NC - means not able to be calculated for RPD or Spike Recoveries.

SS - compound is a Surrogate Spike used per laboratory quality assurance manual.

NOTE: This document represents a complete Analytical Report for the samples referenced herein and should be retained as a permanent record thereof.



ENVIRONMENTAL ANALYSIS

ANALYTICAL RESULTS

Lab Order: K060068
Project ID MT.DIABLO

Lab ID:	K060068001	Date Collected:	5/27/2010 13:00	Matrix:	Water			
Sample ID:	MTD-SW-08/2	Date Received:	6/1/2010 14:20					
Parameters	Result Units	R. L.	MDL	DF Prepared	Batch	Analyzed	Batch	Qual
Methyl Mercury Analysis	Prep Method:	Draft EPA 1630		Prep by: ECV				
	Analytical Method:	Draft EPA 1630				Analyzed by: ECV		
Methyl Mercury	0.705 ng/L	0.05	0.02	1	06/02/10 00:00	MPR 8823	06/03/10 00:00	MHG 3152

Lab ID:	K060068002	Date Collected:	5/27/2010 13:30	Matrix:	Water			
Sample ID:	MTD-SW-07/2	Date Received:	6/1/2010 14:20					
Parameters	Result Units	R. L.	MDL	DF Prepared	Batch	Analyzed	Batch	Qual
Methyl Mercury Analysis	Prep Method:	Draft EPA 1630		Prep by: ECV				
	Analytical Method:	Draft EPA 1630				Analyzed by: ECV		
Methyl Mercury	1.47 ng/L	0.05	0.02	1	06/02/10 00:00	MPR 8823	06/03/10 00:00	MHG 3152

Lab ID:	K060068003	Date Collected:	5/27/2010 13:15	Matrix:	Water			
Sample ID:	MTD-SW-09/	Date Received:	6/1/2010 14:20					
Parameters	Result Units	R. L.	MDL	DF Prepared	Batch	Analyzed	Batch	Qual
Methyl Mercury Analysis	Prep Method:	Draft EPA 1630		Prep by: ECV				
	Analytical Method:	Draft EPA 1630				Analyzed by: ECV		
Methyl Mercury	0.657 ng/L	0.2	0.1	1	06/07/10 00:00	MPR 8838	06/07/10 00:00	MHG 3153

Lab ID:	K060068004	Date Collected:	5/27/2010 13:50	Matrix:	Water			
Sample ID:	MTD-SW-10/2	Date Received:	6/1/2010 14:20					
Parameters	Result Units	R. L.	MDL	DF Prepared	Batch	Analyzed	Batch	Qual
Methyl Mercury Analysis	Prep Method:	Draft EPA 1630		Prep by: ECV				
	Analytical Method:	Draft EPA 1630				Analyzed by: ECV		
Methyl Mercury	7.26 ng/L	0.05	0.02	1	06/02/10 00:00	MPR 8823	06/03/10 00:00	MHG 3152

Lab ID:	K060068005	Date Collected:	5/27/2010 10:50	Matrix:	Water			
Sample ID:	MTD-SW-06/2	Date Received:	6/1/2010 14:20					
Parameters	Result Units	R. L.	MDL	DF Prepared	Batch	Analyzed	Batch	Qual
Methyl Mercury Analysis	Prep Method:	Draft EPA 1630		Prep by: ECV				





ENVIRONMENTAL ANALYSIS

ANALYTICAL RESULTS

Lab Order: K060068
Project ID MT.DIABLO

Lab ID:	K060068005	Date Collected:	5/27/2010 10:50	Matrix:	Water			
Sample ID:	MTD-SW-06/2	Date Received:	6/1/2010 14:20					
Parameters	Result Units	R. L.	MDL	DF Prepared	Batch	Analyzed	Batch	Qual
	Analytical Method: Draft EPA 1630			Analyzed by: ECV				
Methyl Mercury	0.233 ng/L	0.05	0.02	1 06/02/10 00:00	MPR 8823	06/03/10 00:00	MHG 3152	

Lab ID:	K060068006	Date Collected:	5/27/2010 09:20	Matrix:	Water			
Sample ID:	MTD-SW-11/2	Date Received:	6/1/2010 14:20					
Parameters	Result Units	R. L.	MDL	DF Prepared	Batch	Analyzed	Batch	Qual
Methyl Mercury Analysis	Prep Method: Draft EPA 1630			Prep by: ECV				
	Analytical Method: Draft EPA 1630			Analyzed by: ECV				
Methyl Mercury	0.504 ng/L	0.05	0.02	1 06/02/10 00:00	MPR 8823	06/03/10 00:00	MHG 3152	

Lab ID:	K060068007	Date Collected:	5/27/2010 12:45	Matrix:	Water			
Sample ID:	MTD-SW-16/2	Date Received:	6/1/2010 14:20					
Parameters	Result Units	R. L.	MDL	DF Prepared	Batch	Analyzed	Batch	Qual
Methyl Mercury Analysis	Prep Method: Draft EPA 1630			Prep by: ECV				
	Analytical Method: Draft EPA 1630			Analyzed by: ECV				
Methyl Mercury	0.0766 ng/L	0.05	0.02	1 06/02/10 00:00	MPR 8823	06/03/10 00:00	MHG 3152	

Lab ID:	K060068008	Date Collected:	5/27/2010 12:00	Matrix:	Water			
Sample ID:	MTD-SW-02/2	Date Received:	6/1/2010 14:20					
Parameters	Result Units	R. L.	MDL	DF Prepared	Batch	Analyzed	Batch	Qual
Methyl Mercury Analysis	Prep Method: Draft EPA 1630			Prep by: ECV				
	Analytical Method: Draft EPA 1630			Analyzed by: ECV				
Methyl Mercury	2.84 ng/L	0.2	0.1	1 06/07/10 00:00	MPR 8838	06/07/10 00:00	MHG 3153	

Lab ID:	K060068010	Date Collected:	5/27/2010 09:20	Matrix:	Water			
Sample ID:	MTD-SW-12/2	Date Received:	6/1/2010 14:20					
Parameters	Result Units	R. L.	MDL	DF Prepared	Batch	Analyzed	Batch	Qual
Methyl Mercury Analysis	Prep Method: Draft EPA 1630			Prep by: ECV				
	Analytical Method: Draft EPA 1630			Analyzed by: ECV				





ENVIRONMENTAL ANALYSIS

ANALYTICAL RESULTS

Lab Order: K060068
Project ID MT.DIABLO

Lab ID:	K060068010	Date Collected:	5/27/2010 09:20	Matrix:	Water			
Sample ID:	MTD-SW-12/2	Date Received:	6/1/2010 14:20					
Parameters	Result Units	R. L.	MDL	DF Prepared	Batch	Analyzed	Batch	Qual
Methyl Mercury	0.104 ng/L	0.05	0.02	1 06/02/10 00:00	MPR 8823	06/03/10 00:00	MHG 3152	

Lab ID:	K060068011	Date Collected:	5/27/2010 09:30	Matrix:	Water			
Sample ID:	MTD-SW-13/2	Date Received:	6/1/2010 14:20					
Parameters	Result Units	R. L.	MDL	DF Prepared	Batch	Analyzed	Batch	Qual
Methyl Mercury Analysis	Prep Method:	Draft EPA 1630		Prep by: ECV		Analyzed by: ECV		
	Analytical Method:	Draft EPA 1630						
Methyl Mercury	0.439 ng/L	0.05	0.02	1 06/02/10 00:00	MPR 8823	06/03/10 00:00	MHG 3152	

Lab ID:	K060068012	Date Collected:	5/27/2010 10:05	Matrix:	Water			
Sample ID:	MTD-SW-14/2	Date Received:	6/1/2010 14:20					
Parameters	Result Units	R. L.	MDL	DF Prepared	Batch	Analyzed	Batch	Qual
Methyl Mercury Analysis	Prep Method:	Draft EPA 1630		Prep by: ECV		Analyzed by: ECV		
	Analytical Method:	Draft EPA 1630						
Methyl Mercury	1.16 ng/L	0.05	0.02	1 06/02/10 00:00	MPR 8823	06/03/10 00:00	MHG 3152	

Lab ID:	K060068013	Date Collected:	5/27/2010 11:15	Matrix:	Water			
Sample ID:	MTD-SW-15/2	Date Received:	6/1/2010 14:20					
Parameters	Result Units	R. L.	MDL	DF Prepared	Batch	Analyzed	Batch	Qual
Methyl Mercury Analysis	Prep Method:	Draft EPA 1630		Prep by: ECV		Analyzed by: ECV		
	Analytical Method:	Draft EPA 1630						
Methyl Mercury	4.86 ng/L	0.2	0.1	1 06/07/10 00:00	MPR 8838	06/07/10 00:00	MHG 3153	

Lab ID:	K060068014	Date Collected:	5/27/2010 13:10	Matrix:	Water			
Sample ID:	MTD-SW-05/2	Date Received:	6/1/2010 14:20					
Parameters	Result Units	R. L.	MDL	DF Prepared	Batch	Analyzed	Batch	Qual
Methyl Mercury Analysis	Prep Method:	Draft EPA 1630		Prep by: ECV		Analyzed by: ECV		
	Analytical Method:	Draft EPA 1630						
Methyl Mercury	3.29 ng/L	0.2	0.1	1 06/07/10 00:00	MPR 8838	06/07/10 00:00	MHG 3153	





ENVIRONMENTAL ANALYSIS

ANALYTICAL RESULTS

Lab Order: K060068
 Project ID MT.DIABLO

Lab ID: K060068014 Date Collected: 5/27/2010 13:10 Matrix: Water
Sample ID: MTD-SW-05/2 Date Received: 6/1/2010 14:20

Parameters	Result	Units	R. L.	MDL	DF Prepared	Batch	Analyzed	Batch	Qual
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ENVIRONMENTAL ANALYSES

QUALITY CONTROL DATA

Lab Order: K060068

Project ID: MT.DIABLO

Analysis Description:	Methyl Mercury Analysis	QC Batch:	MPR/8823
Analysis Method:	Draft EPA 1630	QC Batch Method:	Draft EPA 1630

METHOD BLANK: 333862

Parameter	Blank Result	Reporting Limit	MDL	Units	Qualifiers
Methyl Mercury	ND	0.05	0.02	ng/L	

LABORATORY CONTROL SAMPLE: 333863

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Methyl Mercury	ng/L	1.11	1.09	98	67-133	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 333864 333865

Parameter	Units	K060068001 Result	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limit	RPD	Max RPD	Qualifiers
Methyl Mercury	ng/L	0.705	1.11	1.68	1.62	88	82	65-135	3.6	35	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 333866 333867

Parameter	Units	K060068007 Result	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limit	RPD	Max RPD	Qualifiers
Methyl Mercury	ng/L	0.0766	1.11	1.11	1.18	93	99	65-135	6.1	35	

Analysis Description:	Methyl Mercury Analysis	QC Batch:	MPR/8838
Analysis Method:	Draft EPA 1630	QC Batch Method:	Draft EPA 1630

METHOD BLANK: 334666

Parameter	Blank Result	Reporting Limit	MDL	Units	Qualifiers
Methyl Mercury	ND	0.05	0.02	ng/L	

LABORATORY CONTROL SAMPLE: 334667

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Methyl Mercury	ng/L	1.11	0.96	86	67-133	





ENVIRONMENTAL ANALYSES

QUALITY CONTROL DATA

Lab Order: K060068

Project ID: MT.DIABLO

Analysis Description:	Methyl Mercury Analysis	QC Batch:	MPR/8838
Analysis Method:	Draft EPA 1630	QC Batch Method:	Draft EPA 1630

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 334668 334669

Parameter	Units	K060232002 Result	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limit	RPD	Max RPD	Qualifiers
Methyl Mercury	ng/L	0.0356	1.11	1.03	1.04	89	90	65-135	1	35	





ENVIRONMENTAL ANALYSES

QUALITY CONTROL DATA QUALIFIERS

Lab Order: K060068

Project ID: MT.DIABLO

QUALITY CONTROL PARAMETER QUALIFIERS

Results Qualifiers: Report fields may contain codes and non-numeric data correlating to one or more of the following definitions:

NS - means not spiked and will not have recoveries reported for Analyte Spike Amounts

NC - means not able to be calculated for RPD or Spike Recoveries.

QC Codes Keys: These descriptors are used to help identify the specific QC samples and clarify the report.

MB - Method Blank

Method Blanks are reported to the same Method Detection Limits (MDLs) or Reporting Limits (RLs) as the analytical samples in the corresponding QC batch.

LCS/LCSD - Laboratory Control Spike / Laboratory Control Spike Duplicate

DUP - Duplicate of Original Sample Matrix

MS/MSD - Matrix Spike / Matrix Spike Duplicate

RPD - Relative Percent Difference

%Recovery - Spike Recovery stated as a percentage



ENVIRONMENTAL ANALYSES

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Lab Order: K060068

Project ID: MT.DIABLO

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
K060068001	MTD-SW-08/2	Draft EPA 1630	MPR/8823	Draft EPA 1630	MHG/3152
K060068002	MTD-SW-07/2	Draft EPA 1630	MPR/8823	Draft EPA 1630	MHG/3152
K060068004	MTD-SW-10/2	Draft EPA 1630	MPR/8823	Draft EPA 1630	MHG/3152
K060068005	MTD-SW-06/2	Draft EPA 1630	MPR/8823	Draft EPA 1630	MHG/3152
K060068006	MTD-SW-11/2	Draft EPA 1630	MPR/8823	Draft EPA 1630	MHG/3152
K060068007	MTD-SW-16/2	Draft EPA 1630	MPR/8823	Draft EPA 1630	MHG/3152
K060068010	MTD-SW-12/2	Draft EPA 1630	MPR/8823	Draft EPA 1630	MHG/3152
K060068011	MTD-SW-13/2	Draft EPA 1630	MPR/8823	Draft EPA 1630	MHG/3152
K060068012	MTD-SW-14/2	Draft EPA 1630	MPR/8823	Draft EPA 1630	MHG/3152
K060068003	MTD-SW-09/	Draft EPA 1630	MPR/8838	Draft EPA 1630	MHG/3153
K060068008	MTD-SW-02/2	Draft EPA 1630	MPR/8838	Draft EPA 1630	MHG/3153
K060068013	MTD-SW-15/2	Draft EPA 1630	MPR/8838	Draft EPA 1630	MHG/3153
K060068014	MTD-SW-05/2	Draft EPA 1630	MPR/8838	Draft EPA 1630	MHG/3153

2105 Lundy Avenue, San Jose, CA 95131 Phone : (408)588-0200 Fax: (408)588-0201

Subcontract Chain of Custody

Subcontract Lab: Caltest Analytical Laboratory
Date Sent: 06/01/10
Date Due: 5 DAY TAT

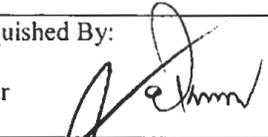
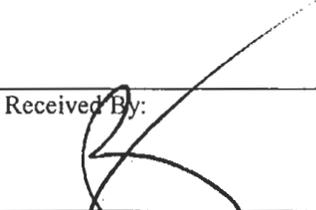
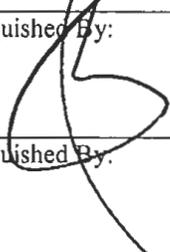
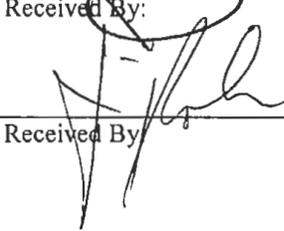
5 Day TAT  **RUSH**

Project Name: Mt. Diablo
Project Location: Clayton, CA

KO 60048

Accutest Lab Number	Customer Sample Name/Field Point ID	Matrix	Method	Collect Date	Collect Time
1 C11216-1	MTD-SW-08/2	SW	Methyl Mercury	05/27/10	13:00
2 C11216-2	MTD-SW-07/2	SW	Methyl Mercury	05/27/10	13:30
3 C11216-3	MTD-SW-09/2	SW	Methyl Mercury	05/27/10	13:15
4 C11216-4	MTD-SW-10/2	SW	Methyl Mercury	05/27/10	13:50
5 C11216-5	MTD-SW-06/2	SW	Methyl Mercury	05/27/10	10:50
6 C11216-6	MTD-SW-11/2	SW	Methyl Mercury	05/27/10	09:20
7 C11216-7	MTD-SW-16/2	SW	Methyl Mercury	05/27/10	12:45

Comments:

Relinquished By: ekumar 	Received By: 	Date: 6/1/10	Time: 1145
Relinquished By: 	Received By: 	Date: 6/1/10	Time: 1420
Relinquished By:	Received By:	Date:	Time:

Send the Report to: annek@accutest.com

Subcontract Chain of Custody

Subcontract Lab: Caltest Analytical Laboratory

Date Sent: 06/01/10

Date Due: 5 DAY TAT

5 Day TAT



Project Name: Mt. Diablo

Project Location: Clayton, CA

1050068

Accutest Lab Number	Customer Sample Name/Field Point ID	Matrix	Method	Collect Date	Collect Time
-8 C11217-1	MTD-SW-02/2	SW	Methyl Mercury	05/27/10	12:00
-9 C11217-2	MTD-SW-04/2	SW	Methyl Mercury (ON HOLD)	05/27/10	12:15
-10 C11217-3	MTD-SW-12/2	SW	Methyl Mercury	05/27/10	09:20
-11 C11217-4	MTD-SW-13/2	SW	Methyl Mercury	05/27/10	09:30
-12 C11217-5	MTD-SW-14/2	SW	Methyl Mercury	05/27/10	10:05
-13 C11217-6	MTD-SW-15/2	SW	Methyl Mercury	05/27/10	11:15
-14 C11217-7	MTD-SW-05/2	SW	Methyl Mercury	05/27/10	13:10

Comments: C11217-2 (ON HOLD)

Relinquished By: ekumar	Received By:	Date: 6/1/10	Time: 1145
Relinquished By:	Received By:	Date: 6/1/10	Time: 1420
Relinquished By:	Received By:	Date:	Time:

APPENDIX D

STATISTICAL REPORT ON METHYL MERCURY DATA ANALYSIS

ProUCL Statistical Evaluation of Methyl Mercury in Surface Water
Mount Diablo Mercury Mine
Contra Costa County, California

General Statistics

Number of Valid Observations 21

Number of Distinct Observations 21

Raw Statistics

Minimum 0.0607
 Maximum 7.26
 Mean 1.367
 Median 0.657
 SD 1.797
 Coefficient of Variation 1.315
 Skewness 2.346

Log-transformed Statistics

Minimum of Log Data -2.802
 Maximum of Log Data 1.982
 Mean of log Data -0.281
 SD of log Data 1.096

Relevant UCL Statistics

Normal Distribution Test

Shapiro Wilk Test Statistic 0.659
 Shapiro Wilk Critical Value 0.908

Data not Normal at 5% Significance Level

Lognormal Distribution Test

Shapiro Wilk Test Statistic 0.954
 Shapiro Wilk Critical Value 0.908

Data appear Lognormal at 5% Significance Level

Assuming Normal Distribution

95% Student's-t UCL 2.043

95% UCLs (Adjusted for Skewness)

95% Adjusted-CLT UCL 2.226
 95% Modified-t UCL 2.076

Assuming Lognormal Distribution

95% H-UCL 2.662

95% Chebyshev (MVUE) UCL 2.884
 97.5% Chebyshev (MVUE) UCL 3.562
 99% Chebyshev (MVUE) UCL 4.893

Gamma Distribution Test

k star (bias corrected) 0.868
 Theta Star 1.575
 MLE of Mean 1.367
 MLE of Standard Deviation 1.467
 nu star 36.44

Approximate Chi Square Value (.05) 23.62

Adjusted Level of Significance 0.0383

Adjusted Chi Square Value 22.83

Anderson-Darling Test Statistic 1.072

Anderson-Darling 5% Critical Value 0.771

Kolmogorov-Smirnov Test Statistic 0.198

Kolmogorov-Smirnov 5% Critical Value 0.195

Data not Gamma Distributed at 5% Significance Level

Assuming Gamma Distribution

95% Approximate Gamma UCL 2.108
 95% Adjusted Gamma UCL 2.181

Data Distribution

Data appear Lognormal at 5% Significance Level

Nonparametric Statistics

95% CLT UCL 2.011

95% Jackknife UCL 2.043

95% Standard Bootstrap UCL 1.984

95% Bootstrap-t UCL 2.593

95% Hall's Bootstrap UCL 2.547

95% Percentile Bootstrap UCL 2.041

95% BCA Bootstrap UCL 2.268

95% Chebyshev(Mean, Sd) UCL 3.076

97.5% Chebyshev(Mean, Sd) UCL 3.815

99% Chebyshev(Mean, Sd) UCL 5.267

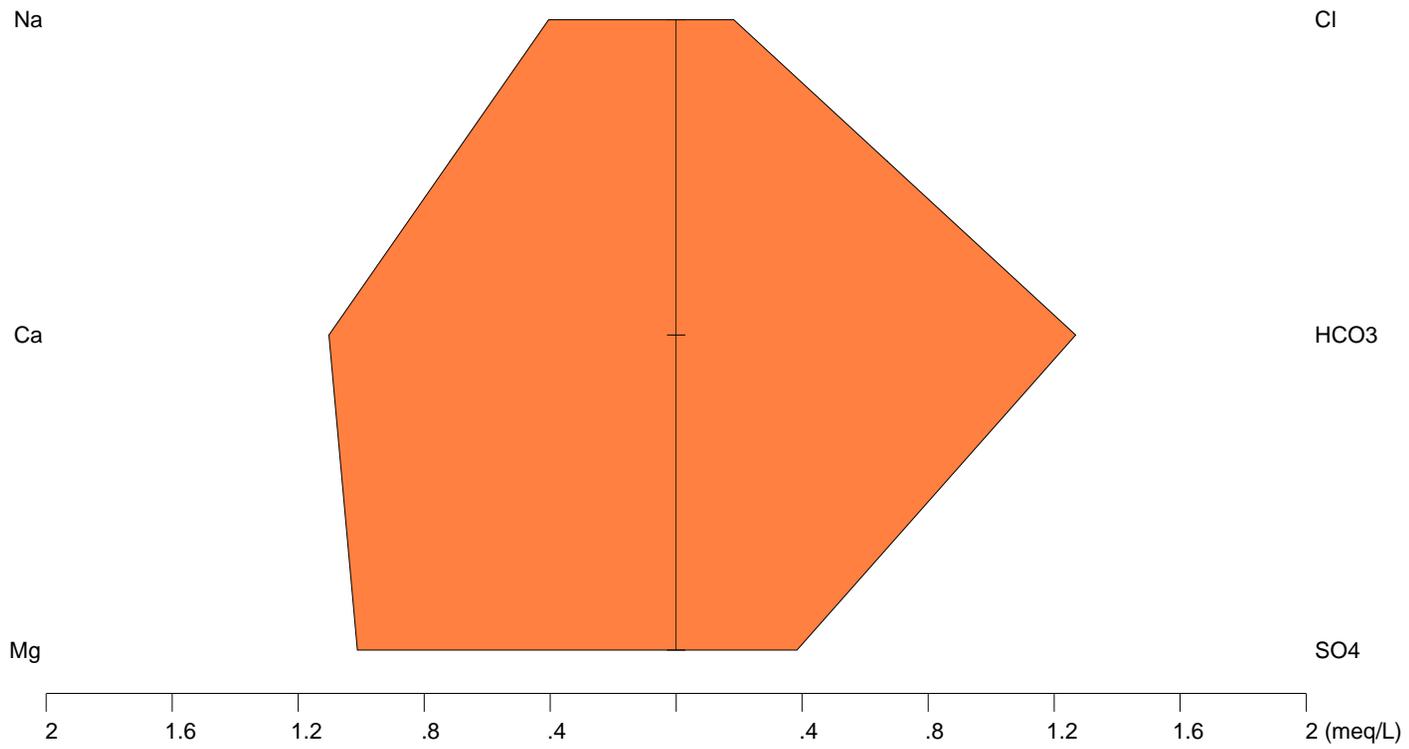
Use 95% Chebyshev (MVUE) UCL 2.88

APPENDIX E

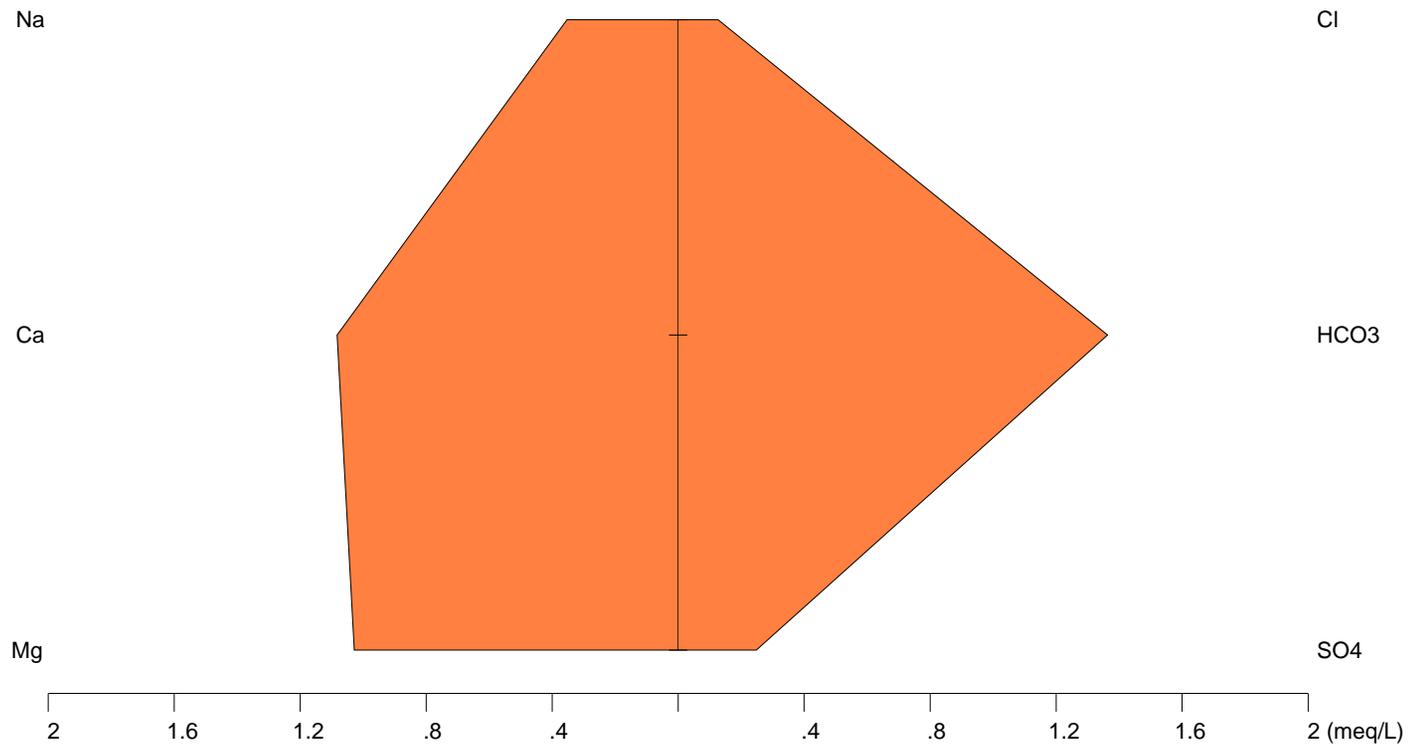
WATER QUALITY STIFF DIAGRAMS FOR 2010 SAMPLING

BACKGROUND WATER SIGNATURE

Stiff Diagram – SW-7
Collected April 2010
Background Water
Mt. Diablo



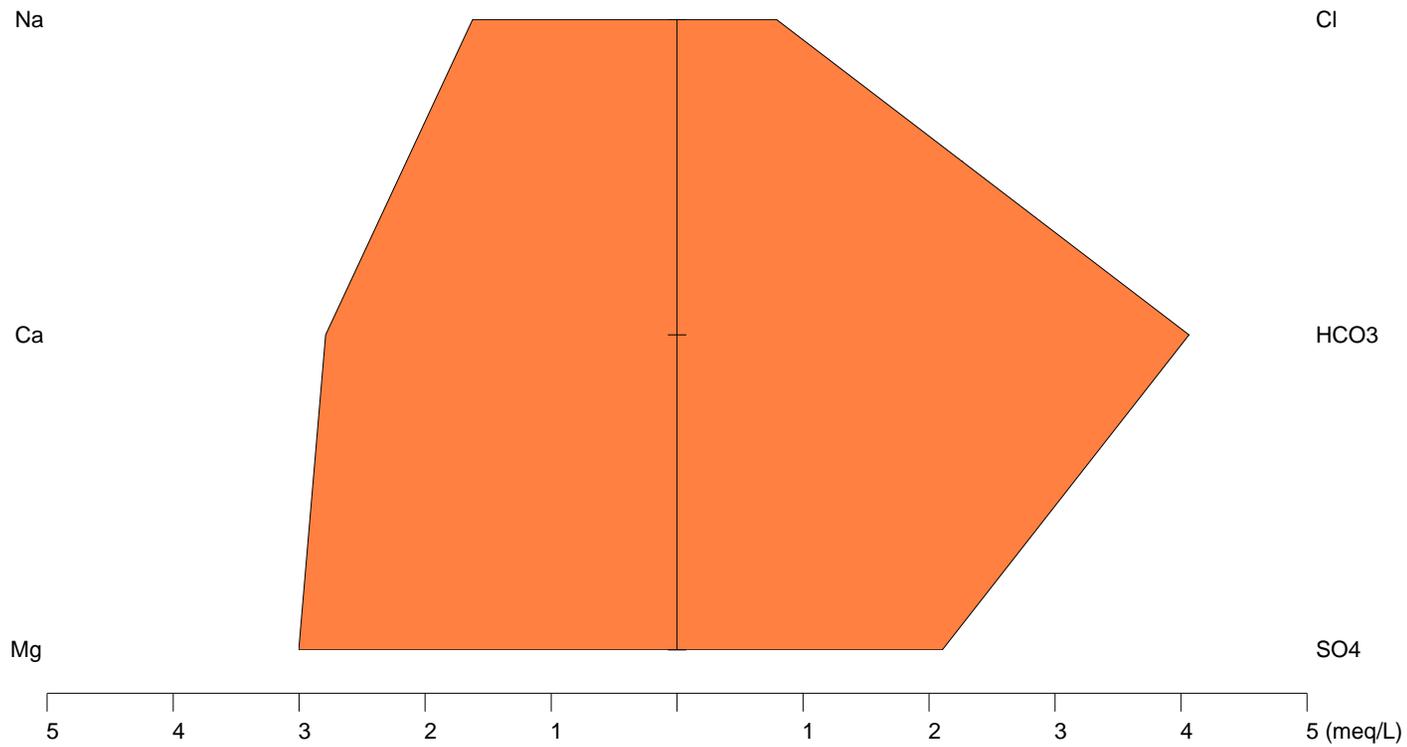
Stiff Diagram – SW-8
Collected April 2010
Background Water
Mt. Diablo



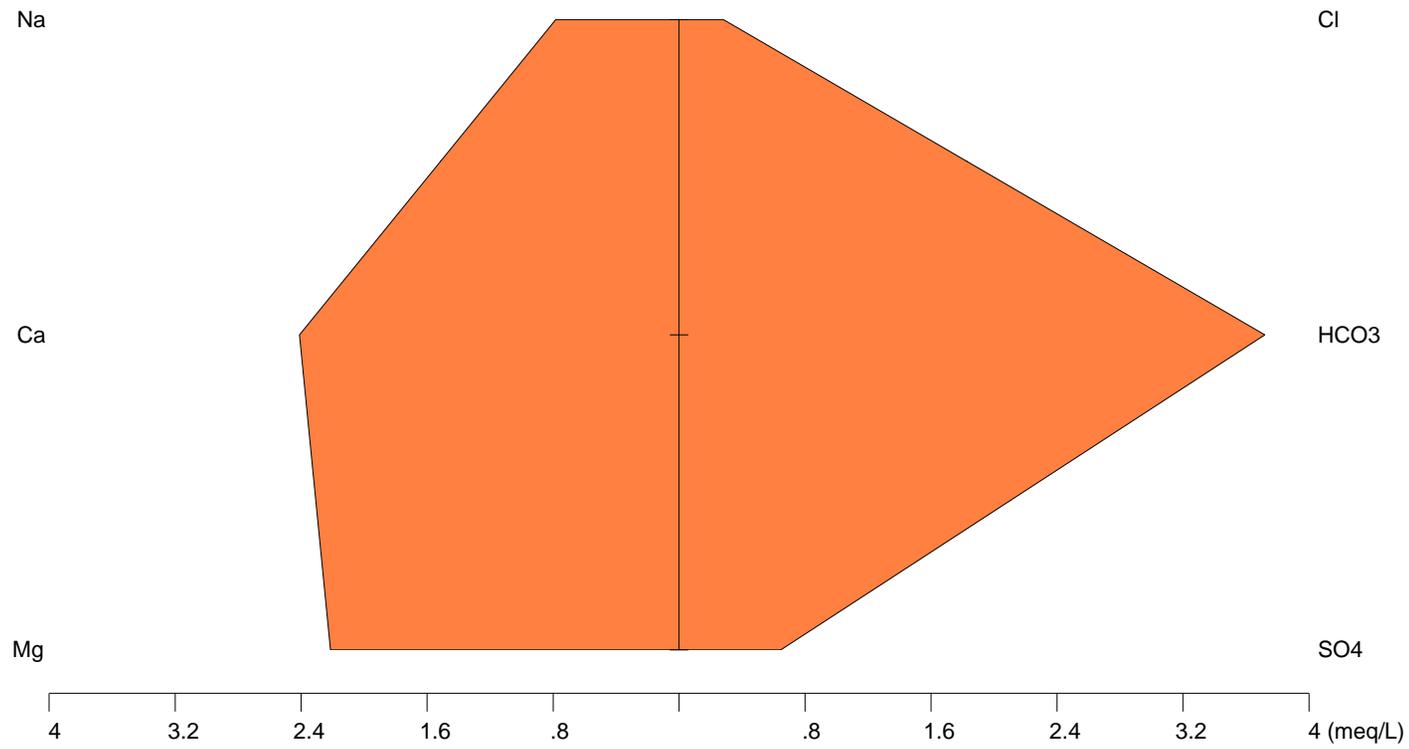
Stiff Diagram – SW-8
Collected May 2010
Background Water
Mt. Diablo



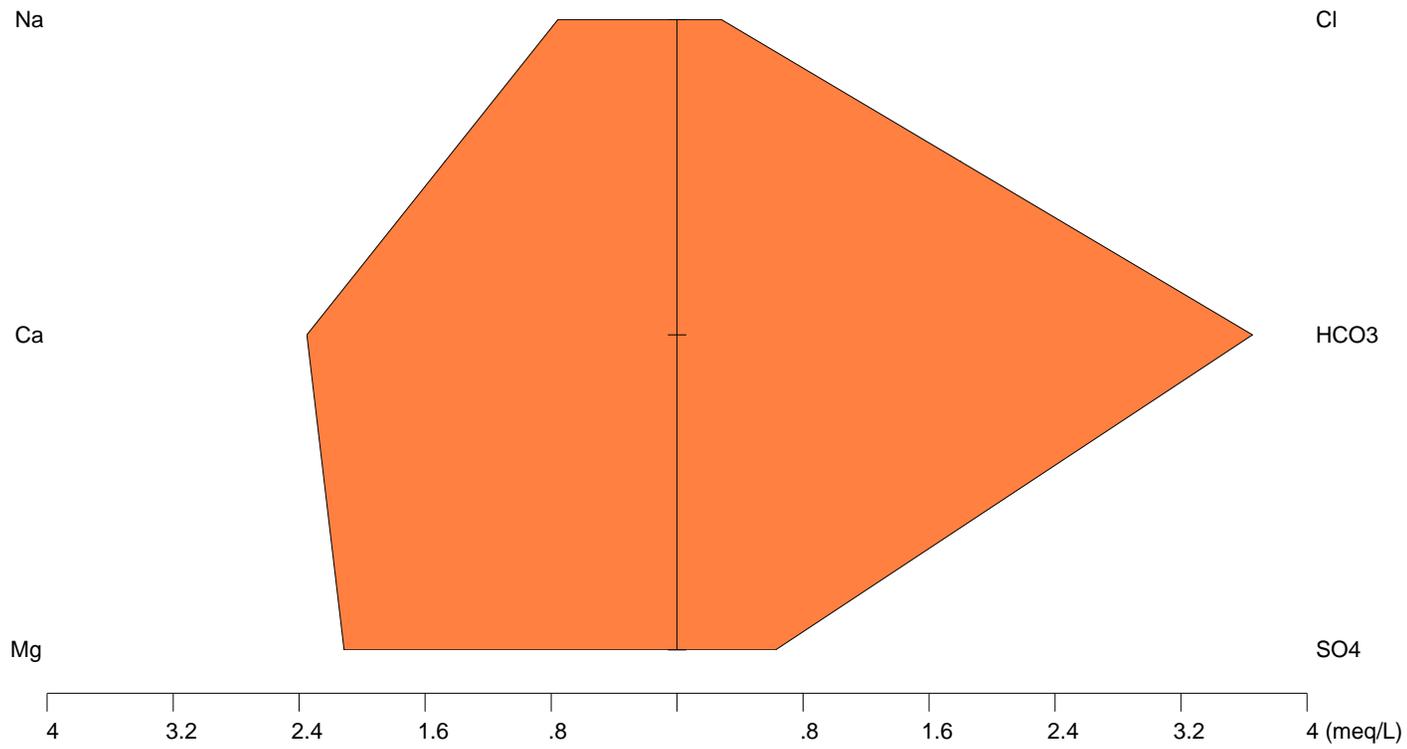
Stiff Diagram – SW-10
Collected May 2010
Background Water
Mt. Diablo



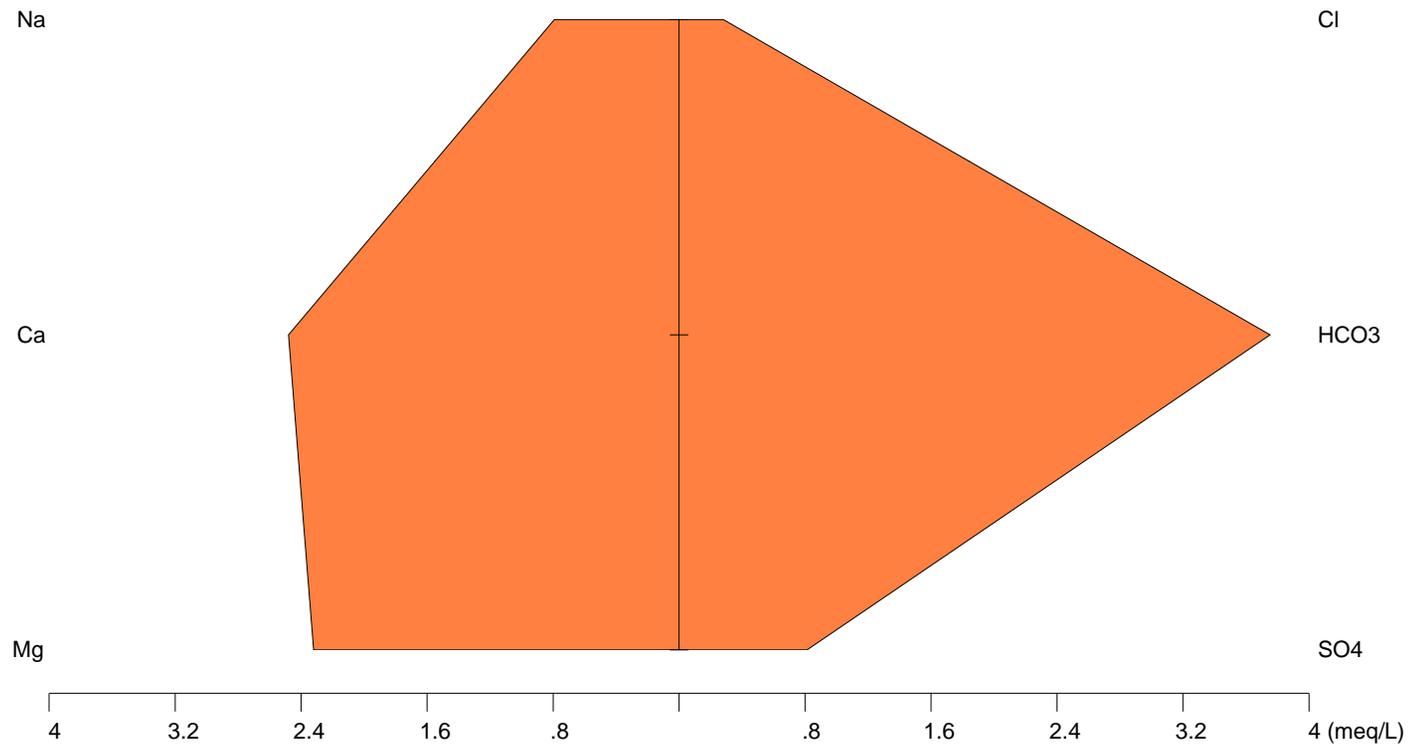
Stiff Diagram – SW-11
Collected May 2010
Background Water
Mt. Diablo



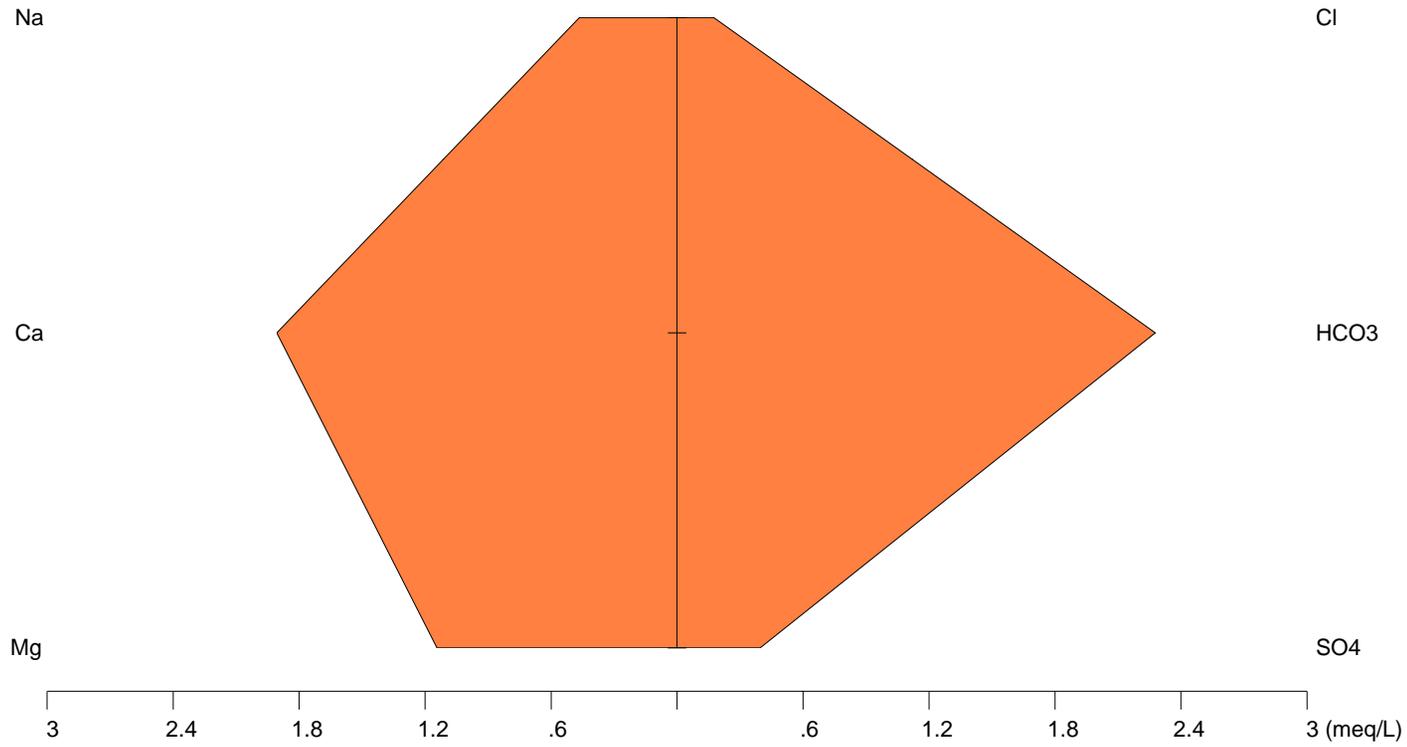
Stiff Diagram – SW-12
Collected May 2010
Background Water
Mt. Diablo



Stiff Diagram – SW-13
Collected May 2010
Background Water
Mt. Diablo

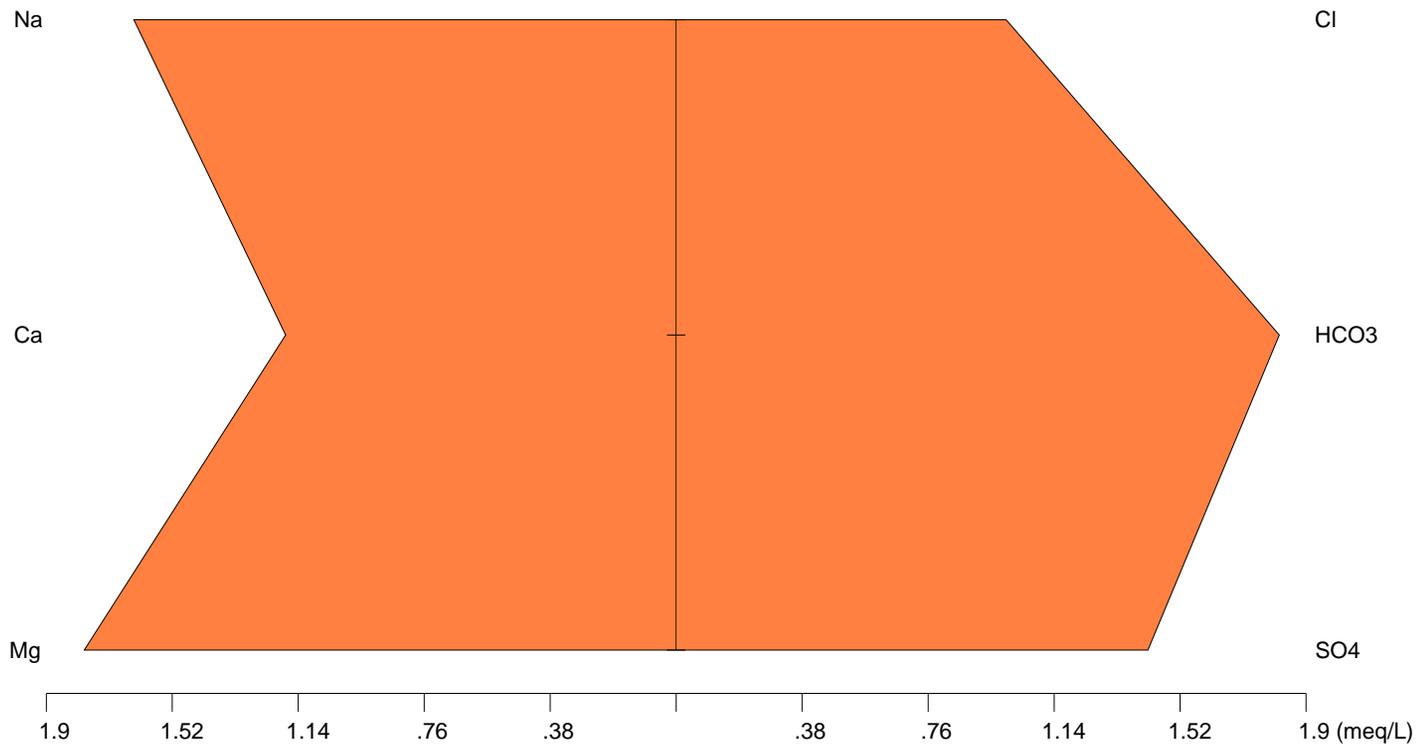


Stiff Diagram – SW-16
Collected May 2010
Background Water
Mt. Diablo

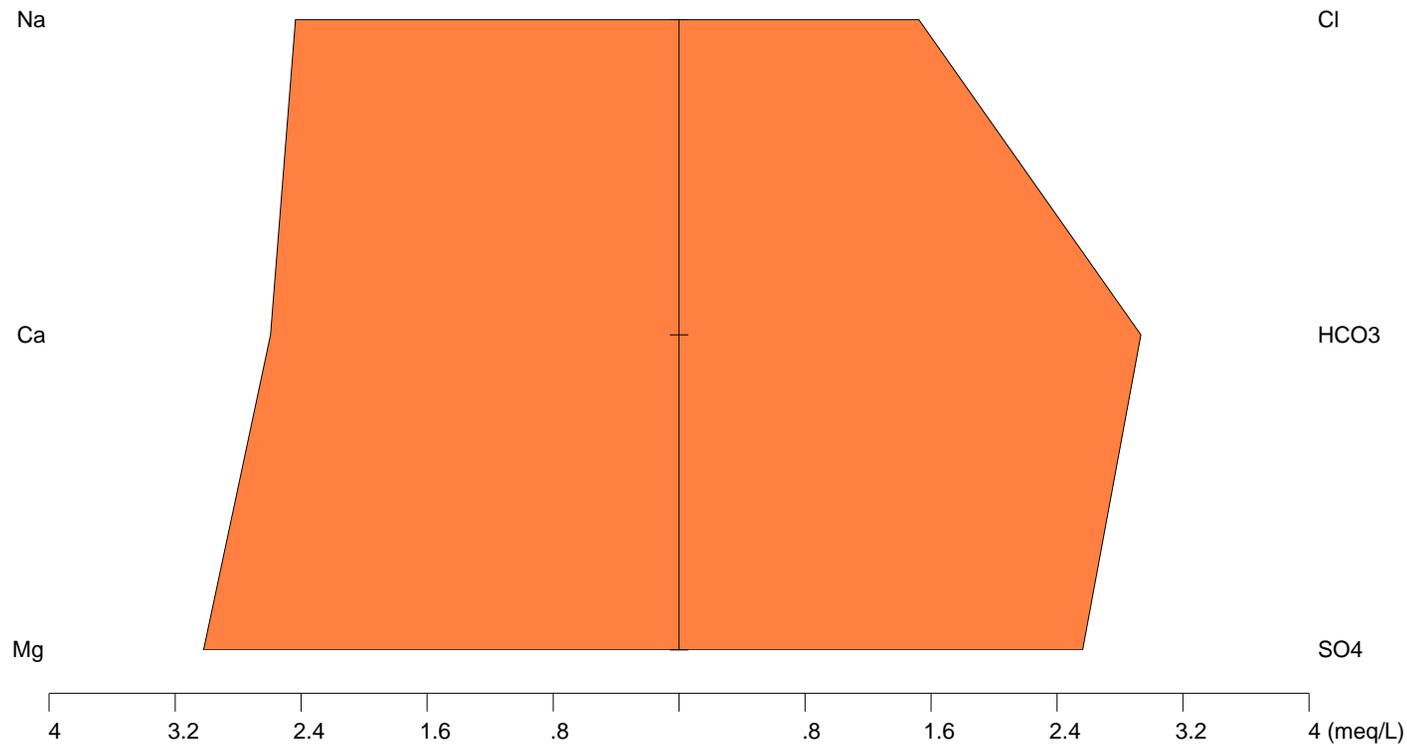


PARK SPRING WATER SIGNATURE

Stiff Diagram – SW-4
Collected April 2010
Background Water
Mt. Diablo

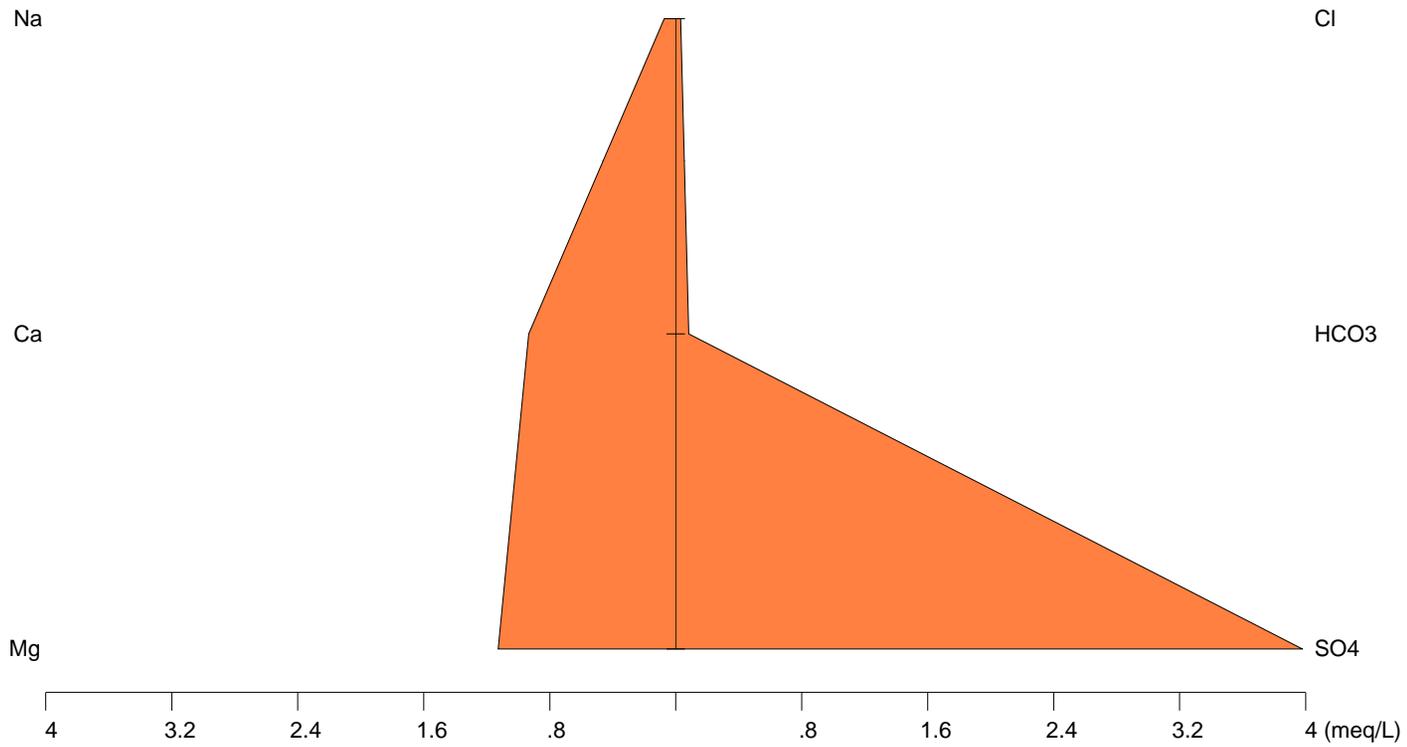


Stiff Diagram – SW-7
Collected April 2010
Park Spring Water
Mt. Diablo

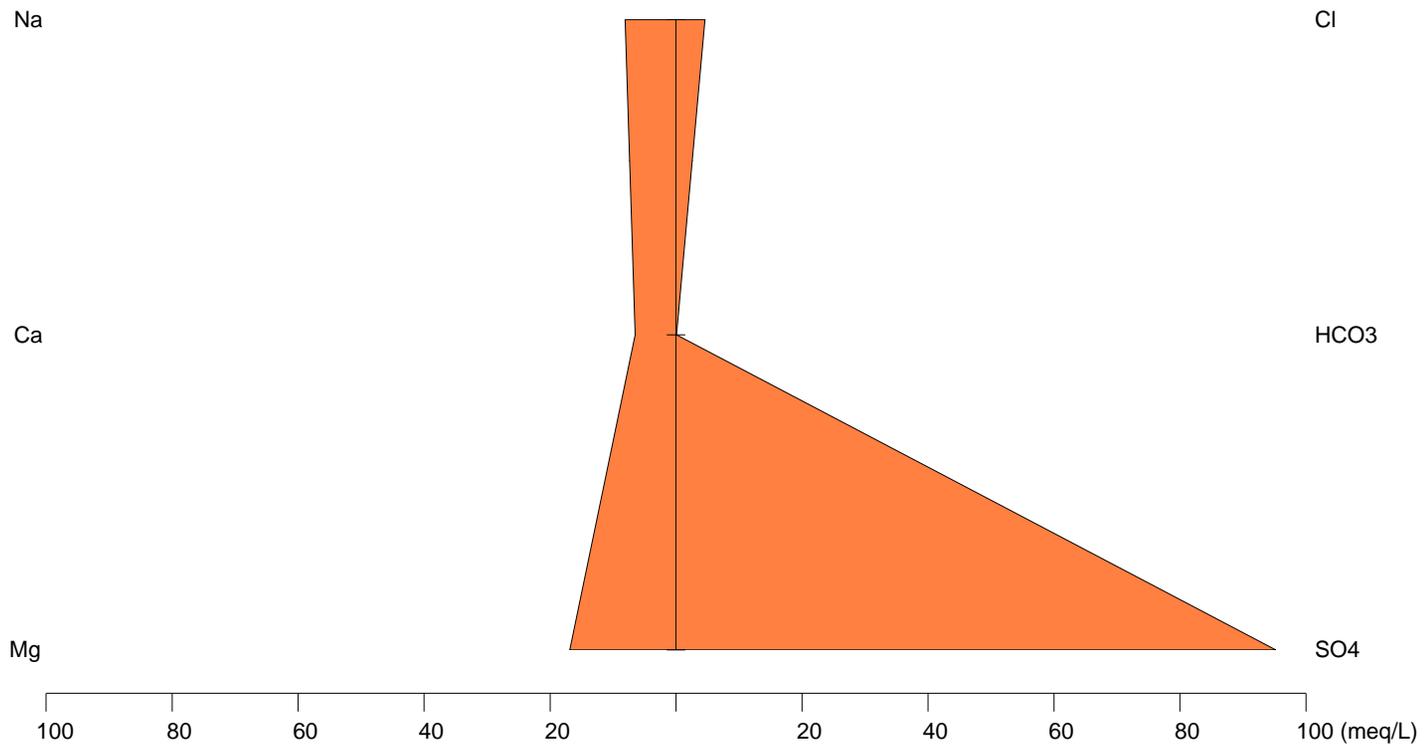


MINE WASTE SOURCE WATER SIGNATURE

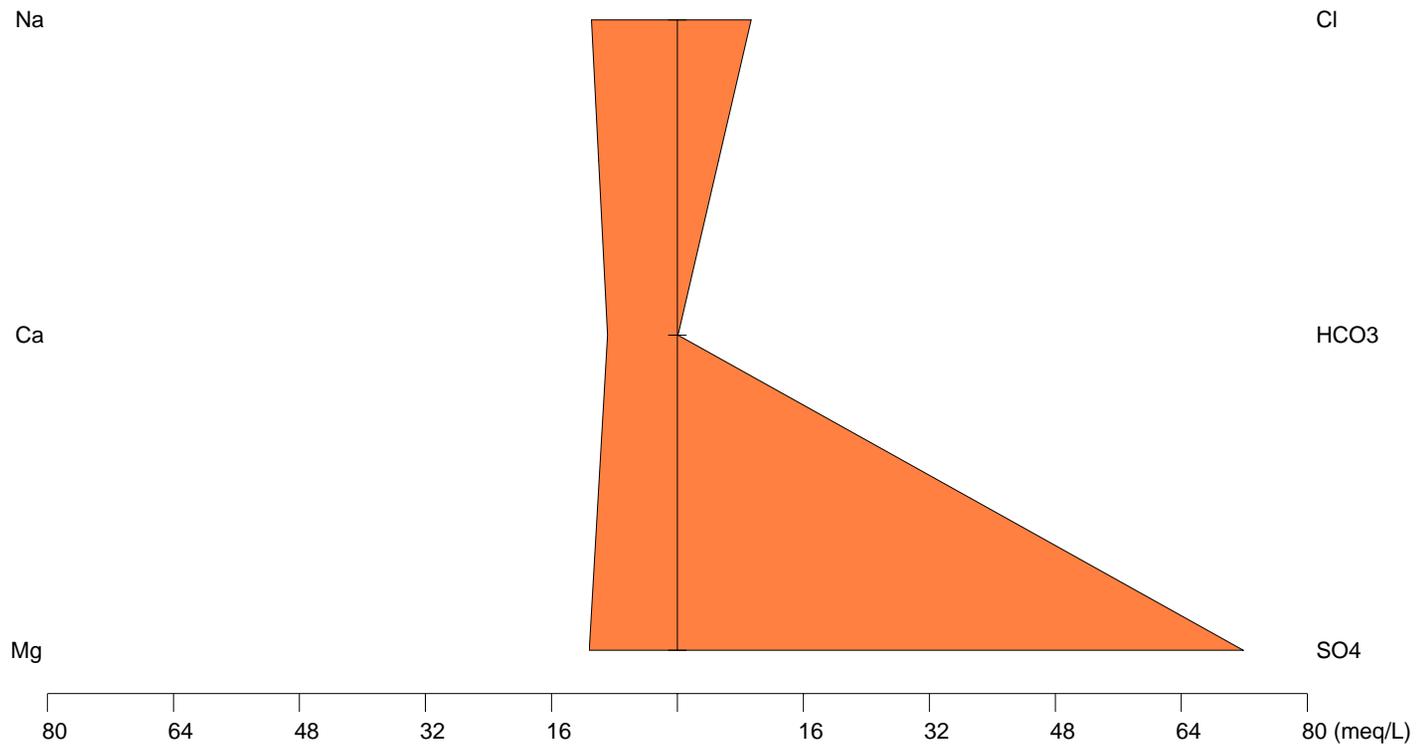
Stiff Diagram – SW-1
Collected April 2010
Mine Waste Source Water
Mt. Diablo



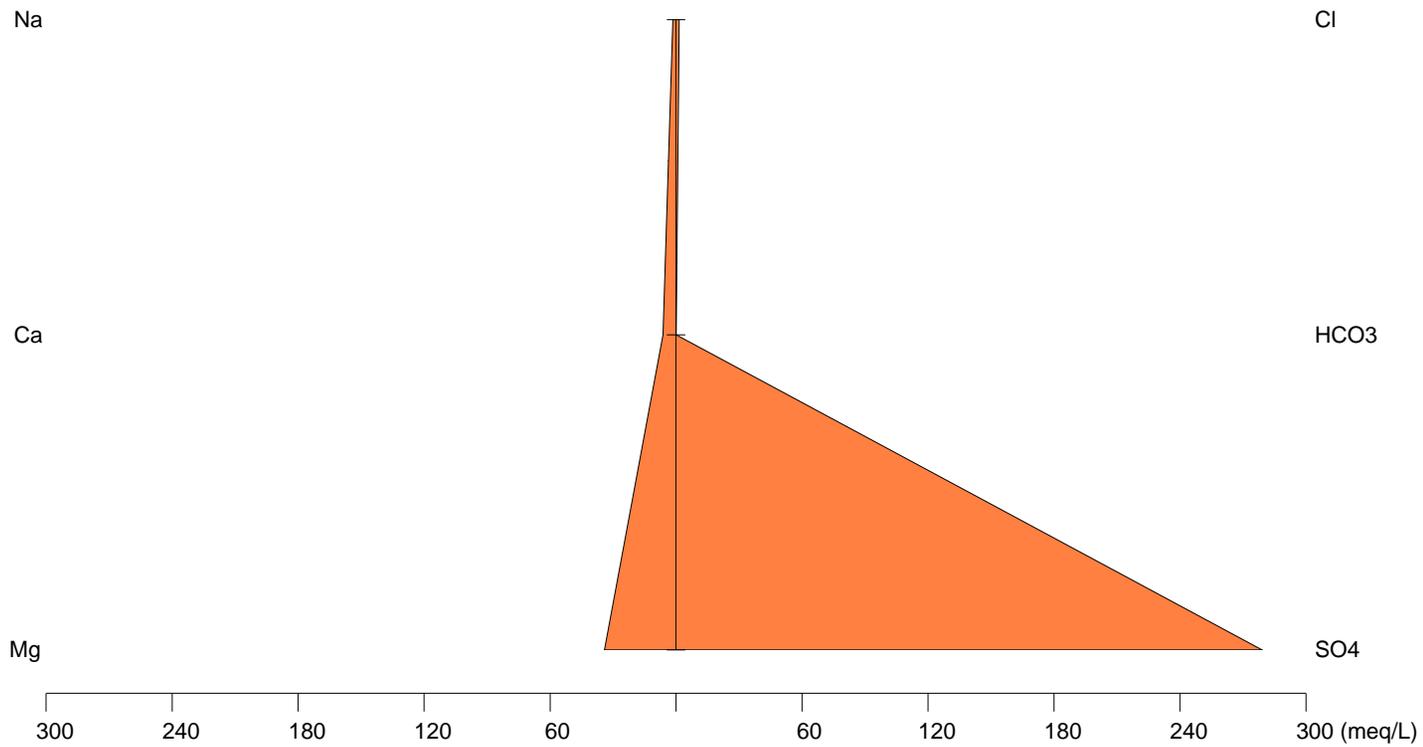
Stiff Diagram – SW-2
Collected April 2010
Mine Waste Source Water
Mt. Diablo



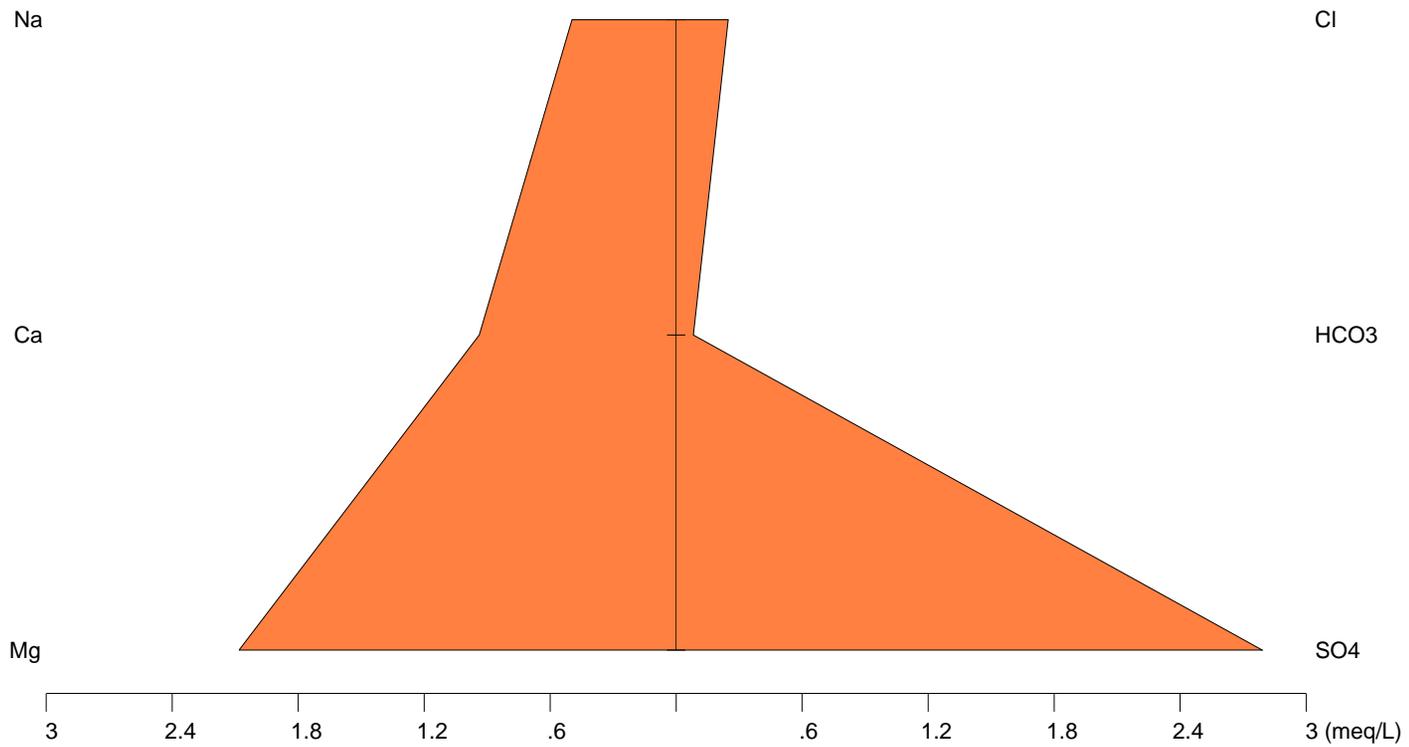
Stiff Diagram – SW-2
Collected May 2010
Mine Waste Source Water
Mt. Diablo



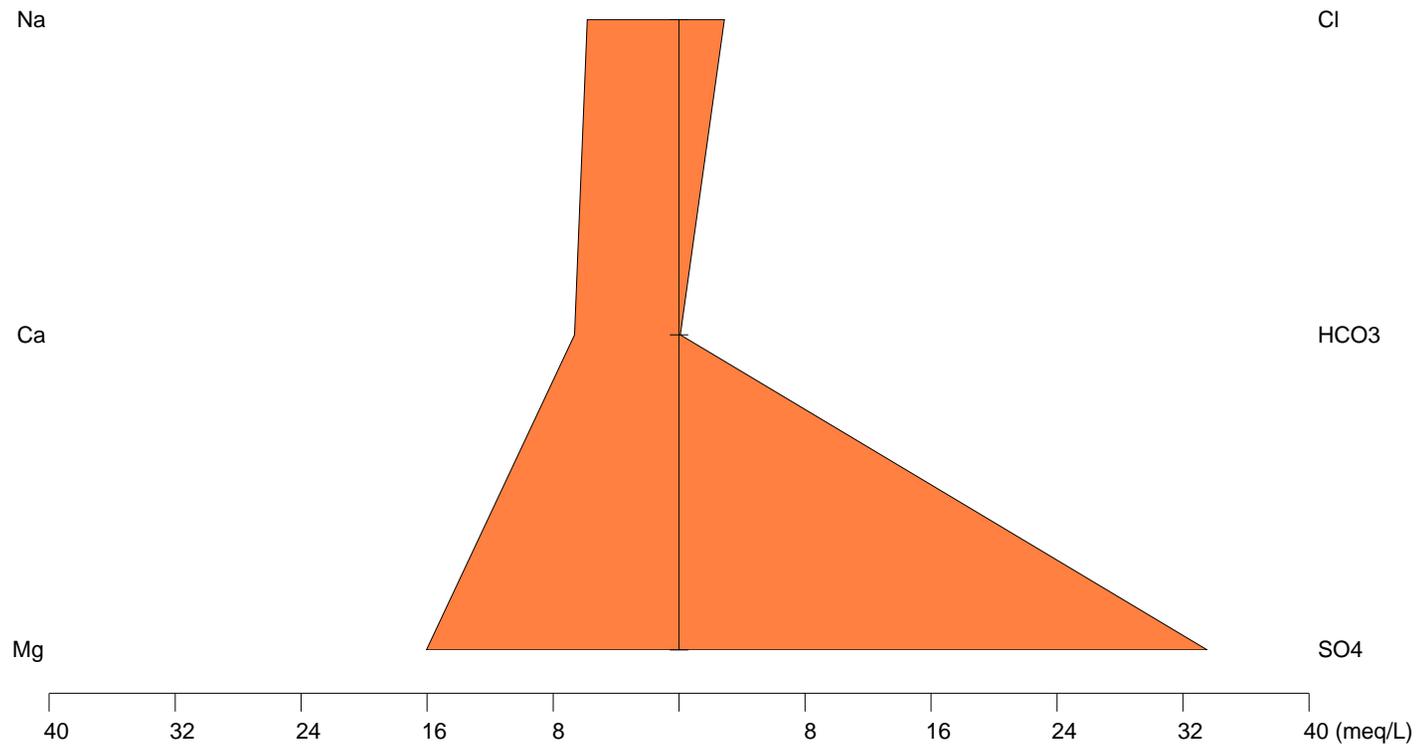
Stiff Diagram – SW-3
Collected April 2010
Mine Waste Source Water
Mt. Diablo



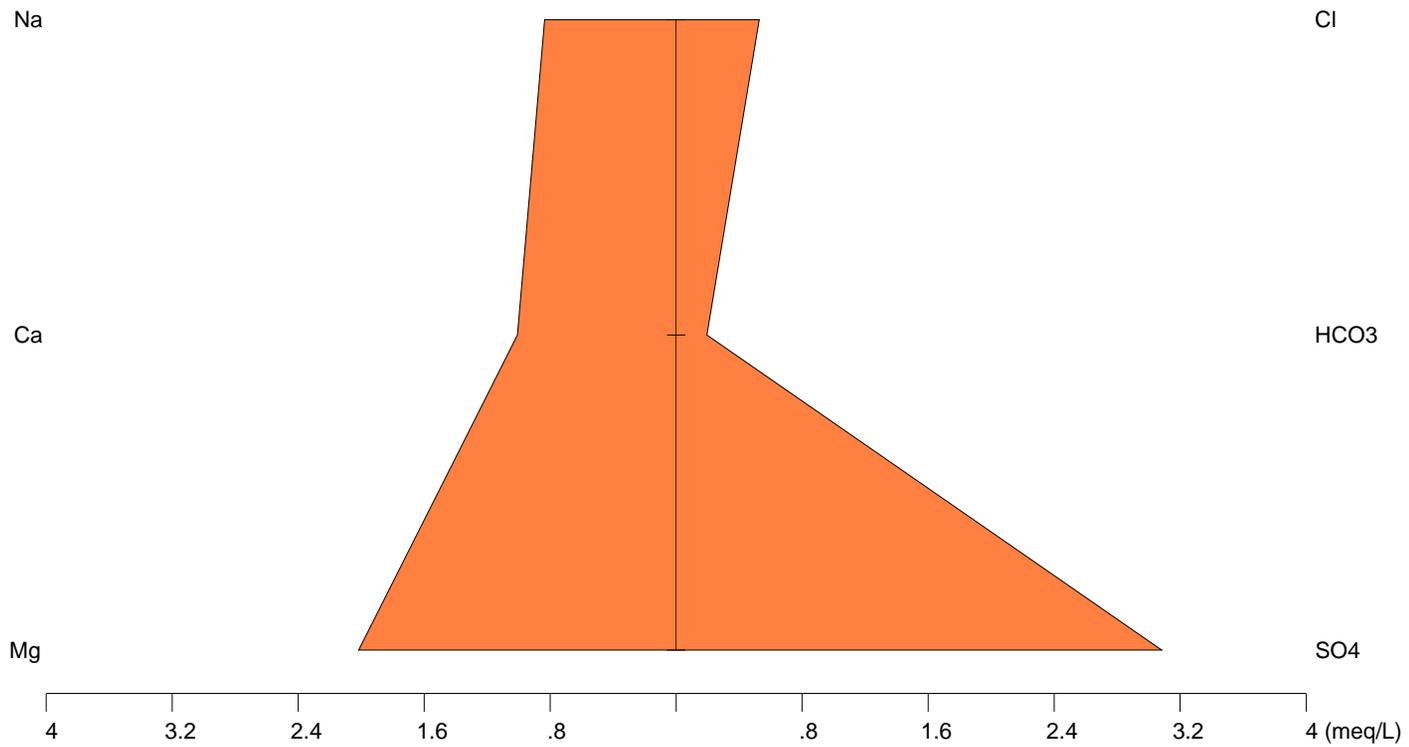
Stiff Diagram – SW-6
Collected April 2010
Mine Waste Source Water
Mt. Diablo



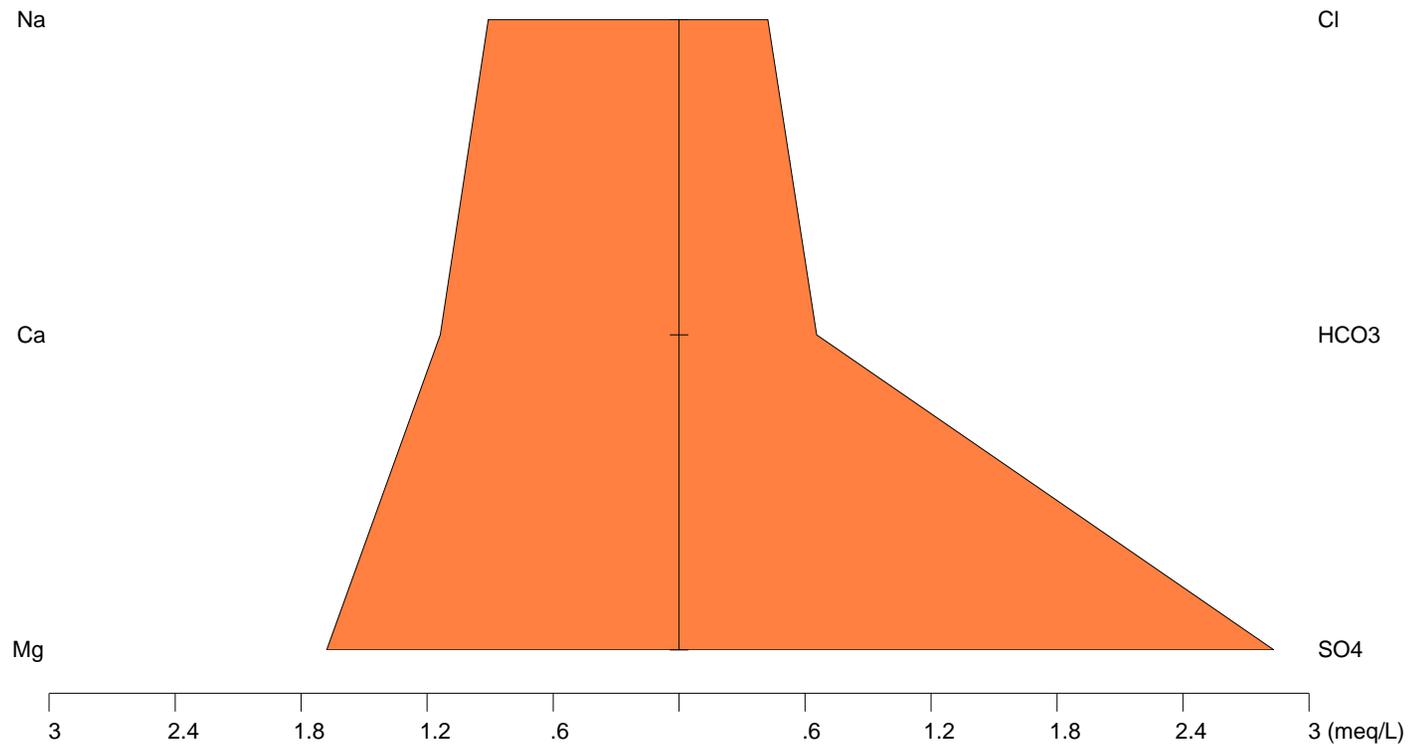
Stiff Diagram – SW-6
Collected May 2010
Mine Waste Source Water
Mt. Diablo



Stiff Diagram – SW-10
Collected April 2010
Mine Waste Source Water
Mt. Diablo

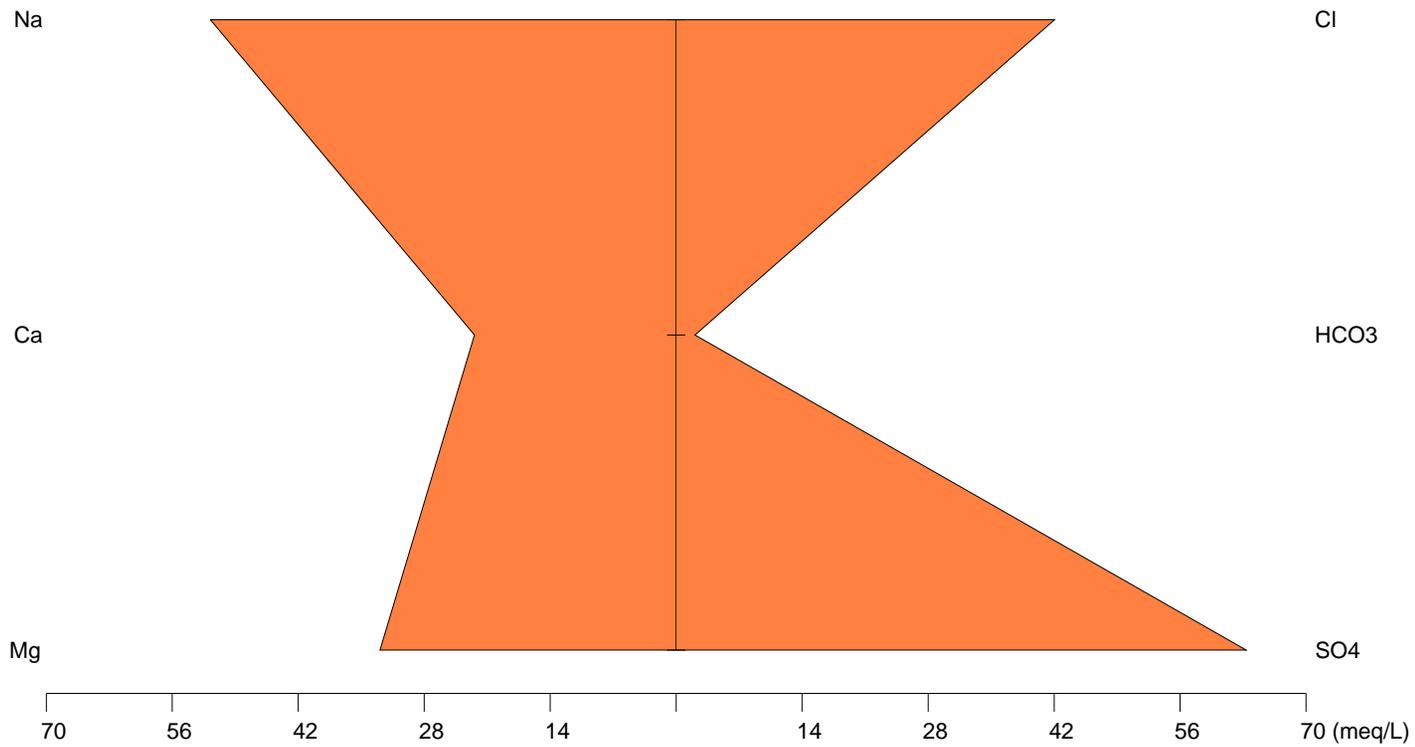


Stiff Diagram – SW-14
Collected May 2010
Mine Waste Source Water
Mt. Diablo

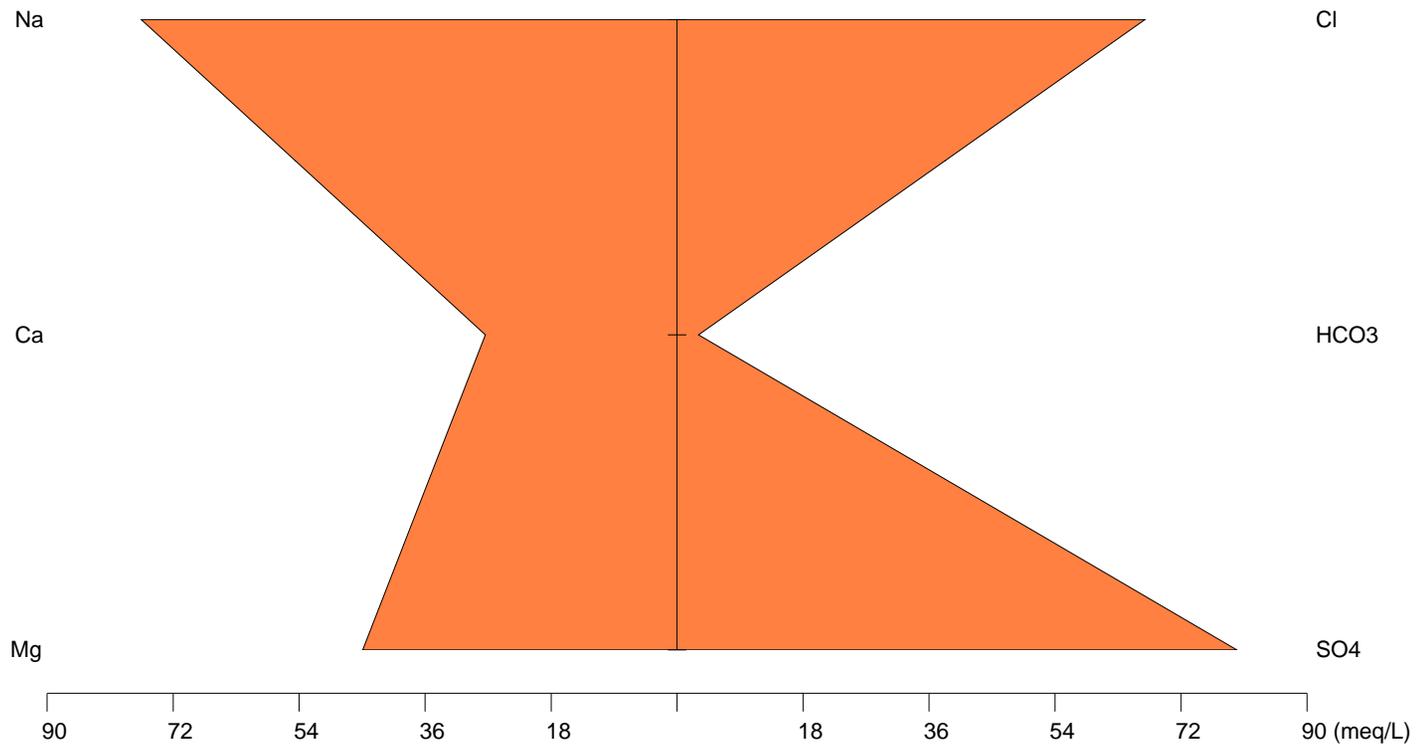


ALTERED MINE WASTE WATER SIGNATURE

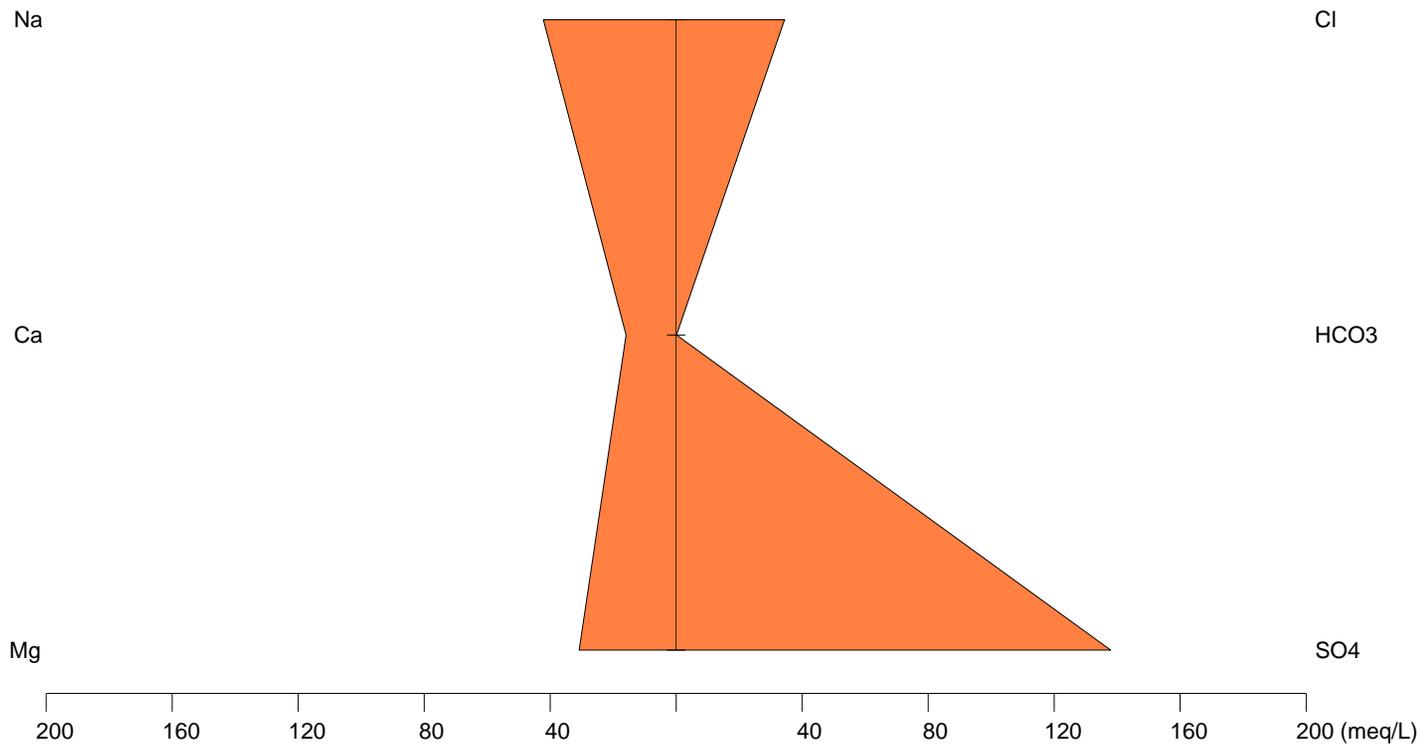
Stiff Diagram – SW-5
Collected April 2010
Altered Mine Waste Water
Mt. Diablo



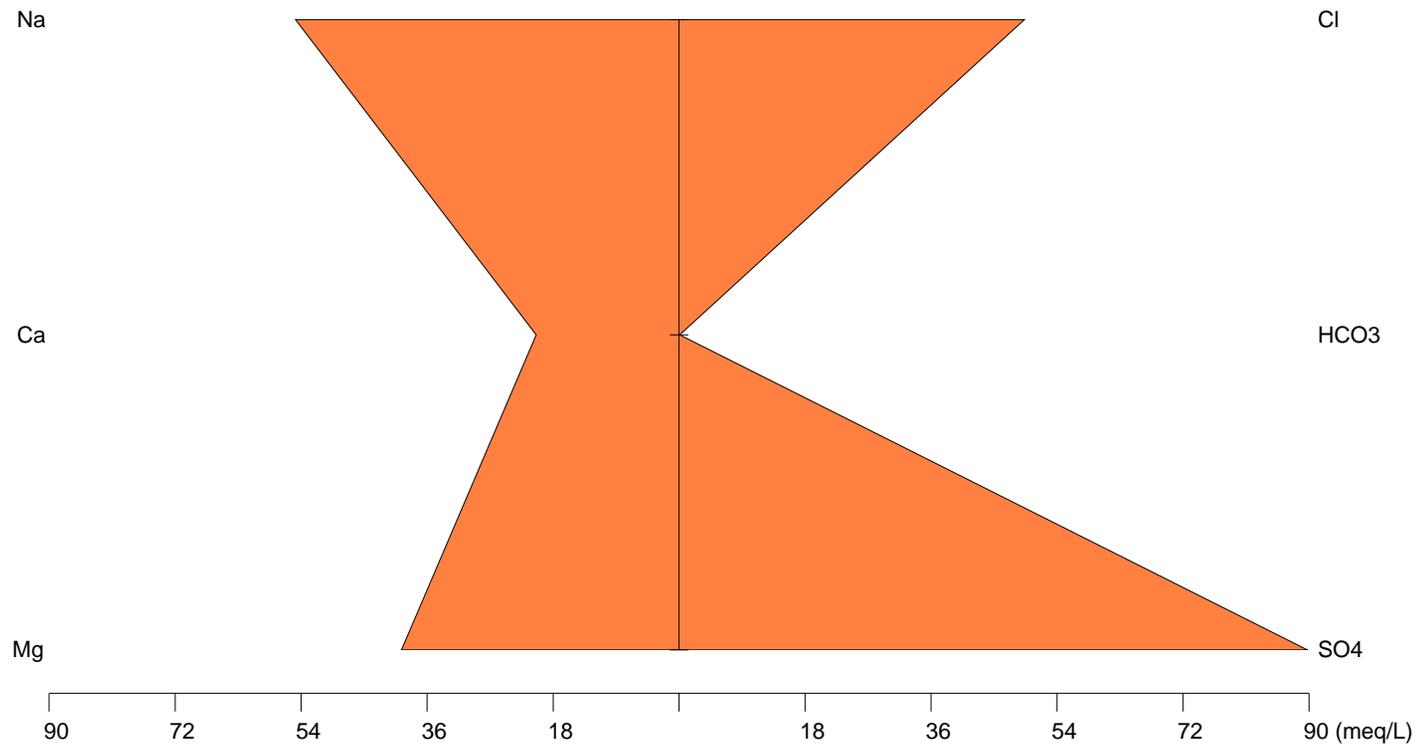
Stiff Diagram – SW-5
Collected May 2010
Altered Mine Waste Water
Mt. Diablo



Stiff Diagram – SW-9
Collected April 2010
Altered Mine Waste Water
Mt. Diablo



Stiff Diagram – SW-9
Collected May 2010
Altered Mine Waste Water
Mt. Diablo



Stiff Diagram – SW-15
Collected May 2010
Altered Mine Waste Water
Mt. Diablo

